

**DATA VALIDATION COVER SHEET****5115-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1262 VALIDATION DATE: 03/01/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- |  |  |   |   |
|--|--|---|---|
| <input type="checkbox"/> TPH-GRO           | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS          | <input type="checkbox"/> LCMSMS PERCHLORATES                  |
| <input type="checkbox"/> TPH-DRO           | <input type="checkbox"/> METALS          | <input type="checkbox"/> PCB CONGENERS          | <input type="checkbox"/> ORGANOCHLORINE                       |
| <input type="checkbox"/> GENERAL CHEMISTRY | <input type="checkbox"/> RADIOCHEMISTRY  | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | <input type="checkbox"/> PESTICIDES/POLYCHLORINATED BIPHENYLS |
- ☒ OTHER (DESCRIBE): SVOCs

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                      | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. QUANTITATION REPORTS  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 4. SAMPLE CHROMATOGRAMS     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. TICS FORMS            |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. TICS MASS SPECTRA    |

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

- The ICV and/or CCV %Ds were >20% for hexachlorocyclopentadiene; 2-methyl-4,6-dinitrophenol and 4-nitroaniline. The associated sample results were NDs and, thus, were qualified UJ,SV7c.
- The MS/MSD %Rs and RPD for 3,3-dichlorobenzidine did not meet laboratory acceptance criteria. Since the analysis of an MS or MSD was not required for SVOCs, no sample data were qualified as a result.

Reviewed by: ETMLevel: 1Date: 3/2/10

VALIDATOR'S SIGNATURE: \_\_\_\_\_

Mr. Peter Steves

DATE: 03/01/10

## SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST

5115-2

### Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist

Records Use only



Yes   No   N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, SV9	J-, SV9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, SV9a	J-, SV9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, SV9b	R, SV9b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. The instrument performance sample did not pass method acceptance criteria.	R, SV16	R, SV16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. Samples were analyzed outside specific method tune time criteria.	N/A	J, SV16b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, SV16c	R, SV16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, SV7	J, SV7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, SV7a	J, SV7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. The affected analytes were analyzed with an RRF of <0.05 in the initial calibration and/or Continuing Calibration Verification (CCV).	R, SV7b	J, SV7b
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. The Initial Calibration Verification (ICV) and/or CCV were recovered outside the method-specific limits.	UJ, SV7c	J, SV7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, SV7d	J, SV7d



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Records Use only



Yes   No   N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, SV7f	R, SV7f
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. The sample result is $\leq 5X$ (10X for common organic laboratory contaminants) the concentration of the related analyte in the method blank.	U, SV4	J, V4a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was greater than 5X (10X for common laboratory contaminants).	N/A	J, SV4a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. The sample result is $\leq 5X$ the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	UJ, SV4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, SV4e	R, SV4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The IS retention time has shifted by more than 30 seconds.	UJ, SV0	J, SV0
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18. Analyte is positively confirmed but outside the IS retention time window; however, spectral matches must be provided.	N/A	J, SV0a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, SV0b	R, SV0b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	20. The quantitating IS area count is $<10\%$ of the expected value, which indicates increased potential for false negative results and other possible problems with sample quantitation. Follow method-specific windows.	R, SV1a	J, SV1a

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5115-2

### Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist

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Yes   No   N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. The IS area count for the quantitating IS is <50% but >10% for organics window relation to the previous continuing calibration. Follow method-specific windows.	UJ, SV1b	J, SV1b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. The IS area count for the quantitating IS is >200% of the area count for the previous continuing calibration. Follow method-specific windows.	UJ, SV1c	J, SV1c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	23. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, SV1d	R, SV1d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The surrogate is <10%R. Follow the external laboratory limits located within the associated data package.	R, SV3	J-, SV3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The surrogate is < the Lower Acceptance Level (LAL) but ≥10%R. Follow the external laboratory limits located within the associated data package.	UJ, SV3a	J-, SV3a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The surrogate %R value is > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, SV3b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. At least one surrogate is > the Upper Acceptance Limit (UAL) and one surrogate is < the LAL. Follow the external laboratory limits located within the associated data package.	UJ, SV3c	J, SV3c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. Required surrogate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, SV3d	R, SV3d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, SV12	J-, SV12

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### Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist

Records Use only



Yes    No    N/A  (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. The LCS percent recovery was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, SV12a	J-, SV12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	31. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, SV12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	32. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, SV12c	R, SV12c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	33. The affected analyte is considered not detected because mass spectrum did not meet specifications.	N/A	U, SV8
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	34. The mass spectrum column documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, SV8a	R, SV8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	35. Duplicate, dilution, or reanalysis.	UJ, SV88	J, SV88
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	36. The affected analytes have elevated detection limits and may not meet project DQOs because the sample was diluted without any target analytes identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, SV15	R, SV15
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37. Qualification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB, NQ, NQ
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	38. The LANL project chemist identified quality deficiencies in the reported data that requires further qualification. This code can only be used and/or under advisement by the LANL project chemist.	UJ, R, SV19	J, R, SV19

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	381	ug/kg	76.2	381
108-95-2	Phenol	U	381	ug/kg	76.2	381
95-57-8	2-Chlorophenol	U	381	ug/kg	76.2	381
106-46-7	1,4-Dichlorobenzene	U	381	ug/kg	76.2	381
621-64-7	N-Nitrosodipropylamine	U	381	ug/kg	76.2	381
59-50-7	4-Chloro-3-methylphenol	U	381	ug/kg	76.2	381
83-32-9	Acenaphthene	U	38.1	ug/kg	12.6	38.1
121-14-2	2,4-Dinitrotoluene	U	381	ug/kg	38.1	381
100-02-7	4-Nitrophenol	U	381	ug/kg	126	381
87-86-5	Pentachlorophenol	U	381	ug/kg	95.3	381
129-00-0	Pyrene	U	38.1	ug/kg	11.4	38.1
110-86-1	Pyridine	U	381	ug/kg	76.2	381
62-53-3	Aniline	U	381	ug/kg	114	381
111-44-4	bis(2-Chloroethyl) ether	U	381	ug/kg	76.2	381
541-73-1	1,3-Dichlorobenzene	U	381	ug/kg	76.2	381
100-51-6	Benzyl alcohol	U	381	ug/kg	114	381
95-50-1	1,2-Dichlorobenzene	U	381	ug/kg	76.2	381
108-60-1	bis(2-Chloroisopropyl)ether	U	381	ug/kg	76.2	381
95-48-7	o-Cresol	U	381	ug/kg	76.2	381
65794-96-9	m,p-Cresols	U	381	ug/kg	114	381
67-72-1	Hexachloroethane	U	381	ug/kg	76.2	381
98-95-3	Nitrobenzene	U	381	ug/kg	76.2	381
78-59-1	Isophorone	U	381	ug/kg	76.2	381
88-75-5	2-Nitrophenol	U	381	ug/kg	76.2	381
105-67-9	2,4-Dimethylphenol	U	381	ug/kg	133	381
111-91-1	bis(2-Chloroethoxy)methane	U	381	ug/kg	76.2	381
120-83-2	2,4-Dichlorophenol	U	381	ug/kg	76.2	381
65-85-0	Benzoic acid	U	762	ug/kg	191	762
91-20-3	Naphthalene	U	38.1	ug/kg	11.4	38.1
106-47-8	4-Chloroaniline	U	381	ug/kg	76.2	381
87-68-3	Hexachlorobutadiene	U	381	ug/kg	76.2	381
91-57-6	2-Methylnaphthalene	U	38.1	ug/kg	7.62	38.1
77-47-4	Hexachlorocyclopentadiene	U	381	ug/kg	76.2	381 UJ,SV7c
88-06-2	2,4,6-Trichlorophenol	U	381	ug/kg	76.2	381
95-95-4	2,4,5-Trichlorophenol	U	381	ug/kg	76.2	381
91-58-7	2-Chloronaphthalene	U	38.1	ug/kg	12.6	38.1
88-74-4	2-Nitroaniline	U	381	ug/kg	76.2	381
99-09-2	<i>o</i> -Nitroaniline 3-Nitroaniline	U	381	ug/kg	76.2	381

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	381	ug/kg	76.2	381
606-20-2	2,6-Dinitrotoluene	U	381	ug/kg	38.1	381
208-96-8	Acenaphthylene	U	38.1	ug/kg	11.4	38.1
51-28-5	2,4-Dinitrophenol	U	762	ug/kg	145	762
132-64-9	Dibenzofuran	U	381	ug/kg	76.2	381
84-66-2	Diethylphthalate	U	381	ug/kg	76.2	381
86-73-7	Fluorene	U	38.1	ug/kg	11.4	38.1
7005-72-3	4-Chlorophenylphenylether	U	381	ug/kg	76.2	381
534-52-1	2-Methyl-4,6-dinitrophenol	U	381	ug/kg	76.2	381 UJ,SV7c
100-01-6	4-Nitroaniline	U	381	ug/kg	114	381 UJ,SV7c
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	381	ug/kg	76.2	381
122-66-7	Azobenzene	U	381	ug/kg	76.2	381
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	381	ug/kg	76.2	381
118-74-1	Hexachlorobenzene	U	381	ug/kg	76.2	381
85-01-8	Phenanthrene	U	38.1	ug/kg	11.4	38.1
120-12-7	Anthracene	U	38.1	ug/kg	7.62	38.1
84-74-2	Di-n-butylphthalate	U	381	ug/kg	76.2	381
206-44-0	Fluoranthene	U	38.1	ug/kg	11.4	38.1
85-68-7	Butylbenzylphthalate	U	381	ug/kg	76.2	381
56-55-3	Benzo(a)anthracene	U	38.1	ug/kg	11.4	38.1
91-94-1	3,3'-Dichlorobenzidine	U	381	ug/kg	114	381
218-01-9	Chrysene	U	38.1	ug/kg	11.4	38.1
117-81-7	bis(2-Ethylhexyl)phthalate	U	381	ug/kg	76.2	381
117-84-0	Di-n-octylphthalate	U	381	ug/kg	76.2	381
205-99-2	Benzo(b)fluoranthene	U	38.1	ug/kg	11.4	38.1
207-08-9	Benzo(k)fluoranthene	U	38.1	ug/kg	11.4	38.1
50-32-8	Benzo(a)pyrene	U	38.1	ug/kg	11.4	38.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	38.1	ug/kg	11.4	38.1
53-70-3	Dibenzo(a,h)anthracene	U	38.1	ug/kg	11.4	38.1
191-24-2	Benzo(ghi)perylene	U	38.1	ug/kg	11.4	38.1
120-82-1	1,2,4-Trichlorobenzene	U	381	ug/kg	76.2	381

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	2.08	205	ug/kg		J
	Unknown Aldol Condensate	2.88	504	ug/kg		JA

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
<b>Tentatively Identified Compound Summary</b>						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
288246-53-7	Pyridine-3-carboxamide, oxime, N-(2-trif	9.66	250	ug/kg	91	NJ
	Unknown	10.31	190	ug/kg		J
	Unknown	11.52	687	ug/kg		J
	Unknown	12.25	825	ug/kg		J

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	384	ug/kg	76.8	384
108-95-2	Phenol	U	384	ug/kg	76.8	384
95-57-8	2-Chlorophenol	U	384	ug/kg	76.8	384
106-46-7	1,4-Dichlorobenzene	U	384	ug/kg	76.8	384
621-64-7	N-Nitrosodipropylamine	U	384	ug/kg	76.8	384
59-50-7	4-Chloro-3-methylphenol	U	384	ug/kg	76.8	384
83-32-9	Acenaphthene	U	38.4	ug/kg	12.7	38.4
121-14-2	2,4-Dinitrotoluene	U	384	ug/kg	38.4	384
100-02-7	4-Nitrophenol	U	384	ug/kg	127	384
87-86-5	Pentachlorophenol	U	384	ug/kg	96.0	384
129-00-0	Pyrene	U	38.4	ug/kg	11.5	38.4
110-86-1	Pyridine	U	384	ug/kg	76.8	384
62-53-3	Aniline	U	384	ug/kg	115	384
111-44-4	bis(2-Chloroethyl) ether	U	384	ug/kg	76.8	384
541-73-1	1,3-Dichlorobenzene	U	384	ug/kg	76.8	384
100-51-6	Benzyl alcohol	U	384	ug/kg	115	384
95-50-1	1,2-Dichlorobenzene	U	384	ug/kg	76.8	384
108-60-1	bis(2-Chloroisopropyl)ether	U	384	ug/kg	76.8	384
95-48-7	o-Cresol	U	384	ug/kg	76.8	384
65794-96-9	m,p-Cresols	U	384	ug/kg	115	384
67-72-1	Hexachloroethane	U	384	ug/kg	76.8	384
98-95-3	Nitrobenzene	U	384	ug/kg	76.8	384
78-59-1	Isophorone	U	384	ug/kg	76.8	384
88-75-5	2-Nitrophenol	U	384	ug/kg	76.8	384
105-67-9	2,4-Dimethylphenol	U	384	ug/kg	134	384
111-91-1	bis(2-Chloroethoxy)methane	U	384	ug/kg	76.8	384
120-83-2	2,4-Dichlorophenol	U	384	ug/kg	76.8	384
65-85-0	Benzoic acid	U	768	ug/kg	192	768
91-20-3	Naphthalene	U	38.4	ug/kg	11.5	38.4
106-47-8	4-Chloroaniline	U	384	ug/kg	76.8	384
87-68-3	Hexachlorobutadiene	U	384	ug/kg	76.8	384
91-57-6	2-Methylnaphthalene	U	38.4	ug/kg	7.68	38.4
77-47-4	Hexachlorocyclopentadiene	U	384	ug/kg	76.8	384 UJ,SV7c
88-06-2	2,4,6-Trichlorophenol	U	384	ug/kg	76.8	384
95-95-4	2,4,5-Trichlorophenol	U	384	ug/kg	76.8	384
91-58-7	2-Chloronaphthalene	U	38.4	ug/kg	12.7	38.4
88-74-4	2-Nitroaniline	U	384	ug/kg	76.8	384
99-09-2	<i>o</i> -Nitroaniline 3-Nitroaniline	U	384	ug/kg	76.8	384

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	384	ug/kg	76.8	384
606-20-2	2,6-Dinitrotoluene	U	384	ug/kg	38.4	384
208-96-8	Acenaphthylene	U	38.4	ug/kg	11.5	38.4
51-28-5	2,4-Dinitrophenol	U	768	ug/kg	146	768
132-64-9	Dibenzofuran	U	384	ug/kg	76.8	384
84-66-2	Diethylphthalate	U	384	ug/kg	76.8	384
86-73-7	Fluorene	U	38.4	ug/kg	11.5	38.4
7005-72-3	4-Chlorophenylphenylether	U	384	ug/kg	76.8	384
534-52-1	2-Methyl-4,6-dinitrophenol	U	384	ug/kg	76.8	384 UJ,SV7c
100-01-6	4-Nitroaniline	U	384	ug/kg	115	384 UJ,SV7c
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	384	ug/kg	76.8	384
122-66-7	Azobenzene	U	384	ug/kg	76.8	384
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	384	ug/kg	76.8	384
118-74-1	Hexachlorobenzene	U	384	ug/kg	76.8	384
85-01-8	Phenanthrene	U	38.4	ug/kg	11.5	38.4
120-12-7	Anthracene	U	38.4	ug/kg	7.68	38.4
84-74-2	Di-n-butylphthalate	U	384	ug/kg	76.8	384
206-44-0	Fluoranthene	U	38.4	ug/kg	11.5	38.4
85-68-7	Butylbenzylphthalate	U	384	ug/kg	76.8	384
56-55-3	Benzo(a)anthracene	U	38.4	ug/kg	11.5	38.4
91-94-1	3,3'-Dichlorobenzidine	U	384	ug/kg	115	384
218-01-9	Chrysene	U	38.4	ug/kg	11.5	38.4
117-81-7	bis(2-Ethylhexyl)phthalate	U	384	ug/kg	76.8	384
117-84-0	Di-n-octylphthalate	U	384	ug/kg	76.8	384
205-99-2	Benzo(b)fluoranthene	U	38.4	ug/kg	11.5	38.4
207-08-9	Benzo(k)fluoranthene	U	38.4	ug/kg	11.5	38.4
50-32-8	Benzo(a)pyrene	U	38.4	ug/kg	11.5	38.4
193-39-5	Indeno(1,2,3-cd)pyrene	U	38.4	ug/kg	11.5	38.4
53-70-3	Dibenzo(a,h)anthracene	U	38.4	ug/kg	11.5	38.4
191-24-2	Benzo(ghi)perylene	U	38.4	ug/kg	11.5	38.4
120-82-1	1,2,4-Trichlorobenzene	U	384	ug/kg	76.8	384

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.88	499	ug/kg		JA
7785-70-8	1R-.alpha.-Pinene	3.43	268	ug/kg	97	NJ



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
<b>Tentatively Identified Compound Summary</b>						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
13466-78-9	3-Carene	3.82	473	ug/kg	97	NJ
57-10-3	n-Hexadecanoic acid	7.52	233	ug/kg	97	NJ
593-39-5	6-Octadecenoic acid, (Z)-	8.16	492	ug/kg	99	NJ
	Unknown	8.82	160	ug/kg		J
1000159-38-2	Bicyclo[5.2.0]nonane, 4-methylene-2,8,8-	8.92	272	ug/kg	83	NJ
	Unknown	9.02	190	ug/kg		J
	Unknown	9.17	156	ug/kg		J
	Unknown	9.27	671	ug/kg		J
1740-19-8	1-Phenanthrenecarboxylic acid, 1,2,3,4,4	9.34	743	ug/kg	93	NJ
	Unknown	9.51	636	ug/kg		J
	Unknown	9.63	256	ug/kg		J
74339-54-1	Trichloroacetic acid, hexadecyl ester	9.98	373	ug/kg	93	NJ
	Unknown	10.4	304	ug/kg		J
83-46-5	.beta.-Sitosterol	13.55	963	ug/kg	97	NJ

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	394	ug/kg	78.9	394
108-95-2	Phenol	U	394	ug/kg	78.9	394
95-57-8	2-Chlorophenol	U	394	ug/kg	78.9	394
106-46-7	1,4-Dichlorobenzene	U	394	ug/kg	78.9	394
621-64-7	N-Nitrosodipropylamine	U	394	ug/kg	78.9	394
59-50-7	4-Chloro-3-methylphenol	U	394	ug/kg	78.9	394
83-32-9	Acenaphthene	U	39.4	ug/kg	13.0	39.4
121-14-2	2,4-Dinitrotoluene	U	394	ug/kg	39.4	394
100-02-7	4-Nitrophenol	U	394	ug/kg	130	394
87-86-5	Pentachlorophenol	U	394	ug/kg	98.6	394
129-00-0	Pyrene	U	39.4	ug/kg	11.8	39.4
110-86-1	Pyridine	U	394	ug/kg	78.9	394
62-53-3	Aniline	U	394	ug/kg	118	394
111-44-4	bis(2-Chloroethyl) ether	U	394	ug/kg	78.9	394
541-73-1	1,3-Dichlorobenzene	U	394	ug/kg	78.9	394
100-51-6	Benzyl alcohol	U	394	ug/kg	118	394
95-50-1	1,2-Dichlorobenzene	U	394	ug/kg	78.9	394
108-60-1	bis(2-Chloroisopropyl)ether	U	394	ug/kg	78.9	394
95-48-7	o-Cresol	U	394	ug/kg	78.9	394
65794-96-9	m,p-Cresols	U	394	ug/kg	118	394
67-72-1	Hexachloroethane	U	394	ug/kg	78.9	394
98-95-3	Nitrobenzene	U	394	ug/kg	78.9	394
78-59-1	Isophorone	U	394	ug/kg	78.9	394
88-75-5	2-Nitrophenol	U	394	ug/kg	78.9	394
105-67-9	2,4-Dimethylphenol	U	394	ug/kg	138	394
111-91-1	bis(2-Chloroethoxy)methane	U	394	ug/kg	78.9	394
120-83-2	2,4-Dichlorophenol	U	394	ug/kg	78.9	394
65-85-0	Benzoic acid	U	789	ug/kg	197	789
91-20-3	Naphthalene	U	39.4	ug/kg	11.8	39.4
106-47-8	4-Chloroaniline	U	394	ug/kg	78.9	394
87-68-3	Hexachlorobutadiene	U	394	ug/kg	78.9	394
91-57-6	2-Methylnaphthalene	U	39.4	ug/kg	7.89	39.4
77-47-4	Hexachlorocyclopentadiene	U	394	ug/kg	78.9	394 UJ,SV7c
88-06-2	2,4,6-Trichlorophenol	U	394	ug/kg	78.9	394
95-95-4	2,4,5-Trichlorophenol	U	394	ug/kg	78.9	394
91-58-7	2-Chloronaphthalene	U	39.4	ug/kg	13.0	39.4
88-74-4	2-Nitroaniline	U	394	ug/kg	78.9	394
99-09-2	<i>o</i> -Nitroaniline 3-Nitroaniline	U	394	ug/kg	78.9	394

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	394	ug/kg	78.9	394
606-20-2	2,6-Dinitrotoluene	U	394	ug/kg	39.4	394
208-96-8	Acenaphthylene	U	39.4	ug/kg	11.8	39.4
51-28-5	2,4-Dinitrophenol	U	789	ug/kg	150	789
132-64-9	Dibenzofuran	U	394	ug/kg	78.9	394
84-66-2	Diethylphthalate	U	394	ug/kg	78.9	394
86-73-7	Fluorene	U	39.4	ug/kg	11.8	39.4
7005-72-3	4-Chlorophenylphenylether	U	394	ug/kg	78.9	394
534-52-1	2-Methyl-4,6-dinitrophenol	U	394	ug/kg	78.9	394 UJ,SV7c
100-01-6	4-Nitroaniline	U	394	ug/kg	118	394 UJ,SV7c
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	394	ug/kg	78.9	394
122-66-7	Azobenzene	U	394	ug/kg	78.9	394
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	394	ug/kg	78.9	394
118-74-1	Hexachlorobenzene	U	394	ug/kg	78.9	394
85-01-8	Phenanthrene	U	39.4	ug/kg	11.8	39.4
120-12-7	Anthracene	U	39.4	ug/kg	7.89	39.4
84-74-2	Di-n-butylphthalate	U	394	ug/kg	78.9	394
206-44-0	Fluoranthene	U	39.4	ug/kg	11.8	39.4
85-68-7	Butylbenzylphthalate	U	394	ug/kg	78.9	394
56-55-3	Benzo(a)anthracene	U	39.4	ug/kg	11.8	39.4
91-94-1	3,3'-Dichlorobenzidine	U	394	ug/kg	118	394
218-01-9	Chrysene	U	39.4	ug/kg	11.8	39.4
117-81-7	bis(2-Ethylhexyl)phthalate	U	394	ug/kg	78.9	394
117-84-0	Di-n-octylphthalate	U	394	ug/kg	78.9	394
205-99-2	Benzo(b)fluoranthene	U	39.4	ug/kg	11.8	39.4
207-08-9	Benzo(k)fluoranthene	U	39.4	ug/kg	11.8	39.4
50-32-8	Benzo(a)pyrene	U	39.4	ug/kg	11.8	39.4
193-39-5	Indeno(1,2,3-cd)pyrene	U	39.4	ug/kg	11.8	39.4
53-70-3	Dibenzo(a,h)anthracene	U	39.4	ug/kg	11.8	39.4
191-24-2	Benzo(ghi)perylene	U	39.4	ug/kg	11.8	39.4
120-82-1	1,2,4-Trichlorobenzene	U	394	ug/kg	78.9	394

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	2.08	212	ug/kg		J
	Unknown Aldol Condensate	2.88	512	ug/kg		JA

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	
Tentatively Identified Compound Summary				Estimated			
CAS No.	Tentatively Identified Compound (TIC)		RT	Units	Fit	Qual	
7785-70-8	1R-.alpha.-Pinene		3.43	191	ug/kg	97	NJ
	Unknown		5.12	373	ug/kg		J
1235-74-1	1-Phenanthrenecarboxylic acid, 1,2,3,4,4		8.98	163	ug/kg	98	NJ
112-88-9	1-Octadecene		9.34	280	ug/kg	90	NJ
559-74-0	Friedelan-3-one		9.66	1120	ug/kg	99	NJ
	Unknown		9.82	161	ug/kg		J
	Unknown		9.95	357	ug/kg		J
629-96-9	1-Eicosanol		9.98	221	ug/kg	90	NJ
112-95-8	Eicosane		10.7	325	ug/kg	95	NJ
	Unknown		11.55	1970	ug/kg		J
	Unknown		11.71	299	ug/kg		J
	Unknown		11.87	399	ug/kg		J
70038-20-9	7-Oxabicyclo[4.1.0]heptane, 2,2,6-trimet		12.27	2290	ug/kg	90	NJ
	Unknown		12.71	287	ug/kg		J
	Unknown		13.07	231	ug/kg		J
83-46-5	.beta.-Sitosterol		13.57	1160	ug/kg	99	NJ
	Unknown		13.77	347	ug/kg		J
	Unknown		14.38	229	ug/kg		J

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	370	ug/kg	73.9	370
108-95-2	Phenol	U	370	ug/kg	73.9	370
95-57-8	2-Chlorophenol	U	370	ug/kg	73.9	370
106-46-7	1,4-Dichlorobenzene	U	370	ug/kg	73.9	370
621-64-7	N-Nitrosodipropylamine	U	370	ug/kg	73.9	370
59-50-7	4-Chloro-3-methylphenol	U	370	ug/kg	73.9	370
83-32-9	Acenaphthene	U	37.0	ug/kg	12.2	37.0
121-14-2	2,4-Dinitrotoluene	U	370	ug/kg	37.0	370
100-02-7	4-Nitrophenol	U	370	ug/kg	122	370
87-86-5	Pentachlorophenol	U	370	ug/kg	92.4	370
129-00-0	Pyrene	U	37.0	ug/kg	11.1	37.0
110-86-1	Pyridine	U	370	ug/kg	73.9	370
62-53-3	Aniline	U	370	ug/kg	111	370
111-44-4	bis(2-Chloroethyl) ether	U	370	ug/kg	73.9	370
541-73-1	1,3-Dichlorobenzene	U	370	ug/kg	73.9	370
100-51-6	Benzyl alcohol	U	370	ug/kg	111	370
95-50-1	1,2-Dichlorobenzene	U	370	ug/kg	73.9	370
108-60-1	bis(2-Chloroisopropyl)ether	U	370	ug/kg	73.9	370
95-48-7	o-Cresol	U	370	ug/kg	73.9	370
65794-96-9	m,p-Cresols	U	370	ug/kg	111	370
67-72-1	Hexachloroethane	U	370	ug/kg	73.9	370
98-95-3	Nitrobenzene	U	370	ug/kg	73.9	370
78-59-1	Isophorone	U	370	ug/kg	73.9	370
88-75-5	2-Nitrophenol	U	370	ug/kg	73.9	370
105-67-9	2,4-Dimethylphenol	U	370	ug/kg	129	370
111-91-1	bis(2-Chloroethoxy)methane	U	370	ug/kg	73.9	370
120-83-2	2,4-Dichlorophenol	U	370	ug/kg	73.9	370
65-85-0	Benzoic acid	U	739	ug/kg	185	739
91-20-3	Naphthalene	U	37.0	ug/kg	11.1	37.0
106-47-8	4-Chloroaniline	U	370	ug/kg	73.9	370
87-68-3	Hexachlorobutadiene	U	370	ug/kg	73.9	370
91-57-6	2-Methylnaphthalene	U	37.0	ug/kg	7.39	37.0
77-47-4	Hexachlorocyclopentadiene	U	370	ug/kg	73.9	370 UJ,SV7c
88-06-2	2,4,6-Trichlorophenol	U	370	ug/kg	73.9	370
95-95-4	2,4,5-Trichlorophenol	U	370	ug/kg	73.9	370
91-58-7	2-Chloronaphthalene	U	37.0	ug/kg	12.2	37.0
88-74-4	2-Nitroaniline	U	370	ug/kg	73.9	370
99-09-2	<i>o</i> -Nitroaniline 3-Nitroaniline	U	370	ug/kg	73.9	370

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	370	ug/kg	73.9	370
606-20-2	2,6-Dinitrotoluene	U	370	ug/kg	37.0	370
208-96-8	Acenaphthylene	U	37.0	ug/kg	11.1	37.0
51-28-5	2,4-Dinitrophenol	U	739	ug/kg	140	739
132-64-9	Dibenzofuran	U	370	ug/kg	73.9	370
84-66-2	Diethylphthalate	U	370	ug/kg	73.9	370
86-73-7	Fluorene	U	37.0	ug/kg	11.1	37.0
7005-72-3	4-Chlorophenylphenylether	U	370	ug/kg	73.9	370
534-52-1	2-Methyl-4,6-dinitrophenol	U	370	ug/kg	73.9	370 UJ,SV7c
100-01-6	4-Nitroaniline	U	370	ug/kg	111	370 UJ,SV7c
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	370	ug/kg	73.9	370
122-66-7	Azobenzene	U	370	ug/kg	73.9	370
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	370	ug/kg	73.9	370
118-74-1	Hexachlorobenzene	U	370	ug/kg	73.9	370
85-01-8	Phenanthrene	U	37.0	ug/kg	11.1	37.0
120-12-7	Anthracene	U	37.0	ug/kg	7.39	37.0
84-74-2	Di-n-butylphthalate	U	370	ug/kg	73.9	370
206-44-0	Fluoranthene	U	37.0	ug/kg	11.1	37.0
85-68-7	Butylbenzylphthalate	U	370	ug/kg	73.9	370
56-55-3	Benzo(a)anthracene	U	37.0	ug/kg	11.1	37.0
91-94-1	3,3'-Dichlorobenzidine	U	370	ug/kg	111	370
218-01-9	Chrysene	U	37.0	ug/kg	11.1	37.0
117-81-7	bis(2-Ethylhexyl)phthalate	U	370	ug/kg	73.9	370
117-84-0	Di-n-octylphthalate	U	370	ug/kg	73.9	370
205-99-2	Benzo(b)fluoranthene	U	37.0	ug/kg	11.1	37.0
207-08-9	Benzo(k)fluoranthene	U	37.0	ug/kg	11.1	37.0
50-32-8	Benzo(a)pyrene	U	37.0	ug/kg	11.1	37.0
193-39-5	Indeno(1,2,3-cd)pyrene	U	37.0	ug/kg	11.1	37.0
53-70-3	Dibenzo(a,h)anthracene	U	37.0	ug/kg	11.1	37.0
191-24-2	Benzo(ghi)perylene	U	37.0	ug/kg	11.1	37.0
120-82-1	1,2,4-Trichlorobenzene	U	370	ug/kg	73.9	370

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.88	301	ug/kg		JA
112-95-8	Eicosane	10.7	307	ug/kg	91	NJ

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 3 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
<b>Tentatively Identified Compound Summary</b>						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
331736-92-6	Acetic acid, 2-(2-propyl-1-benzimidazolyl	11.57	3220	ug/kg	91	NJ
	Unknown	12.29	2510	ug/kg		J
	Unknown	13.07	438	ug/kg		J
	Unknown	13.77	526	ug/kg		J
	Unknown	14.01	149	ug/kg		J

**DATA VALIDATION COVER SHEET****5121-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1262 VALIDATION DATE: 03/01/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- |  |  |   |   |
|--|--|---|---|
| <input type="checkbox"/> TPH-GRO                 | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS          | <input checked="" type="checkbox"/> LCMSMS PERCHLORATES       |
| <input type="checkbox"/> TPH-DRO                 | <input type="checkbox"/> METALS          | <input type="checkbox"/> PCB CONGENERS          | <input type="checkbox"/> ORGANOCHLORINE                       |
| <input type="checkbox"/> GENERAL CHEMISTRY       | <input type="checkbox"/> RADIOCHEMISTRY  | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | <input type="checkbox"/> PESTICIDES/POLYCHLORINATED BIPHENYLS |
| <input type="checkbox"/> OTHER (DESCRIBE): _____ |  |   |   |

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                                 | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 8. QUANTITATION REPORTS  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 4. SAMPLE CHROMATOGRAMS     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS            |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. TICS MASS SPECTRA    |

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

- It should be noted that the parent samples for both the solid and aqueous QC analyses were from other LANL RNs. No sample data were qualified as a result.

Reviewed by: ETMLevel: 1Date: 3/2/10

VALIDATOR'S SIGNATURE: \_\_\_\_\_

Mr. Peter Steves

DATE: 03/01/10




**LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST****5121-2****LC/MS/MS Perchlorate Analytical Data Validation Checklist**

Records Use only \_\_\_\_\_



Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The Internal Standard (IS) relative retention time has shifted by more than 0.98 to 1.02 seconds.	R, PERC0	J, PERC0
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC0b	R, PERC0b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The IS are count is <25% of the expected value.	UJ, PERC1a	J, PERC1a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. The IS area count is <70% but >25% of the average of that obtained from the calibration standards.	UJ, PERC1b	J, PERC1b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. The IS area count is >130% of the average of that obtained from the calibration standards.	UJ, PERC1c	J, PERC1c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC1d	R, PERC1d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The sample result is $\leq 5X$ the concentration of the related analyte in the method blank.	U, PERC4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was $>5X$ .	N/A	J+, PERC4a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. The sample result is $\leq 5X$ the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, PERC4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC4e	R, PERC4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, PERC7	J, PERC7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is $<0.99$ .	UJ, R, PERC7a	J, PERC7a

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5121-2</b>  <b>LC/MS/MS Perchlorate Analytical Data Validation Checklist</b>	Records Use only _____  

Yes   No   N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. The ICV and/or CCV were recovered outside the method limits.	UJ, R, PERC7c	J, PERC7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, PERC7d	J, PERC7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, PERC7f	R. PERC7f
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. The affected analyte is considered not detected because ion abundance ratios did not meet specifications.	N/A	R, PERC8
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The ion ratio documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	N/A	R, PERC8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ PERC9	J-, PERC9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The holding time was > 2 times the applicable holding time requirement.	R, PERC9a	J-, PERC9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, PERC12	J-, PERC12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, PERC12a	J-, PERC12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, PERC12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC12c	R, PERC12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The MS/MSD percent recovery was <10%	R, PERC12d	R, PERC12d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The MS/MSD percent recovery was >10% but <75%	UJ, PERC12e	J, PERC12e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The MS/MSD percent recovery was >125%.	N/A	J+, PERC12f

**LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST****5121-2****LC/MS/MS Perchlorate Analytical Data Validation Checklist**

Records Use only \_\_\_\_\_



Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The MS/MSD relative percent difference was >20%.	UJ, PERC12g	J, PERC12g
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	28. The affected analytes are considered suspect because the sample was diluted without any target analytes identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, PERC15	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	29. The sample was diluted because target analytes were > the initial verification calibration.	UJ, PERC15a	J, PERC15a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	30. The Contract Required Detection Limit check standard (CRI) sample did not pass method-acceptance limits.	UJ, R, PERC16	J, PERC16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	31. The Interference Check Sample was not within $\pm 20\%$ of the known value.	UJ, PERC16a	J, PERC16a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	32. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, PERC16c	R, PERC16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	33. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, PERC19	J, R, PERC19
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	34. Duplicate, dilution, or reanalysis.	UJ, PERC88	J, PERC88

## Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLCLab Code: GELInstrument: LCMSMSMethod: SW846 6850 ModifiedMatrix: SOILExtraction Batch ID: 944706Extraction Type: Solid PrepSample Volume/Weight: 2.00 gConcentrated Extract Volume: 20.0

Client Sample No.

RE12-10-7272Date Received: 15-JAN-10GEL Job No (SDG): 10-1262GEL Sample ID: 244847001Date Filtered: 25-JAN-10Injection Volume (uL): 20%Solids: 87

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.572	2.29	0.572	ug/kg	U	1	26-JAN-10 21:57	per0126039a
	Perchlorate Isotope Ratio						1	26-JAN-10 21:57	per0126039a
14797-73-0	Perchlorate-101	.572	2.29	0.572	ug/kg	U	1	26-JAN-10 21:57	per0126039a
	Perchlorate-O(18)			5.41	ug/kg		1	26-JAN-10 21:57	per0126039a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\% \text{Solids}}$$

## Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLCLab Code: GELInstrument: LCMSMSMethod: SW846 6850 ModifiedMatrix: SOILExtraction Batch ID: 944706Extraction Type: Solid PrepSample Volume/Weight: 2.00 gConcentrated Extract Volume: 20.0

Client Sample No.

RE12-10-7273Date Received: 15-JAN-10GEL Job No (SDG): 10-1262GEL Sample ID: 244847002Date Filtered: 25-JAN-10Injection Volume (uL): 20%Solids: 87

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.577	2.31	0.577	ug/kg	U	1	26-JAN-10 22:05	per0126040a
	Perchlorate Isotope Ratio						1	26-JAN-10 22:05	per0126040a
14797-73-0	Perchlorate-101	.577	2.31	0.577	ug/kg	U	1	26-JAN-10 22:05	per0126040a
	Perchlorate-O(18)			6.01	ug/kg		1	26-JAN-10 22:05	per0126040a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\% \text{Solids}}$$

## Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLCLab Code: GELInstrument: LCMSMSMethod: SW846 6850 ModifiedMatrix: SOILExtraction Batch ID: 944706Extraction Type: Solid PrepSample Volume/Weight: 2.00 gConcentrated Extract Volume: 20.0

Client Sample No.

RE12-10-7274Date Received: 15-JAN-10GEL Job No (SDG): 10-1262GEL Sample ID: 244847003Date Filtered: 25-JAN-10Injection Volume (uL): 20%Solids: 84

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.592	2.37	0.592	ug/kg	U	1	26-JAN-10 22:13	per0126041a
	Perchlorate Isotope Ratio						1	26-JAN-10 22:13	per0126041a
14797-73-0	Perchlorate-101	.592	2.37	0.592	ug/kg	U	1	26-JAN-10 22:13	per0126041a
	Perchlorate-O(18)			5.74	ug/kg		1	26-JAN-10 22:13	per0126041a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\% \text{Solids}}$$

## Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLCLab Code: GELInstrument: LCMSMSMethod: SW846 6850 ModifiedMatrix: SOILExtraction Batch ID: 944706Extraction Type: Solid PrepSample Volume/Weight: 2.00 gConcentrated Extract Volume: 20.0

Client Sample No.

RE12-10-7281Date Received: 15-JAN-10GEL Job No (SDG): 10-1262GEL Sample ID: 244847004Date Filtered: 25-JAN-10Injection Volume (uL): 20%Solids: 90.1

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.555	2.22	0.735	ug/kg	J	1	26-JAN-10 22:21	per0126042a
	Perchlorate Isotope Ratio			3.04			1	26-JAN-10 22:21	per0126042a
14797-73-0	Perchlorate-101	.555	2.22	0.725	ug/kg	J	1	26-JAN-10 22:21	per0126042a
	Perchlorate-O(18)			5.74	ug/kg		1	26-JAN-10 22:21	per0126042a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\% \text{Solids}}$$

## Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLCLab Code: GELInstrument: LCMSMSMethod: SW846 6850 ModifiedMatrix: WATERExtraction Batch ID: 943783Extraction Type: Filter/DAISample Volume/Weight: 10.0 mLConcentrated Extract Volume: 10.0

Client Sample No.

RE12-10-7286Date Received: 15-JAN-10GEL Job No (SDG): 10-1262-1GEL Sample ID: 244849001Date Filtered: 21-JAN-10Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:21	per0121030a
	Perchlorate Isotope Ratio						1	21-JAN-10 17:21	per0121030a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:21	per0121030a
	Perchlorate-O(18)			0.479	ug/L		1	21-JAN-10 17:21	per0121030a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\% \text{Solids}}$$



**DATA VALIDATION COVER SHEET****5122-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1262 VALIDATION DATE: 03/01/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- |  |  |  |  |
|--|--|--|--|
| <input type="checkbox"/> TPH-GRO                 | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS                     | <input type="checkbox"/> LCMSMS PERCHLORATES |
| <input type="checkbox"/> TPH-DRO                 | <input type="checkbox"/> METALS          | <input type="checkbox"/> PCB CONGENERS                     | <input type="checkbox"/> ORGANOCHLORINE      |
| <input type="checkbox"/> GENERAL CHEMISTRY       | <input type="checkbox"/> RADIOCHEMISTRY  | <input checked="" type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS         |
| <input type="checkbox"/> OTHER (DESCRIBE): _____ |  |  |  |

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                                 | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 8. QUANTITATION REPORTS  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 4. SAMPLE CHROMATOGRAMS     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS            |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. TICS MASS SPECTRA    |

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. The CCV %Ds were >20% with a positive bias for 2,4-dinitrotoluene and RDX. The associated sample results were NDs and, thus, were not qualified.
2. The MS/MSD %Rs were > the laboratory UAL for TATB. The associated sample results were NDs and, thus, were not qualified. The MS/MSD RPD was > the laboratory control limit for TATB. The associated sample results were NDs and, thus, were qualified UJ,HE12g.
3. It should be noted that the raw ICAL data from the instrument used for the secondary HE analysis were not reported in the data package. Thus, the surrogate RT criteria could not be evaluated. No sample data were qualified as a result.

Reviewed by: ETMLevel: 1Date: 3/2/10

VALIDATOR'S SIGNATURE: \_\_\_\_\_

Mr. Peter Steves

DATE: 03/01/10

**LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST****5122-2****LC/MS/MS High Explosive Analytical Data Validation Checklist**

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The IS retention time has shifted by more than 30 seconds.	R, UJ, HE0	J, HE0
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE0b	R, HE0b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The quantitating IS area count is <25% of the expected value, which indicates increased potential for false negative results and other possible problems with sample quantitation. Follow the method-specific windows.	R, HE1a	J, HE1a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. The IS area count for the quantitating IS is <70% but >25% of the average of that obtained from the calibration standards.	UJ, HE1b	J+, HE1b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. The IS area count for the quantitating IS is >130% of the average of that obtained from the calibration standards.	UJ, HE1c	J-, HE1c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE1d	R, HE1d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The surrogate is <10%R. Follow the external laboratory limits.	R, HE3	J-, HE3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The surrogate is < the Lower Acceptance Limit but ≥10% recovery. Follow the external laboratory limits.	UJ, HE3a	J-, HE3a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. The surrogate %R value is > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE3b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. At least one surrogate is > the Upper Acceptance Limit and one surrogate is < the Lower Acceptance Limit. Follow the external laboratory limits.	UJ, HE3c	J, HE3c

**LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST****5122-2****LC/MS/MS High Explosive Analytical Data Validation Checklist**

Records Use only



Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Required surrogate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE3d	R, HE3d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. The sample result is $\leq 5$ times the concentration of the related analyte in the method blank.	U, HE4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was $>5x$ .	N/A	J, HE4a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. The sample result is $\leq 5$ times the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, HE4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE4e	R, HE4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. The absence of sample carry-over must be determined and verified.	N/A	R, N, HE4f
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, HE7	J, HE7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is less $< 0.99$ .	UJ, R, HE7a	J, HE7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The affected analytes were analyzed with a RRF of $< 0.05$ in the initial calibration and/or CCV.	UJ, R, HE7b	J, HE7b
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20. The ICV and/or CCV were recovered outside the method limits.	UJ, R, HE7c	J, HE7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, HE7d	J, HE7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, HE7f	R, HE7f

**LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST****5122-2****LC/MS/MS High Explosive Analytical Data Validation Checklist**

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The mass spectral documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE8a	R, HE8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, HE9	J-, HE9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The holding time was >2 times the applicable holding time requirement.	R, HE9a	J-, HE9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, HE12	J-, HE12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, HE12a	J-, HE12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE12c	R, HE12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. The MS/MSD percent recovery was <10%.	R, HE12d	R, HE12d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	31. The MS/MSD percent recovery was >10% but <70%.	UJ, HE12e	J, HE12e
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32. The MS/MSD percent recover was >70%.	N/A	J+, HE12f
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33. The MS/MSD relative percent difference was >30%.	UJ, HE12g	J, HE12g
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	34. The affected analytes are considered suspect because the sample was diluted without any target analytes identified due to matrix interference. (Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.)	UJ, R, HE15	R, HE15
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	35. The sample was diluted because target analytes were > the initial verification calibration.	UJ, HE15a	J, HE15a

**LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST****5122-2****LC/MS/MS High Explosive Analytical Data Validation Checklist**

Records Use only



Yes    No    N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	36. The Contract Required Detection Limit Check Standard (CRI) sample did not pass method acceptance criteria.	UJ, R, HE16	J, HE16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	37. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, HE16c	R, HE16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	38. The LANL project chemist identified quality deficiencies in the reported data that requires further qualification. This code can only be used and/or under advisement by the LANL project chemist.	UJ, R, HE19	J, R, HE19
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	39. Duplicate, dilution, or reanalysis.	UJ, HE88	J, HE88

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847001

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131015a

Date Analyzed: 31-JAN-10 19:28

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847001

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250019.wiff

Date Analyzed: 25-JAN-10 15:15

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7273

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847002

Sample Amount 2

Moisture: 13.3

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131018a

Date Analyzed: 31-JAN-10 20:57

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor



1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7273

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847002

Sample Amount 2

Moisture: 13.3

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250096.wiff

Date Analyzed: 26-JAN-10 11:25

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument	X	<u>Concentrated Extract Volume</u>	X	Dilution
Value		<u>Sample Amount</u>		Factor

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7274

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847003

Sample Amount 2

Moisture: 15.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131019a

Date Analyzed: 31-JAN-10 21:26

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7274

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847003

Sample Amount 2

Moisture: 15.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250023.wiff

Date Analyzed: 25-JAN-10 16:18

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7281

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847004

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131020a

Date Analyzed: 31-JAN-10 21:56

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$	X	Dilution Factor
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1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7281

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847004

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250027.wiff

Date Analyzed: 25-JAN-10 17:21

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

**DATA VALIDATION COVER SHEET****5116-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1262 VALIDATION DATE: 03/01/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- |  |  |   |  |
|--|--|---|--|
| <input type="checkbox"/> TPH-GRO                       | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS          | <input type="checkbox"/> LCMSMS PERCHLORATES       |
| <input type="checkbox"/> TPH-DRO                       | <input type="checkbox"/> METALS          | <input type="checkbox"/> PCB CONGENERS          | <input checked="" type="checkbox"/> ORGANOCHLORINE |
| <input type="checkbox"/> GENERAL CHEMISTRY             | <input type="checkbox"/> RADIOCHEMISTRY  | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS               |
| <input type="checkbox"/> OTHER (DESCRIBE): <u>PCBs</u> |  |   |  |

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                                 | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 8. QUANTITATION REPORTS  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 4. SAMPLE CHROMATOGRAMS     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS            |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. TICS MASS SPECTRA    |

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

- It should be noted that the MS/MSD analyses were performed on a LANL parent sample from another RN. No sample data were qualified as a result.

Reviewed by: ETMLevel: 1Date: 3/2/10

VALIDATOR'S SIGNATURE: \_\_\_\_\_

Mr. Peter Steves

DATE: 03/01/10

# **ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST**


5116-2

## **Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist**

Records Use only




Yes   No   N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, P9	J-, P9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, P9	J-, P9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, P9b	R, P9b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, P7	J, P7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, P7a	J, P7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. The Initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, P7c	J, P7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, P7d	J, P7d
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8. The multicomponent standard was not analyzed within 72 hours of the initial analysis.	R, P7e	J, P7e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, P7f	R, P7f
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. The breakdown criteria have been exceeded. This can cause low bias in reported results. If compound is detected, qualify J-. If compound is not present, but breakdown products are present, qualify R. If no compounds or breakdown products are present, qualify UJ (4,4' DDT and Endrin).	UJ, R, P13	J-, P13

ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5116-2</b>  <b>Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist</b>	Records Use only  

Yes   No   N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. The breakdown criteria have been exceeded. This can cause high bias in the reported results and potential false positive results for the breakdown products Endrin ketone, Endrin aldehyde, DDD, and DDE.	UJ, P13a	J+, P13a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. The breakdown documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P13b	R, P13b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, P4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was greater than 5X.	N/A	J, P4a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	UJ, P4b	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	UJ, P4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P4e	R, P4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The analyte RT shifted by more than 0.05 minutes from the mid-level standard of the initial calibration.	R, P0	J, P0
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Required retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P0b	R, P0b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The surrogate is <10%R. Follow the external laboratory limits located within the associated data package.	R, P3	J-, P3



ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5116-2</b>  <b>Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist</b>	Records Use only  

Yes   No   N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The surrogate is < the Lower Acceptance Level (LAL) but $\geq 10\%R$ . Follow the external laboratory limits located within the associated data package.	UJ, P3a	J-, P3a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The surrogate %R value is > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, P3b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. At least one surrogate is > the Upper Acceptance Limit (UAL) and one surrogate is < the LAL. Follow the external laboratory limits located within the associated data package.	UJ, P3c	J, P3c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. Required surrogate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P3d	R, P3d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, P12	J-, P12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LCS percent recovery was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, P12a	J-, P12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, P12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P12c	R, P12c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	29. The analyte was not confirmed on a second dissimilar column.	N/A	R, P8
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	30. The second dissimilar column documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P8a	R, P8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	31. Duplicate, Dilution, or reanalysis.	UJ, P88	J, P88

# **ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST**

5116-2

## **Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist**

Records Use only



Yes   No   N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	32. The affected analytes have elevated detection limits and may not meet project DQOs because the sample was diluted without any target analytes identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, P15	R, P15
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33. Qualification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB, NQ, NQ
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	34. The LANL project chemist identified quality deficiencies in the reported data that requires further qualification. This code can only be used and/or under advisement by the LANL project chemist.	UJ, R, P19	J, R, P19

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Client ID:** RE12-10-7281  
**Batch ID:** 943205  
**Run Date:** 01/20/2010 12:55  
**Prep Date:** 01/19/2010 20:46  
**Data File:** 026f2601.d  
026b2601.d

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8082  
**Inst:** ECD2A.I  
**Analyst:** JAOC  
**Aliquot:** 30.02 g  
**Column:** 1 CLP1  
2 CLP2

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-040  
**Dilution:** 5  
**Inj. Vol:** 1 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	18.5	ug/kg	6.15	18.5	1
11104-28-2	Aroclor-1221	U	18.5	ug/kg	6.15	18.5	1
11141-16-5	Aroclor-1232	U	18.5	ug/kg	6.15	18.5	1
53469-21-9	Aroclor-1242	U	18.5	ug/kg	6.15	18.5	1
12672-29-6	Aroclor-1248	U	18.5	ug/kg	6.15	18.5	1
11097-69-1	Aroclor-1254	U	18.5	ug/kg	6.15	18.5	1
11096-82-5	Aroclor-1260	U	18.5	ug/kg	6.15	18.5	1

**DATA VALIDATION COVER SHEET****5118-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1262 VALIDATION DATE: 03/01/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- |  |  |   |   |
|--|--|---|---|
| <input type="checkbox"/> TPH-GRO                 | <input type="checkbox"/> HIGH EXPLOSIVES   | <input type="checkbox"/> DIOXIN FURANS          | <input type="checkbox"/> LCMSMS PERCHLORATES                  |
| <input type="checkbox"/> TPH-DRO                 | <input checked="" type="checkbox"/> METALS | <input type="checkbox"/> PCB CONGENERS          | <input type="checkbox"/> ORGANOCHLORINE                       |
| <input type="checkbox"/> GENERAL CHEMISTRY       | <input type="checkbox"/> RADIOCHEMISTRY    | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | <input type="checkbox"/> PESTICIDES/POLYCHLORINATED BIPHENYLS |
| <input type="checkbox"/> OTHER (DESCRIBE): _____ |  |   |   |

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                                 | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. QUANTITATION REPORTS  |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4. SAMPLE CHROMATOGRAMS     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS            |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. TICS MASS SPECTRA    |

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. In the solid MB, Sb, Fe, Mg, Mn and Na were detected. The Sb results for samples RE12-10-7272 and -7273 were detects  $\leq 5X$  the MB concentration and, thus, were qualified U,I4. The remaining associated Sb sample results were NDs and, thus, were not qualified. The Na results for samples -7273 and -7281 and the Mg results for samples -7272 and -7274 were detects  $> 5X$  but  $\leq 50X$  the MB concentrations and, thus, were qualified J,I4a. The remaining associated Na sample results were qualified ND and, thus, were not qualified. All other associated sample results were detects  $> 50X$  and, thus, were not qualified, based on professional judgment.
2. In the solid ICB/CCBs, Sb, Mg and Na were detected. The Sb results for samples -7272 and -7273, and the Na results for samples -7272 and -7274 were detects  $\leq 5X$  the MB concentrations and, thus, were qualified U,I4b. The remaining associated Sb sample results were NDs and, thus, were not qualified. The remaining associated sample results were detects  $> 5X$  the greatest associated blank concentrations and, thus, were not qualified.
3. The solid MS %Rs were  $>$  the laboratory UAL for Mg, Mn and K. The associated sample results were detects and, thus, were qualified J+,I6b. Also, the solid MS %Rs were  $>$  the laboratory UAL for Al and Fe, and the aqueous MS %R was  $<$  the laboratory LAL but  $\geq 10\%$  for Mn. However, the associated parent sample concentrations were  $> 4X$  the spike concentrations. Thus, the associated sample results were not qualified, based on professional judgment.
4. It should be noted all aqueous and the soil ICP-AES matrix QC analyses were performed on a LANL samples from other RNs. No sample data were qualified as a result.

Reviewed by: ETM

Level: 1

Date: 3/2/10

**DATA VALIDATION COVER SHEET****5118-1****Data Validation Cover Sheet**

Records Use only



VALIDATOR'S SIGNATURE: \_\_\_\_\_

A handwritten signature in black ink, appearing to read 'Peter Steves', written over a horizontal line.

Mr. Peter Steves

DATE: 03/01/10

Form 5118-1, Revision 0.0

LOS ALAMOS

Environmental Restoration Project

# METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

## Metals Analytical Data Validation Checklist

Records Use only



Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, I9	J-, I9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The instrument performance sample did not pass method acceptance criteria.	R, I16	R, I16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. The mass calibration is not within 0.1 amu or %RSD is >5% for any isotope (Be, Mg, Co, In, Pb).	UJ, I16a	J, I16a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. Samples were analyzed outside specific method tune time criteria.	N/A	J, I16b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, I16c	R, I16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, I7	J, I7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, I7a	J, I7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. The initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, I7c	J, I7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, I7d	J, I7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, I7f	R, I7f
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Metals interference check sample percent recover value is <50%.	R, I2	J-, I2

# METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

## Metals Analytical Data Validation Checklist

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. Metals interference check sample percent recovery value is $\geq 50\%$ and $< 80\%$	UJ, I2a	J-, I2a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Metals interference check sample percent recovery value is $> 120\%$ .	N/A	J+, I2b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. Metals interference check sample was not analyzed with the samples.	R, I2c	R, I2c
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. The sample result is $\leq 5X$ the concentration of the related analyte in the method blank.	U, I4	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was $> 5X$ .	N/A	J, I4a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18. The sample result is $\leq 5X$ the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	20. The sample result is $\leq 5X$ the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I4e	R, I4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The associated matrix spike recovery was $< 10\%$ . Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23. The associated matrix spike recovery was $<$ the LAL but $> 10\%$ . Follow the external laboratory limits located within the associated data package.	UJ, I6a	J+, I6a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. The associated matrix spike recovery was $>$ the UAL. Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b

# METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

## Metals Analytical Data Validation Checklist

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If the LCS information is present, do not Reject. Qualify data based on the LCS information.	R, I6c	R, I6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The sample and the duplicate sample results were $\geq 5X$ the RL and the duplicate RPD was $>20\%$ for water samples and $>35\%$ for soil samples.	UJ, I10a	J, I10a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	UJ, I10d	J, I10d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. The LCS percent recovery was $<10\%$ . Follow the external laboratory limits located within the associated data package.	R, I12	R, I12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. The LCS percent recover was $<$ the LAL but $>10\%$ . Follow the external laboratory limits located within the associated data package.	UJ, I12a	J-, I12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. The LCS percent recovery was $>$ the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, I12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	31. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Do not Reject if MS/MSD information is present. Qualify according to MS/MSD criteria.	R, I12c	R, I12c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	32. The quantitating IS area count is $<10\%$ for metals window in relation to the initial calibration blank. Follow the method-specific windows.	R, I1a	J, I1a



# METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

## Metals Analytical Data Validation Checklist

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	33. The IS area count for the quantitating IS is <60% but >10% for metals window in relation to the initial calibration blank. Follow the method-specific windows.	UJ, I1b	J, I1b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	34. The IS area count for the quantitating IS is >125% in relation to the metals initial calibration blank. Follow method-specific windows.	UJ, I1c	J, I1c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	35. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I1d	R, I1d
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	36. Serial dilution sample RPD was >10% and the sample result was >50X the MDL (>100X the MDL for ICPMS). Qualify ONLY the sample used for the serial dilution.	UJ, I18	J, I18
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	37. Serial dilution sample was not analyzed with the samples.	UJ, I18a	J, I18
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	38. The sample result was reported as detected between the IDL and the EDL.	N/A	J, I1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	39. Duplicate, dilution, or reanalysis.	UJ, I88	J, I88
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40. Qualification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB, NQ, NQ
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	41. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, I19	J, R, I19

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847001

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7272

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 87

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	1600000	ug/Kg		7640	22500	22500	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-36-0	Antimony U,14	636	ug/Kg	J	371	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-38-2	Arsenic	0.738	mg/kg	J	0.224	1.12	1.12	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-39-3	Barium	18900	ug/Kg		112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-41-7	Beryllium	0.317	mg/kg		0.0224	0.112	0.112	2	MS	BAJ	02/08/10 07:33	100207-4	942638
7440-43-9	Cadmium	562	ug/Kg	U	112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-70-2	Calcium	400000	ug/Kg		8990	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-47-3	Chromium	13700	ug/Kg		169	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-48-4	Cobalt	760	ug/Kg		169	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-50-8	Copper	2300	ug/Kg		337	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-89-6	Iron	7240000	ug/Kg		8990	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-92-1	Lead	5300	ug/Kg		281	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-95-4	Magnesium J,14a	312000	ug/Kg		9550	33700	33700	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-96-5	Manganese J+,16b	205000	ug/Kg		225	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-97-6	Mercury	13.6	ug/kg	U	4.64	13.6	13.6	1	AV	JXL1	02/02/10 10:45	020210S1-6	943317
7440-02-0	Nickel	1.54	mg/kg		0.112	0.448	0.448	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-09-7	Potassium J+,16b	314000	ug/Kg		7190	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7782-49-2	Selenium	1.12	mg/kg	U	0.56	1.12	1.12	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-22-4	Silver	282	ug/Kg	J	112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-23-5	Sodium U,14b	55100	ug/Kg		7870	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-28-0	Thallium	0.224	mg/kg	U	0.0672	0.224	0.224	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-61-1	Uranium	1.84	mg/kg		0.0145	0.044	0.044	2	MS	SKJ	02/09/10 21:18	100209-2	950661
7440-62-2	Vanadium	4470	ug/Kg		112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-66-6	Zinc	34500	ug/Kg		371	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.511	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.509	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.503	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.52	g	50	mL	02/09/10	AXG2

P.S. 3/01/10

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847002

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7273

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 87

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2470000	ug/Kg		7660	22500	22500	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-36-0	Antimony U,I4	1160	ug/Kg		372	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-38-2	Arsenic	1.36	mg/kg		0.224	1.12	1.12	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-39-3	Barium	28300	ug/Kg		113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-41-7	Beryllium	0.424	mg/kg		0.0224	0.112	0.112	2	MS	BAJ	02/08/10 07:37	100207-4	942638
7440-43-9	Cadmium	563	ug/Kg	U	113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-70-2	Calcium	620000	ug/Kg		9010	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-47-3	Chromium	40600	ug/Kg		169	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-48-4	Cobalt	1280	ug/Kg		169	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-50-8	Copper	3330	ug/Kg		338	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-89-6	Iron	9690000	ug/Kg		9010	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-92-1	Lead	7120	ug/Kg		282	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-95-4	Magnesium J+,I6b	608000	ug/Kg		9580	33800	33800	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-96-5	Manganese J+,I6b	238000	ug/Kg		225	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-97-6	Mercury	13.5	ug/kg	U	4.58	13.5	13.5	1	AV	JXL1	02/02/10 11:01	020210S1-6	943317
7440-02-0	Nickel	4.62	mg/kg		0.112	0.449	0.449	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-09-7	Potassium J+,I6b	484000	ug/Kg		7210	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7782-49-2	Selenium	1.12	mg/kg	U	0.561	1.12	1.12	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-22-4	Silver	215	ug/Kg	J	113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-23-5	Sodium J,I4a	100000	ug/Kg		7890	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-28-0	Thallium	0.224	mg/kg	U	0.0673	0.224	0.224	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-61-1	Uranium	1.23	mg/kg		0.015	0.0454	0.0454	2	MS	SKJ	02/09/10 21:34	100209-2	950661
7440-62-2	Vanadium	8600	ug/Kg		113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-66-6	Zinc	43800	ug/Kg		372	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.514	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.512	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.514	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.508	g	50	mL	02/09/10	AXG2

P.S. 3/01/10

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847003

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7274

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 84

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2010000	ug/Kg		7790	22900	22900	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-36-0	Antimony	1150	ug/Kg	U	378	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-38-2	Arsenic	0.833	mg/kg	J	0.227	1.13	1.13	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-39-3	Barium	28400	ug/Kg		115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-41-7	Beryllium	0.310	mg/kg		0.0227	0.113	0.113	2	MS	BAJ	02/08/10 07:41	100207-4	942638
7440-43-9	Cadmium	573	ug/Kg	U	115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-70-2	Calcium	985000	ug/Kg		9160	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-47-3	Chromium	3510	ug/Kg		172	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-48-4	Cobalt	786	ug/Kg		172	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-50-8	Copper	3820	ug/Kg		344	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-89-6	Iron	5550000	ug/Kg		9160	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-92-1	Lead	6750	ug/Kg		286	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-95-4	Magnesium J,I4a	408000	ug/Kg		9730	34400	34400	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-96-5	Manganese J+,I6b	174000	ug/Kg		229	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-97-6	Mercury	12.8	ug/kg	U	4.35	12.8	12.8	1	AV	JXL1	02/02/10 11:03	020210S1-6	943317
7440-02-0	Nickel	1.47	mg/kg		0.113	0.454	0.454	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-09-7	Potassium J+,I6b	357000	ug/Kg		7330	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7782-49-2	Selenium	1.13	mg/kg	U	0.567	1.13	1.13	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-22-4	Silver	573	ug/Kg	U	115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-23-5	Sodium U,I4b	51700	ug/Kg		8020	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-28-0	Thallium	0.227	mg/kg	U	0.0681	0.227	0.227	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-61-1	Uranium	3.23	mg/kg		0.0152	0.0461	0.0461	2	MS	SKJ	02/09/10 21:36	100209-2	950661
7440-62-2	Vanadium	4520	ug/Kg		115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-66-6	Zinc	28200	ug/Kg		378	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.522	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.517	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.555	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.514	g	50	mL	02/09/10	AXG2

P.S. 3/01/10

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847004

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7281

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 90.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	13200000	ug/Kg		7430	21800	21800	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-36-0	Antimony	1090	ug/Kg	U	360	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-38-2	Arsenic	2.25	mg/kg		0.22	1.1	1.1	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-39-3	Barium	197000	ug/Kg		109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-41-7	Beryllium	1.14	mg/kg		0.022	0.11	0.11	2	MS	BAJ	02/08/10 07:44	100207-4	942638
7440-43-9	Cadmium	546	ug/Kg	U	109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-70-2	Calcium	3180000	ug/Kg		8740	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-47-3	Chromium	12200	ug/Kg		164	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-48-4	Cobalt	5910	ug/Kg		164	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-50-8	Copper	8260	ug/Kg		328	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-89-6	Iron	14600000	ug/Kg		8740	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-92-1	Lead	12400	ug/Kg		273	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-95-4	Magnesium J+,I6b	2340000	ug/Kg		9280	32800	32800	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-96-5	Manganese J+,I6b	333000	ug/Kg		218	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-97-6	Mercury	19.1	ug/kg		4.26	12.5	12.5	1	AV	JXL1	02/02/10 11:05	020210S1-6	943317
7440-02-0	Nickel	9.24	mg/kg		0.11	0.439	0.439	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-09-7	Potassium J+,I6b	1860000	ug/Kg		6990	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7782-49-2	Selenium	1.1	mg/kg	U	0.549	1.1	1.1	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-22-4	Silver	181	ug/Kg	J	109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-23-5	Sodium J,I4a	181000	ug/Kg		7650	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-28-0	Thallium	0.284	mg/kg		0.0659	0.22	0.22	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-61-1	Uranium	1.36	mg/kg		0.0144	0.0435	0.0435	2	MS	SKJ	02/09/10 21:39	100209-2	950661
7440-62-2	Vanadium	24900	ug/Kg		109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-66-6	Zinc	25700	ug/Kg		360	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.505	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.508	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.532	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.51	g	50	mL	02/09/10	AXG2

P.S. 3/01/10

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244849001

BASIS: As Received

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7286

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/28/10 08:19	100127-5	945922
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/25/10 11:46	100125-4	942514
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	01/26/10 17:17	012610-1	942466
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/26/10 17:17	012610-1	942466
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/26/10 17:17	012610-1	942466
7439-96-5	Manganese	1.27	ug/L	J	1	5	5	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXLI	01/20/10 10:29	012010W1-6	943087
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-09-7	Potassium	122	ug/L	J	50	150	150	1	P	HSC	01/26/10 17:17	012610-1	942466
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-23-5	Sodium	300	ug/L	U	100	300	300	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	SKJ	01/25/10 12:22	100125-2	942514
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/26/10 17:17	012610-1	942466

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942466	942449	SW846 3005A	50	mL	50	mL	01/19/10	FGA
942514	942490	SW846 3005A	50	mL	50	mL	01/19/10	FGA
943087	943086	SW846 7470A Prep	20	mL	20	mL	01/19/10	TXB3
945922	945920	SW846 3005A	25	mL	25	mL	01/27/10	AXG2

P.S. 3/01/10

**DATA VALIDATION COVER SHEET****5120-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1262 VALIDATION DATE: 03/01/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- |  |  |   |  |
|--|--|---|--|
| <input type="checkbox"/> TPH-GRO                         | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS          | <input type="checkbox"/> LCMSMS PERCHLORATES |
| <input type="checkbox"/> TPH-DRO                         | <input type="checkbox"/> METALS          | <input type="checkbox"/> PCB CONGENERS          | <input type="checkbox"/> ORGANOCHLORINE      |
| <input checked="" type="checkbox"/> GENERAL CHEMISTRY    | <input type="checkbox"/> RADIOCHEMISTRY  | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS         |
| <input type="checkbox"/> OTHER (DESCRIBE): Total CN only |  |   |  |

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                                 | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. QUANTITATION REPORTS  |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4. SAMPLE CHROMATOGRAMS     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS            |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. TICS MASS SPECTRA    |

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

None

Reviewed by: ETMLevel: 1Date: 3/2/10VALIDATOR'S SIGNATURE: ###  DATE: 03/01/10

Mr. Peter Steves

# GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

## General Chemistry Analytical Data Validation Checklist

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, I9	J-, I9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, I9b	R, I9b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, I7	J, I7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, I7a	J, I7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. The ICV and/or CCV were recovered outside the method specific limits.	UJ, I7c	J, I7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, I7d	J, I7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, I7f	R, I7f
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. The interference check sample percent recovery value is <50%.	R, I2	J-, I2
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. The interference check sample percent recovery value is ≥50% and <80%.	UJ, I2a	J-, I2a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. The interference check sample percent recovery value is >120%.	N/A	J+, I2b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. The interference check sample was not analyzed with the samples.	R, I2c	R, I2c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, I4	N/A



# GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

## General Chemistry Analytical Data Validation Checklist

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J, I4a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I4e	R, I4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The associate matrix spike recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The associated matrix spike recovery was below the Lower Acceptance Limit (LAL) but >10%. Follow the external laboratory limits located within the associated data package.	UJ, I6a	J-, I6a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The associated matrix spike recovery was above the Upper Acceptance Limit (UAL). Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not reject. Qualify data based on LCS information.	R, I6c	R, I6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The sample and/or the duplicate sample results RPD is not within the acceptance limits. Follow the external laboratory limits located within the associated data package.	UJ, I10b	J, I10b

# GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

## General Chemistry Analytical Data Validation Checklist

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	UJ, I10d	J, I10d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I12	R, I12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LCS percent recover was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, I12a	J-, I12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, I12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Do not Reject if MS/MSD information is present. Qualify according to MS/MSD criteria.	R, I12c	R, I12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. Duplicate, dilution, or reanalysis	UJ, I88	J, I88
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, I19	J, R, I19
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31. Qualification of data via data validation does not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB NQ, NQ (no qualification)

# GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company : Los Alamos National Laboratory

Address : PO Box 1663

TA-03, SM271, Drop Pt. 02U, Rm111

Los Alamos, New Mexico 87545

Contact: Ms. Joylene Valdez

Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7272  
Sample ID: 244847001  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 12.6%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	--------

### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	68.2	251	ug/kg	1	AXC2	01/18/10	1531	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 3/01/10

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## Certificate of Analysis

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TA-03, SM271, Drop Pt. 02U, Rm111  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7273  
Sample ID: 244847002  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 13.3%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	72.6	267	ug/kg	1	AXC2	01/18/10	1555	942457	1
----------------	---	----	------	-----	-------	---	------	----------	------	--------	---

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 3/01/10

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## Certificate of Analysis

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Address : PO Box 1663

TA-03, SM271, Drop Pt. 02U, Rm111

Los Alamos, New Mexico 87545

Contact: Ms. Joylene Valdez

Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7274  
Sample ID: 244847003  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 15.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	73.2	269	ug/kg	1	AXC2	01/18/10	1558	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 3/01/10

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm111  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7281  
Sample ID: 244847004  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 9.89%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	71.2	262	ug/kg	1	AXC2	01/18/10	1559	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 3/01/10

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm111  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: **LANL ER Project**

Report Date: February 4, 2010

Client SDG: 10-1262-1

Client Sample ID: RE12-10-7286  
Sample ID: 244849001  
Matrix: W  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "As Received"

Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2	01/22/10	1023	942459	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/21/10	1600	942458

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 3/01/10

**DATA VALIDATION COVER SHEET****5119-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1262 VALIDATION DATE: 03/01/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- |  |  |   |  |
|--|--|---|--|
| <input type="checkbox"/> TPH-GRO                 | <input type="checkbox"/> HIGH EXPLOSIVES           | <input type="checkbox"/> DIOXIN FURANS          | <input type="checkbox"/> LCMSMS PERCHLORATES |
| <input type="checkbox"/> TPH-DRO                 | <input type="checkbox"/> METALS                    | <input type="checkbox"/> PCB CONGENERS          | <input type="checkbox"/> ORGANOCHLORINE      |
| <input type="checkbox"/> GENERAL CHEMISTRY       | <input checked="" type="checkbox"/> RADIOCHEMISTRY | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS         |
| <input type="checkbox"/> OTHER (DESCRIBE): _____ |  |   |  |

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                                 | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. QUANTITATION REPORTS  |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4. SAMPLE CHROMATOGRAMS     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS            |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. TICS MASS SPECTRA    |

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. All gamma-spec results that were rejected by the laboratory due to interference were qualified R,R5a. In the duplicate samples, several results were also rejected by the laboratory. No data were qualified as a result.
2. The alpha spec Pu tracer %R for sample RE12-10-7273 was > the laboratory UAL but  $\leq 125\%$ . The associated sample result were NDs and, thus, were qualified UJ,R3a.
3. It should be noted that the alpha spec QC analyses were performed on a LANL sample from another RN. No sample data were qualified as a result.

Reviewed by: ETMLevel: 1Date: 3/2/10

VALIDATOR'S SIGNATURE: \_\_\_\_\_

Mr. Peter Steves

DATE: 03/01/10



# RAD ANALYTICAL DATA VALIDATION CHECKLIST


5119-2

## Rad Analytical Data Validation Checklist

Records Use only



Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, R9	J-, R9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, R9a	J-, R9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The results for the affected analytes are considered not detected (U) because the associated sample concentration was less than or equal to the MDC.	U, R5	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. The analyte should be regarded as rejected because spectral interferences prevent positive identification of the analytes.	R, R5a	R, R5a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. The MDC and/or TPU documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R5b	J-, R5b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. The results for the affected analytes should be regarded as not detected (U) because the associated sample concentration was less than 3X the 1 sigma TPU.	U, R11	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, R4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J, R4a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, R4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R4e	R, R4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. The tracer is <10%R. Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	R, R3	R, R3

RAD ANALYTICAL DATA VALIDATION CHECKLIST		
<b>5119-2</b>  <b>Rad Analytical Data Validation Checklist</b>		Records Use only  

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. The tracer is < the Lower Acceptance Level (LAL) but $\geq 10\%R$ . Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	UJ, R3a	J-, R3a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. The Tracer%R value is > the Upper Acceptance Limit (UAL). Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	N/A	J+, R3b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Required tracer information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Tracer%R is not applicable for Gamma Spectroscopy.	R, R3d	R, R3d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, R12	R, R12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. The LCS percent recovery was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, R12a	J-, R12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, R12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R12c	R, R12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Associated duplicate sample has DER or RER > the analytical laboratory's acceptance limits.	R, R10	J, J10
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R6	R, R6

# RAD ANALYTICAL DATA VALIDATION CHECKLIST

5119-2

## Rad Analytical Data Validation Checklist

Records Use only



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6	R, R6
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6a	J-, R6a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	23. The associated matrix spike recovery was above the UAL. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6b	J+, R6b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	24. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not Reject. Qualify data based on LCS information. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6c	R, R6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Duplicate, dilution, or reanalysis.	UJ, R88	J, R88
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, R19	J, R, R19
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27. Quantification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB NQ, NQ

# GEL LABORATORIES LLC

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7272  
Sample ID: 244847001  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 12.6%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00458	0.0216	+/-0.00302	0.050	pCi/g		MXE1	01/30/10	1733	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00469	0.0155	+/-0.00248	0.050	pCi/g		MXE1	02/02/10	1315	942855	3
Plutonium-239/240	U	0.00563	0.0177	+/-0.00497	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.11	0.103	+/-0.0986	0.100	pCi/g		MXE1	01/29/10	1653	942856	4
Uranium-235/236		0.0819	0.0637	+/-0.0192	0.100	pCi/g						
Uranium-238		1.61	0.0596	+/-0.135	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0368	0.0836	+/-0.0261	0.200	pCi/g		MXR1	01/27/10	1324	942717	6
Bismuth-211	UI	3.91	R,R5a	0.315	+/-0.310	pCi/g						
Bismuth-214		1.27		0.107	+/-0.112	pCi/g						
Cadmium-109	UI	4.00	R,R5a	0.691	+/-0.398	pCi/g						
Cerium-139	U	-0.0253	0.0403	+/-0.0123	0.050	pCi/g						
Cesium-134	U	0.0965	0.0984	+/-0.0342	0.100	pCi/g						
Cesium-137		0.350	0.0589	+/-0.0494	0.100	pCi/g						
Cobalt-60	U	0.0123	0.0714	+/-0.021	0.100	pCi/g						
Europium-152	U	-0.0349	0.149	+/-0.0441	0.200	pCi/g						
Lanthanum-140	U	-0.0353	0.139	+/-0.0442		pCi/g						
Lead-212		1.74	0.114	+/-0.116	0.100	pCi/g						
Lead-214		1.36	0.110	+/-0.114	0.100	pCi/g						
Mercury-203	U	0.0168	0.0658	+/-0.022	0.100	pCi/g						
Potassium-40		36.6	0.492	+/-1.83	1.00	pCi/g						
Radium-223	U	0.142	1.04	+/-0.335		pCi/g						
Radium-224	UI	3.09	R,R5a	1.13	+/-0.467	pCi/g						
Radium-226		1.27	0.107	+/-0.112		pCi/g						
Radium-228		1.74	0.228	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	0.240	0.557	+/-0.155	0.800	pCi/g						

P.S. 3/01/10

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7272  
Sample ID: 244847001

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Sodium-22	U	-0.0226	0.0804	+/-0.0254	0.080	pCi/g						
Strontium-85	U	0.0657	0.0695	+/-0.0214		pCi/g						
Thallium-208		0.618	0.0608	+/-0.0504	0.080	pCi/g						
Thorium-227	U	-0.121	0.562	+/-0.174		pCi/g						
Thorium-231	U	0.142	1.04	+/-0.335		pCi/g						
Thorium-234		2.03	0.785	+/-0.436	2.00	pCi/g						
Tin-113	U	-0.0255	0.069	+/-0.0211	0.100	pCi/g						
Uranium-235	UI	0.381	R,R5a	+/-0.127	0.500	pCi/g						
Yttrium-88	U	0.0202	0.0652	+/-0.018	0.100	pCi/g						

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	98.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	104	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

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Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7273  
Sample ID: 244847002  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 13.3%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0058	0.0185	+/-0.00253	0.050	pCi/g		MXE1	01/30/10	1733	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00264	UJ,R3a	0.0145	+/-0.00197	0.050	pCi/g	MXE1	02/02/10	1315	942855	3
Plutonium-239/240	U	0.00176	UJ,R3a	0.0166	+/-0.00176	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.21		0.0815	+/-0.101	0.100	pCi/g	MXE1	01/29/10	1657	942856	4
Uranium-235/236		0.0976		0.0506	+/-0.019	0.100	pCi/g					
Uranium-238		1.54		0.0473	+/-0.124	0.100	pCi/g					
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.051		0.329	+/-0.104	0.200	pCi/g	MXR1	01/27/10	1330	942717	6
Bismuth-211	UI	5.11	R,R5a	0.280	+/-0.270		pCi/g					
Bismuth-214		1.32		0.105	+/-0.100	0.200	pCi/g					
Cadmium-109	UI	3.82	R,R5a	1.66	+/-0.601		pCi/g					
Cerium-139	U	0.00784		0.0475	+/-0.0136	0.050	pCi/g					
Cesium-134	UI	0.206	R,R5a	0.0862	+/-0.0375	0.100	pCi/g					
Cesium-137		0.124		0.0589	+/-0.0279	0.100	pCi/g					
Cobalt-60	U	-0.0385		0.050	+/-0.0172	0.100	pCi/g					
Europium-152	U	0.0174		0.145	+/-0.0504	0.200	pCi/g					
Lanthanum-140	U	-0.025		0.116	+/-0.0364		pCi/g					
Lead-212		2.05		0.0877	+/-0.0917	0.100	pCi/g					
Lead-214		1.78		0.0976	+/-0.105	0.100	pCi/g					
Mercury-203	U	0.0376		0.0663	+/-0.0192	0.100	pCi/g					
Potassium-40		35.0		0.414	+/-1.54	1.00	pCi/g					
Radium-223	U	0.355		0.992	+/-0.335		pCi/g					
Radium-224	UI	4.73	R,R5a	0.997	+/-0.549		pCi/g					
Radium-226		1.32		0.105	+/-0.100		pCi/g					
Radium-228		2.16		0.193	+/-0.201	0.500	pCi/g					
Ruthenium-106	U	0.0458		0.494	+/-0.150	0.800	pCi/g					
Sodium-22	U	0.00666		0.0663	+/-0.0199	0.080	pCi/g					

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7273  
Sample ID: 244847002

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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### Rad Gamma Spec Analysis

*GAMMA SPEC "Dry Weight Corrected"*

Strontium-85	UI	0.104	R,R5a	0.0644	+/-0.0191							pCi/g
Thallium-208		0.588		0.0518	+/-0.0438	0.080						pCi/g
Thorium-227	U	-0.218		0.566	+/-0.175							pCi/g
Thorium-231	U	0.355		0.992	+/-0.335							pCi/g
Thorium-234	U	2.32		2.85	+/-1.14	2.00						pCi/g
Tin-113	U	0.00975		0.0697	+/-0.0202	0.100						pCi/g
Uranium-235	U	0.0811		0.350	+/-0.106	0.500						pCi/g
Yttrium-88	U	0.00565		0.0462	+/-0.0137	0.100						pCi/g

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	102	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	106 *	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.9	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

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- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7274  
Sample ID: 244847003  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 15.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00447	0.0214	+/-0.00239	0.050	pCi/g		MXE1	01/30/10	1733	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0213	+/-0.00731	0.050	pCi/g		MXE1	01/26/10	1417	942855	3
Plutonium-239/240		0.0349	0.0244	+/-0.00741	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.81	0.111	+/-0.295	0.100	pCi/g		MXE1	01/29/10	1007	942856	4
Uranium-235/236		0.253	0.0692	+/-0.0386	0.100	pCi/g						
Uranium-238		6.81	0.0646	+/-0.508	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0214	0.556	+/-0.179	0.200	pCi/g		MXR1	01/27/10	1346	942717	6
Bismuth-211	UI	4.01	R,R5a	0.434	+/-0.304	pCi/g						
Bismuth-214		1.30		0.137	+/-0.0993	pCi/g						
Cadmium-109	U	2.12		2.29	+/-0.936	pCi/g						
Cerium-139	U	0.0103		0.0679	+/-0.020	pCi/g						
Cesium-134	U	0.0603		0.0999	+/-0.0275	pCi/g						
Cesium-137		0.696		0.0805	+/-0.0566	pCi/g						
Cobalt-60	U	-0.0189		0.0682	+/-0.0223	pCi/g						
Europium-152	U	-0.0987		0.217	+/-0.0817	pCi/g						
Lanthanum-140	U	-0.0511		0.128	+/-0.0431	pCi/g						
Lead-212		1.90		0.124	+/-0.106	pCi/g						
Lead-214		1.40		0.152	+/-0.112	pCi/g						
Mercury-203	U	-0.00447		0.0878	+/-0.028	pCi/g						
Potassium-40		32.4		0.702	+/-1.59	pCi/g						
Radium-223	U	-0.561		1.40	+/-0.424	pCi/g						
Radium-224	UI	5.11	R,R5a	1.41	+/-0.896	pCi/g						
Radium-226		1.30		0.137	+/-0.0993	pCi/g						
Radium-228		1.65		0.272	+/-0.174	pCi/g						
Ruthenium-106	U	-0.00318		0.609	+/-0.186	pCi/g						
Sodium-22	U	-0.026		0.0808	+/-0.0262	pCi/g						

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Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7274  
Sample ID: 244847003

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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### Rad Gamma Spec Analysis

*GAMMA SPEC "Dry Weight Corrected"*

Strontium-85	UI	0.0864	R,R5a	0.0794	+/-0.0238		pCi/g
Thallium-208		0.489		0.0672	+/-0.0491	0.080	pCi/g
Thorium-227	U	-0.0011		0.855	+/-0.246		pCi/g
Thorium-231	U	-0.561		1.40	+/-0.424		pCi/g
Thorium-234		5.94		3.96	+/-2.13	2.00	pCi/g
Tin-113	U	-0.0309		0.0922	+/-0.0281	0.100	pCi/g
Uranium-235	U	0.120		0.485	+/-0.143	0.500	pCi/g
Yttrium-88	U	-0.0173		0.0509	+/-0.0174	0.100	pCi/g

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	92.6	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- \*\* Analyte is a surrogate compound
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- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7281  
Sample ID: 244847004  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 9.89%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.000675	0.0195	+/-0.00213	0.050	pCi/g		MXE1	02/01/10	1515	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00747	0.0205	+/-0.00307	0.050	pCi/g		MXE1	01/26/10	1417	942855	3
Plutonium-239/240	U	0.00373	0.0235	+/-0.00279	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.02	0.127	+/-0.097	0.100	pCi/g		MXE1	01/29/10	1007	942856	4
Uranium-235/236	U	0.0658	0.0788	+/-0.0189	0.100	pCi/g						
Uranium-238		1.05	0.0737	+/-0.0998	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0951	0.338	+/-0.107	0.200	pCi/g		MXR1	01/27/10	1419	942717	6
Bismuth-211	UI	3.70	R,R5a	0.354	+/-0.252	pCi/g						
Bismuth-214		1.27		0.125	+/-0.104	pCi/g						
Cadmium-109	UI	4.85	R,R5a	1.35	+/-0.654	pCi/g						
Cerium-139	U	0.0118	0.055	+/-0.0161	0.050	pCi/g						
Cesium-134	U	0.0867	0.102	+/-0.0305	0.100	pCi/g						
Cesium-137	U	-0.00356	0.0651	+/-0.020	0.100	pCi/g						
Cobalt-60	U	-0.00429	0.0684	+/-0.0213	0.100	pCi/g						
Europium-152	U	-0.00879	0.170	+/-0.0552	0.200	pCi/g						
Lanthanum-140	U	-0.0666	0.116	+/-0.0414		pCi/g						
Lead-212		1.65	0.0975	+/-0.0832	0.100	pCi/g						
Lead-214		1.29	0.123	+/-0.0939	0.100	pCi/g						
Mercury-203	U	-0.00209	0.0761	+/-0.0221	0.100	pCi/g						
Potassium-40		19.5	0.306	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.106	1.19	+/-0.403		pCi/g						
Radium-224	UI	5.08	R,R5a	1.11	+/-0.743	pCi/g						
Radium-226		1.27	0.125	+/-0.104		pCi/g						
Radium-228		1.45	0.235	+/-0.198	0.500	pCi/g						
Ruthenium-106	U	-0.0399	0.576	+/-0.177	0.800	pCi/g						
Sodium-22	U	-0.0165	0.0689	+/-0.0222	0.080	pCi/g						

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## Certificate of Analysis

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Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7281  
Sample ID: 244847004

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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### Rad Gamma Spec Analysis

*GAMMA SPEC "Dry Weight Corrected"*

Strontium-85	U	0.0352	0.0633	+/-0.020		pCi/g						
Thallium-208		0.539	0.0637	+/-0.0469	0.080	pCi/g						
Thorium-227	U	-0.0305	0.710	+/-0.217		pCi/g						
Thorium-231	U	-0.106	1.19	+/-0.403		pCi/g						
Thorium-234	U	2.22	2.70	+/-1.23	2.00	pCi/g						
Tin-113	U	-0.00215	0.0826	+/-0.0244	0.100	pCi/g						
Uranium-235	U	-0.034	0.374	+/-0.113	0.500	pCi/g						
Yttrium-88	U	0.0176	0.0659	+/-0.0183	0.100	pCi/g						

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	80.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.9	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

P.S. 3/01/10

Thursday, January 14, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1262

**LOS ALAMOS**

REQUEST NUMBER: 10-1262

**NATIONAL LABORATORY**

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/13/2010

General Engineering Laboratories, Inc.,  
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

244847, 244849

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7272	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE12-10-7272	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7272	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7273	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE12-10-7273	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7273	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7274	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE12-10-7274	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7274	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7281	1	AMBER GLASS	8082+8270+NMED-EXP	Ice	R
RE12-10-7281	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7281	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7286	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-7286	1	POLY	SW-846.6850	Ice	W
RE12-10-7286	1	POLY	TCN	Sodium Hydroxide	W

Relinquished By:

Date Time

Received By:

Date Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Thursday, January 14, 2010

LOS ALAMOS  
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.  
2040 Savage Rd  
Charleston, SC 29407

Please analyse the enclosed samples  
according to the schedule indicated:

SHIP DATE: 1/14/2010

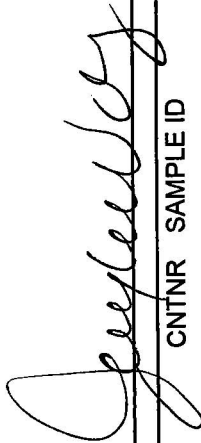
TURNAROUND/REPORT DUE: 2/13/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background  
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



These Samples are on:  
LANL Request Number: 10-1262  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05529E00

Page 1 of 3  
REQUEST NUMBER: 10-1262

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	HASL-300:AM-241	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	HASL-300:ISOPU	1	RE12-10-7272	R	1/11/2010	

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	HASL-300:ISOU	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	SW-846:6020	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	
	SW-846:6850	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	
	SW-846:7470A	1	RE12-10-7286	W	1/11/2010	
	SW-846:7471A	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	
	SW-846:8082	1	RE12-10-7281	R	1/11/2010	
	SW-846:8270C	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
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		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	SW-846:9012A	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	

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# Case Narrative

**Case Narrative for  
Los Alamos National Laboratory (72733-001-09)  
LANL ER Project  
Workorder #: 244847 and 244849  
SDG # : 10-1262**

**January 19, 2010**

**Laboratory Identification:**

GEL Laboratories LLC  
2040 Savage Road  
Charleston, South Carolina 29407  
(843) 556-8171

**Summary**

**Sample receipt** The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on January 15, 2010 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 12-14C temperatures. Shipping container temperature was within specification (0 - 6C).

**Sample Identification** The laboratory received the following samples:

<b><u>Laboratory ID</u></b>	<b><u>Client ID</u></b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
244849001	RE12-10-7286

**Case Narrative**

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

**Data Package** The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Explosives by LCMSMS, GC Semivolatile PCB, GC/MS Semivolatile, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.

  
Valerie Davis

Project Manager

**List of current GEL Certifications as of 19 January 2010**

<b>State</b>	<b>Certification</b>
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68-00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

# **Chain of Custody and Supporting Documentation**

Thursday, January 14, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1262

**LOS ALAMOS**

REQUEST NUMBER: 10-1262

**NATIONAL LABORATORY**

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/13/2010

General Engineering Laboratories, Inc.,  
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

244847, 244849

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7272	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE12-10-7272	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7272	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7273	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE12-10-7273	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7273	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7274	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE12-10-7274	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7274	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7281	1	AMBER GLASS	8082+8270+NMED-EXP	Ice	R
RE12-10-7281	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7281	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7286	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-7286	1	POLY	SW-846.6850	Ice	W
RE12-10-7286	1	POLY	TCN	Sodium Hydroxide	W

Relinquished By:

Date Time

Received By:

Date Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date Time

Remarks:

Printed Name

Signature

Thursday, January 14, 2010

LOS ALAMOS  
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.  
2040 Savage Rd  
Charleston, SC 29407

Please analyse the enclosed samples  
according to the schedule indicated:

SHIP DATE: 1/14/2010

TURNAROUND/REPORT DUE: 2/13/2010

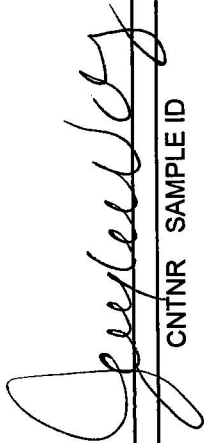
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



These Samples are on:  
LANL Request Number: 10-1262  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05529E00

Page 1 of 3  
REQUEST NUMBER: 10-1262

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	HASL-300:AM-241	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	HASL-300:ISOPU	1	RE12-10-7272	R	1/11/2010	



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	HASL-300:ISOU	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	SW-846:6020	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	
	SW-846:6850	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	
	SW-846:7470A	1	RE12-10-7286	W	1/11/2010	
	SW-846:7471A	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	
	SW-846:8082	1	RE12-10-7281	R	1/11/2010	
	SW-846:8270C	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:8321A_MOD	1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
	SW-846:9012A	1	RE12-10-7272	R	1/11/2010	
		1	RE12-10-7273	R	1/11/2010	
		1	RE12-10-7274	R	1/11/2010	
		1	RE12-10-7281	R	1/11/2010	
		1	RE12-10-7286	W	1/11/2010	

Client: LANL		SDG/ARCOC/Work Order: 10-1262
Received By: Patricia Dover-Dent		Date Received: JANUARY 15, 2009
Suspected Hazard Information	Yes	No
COC/Samples marked as radioactive?		X
Classified Radioactive II by RSO?		X
COC/Samples marked containing PCBs?		X
Shipped as a DOT Hazardous?		X
Samples identified as Foreign Soil?		X

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: seals broken    damaged container    leaking container    other (describe)
2	Samples requiring cold preservation within (0 < 6 deg. C)?	X			Preservation Method: ice bags    BLUE ICE    dry ice    NONE    other (describe) 2-4,12-14
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable broken    damaged container    leaking container    other (describe)    seals
5	Samples requiring chemical preservation at proper pH?	X			Sample ID's, containers affected and observed pH If Preservative added Lot#
6	VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		X		Sample ID's affected: <b>No Time on Chain of Custody</b>
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	X			

Comments: FED EX #'S

7209 7849 5129 2C

7209 7849 5130 14C

7209 7849 5184 2C

7209 7849 5254 2C

7209 7849 5118 3C

7209 7849 5162 3C

7209 7849 5151 4C

7209 7849 5173 4C

7209 7849 5243 12C

7209 7849 5195 13C

PM (or PMA) review: Initials

Date

1/18/10

TA00 BLDG 1237 DPU 03  
LOS ALAMOS, NM 87545  
UNITED STATES US

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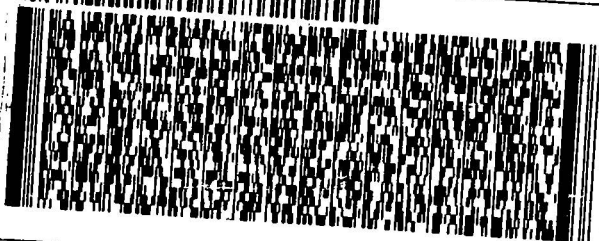
VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR1A015AGWFO

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FedEx  
Express



J09200911302223

3 of 3  
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FRI - 15JAN A1  
PRIORITY OVERNIGHT

XX CHSA

29407  
SC-US  
CHS



ORIGIN ID: SAFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

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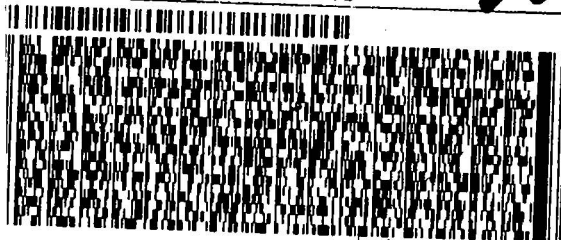
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CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AWE6L11550000

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PRIORITY OVERNIGHT

XX CHSA

29407  
SC-US  
CHS

Page 1 of 1

ORIGIN ID: SAFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

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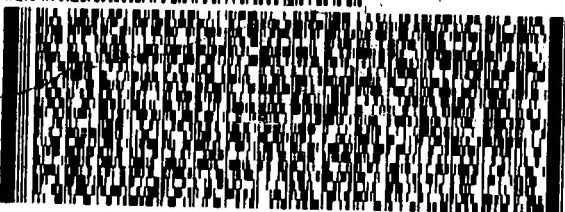
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CHARLESTON SC 29407

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Express



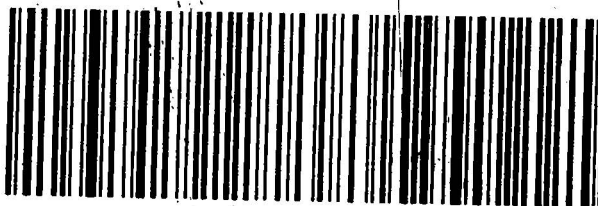
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FRI - 15JAN A1  
PRIORITY OVERNIGHT

XX CHSA

29407  
SC-US  
CHS



ORIGIN ID: SAFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
ACTWGT: 52.0 LB MAN  
CAD: 0014176/CAFE2449

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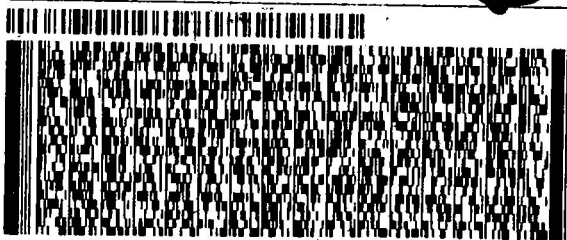
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GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR1A015AGWFO

3c



FedEx  
Express



J09200911302223

2 of 3  
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Mstr# 7209 7849 5107 0201

FRI - 15JAN A1  
PRIORITY OVERNIGHT

XX CHSA

29407  
SC-US  
CHS

ORIGIN ID: SAFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
ACTWGT: 54.0 LB MAN  
CAD: 0014176/CAFE2449

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VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

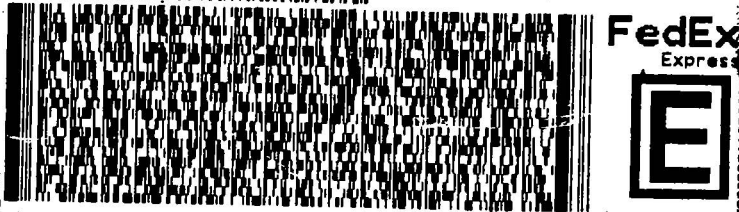
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(843) 556-8171

REF: 6B010AMR3A05529E00

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109280911382223



2 of 2  
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0263

Part # 156148-434 NRIT V3 04-00

FRI - 15JAN A1  
PRIORITY OVERNIGHT

XX CHSA

29407  
SC-US  
CHS



ORIGIN ID: SAFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
ACTWGT: 57.0 LB MAN  
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

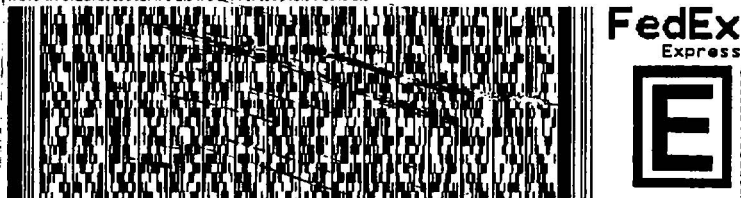
CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR2A0515BYD0

4c

109280911382223



1 of 2  
TRK# 7209 7849 5173  
0201

Part # 156148-434 NRIT V3 04-00

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SHIP DATE: 14JAN10  
ACTWGT: 52.0 LB MAN  
CAD: 0014176/CAFE2449

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VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

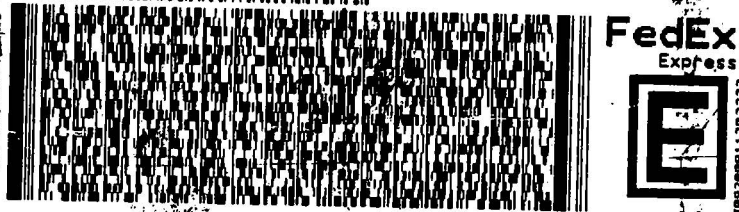
CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A05529E00

4c

109280911382223



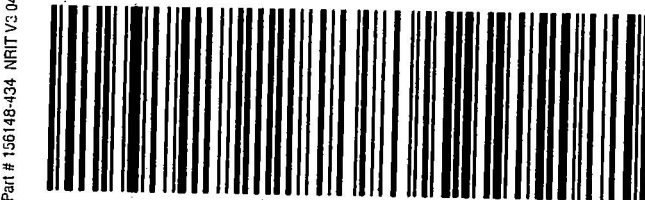
1 of 2  
TRK# 7209 7849 5151  
0201

Part # 156148-434 NRIT V3 04-00

FRI - 15JAN A1  
PRIORITY OVERNIGHT

XX CHSA

29407  
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CHS



ORIGIN ID: SAFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
ACTWGT: 41.0 LB MAN  
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

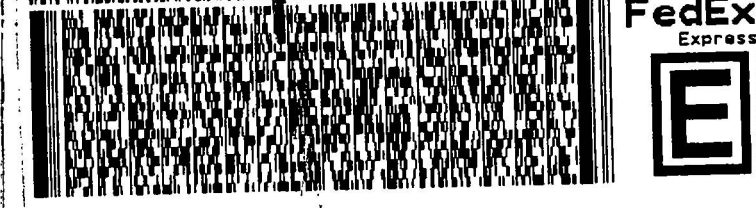
CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A05529E00

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TRK# 7209 7849 5243  
0201

Part # 156148-434 NRIT V3 04-00

FRI - 15JAN A1  
PRIORITY OVERNIGHT

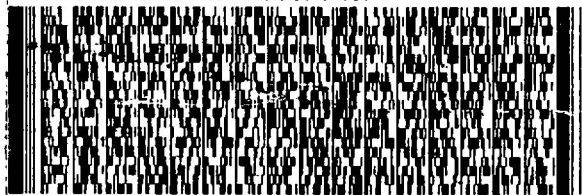
XX CHSA

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SC-US  
CHS

SHIP DATE: 14JAN10  
ACTWGT: 52.0 LB MAN  
CAD: 0014176/CAFE2449

**BILL SENDER**

13c

[illegible]

**FedEx**  
Express

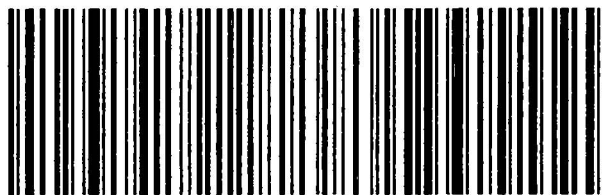
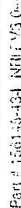


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PRIORITY OVERNIGHT

XX CHSA

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SC-US  
CHS

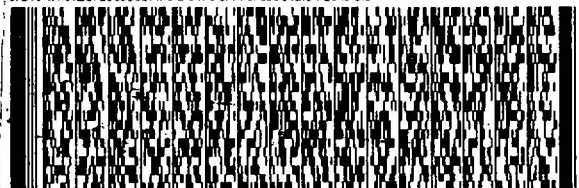


SHIP DATE: 14JAN10  
ACTWGT: 49.0 LB MAN  
CAD: 0014176/CAFE2449

**BILL SENDER**

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**FedEx**  
Express



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FRI - 15JAN A1  
PRIORITY OVERNIGHT

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SC-US  
CUC

# **Data Review Qualifier Flag Definition Sheet**

## Data Review Qualifier Definitions

Qualifier	Explanation
-----------	-------------

*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.



# **GC/MS Semivolatile Analysis**

**Semi-Volatile Case Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262**

**Method/Analysis Information**

<b>Procedure:</b>	<b>Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry</b>
Analytical Method:	SW846 8270C
Prep Method:	SW846 3550B
Analytical Batch Number:	942930
Prep Batch Number:	942929

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 8270C:

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202018797	Method Blank (MB)
1202018798	Laboratory Control Sample (LCS)
1202018799	244847001(RE12-10-7272) Matrix Spike (MS)
1202018800	244847001(RE12-10-7272) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

**Preparation/Analytical Method Verification**

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-009 REV# 23.

Raw data reports are processed and reviewed by the analyst using the Target software package. False positives have been removed from the Target quantitation reports per standard operating procedures (SOP) section 18.2.

**Calibration Information**

Please note that the 'Cal Date' indicated on each quantitation report reflects the date and time of the most recent calibrated analyte(s) in the Target processing method. Since the laboratory may calibrate with multiple solutions on different days using the same processing method, the Target software will update the 'Cal Date' to the last calibration file, date and time. The correct dates and times for all calibration files are located on the Calibration History report in the Standard Data section in the data package.

Due to software limitations, the Calibration Summary Form 6 may not indicate all the calibration files comprising the initial calibration. A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package. Please note that the second level of the initial calibration (5 mg/L) is only used for n-Nitrosodipropylamine. The various

calibration mixes may not be calibrated using all of the calibration levels. In addition, not all of the mixes are calibrated using the same levels.

Diphenylamine has now superseded N-Nitroso-diphenylamine as a CCC on Quantitation Reports, Initial Calibration Reports, Calibration Check Standard Reports, etc. Previous versions of EPA Method 8270 (prior to 8270C) listed N-Nitroso-diphenylamine as a CCC. However, as stated in EPA Method 8270C, Revision 3, December, 1996, Section 1.4.5, "N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine." Studies of these two compounds at GEL, both independent of each other and together, show that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine will be reported as Diphenylamine on all reports and forms. Toluene diisocyanate rapidly hydrolyzes in water (half-life less than 30 minutes). Therefore, recoveries of this compound from aqueous matrices should not be expected. In addition, in solid matrices, toluene diisocyanate often reacts with alcohols and amines to produce urethane and ureas and consequently cannot usually coexist in a solution containing these materials.

The linear equation used in Target and indicated on the initial calibration summary form is not a conventional linear equation (slope intercept formula) and does not match the equation found in SW-846 method 8000B. The x and y axes are inversed in Target, so that the instrument response is treated as the independent variable (x) and the concentration ratio is treated as the dependent variable (y). The equation used in Target to calculate sample results is adjusted to account for the linear equation inversion and reciprocal slope. The adjusted calculation has been independently verified to produce valid results.

#### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG). A second source initial calibration verification (ICV) was included in the standard section directly behind the initial calibration.

#### **CCV Requirements**

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

#### **Quality Control (QC) Information**

##### **Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

##### **Surrogate Recoveries**

All the surrogate recoveries were within the established acceptance criteria for this SDG.

##### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

##### **QC Sample Designation**

Sample 244847001 (RE12-10-7272) was selected for analysis as the matrix spike and matrix spike duplicate.

##### **Matrix Spike (MS) Recovery Statement**

The MS(1202018799) and MSD(1202018800) recovered 3,3'-Dichlorobenzidine at 20% and 13%, respectively. The limits are 35%-106%. Since the MSD recovery was confirmed by the MS, the failures were attributed to matrix interference and the data results have been reported.

##### **Matrix Spike Duplicate (MSD) Recovery Statement**

The MS(1202018799) and MSD(1202018800) recovered 3,3'-Dichlorobenzidine at 20% and 13%, respectively. The limits are 35%-106%. Since the MSD recovery was confirmed by the MS, the failures were attributed to matrix interference and the data results have been reported.

**MS/MSD Relative Percent Difference (RPD) Statement**

The MS(1202018799)/MSD(1202018800) RPD for 3,3'-Dichlorobenzidine at 44%. The limit is 30%. The RPD failure was attributed to matrix interference and the data results have been reported.

**Internal Standard (ISTD) Acceptance**

The internal standard responses were within the required acceptance criteria for all samples and QC.

**Technical Information****Holding Time Specifications**

All samples in this SDG met the specified holding time. GEL assigns holding times based on the associated methodology that assigns the date and time from sample collection or sample receipt. Those holding times expressed in hours are calculated in the ALPHALIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

**Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

**Sample Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG except for confirmations and/or dilutions.

**Miscellaneous Information****Data Exception (DER) Documentation**

The following DER was generated for this SDG: 783092. It is located in the Miscellaneous Section of the data report.

**Manual Integrations**

Some initial calibration standards, continuing calibration standards, and/or samples may require manual integrations due to software limitations. Please see the raw data in the Miscellaneous Section.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Package Comment**

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**System Configuration**

The samples reported in this SDG were analyzed on one or more of the following instrument systems. Instrument systems are referenced in the raw data and individual form headers by the Instrument ID designations listed below:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
MSD5.I	HP Mass Spectrometer	HP6890/HP5973	DB-5MS	25m x 0.2mm, 0.33um (5% Phenylmethylpolysiloxane)

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

**Review Validation:**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

Reviewer: Alan Perchman Date: 2-11-10

## Roadmap for LANL 10-1262 SVOA

This roadmap was analyzed by rmb on 01-25-2010, 14:26.

This roadmap was reviewed by bar00895 on 02-01-2010, 09:02.

Sample										
exclude	manual	datafile	smid	injdate	inftime	sublist	clientid	dilution	batchid	comment
<input checked="" type="checkbox"/>	N	/chem/MSD6.i/s012210.b/s6a2214.d	244847001	22-JAN-2010	21:26	10-1262.sub	RE12-10-7272	1	942930	DUSE wrong chemstation method used
<input checked="" type="checkbox"/>	N	/chem/MSD6.i/s012210.b/s6a2217.d	244847002	22-JAN-2010	22:47	10-1262.sub	RE12-10-7273	1	942930	DUSE wrong chemstation method used
<input checked="" type="checkbox"/>	N	/chem/MSD6.i/s012210.b/s6a2218.d	244847003	22-JAN-2010	23:15	10-1262.sub	RE12-10-7274	1	942930	DUSE wrong chemstation method used
<input checked="" type="checkbox"/>	N	/chem/MSD6.i/s012210.b/s6a2219.d	244847004	22-JAN-2010	23:41	10-1262.sub	RE12-10-7281	1	942930	DUSE wrong chemstation method used
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2413.d	244847001	24-JAN-2010	17:15	10-1262.sub	RE12-10-7272	1	942930	
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2416.d	244847002	24-JAN-2010	18:25	10-1262.sub	RE12-10-7273	1	942930	
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2417.d	244847003	24-JAN-2010	18:47	10-1262.sub	RE12-10-7274	1	942930	
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2418.d	244847004	24-JAN-2010	19:10	10-1262.sub	RE12-10-7281	1	942930	

QC Sample											
exclude	manual	datafile	smpid	sampletype	injdate	inftime	sublist	clientid	dilution	batchid	comment
<input checked="" type="checkbox"/>	N	/chem/MSD6.i/s012210.b/s6a2216.d	1202018800	msd	22-JAN-2010	22:20	10-1262.sub	RE12-10-7272MSD	1	942930	DUSE wrong chemstation method used
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2405-2.d	1202018797	mb	24-JAN-2010	14:10	10-1262.sub	SBLK01	1	942930	
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2406-2.d	1202018798	lcs	24-JAN-2010	14:33	10-1262.sub	SBLK01LCS	1	942930	
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2414.d	1202018799	ms	24-JAN-2010	17:38	10-1262.sub	RE12-10-7272MS	1	942930	
<input type="checkbox"/>	N	/chem/MSD5.i/s012410.b/s5a2415.d	1202018800	msd	24-JAN-2010	18:01	10-1262.sub	RE12-10-7272MSD	1	942930	

# **Sample Data Summary**



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	381	ug/kg	76.2	381
108-95-2	Phenol	U	381	ug/kg	76.2	381
95-57-8	2-Chlorophenol	U	381	ug/kg	76.2	381
106-46-7	1,4-Dichlorobenzene	U	381	ug/kg	76.2	381
621-64-7	N-Nitrosodipropylamine	U	381	ug/kg	76.2	381
59-50-7	4-Chloro-3-methylphenol	U	381	ug/kg	76.2	381
83-32-9	Acenaphthene	U	38.1	ug/kg	12.6	38.1
121-14-2	2,4-Dinitrotoluene	U	381	ug/kg	38.1	381
100-02-7	4-Nitrophenol	U	381	ug/kg	126	381
87-86-5	Pentachlorophenol	U	381	ug/kg	95.3	381
129-00-0	Pyrene	U	38.1	ug/kg	11.4	38.1
110-86-1	Pyridine	U	381	ug/kg	76.2	381
62-53-3	Aniline	U	381	ug/kg	114	381
111-44-4	bis(2-Chloroethyl) ether	U	381	ug/kg	76.2	381
541-73-1	1,3-Dichlorobenzene	U	381	ug/kg	76.2	381
100-51-6	Benzyl alcohol	U	381	ug/kg	114	381
95-50-1	1,2-Dichlorobenzene	U	381	ug/kg	76.2	381
108-60-1	bis(2-Chloroisopropyl)ether	U	381	ug/kg	76.2	381
95-48-7	o-Cresol	U	381	ug/kg	76.2	381
65794-96-9	m,p-Cresols	U	381	ug/kg	114	381
67-72-1	Hexachloroethane	U	381	ug/kg	76.2	381
98-95-3	Nitrobenzene	U	381	ug/kg	76.2	381
78-59-1	Isophorone	U	381	ug/kg	76.2	381
88-75-5	2-Nitrophenol	U	381	ug/kg	76.2	381
105-67-9	2,4-Dimethylphenol	U	381	ug/kg	133	381
111-91-1	bis(2-Chloroethoxy)methane	U	381	ug/kg	76.2	381
120-83-2	2,4-Dichlorophenol	U	381	ug/kg	76.2	381
65-85-0	Benzoic acid	U	762	ug/kg	191	762
91-20-3	Naphthalene	U	38.1	ug/kg	11.4	38.1
106-47-8	4-Chloroaniline	U	381	ug/kg	76.2	381
87-68-3	Hexachlorobutadiene	U	381	ug/kg	76.2	381
91-57-6	2-Methylnaphthalene	U	38.1	ug/kg	7.62	38.1
77-47-4	Hexachlorocyclopentadiene	U	381	ug/kg	76.2	381
88-06-2	2,4,6-Trichlorophenol	U	381	ug/kg	76.2	381
95-95-4	2,4,5-Trichlorophenol	U	381	ug/kg	76.2	381
91-58-7	2-Chloronaphthalene	U	38.1	ug/kg	12.6	38.1
88-74-4	2-Nitroaniline	U	381	ug/kg	76.2	381
99-09-2	<i>o</i> -Nitroaniline	U	381	ug/kg	76.2	381
	3-Nitroaniline					

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline Dimethylphthalate	U	381	ug/kg	76.2	381
606-20-2	2,6-Dinitrotoluene	U	381	ug/kg	38.1	381
208-96-8	Acenaphthylene	U	38.1	ug/kg	11.4	38.1
51-28-5	2,4-Dinitrophenol	U	762	ug/kg	145	762
132-64-9	Dibenzofuran	U	381	ug/kg	76.2	381
84-66-2	Diethylphthalate	U	381	ug/kg	76.2	381
86-73-7	Fluorene	U	38.1	ug/kg	11.4	38.1
7005-72-3	4-Chlorophenylphenylether	U	381	ug/kg	76.2	381
534-52-1	2-Methyl-4,6-dinitrophenol	U	381	ug/kg	76.2	381
100-01-6	4-Nitroaniline	U	381	ug/kg	114	381
122-39-4	<i>p</i> -Nitroaniline Diphenylamine	U	381	ug/kg	76.2	381
122-66-7	Azobenzene	U	381	ug/kg	76.2	381
101-55-3	<i>1,2</i> -Diphenylhydrazine 4-Bromophenylphenylether	U	381	ug/kg	76.2	381
118-74-1	Hexachlorobenzene	U	381	ug/kg	76.2	381
85-01-8	Phenanthrene	U	38.1	ug/kg	11.4	38.1
120-12-7	Anthracene	U	38.1	ug/kg	7.62	38.1
84-74-2	Di-n-butylphthalate	U	381	ug/kg	76.2	381
206-44-0	Fluoranthene	U	38.1	ug/kg	11.4	38.1
85-68-7	Butylbenzylphthalate	U	381	ug/kg	76.2	381
56-55-3	Benzo(a)anthracene	U	38.1	ug/kg	11.4	38.1
91-94-1	3,3'-Dichlorobenzidine	U	381	ug/kg	114	381
218-01-9	Chrysene	U	38.1	ug/kg	11.4	38.1
117-81-7	bis(2-Ethylhexyl)phthalate	U	381	ug/kg	76.2	381
117-84-0	Di-n-octylphthalate	U	381	ug/kg	76.2	381
205-99-2	Benzo(b)fluoranthene	U	38.1	ug/kg	11.4	38.1
207-08-9	Benzo(k)fluoranthene	U	38.1	ug/kg	11.4	38.1
50-32-8	Benzo(a)pyrene	U	38.1	ug/kg	11.4	38.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	38.1	ug/kg	11.4	38.1
53-70-3	Dibenzo(a,h)anthracene	U	38.1	ug/kg	11.4	38.1
191-24-2	Benzo(ghi)perylene	U	38.1	ug/kg	11.4	38.1
120-82-1	1,2,4-Trichlorobenzene	U	381	ug/kg	76.2	381

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	2.08	205	ug/kg		J
	Unknown Aldol Condensate	2.88	504	ug/kg		JA

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b>	<b>10-1262</b>	<b>Date Collected:</b>	<b>01/11/2010 12:00</b>	<b>Matrix:</b>	<b>R</b>
<b>Lab Sample ID:</b>	<b>244847001</b>	<b>Date Received:</b>	<b>01/15/2010 08:50</b>	<b>%Moisture:</b>	<b>12.6</b>
		<b>Client:</b>	<b>LANL010</b>	<b>Project:</b>	<b>LANL01004</b>
<b>Client ID:</b>	<b>RE12-10-7272</b>	<b>Method:</b>	<b>SW846 8270C</b>	<b>SOP Ref:</b>	<b>GL-OA-E-009</b>
<b>Batch ID:</b>	<b>942930</b>	<b>Inst:</b>	<b>MSD5.I</b>	<b>Dilution:</b>	<b>1</b>
<b>Run Date:</b>	<b>01/24/2010 17:15</b>	<b>Analyst:</b>	<b>RMB</b>	<b>Inj. Vol:</b>	<b>.5 uL</b>
<b>Prep Date:</b>	<b>01/19/2010 10:47</b>	<b>Aliquot:</b>	<b>30.02 g</b>	<b>Final Volume:</b>	<b>1 mL</b>
<b>Data File:</b>	<b>s5a2413.d</b>	<b>Column:</b>	<b>J&amp;W DB-5MS</b>	<b>Level:</b>	<b>LOW</b>

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
288246-53-7	Pyridine-3-carboxamide, oxime, N-(2-trif	9.66	250	ug/kg	91	NJ
	Unknown	10.31	190	ug/kg		J
	Unknown	11.52	687	ug/kg		J
	Unknown	12.25	825	ug/kg		J

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	384	ug/kg	76.8	384
108-95-2	Phenol	U	384	ug/kg	76.8	384
95-57-8	2-Chlorophenol	U	384	ug/kg	76.8	384
106-46-7	1,4-Dichlorobenzene	U	384	ug/kg	76.8	384
621-64-7	N-Nitrosodipropylamine	U	384	ug/kg	76.8	384
59-50-7	4-Chloro-3-methylphenol	U	384	ug/kg	76.8	384
83-32-9	Acenaphthene	U	38.4	ug/kg	12.7	38.4
121-14-2	2,4-Dinitrotoluene	U	384	ug/kg	38.4	384
100-02-7	4-Nitrophenol	U	384	ug/kg	127	384
87-86-5	Pentachlorophenol	U	384	ug/kg	96.0	384
129-00-0	Pyrene	U	38.4	ug/kg	11.5	38.4
110-86-1	Pyridine	U	384	ug/kg	76.8	384
62-53-3	Aniline	U	384	ug/kg	115	384
111-44-4	bis(2-Chloroethyl) ether	U	384	ug/kg	76.8	384
541-73-1	1,3-Dichlorobenzene	U	384	ug/kg	76.8	384
100-51-6	Benzyl alcohol	U	384	ug/kg	115	384
95-50-1	1,2-Dichlorobenzene	U	384	ug/kg	76.8	384
108-60-1	bis(2-Chloroisopropyl)ether	U	384	ug/kg	76.8	384
95-48-7	o-Cresol	U	384	ug/kg	76.8	384
65794-96-9	m,p-Cresols	U	384	ug/kg	115	384
67-72-1	Hexachloroethane	U	384	ug/kg	76.8	384
98-95-3	Nitrobenzene	U	384	ug/kg	76.8	384
78-59-1	Isophorone	U	384	ug/kg	76.8	384
88-75-5	2-Nitrophenol	U	384	ug/kg	76.8	384
105-67-9	2,4-Dimethylphenol	U	384	ug/kg	134	384
111-91-1	bis(2-Chloroethoxy)methane	U	384	ug/kg	76.8	384
120-83-2	2,4-Dichlorophenol	U	384	ug/kg	76.8	384
65-85-0	Benzoic acid	U	768	ug/kg	192	768
91-20-3	Naphthalene	U	38.4	ug/kg	11.5	38.4
106-47-8	4-Chloroaniline	U	384	ug/kg	76.8	384
87-68-3	Hexachlorobutadiene	U	384	ug/kg	76.8	384
91-57-6	2-Methylnaphthalene	U	38.4	ug/kg	7.68	38.4
77-47-4	Hexachlorocyclopentadiene	U	384	ug/kg	76.8	384
88-06-2	2,4,6-Trichlorophenol	U	384	ug/kg	76.8	384
95-95-4	2,4,5-Trichlorophenol	U	384	ug/kg	76.8	384
91-58-7	2-Chloronaphthalene	U	38.4	ug/kg	12.7	38.4
88-74-4	2-Nitroaniline	U	384	ug/kg	76.8	384
99-09-2	<i>o</i> -Nitroaniline	U	384	ug/kg	76.8	384
	3-Nitroaniline					

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	384	ug/kg	76.8	384
606-20-2	2,6-Dinitrotoluene	U	384	ug/kg	38.4	384
208-96-8	Acenaphthylene	U	38.4	ug/kg	11.5	38.4
51-28-5	2,4-Dinitrophenol	U	768	ug/kg	146	768
132-64-9	Dibenzofuran	U	384	ug/kg	76.8	384
84-66-2	Diethylphthalate	U	384	ug/kg	76.8	384
86-73-7	Fluorene	U	38.4	ug/kg	11.5	38.4
7005-72-3	4-Chlorophenylphenylether	U	384	ug/kg	76.8	384
534-52-1	2-Methyl-4,6-dinitrophenol	U	384	ug/kg	76.8	384
100-01-6	4-Nitroaniline	U	384	ug/kg	115	384
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	384	ug/kg	76.8	384
122-66-7	Azobenzene	U	384	ug/kg	76.8	384
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	384	ug/kg	76.8	384
118-74-1	Hexachlorobenzene	U	384	ug/kg	76.8	384
85-01-8	Phenanthrene	U	38.4	ug/kg	11.5	38.4
120-12-7	Anthracene	U	38.4	ug/kg	7.68	38.4
84-74-2	Di-n-butylphthalate	U	384	ug/kg	76.8	384
206-44-0	Fluoranthene	U	38.4	ug/kg	11.5	38.4
85-68-7	Butylbenzylphthalate	U	384	ug/kg	76.8	384
56-55-3	Benzo(a)anthracene	U	38.4	ug/kg	11.5	38.4
91-94-1	3,3'-Dichlorobenzidine	U	384	ug/kg	115	384
218-01-9	Chrysene	U	38.4	ug/kg	11.5	38.4
117-81-7	bis(2-Ethylhexyl)phthalate	U	384	ug/kg	76.8	384
117-84-0	Di-n-octylphthalate	U	384	ug/kg	76.8	384
205-99-2	Benzo(b)fluoranthene	U	38.4	ug/kg	11.5	38.4
207-08-9	Benzo(k)fluoranthene	U	38.4	ug/kg	11.5	38.4
50-32-8	Benzo(a)pyrene	U	38.4	ug/kg	11.5	38.4
193-39-5	Indeno(1,2,3-cd)pyrene	U	38.4	ug/kg	11.5	38.4
53-70-3	Dibenzo(a,h)anthracene	U	38.4	ug/kg	11.5	38.4
191-24-2	Benzo(ghi)perylene	U	38.4	ug/kg	11.5	38.4
120-82-1	1,2,4-Trichlorobenzene	U	384	ug/kg	76.8	384

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.88	499	ug/kg		JA
7785-70-8	1R-.alpha.-Pinene	3.43	268	ug/kg	97	NJ

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
<b>Tentatively Identified Compound Summary</b>						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
13466-78-9	3-Carene	3.82	473	ug/kg	97	NJ
57-10-3	n-Hexadecanoic acid	7.52	233	ug/kg	97	NJ
593-39-5	6-Octadecenoic acid, (Z)-	8.16	492	ug/kg	99	NJ
	Unknown	8.82	160	ug/kg		J
1000159-38-2	Bicyclo[5.2.0]nonane, 4-methylene-2,8,8-	8.92	272	ug/kg	83	NJ
	Unknown	9.02	190	ug/kg		J
	Unknown	9.17	156	ug/kg		J
	Unknown	9.27	671	ug/kg		J
1740-19-8	1-Phenanthrenecarboxylic acid, 1,2,3,4,4	9.34	743	ug/kg	93	NJ
	Unknown	9.51	636	ug/kg		J
	Unknown	9.63	256	ug/kg		J
74339-54-1	Trichloroacetic acid, hexadecyl ester	9.98	373	ug/kg	93	NJ
	Unknown	10.4	304	ug/kg		J
83-46-5	.beta.-Sitosterol	13.55	963	ug/kg	97	NJ

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	394	ug/kg	78.9	394
108-95-2	Phenol	U	394	ug/kg	78.9	394
95-57-8	2-Chlorophenol	U	394	ug/kg	78.9	394
106-46-7	1,4-Dichlorobenzene	U	394	ug/kg	78.9	394
621-64-7	N-Nitrosodipropylamine	U	394	ug/kg	78.9	394
59-50-7	4-Chloro-3-methylphenol	U	394	ug/kg	78.9	394
83-32-9	Acenaphthene	U	39.4	ug/kg	13.0	39.4
121-14-2	2,4-Dinitrotoluene	U	394	ug/kg	39.4	394
100-02-7	4-Nitrophenol	U	394	ug/kg	130	394
87-86-5	Pentachlorophenol	U	394	ug/kg	98.6	394
129-00-0	Pyrene	U	39.4	ug/kg	11.8	39.4
110-86-1	Pyridine	U	394	ug/kg	78.9	394
62-53-3	Aniline	U	394	ug/kg	118	394
111-44-4	bis(2-Chloroethyl) ether	U	394	ug/kg	78.9	394
541-73-1	1,3-Dichlorobenzene	U	394	ug/kg	78.9	394
100-51-6	Benzyl alcohol	U	394	ug/kg	118	394
95-50-1	1,2-Dichlorobenzene	U	394	ug/kg	78.9	394
108-60-1	bis(2-Chloroisopropyl)ether	U	394	ug/kg	78.9	394
95-48-7	o-Cresol	U	394	ug/kg	78.9	394
65794-96-9	m,p-Cresols	U	394	ug/kg	118	394
67-72-1	Hexachloroethane	U	394	ug/kg	78.9	394
98-95-3	Nitrobenzene	U	394	ug/kg	78.9	394
78-59-1	Isophorone	U	394	ug/kg	78.9	394
88-75-5	2-Nitrophenol	U	394	ug/kg	78.9	394
105-67-9	2,4-Dimethylphenol	U	394	ug/kg	138	394
111-91-1	bis(2-Chloroethoxy)methane	U	394	ug/kg	78.9	394
120-83-2	2,4-Dichlorophenol	U	394	ug/kg	78.9	394
65-85-0	Benzoic acid	U	789	ug/kg	197	789
91-20-3	Naphthalene	U	39.4	ug/kg	11.8	39.4
106-47-8	4-Chloroaniline	U	394	ug/kg	78.9	394
87-68-3	Hexachlorobutadiene	U	394	ug/kg	78.9	394
91-57-6	2-Methylnaphthalene	U	39.4	ug/kg	7.89	39.4
77-47-4	Hexachlorocyclopentadiene	U	394	ug/kg	78.9	394
88-06-2	2,4,6-Trichlorophenol	U	394	ug/kg	78.9	394
95-95-4	2,4,5-Trichlorophenol	U	394	ug/kg	78.9	394
91-58-7	2-Chloronaphthalene	U	39.4	ug/kg	13.0	39.4
88-74-4	2-Nitroaniline	U	394	ug/kg	78.9	394
99-09-2	<i>o</i> -Nitroaniline	U	394	ug/kg	78.9	394
	3-Nitroaniline					

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	394	ug/kg	78.9	394
606-20-2	2,6-Dinitrotoluene	U	394	ug/kg	39.4	394
208-96-8	Acenaphthylene	U	39.4	ug/kg	11.8	39.4
51-28-5	2,4-Dinitrophenol	U	789	ug/kg	150	789
132-64-9	Dibenzofuran	U	394	ug/kg	78.9	394
84-66-2	Diethylphthalate	U	394	ug/kg	78.9	394
86-73-7	Fluorene	U	39.4	ug/kg	11.8	39.4
7005-72-3	4-Chlorophenylphenylether	U	394	ug/kg	78.9	394
534-52-1	2-Methyl-4,6-dinitrophenol	U	394	ug/kg	78.9	394
100-01-6	4-Nitroaniline	U	394	ug/kg	118	394
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	394	ug/kg	78.9	394
122-66-7	Azobenzene	U	394	ug/kg	78.9	394
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	394	ug/kg	78.9	394
118-74-1	Hexachlorobenzene	U	394	ug/kg	78.9	394
85-01-8	Phenanthrene	U	39.4	ug/kg	11.8	39.4
120-12-7	Anthracene	U	39.4	ug/kg	7.89	39.4
84-74-2	Di-n-butylphthalate	U	394	ug/kg	78.9	394
206-44-0	Fluoranthene	U	39.4	ug/kg	11.8	39.4
85-68-7	Butylbenzylphthalate	U	394	ug/kg	78.9	394
56-55-3	Benzo(a)anthracene	U	39.4	ug/kg	11.8	39.4
91-94-1	3,3'-Dichlorobenzidine	U	394	ug/kg	118	394
218-01-9	Chrysene	U	39.4	ug/kg	11.8	39.4
117-81-7	bis(2-Ethylhexyl)phthalate	U	394	ug/kg	78.9	394
117-84-0	Di-n-octylphthalate	U	394	ug/kg	78.9	394
205-99-2	Benzo(b)fluoranthene	U	39.4	ug/kg	11.8	39.4
207-08-9	Benzo(k)fluoranthene	U	39.4	ug/kg	11.8	39.4
50-32-8	Benzo(a)pyrene	U	39.4	ug/kg	11.8	39.4
193-39-5	Indeno(1,2,3-cd)pyrene	U	39.4	ug/kg	11.8	39.4
53-70-3	Dibenzo(a,h)anthracene	U	39.4	ug/kg	11.8	39.4
191-24-2	Benzo(ghi)perylene	U	39.4	ug/kg	11.8	39.4
120-82-1	1,2,4-Trichlorobenzene	U	394	ug/kg	78.9	394

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	2.08	212	ug/kg		J
	Unknown Aldol Condensate	2.88	512	ug/kg		JA



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	
Tentatively Identified Compound Summary				Estimated			
CAS No.	Tentatively Identified Compound (TIC)		RT	Units	Fit	Qual	
7785-70-8	1R-.alpha.-Pinene		3.43	191	ug/kg	97	NJ
	Unknown		5.12	373	ug/kg		J
1235-74-1	1-Phenanthrenecarboxylic acid, 1,2,3,4,4		8.98	163	ug/kg	98	NJ
112-88-9	1-Octadecene		9.34	280	ug/kg	90	NJ
559-74-0	Friedelan-3-one		9.66	1120	ug/kg	99	NJ
	Unknown		9.82	161	ug/kg		J
	Unknown		9.95	357	ug/kg		J
629-96-9	1-Eicosanol		9.98	221	ug/kg	90	NJ
112-95-8	Eicosane		10.7	325	ug/kg	95	NJ
	Unknown		11.55	1970	ug/kg		J
	Unknown		11.71	299	ug/kg		J
	Unknown		11.87	399	ug/kg		J
70038-20-9	7-Oxabicyclo[4.1.0]heptane, 2,2,6-trimet		12.27	2290	ug/kg	90	NJ
	Unknown		12.71	287	ug/kg		J
	Unknown		13.07	231	ug/kg		J
83-46-5	.beta.-Sitosterol		13.57	1160	ug/kg	99	NJ
	Unknown		13.77	347	ug/kg		J
	Unknown		14.38	229	ug/kg		J

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	370	ug/kg	73.9	370
108-95-2	Phenol	U	370	ug/kg	73.9	370
95-57-8	2-Chlorophenol	U	370	ug/kg	73.9	370
106-46-7	1,4-Dichlorobenzene	U	370	ug/kg	73.9	370
621-64-7	N-Nitrosodipropylamine	U	370	ug/kg	73.9	370
59-50-7	4-Chloro-3-methylphenol	U	370	ug/kg	73.9	370
83-32-9	Acenaphthene	U	37.0	ug/kg	12.2	37.0
121-14-2	2,4-Dinitrotoluene	U	370	ug/kg	37.0	370
100-02-7	4-Nitrophenol	U	370	ug/kg	122	370
87-86-5	Pentachlorophenol	U	370	ug/kg	92.4	370
129-00-0	Pyrene	U	37.0	ug/kg	11.1	37.0
110-86-1	Pyridine	U	370	ug/kg	73.9	370
62-53-3	Aniline	U	370	ug/kg	111	370
111-44-4	bis(2-Chloroethyl) ether	U	370	ug/kg	73.9	370
541-73-1	1,3-Dichlorobenzene	U	370	ug/kg	73.9	370
100-51-6	Benzyl alcohol	U	370	ug/kg	111	370
95-50-1	1,2-Dichlorobenzene	U	370	ug/kg	73.9	370
108-60-1	bis(2-Chloroisopropyl)ether	U	370	ug/kg	73.9	370
95-48-7	o-Cresol	U	370	ug/kg	73.9	370
65794-96-9	m,p-Cresols	U	370	ug/kg	111	370
67-72-1	Hexachloroethane	U	370	ug/kg	73.9	370
98-95-3	Nitrobenzene	U	370	ug/kg	73.9	370
78-59-1	Isophorone	U	370	ug/kg	73.9	370
88-75-5	2-Nitrophenol	U	370	ug/kg	73.9	370
105-67-9	2,4-Dimethylphenol	U	370	ug/kg	129	370
111-91-1	bis(2-Chloroethoxy)methane	U	370	ug/kg	73.9	370
120-83-2	2,4-Dichlorophenol	U	370	ug/kg	73.9	370
65-85-0	Benzoic acid	U	739	ug/kg	185	739
91-20-3	Naphthalene	U	37.0	ug/kg	11.1	37.0
106-47-8	4-Chloroaniline	U	370	ug/kg	73.9	370
87-68-3	Hexachlorobutadiene	U	370	ug/kg	73.9	370
91-57-6	2-Methylnaphthalene	U	37.0	ug/kg	7.39	37.0
77-47-4	Hexachlorocyclopentadiene	U	370	ug/kg	73.9	370
88-06-2	2,4,6-Trichlorophenol	U	370	ug/kg	73.9	370
95-95-4	2,4,5-Trichlorophenol	U	370	ug/kg	73.9	370
91-58-7	2-Chloronaphthalene	U	37.0	ug/kg	12.2	37.0
88-74-4	2-Nitroaniline	U	370	ug/kg	73.9	370
99-09-2	<i>o</i> -Nitroaniline	U	370	ug/kg	73.9	370
	3-Nitroaniline					

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	370	ug/kg	73.9	370
606-20-2	2,6-Dinitrotoluene	U	370	ug/kg	37.0	370
208-96-8	Acenaphthylene	U	37.0	ug/kg	11.1	37.0
51-28-5	2,4-Dinitrophenol	U	739	ug/kg	140	739
132-64-9	Dibenzofuran	U	370	ug/kg	73.9	370
84-66-2	Diethylphthalate	U	370	ug/kg	73.9	370
86-73-7	Fluorene	U	37.0	ug/kg	11.1	37.0
7005-72-3	4-Chlorophenylphenylether	U	370	ug/kg	73.9	370
534-52-1	2-Methyl-4,6-dinitrophenol	U	370	ug/kg	73.9	370
100-01-6	4-Nitroaniline	U	370	ug/kg	111	370
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	370	ug/kg	73.9	370
122-66-7	Azobenzene	U	370	ug/kg	73.9	370
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	370	ug/kg	73.9	370
118-74-1	Hexachlorobenzene	U	370	ug/kg	73.9	370
85-01-8	Phenanthrene	U	37.0	ug/kg	11.1	37.0
120-12-7	Anthracene	U	37.0	ug/kg	7.39	37.0
84-74-2	Di-n-butylphthalate	U	370	ug/kg	73.9	370
206-44-0	Fluoranthene	U	37.0	ug/kg	11.1	37.0
85-68-7	Butylbenzylphthalate	U	370	ug/kg	73.9	370
56-55-3	Benzo(a)anthracene	U	37.0	ug/kg	11.1	37.0
91-94-1	3,3'-Dichlorobenzidine	U	370	ug/kg	111	370
218-01-9	Chrysene	U	37.0	ug/kg	11.1	37.0
117-81-7	bis(2-Ethylhexyl)phthalate	U	370	ug/kg	73.9	370
117-84-0	Di-n-octylphthalate	U	370	ug/kg	73.9	370
205-99-2	Benzo(b)fluoranthene	U	37.0	ug/kg	11.1	37.0
207-08-9	Benzo(k)fluoranthene	U	37.0	ug/kg	11.1	37.0
50-32-8	Benzo(a)pyrene	U	37.0	ug/kg	11.1	37.0
193-39-5	Indeno(1,2,3-cd)pyrene	U	37.0	ug/kg	11.1	37.0
53-70-3	Dibenzo(a,h)anthracene	U	37.0	ug/kg	11.1	37.0
191-24-2	Benzo(ghi)perylene	U	37.0	ug/kg	11.1	37.0
120-82-1	1,2,4-Trichlorobenzene	U	370	ug/kg	73.9	370

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.88	301	ug/kg		JA
112-95-8	Eicosane	10.7	307	ug/kg	91	NJ

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b>	<b>10-1262</b>	<b>Date Collected:</b>	<b>01/11/2010 12:00</b>	<b>Matrix:</b>	<b>R</b>
<b>Lab Sample ID:</b>	<b>244847004</b>	<b>Date Received:</b>	<b>01/15/2010 08:50</b>	<b>%Moisture:</b>	<b>9.9</b>
		<b>Client:</b>	<b>LANL010</b>	<b>Project:</b>	<b>LANL01004</b>
<b>Client ID:</b>	<b>RE12-10-7281</b>	<b>Method:</b>	<b>SW846 8270C</b>	<b>SOP Ref:</b>	<b>GL-OA-E-009</b>
<b>Batch ID:</b>	<b>942930</b>	<b>Inst:</b>	<b>MSD5.I</b>	<b>Dilution:</b>	<b>1</b>
<b>Run Date:</b>	<b>01/24/2010 19:10</b>	<b>Analyst:</b>	<b>RMB</b>	<b>Inj. Vol:</b>	<b>.5 uL</b>
<b>Prep Date:</b>	<b>01/19/2010 10:47</b>	<b>Aliquot:</b>	<b>30.02 g</b>	<b>Final Volume:</b>	<b>1 mL</b>
<b>Data File:</b>	<b>s5a2418.d</b>	<b>Column:</b>	<b>J&amp;W DB-5MS</b>	<b>Level:</b>	<b>LOW</b>

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
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Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
331736-92-6	Acetic acid, 2-(2-propyl-1-benzimidazolyl	11.57	3220	ug/kg	91	NJ
	Unknown	12.29	2510	ug/kg		J
	Unknown	13.07	438	ug/kg		J
	Unknown	13.77	526	ug/kg		J
	Unknown	14.01	149	ug/kg		J

# QC Summary

Semi-Volatile  
Surrogate Recovery Report

Page 1 of 1

SDG Number: 10-1262

Matrix Type: SOLID

CAP Column (1) : J&amp;W DB-5MS

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1202018797	MB for batch 942929	72	71	69	72	71	100
1202018798	LCS for batch 942929	70	68	76	69	77	80
244847001	RE12-10-7272	58	58	58	58	70	77
1202018799	RE12-10-7272MS	51	51	53	52	68	70
1202018800	RE12-10-7272MSD	56	56	55	53	64	60
244847002	RE12-10-7273	59	56	57	60	72	77
244847003	RE12-10-7274	61	58	60	63	73	76
244847004	RE12-10-7281	61	59	61	59	75	81

## Surrogate

## Acceptance Limits

2FP	= 2-Fluorophenol	(35%-96%)
PHL	= Phenol-d5	(36%-96%)
NBZ	= Nitrobenzene-d5	(34%-104%)
FBP	= 2-Fluorobiphenyl	(36%-100%)
TBP	= 2,4,6-Tribromophenol	(37%-106%)
TPH	= p-Terphenyl-d14	(40%-124%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 1 of 4

SDG Number: 10-1262

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 942929

Matrix: SOIL

Lab Sample ID: 1202018798

Instrument: MSD5.I

Analysis Date: 01/24/2010 14:33

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
62-75-9	LCS N-Methyl-N-nitrosomethylam	1670	0.0	1040	62	31-95
108-95-2	LCS Phenol	1670	0.0	1230	74	37-104
95-57-8	LCS 2-Chlorophenol	1670	0.0	1160	70	40-105
106-46-7	LCS 1,4-Dichlorobenzene	1670	0.0	1100	66	34-103
621-64-7	LCS N-Nitrosodipropylamine	1670	0.0	1210	73	36-110
59-50-7	LCS 4-Chloro-3-methylphenol	1670	0.0	1310	79	46-114
83-32-9	LCS Acenaphthene	1670	0.0	1240	74	40-105
121-14-2	LCS 2,4-Dinitrotoluene	1670	0.0	1200	72	49-107
100-02-7	LCS 4-Nitrophenol	1670	0.0	1420	85	33-110
87-86-5	LCS Pentachlorophenol	1670	0.0	1370	82	38-116
129-00-0	LCS Pyrene	1670	0.0	1220	73	43-108
110-86-1	LCS Pyridine	1670	0.0	1140	69	13-129
62-53-3	LCS Aniline	1670	0.0	1110	67	30-121
111-44-4	LCS bis(2-Chloroethyl) ether	1670	0.0	1070	64	37-106
541-73-1	LCS 1,3-Dichlorobenzene	1670	0.0	1090	65	33-103
100-51-6	LCS Benzyl alcohol	1670	0.0	1360	82	31-100
95-50-1	LCS 1,2-Dichlorobenzene	1670	0.0	1230	74	34-108
108-60-1	LCS bis(2-Chloroisopropyl)ether	1670	0.0	1190	71	34-120
95-48-7	LCS o-Cresol	1670	0.0	1230	74	39-111
65794-96-9	LCS m,p-Cresols	1670	0.0	1320	79	43-118
67-72-1	LCS Hexachloroethane	1670	0.0	1090	65	34-105
98-95-3	LCS Nitrobenzene	1670	0.0	1300	78	37-110

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 2 of 4

SDG Number: 10-1262

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 942929

Matrix: SOIL

Lab Sample ID: 1202018798

Instrument: MSD5.I

Analysis Date: 01/24/2010 14:33

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
78-59-1	LCS Isophorone	1670	0.0	1220	73	41-108
88-75-5	LCS 2-Nitrophenol	1670	0.0	1220	73	35-112
105-67-9	LCS 2,4-Dimethylphenol	1670	0.0	1170	70	35-114
111-91-1	LCS bis(2-Chloroethoxy)methane	1670	0.0	1150	69	40-109
120-83-2	LCS 2,4-Dichlorophenol	1670	0.0	1220	73	45-109
65-85-0	LCS Benzoic acid	3330	0.0	2750	82	27-137
91-20-3	LCS Naphthalene	1670	0.0	1170	70	35-105
106-47-8	LCS 4-Chloroaniline	1670	0.0	1140	68	30-122
87-68-3	LCS Hexachlorobutadiene	1670	0.0	1220	73	37-111
91-57-6	LCS 2-Methylnaphthalene	1670	0.0	1240	75	40-106
77-47-4	LCS Hexachlorocyclopentadiene	1670	0.0	834	50	24-135
88-06-2	LCS 2,4,6-Trichlorophenol	1670	0.0	1330	80	46-107
95-95-4	LCS 2,4,5-Trichlorophenol	1670	0.0	1270	76	44-110
91-58-7	LCS 2-Chloronaphthalene	1670	0.0	1240	74	44-104
88-74-4	LCS 2-Nitroaniline <i>o</i> -Nitroaniline	1670	0.0	1240	75	44-113
99-09-2	LCS 3-Nitroaniline <i>m</i> -Nitroaniline	1670	0.0	1160	69	48-113
131-11-3	LCS Dimethylphthalate	1670	0.0	1220	73	47-104
606-20-2	LCS 2,6-Dinitrotoluene	1670	0.0	1170	70	47-103
208-96-8	LCS Acenaphthylene	1670	0.0	1230	74	43-104
51-28-5	LCS 2,4-Dinitrophenol	1670	0.0	1560	93	32-114
132-64-9	LCS Dibenzofuran	1670	0.0	1470	88	47-112
84-66-2	LCS Diethylphthalate	1670	0.0	1240	74	50-108



Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 3 of 4

SDG Number: 10-1262

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 942929

Matrix: SOIL

Lab Sample ID: 1202018798

Instrument: MSD5.I

Analysis Date: 01/24/2010 14:33

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
86-73-7	LCS Fluorene	1670	0.0	1260	75	49-102
7005-72-3	LCS 4-Chlorophenylphenylether	1670	0.0	1160	69	50-109
534-52-1	LCS 2-Methyl-4,6-dinitrophenol	1670	0.0	1280	77	35-114
100-01-6	LCS 4-Nitroaniline <i>p-Nitroaniline</i>	1670	0.0	1330	80	44-139
122-39-4	LCS Diphenylamine	1670	0.0	1220	73	46-111
122-66-7	LCS Azobenzene <i>1,2-Diphenylhydrazine</i>	1670	0.0	1330	80	40-119
101-55-3	LCS 4-Bromophenylphenylether	1670	0.0	1120	67	45-112
118-74-1	LCS Hexachlorobenzene	1670	0.0	1190	71	44-115
85-01-8	LCS Phenanthrene	1670	0.0	1240	75	45-107
120-12-7	LCS Anthracene	1670	0.0	1230	74	46-106
84-74-2	LCS Di-n-butylphthalate	1670	0.0	1300	78	52-115
206-44-0	LCS Fluoranthene	1670	0.0	1270	76	50-115
85-68-7	LCS Butylbenzylphthalate	1670	0.0	1300	78	49-115
56-55-3	LCS Benzo(a)anthracene	1670	0.0	1240	74	48-105
91-94-1	LCS 3,3'-Dichlorobenzidine	1670	0.0	1020	61	45-98
218-01-9	LCS Chrysene	1670	0.0	1260	76	48-105
117-81-7	LCS bis(2-Ethylhexyl)phthalate	1670	0.0	1390	83	50-117
117-84-0	LCS Di-n-octylphthalate	1670	0.0	1230	74	39-123
205-99-2	LCS Benzo(b)fluoranthene	1670	0.0	1260	75	46-111
207-08-9	LCS Benzo(k)fluoranthene	1670	0.0	1240	74	46-114
50-32-8	LCS Benzo(a)pyrene	1670	0.0	1290	77	49-112
193-39-5	LCS Indeno(1,2,3-cd)pyrene	1670	0.0	1370	82	45-128

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Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

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SDG Number: 10-1262

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 942929

Matrix: SOIL

Lab Sample ID: 1202018798

Instrument: MSD5.I

Analysis Date: 01/24/2010 14:33

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

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CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
53-70-3	LCS Dibenzo(a,h)anthracene	1670	0.0	1400	84	44-131
191-24-2	LCS Benzo(ghi)perylene	1670	0.0	1460	88	42-128
120-82-1	LCS 1,2,4-Trichlorobenzene	1670	0.0	1210	73	36-109

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Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 1 of 8

SDG Number: 10-1262

Client ID: RE12-10-7272MS

Lab Sample ID: 1202018799

Instrument: MSD5.I

Analyst: RMB

Inj. Vol: .5 uL

Sample Type: Matrix Spike

Matrix: R

%Moisture: 12.6

Analysis Date: 01/24/2010 17:38

Dilution: 1

Prep Batch ID: 942929

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
62-75-9	MS N-Methyl-N-nitrosomethylam	1910	0.00	U	860	45 32-90
108-95-2	MS Phenol	1910	0.00	U	1030	54 32-105
95-57-8	MS 2-Chlorophenol	1910	0.00	U	957	50 33-106
106-46-7	MS 1,4-Dichlorobenzene	1910	0.00	U	696	37 33-95
621-64-7	MS N-Nitrosodipropylamine	1910	0.00	U	1040	55 31-109
59-50-7	MS 4-Chloro-3-methylphenol	1910	0.00	U	1260	66 38-119
83-32-9	MS Acenaphthene	1910	0.00	U	1110	58 39-100
121-14-2	MS 2,4-Dinitrotoluene	1910	0.00	U	1180	62 42-107
100-02-7	MS 4-Nitrophenol	1910	0.00	U	1430	75 24-120
87-86-5	MS Pentachlorophenol	1910	0.00	U	1520	80 26-121
129-00-0	MS Pyrene	1910	0.00	U	1290	68 34-120
110-86-1	MS Pyridine	1910	0.00	U	908	48 30-95
62-53-3	MS Aniline	1910	0.00	U	703	37 34-111
111-44-4	MS bis(2-Chloroethyl) ether	1910	0.00	U	835	44 34-101
541-73-1	MS 1,3-Dichlorobenzene	1910	0.00	U	668	35 31-97
100-51-6	MS Benzyl alcohol	1910	0.00	U	1190	62 17-120
95-50-1	MS 1,2-Dichlorobenzene	1910	0.00	U	819	43 32-102
108-60-1	MS bis(2-Chloroisopropyl)ether	1910	0.00	U	932	49 32-113
95-48-7	MS o-Cresol	1910	0.00	U	1170	61 31-119
65794-96-9	MS m,p-Cresols	1910	0.00	U	1210	63 35-125
67-72-1	MS Hexachloroethane	1910	0.00	U	638	33 30-100
98-95-3	MS Nitrobenzene	1910	0.00	U	1060	56 33-108

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 2 of 8

SDG Number: 10-1262

Sample Type: Matrix Spike

Client ID: RE12-10-7272MS

Matrix: R

Lab Sample ID: 1202018799

%Moisture: 12.6

Instrument: MSD5.I

Analysis Date: 01/24/2010 17:38

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	U	Spike Conc. ug/kg	Recovery %	Acceptance Limits
78-59-1	MS Isophorone	1910	0.00	U	1080	56	34-110
88-75-5	MS 2-Nitrophenol	1910	0.00	U	1090	57	32-108
105-67-9	MS 2,4-Dimethylphenol	1910	0.00	U	973	51	32-115
111-91-1	MS bis(2-Chloroethoxy)methane	1910	0.00	U	1010	53	35-108
120-83-2	MS 2,4-Dichlorophenol	1910	0.00	U	1120	59	38-110
65-85-0	MS Benzoic acid	3810	0.00	U	2920	77	18-134
91-20-3	MS Naphthalene	1910	0.00	U	957	50	31-105
106-47-8	MS 4-Chloroaniline	1910	0.00	U	1020	54	29-123
87-68-3	MS Hexachlorobutadiene	1910	0.00	U	794	42	31-109
91-57-6	MS 2-Methylnaphthalene	1910	0.00	U	1050	55	32-110
77-47-4	MS Hexachlorocyclopentadiene	1910	0.00	U	701	37	21-122
88-06-2	MS 2,4,6-Trichlorophenol	1910	0.00	U	1240	65	37-108
95-95-4	MS 2,4,5-Trichlorophenol	1910	0.00	U	1260	66	37-116
91-58-7	MS 2-Chloronaphthalene	1910	0.00	U	1090	57	37-103
88-74-4	MS 2-Nitroaniline <i>o</i> -Nitroaniline	1910	0.00	U	1210	64	36-115
99-09-2	MS 3-Nitroaniline <i>m</i> -Nitroaniline	1910	0.00	U	1180	62	39-117
131-11-3	MS Dimethylphthalate	1910	0.00	U	1170	61	41-105
606-20-2	MS 2,6-Dinitrotoluene	1910	0.00	U	1130	59	41-103
208-96-8	MS Acenaphthylene	1910	0.00	U	1120	59	41-103
51-28-5	MS 2,4-Dinitrophenol	1910	0.00	U	1630	86	25-104
132-64-9	MS Dibenzofuran	1910	0.00	U	1380	72	40-114
84-66-2	MS Diethylphthalate	1910	0.00	U	1230	65	43-110

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 3 of 8

SDG Number: 10-1262

Sample Type: Matrix Spike

Client ID: RE12-10-7272MS

Matrix: R

Lab Sample ID: 1202018799

%Moisture: 12.6

Instrument: MSD5.I

Analysis Date: 01/24/2010 17:38

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
86-73-7	MS	Fluorene	1910	0.00	U	1180	62	48-99
7005-72-3	MS	4-Chlorophenylphenylether	1910	0.00	U	1110	58	42-111
534-52-1	MS	2-Methyl-4,6-dinitrophenol	1910	0.00	U	1440	75	19-118
100-01-6	MS	4-Nitroaniline <i>p</i> -Nitroaniline	1910	0.00	U	1360	71	35-139
122-39-4	MS	Diphenylamine	1910	0.00	U	1100	58	41-112
122-66-7	MS	Azobenzene <i>1,2-Diphenylhydrazine</i>	1910	0.00	U	1290	67	37-118
101-55-3	MS	4-Bromophenylphenylether	1910	0.00	U	1090	57	39-112
118-74-1	MS	Hexachlorobenzene	1910	0.00	U	1150	60	38-113
85-01-8	MS	Phenanthrene	1910	0.00	U	1220	64	38-110
120-12-7	MS	Anthracene	1910	0.00	U	1220	64	38-112
84-74-2	MS	Di-n-butylphthalate	1910	0.00	U	1360	71	42-119
206-44-0	MS	Fluoranthene	1910	0.00	U	1280	67	38-119
85-68-7	MS	Butylbenzylphthalate	1910	0.00	U	1420	74	39-126
56-55-3	MS	Benzo(a)anthracene	1910	0.00	U	1250	66	39-110
91-94-1	MS	3,3'-Dichlorobenzidine	1910	0.00	U	377	20 *	35-106
218-01-9	MS	Chrysene	1910	0.00	U	1270	67	39-109
117-81-7	MS	bis(2-Ethylhexyl)phthalate	1910	0.00	U	1400	73	40-125
117-84-0	MS	Di-n-octylphthalate	1910	0.00	U	1430	75	30-147
205-99-2	MS	Benzo(b)fluoranthene	1910	0.00	U	1290	67	38-117
207-08-9	MS	Benzo(k)fluoranthene	1910	0.00	U	1320	69	39-120
50-32-8	MS	Benzo(a)pyrene	1910	0.00	U	1270	67	40-115
193-39-5	MS	Indeno(1,2,3-cd)pyrene	1910	0.00	U	1160	61	32-120

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

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SDG Number: 10-1262

Client ID: RE12-10-7272MS

Lab Sample ID: 1202018799

Instrument: MSD5.I

Analyst: RMB

Inj. Vol: .5 uL

Sample Type: Matrix Spike

Matrix: R

%Moisture: 12.6

Analysis Date: 01/24/2010 17:38

Dilution: 1

Prep Batch ID: 942929

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
53-70-3	MS Dibenzo(a,h)anthracene	1910	0.00 U	1220	64	32-124
191-24-2	MS Benzo(ghi)perylene	1910	0.00 U	1110	58	28-119
120-82-1	MS 1,2,4-Trichlorobenzene	1910	0.00 U	895	47	31-105

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 5 of 8

SDG Number: 10-1262

Sample Type: Matrix Spike Duplicate

Client ID: RE12-10-7272MSD

Matrix: R

Lab Sample ID: 1202018800

%Moisture: 12.6

Instrument: MSD5.I

Analysis Date: 01/24/2010 18:01

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
62-75-9	MSD N-Methyl-N-nitrosomethylam	1910	0.00	U	881	46	32-90	2	0-30
108-95-2	MSD Phenol	1910	0.00	U	1200	63	32-105	15	0-30
95-57-8	MSD 2-Chlorophenol	1910	0.00	U	1080	57	33-106	12	0-30
106-46-7	MSD 1,4-Dichlorobenzene	1910	0.00	U	747	39	33-95	7	0-30
621-64-7	MSD N-Nitrosodipropylamine	1910	0.00	U	1110	58	31-109	6	0-30
59-50-7	MSD 4-Chloro-3-methylphenol	1910	0.00	U	1320	69	38-119	4	0-30
83-32-9	MSD Acenaphthene	1910	0.00	U	1150	60	39-100	4	0-30
121-14-2	MSD 2,4-Dinitrotoluene	1910	0.00	U	1150	60	42-107	2	0-30
100-02-7	MSD 4-Nitrophenol	1910	0.00	U	1420	75	24-120	0	0-30
87-86-5	MSD Pentachlorophenol	1910	0.00	U	1440	76	26-121	6	0-30
129-00-0	MSD Pyrene	1910	0.00	U	1110	58	34-120	15	0-30
110-86-1	MSD Pyridine	1910	0.00	U	1020	53	30-95	11	0-30
62-53-3	MSD Aniline	1910	0.00	U	760	40	34-111	8	0-30
111-44-4	MSD bis(2-Chloroethyl) ether	1910	0.00	U	987	52	34-101	17	0-30
541-73-1	MSD 1,3-Dichlorobenzene	1910	0.00	U	710	37	31-97	6	0-30
100-51-6	MSD Benzyl alcohol	1910	0.00	U	1330	70	17-120	11	0-30
95-50-1	MSD 1,2-Dichlorobenzene	1910	0.00	U	882	46	32-102	7	0-30
108-60-1	MSD bis(2-Chloroisopropyl)ether	1910	0.00	U	1040	54	32-113	11	0-30
95-48-7	MSD o-Cresol	1910	0.00	U	1300	68	31-119	11	0-30
65794-96-9	MSD m,p-Cresols	1910	0.00	U	1320	69	35-125	8	0-30
67-72-1	MSD Hexachloroethane	1910	0.00	U	693	36	30-100	8	0-30
98-95-3	MSD Nitrobenzene	1910	0.00	U	1130	59	33-108	6	0-30

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 6 of 8

SDG Number: 10-1262

Sample Type: Matrix Spike Duplicate

Client ID: RE12-10-7272MSD

Matrix: R

Lab Sample ID: 1202018800

%Moisture: 12.6

Instrument: MSD5.I

Analysis Date: 01/24/2010 18:01

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
78-59-1	MSD Isophorone	1910	0.00	U	1150	60	34-110	6	0-30
88-75-5	MSD 2-Nitrophenol	1910	0.00	U	1180	62	32-108	8	0-30
105-67-9	MSD 2,4-Dimethylphenol	1910	0.00	U	989	52	32-115	2	0-30
111-91-1	MSD bis(2-Chloroethoxy)methane	1910	0.00	U	1080	57	35-108	6	0-30
120-83-2	MSD 2,4-Dichlorophenol	1910	0.00	U	1190	63	38-110	6	0-30
65-85-0	MSD Benzoic acid	3810	0.00	U	2420	63	18-134	19	0-30
91-20-3	MSD Naphthalene	1910	0.00	U	1020	54	31-105	7	0-30
106-47-8	MSD 4-Chloroaniline	1910	0.00	U	1130	59	29-123	10	0-30
87-68-3	MSD Hexachlorobutadiene	1910	0.00	U	841	44	31-109	6	0-30
91-57-6	MSD 2-Methylnaphthalene	1910	0.00	U	1140	60	32-110	8	0-30
77-47-4	MSD Hexachlorocyclopentadiene	1910	0.00	U	729	38	21-122	4	0-30
88-06-2	MSD 2,4,6-Trichlorophenol	1910	0.00	U	1280	67	37-108	3	0-30
95-95-4	MSD 2,4,5-Trichlorophenol	1910	0.00	U	1270	67	37-116	1	0-30
91-58-7	MSD 2-Chloronaphthalene	1910	0.00	U	1140	60	37-103	4	0-30
88-74-4	MSD 2-Nitroaniline <i>o</i> -Nitroaniline	1910	0.00	U	1220	64	36-115	1	0-30
99-09-2	MSD 3-Nitroaniline <i>m</i> -Nitroaniline	1910	0.00	U	1240	65	39-117	5	0-30
131-11-3	MSD Dimethylphthalate	1910	0.00	U	1170	61	41-105	0	0-30
606-20-2	MSD 2,6-Dinitrotoluene	1910	0.00	U	1140	60	41-103	1	0-30
208-96-8	MSD Acenaphthylene	1910	0.00	U	1160	61	41-103	4	0-30
51-28-5	MSD 2,4-Dinitrophenol	1910	0.00	U	1620	85	25-104	1	0-30
132-64-9	MSD Dibenzofuran	1910	0.00	U	1400	74	40-114	2	0-30
84-66-2	MSD Diethylphthalate	1910	0.00	U	1210	63	43-110	2	0-30



Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 7 of 8

SDG Number: 10-1262

Sample Type: Matrix Spike Duplicate

Client ID: RE12-10-7272MSD

Matrix: R

Lab Sample ID: 1202018800

%Moisture: 12.6

Instrument: MSD5.I

Analysis Date: 01/24/2010 18:01

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
86-73-7	MSD Fluorene	1910	0.00	U	1190	63	48-99	1	0-30
7005-72-3	MSD 4-Chlorophenylphenylether	1910	0.00	U	1090	57	42-111	1	0-30
534-52-1	MSD 2-Methyl-4,6-dinitrophenol	1910	0.00	U	1440	75	19-118	0	0-30
100-01-6	MSD 4-Nitroaniline <i>p</i> -Nitroaniline	1910	0.00	U	1400	73	35-139	3	0-30
122-39-4	MSD Diphenylamine	1910	0.00	U	1050	55	41-112	4	0-30
122-66-7	MSD Azobenzene <i>1,2-Diphenylhydrazine</i>	1910	0.00	U	1290	67	37-118	0	0-30
101-55-3	MSD 4-Bromophenylphenylether	1910	0.00	U	1050	55	39-112	3	0-30
118-74-1	MSD Hexachlorobenzene	1910	0.00	U	1100	58	38-113	4	0-30
85-01-8	MSD Phenanthrene	1910	0.00	U	1190	62	38-110	3	0-30
120-12-7	MSD Anthracene	1910	0.00	U	1180	62	38-112	3	0-30
84-74-2	MSD Di-n-butylphthalate	1910	0.00	U	1270	67	42-119	7	0-30
206-44-0	MSD Fluoranthene	1910	0.00	U	1250	65	38-119	3	0-30
85-68-7	MSD Butylbenzylphthalate	1910	0.00	U	1230	64	39-126	15	0-30
56-55-3	MSD Benzo(a)anthracene	1910	0.00	U	1170	61	39-110	7	0-30
91-94-1	MSD 3,3'-Dichlorobenzidine	1910	0.00	U	242	13 *	35-106	44 *	0-30
218-01-9	MSD Chrysene	1910	0.00	U	1190	62	39-109	7	0-30
117-81-7	MSD bis(2-Ethylhexyl)phthalate	1910	0.00	U	1190	63	40-125	16	0-30
117-84-0	MSD Di-n-octylphthalate	1910	0.00	U	1130	59	30-147	23	0-30
205-99-2	MSD Benzo(b)fluoranthene	1910	0.00	U	1140	60	38-117	12	0-30
207-08-9	MSD Benzo(k)fluoranthene	1910	0.00	U	1220	64	39-120	8	0-30
50-32-8	MSD Benzo(a)pyrene	1910	0.00	U	1180	62	40-115	7	0-30
193-39-5	MSD Indeno(1,2,3-cd)pyrene	1910	0.00	U	1210	63	32-120	4	0-30

Semi-Volatile  
Quality Control Summary  
Spike Recovery Report

Page 8 of 8

SDG Number: 10-1262

Sample Type: Matrix Spike Duplicate

Client ID: RE12-10-7272MSD

Matrix: R

Lab Sample ID: 1202018800

%Moisture: 12.6

Instrument: MSD5.I

Analysis Date: 01/24/2010 18:01

Dilution: 1

Analyst: RMB

Prep Batch ID: 942929

Inj. Vol: .5 uL

Batch ID: 942930

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
53-70-3	MSD Dibenzo(a,h)anthracene	1910	0.00	U	1260	66	32-124	4	0-30
191-24-2	MSD Benzo(ghi)perylene	1910	0.00	U	1200	63	28-119	7	0-30
120-82-1	MSD 1,2,4-Trichlorobenzene	1910	0.00	U	947	50	31-105	6	0-30

## Method Blank Summary

Page 1 of 1

SDG Number: 10-1262  
Client ID: MB for batch 942929  
Lab Sample ID: 1202018797  
Column: J&W DB-5MS

Client: LANL010  
Instrument ID: MSD5.I  
Prep Date: 01/19/2010 10:47  
Level: LOW

Matrix: SOIL  
Data File: s5a2405-2.d  
Analyzed: 01/24/10 14:10

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 942929	1202018798	s5a2406-2.d	01/24/10	1433
02 RE12-10-7272	244847001	s5a2413.d	01/24/10	1715
03 RE12-10-7272MS	1202018799	s5a2414.d	01/24/10	1738
04 RE12-10-7272MSD	1202018800	s5a2415.d	01/24/10	1801
05 RE12-10-7273	244847002	s5a2416.d	01/24/10	1825
06 RE12-10-7274	244847003	s5a2417.d	01/24/10	1847
07 RE12-10-7281	244847004	s5a2418.d	01/24/10	1910

## Instrument Performance Check

## DFTPP

Lab Name GEL Laboratories LLC

Client SDG: 10-1262

Instrument ID: MSD5.I

Injection Date/Time: 05-JAN-10 07:45

Column Description: Phenomenex ZB-5MS

Lab File ID /chem/MSD5.i/s010510.b/s5a0501.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	37.4
68	Less than 2% of mass 69	1.7
69	Mass 69 Relative Abundance	35.6
70	Less than 2% of mass 69	0.5
127	40 - 60% of mass 198	47.5
197	0 - 1% of mass 198	0.5
199	5 - 9% of mass 198	7
275	10 - 30% of mass 198	24.8
365	Greater than 1% of mass 198	2.9
441	Present, but less than mass 443	77.1
442	Greater than 40% of mass 198	71
443	17 - 23% of mass 442	19.1

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
MEGAICAL001	WBN091225-09	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 08:21
MEGAICAL010	WBN091225-10	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 08:49
MEGAICAL020	WBN091225-11	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 09:17
MEGAICAL040	WBN091225-12.1	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 09:45
MEGAICAL050	WBN091225-13	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 10:13
MEGAICAL080	WBN091225-14	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 10:42
MEGAICAL100	WBN091225-15	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 11:10
MEGAICAL120	WBN091225-16	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 11:38
MEGAICV	WBN091223-17.1	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 12:29
API2ICAL010	WBN100103-01	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 12:58
API2ICAL020	WBN100103-02	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 13:21
API2ICAL040	WBN100103-03.1	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 13:44
API2ICAL050	WBN100103-04	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 14:07
API2ICAL080	WBN100103-05	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 14:30
API2ICAL100	WBN100103-06	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 14:53
API2ICAL120	WBN100103-07	/chem/MSD5.i/s010510.b/s5a0501	05-JAN-10 15:16

## Instrument Performance Check

## DFTPP

Lab Name GEL Laboratories LLC

Client SDG: 10-1262

Instrument ID: MSD5.I

Injection Date/Time: 05-JAN-10 07:45

Column Description: Phenomenex ZB-5MS

Lab File ID /chem/MSD5.i/s010510.b/s5a0501.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	37.4
68	Less than 2% of mass 69	1.7
69	Mass 69 Relative Abundance	35.6
70	Less than 2% of mass 69	0.5
127	40 - 60% of mass 198	47.5
197	0 - 1% of mass 198	0.5
199	5 - 9% of mass 198	7
275	10 - 30% of mass 198	24.8
365	Greater than 1% of mass 198	2.9
441	Present, but less than mass 443	77.1
442	Greater than 40% of mass 198	71
443	17 - 23% of mass 442	19.1

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
AP12ICV	WBN100103-08.1	/chem/MSD5.i/s010510.b/s5a052	05-JAN-10 17:55

## Instrument Performance Check

## DFTPP

Lab Name GEL Laboratories LLC

Client SDG: 10-1262

Instrument ID: MSD5.I

Injection Date/Time: 24-JAN-10 12:21

Column Description: Phenomenex ZB-5MS

Lab File ID /chem/MSD5.i/s012410.b/s5a2401.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	46.7
68	Less than 2% of mass 69	1.6
69	Mass 69 Relative Abundance	41.9
70	Less than 2% of mass 69	0.5
127	40 - 60% of mass 198	51.1
197	0 - 1% of mass 198	0.4
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.2
365	Greater than 1% of mass 198	3.1
441	Present, but less than mass 443	80
442	Greater than 40% of mass 198	64.1
443	17 - 23% of mass 442	19.4

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
API2CVS	WBN100103-03.5	/chem/MSD5.i/s012410.b/s5a2401	24-JAN-10 13:04
MEGACVS	WBN091225-12.3	/chem/MSD5.i/s012410.b/s5a2401	24-JAN-10 13:30
SBLK01	1202018797	/chem/MSD5.i/s012410.b/s5a2401	24-JAN-10 14:10
SBLK01LCS	1202018798	/chem/MSD5.i/s012410.b/s5a2401	24-JAN-10 14:33
RE12-10-7272	244847001	/chem/MSD5.i/s012410.b/s5a241	24-JAN-10 17:15
RE12-10-7272MS	1202018799	/chem/MSD5.i/s012410.b/s5a241	24-JAN-10 17:38
RE12-10-7272MSD	1202018800	/chem/MSD5.i/s012410.b/s5a241	24-JAN-10 18:01
RE12-10-7273	244847002	/chem/MSD5.i/s012410.b/s5a241	24-JAN-10 18:25
RE12-10-7274	244847003	/chem/MSD5.i/s012410.b/s5a241	24-JAN-10 18:47
RE12-10-7281	244847004	/chem/MSD5.i/s012410.b/s5a241	24-JAN-10 19:10

Internal Standard

Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 10-1262

Instrument: MSD5.I

STD Analysis Time: 24-JAN-10 13:30

GC Column: J&W DB-5MS

Data File: s5a2404.d

	1,4-Dichlorobenzene-d4			Naphthalene-d8			Acenaphthene-d10			Phenanthrene-d10			Chrysene-d12			Perylene-d12		
	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #
12 Hour STD	452364		3.86	1662050		4.73	908517		5.98	1582700		7.15	1449826		9.55	1290871		11.2
Upper Limit	904728		4.36	3324100		5.23	1817034		6.48	3165400		7.65	2899652		10.1	2581742		11.7
Lower Limit	226182		3.36	831025		4.23	454259		5.48	791350		6.65	724913		9.05	645436		10.7
Sample ID																		
BLK01	357035		3.86	1259155		4.72	712363		5.98	1226485		7.14	870297		9.54	717169		11.2
BLK01LCS	386067		3.86	1427526		4.72	772790		5.98	1372881		7.14	1253145		9.55	1114258		11.2
RE12-10-7272	388757		3.86	1341736		4.72	779198		5.98	1405386		7.14	1223200		9.54	1064138		11.2
RE12-10-7272MS	411140		3.86	1492456		4.72	808661		5.98	1434700		7.14	1245558		9.55	996529		11.2
RE12-10-7272MSD	371849		3.86	1413492		4.72	783768		5.98	1419657		7.14	1370128		9.55	1197434		11.2
RE12-10-7273	439769		3.86	1524679		4.73	890421		5.98	1622424		7.14	1417481		9.55	1089912		11.2
RE12-10-7274	382160		3.86	1325776		4.72	782047		5.98	1435687		7.14	1325482		9.55	1129270		11.2
RE12-10-7281	455425		3.86	1579485		4.72	948195		5.98	1739355		7.14	1562906		9.55	1310382		11.2

Area Upper Limit = +100% of internal standard area

Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT

RT Lower Limit = - 0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk

\* Value outside of QC Limits

# Sample Data



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	381	ug/kg	76.2	381
108-95-2	Phenol	U	381	ug/kg	76.2	381
95-57-8	2-Chlorophenol	U	381	ug/kg	76.2	381
106-46-7	1,4-Dichlorobenzene	U	381	ug/kg	76.2	381
621-64-7	N-Nitrosodipropylamine	U	381	ug/kg	76.2	381
59-50-7	4-Chloro-3-methylphenol	U	381	ug/kg	76.2	381
83-32-9	Acenaphthene	U	38.1	ug/kg	12.6	38.1
121-14-2	2,4-Dinitrotoluene	U	381	ug/kg	38.1	381
100-02-7	4-Nitrophenol	U	381	ug/kg	126	381
87-86-5	Pentachlorophenol	U	381	ug/kg	95.3	381
129-00-0	Pyrene	U	38.1	ug/kg	11.4	38.1
110-86-1	Pyridine	U	381	ug/kg	76.2	381
62-53-3	Aniline	U	381	ug/kg	114	381
111-44-4	bis(2-Chloroethyl) ether	U	381	ug/kg	76.2	381
541-73-1	1,3-Dichlorobenzene	U	381	ug/kg	76.2	381
100-51-6	Benzyl alcohol	U	381	ug/kg	114	381
95-50-1	1,2-Dichlorobenzene	U	381	ug/kg	76.2	381
108-60-1	bis(2-Chloroisopropyl)ether	U	381	ug/kg	76.2	381
95-48-7	o-Cresol	U	381	ug/kg	76.2	381
65794-96-9	m,p-Cresols	U	381	ug/kg	114	381
67-72-1	Hexachloroethane	U	381	ug/kg	76.2	381
98-95-3	Nitrobenzene	U	381	ug/kg	76.2	381
78-59-1	Isophorone	U	381	ug/kg	76.2	381
88-75-5	2-Nitrophenol	U	381	ug/kg	76.2	381
105-67-9	2,4-Dimethylphenol	U	381	ug/kg	133	381
111-91-1	bis(2-Chloroethoxy)methane	U	381	ug/kg	76.2	381
120-83-2	2,4-Dichlorophenol	U	381	ug/kg	76.2	381
65-85-0	Benzoic acid	U	762	ug/kg	191	762
91-20-3	Naphthalene	U	38.1	ug/kg	11.4	38.1
106-47-8	4-Chloroaniline	U	381	ug/kg	76.2	381
87-68-3	Hexachlorobutadiene	U	381	ug/kg	76.2	381
91-57-6	2-Methylnaphthalene	U	38.1	ug/kg	7.62	38.1
77-47-4	Hexachlorocyclopentadiene	U	381	ug/kg	76.2	381
88-06-2	2,4,6-Trichlorophenol	U	381	ug/kg	76.2	381
95-95-4	2,4,5-Trichlorophenol	U	381	ug/kg	76.2	381
91-58-7	2-Chloronaphthalene	U	38.1	ug/kg	12.6	38.1
88-74-4	2-Nitroaniline	U	381	ug/kg	76.2	381
99-09-2	<i>o</i> -Nitroaniline	U	381	ug/kg	76.2	381
	3-Nitroaniline					

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	381	ug/kg	76.2	381
606-20-2	2,6-Dinitrotoluene	U	381	ug/kg	38.1	381
208-96-8	Acenaphthylene	U	38.1	ug/kg	11.4	38.1
51-28-5	2,4-Dinitrophenol	U	762	ug/kg	145	762
132-64-9	Dibenzofuran	U	381	ug/kg	76.2	381
84-66-2	Diethylphthalate	U	381	ug/kg	76.2	381
86-73-7	Fluorene	U	38.1	ug/kg	11.4	38.1
7005-72-3	4-Chlorophenylphenylether	U	381	ug/kg	76.2	381
534-52-1	2-Methyl-4,6-dinitrophenol	U	381	ug/kg	76.2	381
100-01-6	4-Nitroaniline	U	381	ug/kg	114	381
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	381	ug/kg	76.2	381
122-66-7	Azobenzene	U	381	ug/kg	76.2	381
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	381	ug/kg	76.2	381
118-74-1	Hexachlorobenzene	U	381	ug/kg	76.2	381
85-01-8	Phenanthrene	U	38.1	ug/kg	11.4	38.1
120-12-7	Anthracene	U	38.1	ug/kg	7.62	38.1
84-74-2	Di-n-butylphthalate	U	381	ug/kg	76.2	381
206-44-0	Fluoranthene	U	38.1	ug/kg	11.4	38.1
85-68-7	Butylbenzylphthalate	U	381	ug/kg	76.2	381
56-55-3	Benzo(a)anthracene	U	38.1	ug/kg	11.4	38.1
91-94-1	3,3'-Dichlorobenzidine	U	381	ug/kg	114	381
218-01-9	Chrysene	U	38.1	ug/kg	11.4	38.1
117-81-7	bis(2-Ethylhexyl)phthalate	U	381	ug/kg	76.2	381
117-84-0	Di-n-octylphthalate	U	381	ug/kg	76.2	381
205-99-2	Benzo(b)fluoranthene	U	38.1	ug/kg	11.4	38.1
207-08-9	Benzo(k)fluoranthene	U	38.1	ug/kg	11.4	38.1
50-32-8	Benzo(a)pyrene	U	38.1	ug/kg	11.4	38.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	38.1	ug/kg	11.4	38.1
53-70-3	Dibenzo(a,h)anthracene	U	38.1	ug/kg	11.4	38.1
191-24-2	Benzo(ghi)perylene	U	38.1	ug/kg	11.4	38.1
120-82-1	1,2,4-Trichlorobenzene	U	381	ug/kg	76.2	381

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	2.08	205	ug/kg		J
	Unknown Aldol Condensate	2.88	504	ug/kg		JA

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847001

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 12.6  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
288246-53-7	Pyridine-3-carboxamide, oxime, N-(2-trif	9.66	250	ug/kg	91	NJ
	Unknown	10.31	190	ug/kg		J
	Unknown	11.52	687	ug/kg		J
	Unknown	12.25	825	ug/kg		J

Data File: /chem/MSD5.i/s012410.b/s5a2413.d  
Report Date: 25-Jan-2010 10:01

Page 1

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2413.d  
Lab Smp Id: 244847001 Client Smp ID: RE12-10-7272  
Inj Date : 24-JAN-2010 17:15  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847001|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 13  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.02000	weight of sample
M	12.57660	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
*****	****	==	*****	*****	*****	*****	*****
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863	(1.000)	388757	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729	(1.000)	1341736	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981	(1.000)	779198	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147	(1.000)	1405386	40.0000	
* 91 Chrysene-d12	240	9.542	9.550	(1.000)	1223200	40.0000	
* 98 Perylene-d12	264	11.171	11.182	(1.000)	1064138	40.0000	
\$ 3 2-Fluorophenol	112	3.054	3.049	(0.791)	562691	58.3634	2220
\$ 5 Phenol-d5	99	3.578	3.583	(0.927)	693391	58.3176	2220
\$ 20 Nitrobenzene-d5	82	4.219	4.229	(0.893)	299073	29.0304	1110
\$ 39 2-Fluorobiphenyl	172	5.466	5.471	(0.914)	598814	29.0510	1110
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579	(1.099)	174246	70.3575	2680
\$ 81 p-Terphenyl-d14	244	8.519	8.519	(0.893)	742689	38.6686	1470

## ION RATIO REPORT

## SV REPORT

Data file: s5a2413.d

Report Date: 01/25/2010 09:16

Lab. ID: 244847001

SampleType: SAMPLE

Injection Date: 24-JAN-2010 17:15

Operator: RMB

Instrument: MSD5.i

Sample Info: |244847001|942930|1|SVM|1|LANL

Miscellaneous Info: |MSD8270\_S|WBN100107-02

Comment:

Method used: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1262

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
4	Aniline		CAS#: 62-53-3			
66	36831	3.58	3.65	80-120	100	(T)
93	654	3.54	3.65	206-266	2	(QT)
-----						
17	N-Nitrosodipropylamine		CAS#: 621-64-7			
70	40164	4.22	4.10	80-120	100	(T)
42	25854	4.22	4.10	47-107	64	(T)
-----						
27	Benzoic acid		CAS#: 65-85-0			
105	2043	4.47	4.50	80-120	100	( )
122	1703	4.46	4.50	39- 99	83	( )
77	1840	4.46	4.50	35- 95	90	( )
-----						
43	Dimethylphthalate		CAS#: 131-11-3			
163	140060	5.98	5.75	80-120	100	(T)
164	779198	5.98	5.75	0- 40	556	(QT)
-----						
44	2,6-Dinitrotoluene		CAS#: 606-20-2			
165	104588	5.98	5.80	80-120	100	(T)
63	1528	5.98	5.80	60-120	1	(QT)
-----						
50	2,4-Dinitrotoluene		CAS#: 121-14-2			
165	104588	5.98	6.10	80-120	100	(T)
89	1734	5.98	6.10	47-107	2	(QT)
63	1528	5.98	6.10	24- 84	1	(QT)
-----						

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
52	4-Nitrophenol			CAS#: 100-02-7		
139	102	6.14	6.02	80-120	100	(T)
109	308	6.12	6.02	42-102	302	(QT)
65	805	6.15	6.02	86-146	787	(QT)

-----						
53	Fluorene			CAS#: 86-73-7		
166	10008	6.57	6.39	80-120	100	(T)
165	10432	6.57	6.39	57-117	104	(T)
167	3809	6.57	6.39	0- 44	38	(T)

-----						
55	2-Methyl-4,6-dinitrophenol			CAS#: 534-52-1		
198	729	6.57	6.41	80-120	100	(T)
105	1467	6.57	6.41	14- 74	201	(QT)
51	1151	6.57	6.41	34- 94	158	(QT)

-----  
Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2413.d  
Lab Smp Id: 244847001 Client Smp ID: RE12-10-7272  
Inj Date : 24-JAN-2010 17:15  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847001|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 13  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.02000	weight of sample
M	12.57660	% moisture

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.860	2401485	40.000
* 91 Chrysene-d12	9.542	3275508	40.000
* 98 Perylene-d12	11.171	2959502	40.000

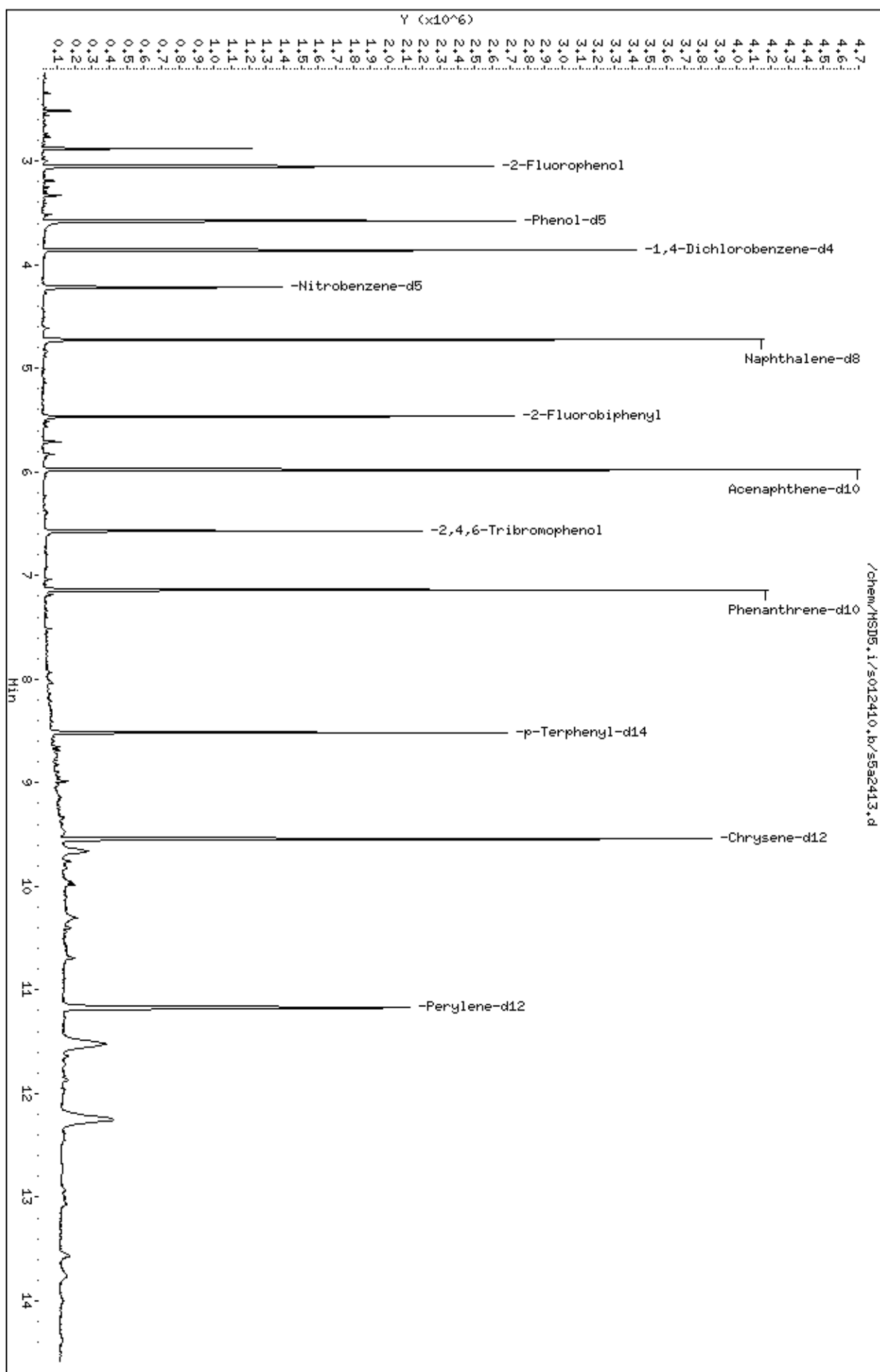
CONCENTRATIONS					QUANT		
RT	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
----	----	-----	-----	----	-----	-----	-----

RT	CONCENTRATIONS			QUAL	QUANT		CPND #
	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)		LIBRARY	LIB ENTRY	
====	====	=====	=====	====	=====	=====	=====
Unknown					CAS #:		
2.078	322884	5.37807202	205	0		0	10
Unknown Aldol Condensate					CAS #:		
2.878	793779	13.2214654	504	0		0	10
Pyridine-3-carboxamide, oxime, N-(2-trif					CAS #: 288246-53-7		
9.660	536862	6.55607066	250	91	NIST05.L	112295	91
Unknown					CAS #:		
10.307	407902	4.98123954	190	0		0	91
Unknown					CAS #:		
11.519	1334801	18.0408872	687	0		0	98
Unknown					CAS #:		
12.248	1601002	21.6388041	824	0		0	98



Data File: /chem/HSD5.i/s012410.b/s5a2413.d  
Date : 24-JAN-2010 17:15  
Client ID: RE12-10-7272  
Sample Info: 1244847001/94293011/SVH11L6NL  
Volume Injected (uL): 0.5  
Column phase: 3uM DB-5MS

Instrument: HSD5.i  
Operator: RHB  
Column diameter: 0.20



Date : 24-JAN-2010 17:15

Client ID: RE12-10-7272

Instrument: MSD5.i

Sample Info: 1244847001194293011ISVH11ILANL

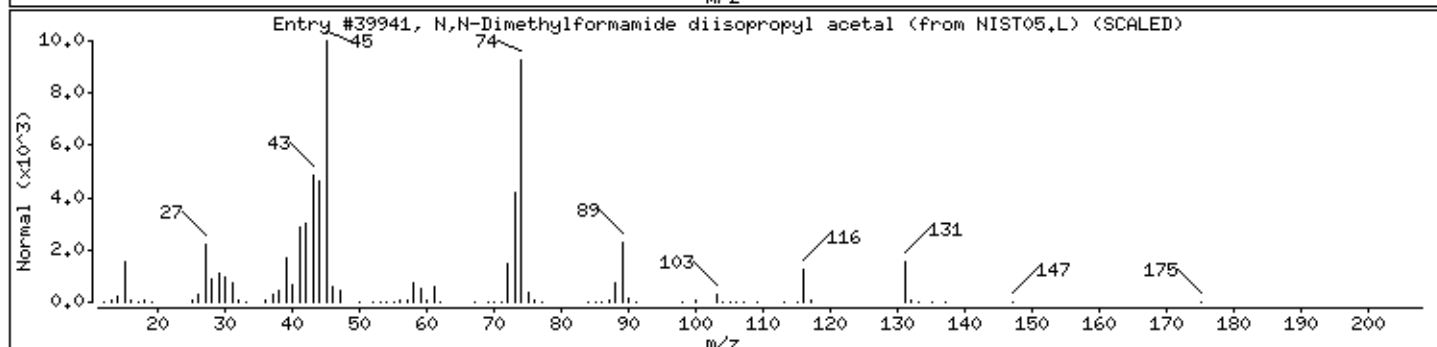
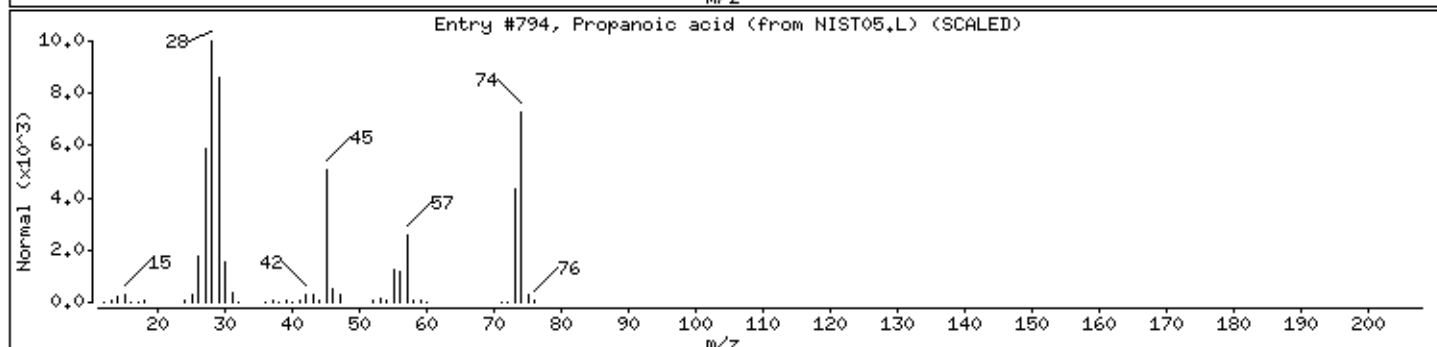
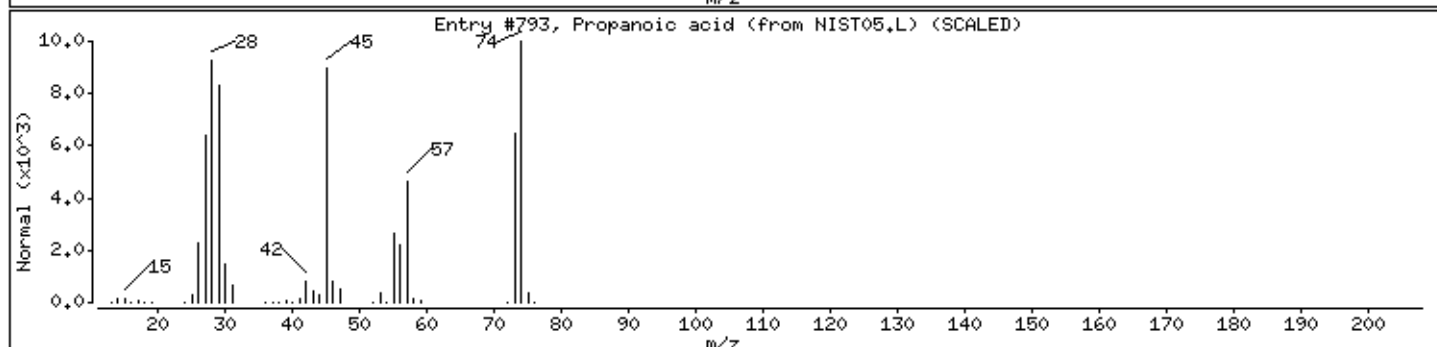
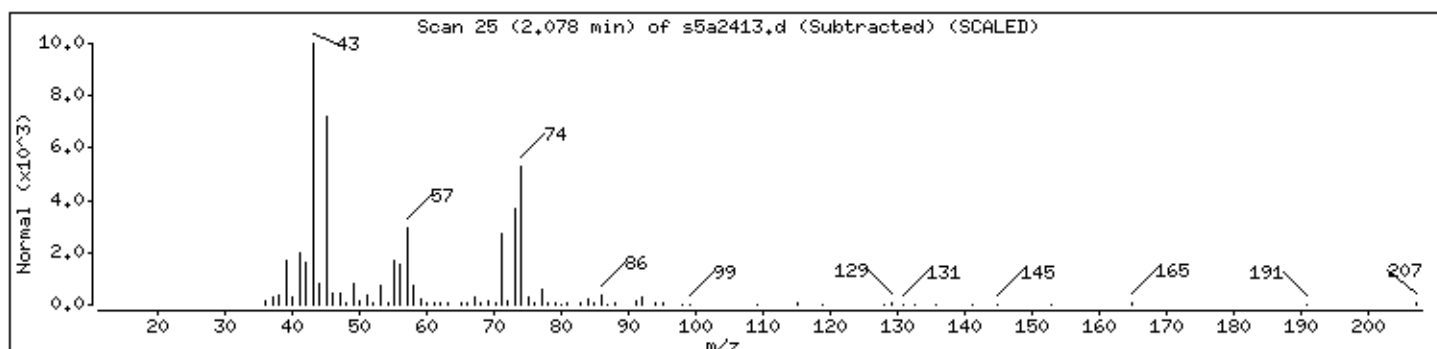
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Propanoic acid	79-09-4	NIST05.L	793	64	C3H6O2	74
Propanoic acid	79-09-4	NIST05.L	794	50	C3H6O2	74
N,N-Dimethylformamide diisopropyl acetal	18503-89-4	NIST05.L	39941	42	C9H21NO2	175



Date : 24-JAN-2010 17:15

Client ID: RE12-10-7272

Instrument: MSD5.i

Sample Info: 1244847001194293011SVH11ILANL

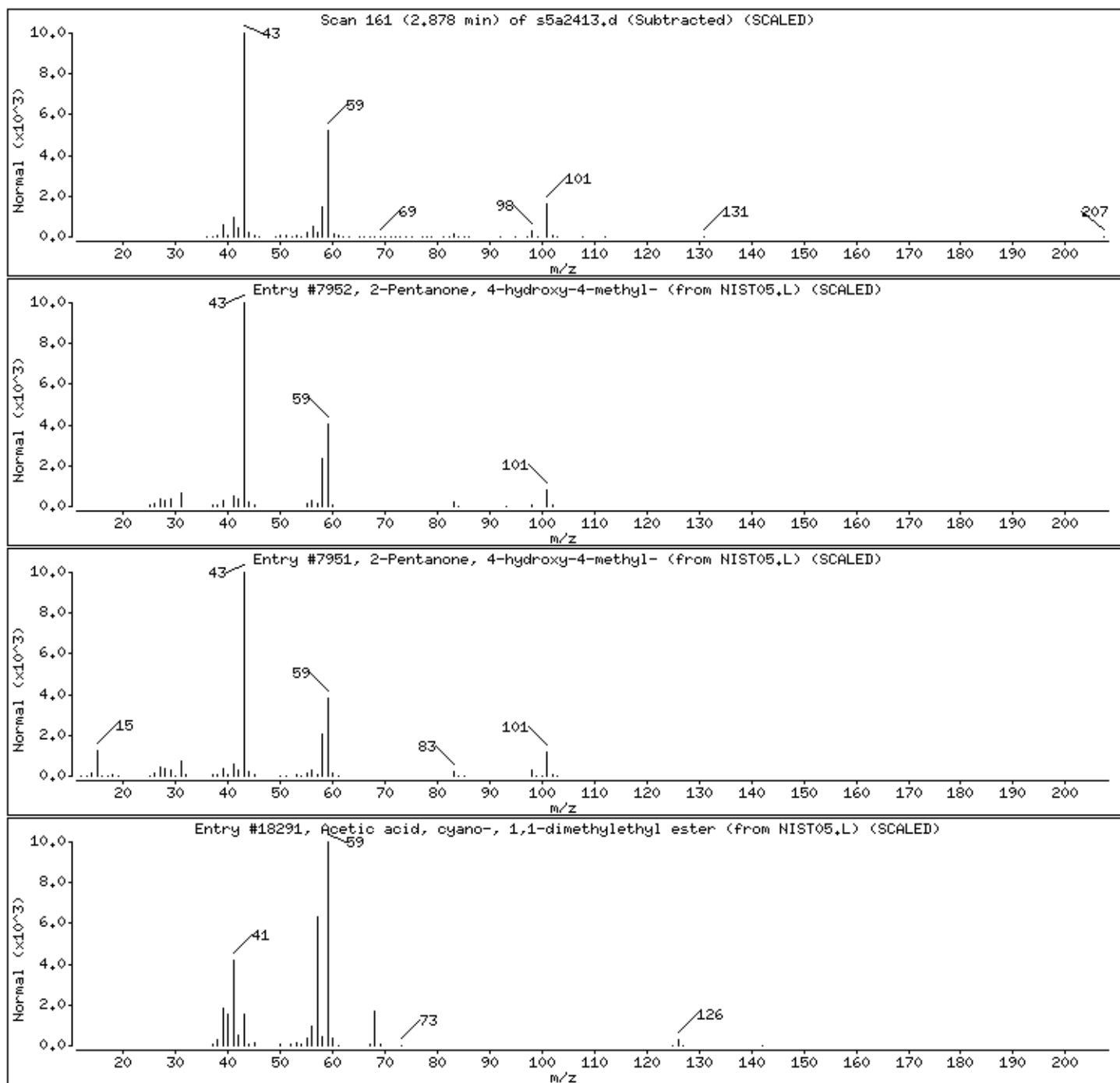
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Aldol Condensate						
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	45	C6H12O2	116
Acetic acid, cyano-, 1,1-dimethylethyl e	1116-98-9	NIST05.L	18291	25	C7H11NO2	141



Date : 24-JAN-2010 17:15

Client ID: RE12-10-7272

Instrument: MSD5.i

Sample Info: 1244847001194293011SVH11ILANL

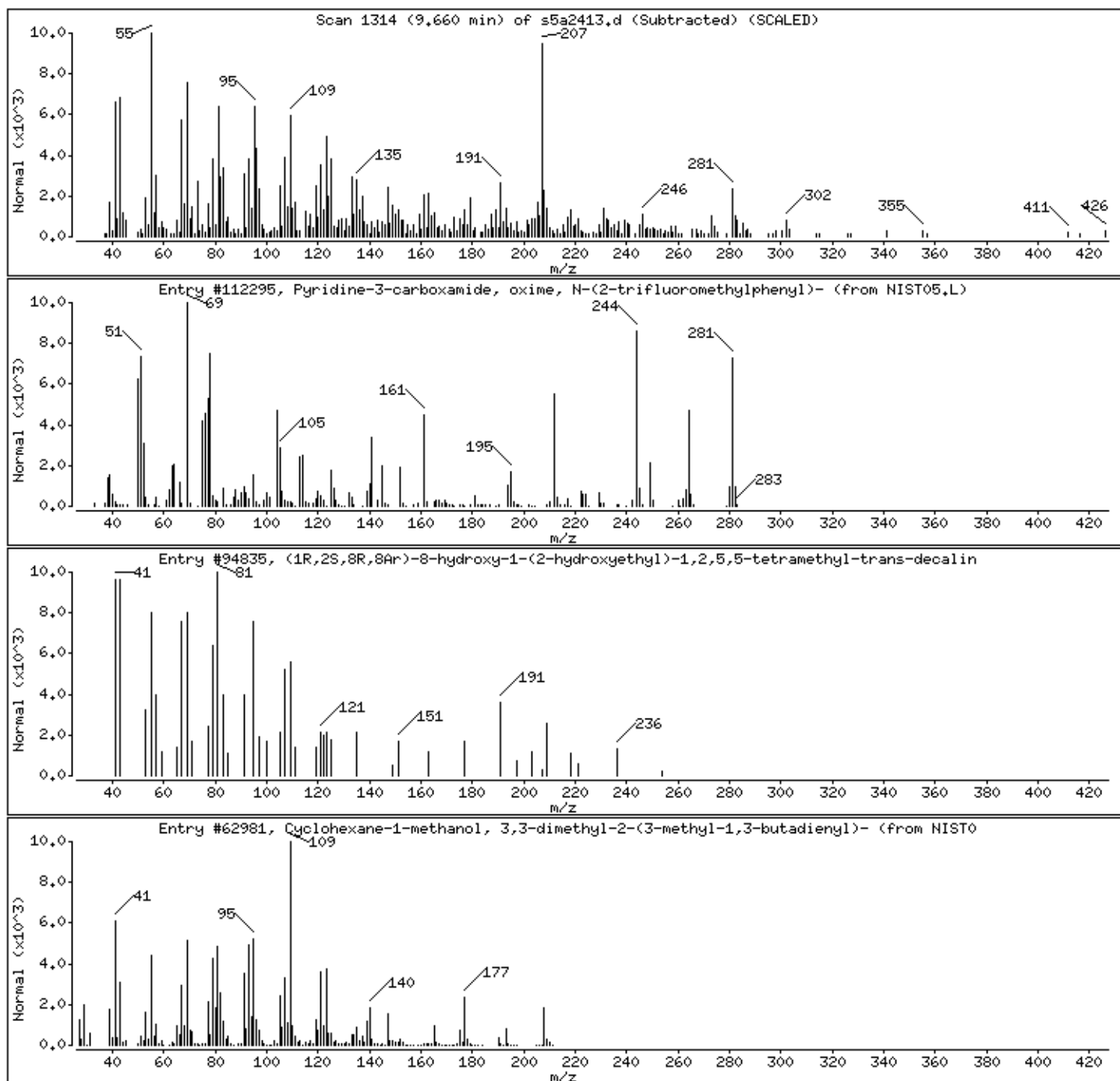
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pyridine-3-carboxamide, oxime, N-(2-trif	288246-53-7	NIST05.L	112295	91	C13H10F3N3O	281
(1R,2S,8R,8Ar)-8-hydroxy-1-(2-hydroxyeth	1000298-98-3	NIST05.L	94835	53	C16H30O2	254
Cyclohexane-1-methanol, 3,3-dimethyl-2-(	1000196-01-5	NIST05.L	62981	44	C14H24O	208



Date : 24-JAN-2010 17:15

Client ID: RE12-10-7272

Instrument: MSD5.i

Sample Info: I244847001194293011SVH11ILANL

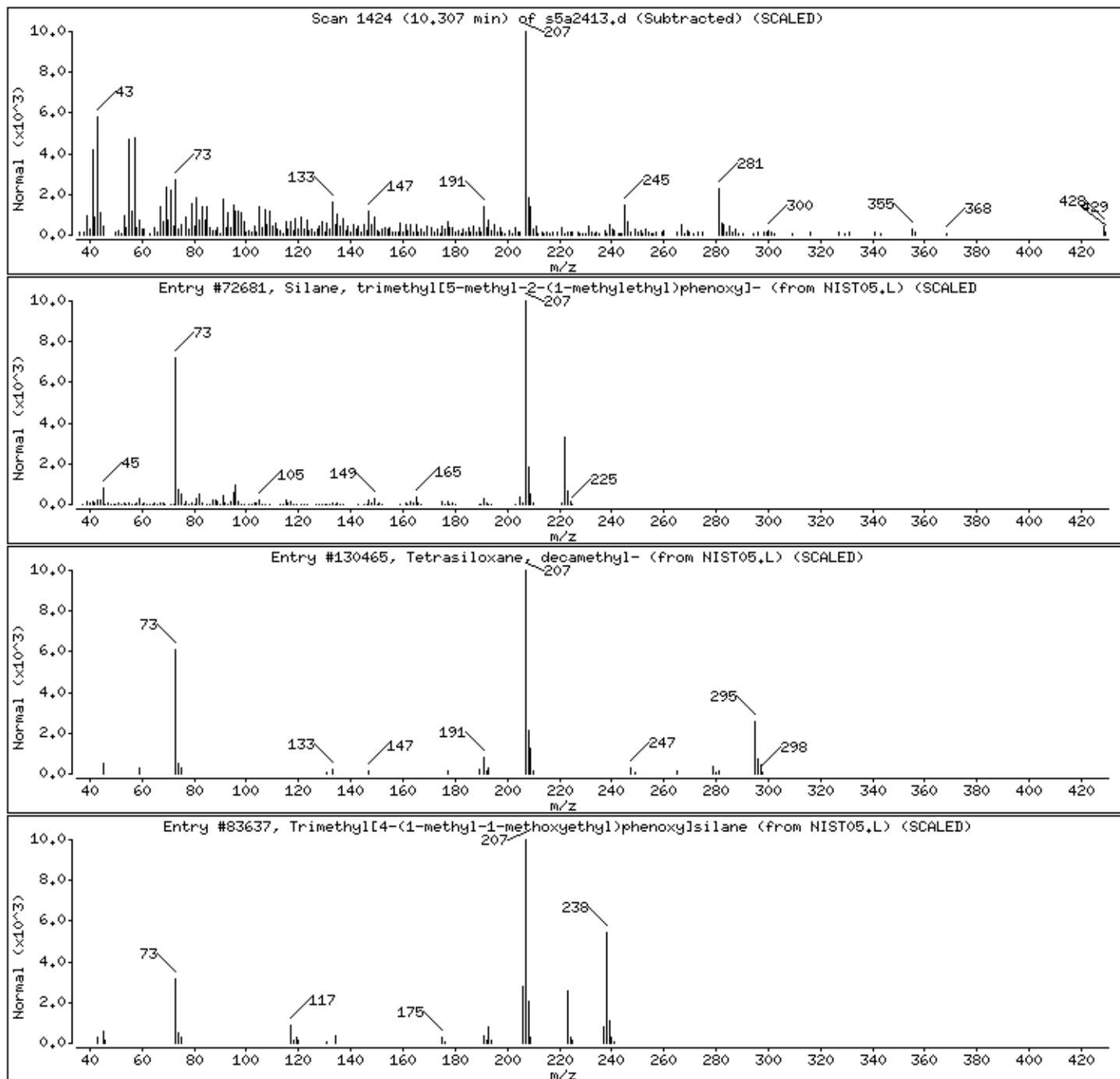
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Silane, trimethyl[5-methyl-2-(1-methylethyl)phenoxy]-	55012-80-1	NIST05.L	72681	58	C <sub>13</sub> H <sub>22</sub> O <sub>2</sub> Si	222
Tetrasiloxane, decamethyl-	141-62-8	NIST05.L	130465	53	C <sub>10</sub> H <sub>30</sub> O <sub>3</sub> Si <sub>4</sub>	310
Trimethyl[4-(1-methyl-1-methoxyethyl)phenoxy]silane	1000283-54-8	NIST05.L	83637	50	C <sub>13</sub> H <sub>22</sub> O <sub>2</sub> Si	238



Date : 24-JAN-2010 17:15

Client ID: RE12-10-7272

Instrument: MSD5.i

Sample Info: 1244847001194293011SVH111LANL

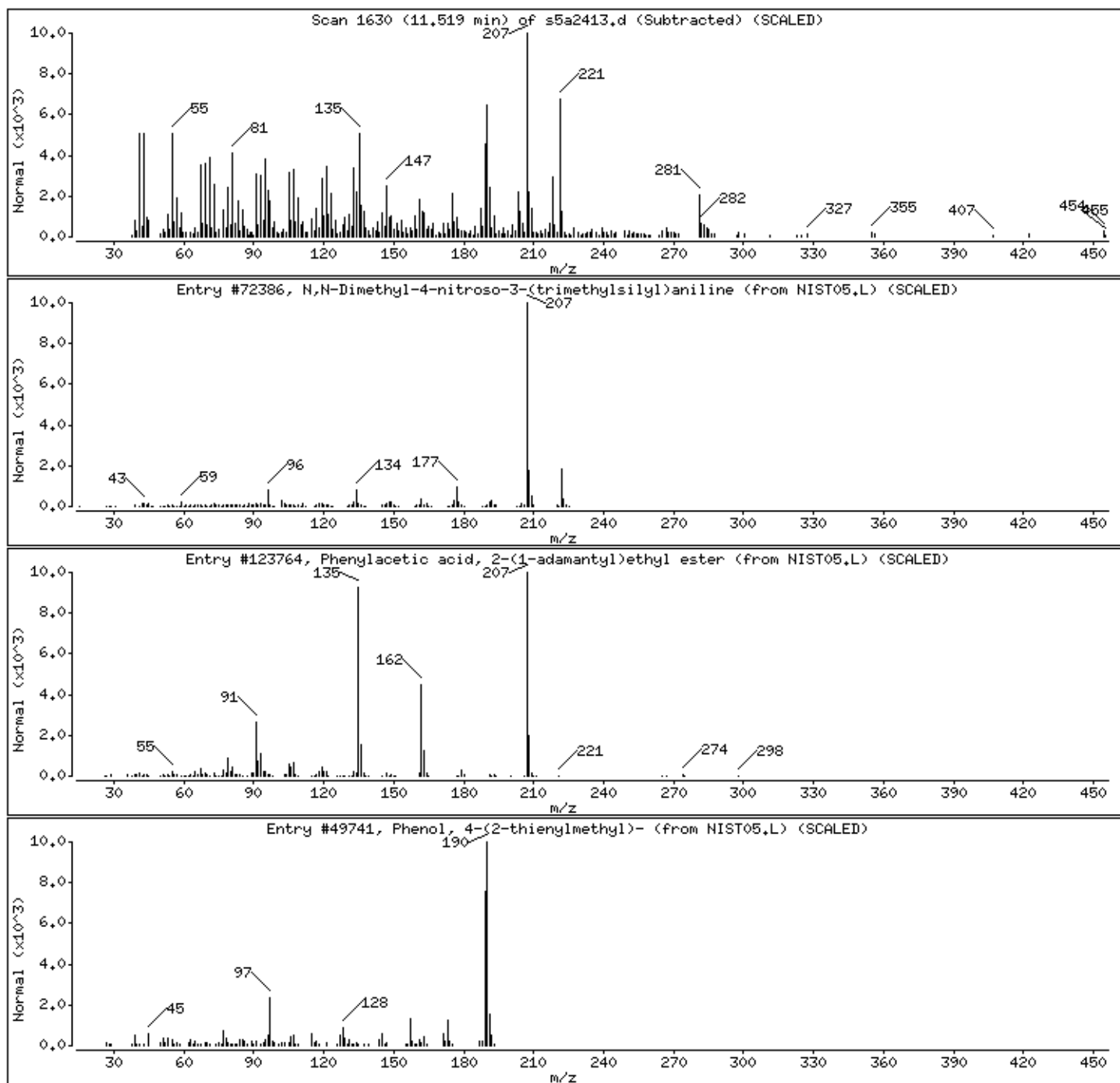
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
N,N-Dimethyl-4-nitroso-3-(trimethylsilyl)	17993-84-9	NIST05.L	72386	47	C11H18N2OSi	222
Phenylacetic acid, 2-(1-adamantyl)ethyl	1000282-91-2	NIST05.L	123764	30	C20H26O2	298
Phenol, 4-(2-thienylmethyl)-	91680-55-6	NIST05.L	49741	25	C11H10OS	190



Date : 24-JAN-2010 17:15

Client ID: RE12-10-7272

Instrument: MSD5.i

Sample Info: 1244847001194293011ISVH11ILANL

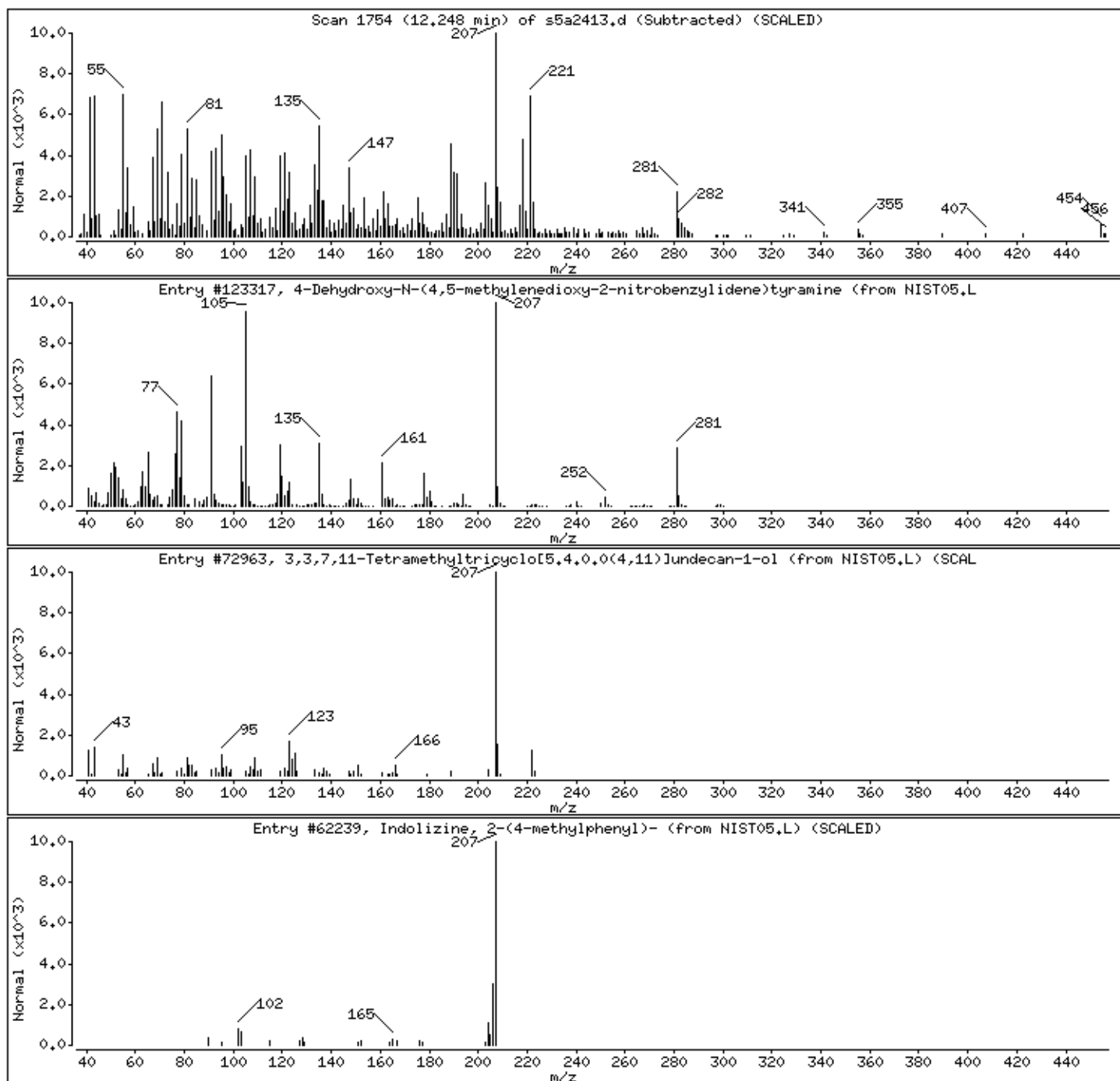
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
4-Dehydroxy-N-(4,5-methylenedioxy-2-nitr	1000111-66-9	NIST05.L	123317	30	C16H14N2O4	298
3,3,7,11-Tetramethyltricyclo[5.4.0.0(4,1	117591-80-7	NIST05.L	72963	25	C15H26O	222
Indolizine, 2-(4-methylphenyl)-	7496-81-3	NIST05.L	62239	15	C15H13N	207



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	384	ug/kg	76.8	384
108-95-2	Phenol	U	384	ug/kg	76.8	384
95-57-8	2-Chlorophenol	U	384	ug/kg	76.8	384
106-46-7	1,4-Dichlorobenzene	U	384	ug/kg	76.8	384
621-64-7	N-Nitrosodipropylamine	U	384	ug/kg	76.8	384
59-50-7	4-Chloro-3-methylphenol	U	384	ug/kg	76.8	384
83-32-9	Acenaphthene	U	38.4	ug/kg	12.7	38.4
121-14-2	2,4-Dinitrotoluene	U	384	ug/kg	38.4	384
100-02-7	4-Nitrophenol	U	384	ug/kg	127	384
87-86-5	Pentachlorophenol	U	384	ug/kg	96.0	384
129-00-0	Pyrene	U	38.4	ug/kg	11.5	38.4
110-86-1	Pyridine	U	384	ug/kg	76.8	384
62-53-3	Aniline	U	384	ug/kg	115	384
111-44-4	bis(2-Chloroethyl) ether	U	384	ug/kg	76.8	384
541-73-1	1,3-Dichlorobenzene	U	384	ug/kg	76.8	384
100-51-6	Benzyl alcohol	U	384	ug/kg	115	384
95-50-1	1,2-Dichlorobenzene	U	384	ug/kg	76.8	384
108-60-1	bis(2-Chloroisopropyl)ether	U	384	ug/kg	76.8	384
95-48-7	o-Cresol	U	384	ug/kg	76.8	384
65794-96-9	m,p-Cresols	U	384	ug/kg	115	384
67-72-1	Hexachloroethane	U	384	ug/kg	76.8	384
98-95-3	Nitrobenzene	U	384	ug/kg	76.8	384
78-59-1	Isophorone	U	384	ug/kg	76.8	384
88-75-5	2-Nitrophenol	U	384	ug/kg	76.8	384
105-67-9	2,4-Dimethylphenol	U	384	ug/kg	134	384
111-91-1	bis(2-Chloroethoxy)methane	U	384	ug/kg	76.8	384
120-83-2	2,4-Dichlorophenol	U	384	ug/kg	76.8	384
65-85-0	Benzoic acid	U	768	ug/kg	192	768
91-20-3	Naphthalene	U	38.4	ug/kg	11.5	38.4
106-47-8	4-Chloroaniline	U	384	ug/kg	76.8	384
87-68-3	Hexachlorobutadiene	U	384	ug/kg	76.8	384
91-57-6	2-Methylnaphthalene	U	38.4	ug/kg	7.68	38.4
77-47-4	Hexachlorocyclopentadiene	U	384	ug/kg	76.8	384
88-06-2	2,4,6-Trichlorophenol	U	384	ug/kg	76.8	384
95-95-4	2,4,5-Trichlorophenol	U	384	ug/kg	76.8	384
91-58-7	2-Chloronaphthalene	U	38.4	ug/kg	12.7	38.4
88-74-4	2-Nitroaniline	U	384	ug/kg	76.8	384
99-09-2	<i>o</i> -Nitroaniline	U	384	ug/kg	76.8	384
	3-Nitroaniline					



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 2 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	384	ug/kg	76.8	384
606-20-2	2,6-Dinitrotoluene	U	384	ug/kg	38.4	384
208-96-8	Acenaphthylene	U	38.4	ug/kg	11.5	38.4
51-28-5	2,4-Dinitrophenol	U	768	ug/kg	146	768
132-64-9	Dibenzofuran	U	384	ug/kg	76.8	384
84-66-2	Diethylphthalate	U	384	ug/kg	76.8	384
86-73-7	Fluorene	U	38.4	ug/kg	11.5	38.4
7005-72-3	4-Chlorophenylphenylether	U	384	ug/kg	76.8	384
534-52-1	2-Methyl-4,6-dinitrophenol	U	384	ug/kg	76.8	384
100-01-6	4-Nitroaniline	U	384	ug/kg	115	384
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	384	ug/kg	76.8	384
122-66-7	Azobenzene	U	384	ug/kg	76.8	384
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	384	ug/kg	76.8	384
118-74-1	Hexachlorobenzene	U	384	ug/kg	76.8	384
85-01-8	Phenanthrene	U	38.4	ug/kg	11.5	38.4
120-12-7	Anthracene	U	38.4	ug/kg	7.68	38.4
84-74-2	Di-n-butylphthalate	U	384	ug/kg	76.8	384
206-44-0	Fluoranthene	U	38.4	ug/kg	11.5	38.4
85-68-7	Butylbenzylphthalate	U	384	ug/kg	76.8	384
56-55-3	Benzo(a)anthracene	U	38.4	ug/kg	11.5	38.4
91-94-1	3,3'-Dichlorobenzidine	U	384	ug/kg	115	384
218-01-9	Chrysene	U	38.4	ug/kg	11.5	38.4
117-81-7	bis(2-Ethylhexyl)phthalate	U	384	ug/kg	76.8	384
117-84-0	Di-n-octylphthalate	U	384	ug/kg	76.8	384
205-99-2	Benzo(b)fluoranthene	U	38.4	ug/kg	11.5	38.4
207-08-9	Benzo(k)fluoranthene	U	38.4	ug/kg	11.5	38.4
50-32-8	Benzo(a)pyrene	U	38.4	ug/kg	11.5	38.4
193-39-5	Indeno(1,2,3-cd)pyrene	U	38.4	ug/kg	11.5	38.4
53-70-3	Dibenzo(a,h)anthracene	U	38.4	ug/kg	11.5	38.4
191-24-2	Benzo(ghi)perylene	U	38.4	ug/kg	11.5	38.4
120-82-1	1,2,4-Trichlorobenzene	U	384	ug/kg	76.8	384

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.88	499	ug/kg		JA
7785-70-8	1R-.alpha.-Pinene	3.43	268	ug/kg	97	NJ

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847002

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 13.3  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
<b>Tentatively Identified Compound Summary</b>						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
13466-78-9	3-Carene	3.82	473	ug/kg	97	NJ
57-10-3	n-Hexadecanoic acid	7.52	233	ug/kg	97	NJ
593-39-5	6-Octadecenoic acid, (Z)-	8.16	492	ug/kg	99	NJ
	Unknown	8.82	160	ug/kg		J
1000159-38-2	Bicyclo[5.2.0]nonane, 4-methylene-2,8,8-	8.92	272	ug/kg	83	NJ
	Unknown	9.02	190	ug/kg		J
	Unknown	9.17	156	ug/kg		J
	Unknown	9.27	671	ug/kg		J
1740-19-8	1-Phenanthrenecarboxylic acid, 1,2,3,4,4	9.34	743	ug/kg	93	NJ
	Unknown	9.51	636	ug/kg		J
	Unknown	9.63	256	ug/kg		J
74339-54-1	Trichloroacetic acid, hexadecyl ester	9.98	373	ug/kg	93	NJ
	Unknown	10.4	304	ug/kg		J
83-46-5	.beta.-Sitosterol	13.55	963	ug/kg	97	NJ

Data File: /chem/MSD5.i/s012410.b/s5a2416.d  
Report Date: 25-Jan-2010 10:01

Page 1

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2416.d  
Lab Smp Id: 244847002 Client Smp ID: RE12-10-7273  
Inj Date : 24-JAN-2010 18:25  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847002|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 16  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.03000	weight of sample
M	13.30880	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863	(1.000)	439769	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729	(1.000)	1524679	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981	(1.000)	890421	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147	(1.000)	1622424	40.0000	
* 91 Chrysene-d12	240	9.548	9.550	(1.000)	1417481	40.0000	
* 98 Perylene-d12	264	11.178	11.182	(1.000)	1089912	40.0000	
\$ 3 2-Fluorophenol	112	3.055	3.049	(0.791)	647063	59.3295	2280
\$ 5 Phenol-d5	99	3.578	3.583	(0.927)	757149	56.2933	2160
\$ 20 Nitrobenzene-d5	82	4.219	4.229	(0.893)	333508	28.4886	1090
\$ 39 2-Fluorobiphenyl	172	5.466	5.471	(0.914)	701965	29.8015	1140
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579	(1.099)	204813	72.3699	2780
\$ 81 p-Terphenyl-d14	244	8.519	8.519	(0.892)	857613	38.5321	1480

## ION RATIO REPORT

## SV REPORT

Data file: s5a2416.d

Report Date: 01/25/2010 09:17

Lab. ID: 244847002

SampleType: SAMPLE

Injection Date: 24-JAN-2010 18:25

Operator: RMB

Instrument: MSD5.i

Sample Info: |244847002|942930|1|SVM|1|LANL

Miscellaneous Info: |MSD8270\_S|WBN100107-02

Comment:

Method used: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1262

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
4	Aniline		CAS#: 62-53-3			
66	42938	3.58	3.65	80-120	100	(T)
93	3255	3.54	3.65	206-266	8	(QT)
-----						
15	o-Cresol		CAS#: 95-48-7			
107	22197	3.91	3.98	80-120	100	(T)
108	6843	3.91	3.98	89-149	31	(QT)
77	26224	3.91	3.98	22- 82	118	(QT)
-----						
17	N-Nitrosodipropylamine			CAS#: 621-64-7		
70	43257	4.22	4.10	80-120	100	(T)
42	25922	4.22	4.10	47-107	60	(T)
-----						
25	bis(2-Chloroethoxy)methane			CAS#: 111-91-1		
93	39021	4.71	4.51	80-120	100	(T)
123	617	4.71	4.51	0- 44	2	(T)
95	12518	4.71	4.51	3- 63	32	(T)
-----						
27	Benzoic acid			CAS#: 65-85-0		
105	5187	4.46	4.50	80-120	100	( )
122	3661	4.46	4.50	39- 99	71	( )
77	4008	4.46	4.50	35- 95	77	( )
-----						
40	2-Chloronaphthalene			CAS#: 91-58-7		
162	17310	5.71	5.58	80-120	100	(T)
164	1414	5.71	5.58	4- 64	8	(T)
127	2288	5.71	5.58	9- 69	13	(T)
-----						

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
42 o-Nitroaniline				CAS#: 88-74-4		
65	35884	5.70	5.63	80-120	100	(T)
92	41885	5.71	5.63	31- 91	117	(QT)
138	18324	5.70	5.63	70-130	51	(QT)
-----						
41 m-Nitroaniline				CAS#: 99-09-2		
138	18324	5.70	5.93	80-120	100	(T)
92	42535	5.71	5.93	81-141	232	(QT)
108	35474	5.71	5.93	0- 40	194	(QT)
-----						
43 Dimethylphthalate				CAS#: 131-11-3		
163	161401	5.98	5.75	80-120	100	(T)
164	890421	5.98	5.75	0- 40	552	(QT)
-----						
44 2,6-Dinitrotoluene				CAS#: 606-20-2		
165	122725	5.98	5.80	80-120	100	(T)
63	1400	5.98	5.80	60-120	1	(QT)
-----						
50 2,4-Dinitrotoluene				CAS#: 121-14-2		
165	122725	5.98	6.10	80-120	100	(T)
89	2540	5.98	6.10	47-107	2	(QT)
63	1393	5.98	6.10	24- 84	1	(QT)
-----						
52 4-Nitrophenol				CAS#: 100-02-7		
139	571	6.03	6.02	80-120	100	( )
109	416	6.05	6.02	42-102	73	( )
65	1432	6.02	6.02	86-146	251	(Q)
-----						
53 Fluorene				CAS#: 86-73-7		
166	12115	6.57	6.39	80-120	100	(T)
165	12216	6.57	6.39	57-117	101	(T)
167	4736	6.57	6.39	0- 44	39	(T)
-----						
55 2-Methyl-4,6-dinitrophenol				CAS#: 534-52-1		
198	885	6.57	6.41	80-120	100	(T)
105	2075	6.57	6.41	14- 74	234	(QT)
51	1685	6.57	6.41	34- 94	190	(QT)
-----						
61 4-Bromophenylphenylether				CAS#: 101-55-3		
248	14720	6.57	6.75	80-120	100	(T)
141	101210	6.57	6.75	45-105	688	(QT)
250	29556	6.57	6.75	68-128	201	(QT)
-----						
93 bis(2-Ethylhexyl)phthalate				CAS#: 117-81-7		
149	61792	9.24	9.48	80-120	100	(T)
167	6417	9.24	9.48	3- 63	10	(T)

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2416.d  
Lab Smp Id: 244847002 Client Smp ID: RE12-10-7273  
Inj Date : 24-JAN-2010 18:25  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847002|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 16  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.03000	weight of sample
M	13.30880	% moisture

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.860	2753534	40.000
* 67 Phenanthrene-d10	7.142	4061880	40.000
* 91 Chrysene-d12	9.548	4878123	40.000
* 98 Perylene-d12	11.178	3071068	40.000

CONCENTRATIONS					QUANT		
RT	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
----	----	-----	-----	----	-----	-----	-----

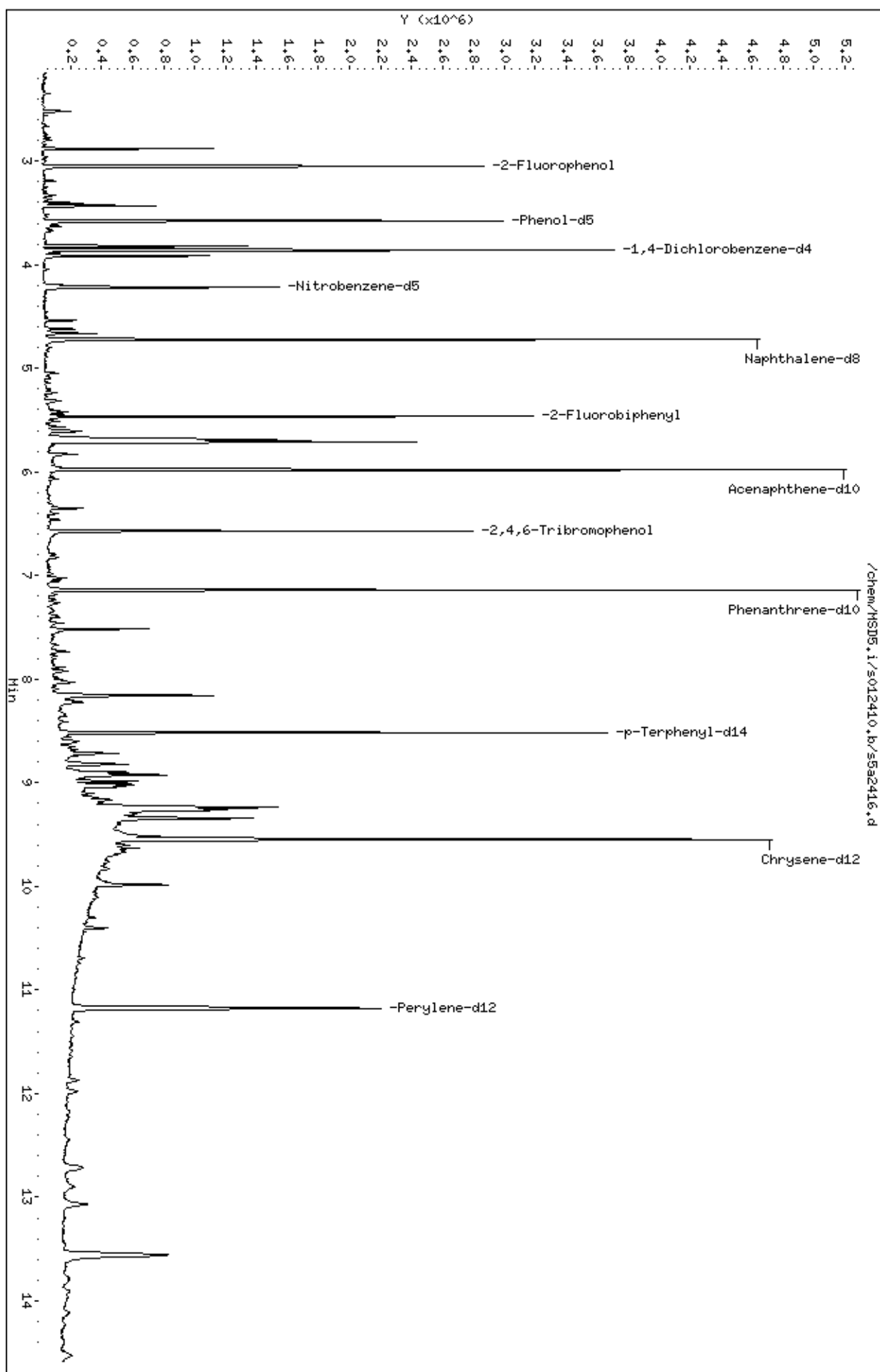
RT	CONCENTRATIONS			QUAL	QUANT		CPND #
	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)		LIBRARY	LIB ENTRY	
====	====	=====	=====	====	=====	=====	=====
Unknown Aldol Condensate					CAS #:		
2.878	894817	12.9988133	499	0		0	10
1R-.alpha.-Pinene					CAS #: 7785-70-8		
3.431	480383	6.97842234	268	97	NIST05.L	15188	10
3-Carene					CAS #: 13466-78-9		
3.819	846915	12.3029549	472	97	NIST05.L	15156	10
n-Hexadecanoic acid					CAS #: 57-10-3		
7.519	615187	6.05814501	233	97	NIST05.L	96234	67
6-Octadecenoic acid, (Z)-					CAS #: 593-39-5		
8.160	1300908	12.8108964	492	99	NIST05.L	113359	67
Unknown					CAS #:		
8.819	509435	4.17730687	160	0		0	91
Bicyclo[5.2.0]nonane, 4-methylene-2,8,8-					CAS #: 1000159-38-2		
8.925	862156	7.06957377	272	83	NIST05.L	59916	91
Unknown					CAS #:		
9.019	604483	4.95668693	190	0		0	91
Unknown					CAS #:		
9.166	494250	4.05278676	156	0		0	91
Unknown					CAS #:		
9.266	2128944	17.4570707	670	0		0	91
1-Phenanthrenecarboxylic acid, 1,2,3,4,4					CAS #: 1740-19-8		
9.342	2358039	19.3356264	743	93	NIST05.L	125036	91
Unknown					CAS #:		
9.513	2020627	16.5688889	636	0		0	91
Unknown					CAS #:		
9.631	811618	6.65516226	256	0		0	91
Trichloroacetic acid, hexadecyl ester					CAS #: 74339-54-1		
9.983	1185453	9.72056503	373	93	NIST05.L	166990	91
Unknown					CAS #:		
10.401	607983	7.91884800	304	0		0	98

RT	AREA	CONCENTRATIONS		QUAL	QUANT		CPND #
		ON-COL(ng/ul)	FINAL(ug/Kg)		LIBRARY	LIB ENTRY	
====	====	=====	=====	====	=====	=====	=====
.beta.-Sitosterol					CAS #: 83-46-5		
13.554	1924811	25.0702361	963	97	NIST05.L	174399	98



Data File: /chem/HSD5.i/s012410.b/s5a2416.d  
Date : 24-JAN-2010 18:25  
Client ID: RE12-10-7273  
Sample Info: 1244847002194293011SVH11LNL  
Volume Injected (uL): 0.5  
Column phase: 3uM DB-5MS

Instrument: HSD5.i  
Operator: RHB  
Column diameter: 0.20



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

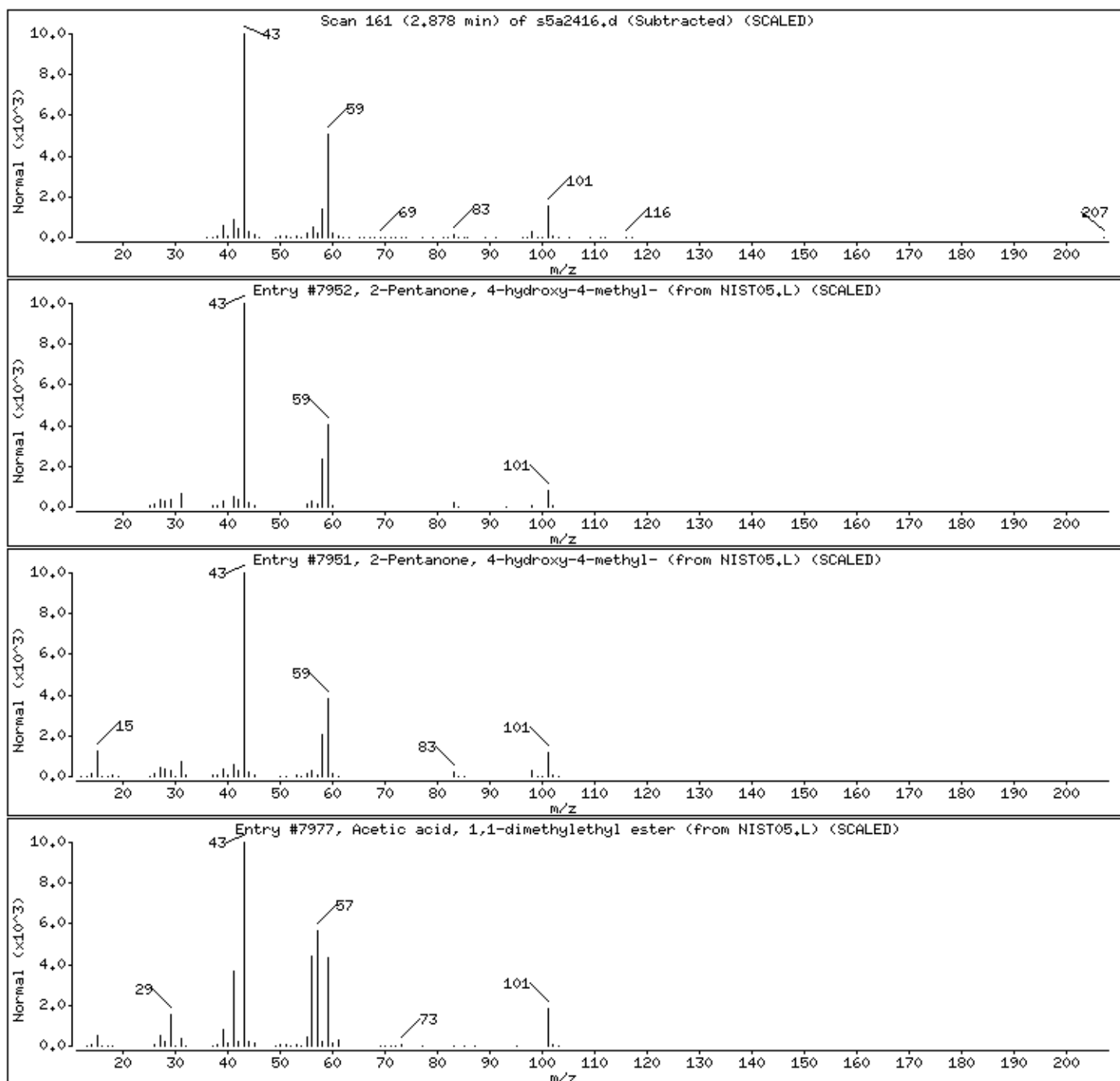
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Aldol Condensate						
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	40	C6H12O2	116
Acetic acid, 1,1-dimethylethyl ester	540-88-5	NIST05.L	7977	38	C6H12O2	116



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

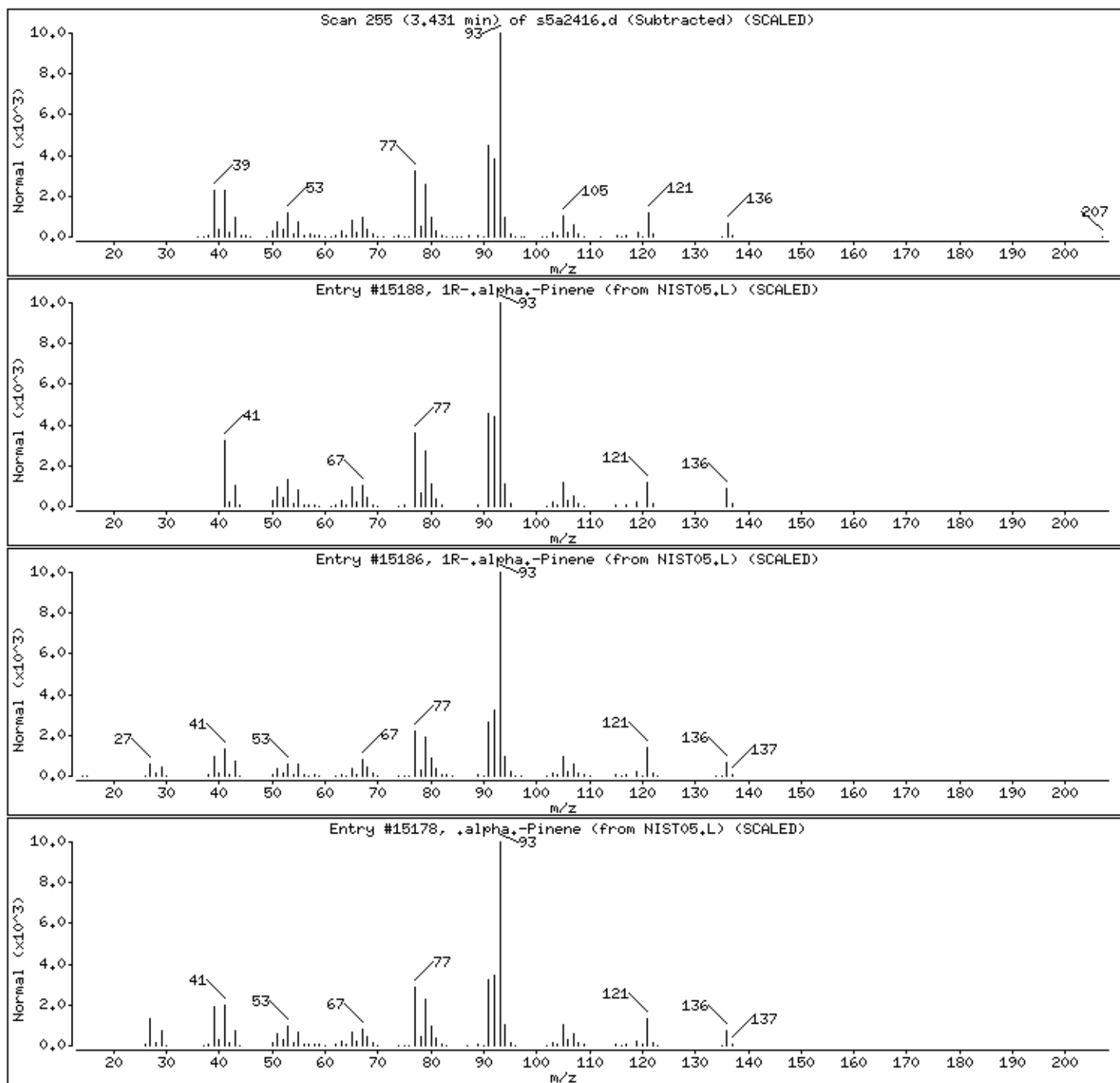
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R-.alpha.-Pinene	7785-70-8	NIST05.L	15188	97	C10H16	136
1R-.alpha.-Pinene	7785-70-8	NIST05.L	15186	96	C10H16	136
.alpha.-Pinene	80-56-8	NIST05.L	15178	96	C10H16	136



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011ISVH11ILANL

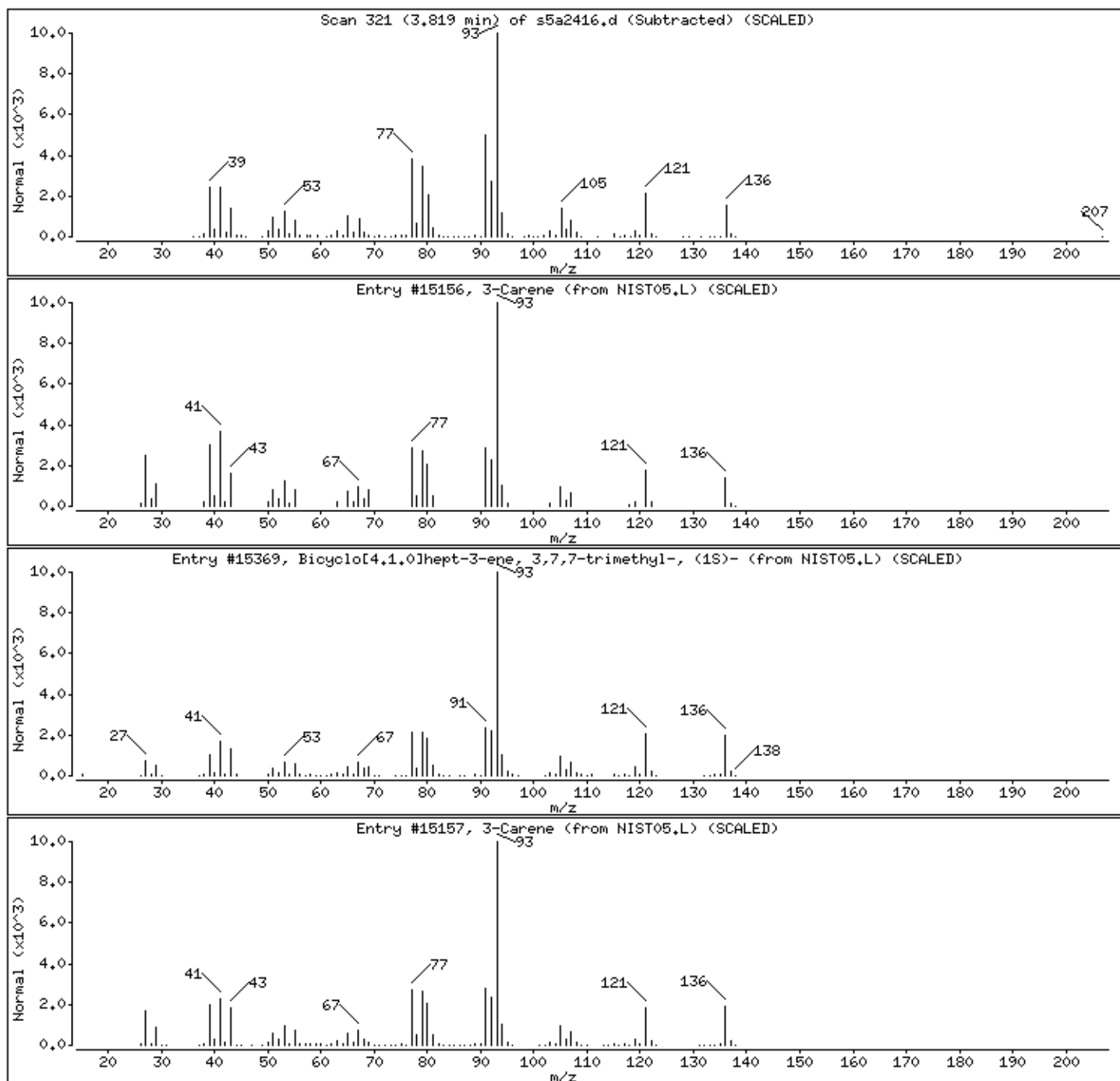
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Carene	13466-78-9	NIST05.L	15156	97	C10H16	136
Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethyl-	498-15-7	NIST05.L	15369	96	C10H16	136
3-Carene	13466-78-9	NIST05.L	15157	94	C10H16	136



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

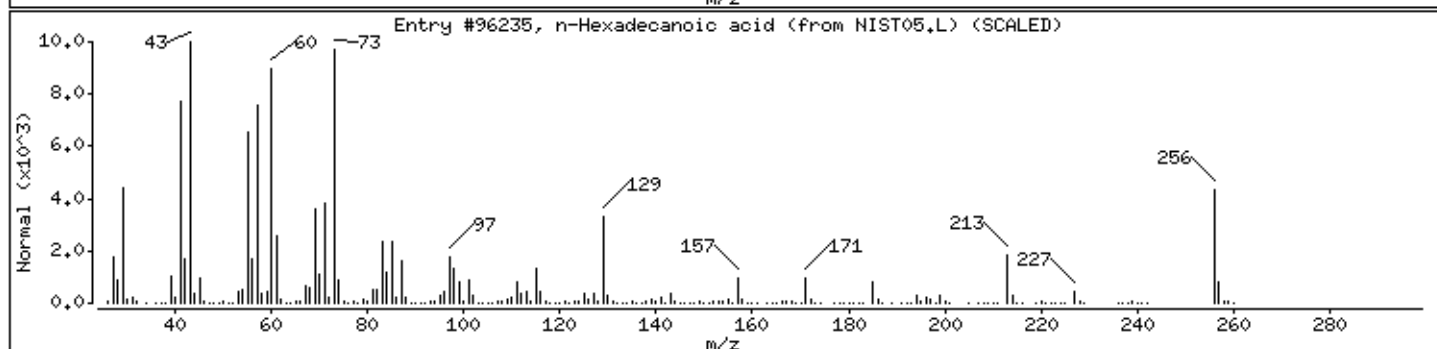
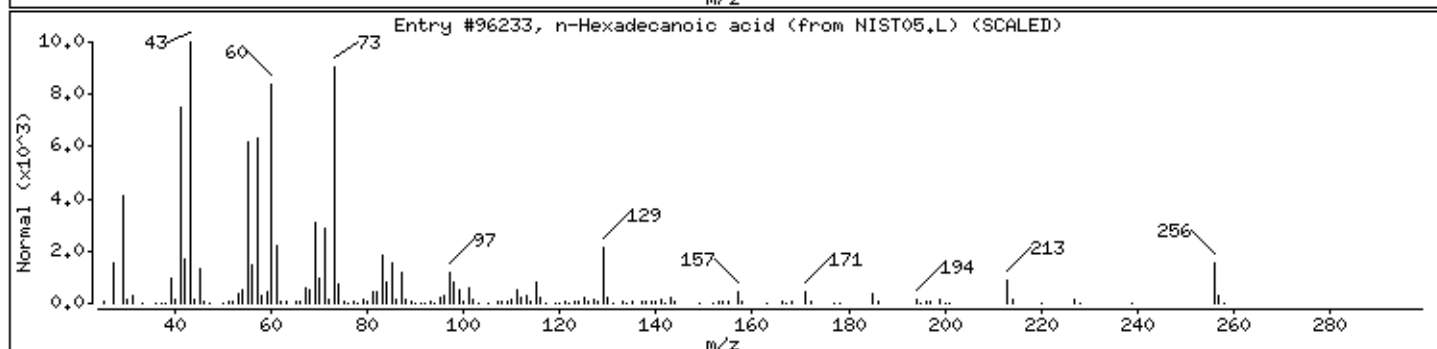
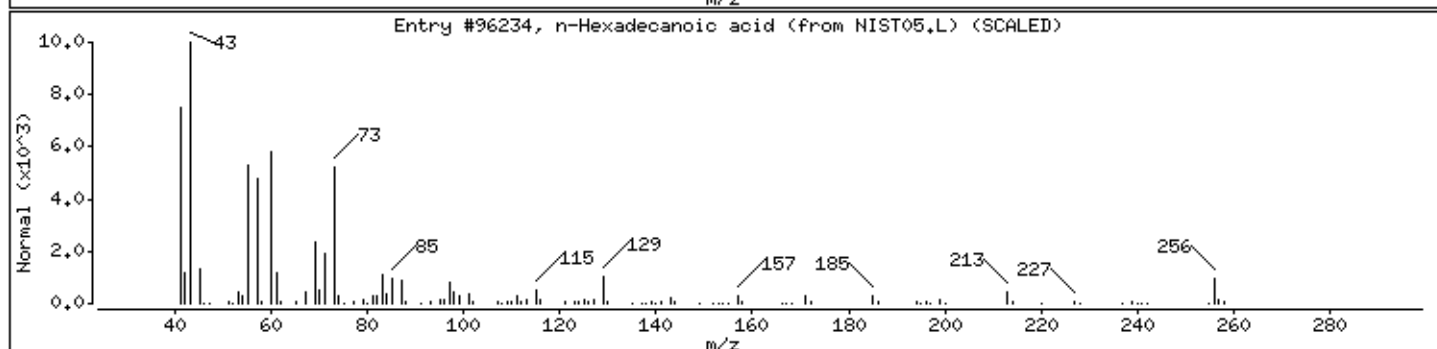
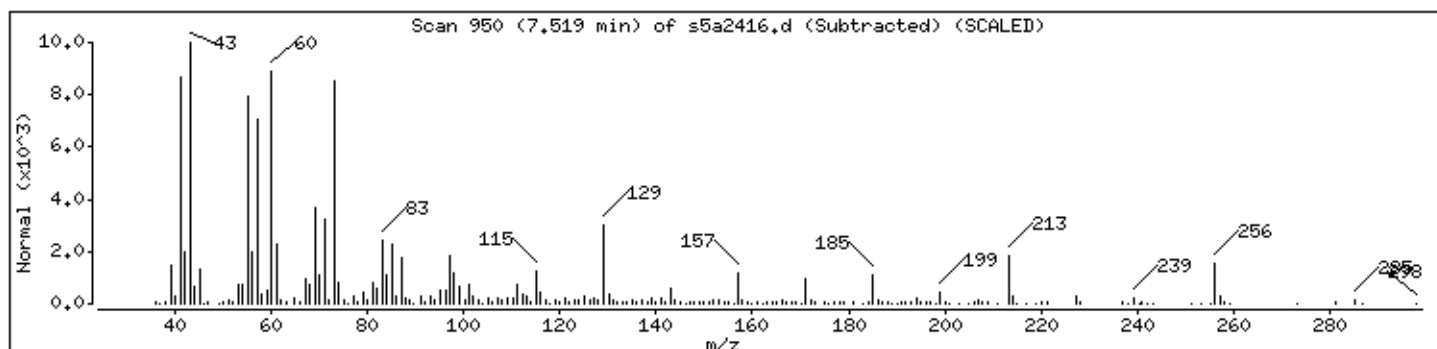
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Hexadecanoic acid	57-10-3	NIST05.L	96234	97	C16H32O2	256
n-Hexadecanoic acid	57-10-3	NIST05.L	96233	95	C16H32O2	256
n-Hexadecanoic acid	57-10-3	NIST05.L	96235	93	C16H32O2	256



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011ISVH11ILANL

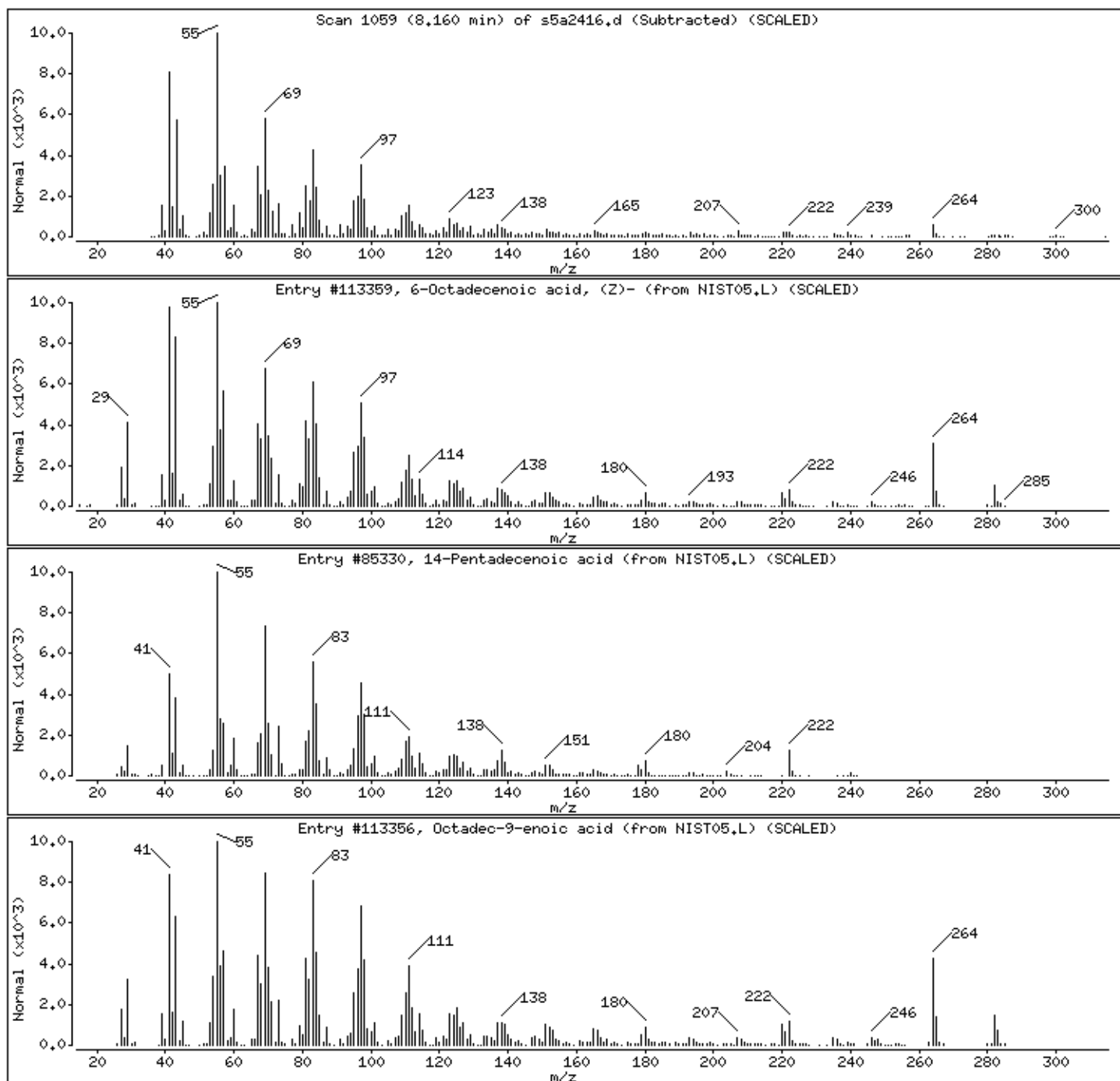
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
6-Octadecenoic acid, (Z)-	593-39-5	NIST05.L	113359	99	C18H34O2	282
14-Pentadecenoic acid	17351-34-7	NIST05.L	85330	96	C15H28O2	240
Octadec-9-enoic acid	1000190-13-7	NIST05.L	113356	87	C18H34O2	282



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

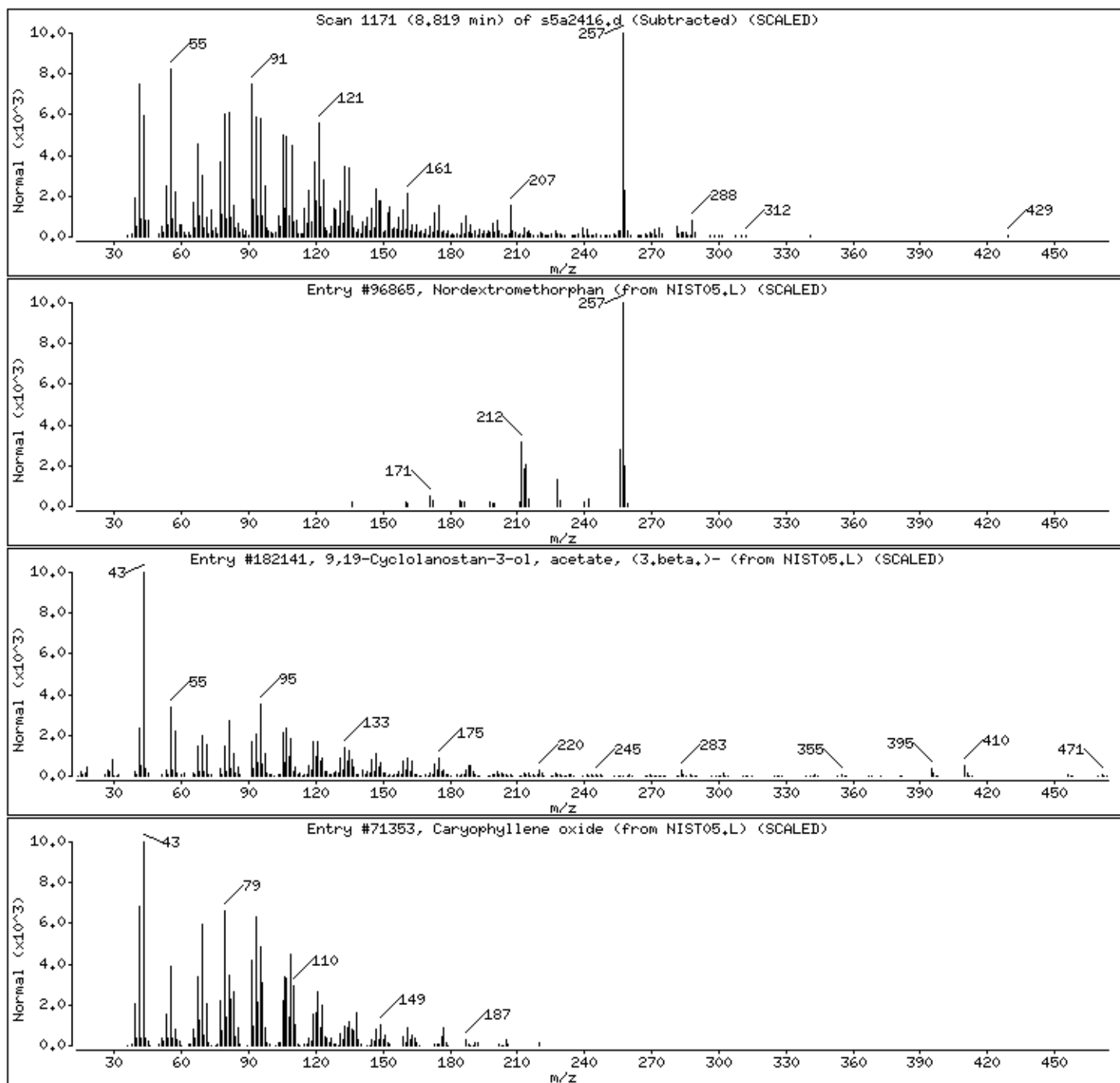
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Nordextromethorphan	51195-74-5	NIST05.L	96865	52	C17H23NO	257
9,19-Cyclolanostan-3-ol, acetate, (3,beta	4575-74-0	NIST05.L	182141	46	C32H54O2	470
Caryophyllene oxide	1139-30-6	NIST05.L	71353	30	C15H24O	220



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

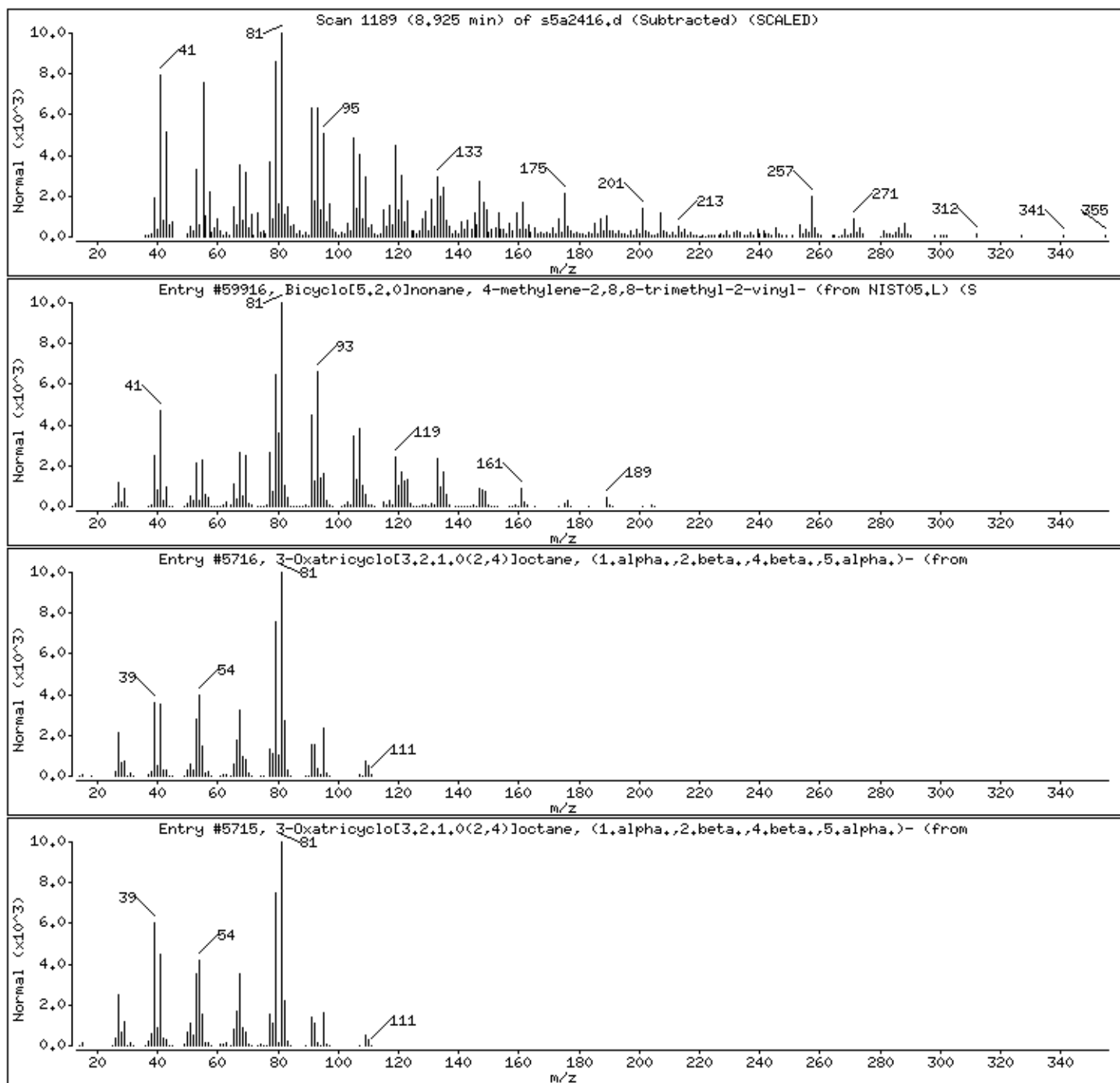
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Bicyclo[5.2.0]nonane, 4-methylene-2,8,8-	1000159-38-2	NIST05.L	59916	83	C15H24	204
3-Oxatricyclo[3.2.1.0(2,4)]octane, (1.alpha.	3146-39-2	NIST05.L	5716	41	C7H10O	110
3-Oxatricyclo[3.2.1.0(2,4)]octane, (1.alpha.	3146-39-2	NIST05.L	5715	38	C7H10O	110





Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

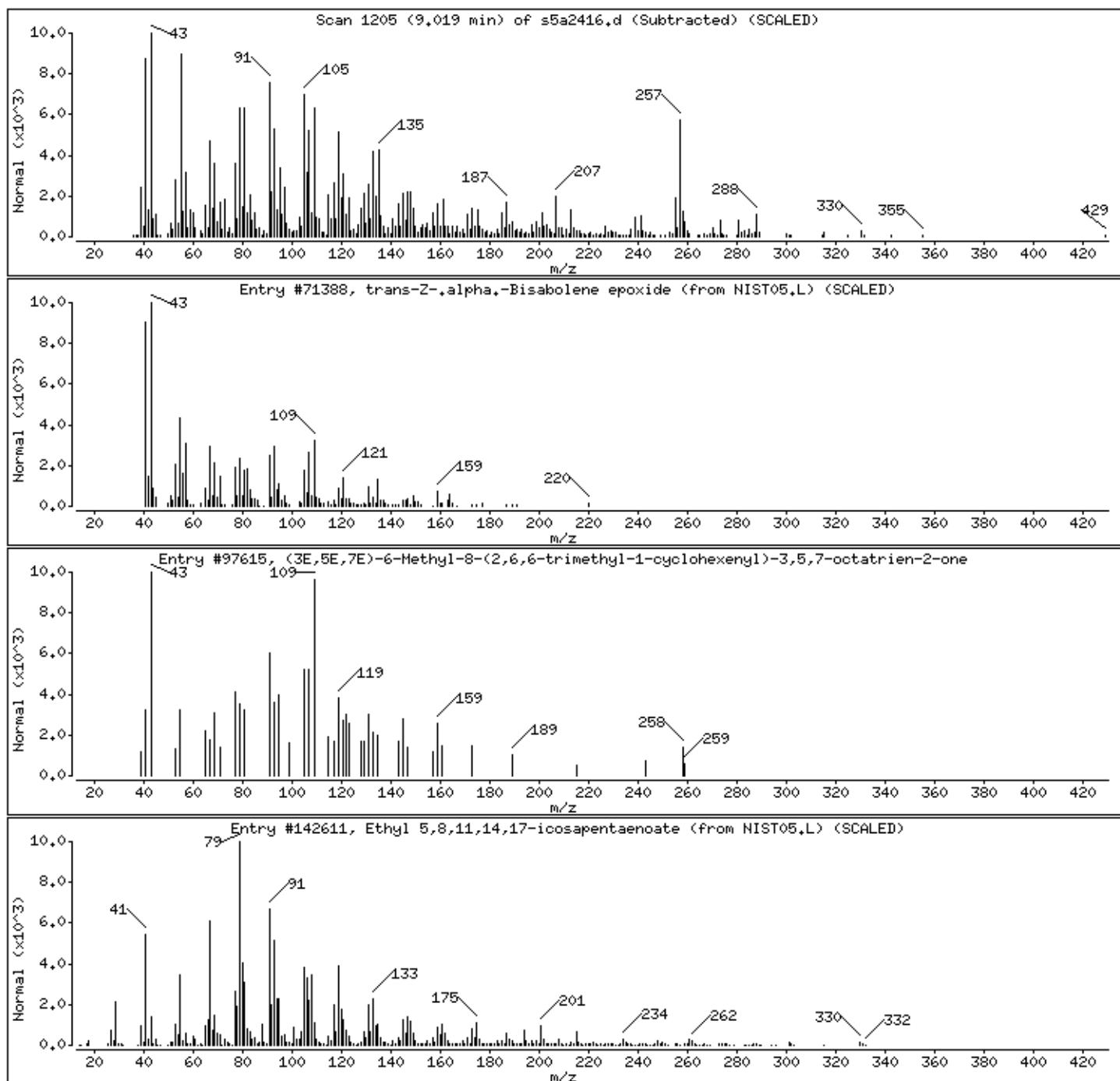
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
trans-Z-,alpha,-Bisabolene epoxide	1000131-71-1	NIST05.L	71388	55	C15H24O	220
(3E,5E,7E)-6-Methyl-8-(2,6,6-trimethyl-1	17974-57-1	NIST05.L	97615	52	C18H26O	258
Ethyl 5,8,11,14,17-icosapentaenoate	84494-70-2	NIST05.L	142611	41	C22H34O2	330



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5,i

Sample Info: 1244847002194293011ISVH11ILANL

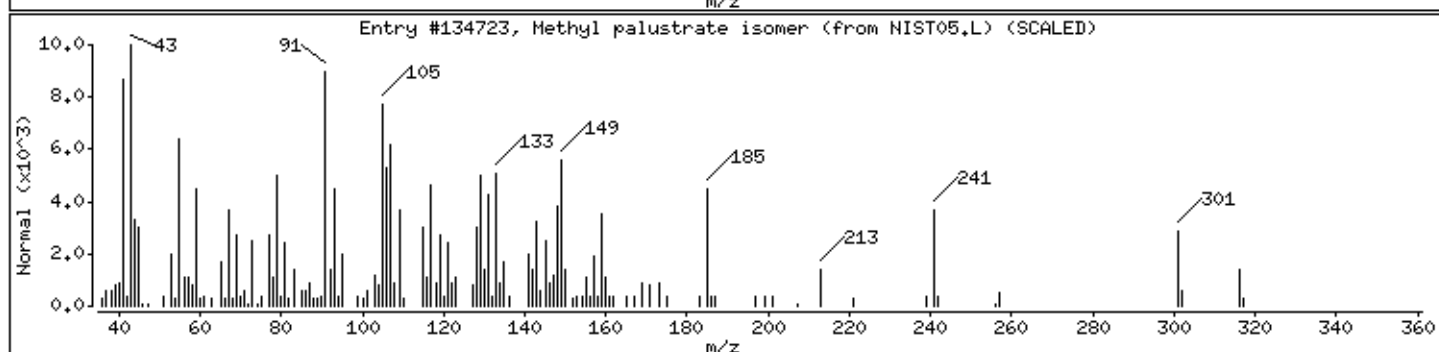
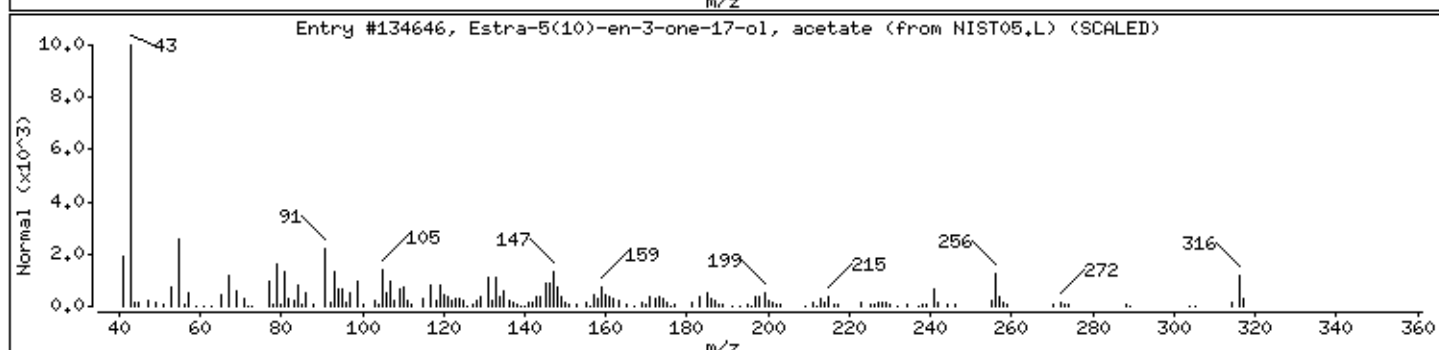
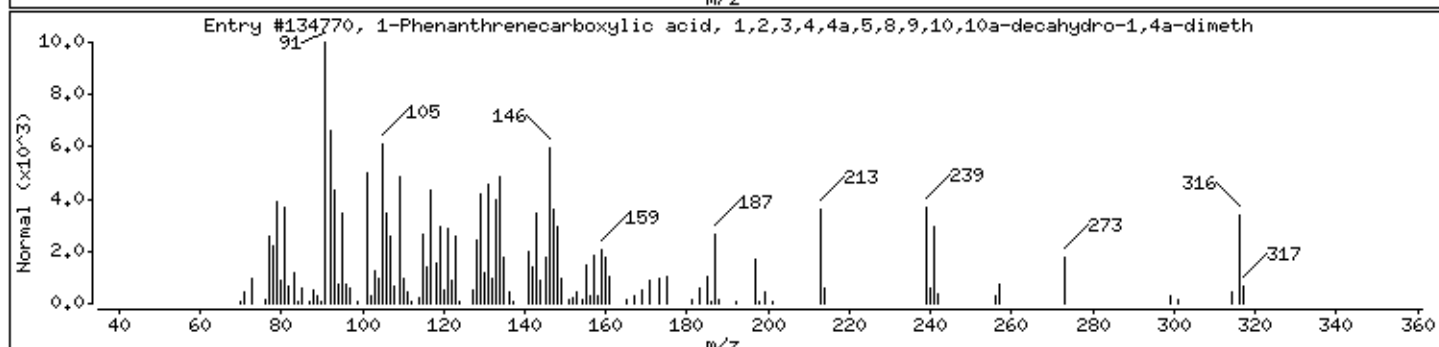
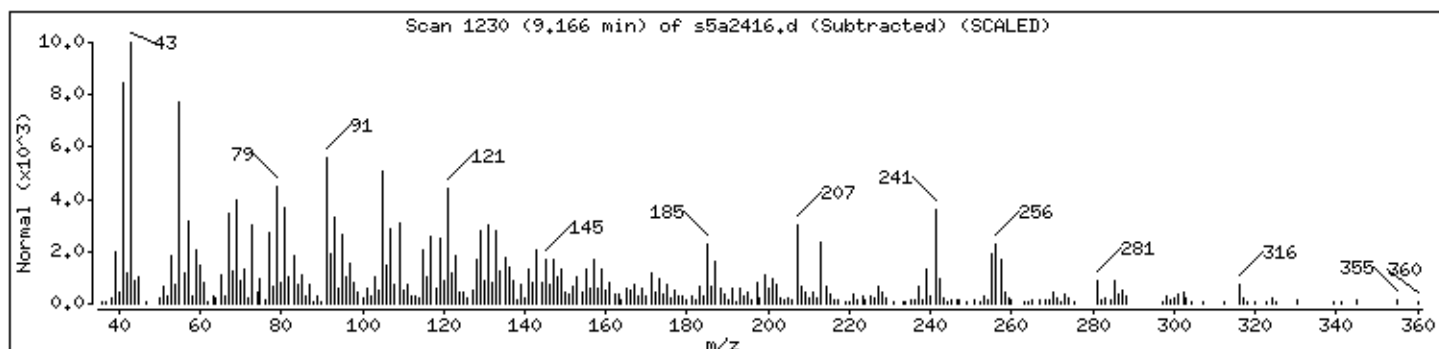
Volume Injected (uL): 0,5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0,20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1-Phenanthrenecarboxylic acid, 1,2,3,4,4	33892-22-7	NIST05.L	134770	43	C21H32O2	316
Estra-5(10)-en-3-one-17-ol, acetate	19906-32-2	NIST05.L	134646	42	C20H28O3	316
Methyl palustrate isomer	3310-94-9	NIST05.L	134723	41	C21H32O2	316



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

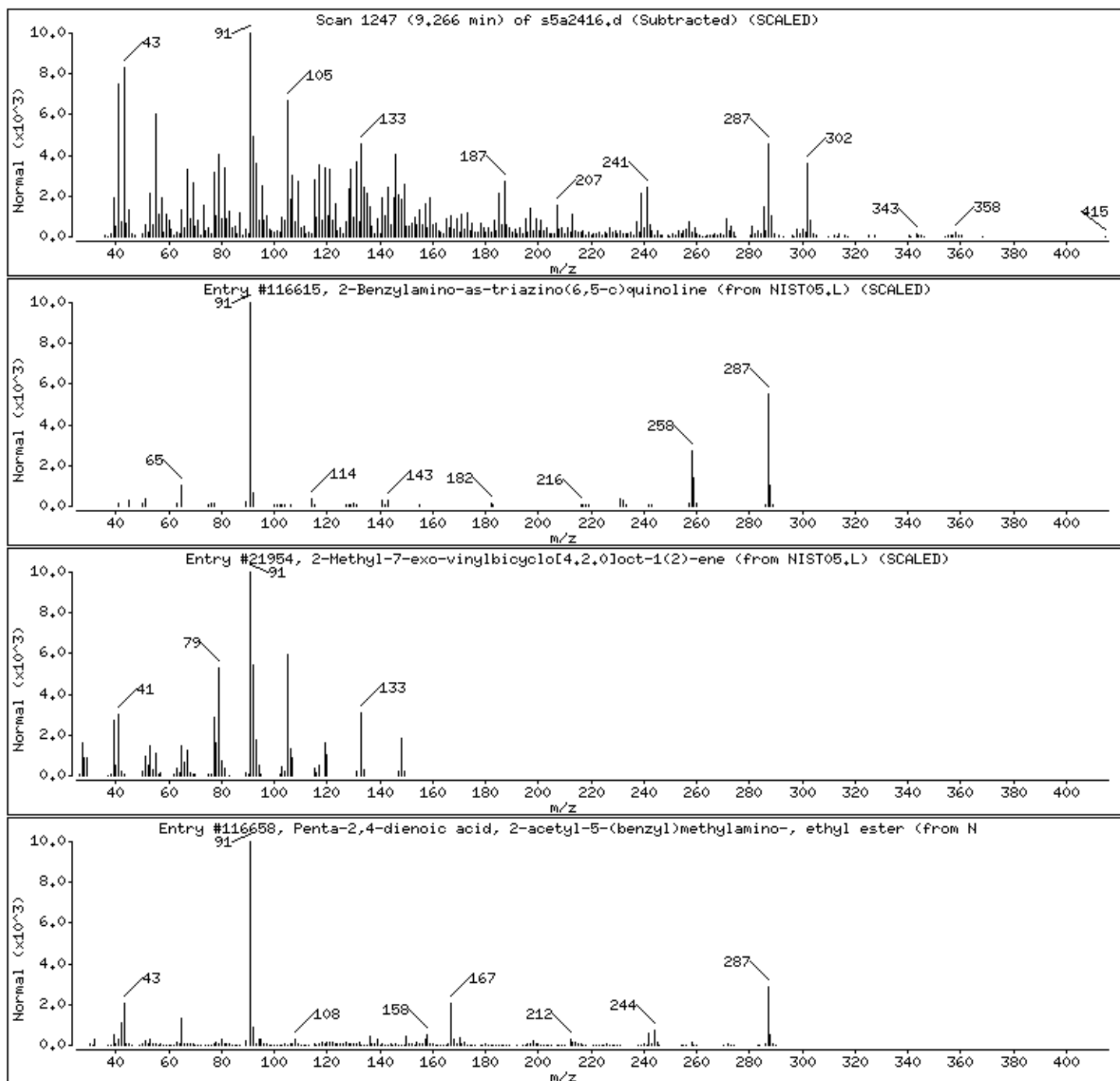
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2-Benzylamino-as-triazino(6,5-c)quinolin	81547-18-4	NIST05.L	116615	15	C17H13N5	287
2-Methyl-7-exo-vinylbicyclo[4.2.0]oct-1(	107914-89-6	NIST05.L	21954	15	C11H16	148
Penta-2,4-dienoic acid, 2-acetyl-5-(benz	39619-47-1	NIST05.L	116658	11	C17H21NO3	287



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

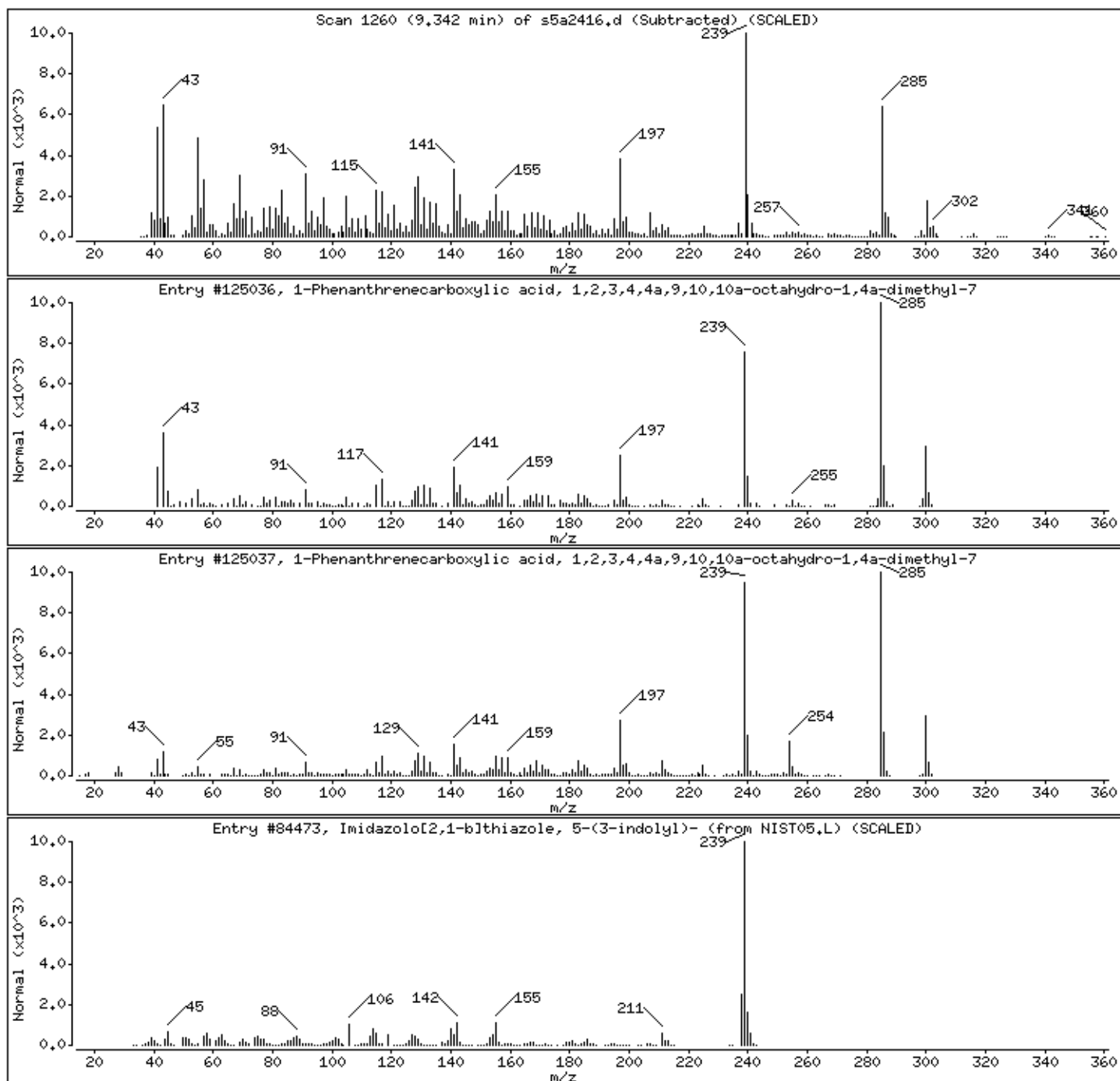
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Phenanthrenecarboxylic acid, 1,2,3,4,4	1740-19-8	NIST05.L	125036	93	C20H28O2	300
1-Phenanthrenecarboxylic acid, 1,2,3,4,4	1740-19-8	NIST05.L	125037	91	C20H28O2	300
Imidazolo[2,1-b]thiazole, 5-(3-indolyl)-	327097-37-0	NIST05.L	84473	42	C13H9N3S	239



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

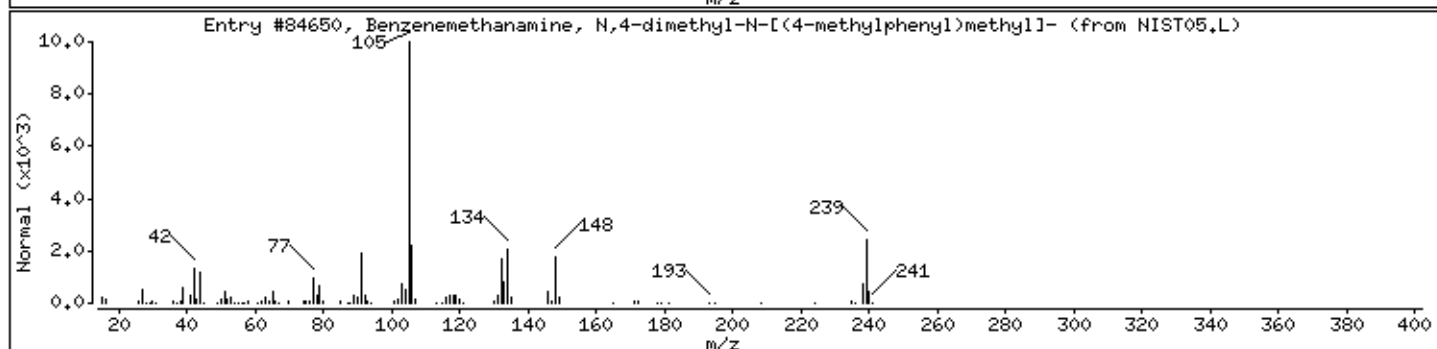
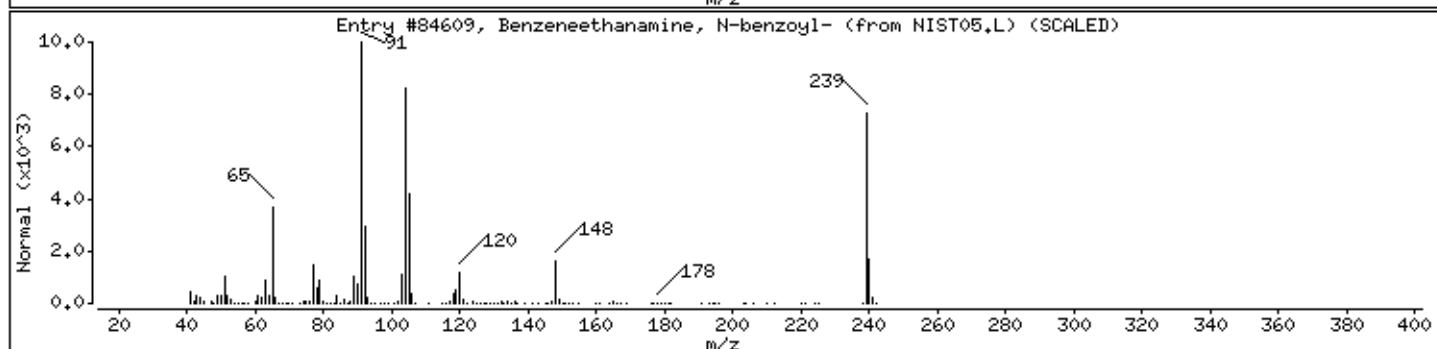
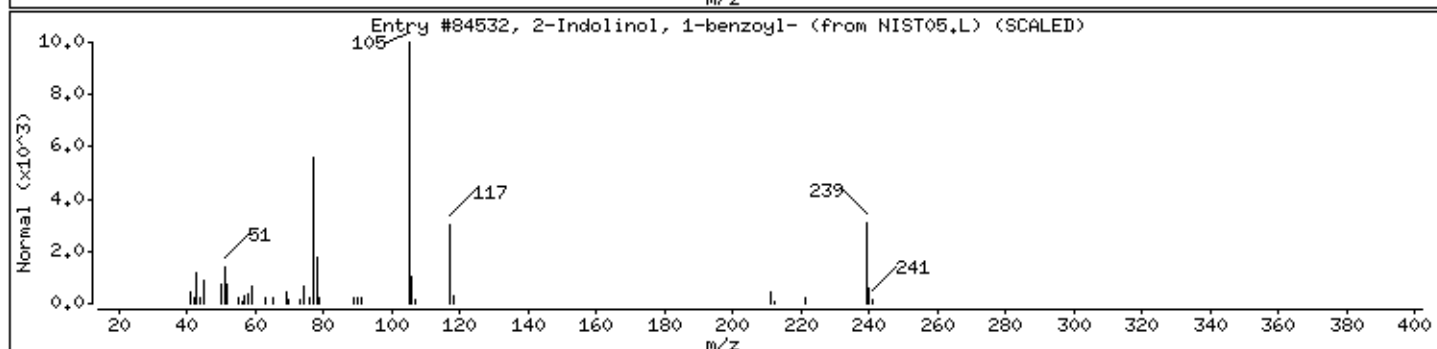
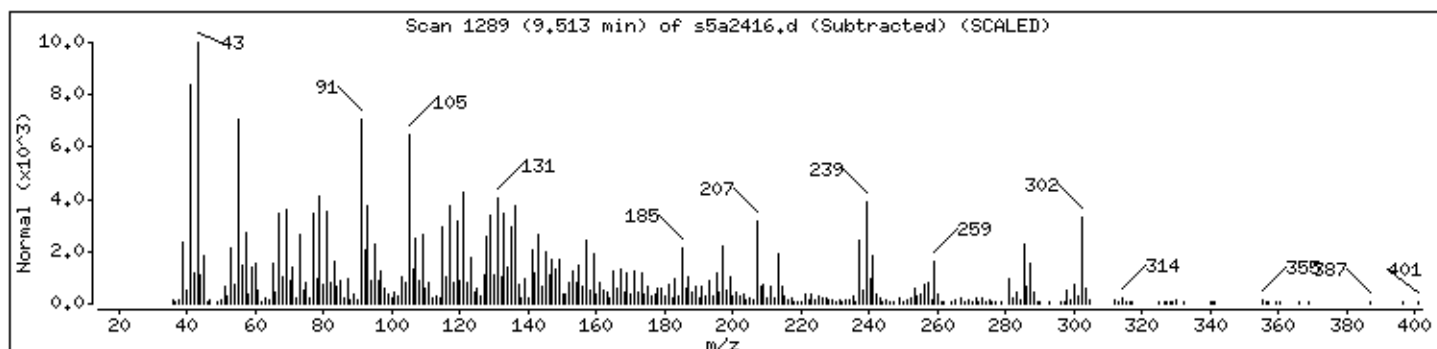
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2-Indolinol, 1-benzoyl-	22397-24-6	NIST05.L	84532	25	C15H13NO2	239
Benzeneethanamine, N-benzoyl-	91068-86-9	NIST05.L	84609	15	C16H17NO	239
Benzenemethanamine, N,4-dimethyl-N-[(4-m	55538-74-4	NIST05.L	84650	15	C17H21N	239



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

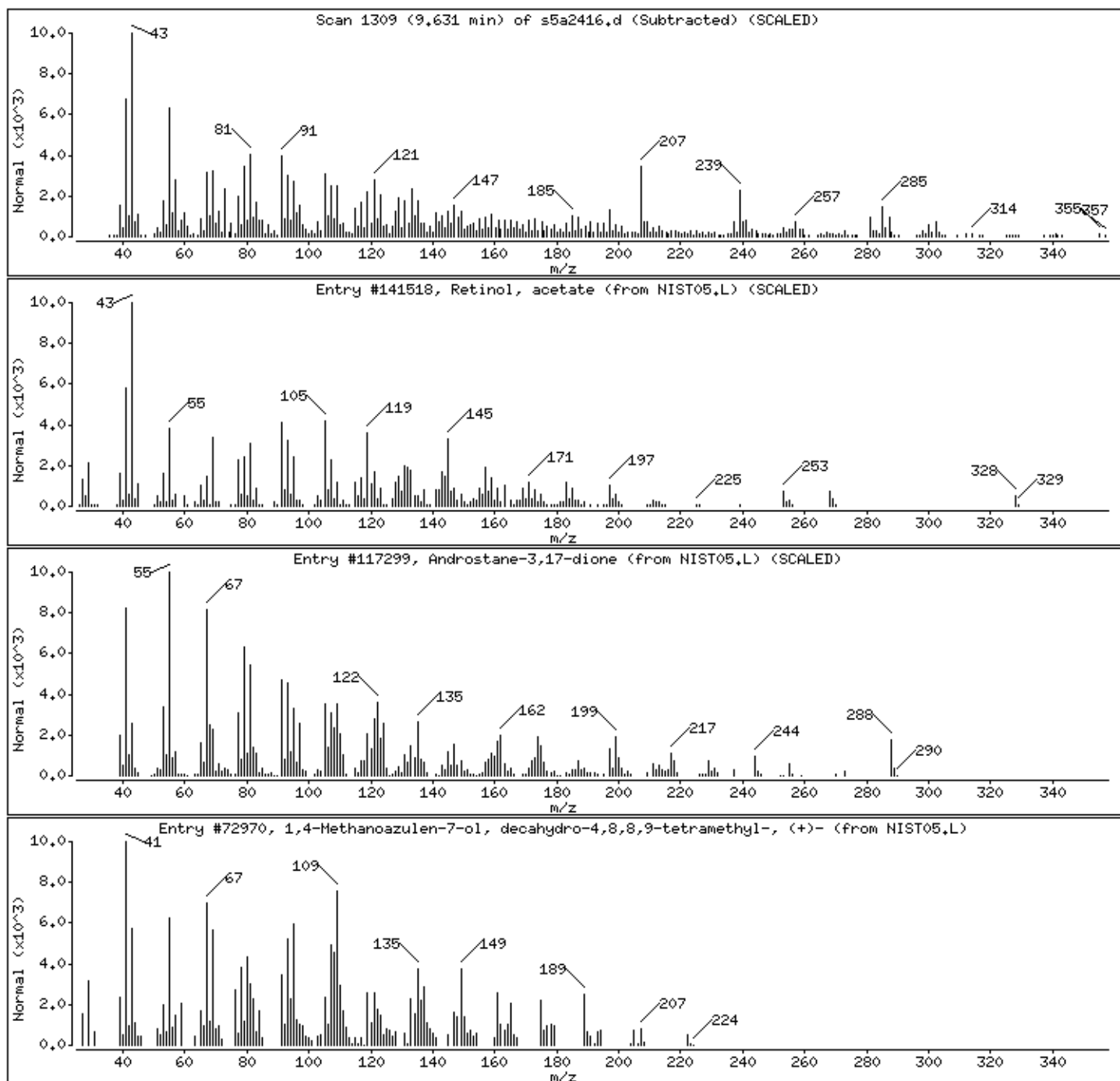
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Retinol, acetate	127-47-9	NIST05.L	141518	43	C22H32O2	328
Androstane-3,17-dione	5982-99-0	NIST05.L	117299	30	C19H28O2	288
1,4-Methanoazulen-7-ol, decahydro-4,8,8,	18319-27-2	NIST05.L	72970	25	C15H26O	222



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011SVH11ILANL

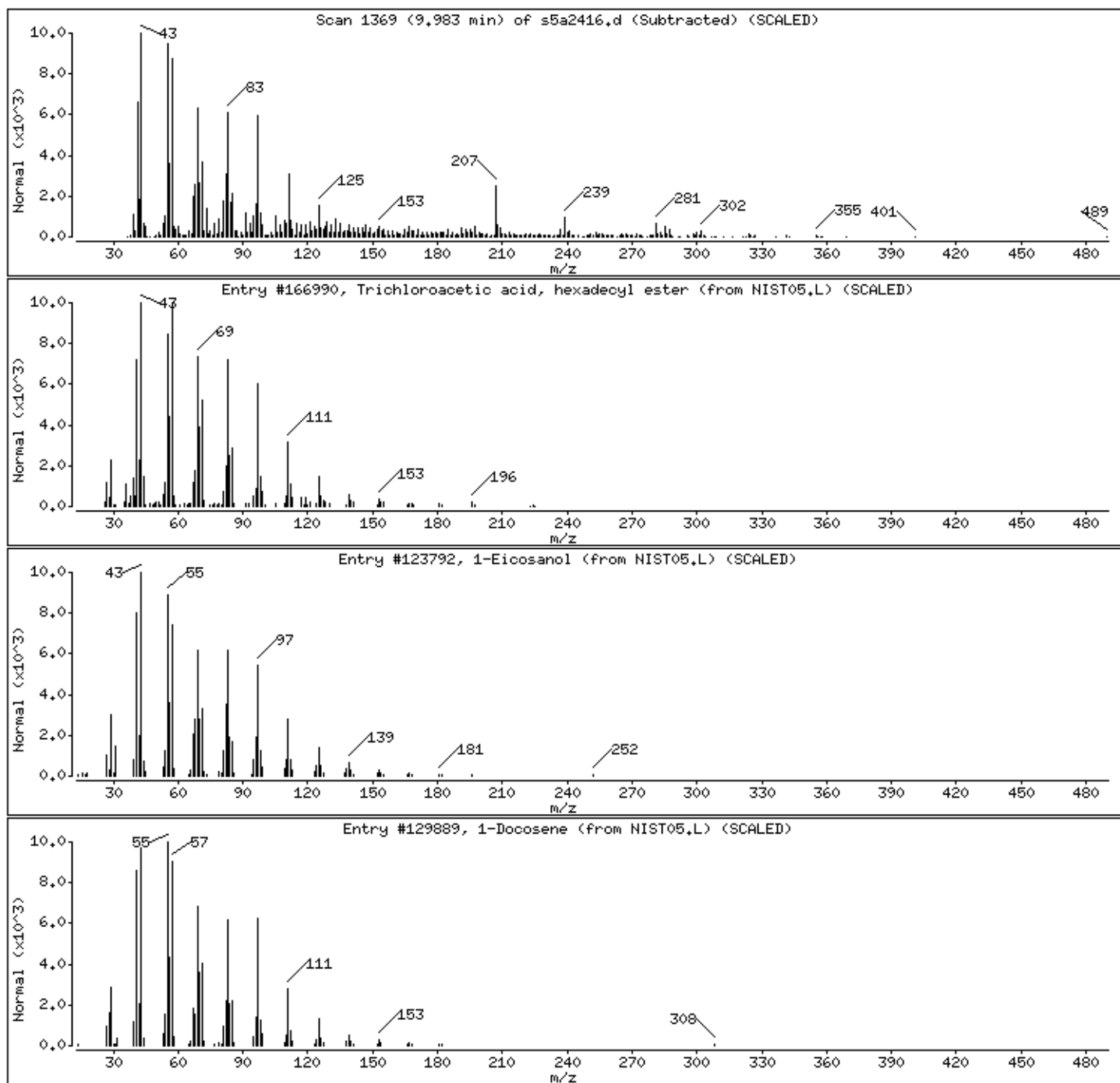
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Trichloroacetic acid, hexadecyl ester	74339-54-1	NIST05.L	166990	93	C18H33Cl3O2	386
1-Eicosanol	629-96-9	NIST05.L	123792	93	C20H42O	298
1-Docosene	1599-67-3	NIST05.L	129889	70	C22H44	308



Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011ISVH11ILANL

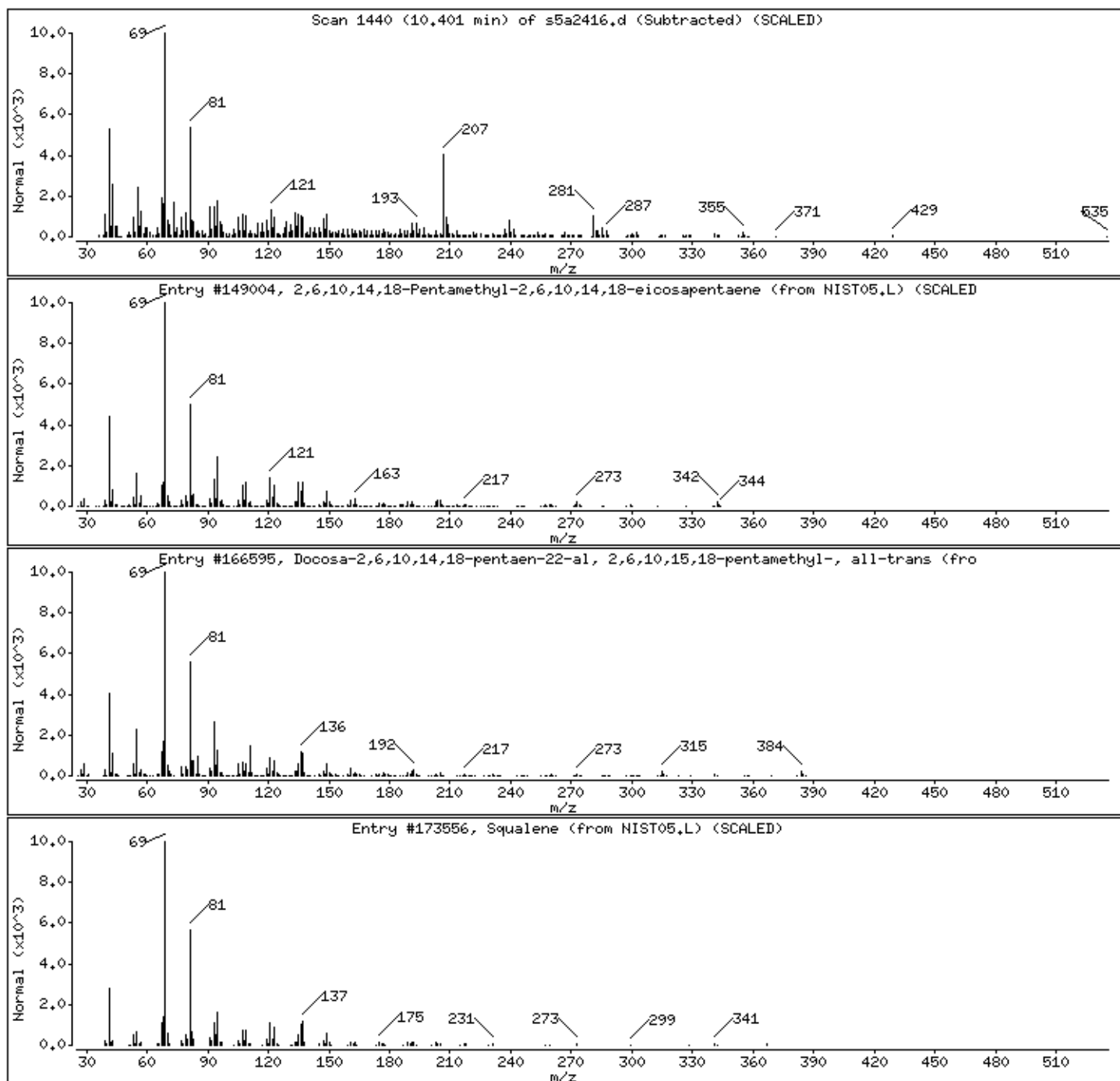
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2,6,10,14,18-Pentamethyl-2,6,10,14,18-ei	75581-03-2	NIST05.L	149004	70	C25H42	342
Docosa-2,6,10,14,18-pentaen-22-al, 2,6,1	1000163-04-7	NIST05.L	166595	49	C27H44O	384
Squalene	7683-64-9	NIST05.L	173556	49	C30H50	410





Date : 24-JAN-2010 18:25

Client ID: RE12-10-7273

Instrument: MSD5.i

Sample Info: 1244847002194293011ISVH11ILANL

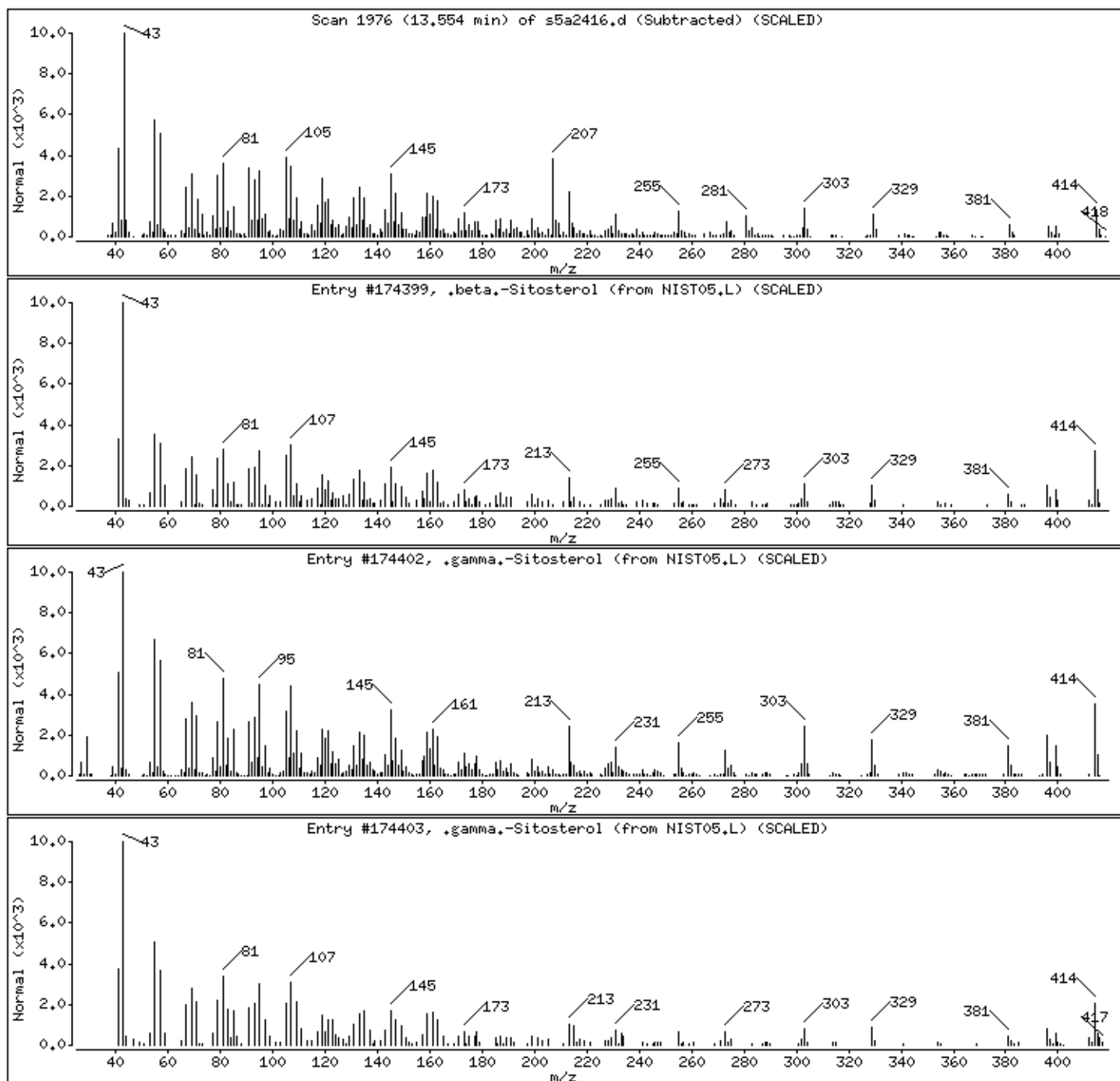
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
.beta.-Sitosterol	83-46-5	NIST05.L	174399	97	C <sub>29</sub> H <sub>50</sub> O	414
.gamma.-Sitosterol	83-47-6	NIST05.L	174402	94	C <sub>29</sub> H <sub>50</sub> O	414
.gamma.-Sitosterol	83-47-6	NIST05.L	174403	64	C <sub>29</sub> H <sub>50</sub> O	414



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	394	ug/kg	78.9	394
108-95-2	Phenol	U	394	ug/kg	78.9	394
95-57-8	2-Chlorophenol	U	394	ug/kg	78.9	394
106-46-7	1,4-Dichlorobenzene	U	394	ug/kg	78.9	394
621-64-7	N-Nitrosodipropylamine	U	394	ug/kg	78.9	394
59-50-7	4-Chloro-3-methylphenol	U	394	ug/kg	78.9	394
83-32-9	Acenaphthene	U	39.4	ug/kg	13.0	39.4
121-14-2	2,4-Dinitrotoluene	U	394	ug/kg	39.4	394
100-02-7	4-Nitrophenol	U	394	ug/kg	130	394
87-86-5	Pentachlorophenol	U	394	ug/kg	98.6	394
129-00-0	Pyrene	U	39.4	ug/kg	11.8	39.4
110-86-1	Pyridine	U	394	ug/kg	78.9	394
62-53-3	Aniline	U	394	ug/kg	118	394
111-44-4	bis(2-Chloroethyl) ether	U	394	ug/kg	78.9	394
541-73-1	1,3-Dichlorobenzene	U	394	ug/kg	78.9	394
100-51-6	Benzyl alcohol	U	394	ug/kg	118	394
95-50-1	1,2-Dichlorobenzene	U	394	ug/kg	78.9	394
108-60-1	bis(2-Chloroisopropyl)ether	U	394	ug/kg	78.9	394
95-48-7	o-Cresol	U	394	ug/kg	78.9	394
65794-96-9	m,p-Cresols	U	394	ug/kg	118	394
67-72-1	Hexachloroethane	U	394	ug/kg	78.9	394
98-95-3	Nitrobenzene	U	394	ug/kg	78.9	394
78-59-1	Isophorone	U	394	ug/kg	78.9	394
88-75-5	2-Nitrophenol	U	394	ug/kg	78.9	394
105-67-9	2,4-Dimethylphenol	U	394	ug/kg	138	394
111-91-1	bis(2-Chloroethoxy)methane	U	394	ug/kg	78.9	394
120-83-2	2,4-Dichlorophenol	U	394	ug/kg	78.9	394
65-85-0	Benzoic acid	U	789	ug/kg	197	789
91-20-3	Naphthalene	U	39.4	ug/kg	11.8	39.4
106-47-8	4-Chloroaniline	U	394	ug/kg	78.9	394
87-68-3	Hexachlorobutadiene	U	394	ug/kg	78.9	394
91-57-6	2-Methylnaphthalene	U	39.4	ug/kg	7.89	39.4
77-47-4	Hexachlorocyclopentadiene	U	394	ug/kg	78.9	394
88-06-2	2,4,6-Trichlorophenol	U	394	ug/kg	78.9	394
95-95-4	2,4,5-Trichlorophenol	U	394	ug/kg	78.9	394
91-58-7	2-Chloronaphthalene	U	39.4	ug/kg	13.0	39.4
88-74-4	2-Nitroaniline	U	394	ug/kg	78.9	394
99-09-2	<i>o</i> -Nitroaniline	U	394	ug/kg	78.9	394
	3-Nitroaniline					

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	394	ug/kg	78.9	394
606-20-2	2,6-Dinitrotoluene	U	394	ug/kg	39.4	394
208-96-8	Acenaphthylene	U	39.4	ug/kg	11.8	39.4
51-28-5	2,4-Dinitrophenol	U	789	ug/kg	150	789
132-64-9	Dibenzofuran	U	394	ug/kg	78.9	394
84-66-2	Diethylphthalate	U	394	ug/kg	78.9	394
86-73-7	Fluorene	U	39.4	ug/kg	11.8	39.4
7005-72-3	4-Chlorophenylphenylether	U	394	ug/kg	78.9	394
534-52-1	2-Methyl-4,6-dinitrophenol	U	394	ug/kg	78.9	394
100-01-6	4-Nitroaniline	U	394	ug/kg	118	394
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	394	ug/kg	78.9	394
122-66-7	Azobenzene	U	394	ug/kg	78.9	394
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	394	ug/kg	78.9	394
118-74-1	Hexachlorobenzene	U	394	ug/kg	78.9	394
85-01-8	Phenanthrene	U	39.4	ug/kg	11.8	39.4
120-12-7	Anthracene	U	39.4	ug/kg	7.89	39.4
84-74-2	Di-n-butylphthalate	U	394	ug/kg	78.9	394
206-44-0	Fluoranthene	U	39.4	ug/kg	11.8	39.4
85-68-7	Butylbenzylphthalate	U	394	ug/kg	78.9	394
56-55-3	Benzo(a)anthracene	U	39.4	ug/kg	11.8	39.4
91-94-1	3,3'-Dichlorobenzidine	U	394	ug/kg	118	394
218-01-9	Chrysene	U	39.4	ug/kg	11.8	39.4
117-81-7	bis(2-Ethylhexyl)phthalate	U	394	ug/kg	78.9	394
117-84-0	Di-n-octylphthalate	U	394	ug/kg	78.9	394
205-99-2	Benzo(b)fluoranthene	U	39.4	ug/kg	11.8	39.4
207-08-9	Benzo(k)fluoranthene	U	39.4	ug/kg	11.8	39.4
50-32-8	Benzo(a)pyrene	U	39.4	ug/kg	11.8	39.4
193-39-5	Indeno(1,2,3-cd)pyrene	U	39.4	ug/kg	11.8	39.4
53-70-3	Dibenzo(a,h)anthracene	U	39.4	ug/kg	11.8	39.4
191-24-2	Benzo(ghi)perylene	U	39.4	ug/kg	11.8	39.4
120-82-1	1,2,4-Trichlorobenzene	U	394	ug/kg	78.9	394

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	2.08	212	ug/kg		J
	Unknown Aldol Condensate	2.88	512	ug/kg		JA

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847003

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.03 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 15.5  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
<b>Tentatively Identified Compound Summary</b>						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
7785-70-8	1R-.alpha.-Pinene	3.43	191	ug/kg	97	NJ
	Unknown	5.12	373	ug/kg		J
1235-74-1	1-Phenanthrenecarboxylic acid, 1,2,3,4,4	8.98	163	ug/kg	98	NJ
112-88-9	1-Octadecene	9.34	280	ug/kg	90	NJ
559-74-0	Friedelan-3-one	9.66	1120	ug/kg	99	NJ
	Unknown	9.82	161	ug/kg		J
	Unknown	9.95	357	ug/kg		J
629-96-9	1-Eicosanol	9.98	221	ug/kg	90	NJ
112-95-8	Eicosane	10.7	325	ug/kg	95	NJ
	Unknown	11.55	1970	ug/kg		J
	Unknown	11.71	299	ug/kg		J
	Unknown	11.87	399	ug/kg		J
70038-20-9	7-Oxabicyclo[4.1.0]heptane, 2,2,6-trimet	12.27	2290	ug/kg	90	NJ
	Unknown	12.71	287	ug/kg		J
	Unknown	13.07	231	ug/kg		J
83-46-5	.beta.-Sitosterol	13.57	1160	ug/kg	99	NJ
	Unknown	13.77	347	ug/kg		J
	Unknown	14.38	229	ug/kg		J

Data File: /chem/MSD5.i/s012410.b/s5a2417.d  
Report Date: 25-Jan-2010 10:01

Page 1

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2417.d  
Lab Smp Id: 244847003 Client Smp ID: RE12-10-7274  
Inj Date : 24-JAN-2010 18:47  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847003|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 17  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.03000	weight of sample
M	15.54990	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
*****	=====	==	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863	(1.000)	382160	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729	(1.000)	1325776	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981	(1.000)	782047	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147	(1.000)	1435687	40.0000	
* 91 Chrysene-d12	240	9.548	9.550	(1.000)	1325482	40.0000	
* 98 Perylene-d12	264	11.177	11.182	(1.000)	1129270	40.0000	
\$ 3 2-Fluorophenol	112	3.054	3.049	(0.791)	574704	60.6384	2390
\$ 5 Phenol-d5	99	3.578	3.583	(0.927)	673802	57.6484	2270
\$ 20 Nitrobenzene-d5	82	4.219	4.229	(0.893)	306615	30.1208	1190
\$ 39 2-Fluorobiphenyl	172	5.466	5.471	(0.914)	651977	31.5150	1240
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579	(1.099)	182496	73.4203	2900
\$ 81 p-Terphenyl-d14	244	8.519	8.519	(0.892)	795364	38.2156	1510

## ION RATIO REPORT

## SV REPORT

Data file: s5a2417.d

Report Date: 01/25/2010 09:18

Lab. ID: 244847003

SampleType: SAMPLE

Injection Date: 24-JAN-2010 18:47

Operator: RMB

Instrument: MSD5.i

Sample Info: |244847003|942930|1|SVM|1|LANL

Miscellaneous Info: |MSD8270\_S|WBN100107-02

Comment:

Method used: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1262

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
4	Aniline		CAS#: 62-53-3			
66	37517	3.58	3.65	80-120	100	(T)
93	3798	3.54	3.65	206-266	10	(QT)
-----						
17	N-Nitrosodipropylamine		CAS#: 621-64-7			
70	46353	4.22	4.10	80-120	100	(T)
42	28237	4.22	4.10	47-107	61	(T)
-----						
22	Isophorone		CAS#: 78-59-1			
82	310485	4.22	4.39	80-120	100	(T)
138	256	4.50	4.39	0- 49	0	(T)
-----						
27	Benzoic acid		CAS#: 65-85-0			
105	2780	4.51	4.50	80-120	100	( )
122	4607	4.46	4.50	39- 99	166	(Q)
77	3697	4.50	4.50	35- 95	133	(Q)
-----						
40	2-Chloronaphthalene		CAS#: 91-58-7			
162	9021	5.71	5.58	80-120	100	(T)
164	784	5.71	5.58	4- 64	9	(T)
127	954	5.71	5.58	9- 69	11	(T)
-----						
42	o-Nitroaniline		CAS#: 88-74-4			
65	12845	5.71	5.63	80-120	100	(T)
92	15221	5.71	5.63	31- 91	118	(QT)
138	1023	5.71	5.63	70-130	8	(QT)
-----						

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
43	Dimethylphthalate			CAS#: 131-11-3		
163	139963	5.98	5.75	80-120	100	(T)
164	782047	5.98	5.75	0- 40	559	(QT)
-----						
44	2,6-Dinitrotoluene			CAS#: 606-20-2		
165	104436	5.98	5.80	80-120	100	(T)
63	1305	5.98	5.80	60-120	1	(QT)
-----						
50	2,4-Dinitrotoluene			CAS#: 121-14-2		
165	104436	5.98	6.10	80-120	100	(T)
89	1639	5.98	6.10	47-107	2	(QT)
63	1263	5.98	6.10	24- 84	1	(QT)
-----						
52	4-Nitrophenol			CAS#: 100-02-7		
139	383	6.04	6.02	80-120	100	( )
109	1609	6.06	6.02	42-102	420	(Q)
65	878	6.04	6.02	86-146	229	(Q)
-----						
53	Fluorene			CAS#: 86-73-7		
166	10537	6.57	6.39	80-120	100	(T)
165	10937	6.57	6.39	57-117	104	(T)
167	3826	6.57	6.39	0- 44	36	(T)
-----						
55	2-Methyl-4,6-dinitrophenol			CAS#: 534-52-1		
198	782	6.57	6.41	80-120	100	(T)
105	1904	6.57	6.41	14- 74	243	(QT)
51	1500	6.57	6.41	34- 94	192	(QT)
-----						
99	Indeno(1,2,3-cd)pyrene			CAS#: 193-39-5		
276	521	12.87	12.89	80-120	100	( )
138	1221	12.91	12.90	0- 60	234	(Q)
-----						
100	Dibenzo(a,h)anthracene			CAS#: 53-70-3		
278	123	12.88	12.91	80-120	100	( )
139	472	12.88	12.90	0- 30	381	(Q)

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2417.d  
Lab Smp Id: 244847003 Client Smp ID: RE12-10-7274  
Inj Date : 24-JAN-2010 18:47  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847003|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 17  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula: Amt \* DF \* Uf \* Vt / (Vi \* Ws \* (100 - M) / 100) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.03000	weight of sample
M	15.54990	% moisture

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.860	2416322	40.000
* 29 Naphthalene-d8	4.725	2874794	40.000
* 91 Chrysene-d12	9.548	3986445	40.000
* 98 Perylene-d12	11.177	3015856	40.000

CONCENTRATIONS					QUANT		
RT	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
----	----	-----	-----	----	-----	-----	-----

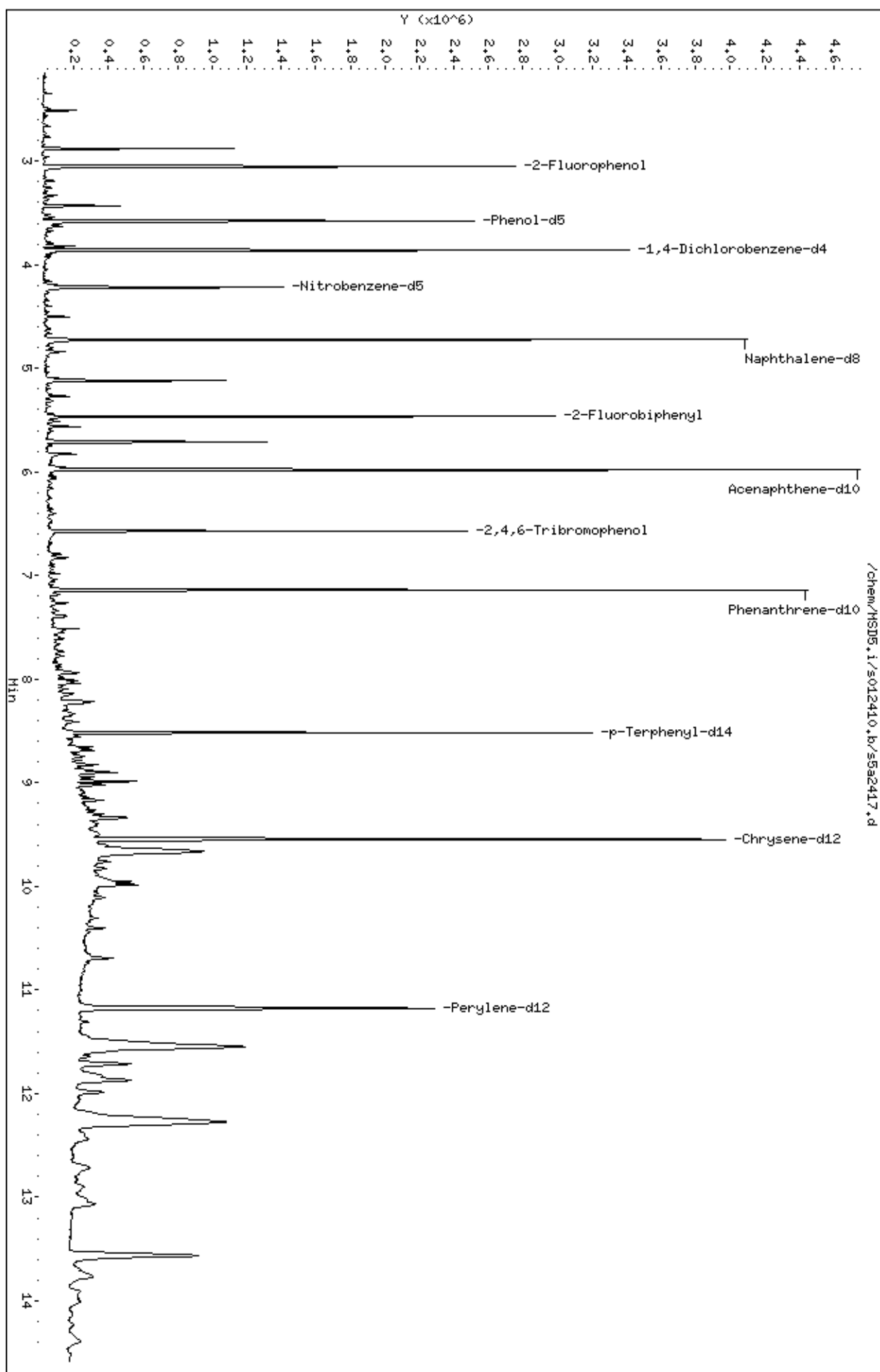


RT	CONCENTRATIONS			QUAL	QUANT		CPND #
	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)		LIBRARY	LIB ENTRY	
====	====	=====	=====	====	=====	=====	=====
Unknown					CAS #:		
2.078	324129	5.36565278	212	0		0	10
Unknown Aldol Condensate					CAS #:		
2.878	784461	12.9860351	512	0		0	10
1R-.alpha.-Pinene					CAS #: 7785-70-8		
3.431	292050	4.83462421	191	97	NIST05.L	15188	10
Unknown					CAS #:		
5.119	680506	9.46859042	373	0		0	29
1-Phenanthrenecarboxylic acid, 1,2,3,4,4					CAS #: 1235-74-1		
8.983	411601	4.13000277	163	98	NIST05.L	133618	91
1-Octadecene					CAS #: 112-88-9		
9.336	706879	7.09282729	280	90	NIST05.L	93544	91
Friedelan-3-one					CAS #: 559-74-0		
9.660	2838902	28.4855430	1120	99	NIST05.L	176566	91
Unknown					CAS #:		
9.825	406000	4.07380134	161	0		0	91
Unknown					CAS #:		
9.954	902590	9.05658655	357	0		0	91
1-Eicosanol					CAS #: 629-96-9		
9.983	558501	5.60399631	221	90	NIST05.L	123792	91
Eicosane					CAS #: 112-95-8		
10.695	620852	8.23450241	325	95	NIST05.L	113489	98
Unknown					CAS #:		
11.548	3773093	50.0433972	1970	0		0	98
Unknown					CAS #:		
11.713	571380	7.57834575	299	0		0	98
Unknown					CAS #:		
11.872	763682	10.1288863	399	0		0	98
7-Oxabicyclo[4.1.0]heptane, 2,2,6-trimet					CAS #: 70038-20-9		
12.272	4383788	58.1431849	2290	90	NIST05.L	69982	98

RT	AREA	CONCENTRATIONS		QUAL	QUANT		CPND #
		ON-COL(ng/ul)	FINAL(ug/Kg)		LIBRARY	LIB ENTRY	
====	====	=====	=====	====	=====	=====	=====
Unknown					CAS #:		
12.713	548200	7.27090314	287	0		0	98
Unknown					CAS #:		
13.066	441267	5.85262109	231	0		0	98
.beta.-Sitosterol					CAS #: 83-46-5		
13.566	2224068	29.4983276	1160	99	NIST05.L	174399	98
Unknown					CAS #:		
13.771	664173	8.80908425	347	0		0	98
Unknown					CAS #:		
14.383	437960	5.80876342	229	0		0	98

Data File: /chem/HSD5.i/s012410.b/s5a2417.d  
 Date : 24-JAN-2010 18:47  
 Client ID: RE12-10-7274  
 Sample Info: 1244847003194293011SVH11L6NL  
 Volume Injected (uL): 0.5  
 Column phase: 3uM DB-5MS

Instrument: HSD5.i  
 Operator: RHB  
 Column diameter: 0.20



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: I244847003I942930I1ISVHI1ILANL

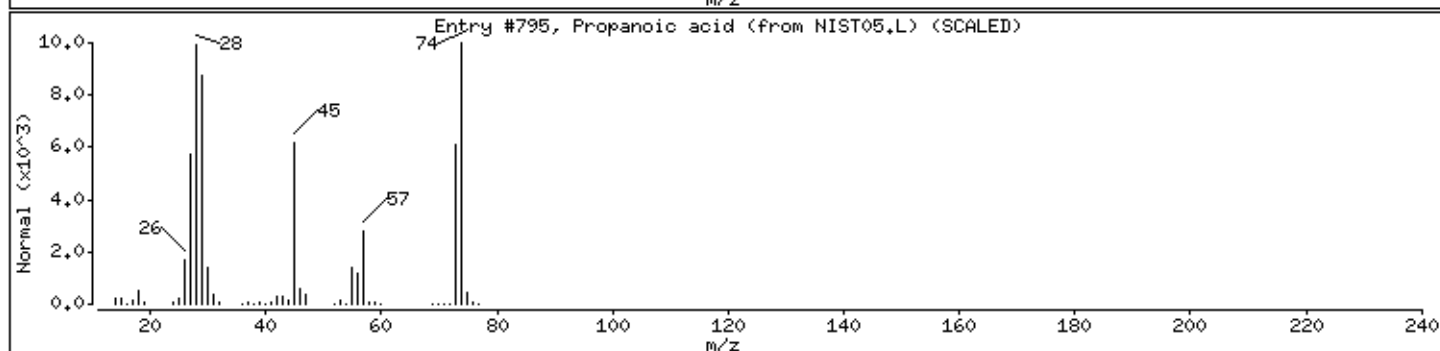
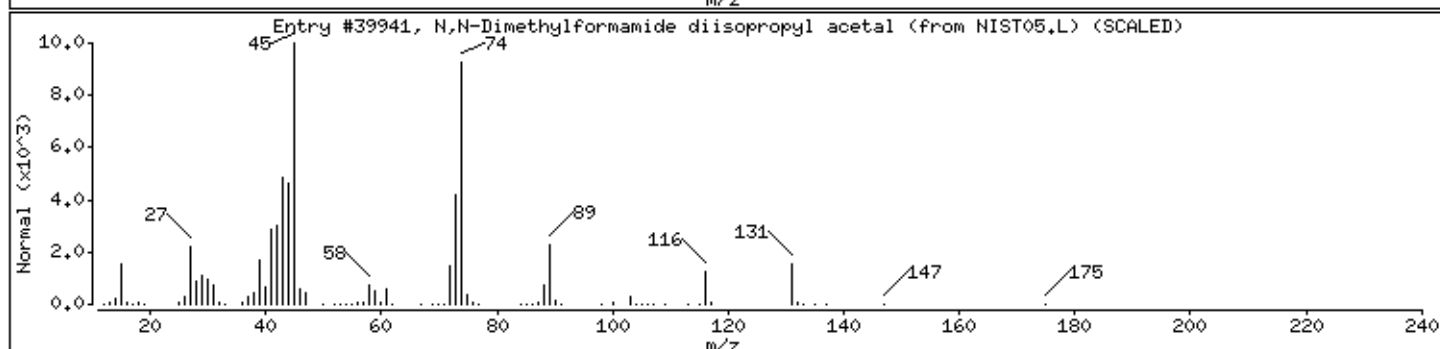
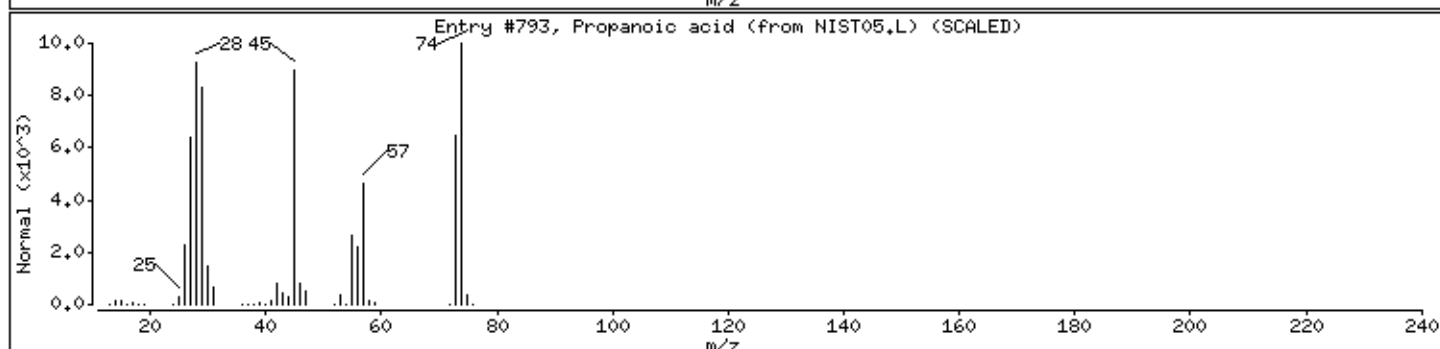
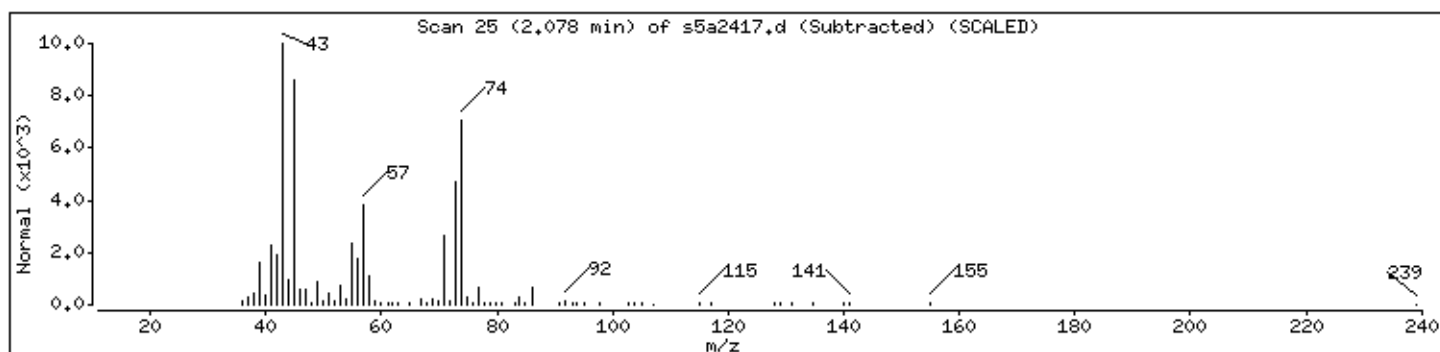
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Propanoic acid	79-09-4	NIST05.L	793	70	C3H6O2	74
N,N-Dimethylformamide diisopropyl acetal	18503-89-4	NIST05.L	39941	64	C9H21NO2	175
Propanoic acid	79-09-4	NIST05.L	795	38	C3H6O2	74



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

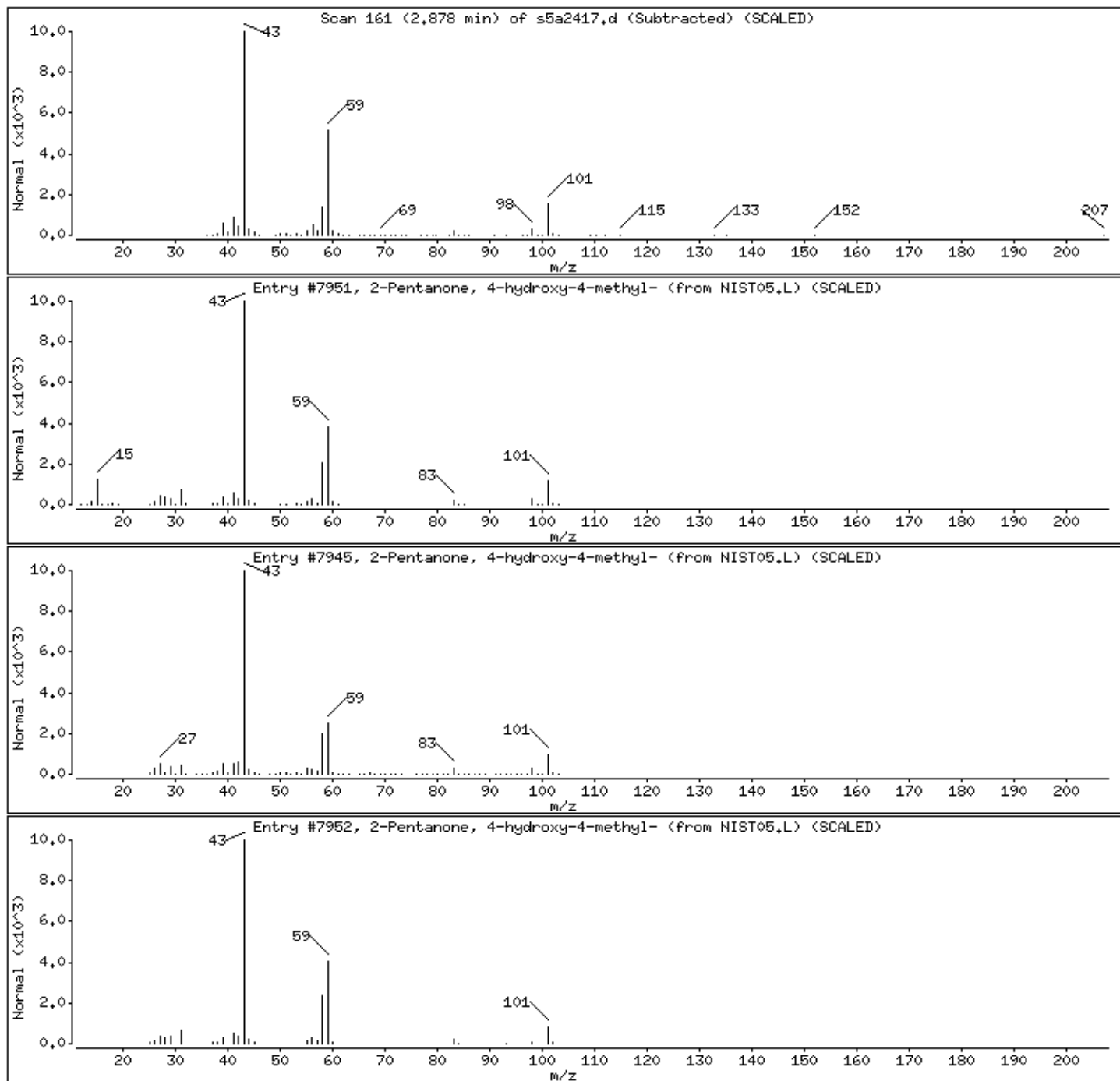
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Aldol Condensate						
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	59	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7945	59	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: I244847003I942930I1ISVH11ILANL

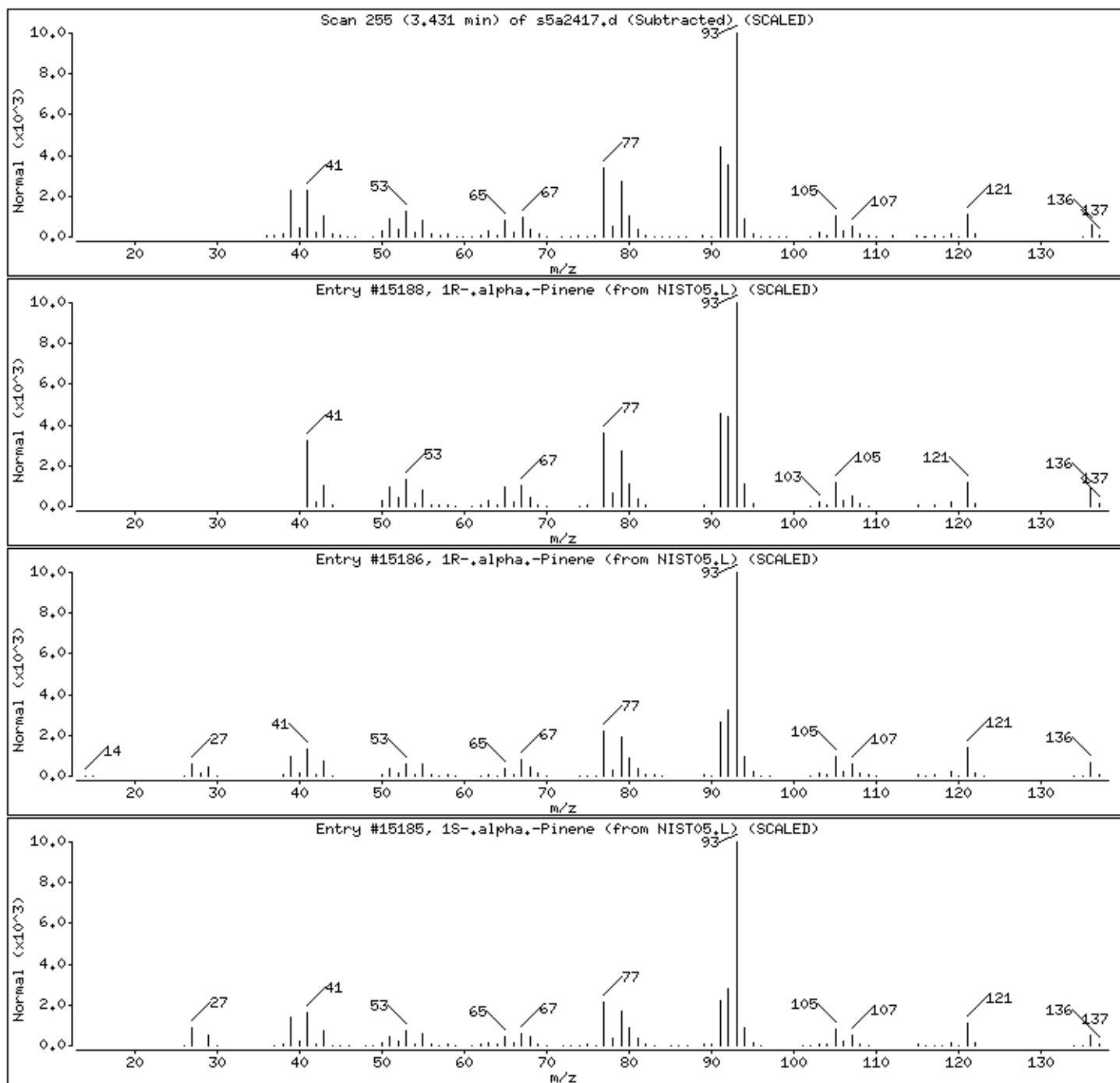
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R-.alpha.-Pinene	7785-70-8	NIST05.L	15188	97	C10H16	136
1R-.alpha.-Pinene	7785-70-8	NIST05.L	15186	96	C10H16	136
1S-.alpha.-Pinene	7785-26-4	NIST05.L	15185	95	C10H16	136



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

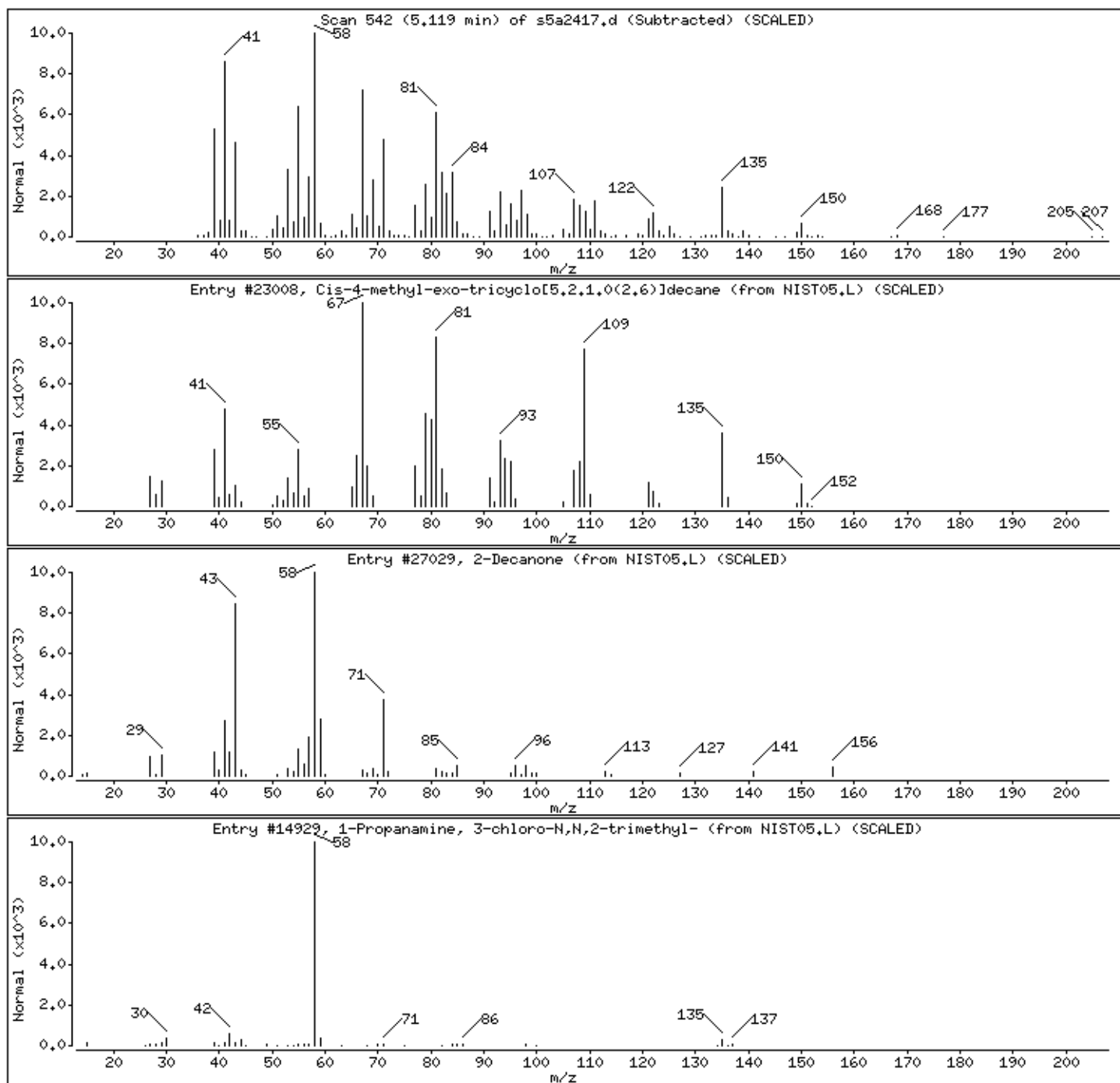
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Cis-4-methyl-exo-tricyclo[5.2.1.0(2,6)]d	1000215-29-2	NIST05.L	23008	45	C11H18	150
2-Decanone	693-54-9	NIST05.L	27029	35	C10H20O	156
1-Propanamine, 3-chloro-N,N,2-trimethyl-	23349-86-2	NIST05.L	14929	30	C6H14ClN	135



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011ISVH11ILANL

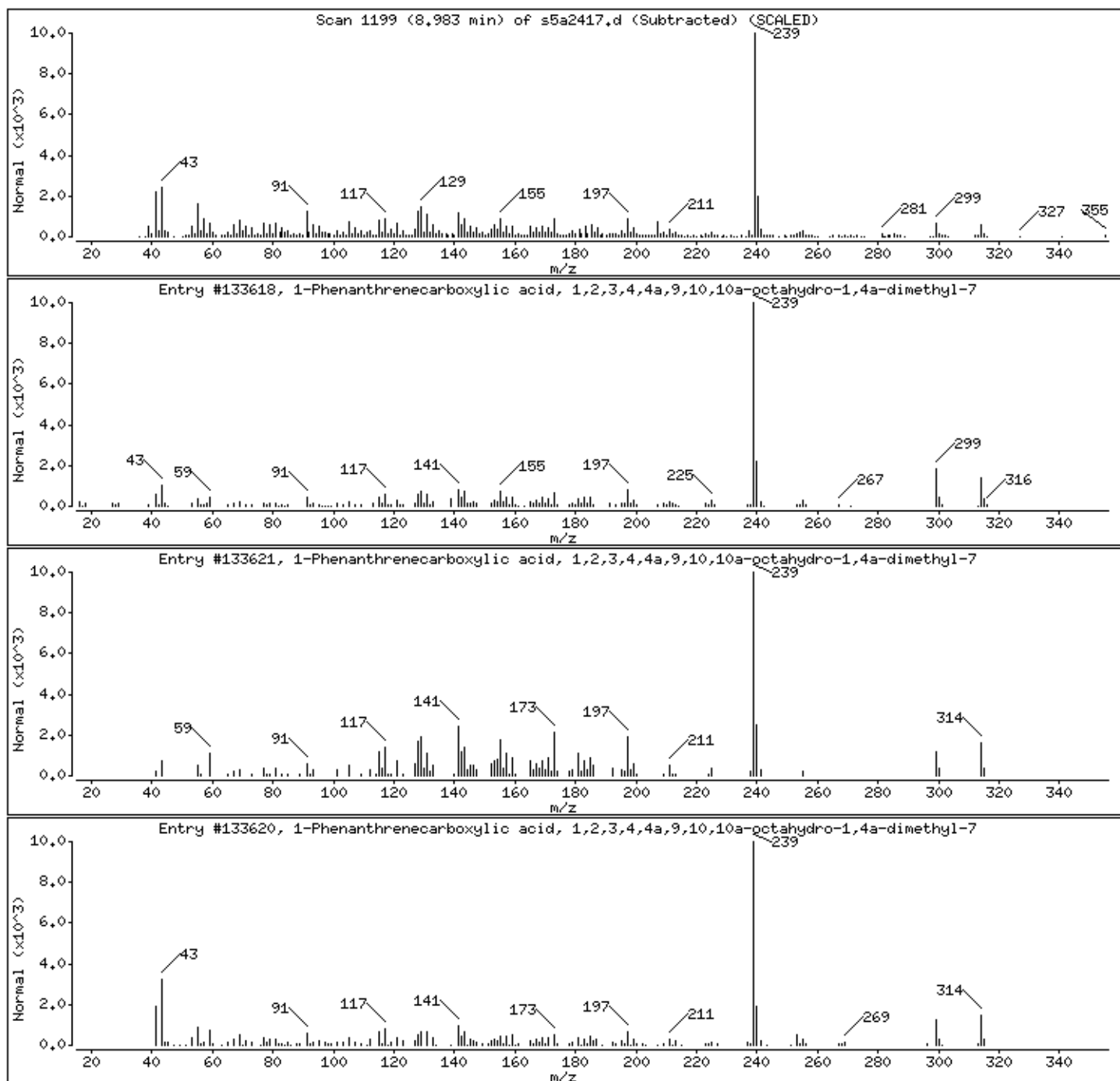
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Phenanthrenecarboxylic acid, 1,2,3,4,4	1235-74-1	NIST05.L	133618	98	C21H30O2	314
1-Phenanthrenecarboxylic acid, 1,2,3,4,4	1235-74-1	NIST05.L	133621	94	C21H30O2	314
1-Phenanthrenecarboxylic acid, 1,2,3,4,4	1235-74-1	NIST05.L	133620	93	C21H30O2	314





Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011ISVH11ILANL

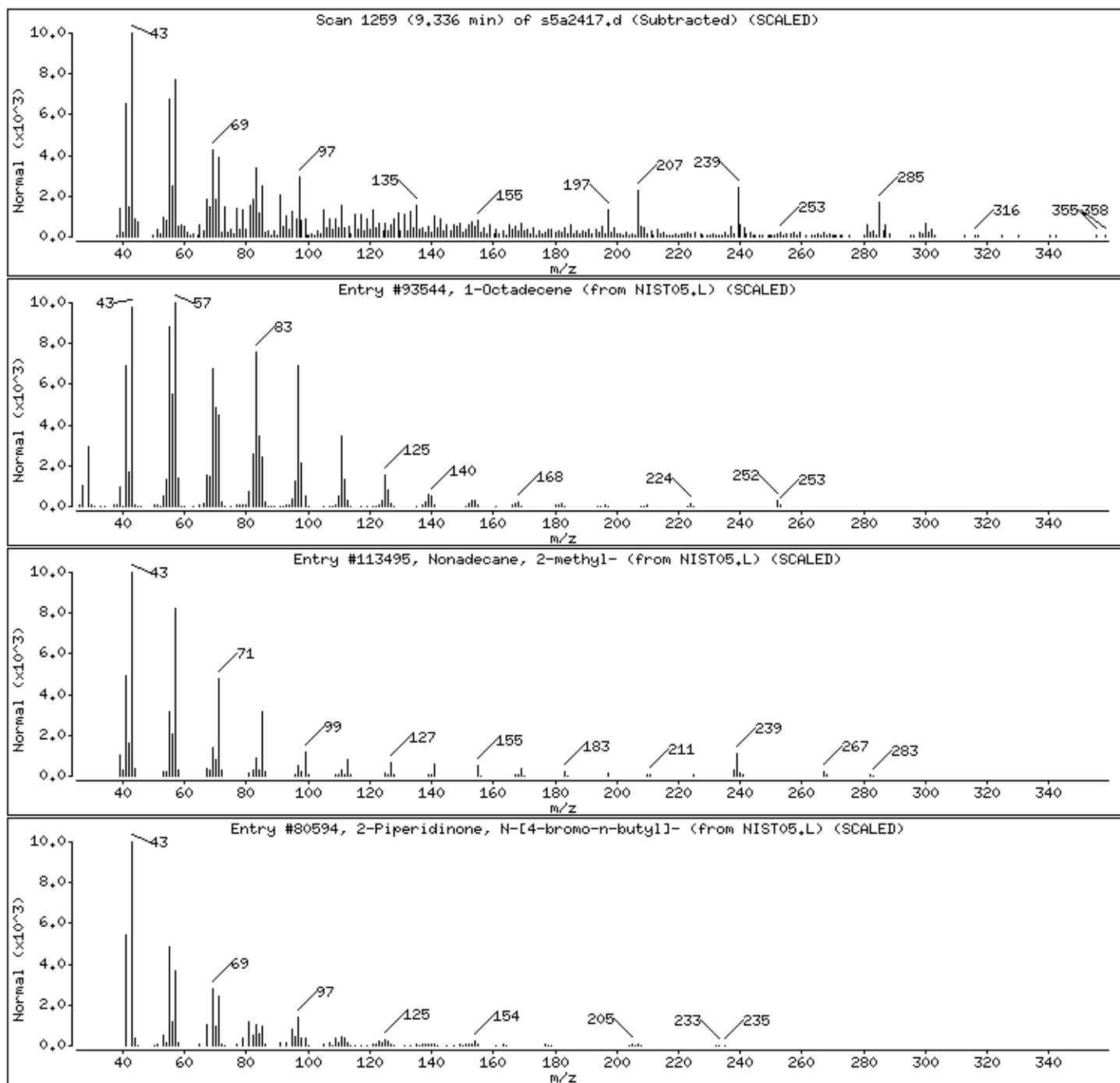
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Octadecene	112-88-9	NIST05.L	93544	90	C18H36	252
Nonadecane, 2-methyl-	1560-86-7	NIST05.L	113495	70	C20H42	282
2-Piperidinone, N-[4-bromo-n-butyl]-	195194-80-0	NIST05.L	80594	62	C9H16BrNO	233



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

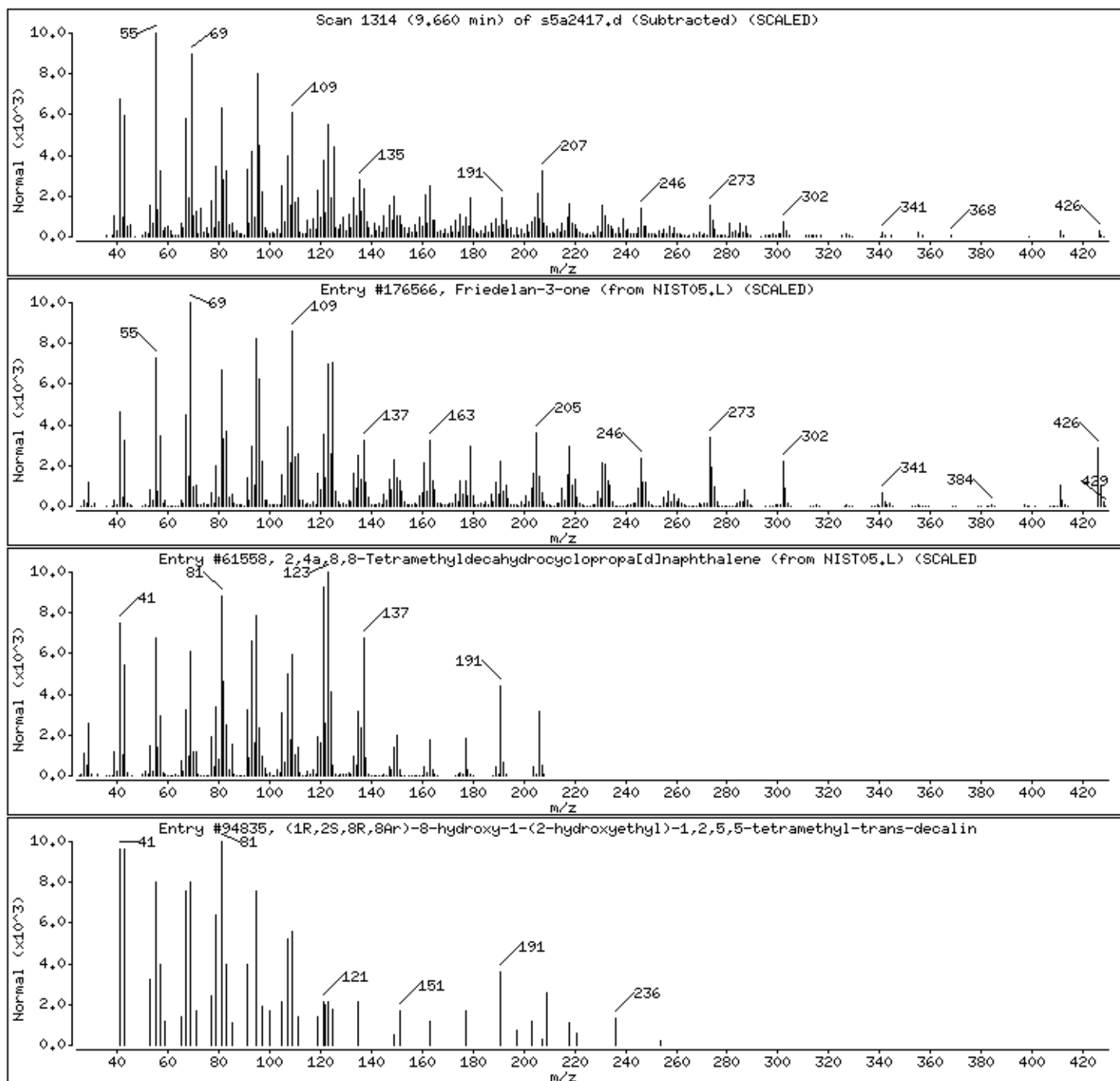
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Friedelan-3-one	559-74-0	NIST05.L	176566	99	C30H50O	426
2,4a,8,8-Tetramethyldecahydrocyclopropa[	74022-04-1	NIST05.L	61558	64	C15H26	206
(1R,2S,8R,8Ar)-8-hydroxy-1-(2-hydroxyeth	1000298-98-3	NIST05.L	94835	48	C16H30O2	254



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

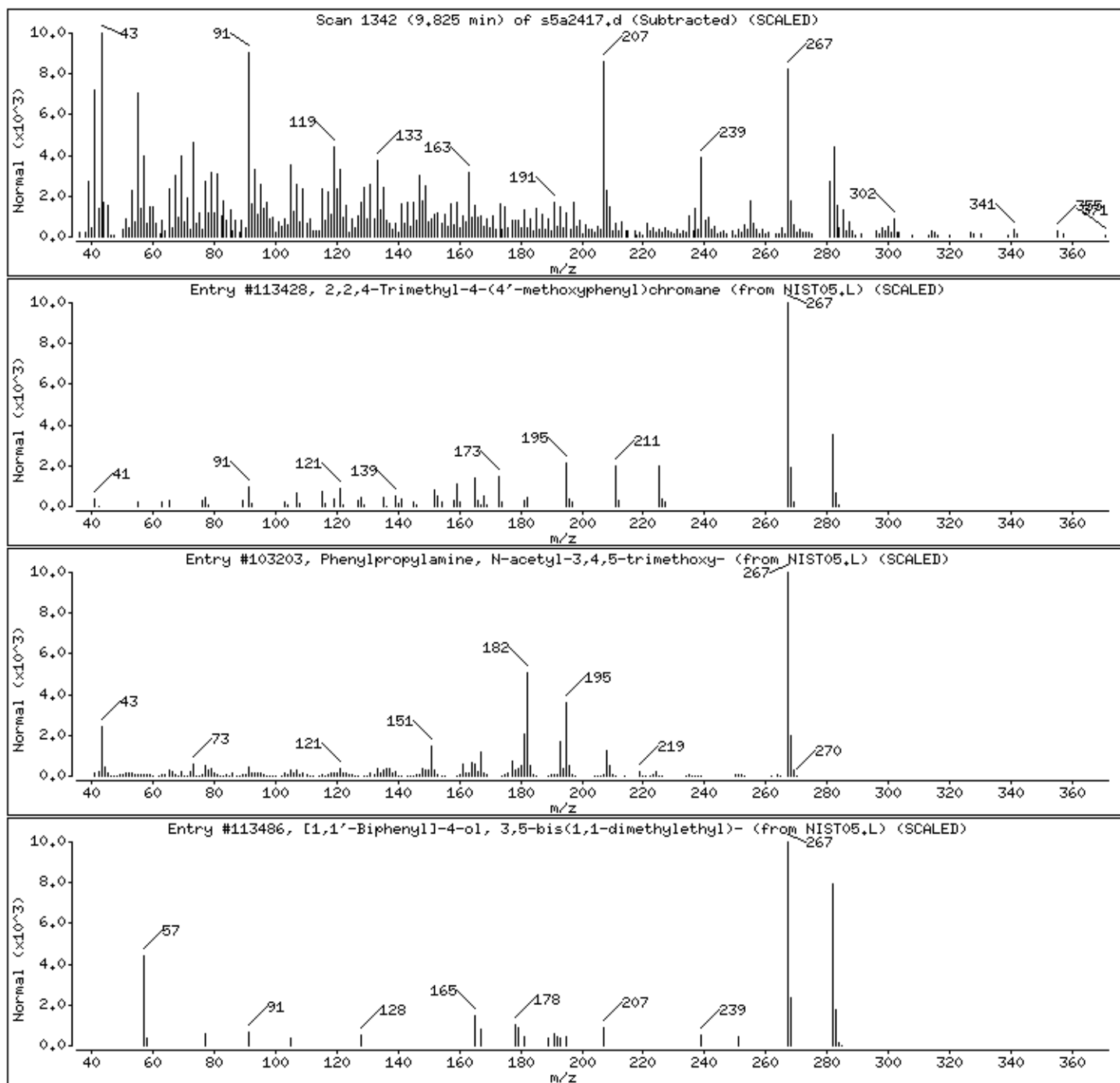
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2,2,4-Trimethyl-4-(4'-methoxyphenyl)chro	109400-42-2	NIST05.L	113428	55	C19H22O2	282
Phenylpropylamine, N-acetyl-3,4,5-trimet	112369-97-8	NIST05.L	103203	45	C14H21NO4	267
[1,1'-Biphenyl]-4-ol, 3,5-bis(1,1-dimeth	2668-47-5	NIST05.L	113486	42	C20H26O	282



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

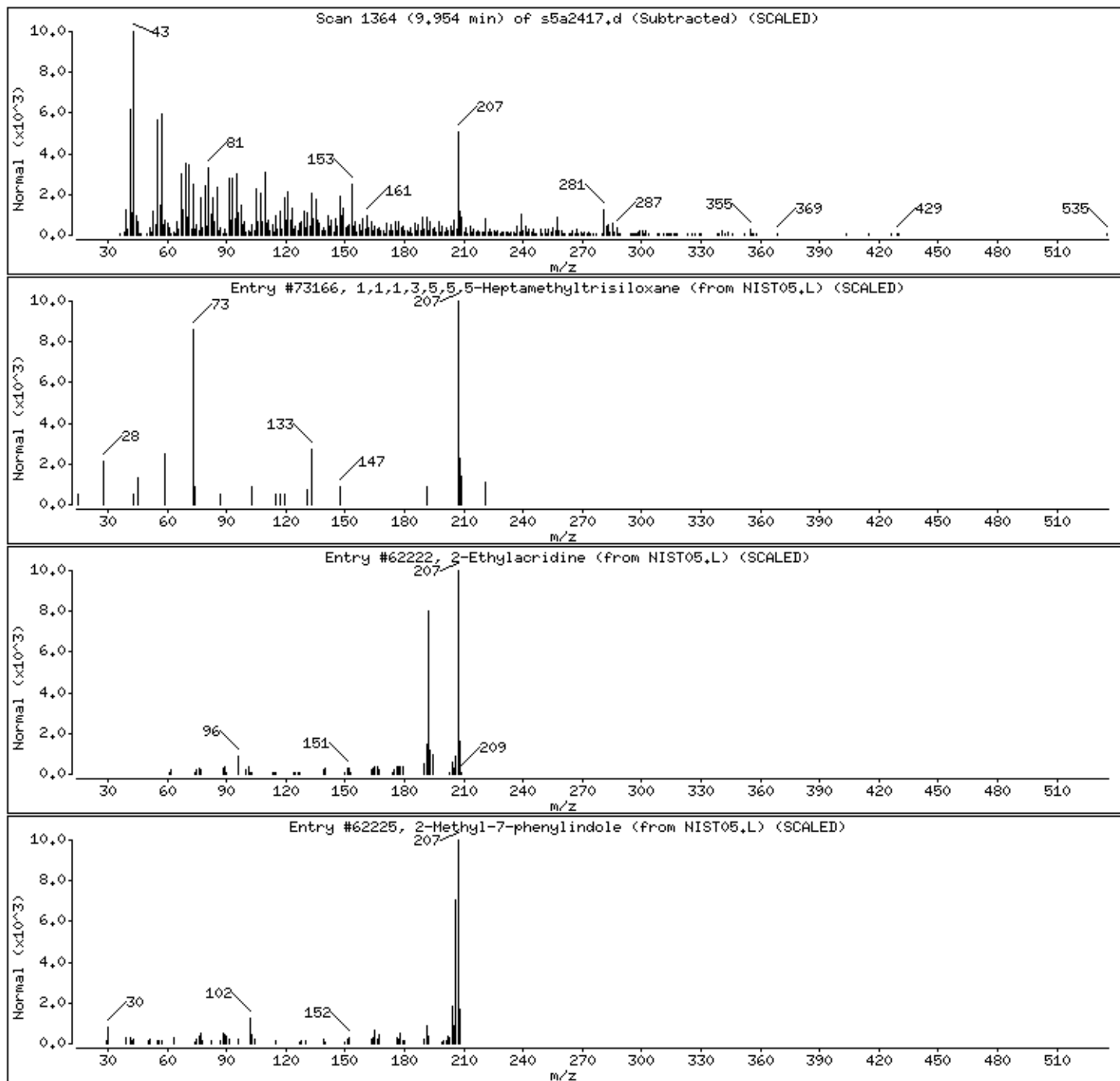
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1,1,1,3,5,5-Heptamethyltrisiloxane	1873-88-7	NIST05.L	73166	27	C7H22O2Si3	222
2-Ethylacridine	55751-83-2	NIST05.L	62222	25	C15H13N	207
2-Methyl-7-phenylindole	1140-08-5	NIST05.L	62225	25	C15H13N	207



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011ISVH11ILANL

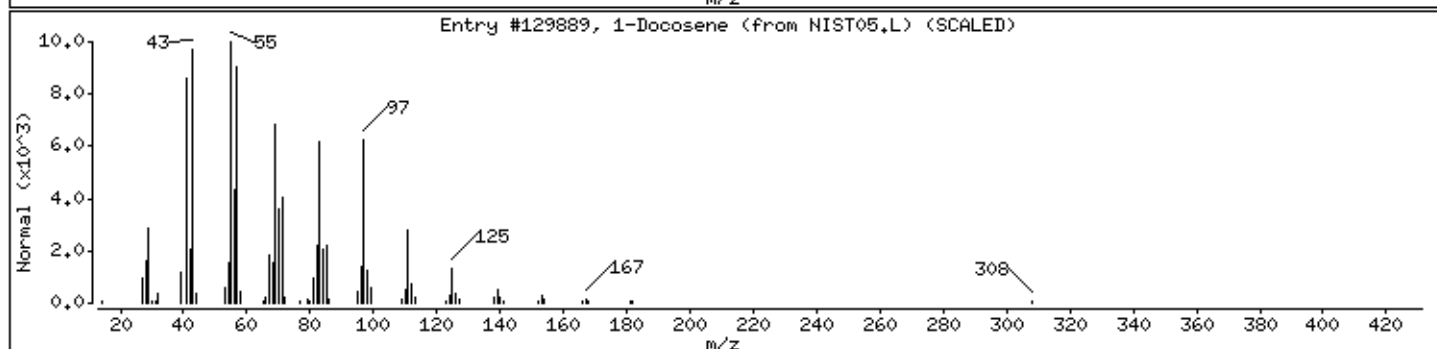
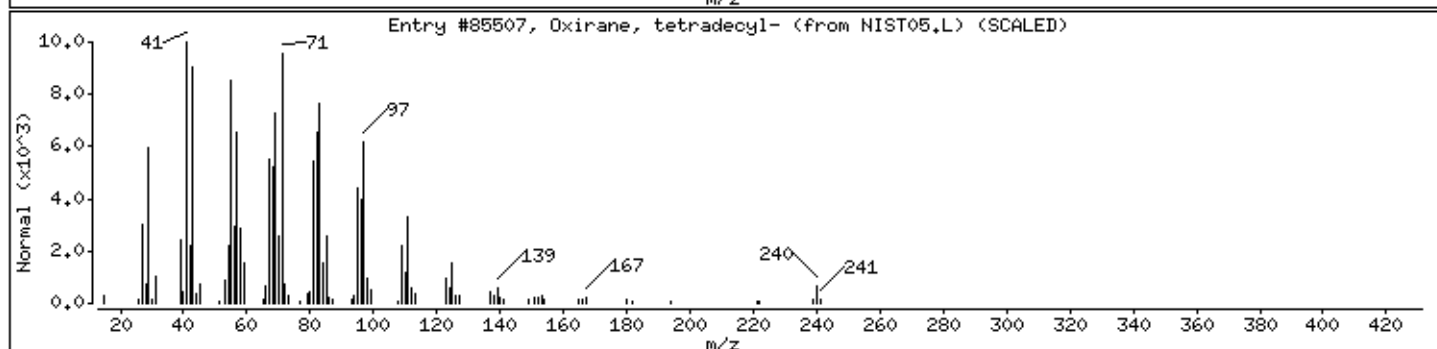
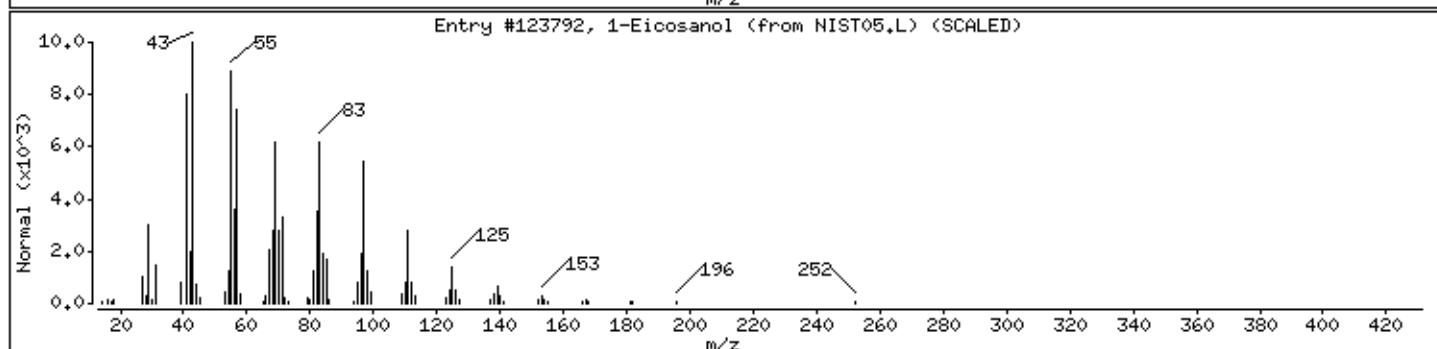
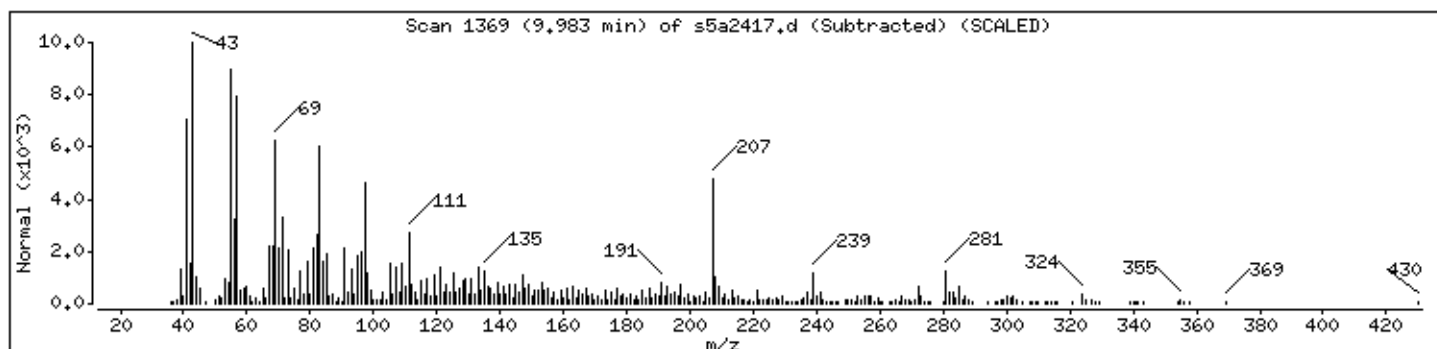
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Eicosanol	629-96-9	NIST05.L	123792	90	C20H42O	298
Oxirane, tetradecyl-	7320-37-8	NIST05.L	85507	80	C16H32O	240
1-Docosene	1599-67-3	NIST05.L	129889	78	C22H44	308



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011ISVH11ILANL

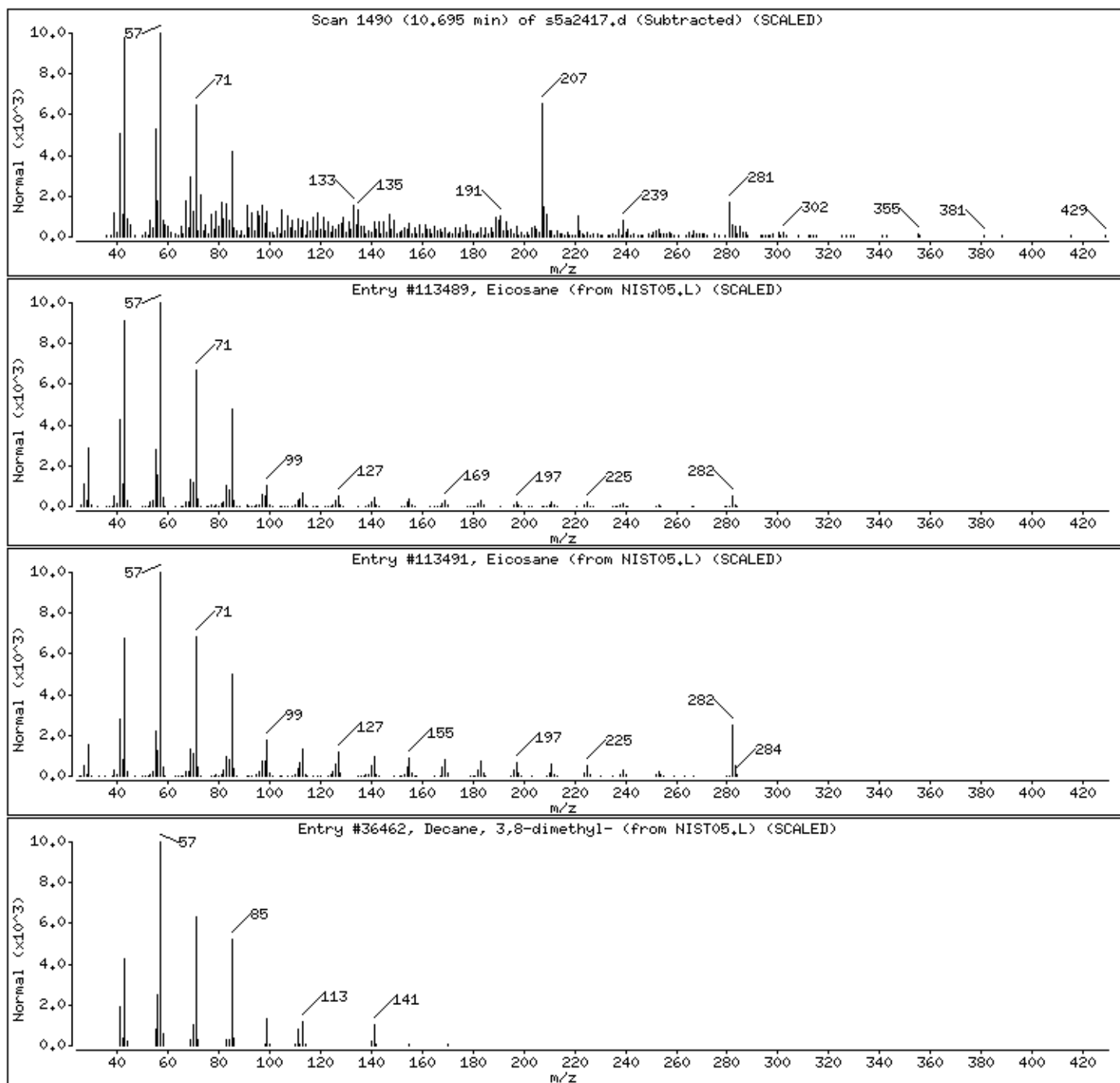
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Eicosane	112-95-8	NIST05.L	113489	95	C20H42	282
Eicosane	112-95-8	NIST05.L	113491	84	C20H42	282
Decane, 3,8-dimethyl-	17312-55-9	NIST05.L	36462	83	C12H26	170



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

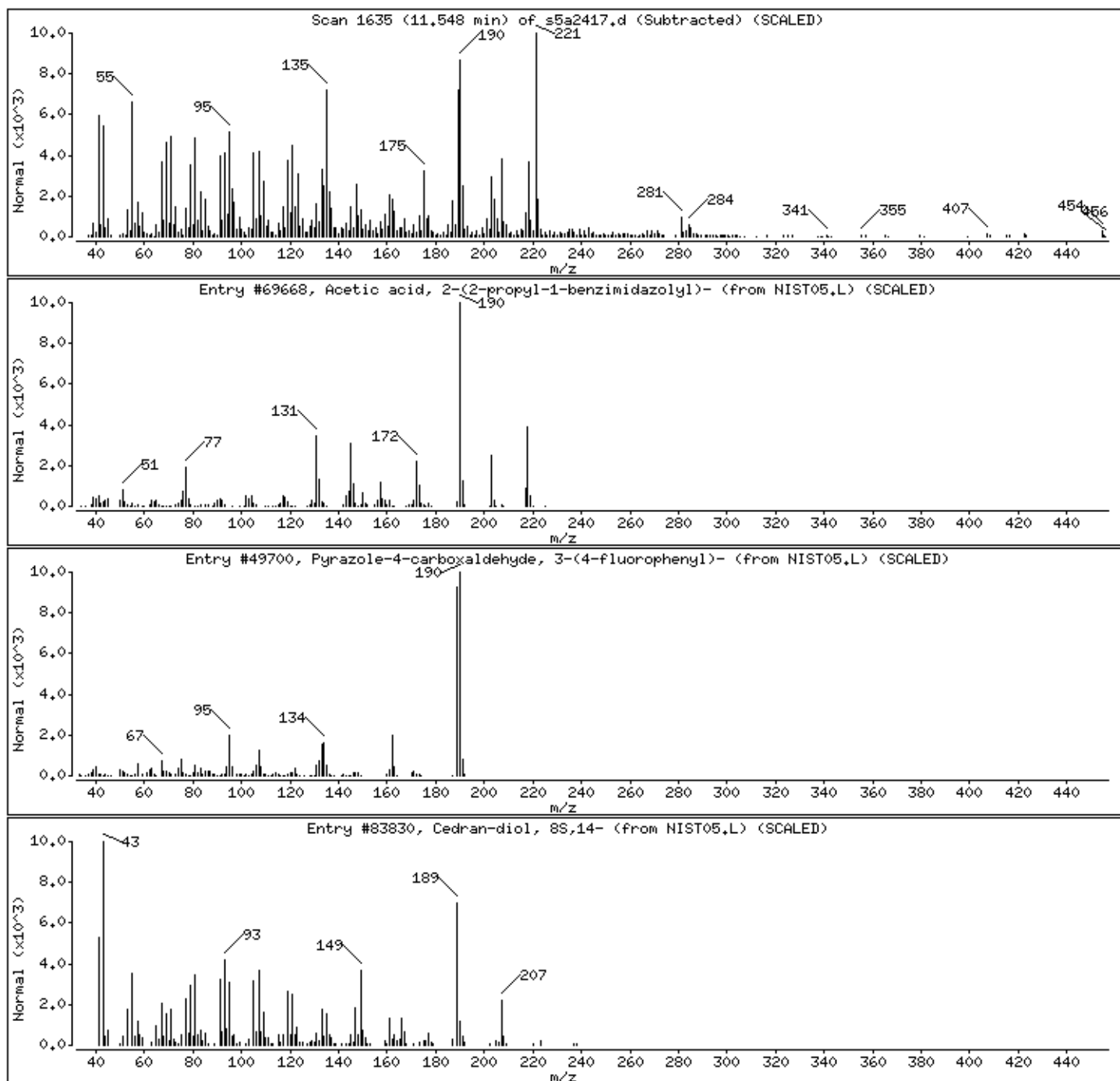
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Acetic acid, 2-(2-propyl-1-benzimidazolyl)	331736-92-6	NIST05.L	69668	46	C12H14N2O2	218
Pyrazole-4-carboxaldehyde, 3-(4-fluoroph	306936-57-2	NIST05.L	49700	25	C10H7FN2O	190
Cedran-diol, 8S,14-	62600-05-9	NIST05.L	83830	20	C15H26O2	238



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 12448470031942930111SVH111LANL

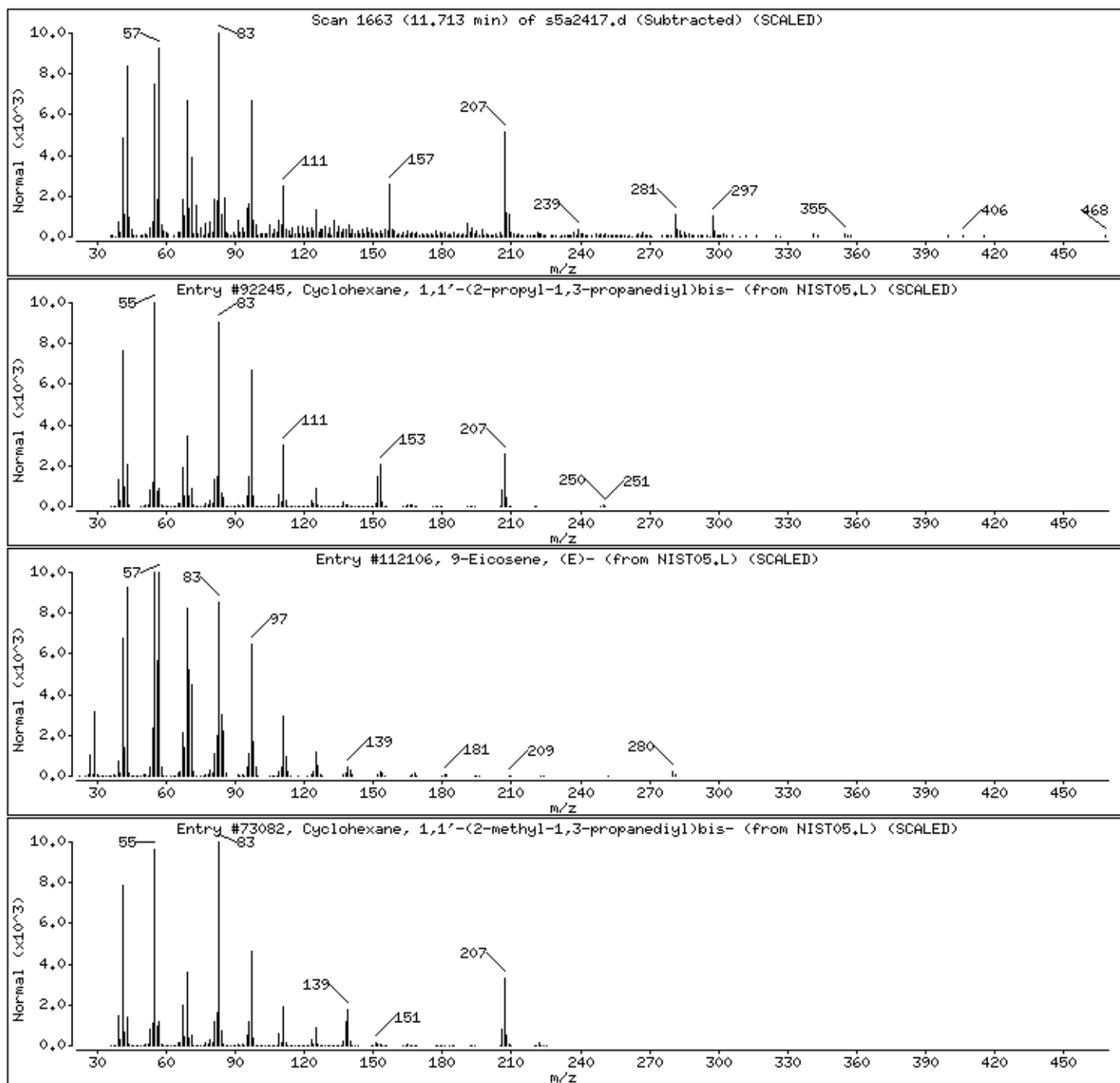
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Cyclohexane, 1,1'-(2-propyl-1,3-propanediyl)bis-	55030-21-2	NIST05.L	92245	46	C18H34	250
9-Eicosene, (E)-	74685-29-3	NIST05.L	112106	45	C20H40	280
Cyclohexane, 1,1'-(2-methyl-1,3-propanediyl)bis-	2883-08-1	NIST05.L	73082	43	C16H30	222





Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011ISVH11ILANL

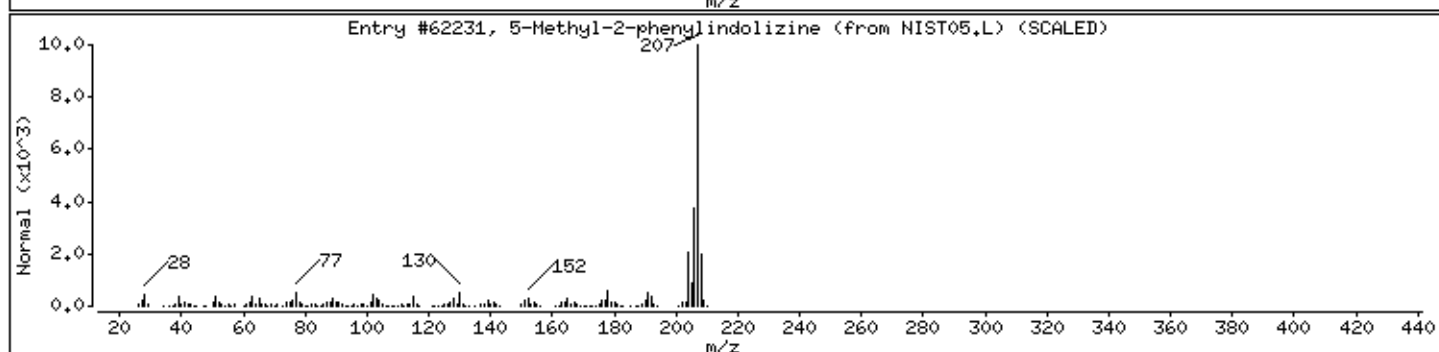
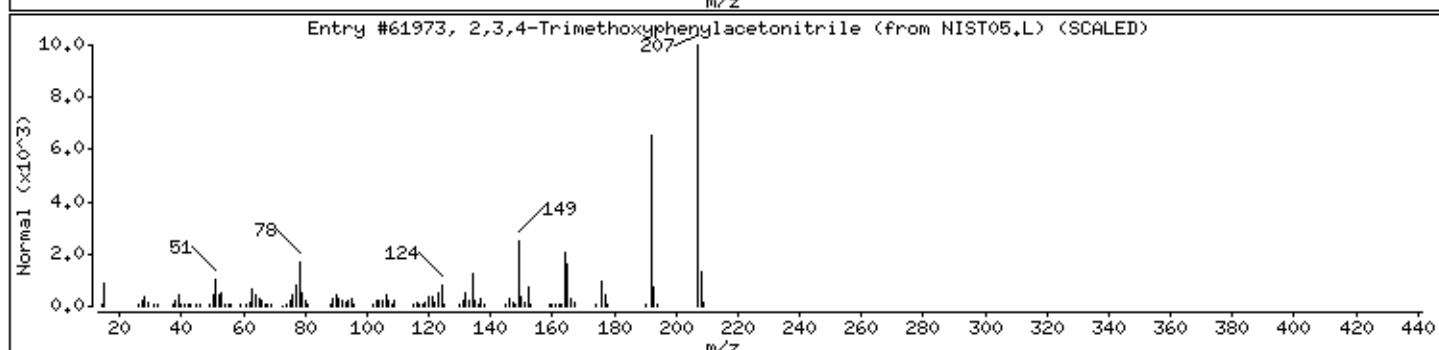
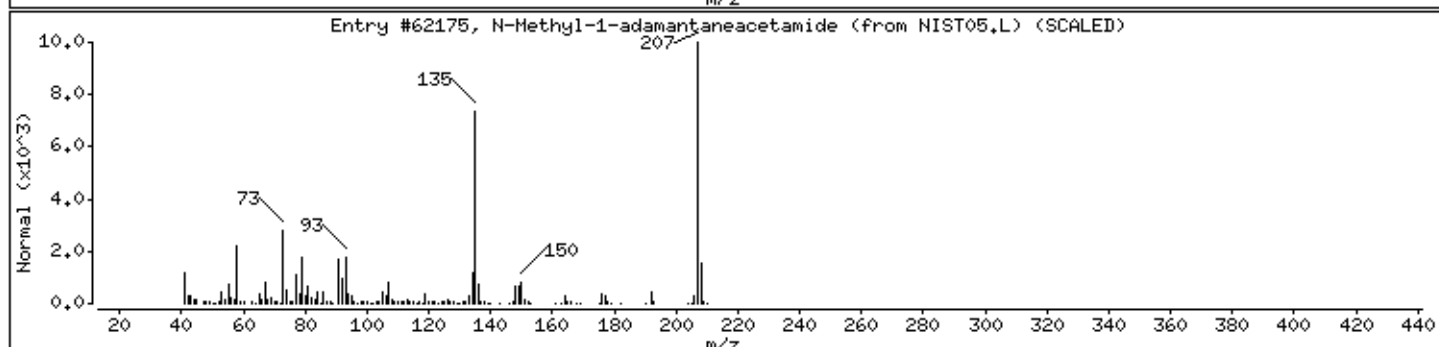
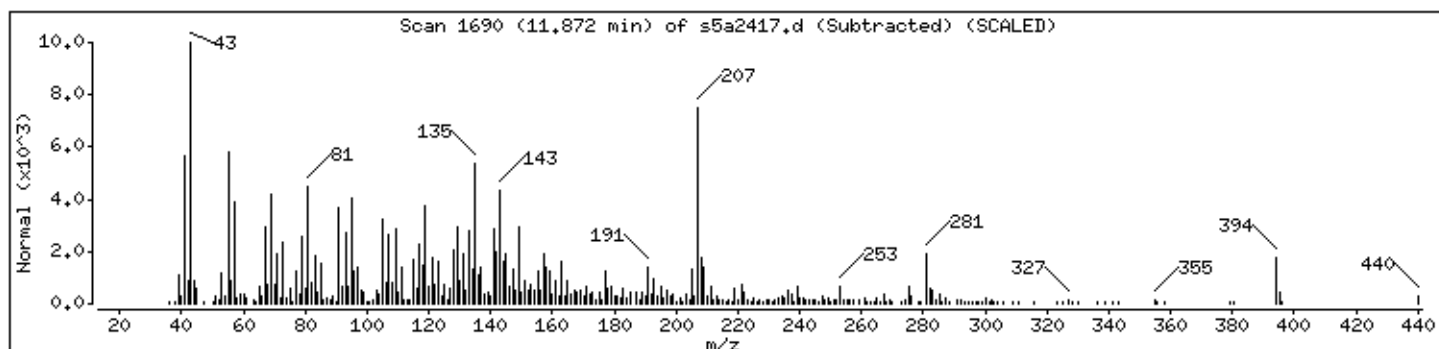
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
N-Methyl-1-adamantaneacetamide	31897-93-5	NIST05.L	62175	41	C13H21NO	207
2,3,4-Trimethoxyphenylacetoneitrile	68913-85-9	NIST05.L	61973	25	C11H13NO3	207
5-Methyl-2-phenylindolizine	36944-99-7	NIST05.L	62231	20	C15H13N	207



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

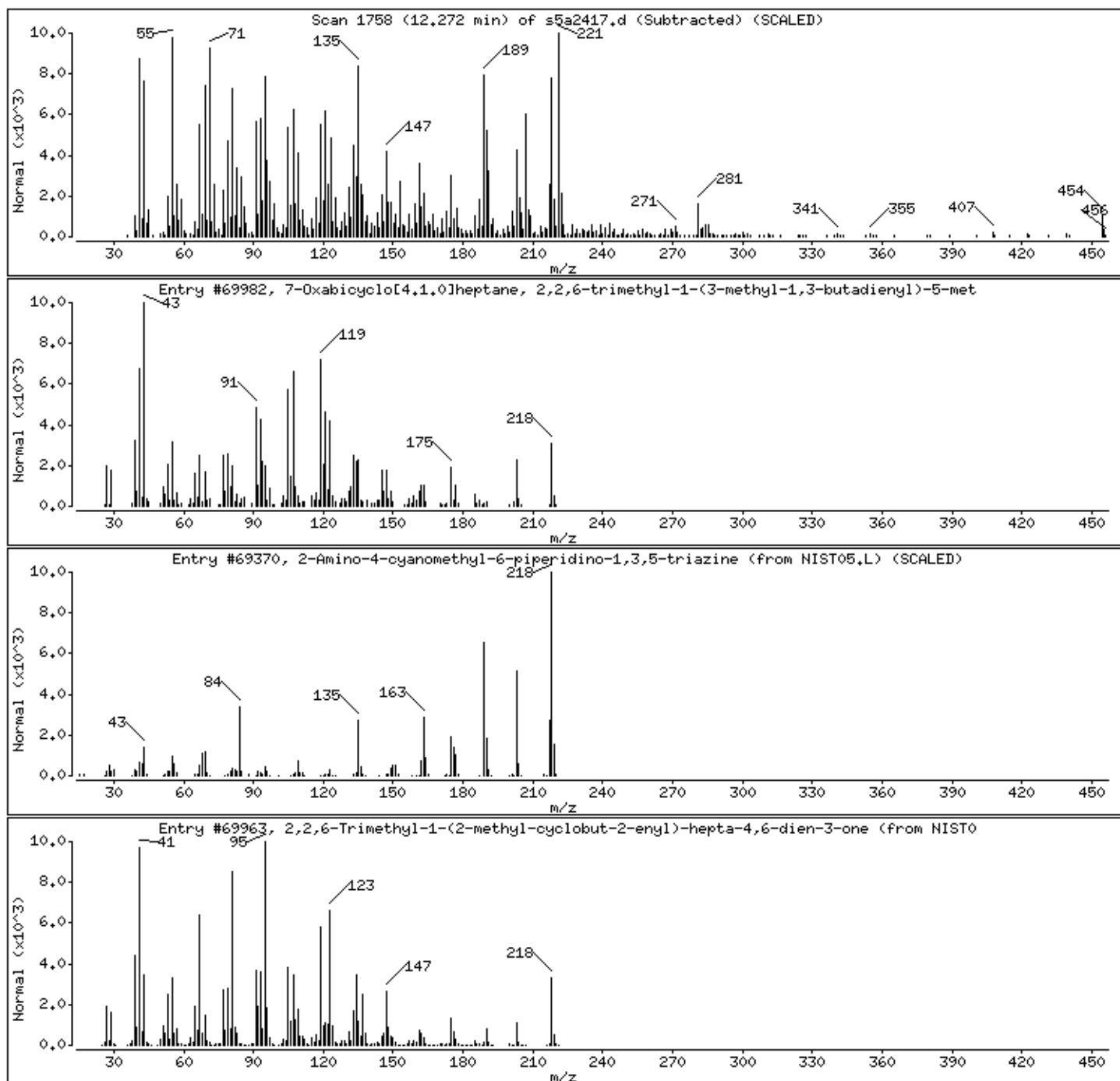
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
7-Oxabicyclo[4.1.0]heptane, 2,2,6-trimet	70038-20-9	NIST05.L	69982	90	C15H22O	218
2-Amino-4-cyanomethyl-6-piperidino-1,3,5	1000241-05-9	NIST05.L	69370	38	C10H14N6	218
2,2,6-Trimethyl-1-(2-methyl-cyclobut-2-e	1000188-72-8	NIST05.L	69963	35	C15H22O	218



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH111LANL

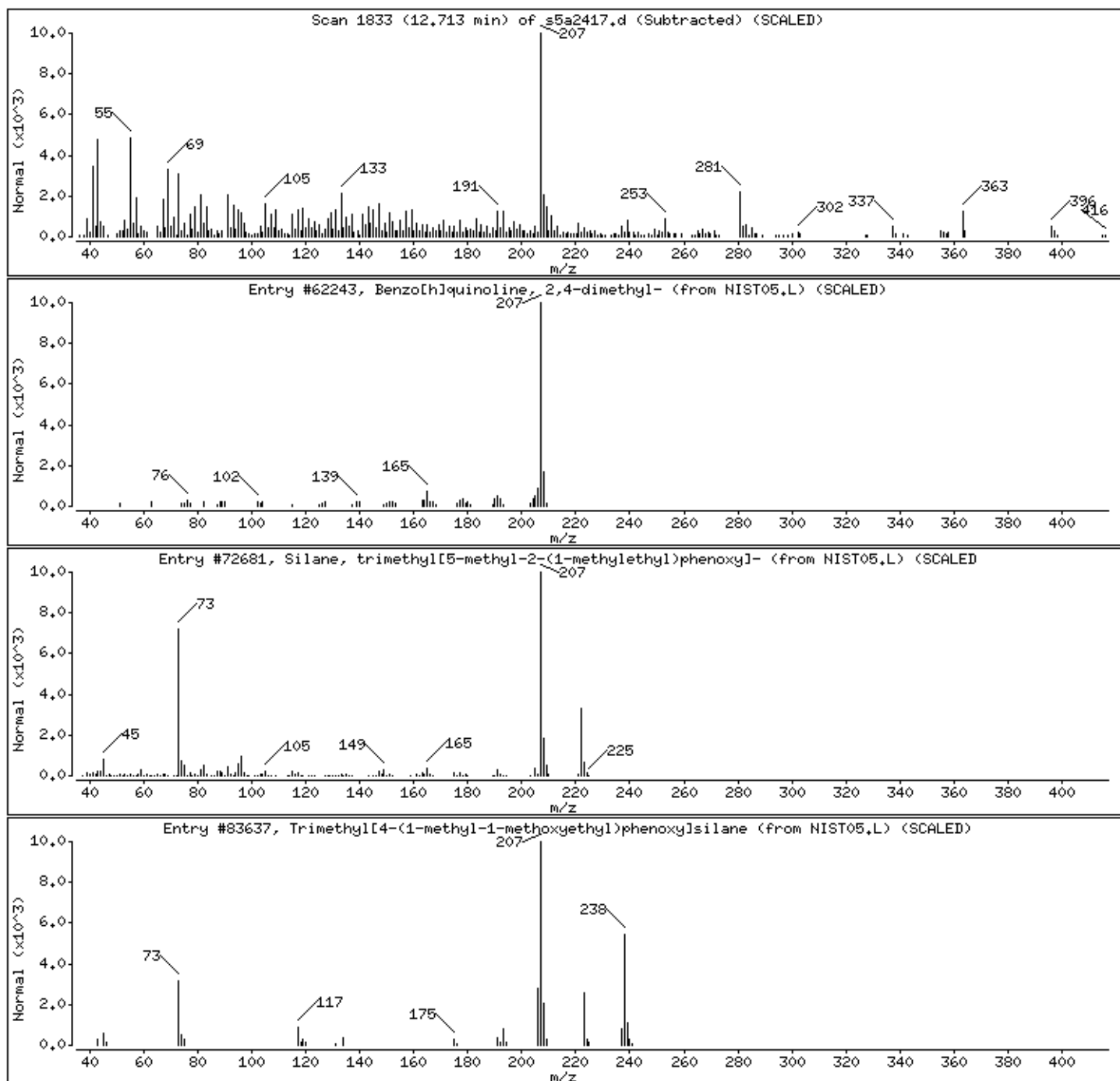
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Benzo[h]quinoline, 2,4-dimethyl-	605-67-4	NIST05.L	62243	50	C15H13N	207
Silane, trimethyl[5-methyl-2-(1-methylet	55012-80-1	NIST05.L	72681	49	C13H22OSi	222
Trimethyl[4-(1-methyl-1-methoxyethyl)phe	1000283-54-8	NIST05.L	83637	49	C13H22O2Si	238



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011ISVH11ILANL

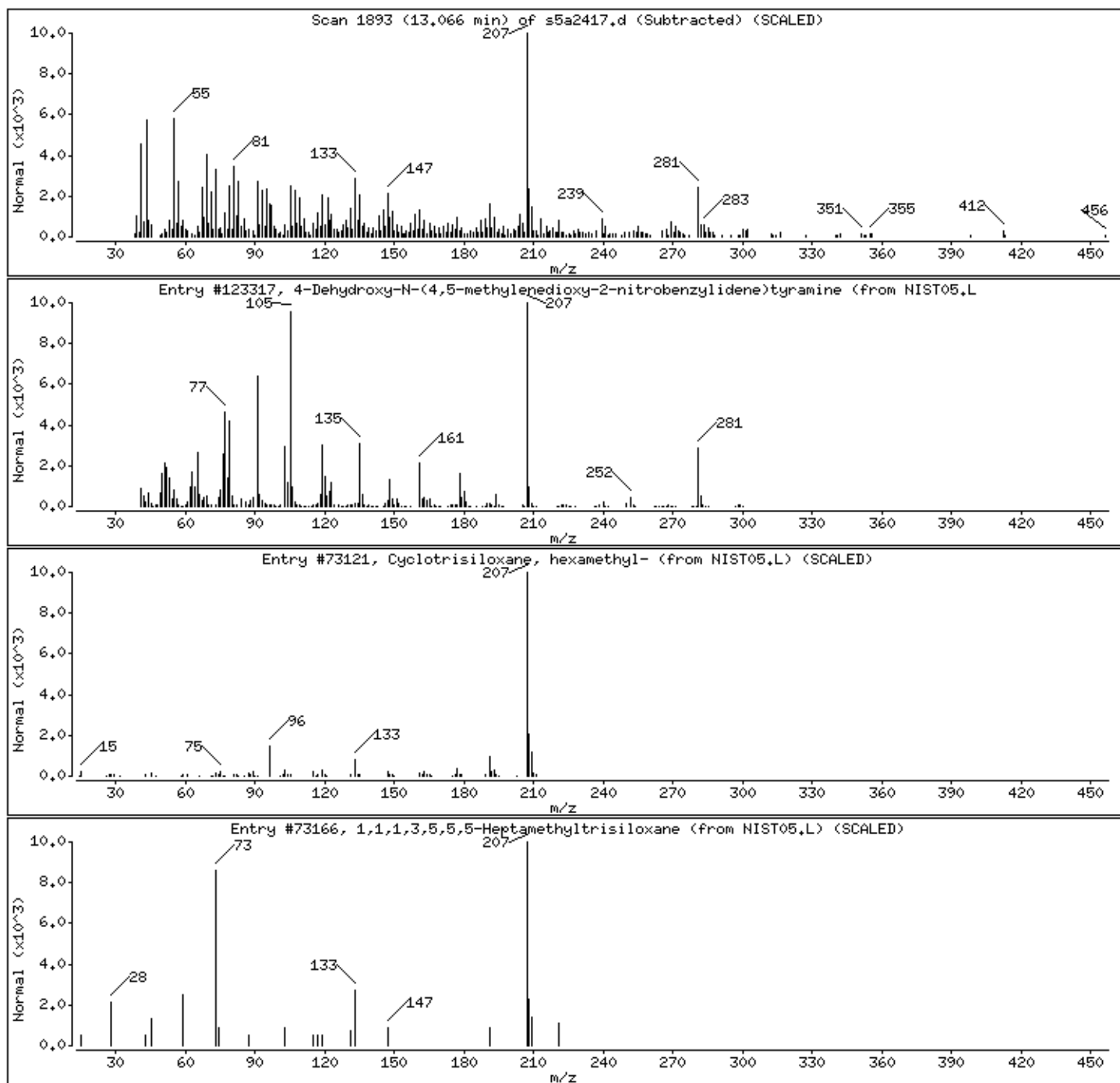
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
4-Dehydroxy-N-(4,5-methylenedioxy-2-nitro	1000111-66-9	NIST05.L	123317	49	C16H14N2O4	298
Cyclotrisiloxane, hexamethyl-	541-05-9	NIST05.L	73121	38	C6H18O3Si3	222
1,1,1,3,5,5-Heptamethyltrisiloxane	1873-88-7	NIST05.L	73166	38	C7H22O2Si3	222



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011ISVH11ILANL

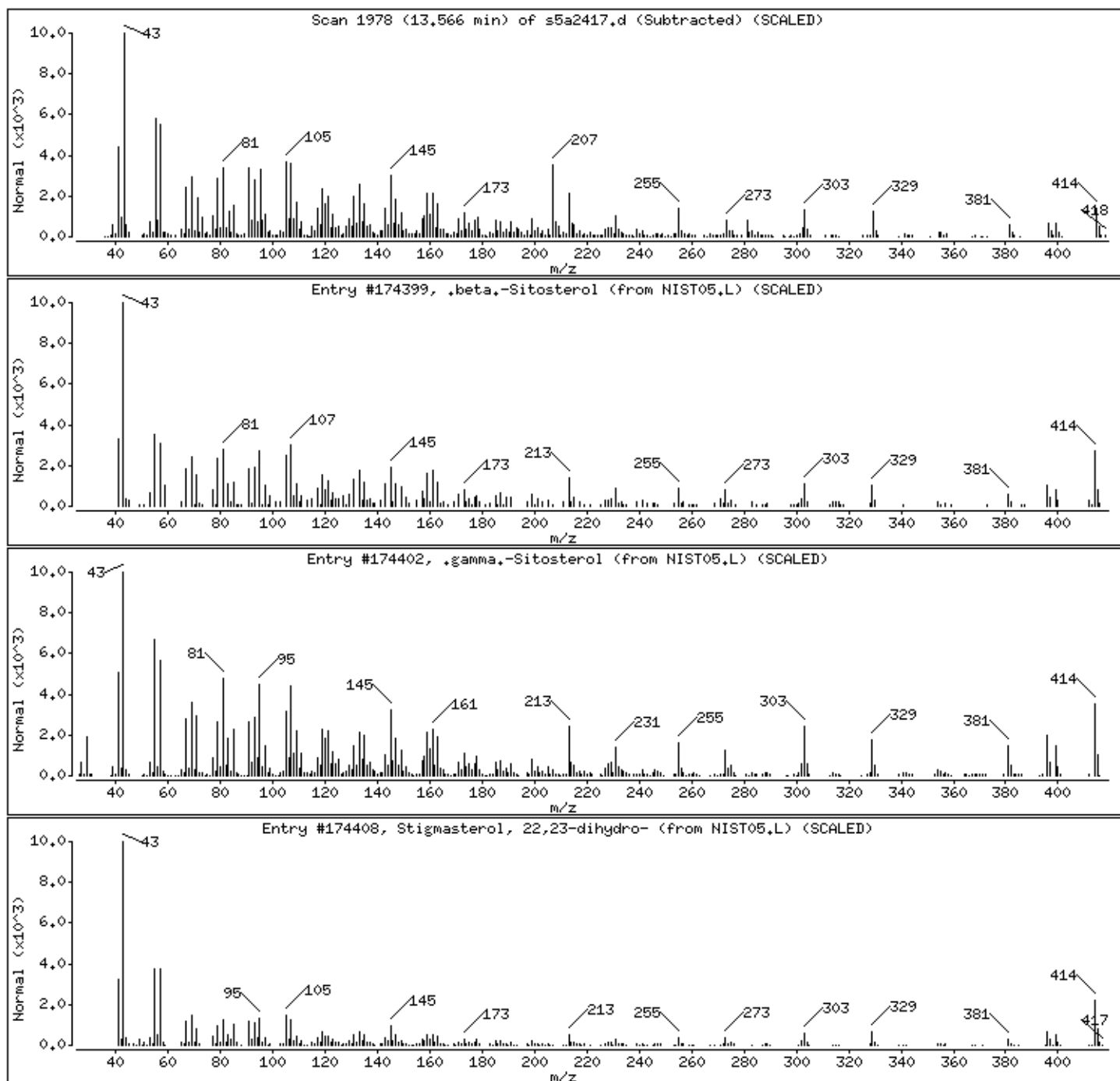
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
.beta.-Sitosterol	83-46-5	NIST05.L	174399	99	C <sub>29</sub> H <sub>50</sub> O	414
.gamma.-Sitosterol	83-47-6	NIST05.L	174402	97	C <sub>29</sub> H <sub>50</sub> O	414
Stigmasterol, 22,23-dihydro-	1000214-20-7	NIST05.L	174408	93	C <sub>29</sub> H <sub>50</sub> O	414



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: I244847003I942930I1ISVHI1ILANL

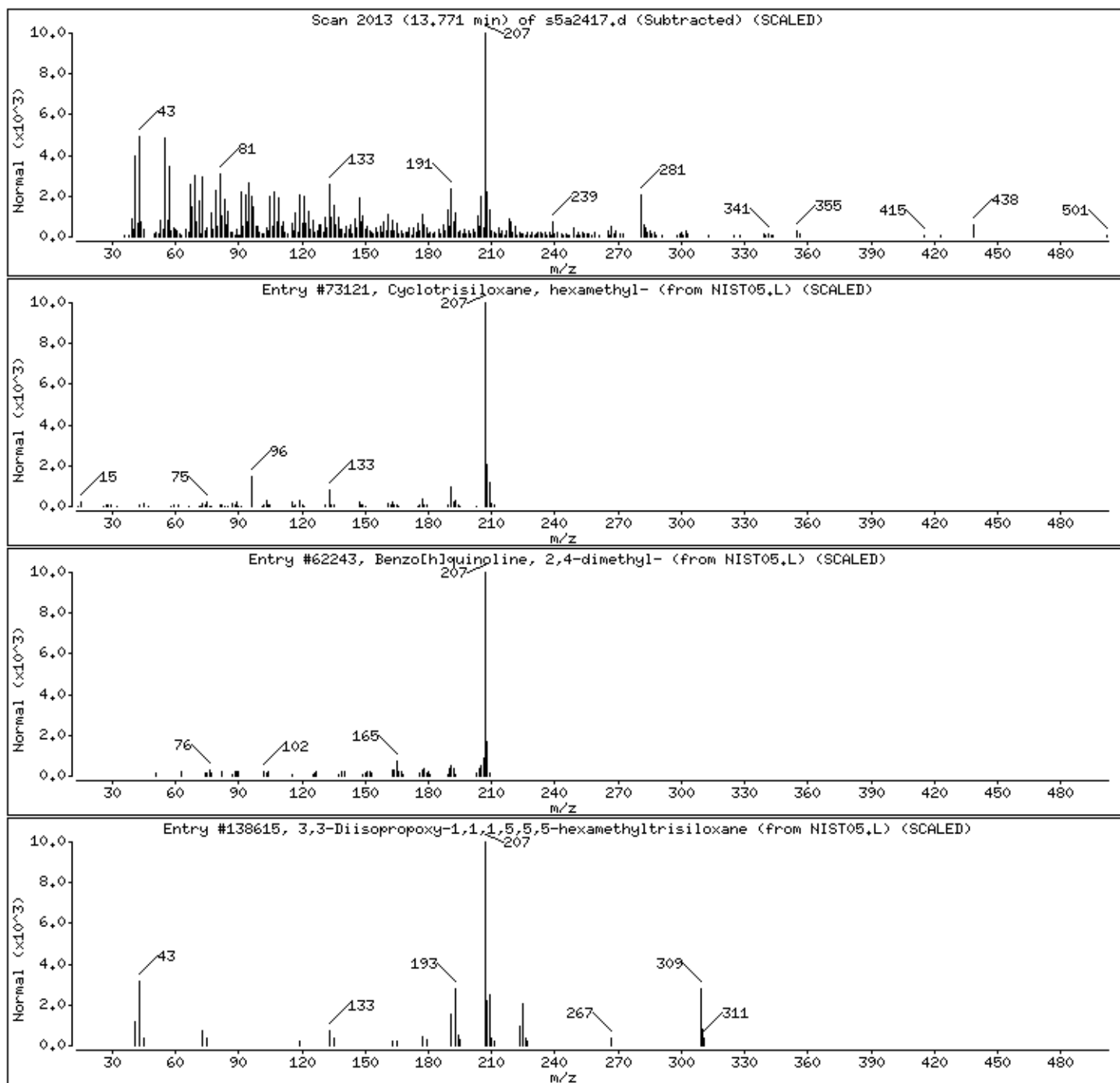
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Cyclotrisiloxane, hexamethyl-	541-05-9	NIST05.L	73121	47	C6H18O3Si3	222
Benzo[h]quinoline, 2,4-dimethyl-	605-67-4	NIST05.L	62243	38	C15H13N	207
3,3-Diisopropoxy-1,1,1,5,5,5-hexamethyl-	18082-56-9	NIST05.L	138615	38	C12H32O4Si3	324



Date : 24-JAN-2010 18:47

Client ID: RE12-10-7274

Instrument: MSD5.i

Sample Info: 1244847003194293011SVH11ILANL

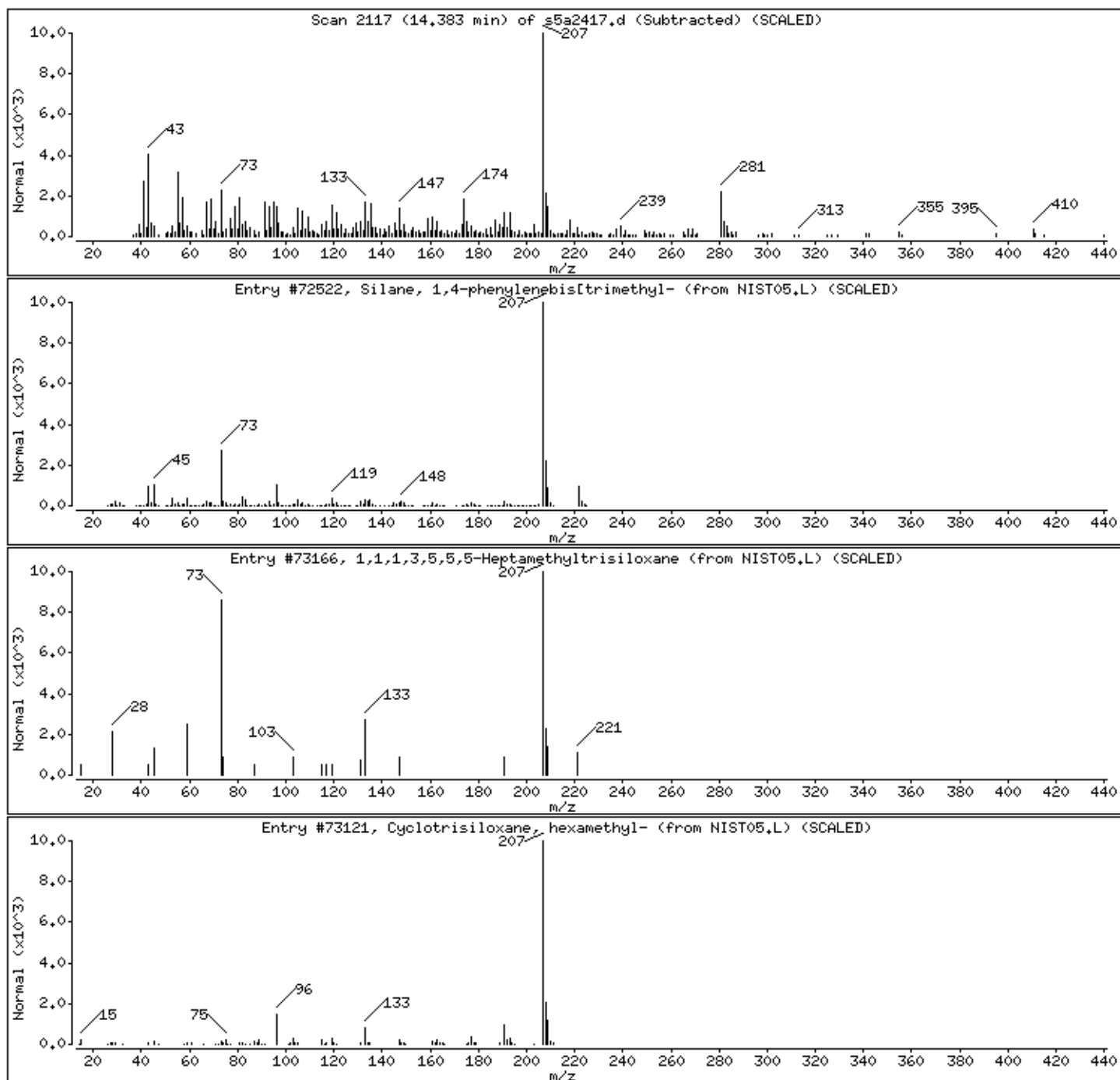
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Silane, 1,4-phenylenebis(trimethyl-	13183-70-5	NIST05.L	72522	59	C12H22Si2	222
1,1,1,3,5,5,5-Heptamethyltrisiloxane	1873-88-7	NIST05.L	73166	53	C7H22O2Si3	222
Cyclotrisiloxane, hexamethyl-	541-05-9	NIST05.L	73121	50	C6H18O3Si3	222



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 3

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	370	ug/kg	73.9	370
108-95-2	Phenol	U	370	ug/kg	73.9	370
95-57-8	2-Chlorophenol	U	370	ug/kg	73.9	370
106-46-7	1,4-Dichlorobenzene	U	370	ug/kg	73.9	370
621-64-7	N-Nitrosodipropylamine	U	370	ug/kg	73.9	370
59-50-7	4-Chloro-3-methylphenol	U	370	ug/kg	73.9	370
83-32-9	Acenaphthene	U	37.0	ug/kg	12.2	37.0
121-14-2	2,4-Dinitrotoluene	U	370	ug/kg	37.0	370
100-02-7	4-Nitrophenol	U	370	ug/kg	122	370
87-86-5	Pentachlorophenol	U	370	ug/kg	92.4	370
129-00-0	Pyrene	U	37.0	ug/kg	11.1	37.0
110-86-1	Pyridine	U	370	ug/kg	73.9	370
62-53-3	Aniline	U	370	ug/kg	111	370
111-44-4	bis(2-Chloroethyl) ether	U	370	ug/kg	73.9	370
541-73-1	1,3-Dichlorobenzene	U	370	ug/kg	73.9	370
100-51-6	Benzyl alcohol	U	370	ug/kg	111	370
95-50-1	1,2-Dichlorobenzene	U	370	ug/kg	73.9	370
108-60-1	bis(2-Chloroisopropyl)ether	U	370	ug/kg	73.9	370
95-48-7	o-Cresol	U	370	ug/kg	73.9	370
65794-96-9	m,p-Cresols	U	370	ug/kg	111	370
67-72-1	Hexachloroethane	U	370	ug/kg	73.9	370
98-95-3	Nitrobenzene	U	370	ug/kg	73.9	370
78-59-1	Isophorone	U	370	ug/kg	73.9	370
88-75-5	2-Nitrophenol	U	370	ug/kg	73.9	370
105-67-9	2,4-Dimethylphenol	U	370	ug/kg	129	370
111-91-1	bis(2-Chloroethoxy)methane	U	370	ug/kg	73.9	370
120-83-2	2,4-Dichlorophenol	U	370	ug/kg	73.9	370
65-85-0	Benzoic acid	U	739	ug/kg	185	739
91-20-3	Naphthalene	U	37.0	ug/kg	11.1	37.0
106-47-8	4-Chloroaniline	U	370	ug/kg	73.9	370
87-68-3	Hexachlorobutadiene	U	370	ug/kg	73.9	370
91-57-6	2-Methylnaphthalene	U	37.0	ug/kg	7.39	37.0
77-47-4	Hexachlorocyclopentadiene	U	370	ug/kg	73.9	370
88-06-2	2,4,6-Trichlorophenol	U	370	ug/kg	73.9	370
95-95-4	2,4,5-Trichlorophenol	U	370	ug/kg	73.9	370
91-58-7	2-Chloronaphthalene	U	37.0	ug/kg	12.2	37.0
88-74-4	2-Nitroaniline	U	370	ug/kg	73.9	370
99-09-2	<i>o</i> -Nitroaniline	U	370	ug/kg	73.9	370
	3-Nitroaniline					



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8270C  
**Inst:** MSD5.I  
**Analyst:** RMB  
**Aliquot:** 30.02 g  
**Column:** J&W DB-5MS

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-009  
**Dilution:** 1  
**Inj. Vol:** .5 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	370	ug/kg	73.9	370
606-20-2	2,6-Dinitrotoluene	U	370	ug/kg	37.0	370
208-96-8	Acenaphthylene	U	37.0	ug/kg	11.1	37.0
51-28-5	2,4-Dinitrophenol	U	739	ug/kg	140	739
132-64-9	Dibenzofuran	U	370	ug/kg	73.9	370
84-66-2	Diethylphthalate	U	370	ug/kg	73.9	370
86-73-7	Fluorene	U	37.0	ug/kg	11.1	37.0
7005-72-3	4-Chlorophenylphenylether	U	370	ug/kg	73.9	370
534-52-1	2-Methyl-4,6-dinitrophenol	U	370	ug/kg	73.9	370
100-01-6	4-Nitroaniline	U	370	ug/kg	111	370
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	370	ug/kg	73.9	370
122-66-7	Azobenzene	U	370	ug/kg	73.9	370
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	370	ug/kg	73.9	370
118-74-1	Hexachlorobenzene	U	370	ug/kg	73.9	370
85-01-8	Phenanthrene	U	37.0	ug/kg	11.1	37.0
120-12-7	Anthracene	U	37.0	ug/kg	7.39	37.0
84-74-2	Di-n-butylphthalate	U	370	ug/kg	73.9	370
206-44-0	Fluoranthene	U	37.0	ug/kg	11.1	37.0
85-68-7	Butylbenzylphthalate	U	370	ug/kg	73.9	370
56-55-3	Benzo(a)anthracene	U	37.0	ug/kg	11.1	37.0
91-94-1	3,3'-Dichlorobenzidine	U	370	ug/kg	111	370
218-01-9	Chrysene	U	37.0	ug/kg	11.1	37.0
117-81-7	bis(2-Ethylhexyl)phthalate	U	370	ug/kg	73.9	370
117-84-0	Di-n-octylphthalate	U	370	ug/kg	73.9	370
205-99-2	Benzo(b)fluoranthene	U	37.0	ug/kg	11.1	37.0
207-08-9	Benzo(k)fluoranthene	U	37.0	ug/kg	11.1	37.0
50-32-8	Benzo(a)pyrene	U	37.0	ug/kg	11.1	37.0
193-39-5	Indeno(1,2,3-cd)pyrene	U	37.0	ug/kg	11.1	37.0
53-70-3	Dibenzo(a,h)anthracene	U	37.0	ug/kg	11.1	37.0
191-24-2	Benzo(ghi)perylene	U	37.0	ug/kg	11.1	37.0
120-82-1	1,2,4-Trichlorobenzene	U	370	ug/kg	73.9	370

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.88	301	ug/kg		JA
112-95-8	Eicosane	10.7	307	ug/kg	91	NJ

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

SDG Number: 10-1262  
Lab Sample ID: 244847004

Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8270C  
Inst: MSD5.I  
Analyst: RMB  
Aliquot: 30.02 g  
Column: J&W DB-5MS

Matrix: R  
%Moisture: 9.9  
Project: LANL01004  
SOP Ref: GL-OA-E-009  
Dilution: 1  
Inj. Vol: .5 uL  
Final Volume: 1 mL  
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
331736-92-6	Acetic acid, 2-(2-propyl-1-benzimidazolyl	11.57	3220	ug/kg	91	NJ
	Unknown	12.29	2510	ug/kg		J
	Unknown	13.07	438	ug/kg		J
	Unknown	13.77	526	ug/kg		J
	Unknown	14.01	149	ug/kg		J

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2418.d  
Lab Smp Id: 244847004 Client Smp ID: RE12-10-7281  
Inj Date : 24-JAN-2010 19:10  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847004|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 18  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.02000	weight of sample
M	9.88710	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863	(1.000)	455425	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729	(1.000)	1579485	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981	(1.000)	948195	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147	(1.000)	1739355	40.0000	
* 91 Chrysene-d12	240	9.548	9.550	(1.000)	1562906	40.0000	
* 98 Perylene-d12	264	11.177	11.182	(1.000)	1310382	40.0000	
\$ 3 2-Fluorophenol	112	3.054	3.049	(0.791)	683844	60.5465	2240
\$ 5 Phenol-d5	99	3.578	3.583	(0.927)	815563	58.5519	2160
\$ 20 Nitrobenzene-d5	82	4.219	4.229	(0.893)	371187	30.6069	1130
\$ 39 2-Fluorobiphenyl	172	5.466	5.471	(0.914)	745187	29.7088	1100
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579	(1.099)	226331	75.1004	2780
\$ 81 p-Terphenyl-d14	244	8.519	8.519	(0.892)	997433	40.6443	1500

## ION RATIO REPORT

## SV REPORT

Data file: s5a2418.d

Report Date: 01/25/2010 09:18

Lab. ID: 244847004

SampleType: SAMPLE

Injection Date: 24-JAN-2010 19:10

Operator: RMB

Instrument: MSD5.i

Sample Info: |244847004|942930|1|SVM|1|LANL

Miscellaneous Info: |MSD8270\_S|WBN100107-02

Comment:

Method used: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1262

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
4	Aniline		CAS#: 62-53-3			
66	43812	3.58	3.65	80-120	100	(T)
93	496	3.54	3.65	206-266	1	(QT)
-----						
17	N-Nitrosodipropylamine		CAS#: 621-64-7			
70	52850	4.22	4.10	80-120	100	(T)
42	32065	4.22	4.10	47-107	61	(T)
-----						
27	Benzoic acid		CAS#: 65-85-0			
105	2507	4.46	4.50	80-120	100	( )
122	1351	4.47	4.50	39- 99	54	( )
77	3514	4.47	4.50	35- 95	140	(Q)
-----						
43	Dimethylphthalate		CAS#: 131-11-3			
163	170254	5.98	5.75	80-120	100	(T)
164	948195	5.98	5.75	0- 40	557	(QT)
-----						
44	2,6-Dinitrotoluene		CAS#: 606-20-2			
165	129747	5.98	5.80	80-120	100	(T)
63	1445	5.98	5.80	60-120	1	(QT)
-----						
50	2,4-Dinitrotoluene		CAS#: 121-14-2			
165	129747	5.98	6.10	80-120	100	(T)
89	1799	5.98	6.10	47-107	1	(QT)
63	1445	5.98	6.10	24- 84	1	(QT)
-----						

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
52 4-Nitrophenol		CAS#: 100-02-7				
139	115	5.82	6.02	80-120	100	(T)
109	234	5.84	6.02	42-102	203	(QT)
65	939	5.80	6.02	86-146	812	(QT)
-----						
53 Fluorene		CAS#: 86-73-7				
166	13464	6.57	6.39	80-120	100	(T)
165	13818	6.57	6.39	57-117	103	(T)
167	4746	6.57	6.39	0- 44	35	(T)
-----						
55 2-Methyl-4,6-dinitrophenol		CAS#: 534-52-1				
198	873	6.57	6.41	80-120	100	(T)
105	2319	6.57	6.41	14- 74	266	(QT)
51	2214	6.57	6.41	34- 94	254	(QT)
-----						
61 4-Bromophenylphenylether		CAS#: 101-55-3				
248	16145	6.57	6.75	80-120	100	(T)
141	111250	6.57	6.75	45-105	689	(QT)
250	31931	6.57	6.75	68-128	198	(QT)
-----						
99 Indeno(1,2,3-cd)pyrene		CAS#: 193-39-5				
276	103	12.87	12.89	80-120	100	( )
138	304	12.87	12.90	0- 60	294	(Q)
-----						
100 Dibenzo(a,h)anthracene		CAS#: 53-70-3				
278	113	12.90	12.91	80-120	100	( )
139	1018	12.91	12.90	0- 30	896	(Q)

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2418.d  
Lab Smp Id: 244847004 Client Smp ID: RE12-10-7281  
Inj Date : 24-JAN-2010 19:10  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |244847004|942930|1|SVM|1|LANL  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 18  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula: Amt \* DF \* Uf \* Vt / (Vi \* Ws \* (100 - M) / 100) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.02000	weight of sample
M	9.88710	% moisture

Cpnd Variable Local Compound Variable

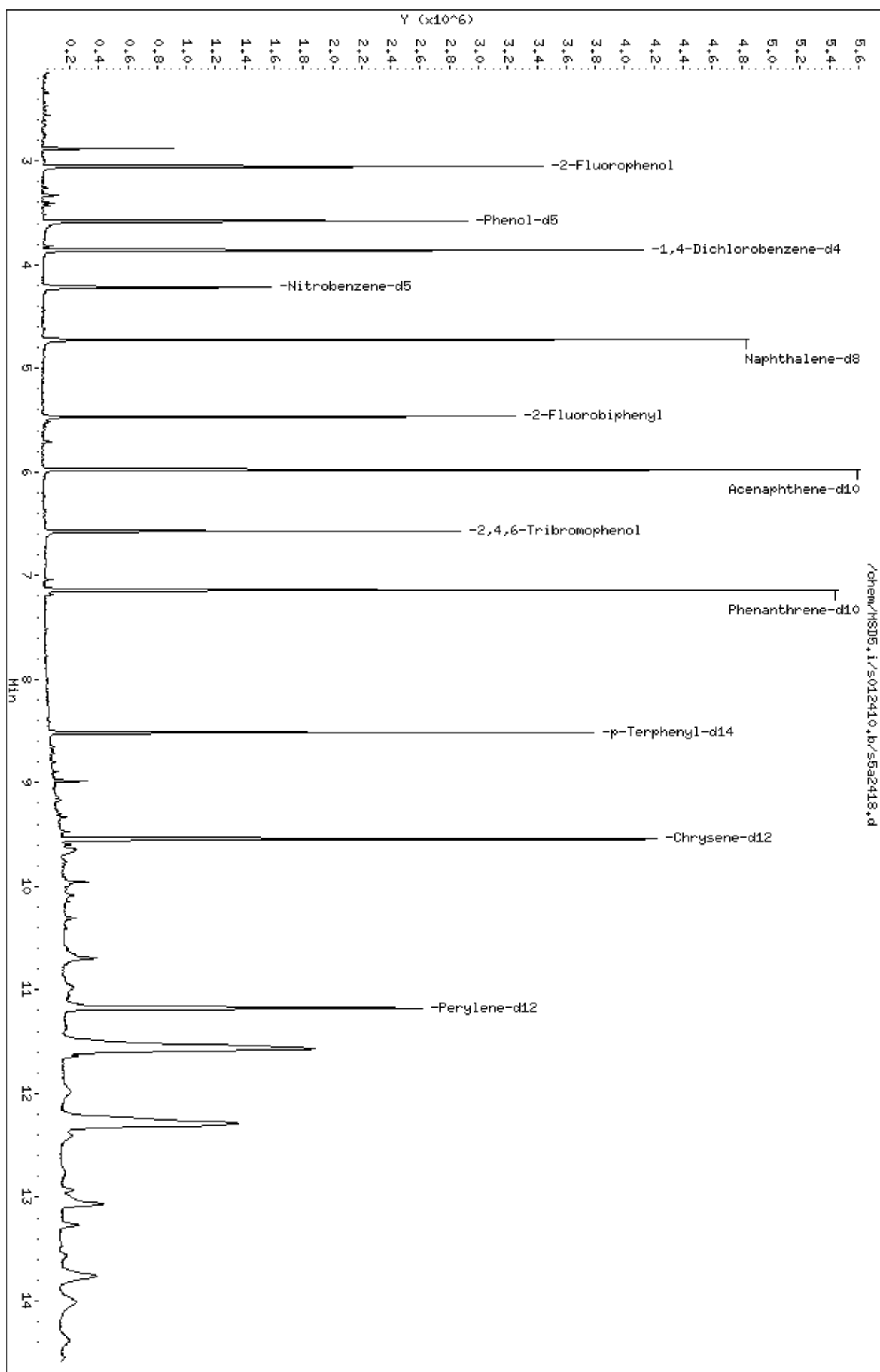
ISTD	RT	AREA	AMOUNT
=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.860	2828725	40.000
* 98 Perylene-d12	11.177	3550157	40.000

CONCENTRATIONS				QUANT			
RT	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
=====	=====	=====	=====	=====	=====	=====	=====
Unknown Aldol Condensate							
2.878	575452	8.13726209	301	0		0	10

RT	CONCENTRATIONS			QUAL	QUANT		CPND #
	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)		LIBRARY	LIB ENTRY	
====	====	=====	=====	====	=====	=====	=====
Eicosane					CAS #: 112-95-8		
10.695	737496	8.30944398	307	91	NIST05.L	113489	98
Acetic acid, 2-(2-propyl-1-benzimidazolyl					CAS #: 331736-92-6		
11.566	7733946	87.1391937	3220	91	NIST05.L	69668	98
Unknown					CAS #:		
12.289	6019723	67.8248663	2510	0		0	98
Unknown					CAS #:		
13.066	1050433	11.8353438	438	0		0	98
Unknown					CAS #:		
13.766	1262037	14.2195023	526	0		0	98
Unknown					CAS #:		
14.007	357024	4.02262667	149	0		0	98

Data File: /chem/HSD5.i/s012410.b/s5a2418.d  
 Date : 24-JAN-2010 19:10  
 Client ID: RE12-10-7281  
 Sample Info: 1244847004194293011SVH11LNL  
 Volume Injected (uL): 0.5  
 Column phase: 3uM DB-5MS

Instrument: HSD5.i  
 Operator: RHB  
 Column diameter: 0.20





Date : 24-JAN-2010 19:10

Client ID: RE12-10-7281

Instrument: MSD5,i

Sample Info: 1244847004194293011SVH11ILANL

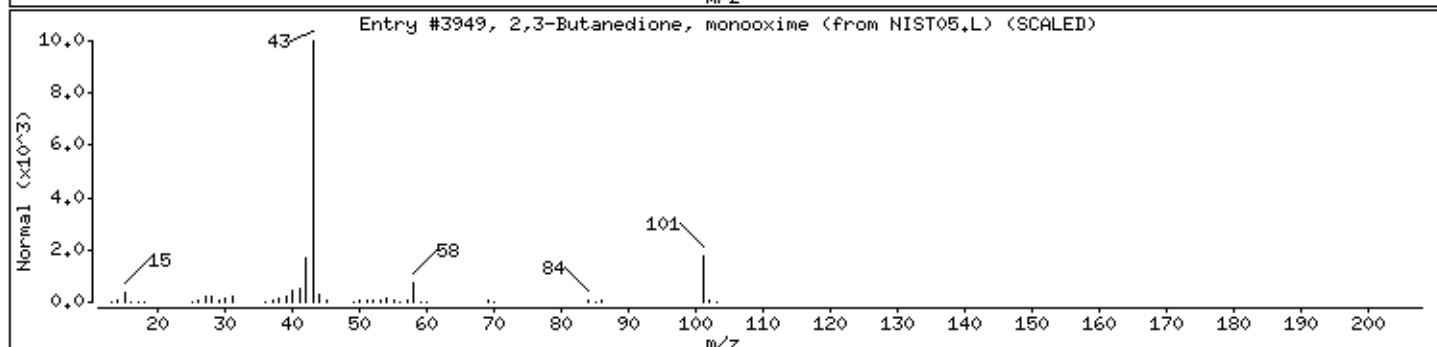
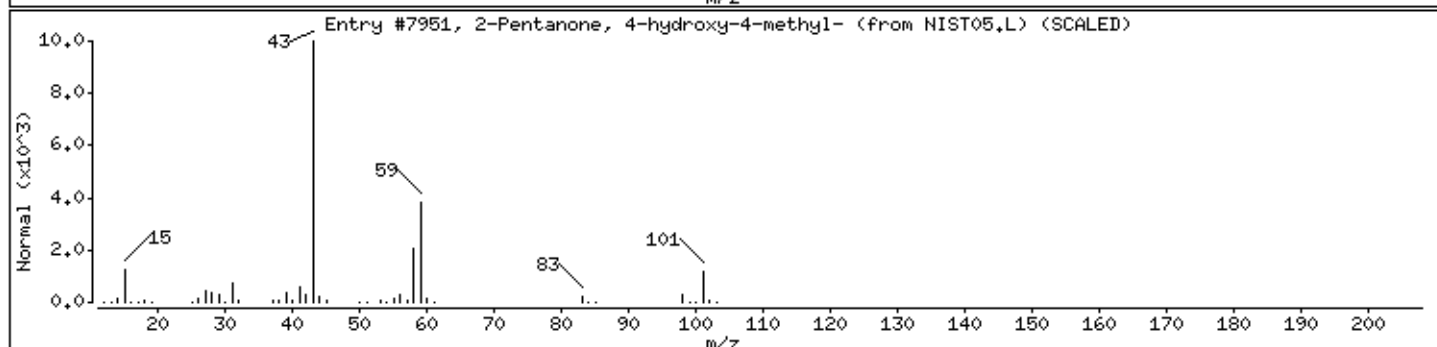
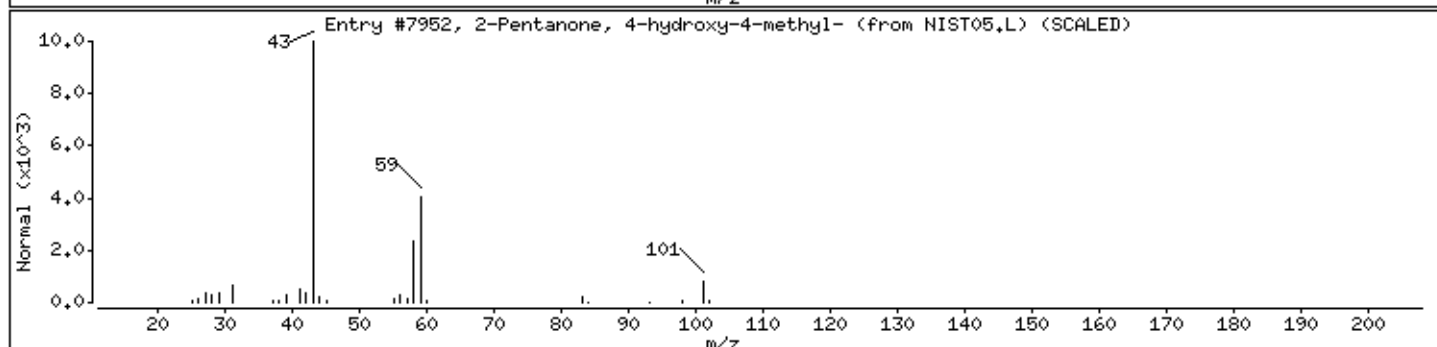
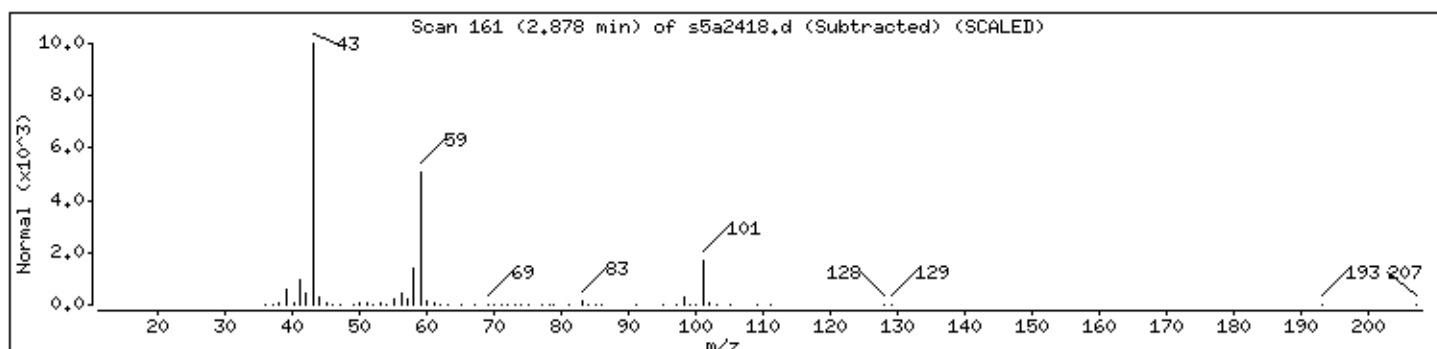
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Aldol Condensate						
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	45	C6H12O2	116
2,3-Butanedione, monooxime	57-71-6	NIST05.L	3949	27	C4H7NO2	101



Date : 24-JAN-2010 19:10

Client ID: RE12-10-7281

Instrument: MSD5.i

Sample Info: 1244847004194293011SVH11ILANL

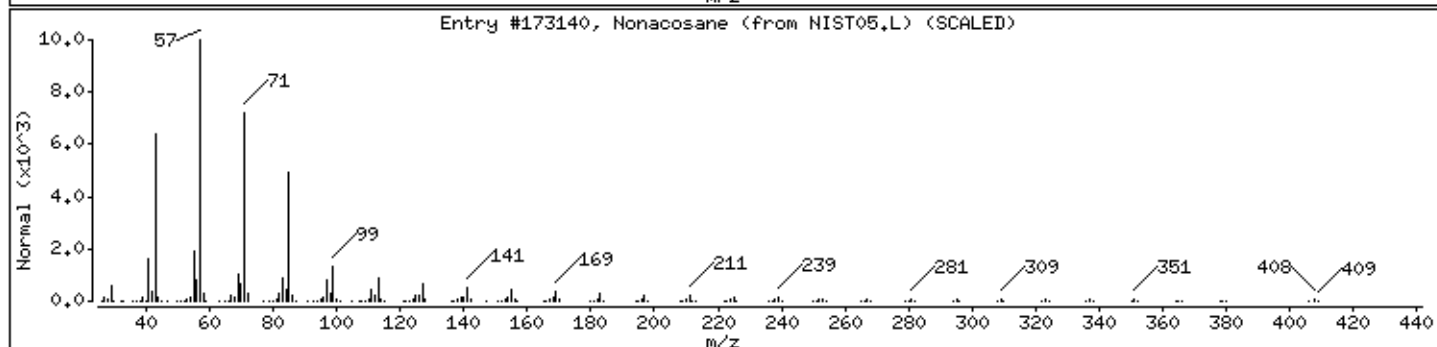
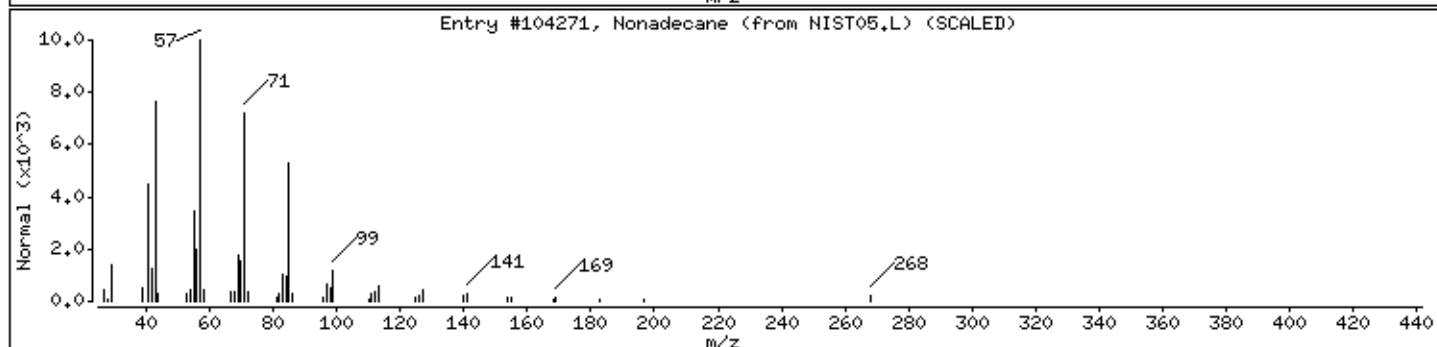
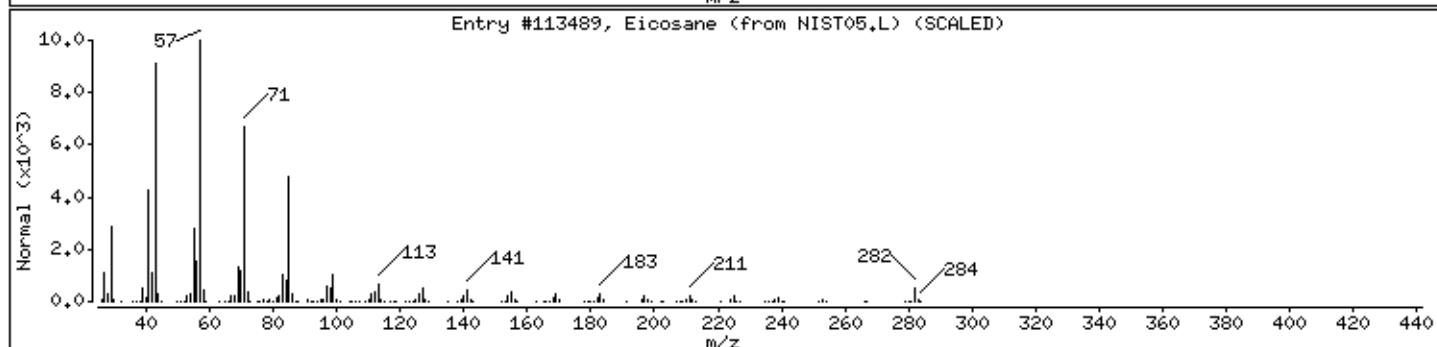
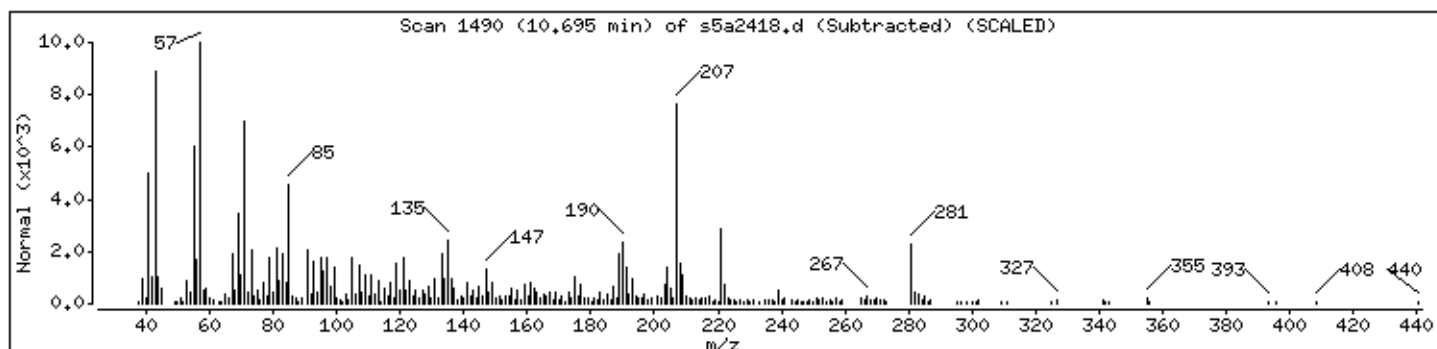
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Eicosane	112-95-8	NIST05.L	113489	91	C20H42	282
Nonadecane	629-92-5	NIST05.L	104271	90	C19H40	268
Nonacosane	630-03-5	NIST05.L	173140	59	C29H60	408



Date : 24-JAN-2010 19:10

Client ID: RE12-10-7281

Instrument: MSD5.i

Sample Info: 1244847004194293011SVH11ILANL

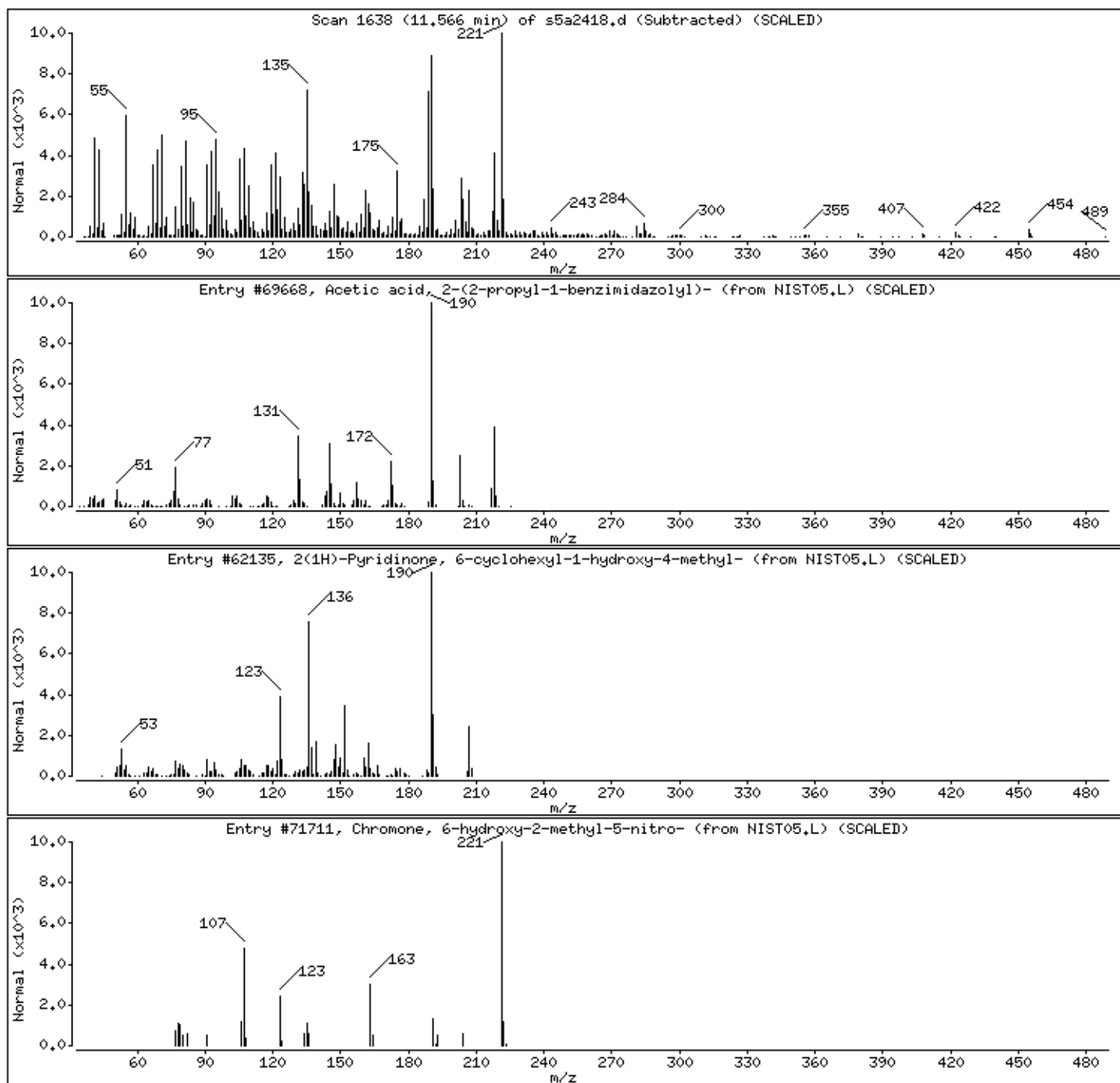
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetic acid, 2-(2-propyl-1-benzimidazolyl-	331736-92-6	NIST05.L	69668	91	C12H14N2O2	218
2(1H)-Pyridinone, 6-cyclohexyl-1-hydroxy	29342-05-0	NIST05.L	62135	45	C12H17NO2	207
Chromone, 6-hydroxy-2-methyl-5-nitro-	30095-72-8	NIST05.L	71711	25	C10H7NO5	221



Date : 24-JAN-2010 19:10

Client ID: RE12-10-7281

Instrument: MSD5.i

Sample Info: 1244847004194293011SVH11ILANL

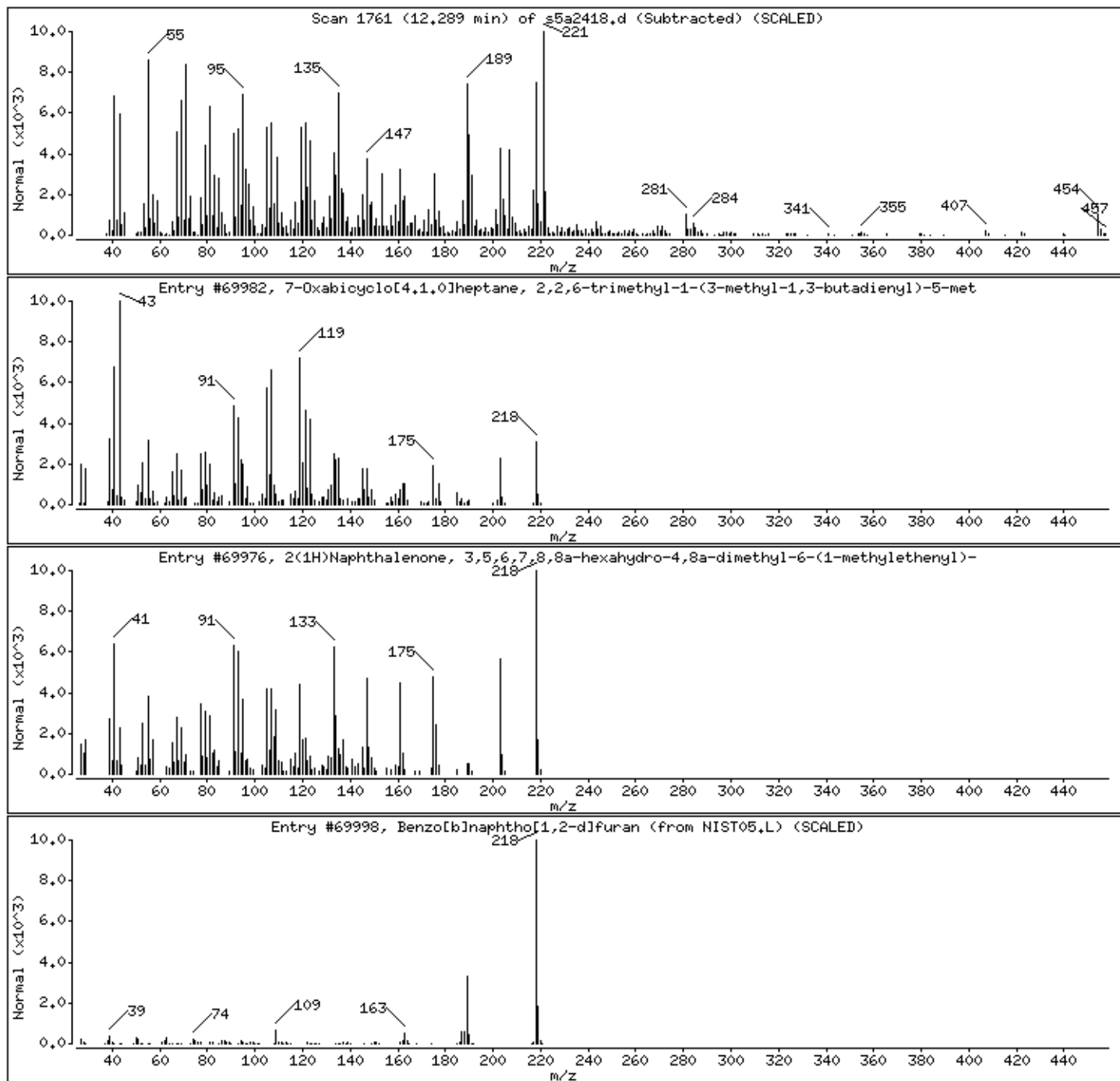
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
7-Oxabicyclo[4.1.0]heptane, 2,2,6-trimethyl	70038-20-9	NIST05.L	69982	62	C15H22O	218
2(1H)naphthalenone, 3,5,6,7,8,8a-hexahydro	1000188-66-5	NIST05.L	69976	52	C15H22O	218
Benzo[b]naphtho[1,2-d]furan	239-30-5	NIST05.L	69998	50	C16H10O	218



Date : 24-JAN-2010 19:10

Client ID: RE12-10-7281

Instrument: MSD5.i

Sample Info: 1244847004194293011SVH11ILANL

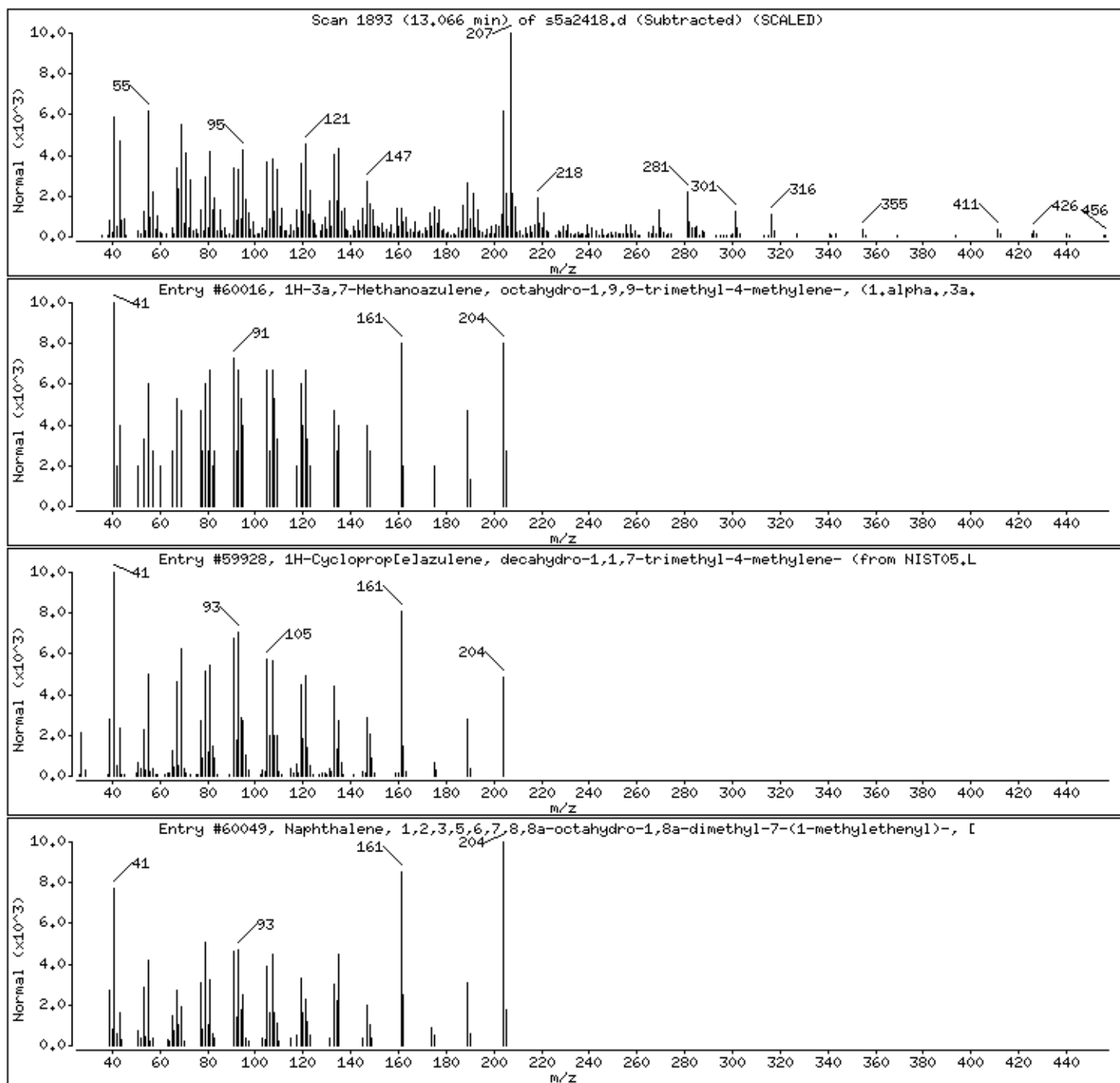
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1H-3a,7-Methanoazulene, octahydro-1,9,9-	508-55-4	NIST05.L	60016	52	C15H24	204
1H-Cycloprop[elazulene, decahydro-1,1,7-	72747-25-2	NIST05.L	59928	48	C15H24	204
Naphthalene, 1,2,3,5,6,7,8,8a-octahydro-	4630-07-3	NIST05.L	60049	38	C15H24	204



Date : 24-JAN-2010 19:10

Client ID: RE12-10-7281

Instrument: MSD5.i

Sample Info: 1244847004194293011SVH11ILANL

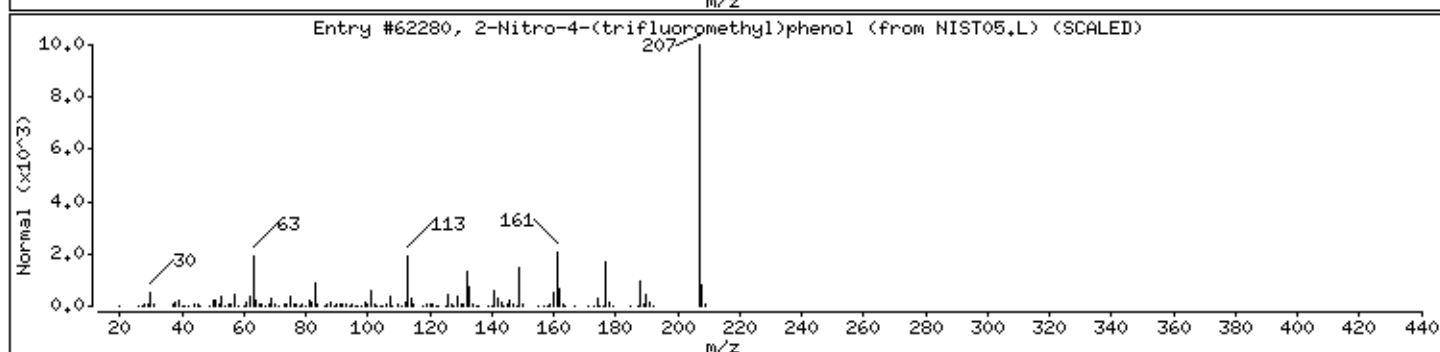
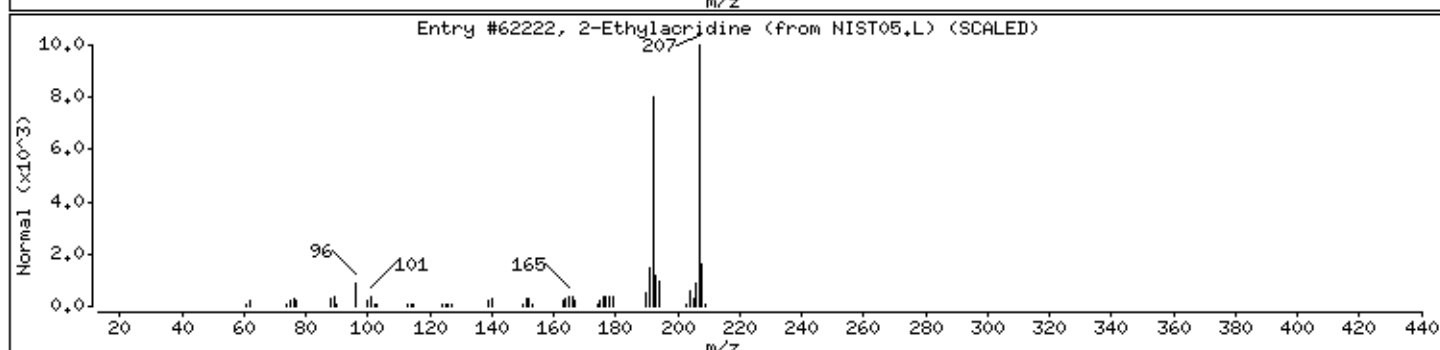
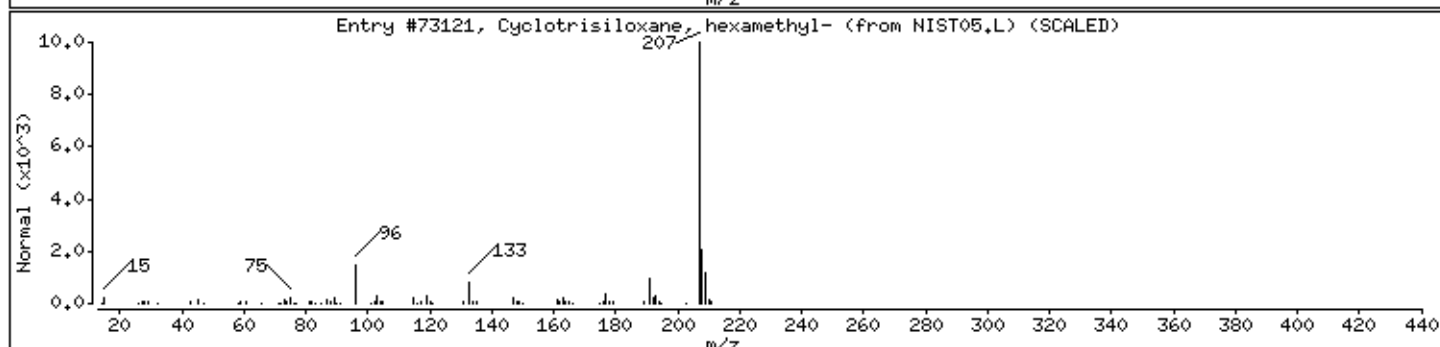
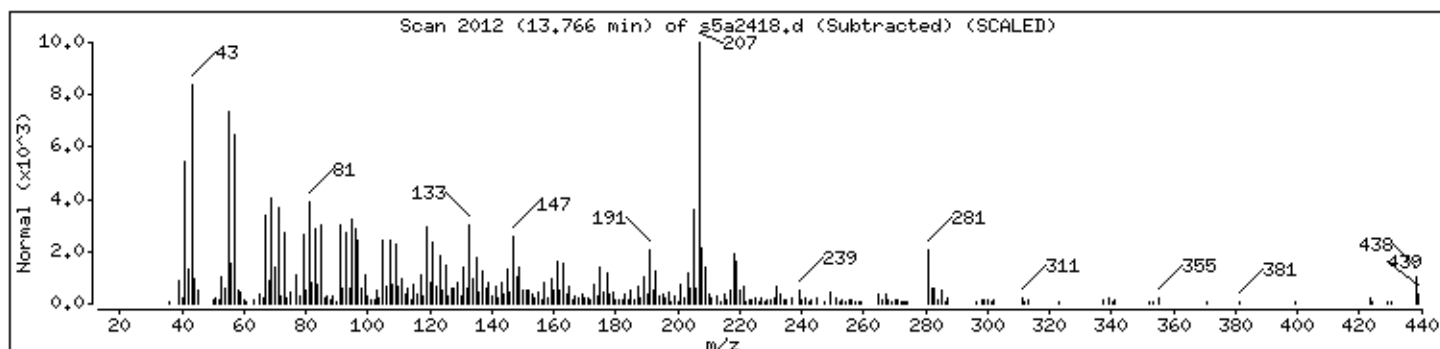
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Cyclotrisiloxane, hexamethyl-	541-05-9	NIST05.L	73121	49	C6H18O3Si3	222
2-Ethylacridine	55751-83-2	NIST05.L	62222	38	C15H13N	207
2-Nitro-4-(trifluoromethyl)phenol	400-99-7	NIST05.L	62280	38	C7H4F3NO3	207



Date : 24-JAN-2010 19:10

Client ID: RE12-10-7281

Instrument: MSD5.i

Sample Info: 1244847004194293011SVH11ILANL

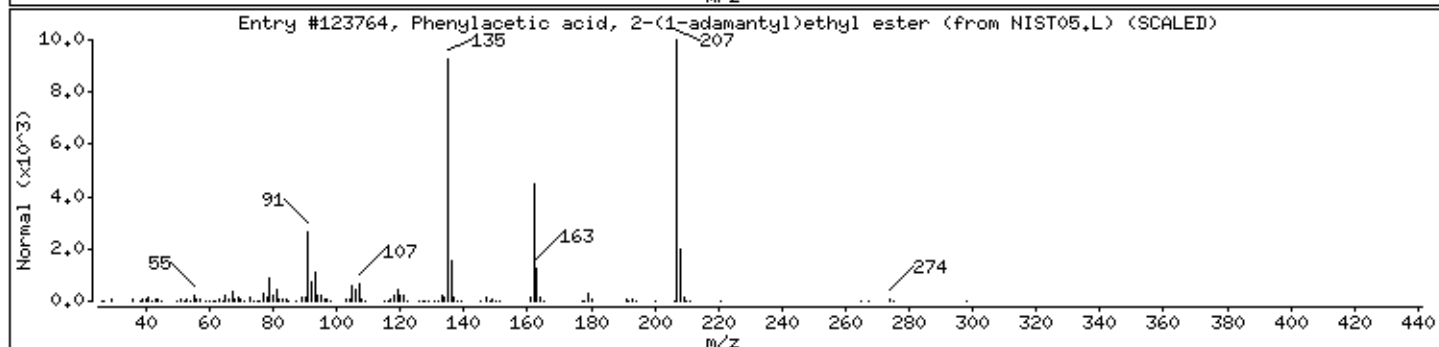
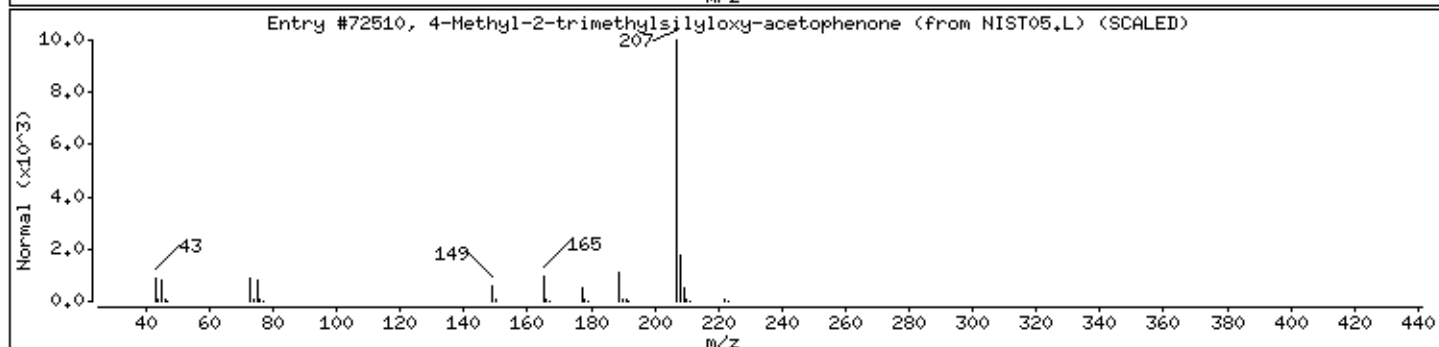
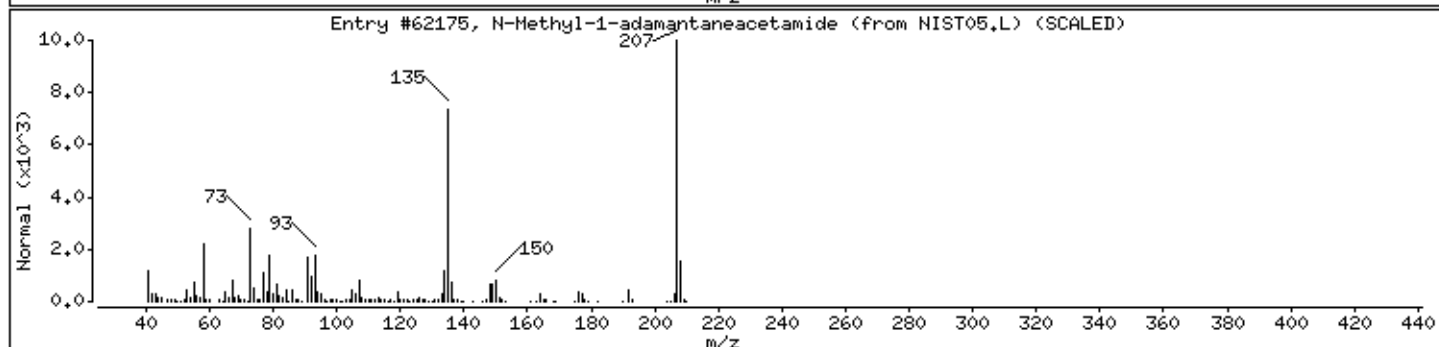
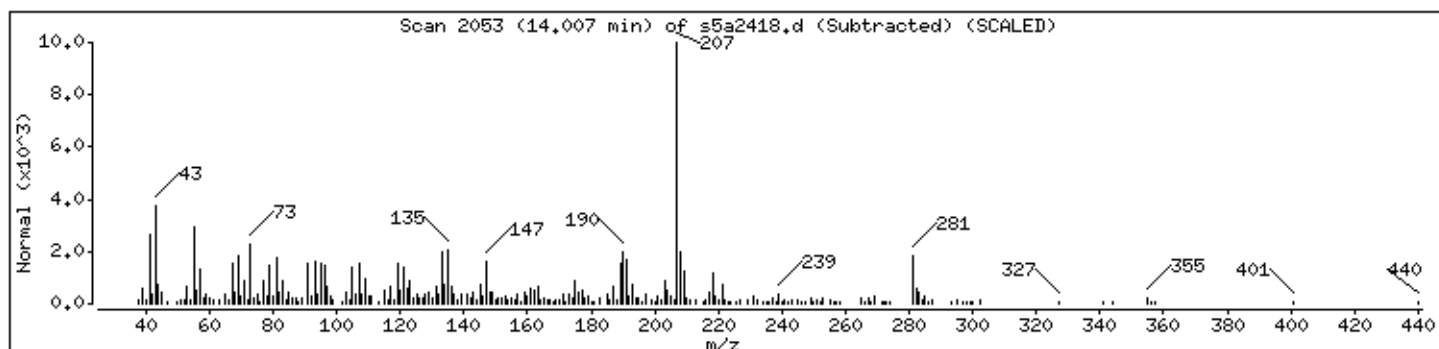
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
N-Methyl-1-adamantaneacetamide	31897-93-5	NIST05.L	62175	47	C <sub>13</sub> H <sub>21</sub> N <sub>1</sub> O	207
4-Methyl-2-trimethylsilyloxy-acetophenon	97389-70-3	NIST05.L	72510	43	C <sub>12</sub> H <sub>18</sub> O <sub>2</sub> Si	222
Phenylacetic acid, 2-(1-adamantyl)ethyl	1000282-91-2	NIST05.L	123764	43	C <sub>20</sub> H <sub>26</sub> O <sub>2</sub>	298



# Standard Data



SW846 8270/EPA 625									
Calibration Standard Concentration Levels*									
MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	
1,4-Dichlorobenzene-d4 (INTERNAL STANDARD)									
Naphthalene-d8 (INTERNAL STANDARD)									
Acenaphthene-d10 (INTERNAL STANDARD)									
Phenanthrene-d10 (INTERNAL STANDARD)									
Chrysene-d12 (INTERNAL STANDARD)									
Perylene-d12 (INTERNAL STANDARD)									
2-Fluorophenol (SURROGATE)		10	20	40	50	80	100	120	
Phenol-d5 (SURROGATE)		10	20	40	50	80	100	120	
2-Chlorophenol-d4 (CLP SURROGATE)		10	20	40	50	80	100	120	
1,2-Dichlorobenzene-d4 (CLP SURROGATE)		10	20	40	50	80	100	120	
Nitrobenzene-d5 (SURROGATE)		10	20	40	50	80	100	120	
2-Fluorobiphenyl (SURROGATE)		10	20	40	50	80	100	120	
2,4,6-Tribromophenol (SURROGATE)		10	20	40	50	80	100	120	
p-Terphenyl-d14 (SURROGATE)		10	20	40	50	80	100	120	
N-Nitrosodimethylamine	1**	10	20	40	50	80	100	120	
Pyridine		10	20	40	50	80	100	120	
Aniline		10	20	40	50	80	100	120	
Phenol		10	20	40	50	80	100	120	
bis(2-Chloroethyl)ether		10	20	40	50	80	100	120	
2-Chlorophenol		10	20	40	50	80	100	120	
n-Decane		10	20	40	50	80	100	120	
1,3-Dichlorobenzene		10	20	40	50	80	100	120	
1,4-Dichlorobenzene		10	20	40	50	80	100	120	
Benzyl Alcohol		10	20	40	50	80	100	120	
1,2-Dichlorobenzene		10	20	40	50	80	100	120	
bis(2-Chloroisopropyl)ether		10	20	40	50	80	100	120	
o-Cresol (2-Methylphenol)		10	20	40	50	80	100	120	
N-Nitrosodipropylamine	1**	10	20	40	50	80	100	120	
m,p-Cresols (3-Methylphenol & 4-Methylphenol)		10	20	40	50	80	100	120	
Hexachloroethane		10	20	40	50	80	100	120	
Nitrobenzene		10	20	40	50	80	100	120	
Isophorone		10	20	40	50	80	100	120	
2-Nitrophenol		10	20	40	50	80	100	120	
2,4-Dimethylphenol		10	20	40	50	80	100	120	
bis(2-Chloroethoxy)methane		10	20	40	50	80	100	120	
2,4-Dichlorophenol		10	20	40	50	80	100	120	
Benzoic Acid			20	40	50	80	100	120	
1,2,4-Trichlorobenzene		10	20	40	50	80	100	120	
Naphthalene	1	10	20	40	50	80	100	120	
alpha-Terpineol		10	20	40	50	80	100	120	
4-Chloroaniline		10	20	40	50	80	100	120	

SW846 8270/EPA 625									
Calibration Standard Concentration Levels*									
MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	
Hexachlorobutadiene		10	20	40	50	80	100	120	
4-Chloro-3-methylphenol		10	20	40	50	80	100	120	
2-Methylnaphthalene	1	10	20	40	50	80	100	120	

1-Methylnaphthalene	1	10	20	40	50	80	100	120
Hexachlorocyclopentadiene		10	20	40	50	80	100	120
2,3-Dichloroaniline		10	20	40	50	80	100	120
2,4,6-Trichlorophenol		10	20	40	50	80	100	120
2,4,5-Trichlorophenol		10	20	40	50	80	100	120
2-Chloronaphthalene	1	10	20	40	50	80	100	120
o-Nitroaniline		10	20	40	50	80	100	120
m-Nitroaniline		10	20	40	50	80	100	120
Dimethylphthalate	1**	10	20	40	50	80	100	120
2,6-Dinitrotoluene		10	20	40	50	80	100	120
Acenaphthylene	1	10	20	40	50	80	100	120
Acenaphthene	1	10	20	40	50	80	100	120
2,4-Dinitrophenol			20	40	50	80	100	120
Dibenzofuran		10	20	40	50	80	100	120
2,4-Dinitrotoluene		10	20	40	50	80	100	120
Diethylphthalate	1**	10	20	40	50	80	100	120
4-Nitrophenol		10	20	40	50	80	100	120
Fluorene	1	10	20	40	50	80	100	120
4-Chlorophenyl phenyl ether		10	20	40	50	80	100	120
2-Methyl-4,6-dinitrophenol		10	20	40	50	80	100	120
p-Nitroaniline		10	20	40	50	80	100	120
Diphenylamine		10	20	40	50	80	100	120
1,2-Diphenylhydrazine		10	20	40	50	80	100	120
4-Bromophenyl phenylether		10	20	40	50	80	100	120
Hexachlorobenzene		10	20	40	50	80	100	120
Pentachlorophenol		10	20	40	50	80	100	120
n-Octadecane		10	20	40	50	80	100	120
Phenanthrene	1	10	20	40	50	80	100	120
Anthracene	1	10	20	40	50	80	100	120
Di-n-butylphthalate	1**	10	20	40	50	80	100	120
Fluoranthene	1	10	20	40	50	80	100	120
Pyrene	1	10	20	40	50	80	100	120
Butylbenzylphthalate	1**	10	20	40	50	80	100	120
Benzo(a)anthracene	1	10	20	40	50	80	100	120
Chrysene	1	10	20	40	50	80	100	120
bis (2-Ethylhexyl) phthalate	1	10	20	40	50	80	100	120
Di-n-octylphthalate	1**	10	20	40	50	80	100	120

SW846 8270/EPA 625								
Calibration Standard Concentration Levels*								
MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8
Benzo(b)fluoranthene	1	10	20	40	50	80	100	120
Benzo(k)fluoranthene	1	10	20	40	50	80	100	120
Benzo(a)pyrene	1	10	20	40	50	80	100	120
Indeno-(1,2,3-cd)pyrene	1	10	20	40	50	80	100	120
Dibenzo(a,h)anthracene	1	10	20	40	50	80	100	120
Benzo(ghi)perylene	1	10	20	40	50	80	100	120
m-Dinitrobenzene		10	20	40	50	80	100	120
2,3,4,6-Tetrachlorophenol		10	20	40	50	80	100	120
Dinoseb		10	20	40	50	80	100	120
Carbazole	1	10	20	40	50	80	100	120

p-Benzoquinone		10	20	40	50	80	100	120
Methoxychlor	1**	10	20	40	50	80	100	120
p-Toluidine		10	20	40	50	80	100	120
m-Toluidine		10	20	40	50	80	10	120
1,4-Dinitrobenzene		10	20	40	50	80	100	120
2-Ethoxyethanol		10	20	40	50	80	100	120
Phthalic anhydride		10	20	40	50	80	100	120
Methylenebis(2-chloroaniline)		10	20	40	50	80	100	120
Dibenzo(a,e)pyrene		10	20	40	50	80	100	120

SW846 8270/EPA 625								
Calibration Standard Concentration Levels*								
AP MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8
Benzaldehyde		10	20	40	50	80	100	120
Acetophenone		10	20	40	50	80	100	120
Caprolactam		10	20	40	50	80	100	120
1,1'-Biphenyl		10	20	40	50	80	100	120
Atrazine		10	20	40	50	80	100	120
Benzidine		10	20	40	50	80	100	120
3,3'-Dichlorobenzidine		10	20	40	50	80	100	120
1,4-Dioxane		10	20	40	50	80	100	120
Methyl methacrylate		10	20	40	50	80	100	120
Ethyl methacrylate		10	20	40	50	80	100	120
2-Picoline		10	20	40	50	80	100	120
N-Nitrosomethylethylamine		10	20	40	50	80	100	120
Methyl methanesulfonate		10	20	40	50	80	100	120
N-Nitrosodiethylamine		10	20	40	50	80	100	120
Ethyl methanesulfonate		10	20	40	50	80	100	120
Pentachloroethane		10	20	40	50	80	100	120
N-Nitrosopyrrolidine		10	20	40	50	80	100	120
N-Nitrosomorpholine		10	20	40	50	80	100	120
o-Toluidine		10	20	40	50	80	100	120
N-Nitrosopiperidine		10	20	40	50	80	100	120
a,a-Dimethylphenethylamine		10	20	40	50	80	100	120
2,6-Dichlorophenol		10	20	40	50	80	100	120

SW846 8270/EPA 625								
Calibration Standard Concentration Levels*								
AP MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8
Hexachloropropene		10	20	40	50	80	100	120
p-Phenylenediamine		10	20	40	50	80	100	120
N-Nitrosodi-n-butylamine		10	20	40	50	80	100	120
Safrole		10	20	40	50	80	100	120
1,2,4,5-Tetrachlorobenzene		10	20	40	50	80	100	120
Isosafrole		10	20	40	50	80	100	120
1,4-Naphthoquinone		10	20	40	50	80	100	120
Pentachlorobenzene		10	20	40	50	80	100	120
1-Naphthylamine		10	20	40	50	80	100	120
2-Naphthylamine		10	20	40	50	80	100	120
5-Nitro-o-toluidine		10	20	40	50	80	100	120
1,3,5-Trinitrobenzene		10	20	40	50	80	100	120
Phenacetin		10	20	40	50	80	100	120
Diallate		10	20	40	50	80	100	120
cis-Diallate		1.5	3	6	7.5	12	15	18
trans-Diallate		8.5	17	34	42	68	85	102
4-Aminobiphenyl		10	20	40	50	80	100	120

Pentachloronitrobenzene		10	20	40	50	80	100	120
Pronamide		10	20	40	50	80	100	120
4-Nitroquinoline oxide		10	20	40	50	80	100	120
Methapyrilene	1**	10	20	40	50	80	100	120
Isodrin	1**	10	20	40	50	80	100	120
Aramite		10	20	40	50	80	100	120
Kepone	1**	10	20	40	50	80	100	120
p-(Dimethylamino)azobenzene		10	20	40	50	80	100	120
Chlorobenzilate		10	20	40	50	80	100	120
3,3'-Dimethylbenzidine		10	20	40	50	80	100	120
2-Acetylaminofluorene		10	20	40	50	80	100	120
7,12-Dimethylbenz(a)anthracene		10	20	40	50	80	100	120
3-Methylcholanthrene		10	20	40	50	80	100	120

SW846 8270/EPA 625								
Calibration Standard Concentration Levels*								
	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8
Hexachlorophene		500	1000	1250	1500	1750	2000	

SW846 8270/EPA 625								
Calibration Standard Concentration Levels*								
PEST MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8
Tributylphosphate		10	20	40	50	80	100	120
Triethylphosphorothioate		10	20	40	50	80	100	120
Thionazin		10	20	40	50	80	100	120
Sulfotepp		10	20	40	50	80	100	120
Phorate		10	20	40	50	80	100	120
Dimethoate		10	20	40	50	80	100	120
Disulfoton		10	20	40	50	80	100	120
Methyl parathion		10	20	40	50	80	100	120
Famphur		10	20	40	50	80	100	120
Parathion		10	20	40	50	80	100	120

SW846 8270/EPA 625								
Calibration Standard Concentration Levels*								
NEVADA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8
bis(Chloromethyl)ether		10	20	40	50	80	100	120
4-Chlorothiophenol		10	20	40	50	80	100	120
4-Chlorothioanisole		10	20	40	50	80	100	120
Phthalic acid		10	20	40	50	80	100	120
Hydroxymethyl phthalimide		10	20	40	50	80	100	120
Diphenyl sulfide		10	20	40	50	80	100	120
Diphenyl disulfide		10	20	40	50	80	100	120
Phenyl sulfone		10	20	40	50	80	100	120
Octachlorostyrene		10	20	40	50	80	100	120
Thiophenol		10	20	40	50	80	100	120
2,2'-Dichlorobenzil		10	20	40	50	80	100	120
bis(p-Chlorophenyl)disulfide		10	20	40	50	80	100	120

bis(p-Chlorophenyl)sulfone		10	20	40	50	80	100	120
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SW846 8270C/8270D/EPA 625								
Calibration Standard Concentration Levels*								
BJCO MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8
1-Hexanol		10	20	40	50	80	100	120
Quinoline		10	20	40	50	80	100	120
2,4-Toluene diisocyanate		10	20	40	50	80	100	120
1-Nitropyrene		10	20	40	50	80	100	120
5-Methylchrysene		10	20	40	50	80	100	120
Benzo(j)fluoranthene		10	20	40	50	80	100	120
Dibenzo(a,h)pyrene		10	20	40	50	80	100	120
Dibenzo(a,h)acridine		10	20	40	50	80	100	120
Dibenzo(a,i)acridine		10	20	40	50	80	100	120
Dibenzo(a,i)pyrene		10	20	40	50	80	100	120
Dibenzo(a,l)pyrene		10	20	40	50	80	100	120
7H-Dibenzo(c,g)carbazole		10	20	40	50	80	10	120

All values are mg/L without the prep factor.

# Indicates the calibration verification concentration level used

\* Usual calibration levels using SCAN methodology

\*\* This analyte included in this level at special client request.

(0210/Full list)

Report Date: 25-Jan-2010 08:43

### Calibration History

Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Start Cal Date: 05-JAN-2010 08:21  
End Cal Date : 06-JAN-2010 14:25

#### Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 1.00000		
05-JAN-2010 08:21	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0503.d
Cal Level: 2 , Cal Amount: 10.00000		
06-JAN-2010 12:06	nev	/chem/MSD5.i/s010510.b/s5a0537.d
06-JAN-2010 09:26	pest	/chem/MSD5.i/s010510.b/s5a0530.d
05-JAN-2010 15:39	hex	/chem/MSD5.i/s010510.b/s5a0520.d
05-JAN-2010 12:58	ap12	/chem/MSD5.i/s010510.b/s5a0513.d
05-JAN-2010 08:49	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0504.d
Cal Level: 3 , Cal Amount: 20.00000		
06-JAN-2010 12:29	nev	/chem/MSD5.i/s010510.b/s5a0538.d
06-JAN-2010 09:49	pest	/chem/MSD5.i/s010510.b/s5a0531.d
05-JAN-2010 16:02	hex	/chem/MSD5.i/s010510.b/s5a0521.d
05-JAN-2010 13:21	ap12	/chem/MSD5.i/s010510.b/s5a0514.d
05-JAN-2010 09:17	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0505.d
Cal Level: 4 , Cal Amount: 40.00000		
06-JAN-2010 12:53	nev	/chem/MSD5.i/s010510.b/s5a0539.d
06-JAN-2010 10:12	pest	/chem/MSD5.i/s010510.b/s5a0532.d
05-JAN-2010 16:24	hex	/chem/MSD5.i/s010510.b/s5a0522.d
05-JAN-2010 13:44	ap12	/chem/MSD5.i/s010510.b/s5a0515.d
05-JAN-2010 09:45	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0506.d
Cal Level: 5 , Cal Amount: 50.00000		
06-JAN-2010 13:16	nev	/chem/MSD5.i/s010510.b/s5a0540.d
06-JAN-2010 10:35	pest	/chem/MSD5.i/s010510.b/s5a0533.d
05-JAN-2010 16:47	hex	/chem/MSD5.i/s010510.b/s5a0523.d
05-JAN-2010 14:07	ap12	/chem/MSD5.i/s010510.b/s5a0516.d
05-JAN-2010 10:13	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0507.d
Cal Level: 6 , Cal Amount: 80.00000		
06-JAN-2010 13:39	nev	/chem/MSD5.i/s010510.b/s5a0541.d
06-JAN-2010 10:58	pest	/chem/MSD5.i/s010510.b/s5a0534.d
05-JAN-2010 17:10	hex	/chem/MSD5.i/s010510.b/s5a0524.d
05-JAN-2010 14:30	ap12	/chem/MSD5.i/s010510.b/s5a0517.d
05-JAN-2010 10:42	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0508.d
Cal Level: 7 , Cal Amount: 100.00000		

06-JAN-2010	14:02	nev	/chem/MSD5.i/s010510.b/s5a0542.d
06-JAN-2010	11:21	pest	/chem/MSD5.i/s010510.b/s5a0535.d
05-JAN-2010	17:32	hex	/chem/MSD5.i/s010510.b/s5a0525.d
05-JAN-2010	14:53	ap12	/chem/MSD5.i/s010510.b/s5a0518.d
05-JAN-2010	11:10	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0509.d

Cal Level: 8 , Cal Amount: 120.00000			
06-JAN-2010	14:25	nev	/chem/MSD5.i/s010510.b/s5a0543.d
06-JAN-2010	11:43	pest	/chem/MSD5.i/s010510.b/s5a0536.d
05-JAN-2010	15:16	ap12	/chem/MSD5.i/s010510.b/s5a0519.d
05-JAN-2010	11:38	MEGAIICARE	/chem/MSD5.i/s010510.b/s5a0510.d

# Continuing Calibration

Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 40.0			
24-JAN-2010	13:30	MEGAIICARE	/chem/MSD5.i/s012410.b/s5a2404.d
Ccal Level: 4 , Ccal Amount: 40.0			
24-JAN-2010	12:35	MEGAIICARE	/chem/MSD5.i/s012410.b/s5a2402.d
Ccal Level: 4 , Ccal Amount: 40.0			
24-JAN-2010	13:04	ap12	/chem/MSD5.i/s012410.b/s5a2403.d

## GEL Laboratories LLC

## INITIAL CALIBRATION DATA

Start Cal Date : 05-JAN-2010 08:21  
 End Cal Date : 06-JAN-2010 14:25  
 Quant Method : ISTD  
 Target Version : 3.50  
 Integrator : HP RTE  
 Method file : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Cal Date : 25-Jan-2010 08:43 rmb

## Calibration File Names:

Level 1: /chem/MSD5.i/s010510.b/s5a0503.d  
 Level 2: /chem/MSD5.i/s010510.b/s5a0537.d  
 Level 3: /chem/MSD5.i/s010510.b/s5a0538.d  
 Level 4: /chem/MSD5.i/s010510.b/s5a0539.d  
 Level 5: /chem/MSD5.i/s010510.b/s5a0540.d  
 Level 6: /chem/MSD5.i/s010510.b/s5a0541.d  
 Level 7: /chem/MSD5.i/s010510.b/s5a0542.d  
 Level 8: /chem/MSD5.i/s010510.b/s5a0543.d

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	-----	-----	-----	-----	-----	-----					
	100	120									
	Level 7	Level 8									
=====											
1 N-Methyl-N-nitrosomethylamine	++++	0.60168	0.60436	0.61687	0.60783	0.59199					
	0.56392	0.57492					AVRG		0.59451		3.18493
-----											
2 Pyridine	++++	0.82414	0.81597	0.82898	0.83066	0.80196					
	0.80002	0.81897					AVRG		0.81724		1.49870
4 Aniline	++++	0.53231	0.51667	0.50774	0.50536	0.48725					
	0.47853	0.48154					AVRG		0.50134		3.95817
209 Benzaldehyde	++++	0.92100	0.94578	0.89295	++++	0.82020					
	++++	0.75644					AVRG		0.86728		8.97019
6 Phenol	++++	1.29285	1.28692	1.25839	1.25522	1.16949					
	1.14415	1.12346					AVRG		1.21864		5.81319
=====											



GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 05-JAN-2010 08:21  
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 Quant Method : ISTD  
 Target Version : 3.50  
 Integrator : HP RTE  
 Method file : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100 Level 7	120 Level 8									
7 bis(2-Chloroethyl) ether	1.00983 0.83286	1.01785 0.80569	0.94420	0.93518	0.92205	0.84402					
							AVRG		0.91396		8.73413
8 2-Chlorophenol	++++ 0.98681	1.07356 0.98526	1.07344	1.06538	1.05073	0.99796					
							AVRG		1.03330		4.00640
203 n-Decane	++++ 0.99726	1.61448 0.88772	1.49548	1.34412	1.28232	1.05572					
							AVRG		1.23959		21.72463 <-
9 1,3-Dichlorobenzene	++++ 1.06486	1.17215 1.03617	1.17216	1.15807	1.14319	1.08120					
							AVRG		1.11826		5.02964
11 1,4-Dichlorobenzene	++++ 1.04072	1.17667 1.00783	1.17551	1.15287	1.14606	1.06723					
							AVRG		1.10956		6.25951
12 Benzyl alcohol	++++ 0.66037	0.69641 0.66507	0.69406	0.69303	0.69244	0.67197					
							AVRG		0.68191		2.27112
13 1,2-Dichlorobenzene	++++ 0.86501	1.11234 0.80711	1.08973	1.05062	1.03198	0.90006					
							AVRG		0.97955		12.27506
14 bis(2-Chloroisopropyl)ether	++++ 1.60491	2.08722 1.53342	1.99778	1.86060	1.82612	1.65924					
							AVRG		1.79561		11.47595
15 o-Cresol	++++ 0.63235	0.82031 0.58390	0.80621	0.77347	0.75499	0.65417					
							AVRG		0.71791		12.97823

## GEL Laboratories LLC

## INITIAL CALIBRATION DATA

Start Cal Date : 05-JAN-2010 08:21  
 End Cal Date : 06-JAN-2010 14:25  
 Quant Method : ISTD  
 Target Version : 3.50  
 Integrator : HP RTE  
 Method file : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100 Level 7	120 Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====			=====
16 Acetophenone	+++++	1.12507	1.18754	1.15721	+++++	1.08904					
	+++++	1.05402					AVRG		1.12258		4.72418
17 N-Nitrosodipropylamine	0.58398	0.65931	0.62258	0.63285	0.62008	0.59856					
	0.56181	0.55212					AVRG		0.60391		6.06720
18 m,p-Cresols	+++++	1.00834	1.01404	1.04775	1.04014	1.01984					
	1.00592	1.01747					AVRG		1.02193		1.56038
19 Hexachloroethane	+++++	0.48678	0.47955	0.48237	0.47258	0.43783					
	0.42970	0.41736					AVRG		0.45803		6.27631
21 Nitrobenzene	+++++	0.32660	0.30568	0.28758	0.27934	0.25512					
	0.23914	0.23801					AVRG		0.27592		12.22218
22 Isophorone	+++++	0.61683	0.58060	0.53957	0.52438	0.47923					
	0.46251	0.46518					AVRG		0.52404		11.37227
23 2-Nitrophenol	+++++	0.12872	0.13817	0.13776	0.13560	0.12898					
	0.12191	0.11919					AVRG		0.13005		5.81691
24 2,4-Dimethylphenol	+++++	0.29403	0.31174	0.26176	0.24869	0.22846					
	0.21532	+++++					AVRG		0.26000		14.34679
25 bis(2-Chloroethoxy)methane	+++++	0.36536	0.35215	0.32576	0.31701	0.28326					
	0.26989	0.26396					AVRG		0.31106		12.84228

## GEL Laboratories LLC

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Start Cal Date : 05-JAN-2010 08:21  
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 Target Version : 3.50  
 Integrator : HP RTE  
 Method file : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
26 2,4-Dichlorophenol	+++++	0.20899	0.21531	0.20937	0.21725	0.20076					
	0.19198	0.19411					AVRG		0.20539	4.85397	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
27 Benzoic acid	+++++	+++++	33960	124214	187154	373760					
	478254	571122					LINR	0.33988	0.16978	0.99286	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
28 1,2,4-Trichlorobenzene	+++++	0.28702	0.27935	0.26612	0.26073	0.23707					
	0.22568	0.22001					AVRG		0.25371	10.38885	
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30 Naphthalene	0.90683	0.89606	0.85471	0.80187	0.77070	0.66103					
	0.62203	+++++					AVRG		0.78760	14.13908	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
204 alpha-Terpineol	+++++	0.30152	0.28075	0.24842	0.24296	0.20255					
	+++++	+++++					AVRG		0.25524	14.87588	
31 4-Chloroaniline	+++++	0.37980	0.36079	0.36457	0.35928	0.32796					
	0.31089	0.30851					AVRG		0.34454	8.23540	
189 Caprolactam	+++++	17378	39729	86829	+++++	228154					
	+++++	343077					LINR	0.10774	0.09582	0.99993	
32 Hexachlorobutadiene	+++++	0.16600	0.16011	0.15797	0.15496	0.14380					
	0.13637	0.13419					AVRG		0.15048	8.22423	
33 4-Chloro-3-methylphenol	+++++	0.20987	0.22081	0.22519	0.22001	0.20165					
	0.19409	0.19407					AVRG		0.20939	6.23199	

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 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====			=====
34 2-Methylnaphthalene	0.53336	0.57194	0.55001	0.52026	0.49827	0.45090					
	0.42815	0.40190					AVRG		0.49435		12.36274
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35 1-Methylnaphthalene	0.52554	0.56288	0.53836	0.50921	0.49153	0.43368					
	0.40991	0.38953					AVRG		0.48258		13.22802
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
36 Hexachlorocyclopentadiene	+++++	0.22432	0.22721	0.24669	0.23561	0.24607					
	0.21802	0.23446					AVRG		0.23320		4.63359
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
208 1,1'-Biphenyl	+++++	1.17335	1.25981	1.18470	+++++	1.08141					
	+++++	0.95224					AVRG		1.13030		10.43813
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
205 2,3-Dichloroaniline	+++++	0.50365	0.50697	0.51727	0.50826	0.47428					
	0.45334	0.43807					AVRG		0.48598		6.35673
37 2,4,6-Trichlorophenol	+++++	0.24557	0.27051	0.29501	0.29989	0.28467					
	0.28767	0.26619					AVRG		0.27850		6.79942
38 2,4,5-Trichlorophenol	+++++	0.26914	0.30331	0.32718	0.33231	0.31827					
	0.30254	0.31836					AVRG		0.31016		6.84038
40 2-Chloronaphthalene	0.86992	0.94306	0.93216	0.91783	0.91010	0.83148					
	0.81137	0.77497					AVRG		0.87386		7.09785
42 o-Nitroaniline	+++++	0.26027	0.28272	0.29628	0.29293	0.28627					
	0.28171	0.28425					AVRG		0.28349		4.08356

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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
41 m-Nitroaniline	+++++	0.21305	0.19674	0.21941	0.21590	0.21748					
	0.20547	0.22125					AVRG		0.21276		4.10704
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
43 Dimethylphthalate	+++++	1.10010	1.07323	1.03773	1.03867	0.98687					
	0.96194	0.96311					AVRG		1.02309		5.28616
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
44 2,6-Dinitrotoluene	+++++	0.23644	0.24612	0.24549	0.24706	0.23743					
	0.23024	0.23459					AVRG		0.23962		2.74818
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
45 Acenaphthylene	1.46006	1.54997	1.52248	1.47469	1.47326	1.35224					
	1.31841	1.24618					AVRG		1.42466		7.49350
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
47 Acenaphthene	0.90755	0.94025	0.91212	0.91818	0.91102	0.82470					
	0.79355	0.74660					AVRG		0.86925		8.16286
48 2,4-Dinitrophenol	+++++	+++++	9111	34897	49003	108260					
	118971	174001					LINR	0.42263	0.09896		0.99240
49 Dibenzofuran	+++++	1.32340	1.31018	1.30074	1.29655	1.19680					
	1.15712	1.13474					AVRG		1.24565		6.41904
50 2,4-Dinitrotoluene	+++++	0.28018	0.30127	0.30966	0.31038	0.30754					
	0.29796	0.31209					AVRG		0.30273		3.69515
51 Diethylphthalate	+++++	1.16895	1.11968	1.08617	1.09194	1.00740					
	0.98424	0.94920					AVRG		1.05823		7.51016
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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100 Level 7	120 Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
52 4-Nitrophenol	+++++	11455	29901	88625	110435	221460					
	240094	327378					LINR	0.19761	0.17478		0.99653
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53 Fluorene	1.01956	1.12349	1.11598	1.10997	1.09264	0.99450					
	0.95139	0.92174					AVRG		1.04116		7.67724
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54 4-Chlorophenylphenylether	+++++	0.57726	0.56339	0.56572	0.56801	0.53722					
	0.52679	0.50659					AVRG		0.54928		4.74595
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55 2-Methyl-4,6-dinitrophenol	+++++	8960	23735	71371	96456	187642					
	206560	301854					LINR	0.22809	0.08469		0.99612
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56 p-Nitroaniline	+++++	0.16847	0.16742	0.17651	0.16596	0.17409					
	0.16174	0.18462					AVRG		0.17126		4.49446
133 Diphenylamine	+++++	0.51944	0.50385	0.49568	0.50499	0.46731					
	0.45496	0.43044					AVRG		0.48238		6.66350
58 1,2-Diphenylhydrazine	+++++	0.65843	0.62647	0.58999	0.59560	0.52910					
	0.51828	0.45924					AVRG		0.56816		12.16358
59 Tributylphosphate	+++++	1.33123	1.37263	1.32751	1.31958	1.17651					
	1.08616	1.00411					AVRG		1.23111		11.61546
61 4-Bromophenylphenylether	+++++	0.18216	0.17949	0.18028	0.18925	0.17816					
	0.17694	0.16805					AVRG		0.17919		3.54165
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	or R^2
	-----	-----	-----	-----	-----	-----		-----	-----	-----	-----
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
63 Hexachlorobenzene	+++++	0.18532	0.18319	0.18186	0.19193	0.17927					
	0.17857	0.17077					AVRG		0.18156	3.59119	
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207 Atrazine	+++++	0.04257	0.04481	0.03450	+++++	0.02811					
	+++++	0.01430					AVRG		0.03286	37.48021 <-	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
65 Pentachlorophenol	+++++	12502	32789	92647	123698	227147					
	257286	351684					LINR	0.16665	0.09910	0.99917	
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206 n-Octadecane	+++++	0.55672	0.50875	0.44965	0.43660	0.32797					
	0.29739	0.25204					AVRG		0.40416	28.15304 <-	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
68 Phenanthrene	0.79996	0.82472	0.81503	0.80738	0.81686	0.74752					
	0.73413	0.69357					AVRG		0.77989	6.19942	
69 Anthracene	0.78018	0.84074	0.82103	0.81248	0.81975	0.75186					
	0.72181	0.70160					AVRG		0.78118	6.54890	
72 Di-n-butylphthalate	+++++	1.11680	1.08795	1.01747	1.04305	0.90172					
	0.86373	0.80374					AVRG		0.97635	12.28834	
76 Fluoranthene	0.80532	0.89905	0.89508	0.90079	0.90093	0.84160					
	0.82230	0.79442					AVRG		0.85744	5.41563	
77 Benzidine	+++++	83198	119870	207819	+++++	520802					
	+++++	866541					LINR	-0.08564	0.21048	0.99601	

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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====											
79 Pyrene	1.09138	1.11299	1.08525	1.04403	1.08722	0.95800					
	0.90131	0.84211					AVRG		1.01529		10.02337
-----											
85 Butylbenzylphthalate	+++++	0.51217	0.51851	0.48934	0.52646	0.46557					
	0.43784	0.41448					AVRG		0.48062		8.92500
-----											
89 Benzo(a)anthracene	0.86581	0.86539	0.86246	0.86601	0.88599	0.83710					
	0.80735	0.80459					AVRG		0.84934		3.51489
-----											
90 3,3'-Dichlorobenzidine	+++++	0.24476	0.26954	0.27690	+++++	0.28523					
	+++++	0.29473					AVRG		0.27423		6.91638
-----											
92 Chrysene	0.77178	0.80074	0.80787	0.79632	0.79406	0.75492					
	0.73005	0.72102					AVRG		0.77209		4.33491
93 bis(2-Ethylhexyl)phthalate	0.68582	0.76341	0.74227	0.68452	0.72567	0.60529					
	0.56828	0.53176					AVRG		0.66338		12.84174
94 Di-n-octylphthalate	+++++	1.36548	1.42558	1.30173	1.48420	1.22606					
	1.15335	1.01068					AVRG		1.28101		12.83294
95 Benzo(b)fluoranthene	0.77288	0.87976	0.88603	0.93843	0.96543	0.92099					
	0.92629	0.97146					AVRG		0.90766		7.00428
96 Benzo(k)fluoranthene	0.75065	0.87496	0.92431	0.89366	0.96051	0.94448					
	0.92874	0.84514					AVRG		0.89031		7.62815



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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====											
97 Benzo(a)pyrene	0.63026	0.73955	0.77044	0.80572	0.82038	0.81264					
	0.82021	0.82014					AVRG		0.77742		8.51619
-----											
99 Indeno(1,2,3-cd)pyrene	6709	118547	253229	660710	666010	1305476					
	1671233	2568684					LINR	0.07239	0.75852		0.99612
-----											
100 Dibenzo(a,h)anthracene	4635	91327	194564	535195	525747	1054759					
	1371364	2100643					LINR	0.09168	0.62368		0.99506
-----											
101 Benzo(ghi)perylene	0.40800	0.54447	0.56363	0.60189	0.57993	0.57168					
	0.58998	0.62982					AVRG		0.56118		11.93662
-----											
102 1,4-Dioxane	+++++	0.37172	0.32777	0.36252	+++++	0.35066					
	+++++	0.33902					AVRG		0.35034		5.03211
103 Methyl methacrylate	+++++	0.19672	0.18995	0.18679	+++++	0.19013					
	+++++	0.18739					AVRG		0.19020		2.07071
104 Ethyl methacrylate	+++++	0.80069	0.83965	0.81396	+++++	0.76218					
	+++++	0.73669					AVRG		0.79064		5.20264
105 2-Picoline	+++++	1.23223	1.27993	1.22822	+++++	1.15580					
	+++++	1.13035					AVRG		1.20530		5.06149
106 N-Nitrosomethylethylamine	+++++	0.39536	0.42694	0.42388	+++++	0.44282					
	+++++	0.43962					AVRG		0.42573		4.41372

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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	-----	-----	-----	-----	-----	-----					
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
107 Methyl methanesulfonate	+++++	0.49715	0.53533	0.51057	+++++	0.50167					
	+++++	0.48893					AVRG		0.50673		3.51216
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108 N-Nitrosodiethylamine	+++++	0.40307	0.42436	0.41312	+++++	0.43211					
	+++++	0.42588					AVRG		0.41971		2.75306
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109 Ethyl Methanesulfonate	+++++	0.63621	0.67228	0.64354	+++++	0.63135					
	+++++	0.62943					AVRG		0.64256		2.72101
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110 Pentachloroethane	+++++	0.30893	0.33024	0.32096	+++++	0.32066					
	+++++	0.31808					AVRG		0.31977		2.38199
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111 N-Nitrosopyrrolidine	+++++	0.36827	0.38604	0.40197	+++++	0.43245					
	+++++	0.43332					AVRG		0.40441		7.07162
113 N-Nitrosomorpholine	+++++	0.50792	0.52969	0.50302	+++++	0.51744					
	+++++	0.51735					AVRG		0.51508		1.99186
114 o-Toluidine	+++++	1.54043	1.60475	1.57505	+++++	1.50592					
	+++++	1.40050					AVRG		1.52533		5.17958
115 N-Nitrosopiperidine	+++++	0.12530	0.13153	0.13438	+++++	0.13937					
	+++++	0.13683					AVRG		0.13348		4.05949
116 a,a-Dimethylphenethylamine	+++++	0.70337	0.72973	0.76978	+++++	0.83930					
	+++++	0.84008					AVRG		0.77645		8.03435
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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	-----	-----	-----	-----	-----	-----					
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
117 Triethylphosphorothioate	+++++	0.14783	0.14833	0.15416	0.15466	0.15300					
	0.14822	0.14442					AVRG		0.15009		2.57840
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118 2,6-Dichlorophenol	+++++	0.16885	0.18504	0.19740	+++++	0.21626					
	+++++	0.21645					AVRG		0.19680		10.42809
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119 Hexachloropropene	+++++	0.09017	0.09651	0.10501	+++++	0.12112					
	+++++	0.11927					AVRG		0.10641		12.82796
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120 p-Phenylenediamine	+++++	0.13074	0.16464	0.16825	+++++	0.20469					
	+++++	0.10919					AVRG		0.15550		23.68041 <-
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121 N-Nitrosodi-n-butylamine	+++++	0.19243	0.17632	0.16321	+++++	0.16759					
	+++++	0.15952					AVRG		0.17181		7.63641
122 Safrole	+++++	0.18688	0.19626	0.19376	+++++	0.19566					
	+++++	0.18724					AVRG		0.19196		2.37955
123 1,2,4,5-Tetrachlorobenzene	+++++	0.46397	0.48717	0.47238	+++++	0.44819					
	+++++	0.41002					AVRG		0.45635		6.46181
124 Isosafrole	+++++	0.29986	0.33224	0.32567	+++++	0.32763					
	+++++	0.32162					AVRG		0.32140		3.93184
125 1,4-Naphthoquinone	+++++	0.26575	0.32398	0.34122	+++++	0.27203					
	+++++	0.26408					AVRG		0.29341		12.40909
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GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 05-JAN-2010 08:21  
 End Cal Date : 06-JAN-2010 14:25  
 Quant Method : ISTD  
 Target Version : 3.50  
 Integrator : HP RTE  
 Method file : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
126 m-Dinitrobenzene	+++++	0.14819	0.17055	0.18066	0.18640	0.18415					
	0.17893	0.18795					AVRG		0.17669	7.82704	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
127 Pentachlorobenzene	+++++	0.40776	0.42518	0.41534	+++++	0.41377					
	+++++	0.38828					AVRG		0.41007	3.33927	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
128 1-Naphthylamine	+++++	0.72762	0.80933	0.81550	+++++	0.81167					
	+++++	0.74737					AVRG		0.78230	5.31122	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
129 2-Naphthylamine	+++++	0.77252	0.87164	0.69214	+++++	0.79156					
	+++++	0.77937					AVRG		0.78145	8.16788	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
130 2,3,4,6-Tetrachlorophenol	+++++	25044	58324	145004	193603	337306					
	391940	530995					LINR	0.14696	0.27529	0.99866	
131 5-Nitro-o-toluidine	+++++	0.19905	0.25857	0.26185	+++++	0.28362					
	+++++	0.28774					AVRG		0.25817	13.73638	
132 Thionazin	+++++	0.18780	0.18311	0.18465	0.18591	0.17793					
	0.17550	0.16600					AVRG		0.18013	4.22399	
134 Sulfotepp	+++++	0.08992	0.09027	0.09183	0.09271	0.09045					
	0.08848	0.08376					AVRG		0.08963	3.26308	
135 Phorate	+++++	0.41116	0.41593	0.38362	0.37361	0.35431					
	0.33437	0.30216					AVRG		0.36788	11.14605	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 05-JAN-2010 08:21  
 End Cal Date : 06-JAN-2010 14:25  
 Quant Method : ISTD  
 Target Version : 3.50  
 Integrator : HP RTE  
 Method file : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100 Level 7	120 Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
136 1,3,5-Trinitrobenzene	+++++	18770	38921	103148	+++++	307888					
	+++++	471608					LINR	0.17886	0.12488		0.99889
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
137 Phenacetin	+++++	0.24074	0.26215	0.26052	+++++	0.25551					
	+++++	0.25736					AVRG		0.25526		3.33797
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
138 Diallyate	+++++	0.25201	0.26705	0.23091	+++++	0.21053					
	+++++	0.19522					AVRG		0.23114		12.68714
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
139 Dimethoate	+++++	0.20542	0.22193	0.23232	0.23839	0.23725					
	0.23500	0.22633					AVRG		0.22809		5.09517
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
140 4-Aminobiphenyl	+++++	0.55016	0.53689	0.49001	+++++	0.44480					
	+++++	0.35287					AVRG		0.47494		16.82194 <-
141 Pentachloronitrobenzene	+++++	0.06928	0.07542	0.07114	+++++	0.07160					
	+++++	0.06576					AVRG		0.07064		4.98923
142 Pronamide	+++++	0.26956	0.29817	0.27159	+++++	0.24798					
	+++++	0.21779					AVRG		0.26102		11.50002
143 Dinoseb	+++++	14609	40146	120125	161049	306980					
	335384	489176					LINR	0.21025	0.13673		0.99656
144 Disulfoton	+++++	0.36292	0.35575	0.33128	0.32567	0.30301					
	0.28872	0.25949					AVRG		0.31812		11.60966
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

GEL Laboratories LLC  
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 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	or R^2
	-----	-----	-----	-----	-----	-----					
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
145 Methyl parathion	+++++	0.15317	0.17382	0.18634	0.19157	0.19081					
	0.19217	0.18798					AVRG		0.18227		7.83913
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
146 4-Nitroquinoline-1-oxide	+++++	0.01377	0.01547	0.01720	+++++	0.01430					
	+++++	0.00961					AVRG		0.01407		20.03521 <-
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
147 Methapyrilene	+++++	0.42810	0.46356	0.43308	+++++	0.39005					
	+++++	0.35377					AVRG		0.41371		10.26920
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
148 Isodrin	+++++	0.10607	0.11554	0.10602	+++++	0.10283					
	+++++	0.09843					AVRG		0.10578		5.94218
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
149 Aramite	+++++	0.04599	0.05159	0.04997	+++++	0.05024					
	+++++	0.04875					AVRG		0.04931		4.27978
150 Kepone	+++++	0.07114	0.07924	0.07238	+++++	0.07407					
	+++++	0.07460					AVRG		0.07429		4.16121
151 p-(Dimethylamino)azobenzene	+++++	0.26657	0.29776	0.27961	+++++	0.26269					
	+++++	0.23843					AVRG		0.26901		8.14447
152 Chlorobenzilate	+++++	0.28225	0.32445	0.29604	+++++	0.30029					
	+++++	0.26853					AVRG		0.29431		7.12128
153 3,3'-Dimethylbenzidine	+++++	0.48124	0.49297	0.43601	+++++	0.42786					
	+++++	0.40788					AVRG		0.44919		8.08801
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

## GEL Laboratories LLC

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 Method file : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Cal Date : 25-Jan-2010 08:43 rmb

Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====											
154 Famphur	+++++	0.28027	0.33003	0.36616	0.38738	0.39999					
	0.40118	0.38248					AVRG		0.36393		12.15202
-----											
155 2-Acetylaminofluorene	+++++	47321	104628	272723	+++++	766805					
	+++++	1264833					LINR	0.14476	0.33678		0.99964
-----											
157 7,12Dimethylbenz(a)anthracene	+++++	0.45159	0.50078	0.48460	+++++	0.50061					
	+++++	0.48249					AVRG		0.48401		4.14588
-----											
158 3-Methylcholanthrene	+++++	0.28933	0.33549	0.34334	+++++	0.35935					
	+++++	0.36854					AVRG		0.33921		9.06881
-----											
26 Phthalic anhydride	+++++	19875	30292	115319	152300	263982					
	305648	382974					LINR	0.10484	0.10306		0.99487
173 Carbazole	0.61815	0.68768	0.60315	0.57235	0.57097	0.58141					
	0.56756	0.56776					AVRG		0.59613		6.93124
174 Hexachlorophene	+++++	465068	1369075	1819555	2342006	2903825					
	3216878	+++++					LINR	5.18418	0.06522		0.99568
179 Dibenzo(a,e)pyrene	+++++	38356	88310	260797	252606	504258					
	696659	1061562					LINR	0.18048	0.32546		0.99092
185 (2,3-Dibromopropyl)phosphate	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+00		0.000e+00

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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	100	120									
	Level 7	Level 8									
=====											
184 p-Benzoquinone	+++++	8149	17103	41083	57940	90861					
	115792	158015					LINR	0.18045	0.16674		0.99202
-----											
191 Parathion	+++++	0.05369	0.05960	0.06519	0.06892	0.07094					
	0.07149	0.07167					AVRG		0.06593		10.51462
-----											
192 Methoxychlor	+++++	0.52319	0.56885	0.56986	0.61174	0.54725					
	0.48429	0.50960					AVRG		0.54497		7.87874
-----											
210 m-Toluidine	+++++	1.15590	1.13090	1.29464	1.26551	1.28269					
	1.27755	1.23332					AVRG		1.23436		5.29864
-----											
211 p-Toluidine	+++++	1.09425	0.98043	0.93742	1.00216	0.93622					
	0.93840	0.97584					AVRG		0.98068		5.74088
212 Cis Diallate	+++++	0.24426	0.27644	0.24776	+++++	0.24915					
	+++++	0.24183					AVRG		0.25189		5.56655
213 Trans Diallate	+++++	0.29648	0.31418	0.27165	+++++	0.24769					
	+++++	0.22967					AVRG		0.27193		12.68714
214 1,4-Dinitrobenzene	+++++	0.13082	0.15430	0.17983	0.18780	0.18683					
	0.18150	0.18942					AVRG		0.17293		12.77281
215 2-Ethoxyethanol	+++++	0.73271	0.73985	0.72223	0.72166	0.67696					
	0.67681	0.67742					AVRG		0.70680		4.03319
=====											



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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	-----	-----	-----	-----	-----	-----					
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
216 Methylenebis(2-chloroaniline)	+++++	0.10869	0.11509	0.12522	0.12893	0.13198					
	0.12253	0.13841					AVRG		0.12441		8.11823
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229 2,2'-Dichlorobenzil	+++++	0.56000	0.61845	0.63669	0.66691	0.59979					
	0.61630	0.57303					AVRG		0.61017		5.99705
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230 4-Chlorothioanisole	+++++	0.21206	0.22785	0.24603	0.24332	0.24988					
	0.24674	0.23343					AVRG		0.23704		5.71316
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
231 4-Chlorothiophenol	+++++	23256	88326	248426	273990	540018					
	678460	879205					LINR	0.22385	0.21267		0.99809
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
232 bis(p-Chlorophenyl)sulfone	+++++	0.36234	0.37196	0.36548	0.38857	0.35230					
	0.36302	0.34730					AVRG		0.36442		3.69430
233 bis(p-Chlorophenyl)disulfide	+++++	0.10805	0.12976	0.13321	0.14786	0.13206					
	0.13938	0.13432					AVRG		0.13209		9.22893
234 Diphenyl disulfide	+++++	0.21433	0.22704	0.22300	0.22745	0.21175					
	0.21225	0.20248					AVRG		0.21690		4.26801
235 Diphenyl sulfide	+++++	0.74037	0.76379	0.76558	0.77229	0.75018					
	0.71262	0.66259					AVRG		0.73820		5.27172
236 Phenyl sulfone	+++++	0.41200	0.41885	0.40986	0.41164	0.39249					
	0.39193	0.37639					AVRG		0.40188		3.78222
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

GEL Laboratories LLC  
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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	-----	-----	-----	-----	-----	-----					
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
237 Hydroxymethyl phthalimide	+++++	0.13345	0.17049	0.18661	0.18982	0.17468					
	0.16944	0.15663					AVRG		0.16873		11.33483
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
238 Phthalic acid	+++++	18191	61252	173609	220071	424683					
	518772	642794					LINR	0.21995	0.16003		0.99625
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
239 Thiophenol	+++++	52552	173692	429443	479869	866255					
	1043710	1285423					LINR	0.10121	1.06558		0.99792
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
240 bis(Chloromethyl)ether	+++++	0.96674	0.94397	0.91488	0.89081	0.87783					
	0.86320	0.79621					AVRG		0.89338		6.29984
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241 Octachlorostyrene	+++++	0.06487	0.06936	0.07086	0.07364	0.07192					
	0.07256	0.06738					AVRG		0.07008		4.42931
M 225 Trichlorophenols	+++++	0.25736	0.28691	0.31109	0.31610	0.30147					
	0.29511	0.29228					AVRG		0.29433		6.55390
M 226 Tetrachlorophenols	+++++	25044	58324	145004	193603	337306					
	391940	530995					LINR	0.14696	0.27529		0.99866
M 227 Benzo(b,k)fluoranthene	0.76177	0.87736	0.90517	0.91605	0.96297	0.93273					
	0.92751	0.90830					AVRG		0.89898		6.74801
M 228 TTO Sum Semivolatiles	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+00		0.000e+00
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

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Compound	1	10	20	40	50	80	Curve	Coefficients			%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1	m2	
	-----	-----	-----	-----	-----	-----					
	100	120									
	Level 7	Level 8									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 3 2-Fluorophenol	+++++	1.00692	1.02984	1.02656	1.01245	0.95898					
	0.95815	0.95110					AVRG		0.99200		3.48640
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\$ 5 Phenol-d5	+++++	1.27448	1.25292	1.25402	1.25041	1.19615					
	1.17157	1.16407					AVRG		1.22338		3.67027
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
\$ 187 2-Chlorophenol-d4	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+00		0.000e+00
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
\$ 188 1,2-Dichlorobenzene-d4	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+00		0.000e+00
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
\$ 20 Nitrobenzene-d5	+++++	0.34857	0.33951	0.31944	0.31085	0.28554					
	0.27013	0.27584					AVRG		0.30713		10.07527
\$ 39 2-Fluorobiphenyl	+++++	1.15449	1.14554	1.12686	1.10095	0.99756					
	0.96910	0.91246					AVRG		1.05814		9.15434
\$ 60 2,4,6-Tribromophenol	+++++	0.09542	0.11122	0.12451	0.13351	0.13834					
	0.14244	0.14450					AVRG		0.12713		14.24614
\$ 81 p-Terphenyl-d14	+++++	0.66125	0.66473	0.65020	0.68566	0.60826					
	0.57181	0.55461					AVRG		0.62807		8.01491
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Cal Date : 25-Jan-2010 08:43 rmb

Curve	Formula	Units
=====	=====	=====
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 05-JAN-2010 12:29  
Lab File ID: s5a0512.d Init. Cal. Date(s): 05-JAN-2010 05-JAN-2010  
Analysis Type: WATER Init. Cal. Times: 08:21 11:38  
Lab Sample ID: WBN091223-17.1 Quant Type: ISTD  
Method: /chem/MSD5.i/s010510.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
\$ 3 2-Fluorophenol	0.99200	0.98589	0.98589	0.000	-0.61563	60.00000	Averaged
\$ 5 Phenol-d5	1.22338	1.18606	1.18606	0.000	-3.05014	60.00000	Averaged
\$ 20 Nitrobenzene-d5	0.30713	0.31357	0.31357	0.000	2.09916	60.00000	Averaged
\$ 39 2-Fluorobiphenyl	1.05814	1.09204	1.09204	0.000	3.20353	60.00000	Averaged
\$ 60 2,4,6-Tribromophenol	0.12713	0.12659	0.12659	0.000	-0.42919	60.00000	Averaged
\$ 81 p-Terphenyl-d14	0.62807	0.66568	0.66568	0.000	5.98755	60.00000	Averaged
1 N-Methyl-N-nitrosomethylami	0.59451	0.57144	0.57144	0.000	-3.88053	60.00000	Averaged
2 Pyridine	0.81724	0.82683	0.82683	0.000	1.17338	60.00000	Averaged
4 Aniline	0.50134	0.49946	0.49946	0.000	-0.37612	60.00000	Averaged
6 Phenol	1.21864	1.18810	1.18810	0.001	-2.50588	20.00000	Averaged ccc
7 bis(2-Chloroethyl) ether	0.91396	0.87044	0.87044	0.000	-4.76166	60.00000	Averaged
8 2-Chlorophenol	1.03330	1.00009	1.00009	0.000	-3.21470	60.00000	Averaged
203 n-Decane	1.24052	1.22124	1.22124	0.000	-1.55428	60.00000	Averaged
9 1,3-Dichlorobenzene	1.11826	1.10326	1.10326	0.000	-1.34119	60.00000	Averaged
11 1,4-Dichlorobenzene	1.10956	1.08204	1.08204	0.001	-2.47984	20.00000	Averaged ccc
13 1,2-Dichlorobenzene	0.97955	1.00197	1.00197	0.000	2.28836	60.00000	Averaged
14 bis(2-Chloroisopropyl)ether	1.79561	1.76251	1.76251	0.000	-1.84363	60.00000	Averaged
12 Benzyl alcohol	0.68191	0.66486	0.66486	0.000	-2.49934	60.00000	Averaged
15 o-Cresol	0.71791	0.71066	0.71066	0.000	-1.01011	60.00000	Averaged
18 m,p-Cresols	1.02193	1.01713	1.01713	0.000	-0.46949	60.00000	Averaged
17 N-Nitrosodipropylamine	0.60391	0.60439	0.60439	0.050	0.08018	60.00000	Averaged spcc
19 Hexachloroethane	0.45803	0.43899	0.43899	0.000	-4.15529	60.00000	Averaged
21 Nitrobenzene	0.27592	0.28190	0.28190	0.000	2.16578	60.00000	Averaged
22 Isophorone	0.52404	0.51130	0.51130	0.000	-2.43216	60.00000	Averaged
23 2-Nitrophenol	0.13005	0.13188	0.13188	0.001	1.40654	20.00000	Averaged ccc
24 2,4-Dimethylphenol	0.26000	0.24103	0.24103	0.000	-7.29554	60.00000	Averaged
25 bis(2-Chloroethoxy)methane	0.31106	0.30308	0.30308	0.000	-2.56510	60.00000	Averaged
26 2,4-Dichlorophenol	0.20539	0.20573	0.20573	0.001	0.16229	20.00000	Averaged ccc
27 Benzoic acid	43.27553	40.00000	0.12598	0.000	8.18881	60.00000	Linear
28 1,2,4-Trichlorobenzene	0.25371	0.24714	0.24714	0.000	-2.58845	60.00000	Averaged
30 Naphthalene	0.78760	0.81978	0.81978	0.000	4.08512	60.00000	Averaged
204 alpha-Terpineol	0.25524	0.22388	0.22388	0.000	-12.28424	60.00000	Averaged
31 4-Chloroaniline	0.34454	0.36098	0.36098	0.000	4.77058	60.00000	Averaged
32 Hexachlorobutadiene	0.15048	0.15123	0.15123	0.001	0.49613	20.00000	Averaged ccc
33 4-Chloro-3-methylphenol	0.20939	0.21475	0.21475	0.001	2.56300	20.00000	Averaged ccc
34 2-Methylnaphthalene	0.49435	0.56037	0.56037	0.000	13.35472	60.00000	Averaged

## GEL Laboratories LLC

## CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 05-JAN-2010 12:29  
Lab File ID: s5a0512.d Init. Cal. Date(s): 05-JAN-2010 05-JAN-2010  
Analysis Type: WATER Init. Cal. Times: 08:21 11:38  
Lab Sample ID: WBN091223-17.1 Quant Type: ISTD  
Method: /chem/MSD5.i/s010510.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
35 1-Methylnaphthalene	0.48258	0.52529	0.52529	0.000	8.85001	60.00000	Averaged
36 Hexachlorocyclopentadiene	0.23320	0.17370	0.17370	0.050	-25.51571	60.00000	Averaged spcc
205 2,3-Dichloroaniline	0.48598	0.48645	0.48645	0.000	0.09715	60.00000	Averaged
37 2,4,6-Trichlorophenol	0.27850	0.27975	0.27975	0.001	0.44696	20.00000	Averaged ccc
38 2,4,5-Trichlorophenol	0.31016	0.32095	0.32095	0.000	3.47953	60.00000	Averaged
40 2-Chloronaphthalene	0.87386	0.86789	0.86789	0.000	-0.68294	60.00000	Averaged
42 o-Nitroaniline	0.28349	0.28429	0.28429	0.000	0.28213	60.00000	Averaged
41 m-Nitroaniline	0.21276	0.21557	0.21557	0.000	1.32095	60.00000	Averaged
43 Dimethylphthalate	1.02309	1.02836	1.02836	0.000	0.51489	60.00000	Averaged
44 2,6-Dinitrotoluene	0.23962	0.23431	0.23431	0.000	-2.21807	60.00000	Averaged
50 2,4-Dinitrotoluene	0.30273	0.30891	0.30891	0.000	2.04140	60.00000	Averaged
45 Acenaphthylene	1.42466	1.56830	1.56830	0.000	10.08265	60.00000	Averaged
47 Acenaphthene	0.86925	0.94508	0.94508	0.001	8.72419	20.00000	Averaged ccc
48 2,4-Dinitrophenol	39.51219	40.00000	0.05593	0.050	-1.21952	60.00000	Linear spcc
49 Dibenzofuran	1.24565	1.23814	1.23814	0.000	-0.60256	60.00000	Averaged
51 Diethylphthalate	1.05822	1.08156	1.08156	0.000	2.20474	60.00000	Averaged
52 4-Nitrophenol	43.35716	40.00000	0.15491	0.050	8.39290	60.00000	Linear spcc
53 Fluorene	1.04116	1.16236	1.16236	0.000	11.64150	60.00000	Averaged
54 4-Chlorophenylphenylether	0.54928	0.54913	0.54913	0.000	-0.02699	60.00000	Averaged
55 2-Methyl-4,6-dinitrophenol	45.65666	40.00000	0.07735	0.000	14.14165	60.00000	Linear
56 p-Nitroaniline	0.17126	0.16889	0.16889	0.000	-1.38331	60.00000	Averaged
133 Diphenylamine	0.48238	0.47918	0.47918	0.001	-0.66262	20.00000	Averaged ccc
58 1,2-Diphenylhydrazine	0.56816	0.57277	0.57277	0.000	0.81103	60.00000	Averaged
61 4-Bromophenylphenylether	0.17919	0.17218	0.17218	0.000	-3.91443	60.00000	Averaged
63 Hexachlorobenzene	0.18156	0.17105	0.17105	0.000	-5.78874	60.00000	Averaged
65 Pentachlorophenol	39.90292	40.00000	0.08235	0.001	-0.24271	20.00000	Linear ccc
206 n-Octadecane	0.40416	0.42903	0.42903	0.000	6.15429	60.00000	Averaged
68 Phenanthrene	0.77989	0.83345	0.83345	0.000	6.86728	60.00000	Averaged
69 Anthracene	0.78118	0.85578	0.85578	0.000	9.54971	60.00000	Averaged
72 Di-n-butylphthalate	0.97635	1.01661	1.01661	0.000	4.12290	60.00000	Averaged
76 Fluoranthene	0.85744	0.95622	0.95622	0.001	11.52033	20.00000	Averaged ccc
79 Pyrene	1.01529	1.05256	1.05256	0.000	3.67140	60.00000	Averaged
85 Butylbenzylphthalate	0.48062	0.47847	0.47847	0.000	-0.44815	60.00000	Averaged
89 Benzo(a)anthracene	0.84934	0.90825	0.90825	0.000	6.93670	60.00000	Averaged
92 Chrysene	0.77209	0.83424	0.83424	0.000	8.04902	60.00000	Averaged
93 bis(2-Ethylhexyl)phthalate	0.66338	0.66727	0.66727	0.000	0.58616	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 05-JAN-2010 12:29  
 Lab File ID: s5a0512.d Init. Cal. Date(s): 05-JAN-2010 05-JAN-2010  
 Analysis Type: WATER Init. Cal. Times: 08:21 11:38  
 Lab Sample ID: WBN091223-17.1 Quant Type: ISTD  
 Method: /chem/MSD5.i/s010510.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
94 Di-n-octylphthalate	1.28101	1.25168	1.25168	0.001	-2.28947	20.00000	Averaged	ccc
95 Benzo(b)fluoranthene	0.90766	0.96663	0.96663	0.000	6.49706	60.00000	Averaged	
96 Benzo(k)fluoranthene	0.89031	0.96981	0.96981	0.000	8.93015	60.00000	Averaged	
97 Benzo(a)pyrene	0.77742	0.85130	0.85130	0.001	9.50338	20.00000	Averaged	ccc
99 Indeno(1,2,3-cd)pyrene	42.91361	40.00000	0.75886	0.000	7.28402	60.00000	Linear	
100 Dibenzo(a,h)anthracene	42.66667	40.00000	0.60808	0.000	6.66667	60.00000	Linear	
101 Benzo(ghi)perylene	0.56118	0.64923	0.64923	0.000	15.69111	60.00000	Averaged	
126 m-Dinitrobenzene	0.17669	0.17548	0.17548	0.000	-0.68799	60.00000	Averaged	
130 2,3,4,6-Tetrachlorophenol	40.44488	40.00000	0.23789	0.000	1.11220	60.00000	Linear	
143 Dinoseb	37.33467	40.00000	0.09887	0.000	-6.66333	60.00000	Linear	
173 Carbazole	0.59613	0.57799	0.57799	0.000	-3.04242	60.00000	Averaged	
184 p-Benzoquinone	48.18680	40.00000	0.17078	0.000	20.46699	60.00000	Linear	
192 Methoxychlor	0.54497	0.52567	0.52567	0.000	-3.54198	60.00000	Averaged	
211 p-Toluidine	0.98067	0.88367	0.88367	0.000	-9.89153	60.00000	Averaged	
210 m-Toluidine	1.23436	1.36896	1.36896	0.000	10.90465	60.00000	Averaged	
26 Phthalic anhydride	57.02859	40.00000	0.13613	0.000	42.57147	60.00000	Linear	
179 Dibenzo(a,e)pyrene	31.90406	40.00000	0.20084	0.000	-20.23984	60.00000	Linear	
214 1,4-Dinitrobenzene	0.17293	0.17647	0.17647	0.000	2.04965	60.00000	Averaged	
215 2-Ethoxyethanol	0.70680	0.71987	0.71987	0.000	1.84835	60.00000	Averaged	
216 Methylenebis(2-chloroanilin	0.12441	0.12854	0.12854	0.000	3.32115	60.00000	Averaged	
M 225 Trichlorophenols	0.29433	0.30035	0.30035	0.000	2.04466	60.00000	Averaged	
M 226 Tetrachlorophenols	40.44488	40.00000	0.23789	0.000	1.11220	60.00000	Linear	
M 227 Benzo(b,k)fluoranthene	0.89898	0.96822	0.96822	0.000	7.70183	60.00000	Averaged	

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Data file : /chem/MSD5.i/s010510.b/s5a0512.d  
Lab Smp Id: WBN091223-17.1 Client Smp ID: MEGAICV  
Inj Date : 05-JAN-2010 12:29  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |WBN091223-17.1|40 PPM|1|SVM|1|MEGAICV  
Misc Info : |MSD8270|WBN091208-01  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s010510.b/MSD5-M8270C-010510.m  
Meth Date : 05-Jan-2010 12:48 rmb Quant Type: ISTD  
Cal Date : 05-JAN-2010 11:38 Cal File: s5a0510.d  
Als bottle: 12 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: MEGAICARE.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vo \*Vi) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vo	1000.00000	volume of sample ext
Vi	0.50000	volume injected

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.993	3.993	(1.000)	368438	40.0000	
* 29 Naphthalene-d8	136	4.864	4.864	(1.000)	1375001	40.0000	
* 46 Acenaphthene-d10	164	6.121	6.121	(1.000)	740435	40.0000	
* 67 Phenanthrene-d10	188	7.296	7.296	(1.000)	1348058	40.0000	
* 91 Chrysene-d12	240	9.718	9.718	(1.000)	1268614	40.0000	
* 98 Perylene-d12	264	11.442	11.442	(1.000)	1092324	40.0000	
\$ 3 2-Fluorophenol	112	3.165	3.165	(0.793)	363240	40.0000	39.8
\$ 5 Phenol-d5	99	3.699	3.699	(0.926)	436990	40.0000	38.8
\$ 20 Nitrobenzene-d5	82	4.354	4.354	(0.895)	431164	40.0000	40.8
\$ 39 2-Fluorobiphenyl	172	5.601	5.601	(0.915)	808582	40.0000	41.3
\$ 60 2,4,6-Tribromophenol	329	6.718	6.718	(1.098)	93731	40.0000	39.8
\$ 81 p-Terphenyl-d14	244	8.678	8.678	(0.893)	844492	40.0000	42.4
1 N-Methyl-N-nitrosomethylamine	74	2.462	2.462	(0.616)	210540	40.0000	38.4



Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
2 Pyridine	79	2.495	2.495	(0.625)	304636	40.0000	40.5
4 Aniline	66	3.776	3.776	(0.946)	184019	40.0000	39.8
6 Phenol	94	3.709	3.709	(0.929)	437742	40.0000	39.0(Q)
7 bis(2-Chloroethyl) ether	63	3.791	3.791	(0.949)	320703	40.0000	38.1
8 2-Chlorophenol	128	3.853	3.853	(0.965)	368470	40.0000	38.7
203 n-Decane	43	3.839	3.839	(0.961)	449952	40.0000	39.4
9 1,3-Dichlorobenzene	146	3.959	3.959	(0.992)	406483	40.0000	39.5
11 1,4-Dichlorobenzene	146	4.003	4.003	(1.002)	398665	40.0000	39.0
13 1,2-Dichlorobenzene	146	4.108	4.108	(1.029)	369162	40.0000	40.9
14 bis(2-Chloroisopropyl)ether	45	4.133	4.133	(1.035)	649375	40.0000	39.3
12 Benzyl alcohol	108	4.056	4.056	(1.016)	244961	40.0000	39.0
15 o-Cresol	107	4.104	4.104	(1.028)	261835	40.0000	39.6
18 m,p-Cresols	107	4.205	4.205	(1.053)	374750	40.0000	39.8
17 N-Nitrosodipropylamine	70	4.229	4.229	(1.059)	222682	40.0000	40.0
19 Hexachloroethane	117	4.340	4.340	(1.087)	161742	40.0000	38.3
21 Nitrobenzene	77	4.369	4.369	(0.898)	387614	40.0000	40.9
22 Isophorone	82	4.523	4.523	(0.930)	703036	40.0000	39.0
23 2-Nitrophenol	139	4.585	4.585	(0.943)	181331	40.0000	40.6
24 2,4-Dimethylphenol	122	4.571	4.571	(0.940)	331416	40.0000	37.1
25 bis(2-Chloroethoxy)methane	93	4.643	4.643	(0.954)	416731	40.0000	39.0
26 2,4-Dichlorophenol	162	4.744	4.744	(0.975)	282875	40.0000	40.1
27 Benzoic acid	105	4.624	4.624	(0.950)	173217	40.0000	43.3
28 1,2,4-Trichlorobenzene	180	4.812	4.812	(0.989)	339823	40.0000	39.0
30 Naphthalene	128	4.879	4.879	(1.003)	1127193	40.0000	41.6(Q)
204 alpha-Terpineol	59	4.850	4.850	(0.997)	307842	40.0000	35.1
31 4-Chloroaniline	127	4.889	4.889	(1.005)	496347	40.0000	41.9
32 Hexachlorobutadiene	225	4.942	4.942	(1.016)	207943	40.0000	40.2
33 4-Chloro-3-methylphenol	107	5.197	5.197	(1.068)	295284	40.0000	41.0
34 2-Methylnaphthalene	142	5.360	5.360	(1.102)	770505	40.0000	45.3
35 1-Methylnaphthalene	142	5.433	5.433	(1.117)	722270	40.0000	43.5
36 Hexachlorocyclopentadiene	237	5.462	5.462	(0.892)	128611	40.0000	29.8
205 2,3-Dichloroaniline	161	5.553	5.553	(0.907)	360183	40.0000	40.0
37 2,4,6-Trichlorophenol	196	5.543	5.543	(0.906)	207134	40.0000	40.2
38 2,4,5-Trichlorophenol	196	5.572	5.572	(0.910)	237644	40.0000	41.4
40 2-Chloronaphthalene	162	5.712	5.712	(0.933)	642618	40.0000	39.7
42 o-Nitroaniline	65	5.765	5.765	(0.942)	210498	40.0000	40.1
41 m-Nitroaniline	138	6.064	6.064	(0.991)	159614	40.0000	40.5
43 Dimethylphthalate	163	5.876	5.876	(0.960)	761434	40.0000	40.2
44 2,6-Dinitrotoluene	165	5.929	5.929	(0.969)	173490	40.0000	39.1
50 2,4-Dinitrotoluene	165	6.227	6.227	(1.017)	228725	40.0000	40.8
45 Acenaphthylene	152	6.020	6.020	(0.983)	1161227	40.0000	44.0
47 Acenaphthene	154	6.145	6.145	(1.004)	699772	40.0000	43.5
48 2,4-Dinitrophenol	184	6.136	6.136	(1.002)	41412	40.0000	39.5
49 Dibenzofuran	168	6.271	6.271	(1.024)	916763	40.0000	39.8
51 Diethylphthalate	149	6.386	6.386	(1.043)	800822	40.0000	40.9
52 4-Nitrophenol	139	6.145	6.145	(1.004)	114703	40.0000	43.4
53 Fluorene	166	6.535	6.535	(1.068)	860655	40.0000	44.6

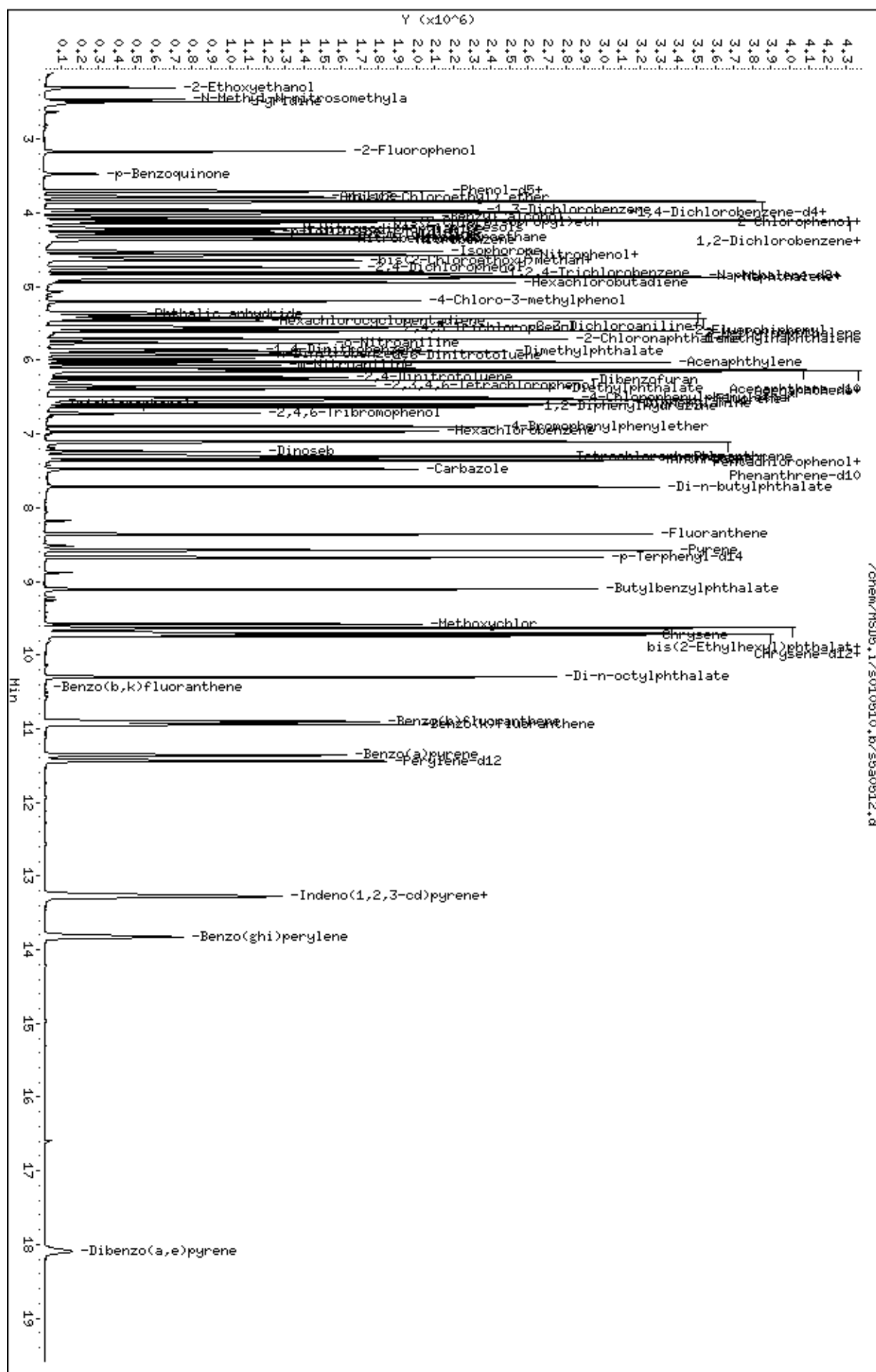
Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
54 4-Chlorophenylphenylether	204	6.507	6.507	(1.063)	406598	40.0000	40.0
55 2-Methyl-4,6-dinitrophenol	198	6.545	6.545	(0.897)	104269	40.0000	45.6
56 p-Nitroaniline	138	6.526	6.526	(1.066)	125051	40.0000	39.4
133 Diphenylamine	169	6.593	6.593	(0.904)	645968	40.0000	39.7
58 1,2-Diphenylhydrazine	77	6.632	6.632	(0.909)	772122	40.0000	40.3
61 4-Bromophenylphenylether	248	6.897	6.897	(0.945)	232104	40.0000	38.4
63 Hexachlorobenzene	284	6.969	6.969	(0.955)	230585	40.0000	37.7
65 Pentachlorophenol	266	7.118	7.118	(0.976)	111007	40.0000	39.9
206 n-Octadecane	57	7.104	7.104	(0.974)	578361	40.0000	42.5
68 Phenanthrene	178	7.315	7.315	(1.003)	1123542	40.0000	42.7
69 Anthracene	178	7.359	7.359	(1.009)	1153642	40.0000	43.8
72 Di-n-butylphthalate	149	7.715	7.715	(1.057)	1370444	40.0000	41.6
76 Fluoranthene	202	8.360	8.360	(1.146)	1289035	40.0000	44.6
79 Pyrene	202	8.577	8.577	(0.883)	1335296	40.0000	41.5
85 Butylbenzylphthalate	149	9.107	9.107	(0.937)	606994	40.0000	39.8
89 Benzo(a)anthracene	228	9.704	9.704	(0.998)	1152223	40.0000	42.8
92 Chrysene	228	9.742	9.742	(1.002)	1058329	40.0000	43.2
93 bis(2-Ethylhexyl)phthalate	149	9.632	9.632	(0.991)	846502	40.0000	40.2
94 Di-n-octylphthalate	149	10.301	10.301	(0.900)	1367243	40.0000	39.1
95 Benzo(b)fluoranthene	252	10.908	10.908	(0.953)	1055873	40.0000	42.6(H)
96 Benzo(k)fluoranthene	252	10.941	10.941	(0.956)	1059350	40.0000	43.6
97 Benzo(a)pyrene	252	11.360	11.360	(0.993)	929893	40.0000	43.8
99 Indeno(1,2,3-cd)pyrene	276	13.267	13.267	(1.159)	828920	40.0000	42.9
100 Dibenzo(a,h)anthracene	278	13.282	13.282	(1.161)	664220	40.0000	42.7
101 Benzo(ghi)perylene	276	13.831	13.831	(1.209)	709170	40.0000	46.3
126 m-Dinitrobenzene	168	5.914	5.914	(0.966)	129928	40.0000	39.7
130 2,3,4,6-Tetrachlorophenol	232	6.348	6.348	(1.037)	176142	40.0000	40.4(H)
143 Dinoseb	211	7.238	7.238	(0.992)	133289	40.0000	37.3
173 Carbazole	167	7.474	7.474	(1.024)	779167	40.0000	38.8
184 p-Benzoquinone	54	3.473	3.473	(0.870)	62922	40.0000	48.2
192 Methoxychlor	227	9.579	9.579	(0.986)	666868	40.0000	38.6
211 p-Toluidine	106	4.267	4.267	(1.069)	325578	40.0000	36.0
210 m-Toluidine	106	4.291	4.291	(1.075)	504378	40.0000	44.4
26 Phthalic anhydride	104	5.389	5.389	(1.108)	187183	40.0000	57.0
179 Dibenzo(a,e)pyrene	302	18.097	18.097	(1.582)	219387	40.0000	31.9(H)
214 1,4-Dinitrobenzene	75	5.856	5.856	(0.957)	130668	40.0000	40.8
215 2-Ethoxyethanol	59	2.303	2.303	(0.577)	265227	40.0000	40.7
216 Methylenebis(2-chloroaniline)	231	9.641	9.641	(0.992)	163064	40.0000	41.3(Q)
M 225 Trichlorophenols	196				444778	80.0000	81.6
M 226 Tetrachlorophenols	232				176142	40.0000	40.4
M 227 Benzo(b,k)fluoranthene	252				2115223	80.0000	86.2

## QC Flag Legend

Q - Qualifier signal failed the ratio test.  
H - Operator selected an alternate compound hit.

Data File: /chem/MSDS.i/s010510.b/s5a0512.d  
 Date : 05-JAN-2010 12:29  
 Client ID: MEGAICV  
 Sample Info: IABN091223-17.1140 PPH11ISWH11MEGAICV  
 Volume Injected (uL): 0.5  
 Column phase: J&W DB-5MS

Instrument: MSD5.i  
 Operator: RHB  
 Column diameter: 0.20



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 05-JAN-2010 17:55  
Lab File ID: s5a0526.d Init. Cal. Date(s): 05-JAN-2010 05-JAN-2010  
Analysis Type: WATER Init. Cal. Times: 08:21 17:32  
Lab Sample ID: WBN100103-08.1 Quant Type: ISTD  
Method: /chem/MSD5.i/s010510.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
209 Benzaldehyde	0.86728	0.75212	0.75212	0.010	-13.27728	60.00000	Averaged
16 Acetophenone	1.12258	1.11638	1.11638	0.010	-0.55224	60.00000	Averaged
189 Caprolactam	43.68381	40.00000	0.09432	0.010	9.20953	60.00000	Linear
208 1,1'-Biphenyl	1.13030	1.21150	1.21150	0.010	7.18402	60.00000	Averaged
207 Atrazine	0.03286	0.04079	0.04079	0.010	24.14841	60.00000	Averaged
77 Benzidine	41.85292	40.00000	0.23826	0.010	4.63229	60.00000	Linear
90 3,3'-Dichlorobenzidine	0.27423	0.26897	0.26897	0.010	-1.91801	60.00000	Averaged
102 1,4-Dioxane	0.35034	0.41126	0.41126	0.010	17.38790	60.00000	Averaged
103 Methyl methacrylate	0.19020	0.23703	0.23703	0.010	24.62514	60.00000	Averaged
104 Ethyl methacrylate	0.79064	0.95373	0.95373	0.010	20.62765	60.00000	Averaged
105 2-Picoline	1.20530	1.15374	1.15374	0.010	-4.27823	60.00000	Averaged
106 N-Nitrosomethylethylamine	0.42573	0.43567	0.43567	0.010	2.33571	60.00000	Averaged
107 Methyl methanesulfonate	0.50673	0.55961	0.55961	0.010	10.43462	60.00000	Averaged
108 N-Nitrosodiethylamine	0.41971	0.42676	0.42676	0.010	1.67940	60.00000	Averaged
109 Ethyl Methanesulfonate	0.64256	0.80489	0.80489	0.010	25.26191	60.00000	Averaged
110 Pentachloroethane	0.31977	0.43517	0.43517	0.010	36.08674	60.00000	Averaged
111 N-Nitrosopyrrolidine	0.40441	0.41200	0.41200	0.010	1.87564	60.00000	Averaged
113 N-Nitrosomorpholine	0.51508	0.55362	0.55362	0.010	7.48212	60.00000	Averaged
114 o-Toluidine	1.52533	1.52910	1.52910	0.010	0.24740	60.00000	Averaged
115 N-Nitrosopiperidine	0.13348	0.13472	0.13472	0.010	0.92414	60.00000	Averaged
116 a,a-Dimethylphenethylamine	0.77645	0.84685	0.84685	0.010	9.06604	60.00000	Averaged
118 2,6-Dichlorophenol	0.19680	0.21685	0.21685	0.010	10.18785	60.00000	Averaged
119 Hexachloropropene	0.10641	0.17502	0.17502	0.010	64.46898	60.00000	Averaged
120 p-Phenylenediamine	0.15550	0.18572	0.18572	0.010	19.43068	60.00000	Averaged
121 N-Nitrosodi-n-butylamine	0.17181	0.18680	0.18680	0.010	8.72325	60.00000	Averaged
122 Safrole	0.19196	0.22555	0.22555	0.010	17.49521	60.00000	Averaged
123 1,2,4,5-Tetrachlorobenzene	0.45635	0.49639	0.49639	0.010	8.77408	60.00000	Averaged
124 Isosafrole	0.32140	0.43916	0.43916	0.010	36.63815	60.00000	Averaged
125 1,4-Naphthoquinone	0.29341	0.34417	0.34417	0.010	17.30012	60.00000	Averaged
127 Pentachlorobenzene	0.41007	0.42925	0.42925	0.010	4.67798	60.00000	Averaged
128 1-Naphthylamine	0.78230	0.83484	0.83484	0.010	6.71678	60.00000	Averaged
129 2-Naphthylamine	0.78145	0.87149	0.87149	0.010	11.52225	60.00000	Averaged
131 5-Nitro-o-toluidine	0.25817	0.26779	0.26779	0.010	3.72690	60.00000	Averaged
136 1,3,5-Trinitrobenzene	56.36703	40.00000	0.15365	0.010	40.91758	60.00000	Linear
137 Phenacetin	0.25526	0.27157	0.27157	0.010	6.38969	60.00000	Averaged
138 Diallate	0.23114	0.22075	0.22075	0.010	-4.49521	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 05-JAN-2010 17:55  
 Lab File ID: s5a0526.d Init. Cal. Date(s): 05-JAN-2010 05-JAN-2010  
 Analysis Type: WATER Init. Cal. Times: 08:21 17:32  
 Lab Sample ID: WBN100103-08.1 Quant Type: ISTD  
 Method: /chem/MSD5.i/s010510.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
212 Cis Diallate	0.25189	0.31917	0.31917	0.010	26.71116	60.00000	Averaged
213 Trans Diallate	0.27193	0.25971	0.25971	0.010	-4.49521	60.00000	Averaged
140 4-Aminobiphenyl	0.47494	0.48744	0.48744	0.010	2.63182	60.00000	Averaged
141 Pentachloronitrobenzene	0.07064	0.07555	0.07555	0.010	6.94925	60.00000	Averaged
142 Pronamide	0.26102	0.28974	0.28974	0.010	11.00218	60.00000	Averaged
146 4-Nitroquinoline-1-oxide	0.01407	0.01534	0.01534	0.010	9.02233	60.00000	Averaged
147 Methapyrilene	0.41371	0.43493	0.43493	0.010	5.12861	60.00000	Averaged
148 Isodrin	0.10578	0.09832	0.09832	0.010	-7.05419	60.00000	Averaged
149 Aramite	0.04931	0.04543	0.04543	0.010	-7.85515	60.00000	Averaged
150 Kepone	0.07429	0.07616	0.07616	0.010	2.52491	60.00000	Averaged
151 p-(Dimethylamino)azobenzene	0.26901	0.26943	0.26943	0.010	0.15689	60.00000	Averaged
152 Chlorobenzilate	0.29431	0.30452	0.30452	0.010	3.46835	60.00000	Averaged
153 3,3'-Dimethylbenzidine	0.44919	0.40066	0.40066	0.010	-10.80342	60.00000	Averaged
155 2-Acetylaminofluorene	39.87515	40.00000	0.28698	0.010	-0.31212	60.00000	Linear
157 7,12Dimethylbenz(a)anthrace	0.48401	0.45352	0.45352	0.010	-6.30070	60.00000	Averaged
158 3-Methylcholanthrene	0.33921	0.34785	0.34785	0.010	2.54688	60.00000	Averaged

GEL Laboratories LLC

Data file : /chem/MSD5.i/s010510.b/s5a0526.d  
Lab Smp Id: WBN100103-08.1 Client Smp ID: AP12ICV  
Inj Date : 05-JAN-2010 17:55  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |WBN100103-08.1|40 PPM|1|SVM|1|AP12ICV  
Misc Info : |MSD8270|WBN091208-01  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s010510.b/MSD5-M8270C-010510.m  
Meth Date : 06-Jan-2010 08:08 rmb Quant Type: ISTD  
Cal Date : 05-JAN-2010 16:24 Cal File: s5a0522.d  
Als bottle: 26 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: ap12.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vo \*Vi) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vo	1000.00000	volume of sample ext
Vi	0.50000	volume injected

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.990	3.990	(1.000)	397349	40.0000	
* 29 Naphthalene-d8	136	4.854	4.854	(1.000)	1386419	40.0000	
* 46 Acenaphthene-d10	164	6.113	6.113	(1.000)	804456	40.0000	
* 67 Phenanthrene-d10	188	7.290	7.290	(1.000)	1465645	40.0000	
* 91 Chrysene-d12	240	9.707	9.707	(1.000)	1331973	40.0000	
* 98 Perylene-d12	264	11.431	11.431	(1.000)	1039315	40.0000	
209 Benzaldehyde	77	3.708	3.708	(0.929)	298856	40.0000	34.7
16 Acetophenone	105	4.237	4.237	(1.062)	443592	40.0000	39.8
189 Caprolactam	113	5.125	5.125	(1.056)	130769	40.0000	43.7
208 1,1'-Biphenyl	154	5.678	5.678	(0.929)	974602	40.0000	42.9
207 Atrazine	173	6.984	6.984	(0.958)	59788	40.0000	49.6
77 Benzydine	184	8.442	8.442	(0.870)	317353	40.0000	41.8
90 3,3'-Dichlorobenzidine	252	9.637	9.637	(0.993)	358262	40.0000	39.2

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
102 1,4-Dioxane	88	2.302	2.302	(0.577)	163412	40.0000	47.0
103 Methyl methacrylate	100	2.296	2.296	(0.575)	94184	40.0000	49.8
104 Ethyl methacrylate	69	2.678	2.678	(0.671)	378962	40.0000	48.2
105 2-Picoline	93	2.872	2.872	(0.720)	458437	40.0000	38.3
106 N-Nitrosomethylethylamine	88	2.919	2.919	(0.732)	173113	40.0000	40.9
107 Methyl methanesulfonate	80	3.072	3.072	(0.770)	222359	40.0000	44.2
108 N-Nitrosodiethylamine	102	3.313	3.313	(0.830)	169572	40.0000	40.7
109 Ethyl Methanesulfonate	79	3.466	3.466	(0.869)	319821	40.0000	50.1
110 Pentachloroethane	167	3.813	3.813	(0.956)	172914	40.0000	54.4
111 N-Nitrosopyrrolidine	100	4.225	4.225	(1.059)	163707	40.0000	40.8(Q)
113 N-Nitrosomorpholine	56	4.243	4.243	(1.063)	219982	40.0000	43.0
114 o-Toluidine	106	4.266	4.266	(1.069)	607588	40.0000	40.1
115 N-Nitrosopiperidine	114	4.466	4.466	(0.920)	186776	40.0000	40.4
116 a,a-Dimethylphenethylamine	58	4.754	4.754	(0.979)	1174082	40.0000	43.6(H)
118 2,6-Dichlorophenol	162	4.896	4.896	(1.008)	300644	40.0000	44.1
119 Hexachloropropene	213	4.931	4.931	(1.016)	242646	40.0000	65.8
120 p-Phenylenediamine	108	5.131	5.131	(1.057)	257481	40.0000	47.8
121 N-Nitrosodi-n-butylamine	84	5.096	5.096	(1.050)	258982	40.0000	43.5(Q)
122 Safrole	162	5.266	5.266	(1.085)	312703	40.0000	47.0
123 1,2,4,5-Tetrachlorobenzene	216	5.472	5.472	(0.895)	399320	40.0000	43.5
124 Isosafrole	162	5.637	5.637	(0.922)	353286	40.0000	54.6
125 1,4-Napththoquinone	158	5.825	5.825	(0.953)	276873	40.0000	46.9
127 Pentachlorobenzene	250	6.231	6.231	(1.019)	345311	40.0000	41.9
128 1-Naphthylamine	143	6.319	6.319	(1.034)	671596	40.0000	42.7
129 2-Naphthylamine	143	6.378	6.378	(1.043)	701073	40.0000	44.6
131 5-Nitro-o-toluidine	152	6.513	6.513	(1.065)	215424	40.0000	41.5
136 1,3,5-Trinitrobenzene	75	6.760	6.760	(0.927)	225192	40.0000	56.4
137 Phenacetin	108	6.807	6.807	(0.934)	398022	40.0000	42.6(Q)
138 Diallate	86	6.801	6.801	(0.933)	323547	40.0000	38.2
212 Cis Diallate	86	6.878	6.878	(0.944)	70169	6.00000	7.6(a)
213 Trans Diallate	86	6.801	6.801	(0.933)	323547	34.0000	32.5
140 4-Aminobiphenyl	169	7.101	7.101	(0.974)	714418	40.0000	41.0
141 Pentachloronitrobenzene	237	7.125	7.125	(0.977)	110730	40.0000	42.8(Q)
142 Pronamide	173	7.119	7.119	(0.977)	424651	40.0000	44.4
146 4-Nitroquinoline-1-oxide	101	7.960	7.960	(1.092)	22482	40.0000	43.6
147 Methapyrilene	58	7.995	7.995	(1.097)	637453	40.0000	42.0
148 Isodrin	193	8.225	8.225	(1.128)	144096	40.0000	37.2
149 Aramite	185	8.619	8.619	(1.182)	66591	40.0000	36.8
150 Kepone	272	9.213	9.213	(1.264)	111627	40.0000	41.0
151 p-(Dimethylamino)azobenzene	120	8.795	8.795	(0.906)	358877	40.0000	40.1
152 Chlorobenzilate	251	8.831	8.831	(0.910)	405612	40.0000	41.4
153 3,3'-Dimethylbenzidine	212	9.113	9.113	(0.939)	533673	40.0000	35.7
155 2-Acetylaminofluorene	181	9.360	9.360	(0.964)	382249	40.0000	39.9
157 7,12Dimethylbenz(a)anthracene	256	10.872	10.872	(0.951)	471347	40.0000	37.5
158 3-Methylcholanthrene	268	11.848	11.848	(1.037)	361523	40.0000	41.0(Q)

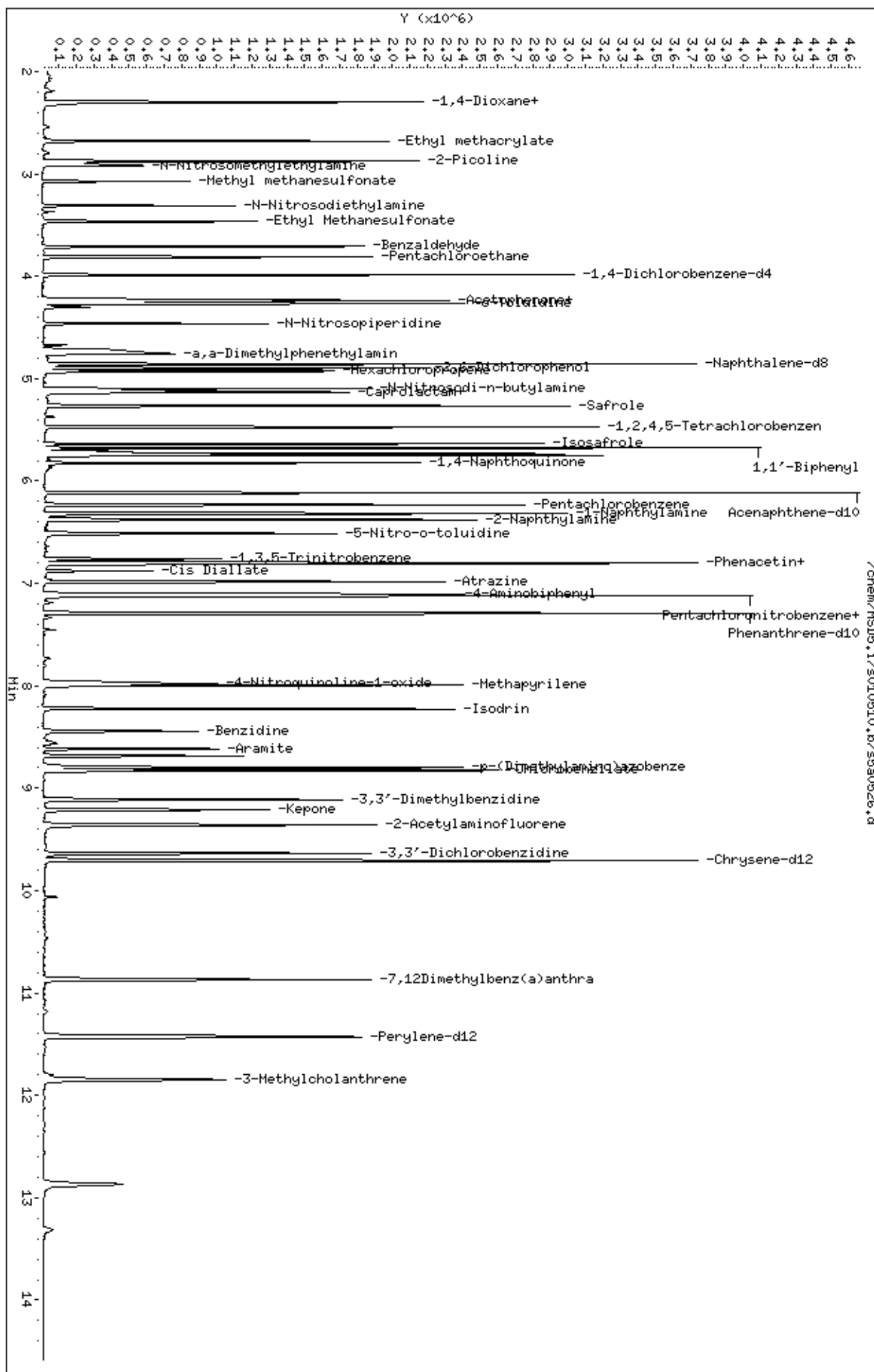
QC Flag Legend

- a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.
- H - Operator selected an alternate compound hit.



Data File: /chem/HSD5.i/s010510.b/s5a0526.d  
 Date : 05-JAN-2010 17:55  
 Client ID: AP12ICV  
 Sample Info: IABN100103-08.1140 PPH11ISWH11AP12ICV  
 Volume Injected (uL): 0.5  
 Column phase: J&W DB-5MS

Instrument: HSD5.i  
 Operator: RHB  
 Column diameter: 0.20



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 24-JAN-2010 13:04  
 Lab File ID: s5a2403.d Init. Cal. Date(s): 05-JAN-2010 06-JAN-2010  
 Analysis Type: WATER Init. Cal. Times: 08:21 14:25  
 Lab Sample ID: WBN100103-03.5 Quant Type: ISTD  
 Method: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
209 Benzaldehyde	0.86728	0.87439	0.87439	0.000	0.82000	60.00000	Averaged
16 Acetophenone	1.12258	1.17638	1.17638	0.000	4.79283	60.00000	Averaged
189 Caprolactam	41.00305	40.00000	0.08790	0.000	2.50763	60.00000	Linear
208 1,1'-Biphenyl	1.13030	1.20280	1.20280	0.000	6.41406	60.00000	Averaged
207 Atrazine	0.03286	0.02301	0.02301	0.000	-29.96448	60.00000	Averaged
77 Benzidine	29.00991	40.00000	0.17068	0.000	-27.47523	60.00000	Linear
90 3,3'-Dichlorobenzidine	0.27423	0.28513	0.28513	0.000	3.97498	60.00000	Averaged
102 1,4-Dioxane	0.35034	0.33339	0.33339	0.000	-4.83876	60.00000	Averaged
103 Methyl methacrylate	0.19020	0.19572	0.19572	0.000	2.90652	60.00000	Averaged
104 Ethyl methacrylate	0.79064	0.78372	0.78372	0.000	-0.87516	60.00000	Averaged
105 2-Picoline	1.20530	1.20165	1.20165	0.000	-0.30292	60.00000	Averaged
106 N-Nitrosomethylethylamine	0.42573	0.42609	0.42609	0.000	0.08448	60.00000	Averaged
107 Methyl methanesulfonate	0.50673	0.48438	0.48438	0.000	-4.41154	60.00000	Averaged
108 N-Nitrosodiethylamine	0.41971	0.42356	0.42356	0.000	0.91710	60.00000	Averaged
109 Ethyl Methanesulfonate	0.64256	0.61159	0.61159	0.000	-4.82058	60.00000	Averaged
110 Pentachloroethane	0.31977	0.31682	0.31682	0.000	-0.92462	60.00000	Averaged
111 N-Nitrosopyrrolidine	0.40441	0.45761	0.45761	0.000	13.15414	60.00000	Averaged
113 N-Nitrosomorpholine	0.51508	0.58766	0.58766	0.000	14.09009	60.00000	Averaged
114 o-Toluidine	1.52533	1.57174	1.57174	0.000	3.04231	60.00000	Averaged
115 N-Nitrosopiperidine	0.13348	0.13640	0.13640	0.000	2.18037	60.00000	Averaged
116 a,a-Dimethylphenethylamine	0.77645	0.69329	0.69329	0.000	-10.71049	60.00000	Averaged
118 2,6-Dichlorophenol	0.19680	0.21409	0.21409	0.000	8.78763	60.00000	Averaged
119 Hexachloropropene	0.10641	0.11180	0.11180	0.000	5.06380	60.00000	Averaged
120 p-Phenylenediamine	0.15550	0.07147	0.07147	0.000	-54.04006	60.00000	Averaged
121 N-Nitrosodi-n-butylamine	0.17181	0.17523	0.17523	0.000	1.99076	60.00000	Averaged
122 Safrole	0.19196	0.19562	0.19562	0.000	1.90640	60.00000	Averaged
123 1,2,4,5-Tetrachlorobenzene	0.45635	0.47761	0.47761	0.000	4.66058	60.00000	Averaged
124 Isosafrole	0.32140	0.33382	0.33382	0.000	3.86312	60.00000	Averaged
125 1,4-Naphthoquinone	0.29341	0.31977	0.31977	0.000	8.98249	60.00000	Averaged
127 Pentachlorobenzene	0.41007	0.41296	0.41296	0.000	0.70524	60.00000	Averaged
128 1-Naphthylamine	0.78230	0.75034	0.75034	0.000	-4.08530	60.00000	Averaged
129 2-Naphthylamine	0.78145	0.57022	0.57022	0.000	-27.03071	60.00000	Averaged
131 5-Nitro-o-toluidine	0.25817	0.28141	0.28141	0.000	9.00500	60.00000	Averaged
136 1,3,5-Trinitrobenzene	46.10630	40.00000	0.12161	0.000	15.26575	60.00000	Linear
137 Phenacetin	0.25526	0.26620	0.26620	0.000	4.28832	60.00000	Averaged
138 Diallate	0.23114	0.24114	0.24114	0.000	4.32344	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 24-JAN-2010 13:04  
 Lab File ID: s5a2403.d Init. Cal. Date(s): 05-JAN-2010 06-JAN-2010  
 Analysis Type: WATER Init. Cal. Times: 08:21 14:25  
 Lab Sample ID: WBN100103-03.5 Quant Type: ISTD  
 Method: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
212 Cis Diallate	0.25189	0.24674	0.24674	0.000	-2.04524	60.00000	Averaged
213 Trans Diallate	0.27193	0.28369	0.28369	0.000	4.32344	60.00000	Averaged
140 4-Aminobiphenyl	0.47494	0.38723	0.38723	0.000	-18.46711	60.00000	Averaged
141 Pentachloronitrobenzene	0.07064	0.07855	0.07855	0.000	11.19128	60.00000	Averaged
142 Pronamide	0.26102	0.28515	0.28515	0.000	9.24690	60.00000	Averaged
146 4-Nitroquinoline-1-oxide	0.01407	0.01240	0.01240	0.000	-11.86015	60.00000	Averaged
147 Methapyrilene	0.41371	0.38115	0.38115	0.000	-7.86988	60.00000	Averaged
148 Isodrin	0.10578	0.11220	0.11220	0.000	6.07053	60.00000	Averaged
149 Aramite	0.04931	0.04814	0.04814	0.000	-2.37135	60.00000	Averaged
150 Kepone	0.07429	0.06520	0.06520	0.000	-12.23357	60.00000	Averaged
151 p-(Dimethylamino)azobenzene	0.26901	0.27698	0.27698	0.000	2.96277	60.00000	Averaged
152 Chlorobenzilate	0.29431	0.31808	0.31808	0.000	8.07592	60.00000	Averaged
153 3,3'-Dimethylbenzidine	0.44919	0.43250	0.43250	0.000	-3.71636	60.00000	Averaged
155 2-Acetylaminofluorene	44.25292	40.00000	0.32384	0.000	10.63231	60.00000	Linear
157 7,12Dimethylbenz(a)anthrace	0.48401	0.46461	0.46461	0.000	-4.00936	60.00000	Averaged
158 3-Methylcholanthrene	0.33921	0.36807	0.36807	0.000	8.50973	60.00000	Averaged

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Data file : /chem/MSD5.i/s012410.b/s5a2403.d  
 Lab Smp Id: WBN100103-03.5 Client Smp ID: AP12CVS  
 Inj Date : 24-JAN-2010 13:04  
 Operator : RMB Inst ID: MSD5.i  
 Smp Info : |WBN100103-03.5|40 PPM|1|SVM|1|AP12CVS  
 Misc Info : |MSD8270|WBN100107-02  
 Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
 Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
 Meth Date : 24-Jan-2010 13:51 llo00884 Quant Type: ISTD  
 Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
 Als bottle: 3 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: ap12.sub  
 Target Version: 3.50  
 Processing Host: kilroy

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vo \*Vi) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vo	1000.00000	volume of sample ext
Vi	0.50000	volume injected

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
*****	****	==	*****	*****	*****	*****	*****
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.860	(1.000)	441634	40.0000	
* 29 Naphthalene-d8	136	4.725	4.725	(1.000)	1533852	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.978	(1.000)	885373	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.142	(1.000)	1565980	40.0000	
* 91 Chrysene-d12	240	9.542	9.542	(1.000)	1395003	40.0000	
* 98 Perylene-d12	264	11.172	11.172	(1.000)	1221752	40.0000	
209 Benzaldehyde	77	3.584	3.584	(0.928)	386159	40.0000	40.3(H)
16 Acetophenone	105	4.113	4.113	(1.066)	519530	40.0000	41.9(H)
189 Caprolactam	113	5.001	5.001	(1.058)	134825	40.0000	41.0(H)
208 1,1'-Biphenyl	154	5.548	5.548	(0.928)	1064928	40.0000	42.6
207 Atrazine	173	6.842	6.842	(0.958)	36037	40.0000	28.0
77 Benzidine	184	8.289	8.289	(0.869)	238095	40.0000	29.0
90 3,3'-Dichlorobenzidine	252	9.478	9.478	(0.993)	397759	40.0000	41.6(H)

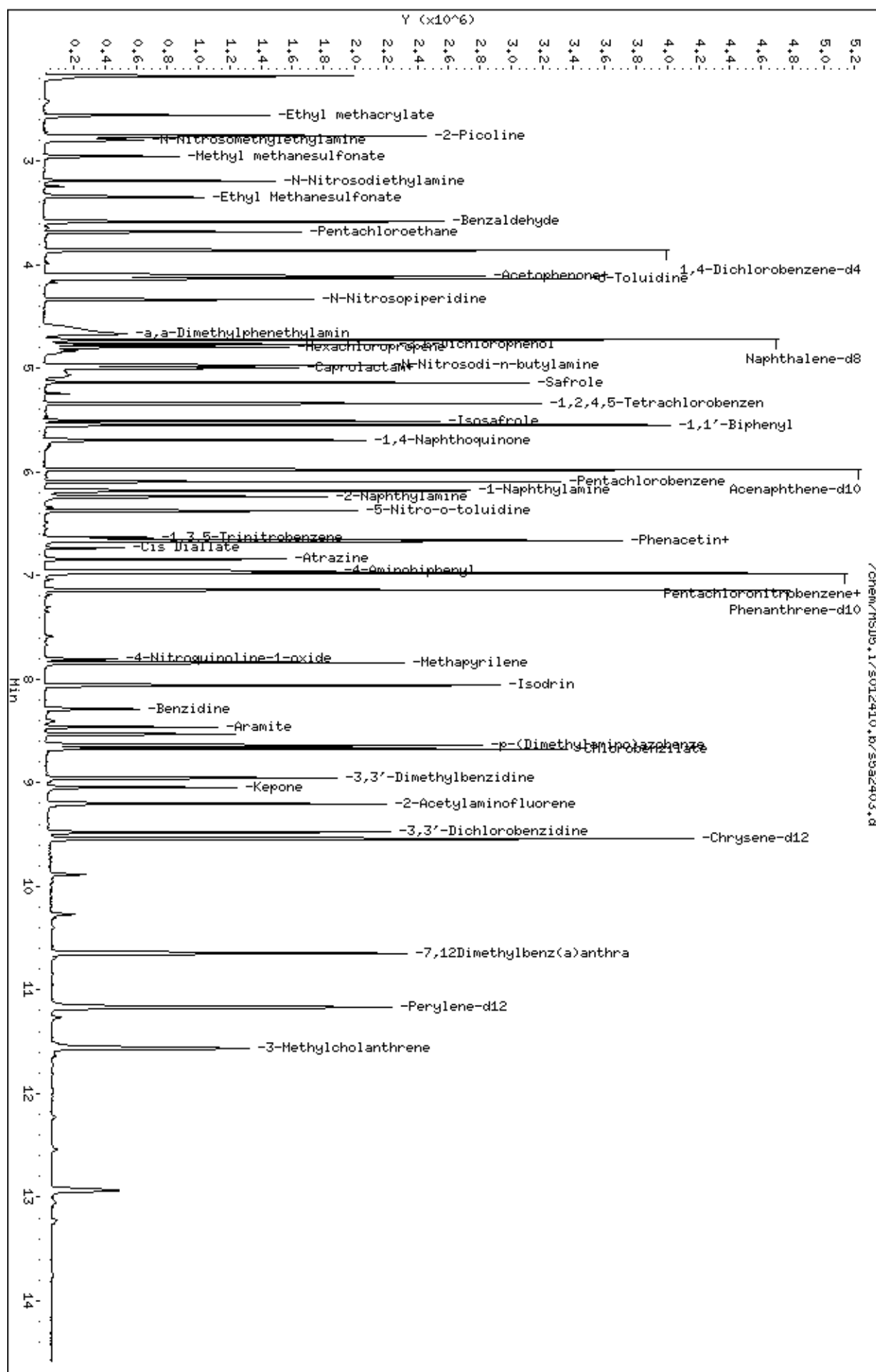
Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
102 1,4-Dioxane	88	2.184	2.184	(0.566)	147235	40.0000	38.1(H)
103 Methyl methacrylate	100	2.178	2.178	(0.564)	86438	40.0000	41.2
104 Ethyl methacrylate	69	2.560	2.560	(0.663)	346116	40.0000	39.6(H)
105 2-Picoline	93	2.755	2.755	(0.714)	530691	40.0000	39.9(H)
106 N-Nitrosomethylethylamine	88	2.796	2.796	(0.724)	188174	40.0000	40.0(H)
107 Methyl methanesulfonate	80	2.954	2.954	(0.765)	213917	40.0000	38.2(H)
108 N-Nitrosodiethylamine	102	3.190	3.190	(0.826)	187058	40.0000	40.4(H)
109 Ethyl Methanesulfonate	79	3.349	3.349	(0.867)	270098	40.0000	38.1
110 Pentachloroethane	167	3.684	3.684	(0.954)	139917	40.0000	39.6
111 N-Nitrosopyrrolidine	100	4.101	4.101	(1.062)	202096	40.0000	45.3(QH)
113 N-Nitrosomorpholine	56	4.119	4.119	(1.067)	259531	40.0000	45.6(H)
114 o-Toluidine	106	4.137	4.137	(1.072)	694132	40.0000	41.2(H)
115 N-Nitrosopiperidine	114	4.337	4.337	(0.918)	209210	40.0000	40.9
116 a,a-Dimethylphenethylamine	58	4.666	4.666	(0.988)	1063404	40.0000	35.7
118 2,6-Dichlorophenol	162	4.766	4.766	(1.009)	328388	40.0000	43.5(H)
119 Hexachloropropene	213	4.796	4.796	(1.015)	171487	40.0000	42.0(H)
120 p-Phenylenediamine	108	5.001	5.001	(1.058)	109622	40.0000	18.4(H)
121 N-Nitrosodi-n-butylamine	84	4.972	4.972	(1.052)	268780	40.0000	40.8(QH)
122 Safrole	162	5.137	5.137	(1.087)	300056	40.0000	40.8
123 1,2,4,5-Tetrachlorobenzene	216	5.337	5.337	(0.893)	422866	40.0000	41.9(H)
124 Isosafrole	162	5.507	5.507	(0.921)	295556	40.0000	41.5
125 1,4-Naphthoquinone	158	5.695	5.695	(0.953)	283115	40.0000	43.6
127 Pentachlorobenzene	250	6.095	6.095	(1.020)	365621	40.0000	40.3
128 1-Naphthylamine	143	6.184	6.184	(1.034)	664331	40.0000	38.4(H)
129 2-Naphthylamine	143	6.237	6.237	(1.043)	504854	40.0000	29.2(H)
131 5-Nitro-o-toluidine	152	6.378	6.378	(1.067)	249157	40.0000	43.6
136 1,3,5-Trinitrobenzene	75	6.637	6.637	(0.929)	190442	40.0000	46.1(H)
137 Phenacetin	108	6.672	6.672	(0.934)	416870	40.0000	41.7(Q)
138 Diallate	86	6.660	6.660	(0.932)	377617	40.0000	41.7
212 Cis Diallate	86	6.737	6.737	(0.943)	57958	6.00000	5.9(a)
213 Trans Diallate	86	6.660	6.660	(0.932)	377617	34.0000	35.5
140 4-Aminobiphenyl	169	6.960	6.960	(0.974)	606402	40.0000	32.6(H)
141 Pentachloronitrobenzene	237	6.978	6.978	(0.977)	123003	40.0000	44.5(Q)
142 Pronamide	173	6.978	6.978	(0.977)	446547	40.0000	43.7(H)
146 4-Nitroquinoline-1-oxide	101	7.807	7.807	(1.093)	19420	40.0000	35.2
147 Methapyrilene	58	7.842	7.842	(1.098)	596879	40.0000	36.8
148 Isodrin	193	8.060	8.060	(1.128)	175701	40.0000	42.4(H)
149 Aramite	185	8.466	8.466	(1.185)	75384	40.0000	39.0
150 Kepone	272	9.042	9.042	(1.266)	102100	40.0000	35.1(H)
151 p-(Dimethylamino)azobenzene	120	8.642	8.642	(0.906)	386389	40.0000	41.2(H)
152 Chlorobenzilate	251	8.672	8.672	(0.909)	443723	40.0000	43.2(H)
153 3,3'-Dimethylbenzidine	212	8.954	8.954	(0.938)	603336	40.0000	38.5(H)
155 2-Acetylaminofluorene	181	9.201	9.201	(0.964)	451756	40.0000	44.2
157 7,12Dimethylbenz(a)anthracene	256	10.648	10.648	(0.953)	567635	40.0000	38.4(H)
158 3-Methylcholanthrene	268	11.566	11.566	(1.035)	449695	40.0000	43.4(Q)

#### QC Flag Legend

- a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.
- H - Operator selected an alternate compound hit.

Data File: /chem/HSD5.i/s012410.b/s5a2403.d  
 Date: 24-JAN-2010 13:04  
 Client ID: AP12CVS  
 Sample Info: IABN100103-03.5140 PPH11ISWH11AP12CVS  
 Volume Injected (uL): 0.5  
 Column phase: 3uM DB-5MS

Instrument: HSD5.i  
 Operator: RHB  
 Column diameter: 0.20



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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 24-JAN-2010 13:30  
Lab File ID: s5a2404.d Init. Cal. Date(s): 05-JAN-2010 06-JAN-2010  
Analysis Type: WATER Init. Cal. Times: 08:21 14:25  
Lab Sample ID: WBN091225-12.3 Quant Type: ISTD  
Method: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
\$ 3 2-Fluorophenol	0.99200	0.89410	0.89410	0.000	-9.86879	60.00000	Averaged
\$ 5 Phenol-d5	1.22338	1.10608	1.10608	0.000	-9.58822	60.00000	Averaged
\$ 20 Nitrobenzene-d5	0.30713	0.28625	0.28625	0.000	-6.79653	60.00000	Averaged
\$ 39 2-Fluorobiphenyl	1.05814	1.03283	1.03283	0.000	-2.39168	60.00000	Averaged
\$ 60 2,4,6-Tribromophenol	0.12713	0.12079	0.12079	0.000	-4.98866	60.00000	Averaged
\$ 81 p-Terphenyl-d14	0.62807	0.66668	0.66668	0.000	6.14587	60.00000	Averaged
1 N-Methyl-N-nitrosomethylami	0.59451	0.51642	0.51642	0.000	-13.13582	60.00000	Averaged
2 Pyridine	0.81724	0.81892	0.81892	0.000	0.20561	60.00000	Averaged
4 Aniline	0.50134	0.46134	0.46134	0.000	-7.97985	60.00000	Averaged
6 Phenol	1.21864	1.17426	1.17426	0.001	-3.64176	20.00000	Averaged
7 bis(2-Chloroethyl) ether	0.91396	0.74688	0.74688	0.000	-18.28049	60.00000	Averaged
8 2-Chlorophenol	1.03330	0.96662	0.96662	0.000	-6.45335	60.00000	Averaged
203 n-Decane	1.23959	1.19956	1.19956	0.000	-3.22910	60.00000	Averaged
9 1,3-Dichlorobenzene	1.11826	1.05912	1.05912	0.000	-5.28840	60.00000	Averaged
11 1,4-Dichlorobenzene	1.10956	1.06118	1.06118	0.001	-4.36011	20.00000	Averaged
13 1,2-Dichlorobenzene	0.97955	0.97687	0.97687	0.000	-0.27306	60.00000	Averaged
14 bis(2-Chloroisopropyl)ether	1.79561	1.66866	1.66866	0.000	-7.07014	60.00000	Averaged
12 Benzyl alcohol	0.68191	0.61485	0.61485	0.000	-9.83307	60.00000	Averaged
15 o-Cresol	0.71791	0.75367	0.75367	0.000	4.98077	60.00000	Averaged
18 m,p-Cresols	1.02193	1.00746	1.00746	0.000	-1.41564	60.00000	Averaged
17 N-Nitrosodipropylamine	0.60391	0.54601	0.54601	0.050	-9.58735	60.00000	Averaged
19 Hexachloroethane	0.45803	0.42696	0.42696	0.000	-6.78183	60.00000	Averaged
21 Nitrobenzene	0.27592	0.27765	0.27765	0.000	0.62515	60.00000	Averaged
22 Isophorone	0.52404	0.50063	0.50063	0.000	-4.46889	60.00000	Averaged
23 2-Nitrophenol	0.13005	0.13066	0.13066	0.001	0.47193	20.00000	Averaged
24 2,4-Dimethylphenol	0.26000	0.24102	0.24102	0.000	-7.30047	60.00000	Averaged
25 bis(2-Chloroethoxy)methane	0.31106	0.28314	0.28314	0.000	-8.97526	60.00000	Averaged
26 2,4-Dichlorophenol	0.20539	0.20628	0.20628	0.001	0.42953	20.00000	Averaged
27 Benzoic acid	44.65916	40.00000	0.13185	0.000	11.64791	60.00000	Linear
28 1,2,4-Trichlorobenzene	0.25371	0.24242	0.24242	0.000	-4.44989	60.00000	Averaged
30 Naphthalene	0.78760	0.72384	0.72384	0.000	-8.09561	60.00000	Averaged
204 alpha-Terpineol	0.25524	0.21984	0.21984	0.000	-13.86973	60.00000	Averaged
31 4-Chloroaniline	0.34454	0.32689	0.32689	0.000	-5.12448	60.00000	Averaged
32 Hexachlorobutadiene	0.15048	0.14905	0.14905	0.001	-0.95351	20.00000	Averaged
33 4-Chloro-3-methylphenol	0.20939	0.21974	0.21974	0.001	4.94477	20.00000	Averaged
34 2-Methylnaphthalene	0.49435	0.49899	0.49899	0.000	0.93933	60.00000	Averaged



## GEL Laboratories LLC

## CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 24-JAN-2010 13:30  
Lab File ID: s5a2404.d Init. Cal. Date(s): 05-JAN-2010 06-JAN-2010  
Analysis Type: WATER Init. Cal. Times: 08:21 14:25  
Lab Sample ID: WBN091225-12.3 Quant Type: ISTD  
Method: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
35 1-Methylnaphthalene	0.48258	0.46213	0.46213	0.000	-4.23702	60.00000	Averaged
36 Hexachlorocyclopentadiene	0.23320	0.13927	0.13927	0.050	-40.27711	60.00000	Averaged
205 2,3-Dichloroaniline	0.48598	0.45740	0.45740	0.000	-5.88001	60.00000	Averaged
37 2,4,6-Trichlorophenol	0.27850	0.29958	0.29958	0.001	7.56871	20.00000	Averaged
38 2,4,5-Trichlorophenol	0.31016	0.31764	0.31764	0.000	2.41231	60.00000	Averaged
40 2-Chloronaphthalene	0.87386	0.86556	0.86556	0.000	-0.94962	60.00000	Averaged
42 o-Nitroaniline	0.28349	0.28277	0.28277	0.000	-0.25250	60.00000	Averaged
41 m-Nitroaniline	0.21276	0.17616	0.17616	0.000	-17.20117	60.00000	Averaged
43 Dimethylphthalate	1.02309	0.96530	0.96530	0.000	-5.64845	60.00000	Averaged
44 2,6-Dinitrotoluene	0.23962	0.22672	0.22672	0.000	-5.38479	60.00000	Averaged
50 2,4-Dinitrotoluene	0.30273	0.28469	0.28469	0.000	-5.95861	60.00000	Averaged
45 Acenaphthylene	1.42466	1.34620	1.34620	0.000	-5.50705	60.00000	Averaged
47 Acenaphthene	0.86925	0.84023	0.84023	0.001	-3.33802	20.00000	Averaged
48 2,4-Dinitrophenol	49.43738	40.00000	0.08048	0.050	23.59345	60.00000	Linear
49 Dibenzofuran	1.24565	1.20627	1.20627	0.000	-3.16090	60.00000	Averaged
51 Diethylphthalate	1.05823	1.03717	1.03717	0.000	-1.98951	60.00000	Averaged
52 4-Nitrophenol	43.73675	40.00000	0.15657	0.050	9.34188	60.00000	Linear
53 Fluorene	1.04116	0.98684	0.98684	0.000	-5.21715	60.00000	Averaged
54 4-Chlorophenylphenylether	0.54928	0.51139	0.51139	0.000	-6.89780	60.00000	Averaged
55 2-Methyl-4,6-dinitrophenol	52.22984	40.00000	0.09126	0.000	30.57459	60.00000	Linear
56 p-Nitroaniline	0.17126	0.12214	0.12214	0.000	-28.68133	60.00000	Averaged
133 Diphenylamine	0.48238	0.42438	0.42438	0.001	-12.02436	20.00000	Averaged
58 1,2-Diphenylhydrazine	0.56816	0.60176	0.60176	0.000	5.91387	60.00000	Averaged
61 4-Bromophenylphenylether	0.17919	0.16605	0.16605	0.000	-7.33145	60.00000	Averaged
63 Hexachlorobenzene	0.18156	0.17565	0.17565	0.000	-3.25753	60.00000	Averaged
65 Pentachlorophenol	47.22626	40.00000	0.10049	0.001	18.06564	20.00000	Linear
206 n-Octadecane	0.40416	0.42047	0.42047	0.000	4.03519	60.00000	Averaged
68 Phenanthrene	0.77989	0.75690	0.75690	0.000	-2.94906	60.00000	Averaged
69 Anthracene	0.78118	0.75531	0.75531	0.000	-3.31145	60.00000	Averaged
72 Di-n-butylphthalate	0.97635	1.01479	1.01479	0.000	3.93688	60.00000	Averaged
76 Fluoranthene	0.85744	0.85610	0.85610	0.001	-0.15638	20.00000	Averaged
79 Pyrene	1.01529	0.96368	0.96368	0.000	-5.08274	60.00000	Averaged
85 Butylbenzylphthalate	0.48062	0.50008	0.50008	0.000	4.04718	60.00000	Averaged
89 Benzo(a)anthracene	0.84934	0.81103	0.81103	0.000	-4.51047	60.00000	Averaged
92 Chrysene	0.77209	0.74044	0.74044	0.000	-4.10027	60.00000	Averaged
93 bis(2-Ethylhexyl)phthalate	0.66338	0.72352	0.72352	0.000	9.06569	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD5.i Injection Date: 24-JAN-2010 13:30  
 Lab File ID: s5a2404.d Init. Cal. Date(s): 05-JAN-2010 06-JAN-2010  
 Analysis Type: WATER Init. Cal. Times: 08:21 14:25  
 Lab Sample ID: WBN091225-12.3 Quant Type: ISTD  
 Method: /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Di-n-octylphthalate	1.28101	1.25065	1.25065	0.001	-2.36983	20.00000	Averaged
95 Benzo(b)fluoranthene	0.90766	0.85400	0.85400	0.000	-5.91168	60.00000	Averaged
96 Benzo(k)fluoranthene	0.89031	0.84738	0.84738	0.000	-4.82200	60.00000	Averaged
97 Benzo(a)pyrene	0.77742	0.76736	0.76736	0.001	-1.29332	20.00000	Averaged
99 Indeno(1,2,3-cd)pyrene	42.85118	40.00000	0.75768	0.000	7.12795	60.00000	Linear
100 Dibenzo(a,h)anthracene	43.09950	40.00000	0.61483	0.000	7.74874	60.00000	Linear
101 Benzo(ghi)perylene	0.56118	0.64130	0.64130	0.000	14.27839	60.00000	Averaged
126 m-Dinitrobenzene	0.17669	0.16231	0.16231	0.000	-8.14049	60.00000	Averaged
130 2,3,4,6-Tetrachlorophenol	41.65383	40.00000	0.24621	0.000	4.13458	60.00000	Linear
143 Dinoseb	43.89111	40.00000	0.12129	0.000	9.72778	60.00000	Linear
173 Carbazole	0.59613	0.48558	0.48558	0.000	-18.54527	60.00000	Averaged
184 p-Benzoquinone	32.00454	40.00000	0.10332	0.000	-19.98864	60.00000	Linear
192 Methoxychlor	0.54497	0.54130	0.54130	0.000	-0.67341	60.00000	Averaged
211 p-Toluidine	0.98068	0.73200	0.73200	0.000	-25.35764	60.00000	Averaged
210 m-Toluidine	1.23436	1.16855	1.16855	0.000	-5.33119	60.00000	Averaged
26 Phthalic anhydride	56.72599	40.00000	0.13535	0.000	41.81498	60.00000	Linear
179 Dibenzo(a,e)pyrene	42.81728	40.00000	0.28964	0.000	7.04321	60.00000	Linear
214 1,4-Dinitrobenzene	0.17293	0.18178	0.18178	0.000	5.11614	60.00000	Averaged
215 2-Ethoxyethanol	0.70680	0.64579	0.64579	0.000	-8.63251	60.00000	Averaged
216 Methylenebis(2-chloroanilin	0.12441	0.12001	0.12001	0.000	-3.53404	60.00000	Averaged
M 225 Trichlorophenols	0.29433	0.30861	0.30861	0.000	4.85185	60.00000	Averaged
M 226 Tetrachlorophenols	41.65383	40.00000	0.24621	0.000	4.13458	60.00000	Linear
M 227 Benzo(b,k)fluoranthene	0.89898	0.85069	0.85069	0.000	-5.37209	60.00000	Averaged

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2404.d  
Lab Smp Id: WBN091225-12.3 Client Smp ID: MEGACVS  
Inj Date : 24-JAN-2010 13:30  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |WBN091225-12.3|40 PPM|1|SVM|1|MEGACVS  
Misc Info : |MSD8270|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 4 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: MEGAICARE.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vo \*Vi) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vo	1000.00000	volume of sample ext
Vi	0.50000	volume injected

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
*****	****	==	*****	*****	*****	*****	*****
* 10 1,4-Dichlorobenzene-d4	152	3.863	3.863	(1.000)	452364	40.0000	
* 29 Naphthalene-d8	136	4.729	4.729	(1.000)	1662050	40.0000	
* 46 Acenaphthene-d10	164	5.981	5.981	(1.000)	908517	40.0000	
* 67 Phenanthrene-d10	188	7.147	7.147	(1.000)	1582700	40.0000	
* 91 Chrysene-d12	240	9.550	9.550	(1.000)	1449826	40.0000	
* 98 Perylene-d12	264	11.182	11.182	(1.000)	1290871	40.0000	
\$ 3 2-Fluorophenol	112	3.049	3.049	(0.789)	404459	40.0000	36.0
\$ 5 Phenol-d5	99	3.583	3.583	(0.928)	500349	40.0000	36.2
\$ 20 Nitrobenzene-d5	82	4.229	4.229	(0.894)	475766	40.0000	37.3
\$ 39 2-Fluorobiphenyl	172	5.471	5.471	(0.915)	938345	40.0000	39.0
\$ 60 2,4,6-Tribromophenol	329	6.579	6.579	(1.100)	109742	40.0000	38.0
\$ 81 p-Terphenyl-d14	244	8.519	8.519	(0.892)	966563	40.0000	42.4
1 N-Methyl-N-nitrosomethylamine	74	2.346	2.346	(0.607)	233608	40.0000	34.7

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(ng/ul)	(ng/ul)
=====	=====	=====	=====	=====	=====	=====	=====	=====
2 Pyridine		79	2.375	2.375	(0.615)	370451	40.0000	40.1
4 Aniline		66	3.646	3.646	(0.944)	208692	40.0000	36.8
6 Phenol		94	3.593	3.593	(0.930)	531193	40.0000	38.5(Q)
7 bis(2-Chloroethyl) ether		63	3.665	3.665	(0.949)	337863	40.0000	32.7
8 2-Chlorophenol		128	3.733	3.733	(0.966)	437265	40.0000	37.4
203 n-Decane		43	3.713	3.713	(0.961)	542637	40.0000	38.7
9 1,3-Dichlorobenzene		146	3.834	3.834	(0.993)	479108	40.0000	37.9
11 1,4-Dichlorobenzene		146	3.877	3.877	(1.004)	480039	40.0000	38.2
13 1,2-Dichlorobenzene		146	3.978	3.978	(1.030)	441903	40.0000	39.9
14 bis(2-Chloroisopropyl)ether		45	4.007	4.007	(1.037)	754842	40.0000	37.2
12 Benzyl alcohol		108	3.930	3.930	(1.017)	278138	40.0000	36.1
15 o-Cresol		107	3.983	3.983	(1.031)	340934	40.0000	42.0
18 m,p-Cresols		107	4.084	4.084	(1.057)	455740	40.0000	39.4
17 N-Nitrosodipropylamine		70	4.104	4.104	(1.062)	246996	40.0000	36.2
19 Hexachloroethane		117	4.209	4.209	(1.090)	193143	40.0000	37.3
21 Nitrobenzene		77	4.243	4.243	(0.897)	461468	40.0000	40.2
22 Isophorone		82	4.392	4.392	(0.929)	832064	40.0000	38.2
23 2-Nitrophenol		139	4.455	4.455	(0.942)	217166	40.0000	40.2
24 2,4-Dimethylphenol		122	4.450	4.450	(0.941)	400582	40.0000	37.1
25 bis(2-Chloroethoxy)methane		93	4.513	4.513	(0.954)	470589	40.0000	36.4
26 2,4-Dichlorophenol		162	4.614	4.614	(0.976)	342841	40.0000	40.2
27 Benzoic acid		105	4.498	4.498	(0.951)	219139	40.0000	44.6
28 1,2,4-Trichlorobenzene		180	4.681	4.681	(0.990)	402916	40.0000	38.2
30 Naphthalene		128	4.749	4.749	(1.004)	1203059	40.0000	36.8
204 alpha-Terpineol		59	4.720	4.720	(0.998)	365382	40.0000	34.4
31 4-Chloroaniline		127	4.763	4.763	(1.007)	543302	40.0000	38.0
32 Hexachlorobutadiene		225	4.811	4.811	(1.017)	247728	40.0000	39.6
33 4-Chloro-3-methylphenol		107	5.076	5.076	(1.073)	365217	40.0000	42.0
34 2-Methylnaphthalene		142	5.225	5.225	(1.105)	829349	40.0000	40.4
35 1-Methylnaphthalene		142	5.303	5.303	(1.121)	768086	40.0000	38.3
36 Hexachlorocyclopentadiene		237	5.331	5.331	(0.891)	126532	40.0000	23.9
205 2,3-Dichloroaniline		161	5.423	5.423	(0.907)	415556	40.0000	37.6
37 2,4,6-Trichlorophenol		196	5.413	5.413	(0.905)	272174	40.0000	43.0
38 2,4,5-Trichlorophenol		196	5.442	5.442	(0.910)	288583	40.0000	41.0
40 2-Chloronaphthalene		162	5.582	5.582	(0.933)	786378	40.0000	39.6
42 o-Nitroaniline		65	5.635	5.635	(0.942)	256905	40.0000	39.9
41 m-Nitroaniline		138	5.933	5.933	(0.992)	160045	40.0000	33.1
43 Dimethylphthalate		163	5.746	5.746	(0.961)	876995	40.0000	37.7
44 2,6-Dinitrotoluene		165	5.803	5.803	(0.970)	205979	40.0000	37.8
50 2,4-Dinitrotoluene		165	6.097	6.097	(1.019)	258644	40.0000	37.6
45 Acenaphthylene		152	5.885	5.885	(0.984)	1223049	40.0000	37.8
47 Acenaphthene		154	6.006	6.006	(1.004)	763365	40.0000	38.7
48 2,4-Dinitrophenol		184	6.006	6.006	(1.004)	73121	40.0000	49.4
49 Dibenzofuran		168	6.131	6.131	(1.025)	1095920	40.0000	38.7
51 Diethylphthalate		149	6.251	6.251	(1.045)	942288	40.0000	39.2
52 4-Nitrophenol		139	6.025	6.025	(1.007)	142248	40.0000	43.7
53 Fluorene		166	6.391	6.391	(1.068)	896560	40.0000	37.9

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
54 4-Chlorophenylphenylether	204	6.367	6.367	(1.064)	464610	40.0000	37.2
55 2-Methyl-4,6-dinitrophenol	198	6.405	6.405	(0.896)	144444	40.0000	52.2
56 p-Nitroaniline	138	6.386	6.386	(1.068)	110965	40.0000	28.5
133 Diphenylamine	169	6.453	6.453	(0.903)	671662	40.0000	35.2
58 1,2-Diphenylhydrazine	77	6.492	6.492	(0.908)	952403	40.0000	42.4
61 4-Bromophenylphenylether	248	6.752	6.752	(0.945)	262813	40.0000	37.1
63 Hexachlorobenzene	284	6.824	6.824	(0.955)	277994	40.0000	38.7
65 Pentachlorophenol	266	6.973	6.973	(0.976)	159045	40.0000	47.2
206 n-Octadecane	57	6.964	6.964	(0.974)	665475	40.0000	41.6
68 Phenanthrene	178	7.166	7.166	(1.003)	1197938	40.0000	38.8
69 Anthracene	178	7.209	7.209	(1.009)	1195432	40.0000	38.7
72 Di-n-butylphthalate	149	7.566	7.566	(1.059)	1606108	40.0000	41.6
76 Fluoranthene	202	8.201	8.201	(1.148)	1354943	40.0000	39.9
79 Pyrene	202	8.418	8.418	(0.882)	1397173	40.0000	38.0
85 Butylbenzylphthalate	149	8.953	8.953	(0.937)	725023	40.0000	41.6
89 Benzo(a)anthracene	228	9.540	9.540	(0.999)	1175850	40.0000	38.2
92 Chrysene	228	9.574	9.574	(1.003)	1073504	40.0000	38.4
93 bis(2-Ethylhexyl)phthalate	149	9.477	9.477	(0.992)	1048973	40.0000	43.6
94 Di-n-octylphthalate	149	10.118	10.118	(0.905)	1614432	40.0000	39.0
95 Benzo(b)fluoranthene	252	10.681	10.681	(0.955)	1102405	40.0000	37.6
96 Benzo(k)fluoranthene	252	10.710	10.710	(0.958)	1093854	40.0000	38.1
97 Benzo(a)pyrene	252	11.105	11.105	(0.993)	990566	40.0000	39.5
99 Indeno(1,2,3-cd)pyrene	276	12.887	12.887	(1.152)	978061	40.0000	42.8
100 Dibenzo(a,h)anthracene	278	12.906	12.906	(1.154)	793664	40.0000	43.1
101 Benzo(ghi)perylene	276	13.416	13.416	(1.200)	827839	40.0000	45.7
126 m-Dinitrobenzene	168	5.784	5.784	(0.967)	147459	40.0000	36.7
130 2,3,4,6-Tetrachlorophenol	232	6.213	6.213	(1.039)	223686	40.0000	41.6
143 Dinoseb	211	7.094	7.094	(0.993)	191961	40.0000	43.9
173 Carbazole	167	7.325	7.325	(1.025)	768520	40.0000	32.6
184 p-Benzoquinone	54	3.348	3.348	(0.867)	46740	40.0000	32.0
192 Methoxychlor	227	9.424	9.424	(0.987)	784790	40.0000	39.7
211 p-Toluidine	106	4.142	4.142	(1.072)	331130	40.0000	29.8
210 m-Toluidine	106	4.166	4.166	(1.079)	528612	40.0000	37.9
26 Phthalic anhydride	104	5.259	5.259	(1.112)	224964	40.0000	56.7
179 Dibenzo(a,e)pyrene	302	17.389	17.389	(1.555)	373886	40.0000	42.8
214 1,4-Dinitrobenzene	75	5.726	5.726	(0.957)	165148	40.0000	42.0
215 2-Ethoxyethanol	59	2.182	2.182	(0.565)	292132	40.0000	36.5
216 Methylenebis(2-chloroaniline)	231	9.482	9.482	(0.993)	173992	40.0000	38.6(Q)
M 225 Trichlorophenols	196				560757	80.0000	83.9
M 226 Tetrachlorophenols	232				223686	40.0000	41.6
M 227 Benzo(b,k)fluoranthene	252				2196259	80.0000	75.7

## QC Flag Legend

Q - Qualifier signal failed the ratio test.



# QC Data

Data File: /chem/MSD5.i/s010510,b/s5a0501.d

Page 1

Date : 05-JAN-2010 07:45

Client ID: DFTPP

Instrument: MSD5.i

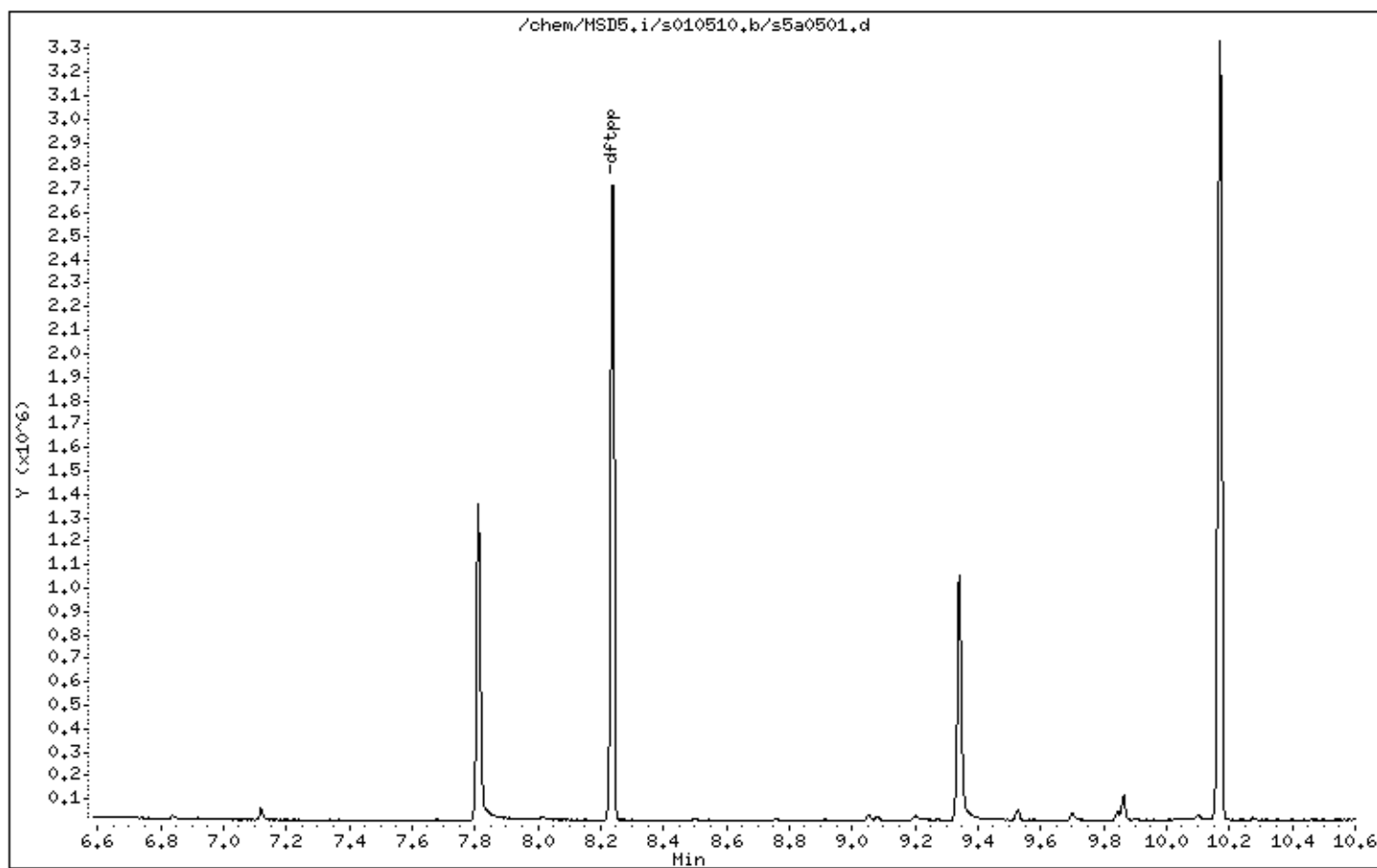
Sample Info: IWBNO91128-01I50PPH11SVHF11IDFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0,20





Date : 05-JAN-2010 07:45

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNO91128-01I50PPH11SVHF11IDFTPP

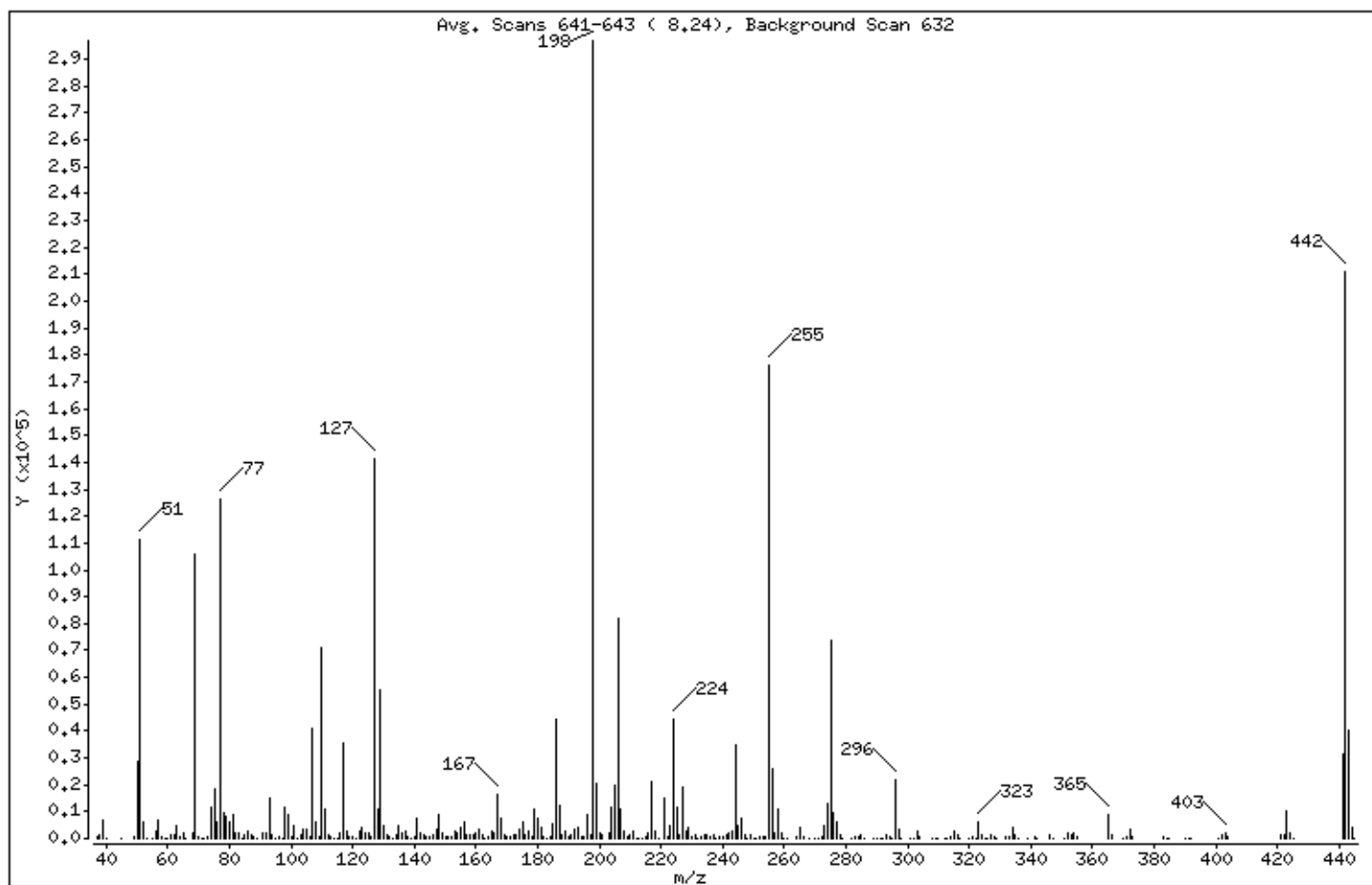
Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	37.38
68	Less than 2.00% of mass 69	0.60 ( 1.68)
69	Mass 69 relative abundance	35.61
70	Less than 2.00% of mass 69	0.18 ( 0.52)
127	40.00 - 60.00% of mass 198	47.54
197	Less than 1.00% of mass 198	0.49
199	5.00 - 9.00% of mass 198	6.96
275	10.00 - 30.00% of mass 198	24.84
365	Greater than 1.00% of mass 198	2.90
441	Present, but less than mass 443	10.47
442	Greater than 40.00% of mass 198	70.97
443	17.00 - 23.00% of mass 442	13.58 ( 19.13)

Date : 05-JAN-2010 07:45

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNO91128-01I50PPH11SVHF11IDFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

Data File: s5a0501.d

Spectrum: Avg. Scans 641-643 ( 8.24), Background Scan 632

Location of Maximum: 198.00

Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
-----							
37.00	397	124.00	1924	201.00	1370	286.00	138
38.00	1056	125.00	1718	203.00	2231	289.00	291
39.00	7142	126.00	501	204.00	11815	290.00	158
40.00	326	127.00	141184	205.00	19576	291.00	47
45.00	138	128.00	10962	206.00	82152	292.00	209
-----							
49.00	741	129.00	55600	207.00	11227	293.00	1305
50.00	29008	130.00	4989	208.00	2846	294.00	360
51.00	111016	131.00	1026	209.00	787	295.00	259
52.00	5923	132.00	595	210.00	1342	296.00	21936
53.00	196	133.00	297	211.00	3068	297.00	3104
-----							
55.00	78	134.00	1691	212.00	215	298.00	120
56.00	3068	135.00	4483	213.00	249	301.00	335
57.00	7112	136.00	2037	214.00	43	302.00	281
58.00	360	137.00	2500	215.00	992	303.00	2566
59.00	112	138.00	543	216.00	1736	304.00	731
-----							
60.00	38	139.00	298	217.00	21416	308.00	255
61.00	1313	140.00	680	218.00	3054	309.00	209
62.00	1652	141.00	7283	219.00	216	310.00	232
63.00	4661	142.00	2123	221.00	14930	312.00	54
64.00	604	143.00	1568	222.00	1023	313.00	142
-----							
65.00	2336	144.00	391	223.00	4797	314.00	1019
66.00	174	145.00	394	224.00	44312	315.00	2424
68.00	1780	146.00	1300	225.00	11886	316.00	1308
69.00	105760	147.00	3657	226.00	1125	317.00	184
70.00	547	148.00	8561	227.00	19416	320.00	70
-----							
71.00	37	149.00	1877	228.00	2939	321.00	651
72.00	48	150.00	515	229.00	4164	322.00	264
73.00	910	151.00	948	230.00	660	323.00	6293
74.00	11695	152.00	424	231.00	1526	324.00	1245
75.00	18136	153.00	2532	232.00	295	325.00	44
-----							
76.00	5897	154.00	1927	233.00	369	326.00	156
77.00	126592	155.00	4231	234.00	1192	327.00	1340
78.00	9297	156.00	6072	235.00	1351	328.00	541
79.00	8029	157.00	1058	236.00	858	329.00	63
80.00	6450	158.00	1379	237.00	1459	332.00	514

Date : 05-JAN-2010 07:45

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNO91128-01I50PPH1I1SVHF1I1DFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

Data File: s5a0501.d

Spectrum: Avg. Scans 641-643 ( 8.24), Background Scan 632

Location of Maximum: 198.00

Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	9121	159.00	1030	238.00	123	333.00	553
82.00	2368	160.00	2381	239.00	707	334.00	3949
83.00	2087	161.00	3496	240.00	566	335.00	1152
84.00	129	162.00	1129	241.00	1198	336.00	137
85.00	1643	163.00	302	242.00	2382	339.00	59
86.00	2862	164.00	438	243.00	2524	341.00	589
87.00	1080	165.00	2512	244.00	34552	342.00	207
88.00	477	166.00	2314	245.00	4897	346.00	1577
89.00	200	167.00	16149	246.00	7419	347.00	273
91.00	1971	168.00	7586	247.00	1417	351.00	59
92.00	2280	169.00	1403	248.00	316	352.00	2068
93.00	14878	170.00	535	249.00	1179	353.00	1162
94.00	1034	171.00	671	250.00	140	354.00	1836
95.00	174	172.00	1410	251.00	302	355.00	359
96.00	660	173.00	1618	252.00	366	365.00	8624
97.00	189	174.00	3292	253.00	713	366.00	1355
98.00	11715	175.00	6244	254.00	987	370.00	105
99.00	8794	176.00	1411	255.00	175936	371.00	514
100.00	769	177.00	2630	256.00	26216	372.00	3292
101.00	5054	178.00	954	257.00	1895	373.00	754
102.00	286	179.00	11078	258.00	11231	383.00	866
103.00	1657	180.00	7449	259.00	1742	384.00	269
104.00	3242	181.00	3773	260.00	288	385.00	49
105.00	3100	182.00	659	261.00	263	390.00	305
106.00	763	183.00	298	264.00	409	391.00	296
107.00	40888	184.00	870	265.00	3986	392.00	249
108.00	5960	185.00	5523	266.00	894	401.00	225
109.00	1002	186.00	44160	268.00	153	402.00	1229
110.00	71288	187.00	12583	270.00	237	403.00	1737
111.00	11111	188.00	1153	271.00	295	404.00	569
112.00	1371	189.00	2634	272.00	442	421.00	1593
113.00	496	190.00	491	273.00	5008	422.00	1243
114.00	107	191.00	1157	274.00	12958	423.00	10565
115.00	48	192.00	3591	275.00	73760	424.00	2373
116.00	2264	193.00	4145	276.00	9884	425.00	65

Date : 05-JAN-2010 07:45

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNO91128-01I50PPH11ISVHF11IDFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

Data File: s5a0501.d

Spectrum: Avg. Scans 641-643 ( 8.24), Background Scan 632

Location of Maximum: 198.00

Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	35768	194.00	793	277.00	6388	441.00	31080
118.00	2592	195.00	457	278.00	1073	442.00	210752
119.00	418	196.00	8975	279.00	213	443.00	40320
120.00	457	197.00	1444	282.00	104	444.00	4308
121.00	214	198.00	296960	283.00	702	445.00	57
122.00	2897	199.00	20656	284.00	445		
123.00	4122	200.00	1746	285.00	1234		

Data File: /chem/MSD5.i/s012410,b/s5a2401.d

Page 1

Date : 24-JAN-2010 12:21

Client ID: DFTPP

Instrument: MSD5.i

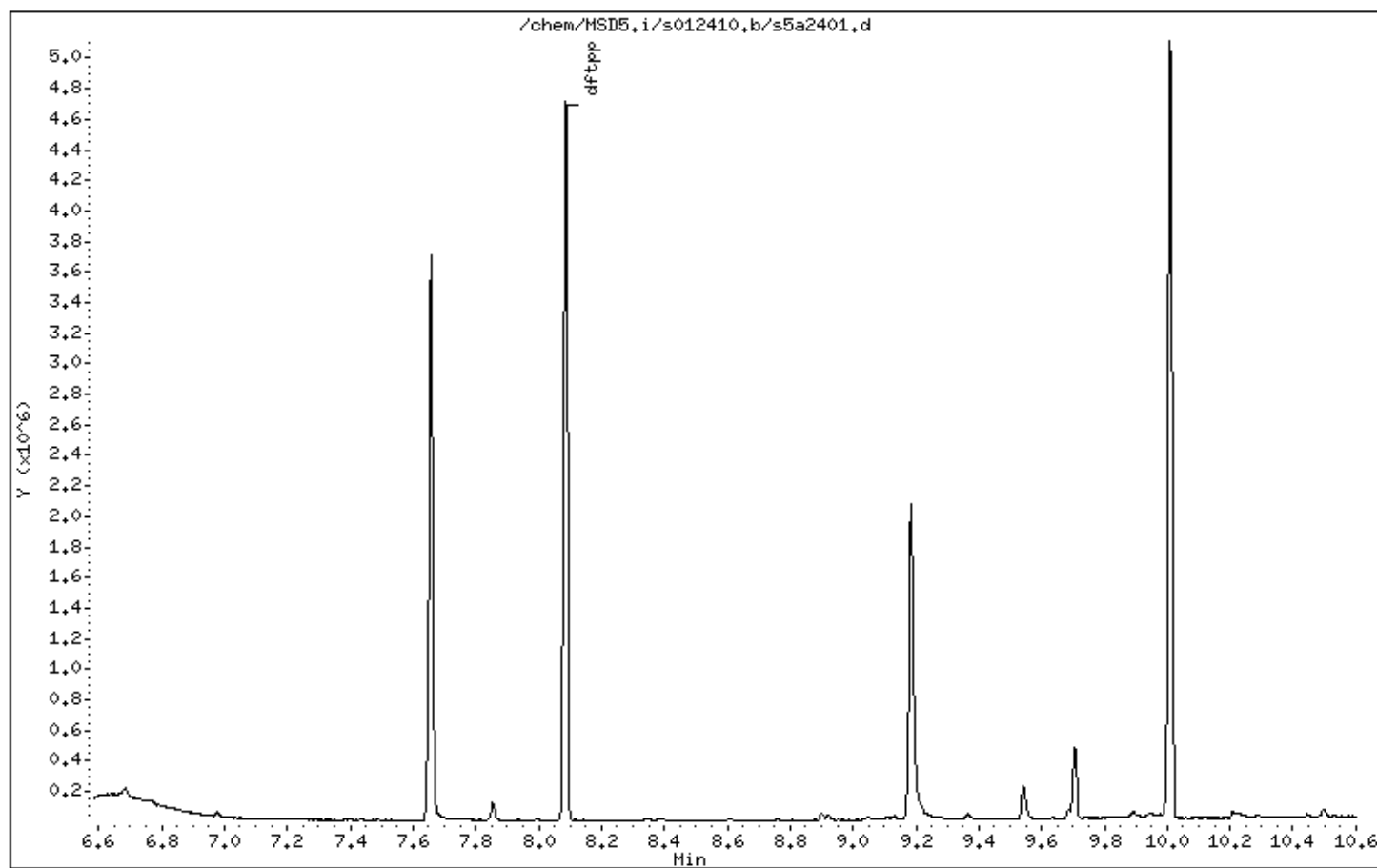
Sample Info: IWBNI00107-01I50PPH11ISVHF11IDFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0,20



Date : 24-JAN-2010 12:21

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNI00107-01I50PPH11SVHF11IDFTPP

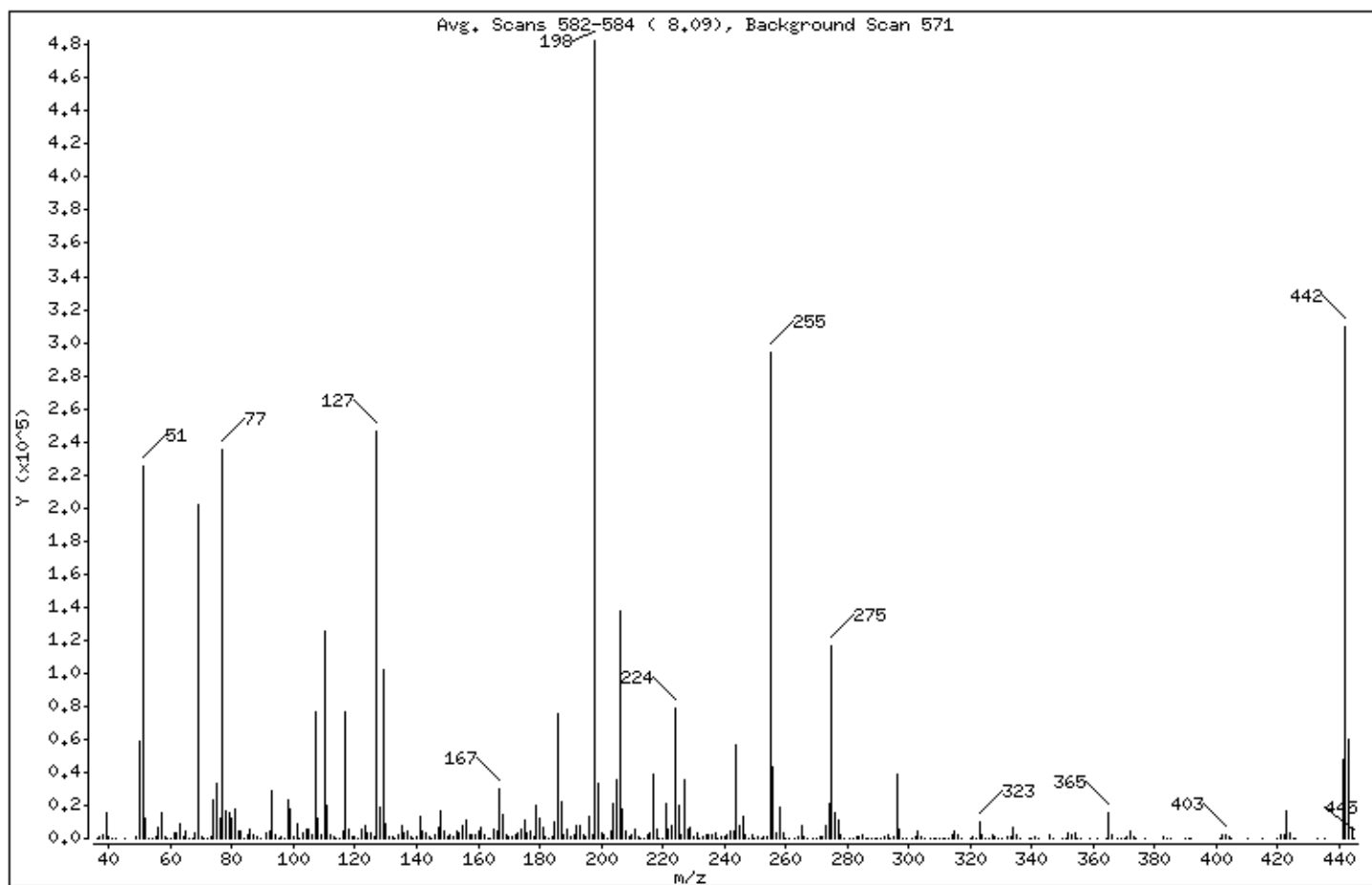
Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	46.72
68	Less than 2.00% of mass 69	0.68 ( 1.62)
69	Mass 69 relative abundance	41.94
70	Less than 2.00% of mass 69	0.20 ( 0.48)
127	40.00 - 60.00% of mass 198	51.11
197	Less than 1.00% of mass 198	0.44
199	5.00 - 9.00% of mass 198	6.90
275	10.00 - 30.00% of mass 198	24.21
365	Greater than 1.00% of mass 198	3.14
441	Present, but less than mass 443	9.93
442	Greater than 40.00% of mass 198	64.12
443	17.00 - 23.00% of mass 442	12.42 ( 19.37)

Date : 24-JAN-2010 12:21

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNI00107-01I50PPH1I1SVHF1I1DFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

Data File: s5a2401.d

Spectrum: Avg. Scans 582-584 ( 8.09), Background Scan 571

Location of Maximum: 198.00

Number of points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
-----							
36.00	32	128.00	18880	214.00	107	304.00	1117
37.00	873	129.00	101760	215.00	1852	305.00	113
38.00	2757	130.00	8745	216.00	3456	307.00	52
39.00	15817	131.00	1531	217.00	39256	308.00	544
40.00	762	132.00	948	218.00	5126	309.00	387
-----							
41.00	471	133.00	420	219.00	472	310.00	453
42.00	173	134.00	2278	220.00	548	311.00	67
45.00	493	135.00	8141	221.00	21424	312.00	89
49.00	1373	136.00	3603	222.00	5039	313.00	235
50.00	58864	137.00	4847	223.00	8105	314.00	1910
-----							
51.00	225472	138.00	938	224.00	78992	315.00	4347
52.00	11837	139.00	246	225.00	20016	316.00	2127
53.00	383	140.00	1294	226.00	2046	317.00	261
54.00	145	141.00	13270	227.00	35104	320.00	138
55.00	834	142.00	4412	228.00	5291	321.00	1262
-----							
56.00	6350	143.00	3529	229.00	6645	322.00	538
57.00	15248	144.00	675	230.00	1071	323.00	10147
58.00	744	145.00	454	231.00	2864	324.00	2049
59.00	213	146.00	2625	232.00	426	325.00	153
60.00	270	147.00	6416	233.00	652	326.00	233
-----							
61.00	2801	148.00	16752	234.00	2289	327.00	2179
62.00	2897	149.00	3985	235.00	2690	328.00	984
63.00	8330	150.00	1018	236.00	1756	329.00	219
64.00	1127	151.00	1740	237.00	2797	330.00	53
65.00	4049	152.00	947	238.00	410	332.00	771
-----							
66.00	299	153.00	4045	239.00	1552	333.00	863
67.00	154	154.00	2888	240.00	1147	334.00	7023
68.00	3279	155.00	7781	241.00	1799	335.00	1801
69.00	202368	156.00	11145	242.00	4619	336.00	212
70.00	970	157.00	1876	243.00	4220	339.00	103
-----							
71.00	84	158.00	2734	244.00	57064	340.00	154
72.00	114	159.00	2181	245.00	7579	341.00	1212
73.00	1529	160.00	4071	246.00	13095	342.00	469
74.00	22864	161.00	6518	247.00	2451	346.00	2568
75.00	33800	162.00	1848	248.00	460	347.00	416

Date : 24-JAN-2010 12:21

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNI00107-01I50PPH1I1SVHF1I1DFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

Data File: s5a2401.d

Spectrum: Avg. Scans 582-584 ( 8.09), Background Scan 571

Location of Maximum: 198.00

Number of points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
-----							
76.00	11814	163.00	448	249.00	2176	350.00	152
77.00	235392	164.00	502	250.00	318	351.00	165
78.00	16112	165.00	5006	251.00	680	352.00	3320
79.00	15982	166.00	3977	252.00	492	353.00	2289
80.00	12182	167.00	30272	253.00	1063	354.00	3081
-----							
81.00	17424	168.00	14680	254.00	1389	355.00	530
82.00	4501	169.00	2552	255.00	294144	356.00	48
83.00	3903	170.00	835	256.00	43296	359.00	105
84.00	160	171.00	1022	257.00	3192	361.00	94
85.00	2738	172.00	2462	258.00	18688	364.00	68
-----							
86.00	5357	173.00	3549	259.00	3415	365.00	15131
87.00	2460	174.00	6064	260.00	484	366.00	2482
88.00	879	175.00	11303	261.00	515	368.00	49
89.00	453	176.00	3224	263.00	117	369.00	48
91.00	3676	177.00	4271	264.00	572	370.00	219
-----							
92.00	3934	178.00	1447	265.00	7779	371.00	633
93.00	28552	179.00	19824	266.00	1092	372.00	4679
94.00	1952	180.00	12516	267.00	266	373.00	1264
95.00	387	181.00	6219	269.00	151	374.00	55
96.00	997	182.00	983	270.00	287	377.00	53
-----							
97.00	529	183.00	385	271.00	673	383.00	1351
98.00	23080	184.00	1585	272.00	750	384.00	371
99.00	17392	185.00	10247	273.00	7984	385.00	45
100.00	1643	186.00	75792	274.00	20632	390.00	551
101.00	9244	187.00	22320	275.00	116848	391.00	393
-----							
102.00	275	188.00	1693	276.00	15968	392.00	228
103.00	2976	189.00	5229	277.00	11522	401.00	361
104.00	6056	190.00	1071	278.00	1868	402.00	1843
105.00	5241	191.00	2199	279.00	399	403.00	2564
106.00	1737	192.00	7573	281.00	198	404.00	1084
-----							
107.00	77016	193.00	7535	282.00	391	405.00	199
108.00	12103	194.00	1713	283.00	1248	410.00	63
109.00	1896	195.00	731	284.00	1005	415.00	217
110.00	125496	196.00	13445	285.00	2249	420.00	45
111.00	19536	197.00	2147	286.00	533	421.00	2304



Date : 24-JAN-2010 12:21

Client ID: DFTPP

Instrument: MSD5.i

Sample Info: IWBNI00107-01I50PPH11ISVHF11IDFTPP

Volume Injected (uL): 1.0

Operator: rmb

Column phase: Phenomenex ZB-5MS

Column diameter: 0.20

Data File: s5a2401.d

Spectrum: Avg. Scans 582-584 ( 8.09), Background Scan 571

Location of Maximum: 198.00

Number of points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
112.00	2690	198.00	482560	287.00	59	422.00	2142
113.00	796	199.00	33280	288.00	159	423.00	16173
114.00	4	200.00	2836	289.00	290	424.00	3084
115.00	305	201.00	2118	290.00	354	425.00	178
116.00	4288	202.00	239	291.00	309	426.00	46
117.00	76512	203.00	3888	292.00	559	433.00	57
118.00	5825	204.00	21432	293.00	2536	435.00	50
119.00	616	205.00	35336	294.00	462	441.00	47928
120.00	1126	206.00	137024	295.00	799	442.00	309440
121.00	282	207.00	18088	296.00	39216	443.00	59936
122.00	5238	208.00	4758	297.00	5399	444.00	6082
123.00	7506	209.00	1556	298.00	360	445.00	167
124.00	3685	210.00	2292	299.00	50		
125.00	3337	211.00	5596	301.00	388		
126.00	667	212.00	597	302.00	555		
127.00	246656	213.00	493	303.00	3885		

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

SDG Number: 10-1262

Lab Sample ID: 1202018797

Client Sample: QC for batch 942929

Client ID: MB for batch 942929

Batch ID: 942930

Run Date: 01/24/2010 14:10

Prep Date: 01/19/2010 10:47

Data File: s5a2405-2.d

Client: LANL010

Method: SW846 8270C

Inst: MSD5.I

Analyst: RMB

Aliquot: 30 g

Column: J&amp;W DB-5MS

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-009

Dilution: 1

Inj. Vol: .5 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	333	ug/kg	66.7	333
108-95-2	Phenol	U	333	ug/kg	66.7	333
95-57-8	2-Chlorophenol	U	333	ug/kg	66.7	333
106-46-7	1,4-Dichlorobenzene	U	333	ug/kg	66.7	333
621-64-7	N-Nitrosodipropylamine	U	333	ug/kg	66.7	333
59-50-7	4-Chloro-3-methylphenol	U	333	ug/kg	66.7	333
83-32-9	Acenaphthene	U	33.3	ug/kg	11.0	33.3
121-14-2	2,4-Dinitrotoluene	U	333	ug/kg	33.3	333
100-02-7	4-Nitrophenol	U	333	ug/kg	110	333
87-86-5	Pentachlorophenol	U	333	ug/kg	83.3	333
129-00-0	Pyrene	U	33.3	ug/kg	10.0	33.3
110-86-1	Pyridine	U	333	ug/kg	66.7	333
62-53-3	Aniline	U	333	ug/kg	100	333
111-44-4	bis(2-Chloroethyl) ether	U	333	ug/kg	66.7	333
541-73-1	1,3-Dichlorobenzene	U	333	ug/kg	66.7	333
100-51-6	Benzyl alcohol	U	333	ug/kg	100	333
95-50-1	1,2-Dichlorobenzene	U	333	ug/kg	66.7	333
108-60-1	bis(2-Chloroisopropyl)ether	U	333	ug/kg	66.7	333
95-48-7	o-Cresol	U	333	ug/kg	66.7	333
65794-96-9	m,p-Cresols	U	333	ug/kg	100	333
67-72-1	Hexachloroethane	U	333	ug/kg	66.7	333
98-95-3	Nitrobenzene	U	333	ug/kg	66.7	333
78-59-1	Isophorone	U	333	ug/kg	66.7	333
88-75-5	2-Nitrophenol	U	333	ug/kg	66.7	333
105-67-9	2,4-Dimethylphenol	U	333	ug/kg	117	333
111-91-1	bis(2-Chloroethoxy)methane	U	333	ug/kg	66.7	333
120-83-2	2,4-Dichlorophenol	U	333	ug/kg	66.7	333
65-85-0	Benzoic acid	U	667	ug/kg	167	667
91-20-3	Naphthalene	U	33.3	ug/kg	10.0	33.3
106-47-8	4-Chloroaniline	U	333	ug/kg	66.7	333
87-68-3	Hexachlorobutadiene	U	333	ug/kg	66.7	333
91-57-6	2-Methylnaphthalene	U	33.3	ug/kg	6.67	33.3
77-47-4	Hexachlorocyclopentadiene	U	333	ug/kg	66.7	333
88-06-2	2,4,6-Trichlorophenol	U	333	ug/kg	66.7	333
95-95-4	2,4,5-Trichlorophenol	U	333	ug/kg	66.7	333
91-58-7	2-Chloronaphthalene	U	33.3	ug/kg	11.0	33.3
88-74-4	2-Nitroaniline	U	333	ug/kg	66.7	333
99-09-2	<i>o</i> -Nitroaniline	U	333	ug/kg	66.7	333
	3-Nitroaniline					

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 2 of 2

SDG Number: 10-1262

Lab Sample ID: 1202018797

Client Sample: QC for batch 942929

Client ID: MB for batch 942929

Batch ID: 942930

Run Date: 01/24/2010 14:10

Prep Date: 01/19/2010 10:47

Data File: s5a2405-2.d

Client: LANL010

Method: SW846 8270C

Inst: MSD5.I

Analyst: RMB

Aliquot: 30 g

Column: J&amp;W DB-5MS

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-009

Dilution: 1

Inj. Vol: .5 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline Dimethylphthalate	U	333	ug/kg	66.7	333
606-20-2	2,6-Dinitrotoluene	U	333	ug/kg	33.3	333
208-96-8	Acenaphthylene	U	33.3	ug/kg	10.0	33.3
51-28-5	2,4-Dinitrophenol	U	667	ug/kg	127	667
132-64-9	Dibenzofuran	U	333	ug/kg	66.7	333
84-66-2	Diethylphthalate	U	333	ug/kg	66.7	333
86-73-7	Fluorene	U	33.3	ug/kg	10.0	33.3
7005-72-3	4-Chlorophenylphenylether	U	333	ug/kg	66.7	333
534-52-1	2-Methyl-4,6-dinitrophenol	U	333	ug/kg	66.7	333
100-01-6	4-Nitroaniline	U	333	ug/kg	100	333
122-39-4	<i>p</i> -Nitroaniline Diphenylamine	U	333	ug/kg	66.7	333
122-66-7	Azobenzene	U	333	ug/kg	66.7	333
101-55-3	<i>1,2</i> -Diphenylhydrazine 4-Bromophenylphenylether	U	333	ug/kg	66.7	333
118-74-1	Hexachlorobenzene	U	333	ug/kg	66.7	333
85-01-8	Phenanthrene	U	33.3	ug/kg	10.0	33.3
120-12-7	Anthracene	U	33.3	ug/kg	6.67	33.3
84-74-2	Di-n-butylphthalate	U	333	ug/kg	66.7	333
206-44-0	Fluoranthene	U	33.3	ug/kg	10.0	33.3
85-68-7	Butylbenzylphthalate	U	333	ug/kg	66.7	333
56-55-3	Benzo(a)anthracene	U	33.3	ug/kg	10.0	33.3
91-94-1	3,3'-Dichlorobenzidine	U	333	ug/kg	100	333
218-01-9	Chrysene	U	33.3	ug/kg	10.0	33.3
117-81-7	bis(2-Ethylhexyl)phthalate	U	333	ug/kg	66.7	333
117-84-0	Di-n-octylphthalate	U	333	ug/kg	66.7	333
205-99-2	Benzo(b)fluoranthene	U	33.3	ug/kg	10.0	33.3
207-08-9	Benzo(k)fluoranthene	U	33.3	ug/kg	10.0	33.3
50-32-8	Benzo(a)pyrene	U	33.3	ug/kg	10.0	33.3
193-39-5	Indeno(1,2,3-cd)pyrene	U	33.3	ug/kg	10.0	33.3
53-70-3	Dibenzo(a,h)anthracene	U	33.3	ug/kg	10.0	33.3
191-24-2	Benzo(ghi)perylene	U	33.3	ug/kg	10.0	33.3
120-82-1	1,2,4-Trichlorobenzene	U	333	ug/kg	66.7	333

**Tentatively Identified Compound Summary**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	2.07	172	ug/kg		J
	Unknown Aldol Condensate	2.88	430	ug/kg		JA

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2405-2.d  
Lab Smp Id: 1202018797 Client Smp ID: SBLK01  
Inj Date : 24-JAN-2010 14:10  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |1202018797|942930|1|SVM|1|SBLK01  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 5 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.00000	weight of sample
M	0.00000	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG			RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT REL RT		ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863 (1.000)	357035	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729 (1.000)	1259155	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981 (1.000)	712363	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147 (1.000)	1226485	40.0000	
* 91 Chrysene-d12	240	9.542	9.550 (1.000)	870297	40.0000	
* 98 Perylene-d12	264	11.166	11.182 (1.000)	717169	40.0000	
\$ 3 2-Fluorophenol	112	3.049	3.049 (0.790)	639593	72.2340	2410
\$ 5 Phenol-d5	99	3.578	3.583 (0.927)	777032	71.1587	2370
\$ 20 Nitrobenzene-d5	82	4.219	4.229 (0.893)	331200	34.2574	1140
\$ 39 2-Fluorobiphenyl	172	5.466	5.471 (0.914)	673839	35.7579	1190
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579 (1.099)	160398	70.8424	2360
\$ 81 p-Terphenyl-d14	244	8.519	8.519 (0.893)	684415	50.0842	1670

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2405-2.d  
Lab Smp Id: 1202018797 Client Smp ID: SBLK01  
Inj Date : 24-JAN-2010 14:10  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |1202018797|942930|1|SVM|1|SBLK01  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 5 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vi \* Ws \* (100 - M)/100) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.00000	weight of sample
M	0.00000	% moisture

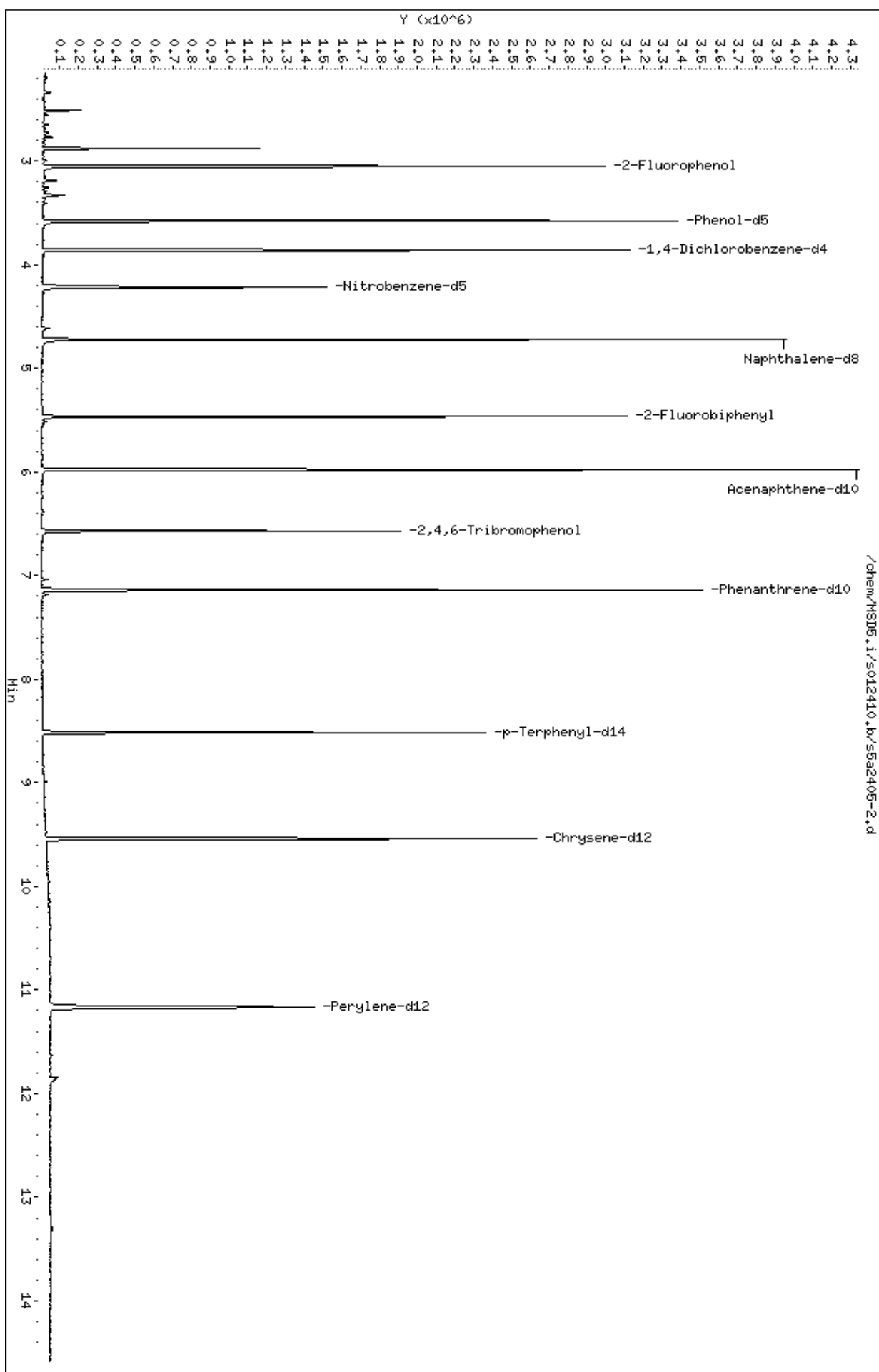
Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.860	2232062	40.000

CONCENTRATIONS				QUANT			
RT	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
=====	=====	=====	=====	=====	=====	=====	=====
Unknown				CAS #:			
2.072	287998	5.16110172	172	0		0	10
Unknown Aldol Condensate				CAS #:			
2.878	719971	12.9023408	430	0		0	10

Data File: /chem/HSD5.i/s012410.b/s5a2405-2.d  
 Date : 24-JUN-2010 14:10  
 Client ID: SBLK01  
 Sample Info: 11202018797194293011SVH11SBLK01  
 Volume Injected (uL): 0.5  
 Column phase: 3uM DB-5MS

Instrument: HSD5.i  
 Operator: RHB  
 Column diameter: 0.20



Date : 24-JAN-2010 14:10

Client ID: SBLK01

Instrument: MSD5.i

Sample Info: I1202018797194293011ISVMI1ISBLK01

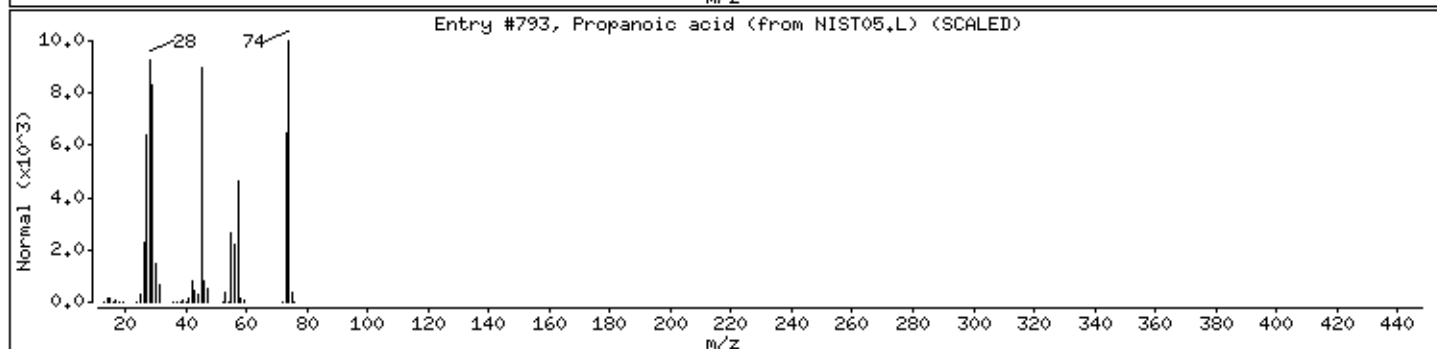
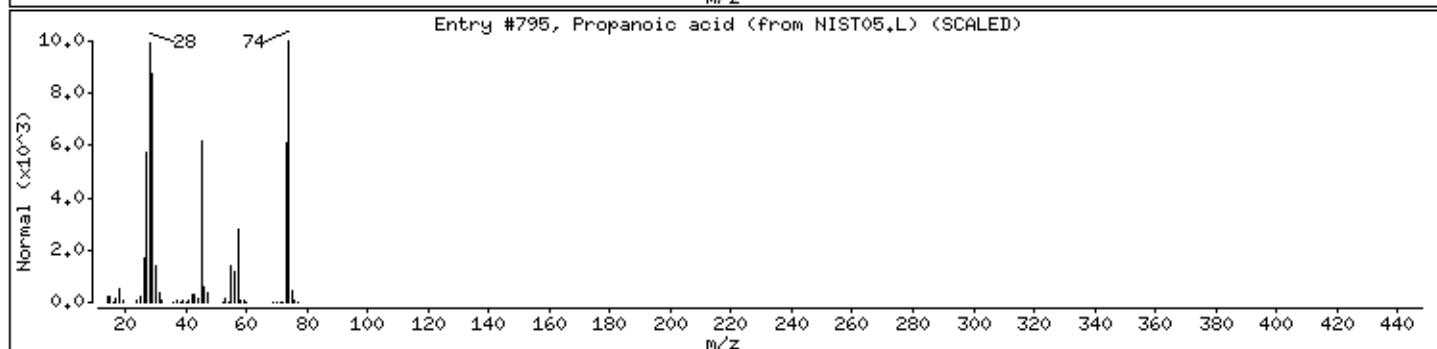
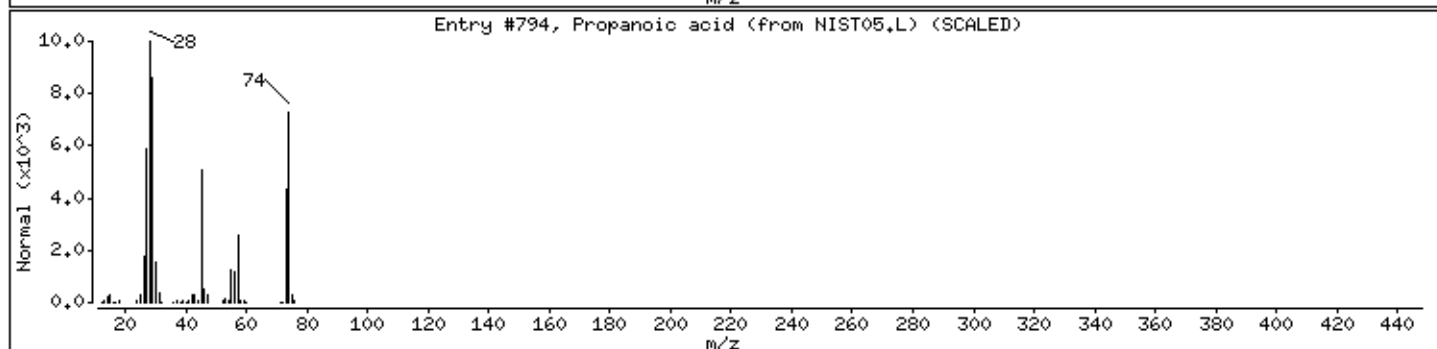
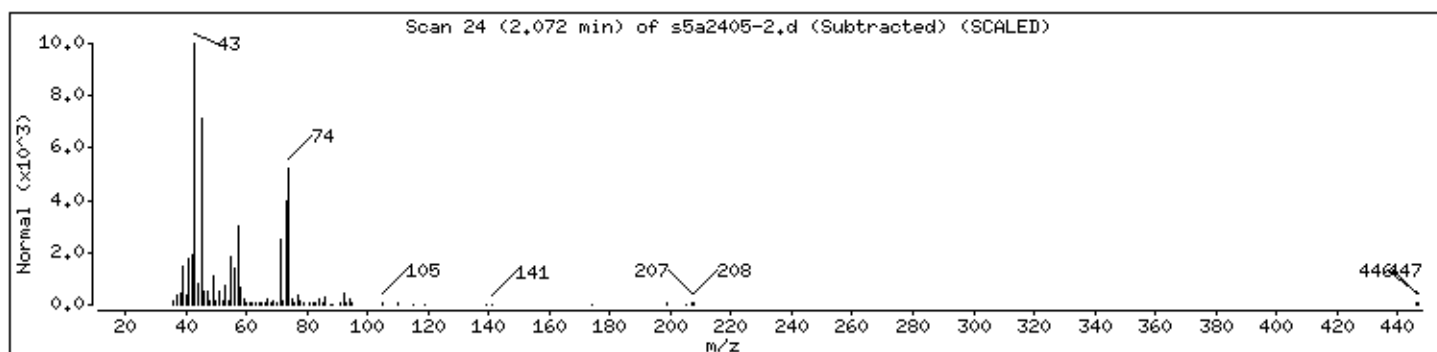
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Propanoic acid	79-09-4	NIST05.L	794	58	C3H6O2	74
Propanoic acid	79-09-4	NIST05.L	795	52	C3H6O2	74
Propanoic acid	79-09-4	NIST05.L	793	52	C3H6O2	74



Date : 24-JAN-2010 14:10

Client ID: SBLK01

Instrument: MSD5.i

Sample Info: I1202018797194293011ISVMI11SBLK01

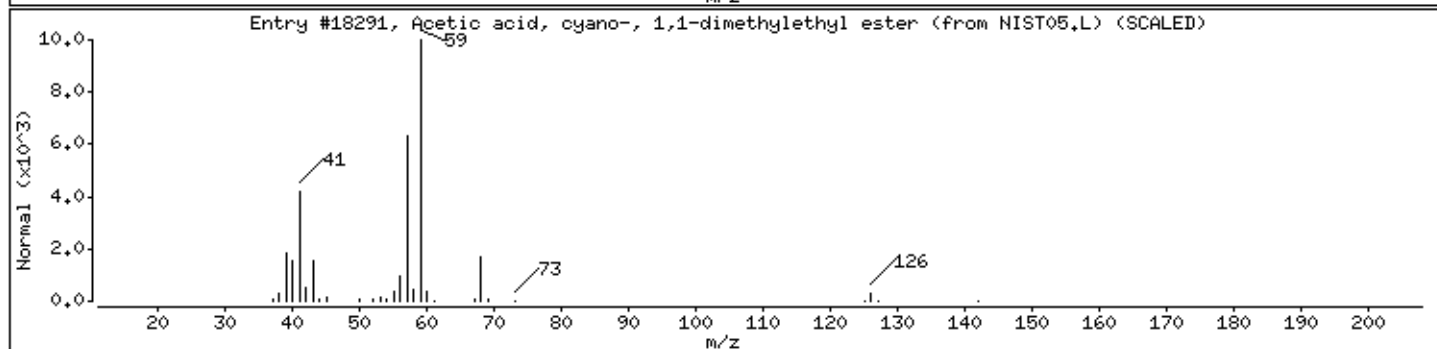
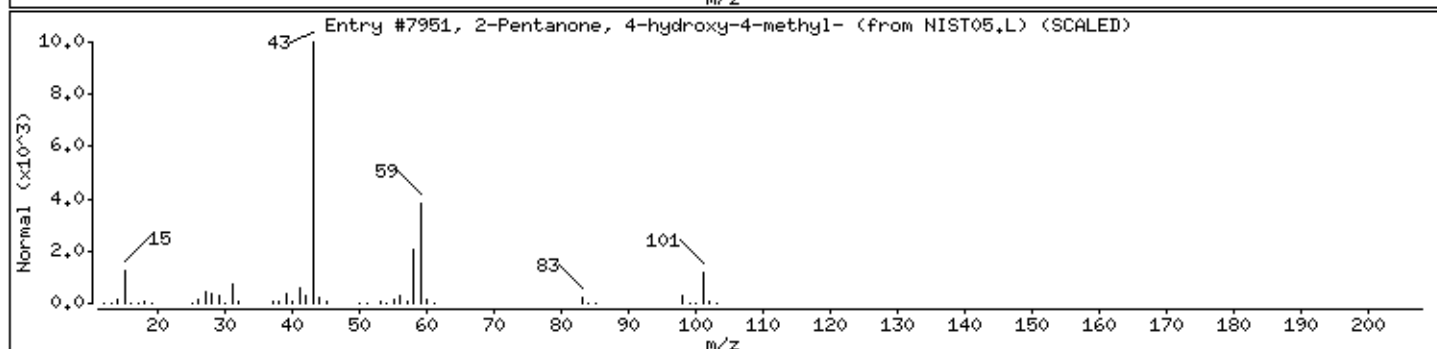
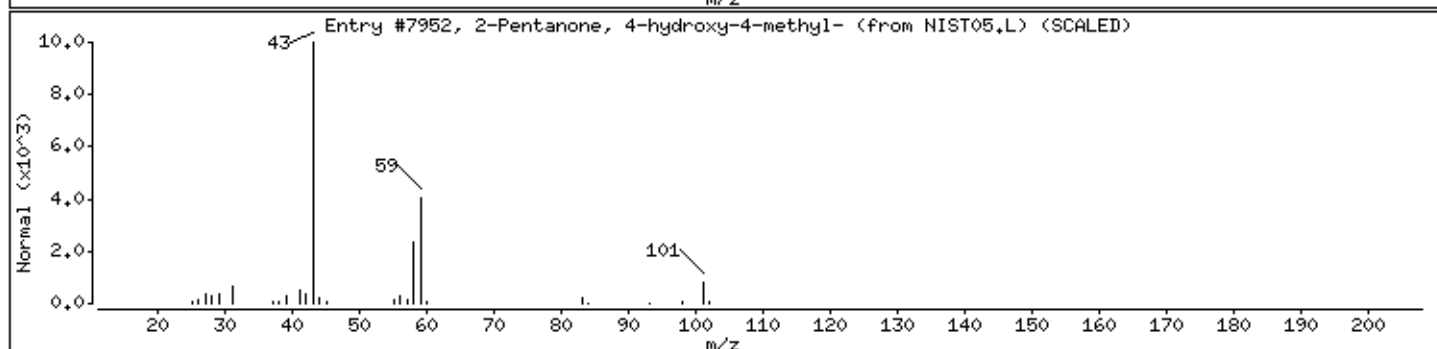
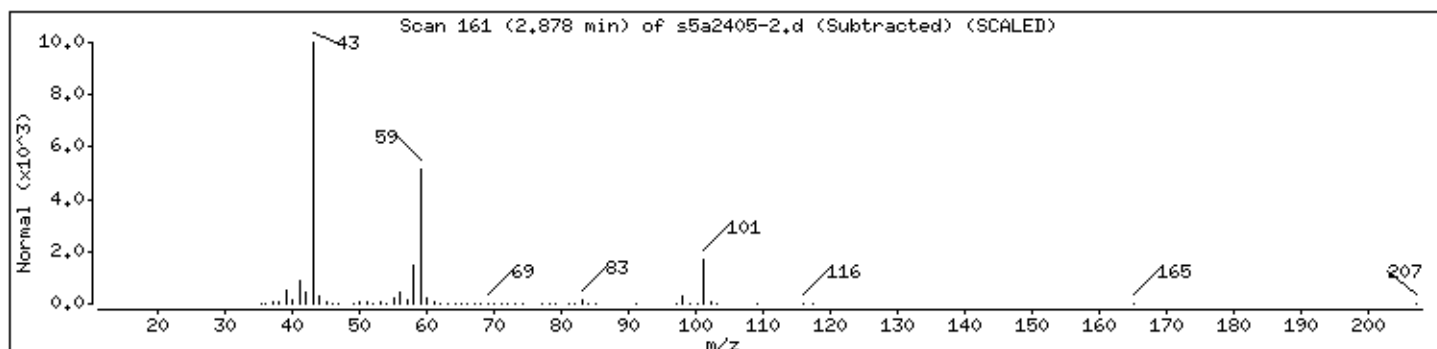
Volume Injected (uL): 0.5

Operator: RMB

Column phase: J&amp;W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Aldol Condensate						
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	45	C6H12O2	116
Acetic acid, cyano-, 1,1-dimethylethyl e	1116-98-9	NIST05.L	18291	25	C7H11NO2	141





**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

SDG Number: 10-1262

Lab Sample ID: 1202018798

Client Sample: QC for batch 942929

Client ID: LCS for batch 942929

Batch ID: 942930

Run Date: 01/24/2010 14:33

Prep Date: 01/19/2010 10:47

Data File: s5a2406-2.d

Client: LANL010

Method: SW846 8270C

Inst: MSD5.I

Analyst: RMB

Aliquot: 30 g

Column: J&amp;W DB-5MS

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-009

Dilution: 1

Inj. Vol: .5 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine		1040	ug/kg	66.7	333
108-95-2	Phenol		1230	ug/kg	66.7	333
95-57-8	2-Chlorophenol		1160	ug/kg	66.7	333
106-46-7	1,4-Dichlorobenzene		1100	ug/kg	66.7	333
621-64-7	N-Nitrosodipropylamine		1210	ug/kg	66.7	333
59-50-7	4-Chloro-3-methylphenol		1310	ug/kg	66.7	333
83-32-9	Acenaphthene		1240	ug/kg	11.0	33.3
121-14-2	2,4-Dinitrotoluene		1200	ug/kg	33.3	333
100-02-7	4-Nitrophenol		1420	ug/kg	110	333
87-86-5	Pentachlorophenol		1370	ug/kg	83.3	333
129-00-0	Pyrene		1220	ug/kg	10.0	33.3
110-86-1	Pyridine		1140	ug/kg	66.7	333
62-53-3	Aniline		1110	ug/kg	100	333
111-44-4	bis(2-Chloroethyl) ether		1070	ug/kg	66.7	333
541-73-1	1,3-Dichlorobenzene		1090	ug/kg	66.7	333
100-51-6	Benzyl alcohol		1360	ug/kg	100	333
95-50-1	1,2-Dichlorobenzene		1230	ug/kg	66.7	333
108-60-1	bis(2-Chloroisopropyl)ether		1190	ug/kg	66.7	333
95-48-7	o-Cresol		1230	ug/kg	66.7	333
65794-96-9	m,p-Cresols		1320	ug/kg	100	333
67-72-1	Hexachloroethane		1090	ug/kg	66.7	333
98-95-3	Nitrobenzene		1300	ug/kg	66.7	333
78-59-1	Isophorone		1220	ug/kg	66.7	333
88-75-5	2-Nitrophenol		1220	ug/kg	66.7	333
105-67-9	2,4-Dimethylphenol		1170	ug/kg	117	333
111-91-1	bis(2-Chloroethoxy)methane		1150	ug/kg	66.7	333
120-83-2	2,4-Dichlorophenol		1220	ug/kg	66.7	333
65-85-0	Benzoic acid		2750	ug/kg	167	667
91-20-3	Naphthalene		1170	ug/kg	10.0	33.3
106-47-8	4-Chloroaniline		1140	ug/kg	66.7	333
87-68-3	Hexachlorobutadiene		1220	ug/kg	66.7	333
91-57-6	2-Methylnaphthalene		1240	ug/kg	6.67	33.3
77-47-4	Hexachlorocyclopentadiene		834	ug/kg	66.7	333
88-06-2	2,4,6-Trichlorophenol		1330	ug/kg	66.7	333
95-95-4	2,4,5-Trichlorophenol		1270	ug/kg	66.7	333
91-58-7	2-Chloronaphthalene		1240	ug/kg	11.0	33.3
88-74-4	2-Nitroaniline		1240	ug/kg	66.7	333
	<i>o</i> -Nitroaniline					
99-09-2	3-Nitroaniline		1160	ug/kg	66.7	333

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 2 of 2

<b>SDG Number:</b> 10-1262		<b>Matrix:</b> SOIL
<b>Lab Sample ID:</b> 1202018798		
<b>Client Sample:</b> QC for batch 942929	<b>Client:</b> LANL010	<b>Project:</b> QC
<b>Client ID:</b> LCS for batch 942929	<b>Method:</b> SW846 8270C	<b>SOP Ref:</b> GL-OA-E-009
<b>Batch ID:</b> 942930	<b>Inst:</b> MSD5.I	<b>Dilution:</b> 1
<b>Run Date:</b> 01/24/2010 14:33	<b>Analyst:</b> RMB	<b>Inj. Vol:</b> .5 uL
<b>Prep Date:</b> 01/19/2010 10:47	<b>Aliquot:</b> 30 g	<b>Final Volume:</b> 1 mL
<b>Data File:</b> s5a2406-2.d	<b>Column:</b> J&W DB-5MS	<b>Level:</b> LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	<i>m</i> -Nitroaniline					
131-11-3	Dimethylphthalate		1220	ug/kg	66.7	333
606-20-2	2,6-Dinitrotoluene		1170	ug/kg	33.3	333
208-96-8	Acenaphthylene		1230	ug/kg	10.0	33.3
51-28-5	2,4-Dinitrophenol		1560	ug/kg	127	667
132-64-9	Dibenzofuran		1470	ug/kg	66.7	333
84-66-2	Diethylphthalate		1240	ug/kg	66.7	333
86-73-7	Fluorene		1260	ug/kg	10.0	33.3
7005-72-3	4-Chlorophenylphenylether		1160	ug/kg	66.7	333
534-52-1	2-Methyl-4,6-dinitrophenol		1280	ug/kg	66.7	333
100-01-6	4-Nitroaniline		1330	ug/kg	100	333
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine		1220	ug/kg	66.7	333
122-66-7	Azobenzene		1330	ug/kg	66.7	333
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether		1120	ug/kg	66.7	333
118-74-1	Hexachlorobenzene		1190	ug/kg	66.7	333
85-01-8	Phenanthrene		1240	ug/kg	10.0	33.3
120-12-7	Anthracene		1230	ug/kg	6.67	33.3
84-74-2	Di-n-butylphthalate		1300	ug/kg	66.7	333
206-44-0	Fluoranthene		1270	ug/kg	10.0	33.3
85-68-7	Butylbenzylphthalate		1300	ug/kg	66.7	333
56-55-3	Benzo(a)anthracene		1240	ug/kg	10.0	33.3
91-94-1	3,3'-Dichlorobenzidine		1020	ug/kg	100	333
218-01-9	Chrysene		1260	ug/kg	10.0	33.3
117-81-7	bis(2-Ethylhexyl)phthalate		1390	ug/kg	66.7	333
117-84-0	Di-n-octylphthalate		1230	ug/kg	66.7	333
205-99-2	Benzo(b)fluoranthene		1260	ug/kg	10.0	33.3
207-08-9	Benzo(k)fluoranthene		1240	ug/kg	10.0	33.3
50-32-8	Benzo(a)pyrene		1290	ug/kg	10.0	33.3
193-39-5	Indeno(1,2,3-cd)pyrene		1370	ug/kg	10.0	33.3
53-70-3	Dibenzo(a,h)anthracene		1400	ug/kg	10.0	33.3
191-24-2	Benzo(ghi)perylene		1460	ug/kg	10.0	33.3
120-82-1	1,2,4-Trichlorobenzene		1210	ug/kg	66.7	333

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2406-2.d  
Lab Smp Id: 1202018798 Client Smp ID: SBLK01LCS  
Inj Date : 24-JAN-2010 14:33  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |1202018798|942930|1|SVM|1|SBLK01LCS  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 6 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.00000	weight of sample
M	0.00000	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG			RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT REL RT		ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863 (1.000)	386067	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729 (1.000)	1427526	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981 (1.000)	772790	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147 (1.000)	1372881	40.0000	
* 91 Chrysene-d12	240	9.548	9.550 (1.000)	1253145	40.0000	
* 98 Perylene-d12	264	11.171	11.182 (1.000)	1114258	40.0000	
\$ 3 2-Fluorophenol	112	3.054	3.049 (0.791)	673126	70.3044	2340
\$ 5 Phenol-d5	99	3.578	3.583 (0.927)	797121	67.5090	2250
\$ 20 Nitrobenzene-d5	82	4.219	4.229 (0.893)	416963	38.0414	1270
\$ 39 2-Fluorobiphenyl	172	5.466	5.471 (0.914)	702268	34.3525	1140
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579 (1.099)	187948	76.5194	2550
\$ 81 p-Terphenyl-d14	244	8.519	8.519 (0.892)	790273	40.1629	1340

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
6 Phenol	94	3.590	3.593	(0.930)	432847	36.8007	1230(Q)
8 2-Chlorophenol	128	3.725	3.733	(0.965)	347366	34.8302	1160
11 1,4-Dichlorobenzene	146	3.872	3.877	(1.003)	354761	33.1271	1100
17 N-Nitrosodipropylamine	70	4.095	4.104	(1.061)	211514	36.2881	1210(Q)
28 1,2,4-Trichlorobenzene	180	4.678	4.681	(0.990)	328935	36.3284	1210
33 4-Chloro-3-methylphenol	107	5.078	5.076	(1.075)	293951	39.3373	1310
47 Acenaphthene	154	6.001	6.006	(1.004)	624142	37.1654	1240
50 2,4-Dinitrotoluene	165	6.089	6.097	(1.019)	210404	35.9751	1200
52 4-Nitrophenol	139	6.025	6.025	(1.008)	117123	42.5895	1420
65 Pentachlorophenol	266	6.972	6.973	(0.976)	117412	41.1850	1370
79 Pyrene	202	8.413	8.418	(0.881)	1168125	36.7248	1220
2 Pyridine	79	2.390	2.375	(0.619)	270848	34.3378	1140
4 Aniline	66	3.643	3.646	(0.944)	161176	33.3091	1110
7 bis(2-Chloroethyl) ether	63	3.660	3.665	(0.948)	282263	31.9981	1070
9 1,3-Dichlorobenzene	146	3.825	3.834	(0.991)	352375	32.6483	1090
12 Benzyl alcohol	108	3.925	3.930	(1.017)	269068	40.8822	1360
13 1,2-Dichlorobenzene	146	3.972	3.978	(1.029)	348598	36.8719	1230
14 bis(2-Chloroisopropyl)ether	45	4.001	4.007	(1.037)	616945	35.5984	1190
15 o-Cresol	107	3.984	3.983	(1.032)	256459	37.0120	1230
18 m,p-Cresols	107	4.078	4.084	(1.056)	390521	39.5932	1320
19 Hexachloroethane	117	4.201	4.209	(1.088)	144477	32.6818	1090
21 Nitrobenzene	77	4.237	4.243	(0.897)	384287	39.0248	1300
22 Isophorone	82	4.390	4.392	(0.929)	682521	36.4942	1220
23 2-Nitrophenol	139	4.448	4.455	(0.941)	169868	36.6003	1220
24 2,4-Dimethylphenol	122	4.442	4.450	(0.940)	324373	34.9583	1160
25 bis(2-Chloroethoxy)methane	93	4.507	4.513	(0.954)	381968	34.4084	1150
26 2,4-Dichlorophenol	162	4.613	4.614	(0.976)	268630	36.6474	1220
27 Benzoic acid	105	4.507	4.498	(0.954)	417244	82.4586	2750
30 Naphthalene	128	4.742	4.749	(1.004)	989473	35.2025	1170
31 4-Chloroaniline	127	4.760	4.763	(1.007)	420772	34.2200	1140
32 Hexachlorobutadiene	225	4.807	4.811	(1.017)	196046	36.5041	1220
34 2-Methylnaphthalene	142	5.225	5.225	(1.106)	658737	37.3384	1240
36 Hexachlorocyclopentadiene	237	5.325	5.331	(0.891)	112769	25.0301	834
37 2,4,6-Trichlorophenol	196	5.413	5.413	(0.906)	213901	39.7543	1320
38 2,4,5-Trichlorophenol	196	5.442	5.442	(0.910)	228402	38.1165	1270
40 2-Chloronaphthalene	162	5.578	5.582	(0.933)	628613	37.2340	1240
42 o-Nitroaniline	65	5.631	5.635	(0.942)	204027	37.2519	1240
41 m-Nitroaniline	138	5.925	5.933	(0.991)	142791	34.7388	1160
43 Dimethylphthalate	163	5.737	5.746	(0.960)	722272	36.5413	1220
44 2,6-Dinitrotoluene	165	5.795	5.803	(0.969)	162460	35.0926	1170
45 Acenaphthylene	152	5.878	5.885	(0.983)	1014648	36.8640	1230
48 2,4-Dinitrophenol	184	6.001	6.006	(1.004)	56951	46.6934	1560(Q)
49 Dibenzofuran	168	6.125	6.131	(1.025)	1062445	44.1479	1470
51 Diethylphthalate	149	6.248	6.251	(1.045)	758847	37.1172	1240
53 Fluorene	166	6.389	6.391	(1.069)	758492	37.7080	1260
54 4-Chlorophenylphenylether	204	6.366	6.367	(1.065)	368322	34.7081	1160
55 2-Methyl-4,6-dinitrophenol	198	6.401	6.405	(0.896)	84698	38.2630	1280

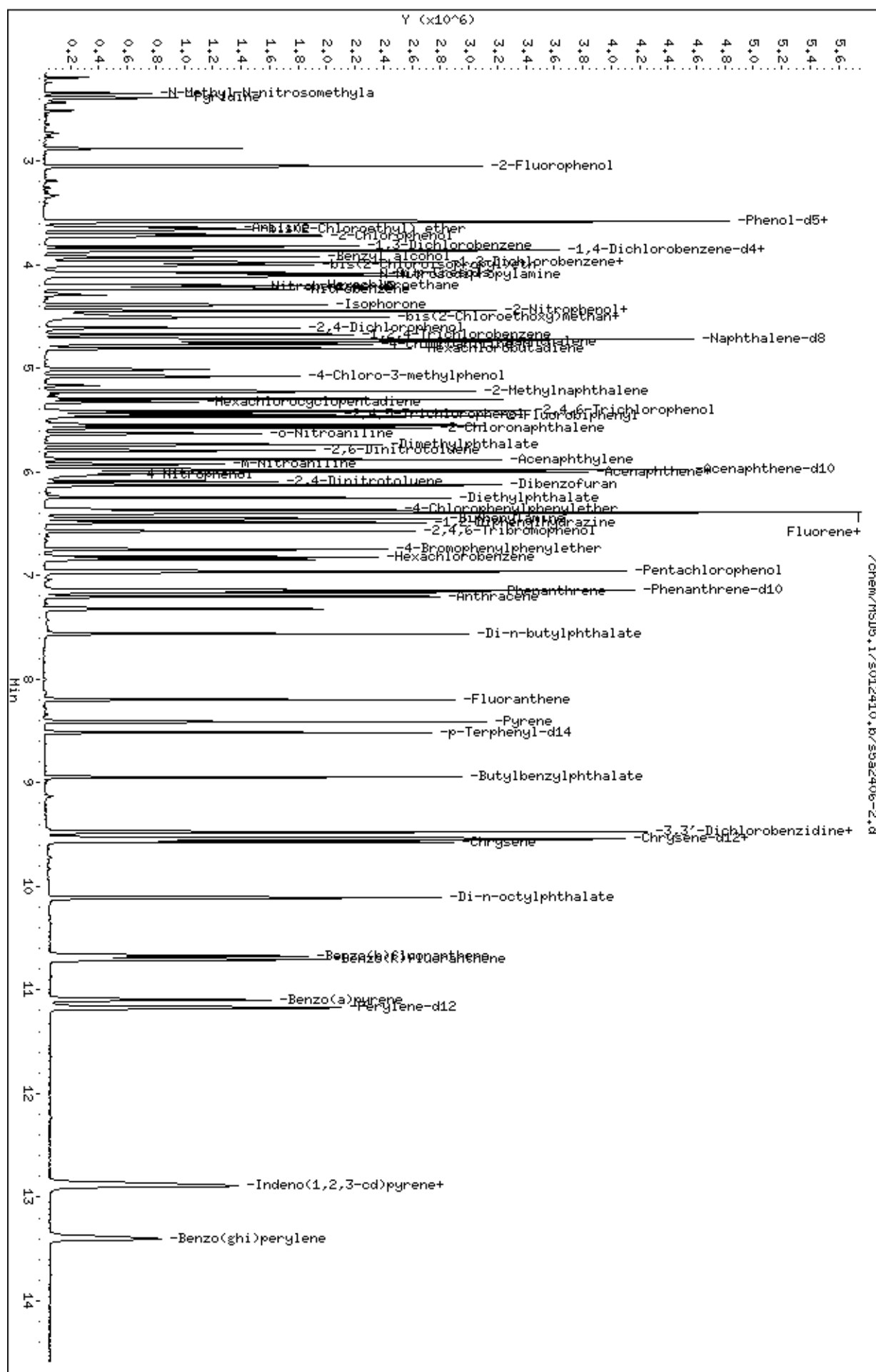
Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
56 p-Nitroaniline	138	6.384	6.386	(1.068)	132295	39.9845	1330
133 Diphenylamine	169	6.448	6.453	(0.903)	607708	36.7056	1220
58 1,2-Diphenylhydrazine	77	6.489	6.492	(0.909)	779132	39.9548	1330
61 4-Bromophenylphenylether	248	6.748	6.752	(0.945)	206824	33.6289	1120
63 Hexachlorobenzene	284	6.819	6.824	(0.955)	222102	35.6418	1190
68 Phenanthrene	178	7.160	7.166	(1.002)	999717	37.3481	1240
69 Anthracene	178	7.207	7.209	(1.009)	992354	37.0120	1230
72 Di-n-butylphthalate	149	7.566	7.566	(1.059)	1308456	39.0463	1300
76 Fluoranthene	202	8.201	8.201	(1.148)	1120303	38.0680	1270
85 Butylbenzylphthalate	149	8.948	8.953	(0.937)	587333	39.0065	1300
89 Benzo(a)anthracene	228	9.530	9.540	(0.998)	990339	37.2188	1240
90 3,3'-Dichlorobenzidine	252	9.483	9.478	(0.993)	262756	30.5841	1020
92 Chrysene	228	9.572	9.574	(1.002)	913819	37.7788	1260
93 bis(2-Ethylhexyl)phthalate	149	9.472	9.477	(0.992)	864668	41.6052	1390
94 Di-n-octylphthalate	149	10.113	10.118	(0.905)	1311683	36.7579	1220
95 Benzo(b)fluoranthene	252	10.672	10.681	(0.955)	953951	37.7292	1260
96 Benzo(k)fluoranthene	252	10.707	10.710	(0.958)	919178	37.0624	1240
97 Benzo(a)pyrene	252	11.095	11.105	(0.993)	835491	38.5800	1280
99 Indeno(1,2,3-cd)pyrene	276	12.877	12.887	(1.153)	809860	41.2238	1370
100 Dibenzo(a,h)anthracene	278	12.895	12.906	(1.154)	663603	41.8635	1400
101 Benzo(ghi)perylene	276	13.401	13.416	(1.200)	685425	43.8465	1460
1 N-Methyl-N-nitrosomethylamine	74	2.343	2.346	(0.607)	179310	31.2495	1040

# QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/HSD5.i/s012410.b/s5a2406-2.d  
 Date : 24-JAN-2010 14:33  
 Client ID: SBLK01LCS  
 Sample Info: 11202018798194293011SVH11SBLK01LCS  
 Volume Injected (uL): 0.5  
 Column phase: J&W DB-5MS

Instrument: HSD5.i  
 Operator: RHB  
 Column diameter: 0.20



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 10-1262	<b>Date Collected:</b> 01/11/2010 12:00	<b>Matrix:</b> R
<b>Lab Sample ID:</b> 1202018799	<b>Date Received:</b> 01/15/2010 08:50	<b>%Moisture:</b> 12.6
<b>Client Sample:</b> QC for batch 942929	<b>Client:</b> LANL010	<b>Project:</b> QC
<b>Client ID:</b> RE12-10-7272MS	<b>Method:</b> SW846 8270C	<b>SOP Ref:</b> GL-OA-E-009
<b>Batch ID:</b> 942930	<b>Inst:</b> MSD5.I	<b>Dilution:</b> 1
<b>Run Date:</b> 01/24/2010 17:38	<b>Analyst:</b> RMB	<b>Inj. Vol:</b> .5 uL
<b>Prep Date:</b> 01/19/2010 10:47	<b>Aliquot:</b> 30 g	<b>Final Volume:</b> 1 mL
<b>Data File:</b> s5a2414.d	<b>Column:</b> J&W DB-5MS	<b>Level:</b> LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine		860	ug/kg	76.3	381
108-95-2	Phenol		1030	ug/kg	76.3	381
95-57-8	2-Chlorophenol		957	ug/kg	76.3	381
106-46-7	1,4-Dichlorobenzene		696	ug/kg	76.3	381
621-64-7	N-Nitrosodipropylamine		1040	ug/kg	76.3	381
59-50-7	4-Chloro-3-methylphenol		1260	ug/kg	76.3	381
83-32-9	Acenaphthene		1110	ug/kg	12.6	38.1
121-14-2	2,4-Dinitrotoluene		1180	ug/kg	38.1	381
100-02-7	4-Nitrophenol		1430	ug/kg	126	381
87-86-5	Pentachlorophenol		1520	ug/kg	95.3	381
129-00-0	Pyrene		1290	ug/kg	11.4	38.1
110-86-1	Pyridine		908	ug/kg	76.3	381
62-53-3	Aniline		703	ug/kg	114	381
111-44-4	bis(2-Chloroethyl) ether		835	ug/kg	76.3	381
541-73-1	1,3-Dichlorobenzene		668	ug/kg	76.3	381
100-51-6	Benzyl alcohol		1190	ug/kg	114	381
95-50-1	1,2-Dichlorobenzene		819	ug/kg	76.3	381
108-60-1	bis(2-Chloroisopropyl)ether		932	ug/kg	76.3	381
95-48-7	o-Cresol		1170	ug/kg	76.3	381
65794-96-9	m,p-Cresols		1210	ug/kg	114	381
67-72-1	Hexachloroethane		638	ug/kg	76.3	381
98-95-3	Nitrobenzene		1060	ug/kg	76.3	381
78-59-1	Isophorone		1080	ug/kg	76.3	381
88-75-5	2-Nitrophenol		1090	ug/kg	76.3	381
105-67-9	2,4-Dimethylphenol		973	ug/kg	133	381
111-91-1	bis(2-Chloroethoxy)methane		1010	ug/kg	76.3	381
120-83-2	2,4-Dichlorophenol		1120	ug/kg	76.3	381
65-85-0	Benzoic acid		2920	ug/kg	191	763
91-20-3	Naphthalene		957	ug/kg	11.4	38.1
106-47-8	4-Chloroaniline		1020	ug/kg	76.3	381
87-68-3	Hexachlorobutadiene		794	ug/kg	76.3	381
91-57-6	2-Methylnaphthalene		1050	ug/kg	7.63	38.1
77-47-4	Hexachlorocyclopentadiene		701	ug/kg	76.3	381
88-06-2	2,4,6-Trichlorophenol		1240	ug/kg	76.3	381
95-95-4	2,4,5-Trichlorophenol		1260	ug/kg	76.3	381
91-58-7	2-Chloronaphthalene		1090	ug/kg	12.6	38.1
88-74-4	2-Nitroaniline		1210	ug/kg	76.3	381
	<i>o</i> -Nitroaniline					
99-09-2	3-Nitroaniline		1180	ug/kg	76.3	381

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 10-1262	<b>Date Collected:</b> 01/11/2010 12:00	<b>Matrix:</b> R
<b>Lab Sample ID:</b> 1202018799	<b>Date Received:</b> 01/15/2010 08:50	<b>%Moisture:</b> 12.6
<b>Client Sample:</b> QC for batch 942929	<b>Client:</b> LANL010	<b>Project:</b> QC
<b>Client ID:</b> RE12-10-7272MS	<b>Method:</b> SW846 8270C	<b>SOP Ref:</b> GL-OA-E-009
<b>Batch ID:</b> 942930	<b>Inst:</b> MSD5.I	<b>Dilution:</b> 1
<b>Run Date:</b> 01/24/2010 17:38	<b>Analyst:</b> RMB	<b>Inj. Vol:</b> .5 uL
<b>Prep Date:</b> 01/19/2010 10:47	<b>Aliquot:</b> 30 g	<b>Final Volume:</b> 1 mL
<b>Data File:</b> s5a2414.d	<b>Column:</b> J&W DB-5MS	<b>Level:</b> LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate		1170	ug/kg	76.3	381
606-20-2	2,6-Dinitrotoluene		1130	ug/kg	38.1	381
208-96-8	Acenaphthylene		1120	ug/kg	11.4	38.1
51-28-5	2,4-Dinitrophenol		1630	ug/kg	145	763
132-64-9	Dibenzofuran		1380	ug/kg	76.3	381
84-66-2	Diethylphthalate		1230	ug/kg	76.3	381
86-73-7	Fluorene		1180	ug/kg	11.4	38.1
7005-72-3	4-Chlorophenylphenylether		1110	ug/kg	76.3	381
534-52-1	2-Methyl-4,6-dinitrophenol		1440	ug/kg	76.3	381
100-01-6	4-Nitroaniline		1360	ug/kg	114	381
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine		1100	ug/kg	76.3	381
122-66-7	Azobenzene		1290	ug/kg	76.3	381
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether		1090	ug/kg	76.3	381
118-74-1	Hexachlorobenzene		1150	ug/kg	76.3	381
85-01-8	Phenanthrene		1220	ug/kg	11.4	38.1
120-12-7	Anthracene		1220	ug/kg	7.63	38.1
84-74-2	Di-n-butylphthalate		1360	ug/kg	76.3	381
206-44-0	Fluoranthene		1280	ug/kg	11.4	38.1
85-68-7	Butylbenzylphthalate		1420	ug/kg	76.3	381
56-55-3	Benzo(a)anthracene		1250	ug/kg	11.4	38.1
91-94-1	3,3'-Dichlorobenzidine	J	377	ug/kg	114	381
218-01-9	Chrysene		1270	ug/kg	11.4	38.1
117-81-7	bis(2-Ethylhexyl)phthalate		1400	ug/kg	76.3	381
117-84-0	Di-n-octylphthalate		1430	ug/kg	76.3	381
205-99-2	Benzo(b)fluoranthene		1290	ug/kg	11.4	38.1
207-08-9	Benzo(k)fluoranthene		1320	ug/kg	11.4	38.1
50-32-8	Benzo(a)pyrene		1270	ug/kg	11.4	38.1
193-39-5	Indeno(1,2,3-cd)pyrene		1160	ug/kg	11.4	38.1
53-70-3	Dibenzo(a,h)anthracene		1220	ug/kg	11.4	38.1
191-24-2	Benzo(ghi)perylene		1110	ug/kg	11.4	38.1
120-82-1	1,2,4-Trichlorobenzene		895	ug/kg	76.3	381



GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2414.d  
Lab Smp Id: 1202018799 Client Smp ID: RE12-10-7272MS  
Inj Date : 24-JAN-2010 17:38  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |1202018799|942930|1|SVM|1|MS  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 14 QC Sample: MS  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.00000	weight of sample
M	12.57660	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863	(1.000)	411140	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729	(1.000)	1492456	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981	(1.000)	808661	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147	(1.000)	1434700	40.0000	
* 91 Chrysene-d12	240	9.548	9.550	(1.000)	1245558	40.0000	
* 98 Perylene-d12	264	11.177	11.182	(1.000)	996529	40.0000	
\$ 3 2-Fluorophenol	112	3.054	3.049	(0.791)	524912	51.4808	1960
\$ 5 Phenol-d5	99	3.584	3.583	(0.928)	644103	51.2230	1950
\$ 20 Nitrobenzene-d5	82	4.219	4.229	(0.893)	302994	26.4408	1010
\$ 39 2-Fluorobiphenyl	172	5.466	5.471	(0.914)	558267	26.0971	995
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579	(1.099)	173724	67.5912	2580
\$ 81 p-Terphenyl-d14	244	8.519	8.519	(0.892)	679844	34.7612	1320

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN	FINAL
	MASS					(ng/ul)	(ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
6 Phenol	94	3.590	3.593	(0.930)	339634	27.1148	1030(Q)
8 2-Chlorophenol	128	3.725	3.733	(0.965)	266677	25.1088	957
11 1,4-Dichlorobenzene	146	3.872	3.877	(1.003)	208306	18.2652	696
17 N-Nitrosodipropylamine	70	4.095	4.104	(1.061)	169648	27.3304	1040(Q)
28 1,2,4-Trichlorobenzene	180	4.678	4.681	(0.990)	222141	23.4665	895
33 4-Chloro-3-methylphenol	107	5.078	5.076	(1.075)	259152	33.1717	1260
47 Acenaphthene	154	6.001	6.006	(1.004)	511304	29.0957	1110
50 2,4-Dinitrotoluene	165	6.095	6.097	(1.020)	189121	30.9018	1180
52 4-Nitrophenol	139	6.031	6.025	(1.009)	104146	37.3786	1420
65 Pentachlorophenol	266	6.972	6.973	(0.976)	118086	39.8875	1520
79 Pyrene	202	8.413	8.418	(0.881)	1067777	33.7744	1290
2 Pyridine	79	2.396	2.375	(0.621)	199958	23.8045	908
4 Aniline	66	3.643	3.646	(0.944)	95058	18.4470	703
7 bis(2-Chloroethyl) ether	63	3.660	3.665	(0.948)	205765	21.9036	835
9 1,3-Dichlorobenzene	146	3.825	3.834	(0.991)	201506	17.5314	668
12 Benzyl alcohol	108	3.931	3.930	(1.018)	217855	31.0822	1180
13 1,2-Dichlorobenzene	146	3.972	3.978	(1.029)	216380	21.4912	819
14 bis(2-Chloroisopropyl)ether	45	4.001	4.007	(1.037)	450910	24.4313	932
15 o-Cresol	107	3.984	3.983	(1.032)	225909	30.6148	1170
18 m,p-Cresols	107	4.078	4.084	(1.056)	333439	31.7443	1210
19 Hexachloroethane	117	4.201	4.209	(1.088)	78743	16.7261	638
21 Nitrobenzene	77	4.237	4.243	(0.897)	286854	27.8630	1060
22 Isophorone	82	4.390	4.392	(0.929)	551544	28.2079	1080
23 2-Nitrophenol	139	4.448	4.455	(0.941)	138239	28.4897	1090
24 2,4-Dimethylphenol	122	4.442	4.450	(0.940)	247593	25.5228	973
25 bis(2-Chloroethoxy)methane	93	4.507	4.513	(0.954)	308333	26.5669	1010
26 2,4-Dichlorophenol	162	4.613	4.614	(0.976)	225395	29.4114	1120
27 Benzoic acid	105	4.513	4.498	(0.955)	399455	76.6545	2920
30 Naphthalene	128	4.742	4.749	(1.004)	737882	25.1095	957
31 4-Chloroaniline	127	4.760	4.763	(1.007)	344557	26.8026	1020
32 Hexachlorobutadiene	225	4.807	4.811	(1.017)	116885	20.8175	794
34 2-Methylnaphthalene	142	5.225	5.225	(1.106)	510161	27.6588	1050
36 Hexachlorocyclopentadiene	237	5.325	5.331	(0.891)	86723	18.3951	701
37 2,4,6-Trichlorophenol	196	5.413	5.413	(0.906)	183256	32.5480	1240
38 2,4,5-Trichlorophenol	196	5.442	5.442	(0.910)	207301	33.0606	1260
40 2-Chloronaphthalene	162	5.578	5.582	(0.933)	506418	28.6656	1090
42 o-Nitroaniline	65	5.631	5.635	(0.942)	182460	31.8365	1210
41 m-Nitroaniline	138	5.925	5.933	(0.991)	133023	30.9268	1180
43 Dimethylphthalate	163	5.737	5.746	(0.960)	635652	30.7325	1170
44 2,6-Dinitrotoluene	165	5.795	5.803	(0.969)	143817	29.6877	1130
45 Acenaphthylene	152	5.878	5.885	(0.983)	847170	29.4139	1120
48 2,4-Dinitrophenol	184	6.001	6.006	(1.004)	51930	42.8625	1630(Q)
49 Dibenzofuran	168	6.131	6.131	(1.026)	910539	36.1574	1380
51 Diethylphthalate	149	6.248	6.251	(1.045)	692275	32.3589	1230
53 Fluorene	166	6.389	6.391	(1.069)	650928	30.9250	1180
54 4-Chlorophenylphenylether	204	6.366	6.367	(1.065)	321869	28.9853	1100
55 2-Methyl-4,6-dinitrophenol	198	6.401	6.405	(0.896)	86910	37.7358	1440

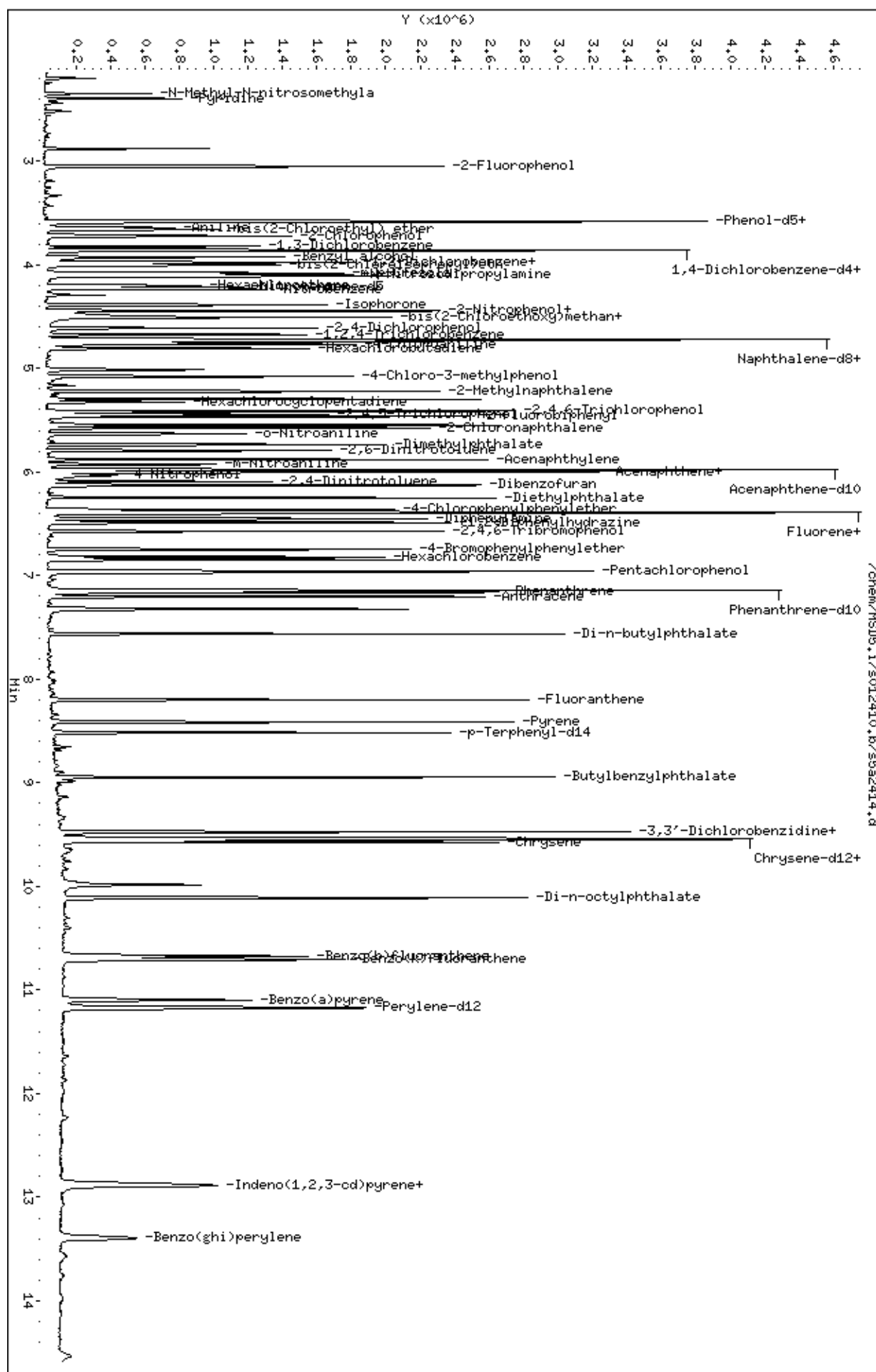
Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
56 p-Nitroaniline	138	6.384	6.386	(1.068)	123082	35.5500	1360
133 Diphenylamine	169	6.454	6.453	(0.904)	499881	28.8919	1100
58 1,2-Diphenylhydrazine	77	6.489	6.492	(0.909)	687115	33.7178	1280
61 4-Bromophenylphenylether	248	6.748	6.752	(0.945)	183531	28.5558	1090
63 Hexachlorobenzene	284	6.819	6.824	(0.955)	195931	30.0873	1150
68 Phenanthrene	178	7.166	7.166	(1.003)	897759	32.0939	1220
69 Anthracene	178	7.207	7.209	(1.009)	897061	32.0162	1220
72 Di-n-butylphthalate	149	7.566	7.566	(1.059)	1247688	35.6286	1360
76 Fluoranthene	202	8.201	8.201	(1.148)	1033190	33.5952	1280
85 Butylbenzylphthalate	149	8.948	8.953	(0.937)	557450	37.2475	1420
89 Benzo(a)anthracene	228	9.536	9.540	(0.999)	866985	32.7814	1250
90 3,3'-Dichlorobenzidine	252	9.483	9.478	(0.993)	84464	9.89137	377(aR)
92 Chrysene	228	9.572	9.574	(1.002)	803590	33.4241	1270
93 bis(2-Ethylhexyl)phthalate	149	9.472	9.477	(0.992)	758586	36.7232	1400
94 Di-n-octylphthalate	149	10.113	10.118	(0.905)	1193902	37.4098	1430
95 Benzo(b)fluoranthene	252	10.672	10.681	(0.955)	762148	33.7044	1280
96 Benzo(k)fluoranthene	252	10.707	10.710	(0.958)	769660	34.7000	1320
97 Benzo(a)pyrene	252	11.101	11.105	(0.993)	645577	33.3322	1270
99 Indeno(1,2,3-cd)pyrene	276	12.877	12.887	(1.152)	520302	30.4290	1160
100 Dibenzo(a,h)anthracene	278	12.889	12.906	(1.153)	440289	32.0037	1220
101 Benzo(ghi)perylene	276	13.395	13.416	(1.198)	408557	29.2229	1110
1 N-Methyl-N-nitrosomethylamine	74	2.349	2.346	(0.608)	137886	22.5649	860

# QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.
- R - Spike/Surrogate failed recovery limits.

Data File: /chem/MSDS.i/s012410.b/s5a2414.d  
 Date : 24-JAN-2010 17:38  
 Client ID: RE12-10-7272MS  
 Sample Info: 11202018799194293011SVH11HS  
 Volume Injected (uL): 0.5  
 Column phase: J&W DB-5MS

Instrument: MSD5.i  
 Operator: RHB  
 Column diameter: 0.20



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 10-1262	<b>Date Collected:</b> 01/11/2010 12:00	<b>Matrix:</b> R
<b>Lab Sample ID:</b> 1202018800	<b>Date Received:</b> 01/15/2010 08:50	<b>%Moisture:</b> 12.6
<b>Client Sample:</b> QC for batch 942929	<b>Client:</b> LANL010	<b>Project:</b> QC
<b>Client ID:</b> RE12-10-7272MSD	<b>Method:</b> SW846 8270C	<b>SOP Ref:</b> GL-OA-E-009
<b>Batch ID:</b> 942930	<b>Inst:</b> MSD5.I	<b>Dilution:</b> 1
<b>Run Date:</b> 01/24/2010 18:01	<b>Analyst:</b> RMB	<b>Inj. Vol:</b> .5 uL
<b>Prep Date:</b> 01/19/2010 10:47	<b>Aliquot:</b> 30.01 g	<b>Final Volume:</b> 1 mL
<b>Data File:</b> s5a2415.d	<b>Column:</b> J&W DB-5MS	<b>Level:</b> LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine		881	ug/kg	76.2	381
108-95-2	Phenol		1200	ug/kg	76.2	381
95-57-8	2-Chlorophenol		1080	ug/kg	76.2	381
106-46-7	1,4-Dichlorobenzene		747	ug/kg	76.2	381
621-64-7	N-Nitrosodipropylamine		1110	ug/kg	76.2	381
59-50-7	4-Chloro-3-methylphenol		1320	ug/kg	76.2	381
83-32-9	Acenaphthene		1150	ug/kg	12.6	38.1
121-14-2	2,4-Dinitrotoluene		1150	ug/kg	38.1	381
100-02-7	4-Nitrophenol		1420	ug/kg	126	381
87-86-5	Pentachlorophenol		1440	ug/kg	95.3	381
129-00-0	Pyrene		1110	ug/kg	11.4	38.1
110-86-1	Pyridine		1020	ug/kg	76.2	381
62-53-3	Aniline		760	ug/kg	114	381
111-44-4	bis(2-Chloroethyl) ether		987	ug/kg	76.2	381
541-73-1	1,3-Dichlorobenzene		710	ug/kg	76.2	381
100-51-6	Benzyl alcohol		1330	ug/kg	114	381
95-50-1	1,2-Dichlorobenzene		882	ug/kg	76.2	381
108-60-1	bis(2-Chloroisopropyl)ether		1040	ug/kg	76.2	381
95-48-7	o-Cresol		1300	ug/kg	76.2	381
65794-96-9	m,p-Cresols		1320	ug/kg	114	381
67-72-1	Hexachloroethane		693	ug/kg	76.2	381
98-95-3	Nitrobenzene		1130	ug/kg	76.2	381
78-59-1	Isophorone		1150	ug/kg	76.2	381
88-75-5	2-Nitrophenol		1180	ug/kg	76.2	381
105-67-9	2,4-Dimethylphenol		989	ug/kg	133	381
111-91-1	bis(2-Chloroethoxy)methane		1080	ug/kg	76.2	381
120-83-2	2,4-Dichlorophenol		1190	ug/kg	76.2	381
65-85-0	Benzoic acid		2420	ug/kg	191	762
91-20-3	Naphthalene		1020	ug/kg	11.4	38.1
106-47-8	4-Chloroaniline		1130	ug/kg	76.2	381
87-68-3	Hexachlorobutadiene		841	ug/kg	76.2	381
91-57-6	2-Methylnaphthalene		1140	ug/kg	7.62	38.1
77-47-4	Hexachlorocyclopentadiene		729	ug/kg	76.2	381
88-06-2	2,4,6-Trichlorophenol		1280	ug/kg	76.2	381
95-95-4	2,4,5-Trichlorophenol		1270	ug/kg	76.2	381
91-58-7	2-Chloronaphthalene		1140	ug/kg	12.6	38.1
88-74-4	2-Nitroaniline		1220	ug/kg	76.2	381
99-09-2	<i>o</i> -Nitroaniline					
	3-Nitroaniline		1240	ug/kg	76.2	381

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b>	<b>10-1262</b>	<b>Date Collected:</b>	<b>01/11/2010 12:00</b>	<b>Matrix:</b>	<b>R</b>
<b>Lab Sample ID:</b>	<b>1202018800</b>	<b>Date Received:</b>	<b>01/15/2010 08:50</b>	<b>%Moisture:</b>	<b>12.6</b>
<b>Client Sample:</b>	<b>QC for batch 942929</b>	<b>Client:</b>	<b>LANL010</b>	<b>Project:</b>	<b>QC</b>
<b>Client ID:</b>	<b>RE12-10-7272MSD</b>	<b>Method:</b>	<b>SW846 8270C</b>	<b>SOP Ref:</b>	<b>GL-OA-E-009</b>
<b>Batch ID:</b>	<b>942930</b>	<b>Inst:</b>	<b>MSD5.I</b>	<b>Dilution:</b>	<b>1</b>
<b>Run Date:</b>	<b>01/24/2010 18:01</b>	<b>Analyst:</b>	<b>RMB</b>	<b>Inj. Vol:</b>	<b>.5 uL</b>
<b>Prep Date:</b>	<b>01/19/2010 10:47</b>	<b>Aliquot:</b>	<b>30.01 g</b>	<b>Final Volume:</b>	<b>1 mL</b>
<b>Data File:</b>	<b>s5a2415.d</b>	<b>Column:</b>	<b>J&amp;W DB-5MS</b>	<b>Level:</b>	<b>LOW</b>

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	<i>m-Nitroaniline</i>					
131-11-3	Dimethylphthalate		1170	ug/kg	76.2	381
606-20-2	2,6-Dinitrotoluene		1140	ug/kg	38.1	381
208-96-8	Acenaphthylene		1160	ug/kg	11.4	38.1
51-28-5	2,4-Dinitrophenol		1620	ug/kg	145	762
132-64-9	Dibenzofuran		1400	ug/kg	76.2	381
84-66-2	Diethylphthalate		1210	ug/kg	76.2	381
86-73-7	Fluorene		1190	ug/kg	11.4	38.1
7005-72-3	4-Chlorophenylphenylether		1090	ug/kg	76.2	381
534-52-1	2-Methyl-4,6-dinitrophenol		1440	ug/kg	76.2	381
100-01-6	4-Nitroaniline		1400	ug/kg	114	381
	<i>p-Nitroaniline</i>					
122-39-4	Diphenylamine		1050	ug/kg	76.2	381
122-66-7	Azobenzene		1290	ug/kg	76.2	381
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether		1050	ug/kg	76.2	381
118-74-1	Hexachlorobenzene		1100	ug/kg	76.2	381
85-01-8	Phenanthrene		1190	ug/kg	11.4	38.1
120-12-7	Anthracene		1180	ug/kg	7.62	38.1
84-74-2	Di-n-butylphthalate		1270	ug/kg	76.2	381
206-44-0	Fluoranthene		1250	ug/kg	11.4	38.1
85-68-7	Butylbenzylphthalate		1230	ug/kg	76.2	381
56-55-3	Benzo(a)anthracene		1170	ug/kg	11.4	38.1
91-94-1	3,3'-Dichlorobenzidine	J	242	ug/kg	114	381
218-01-9	Chrysene		1190	ug/kg	11.4	38.1
117-81-7	bis(2-Ethylhexyl)phthalate		1190	ug/kg	76.2	381
117-84-0	Di-n-octylphthalate		1130	ug/kg	76.2	381
205-99-2	Benzo(b)fluoranthene		1140	ug/kg	11.4	38.1
207-08-9	Benzo(k)fluoranthene		1220	ug/kg	11.4	38.1
50-32-8	Benzo(a)pyrene		1180	ug/kg	11.4	38.1
193-39-5	Indeno(1,2,3-cd)pyrene		1210	ug/kg	11.4	38.1
53-70-3	Dibenzo(a,h)anthracene		1260	ug/kg	11.4	38.1
191-24-2	Benzo(ghi)perylene		1200	ug/kg	11.4	38.1
120-82-1	1,2,4-Trichlorobenzene		947	ug/kg	76.2	381

GEL Laboratories LLC

Data file : /chem/MSD5.i/s012410.b/s5a2415.d  
Lab Smp Id: 1202018800 Client Smp ID: RE12-10-7272MSD  
Inj Date : 24-JAN-2010 18:01  
Operator : RMB Inst ID: MSD5.i  
Smp Info : |1202018800|942930|1|SVM|1|MSD  
Misc Info : |MSD8270\_S|WBN100107-02  
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film  
Method : /chem/MSD5.i/s012410.b/MSD5-M8270C-010510.m  
Meth Date : 25-Jan-2010 08:43 rmb Quant Type: ISTD  
Cal Date : 06-JAN-2010 14:25 Cal File: s5a0543.d  
Als bottle: 15 QC Sample: MSD  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: 10-1262.sub  
Target Version: 3.50  
Processing Host: kilroy

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.01000	weight of sample
M	12.57660	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG			RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT REL RT		ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.860	3.863 (1.000)	371849	40.0000	
* 29 Naphthalene-d8	136	4.725	4.729 (1.000)	1413492	40.0000	
* 46 Acenaphthene-d10	164	5.978	5.981 (1.000)	783768	40.0000	
* 67 Phenanthrene-d10	188	7.142	7.147 (1.000)	1419657	40.0000	
* 91 Chrysene-d12	240	9.548	9.550 (1.000)	1370128	40.0000	
* 98 Perylene-d12	264	11.177	11.182 (1.000)	1197434	40.0000	
\$ 3 2-Fluorophenol	112	3.054	3.049 (0.791)	514674	55.8103	2130
\$ 5 Phenol-d5	99	3.584	3.583 (0.928)	632603	55.6243	2120
\$ 20 Nitrobenzene-d5	82	4.219	4.229 (0.893)	295915	27.2657	1040
\$ 39 2-Fluorobiphenyl	172	5.466	5.471 (0.914)	546959	26.3806	1000
\$ 60 2,4,6-Tribromophenol	329	6.572	6.579 (1.099)	159436	64.0024	2440
\$ 81 p-Terphenyl-d14	244	8.519	8.519 (0.892)	640098	29.7532	1130

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
6 Phenol	94	3.590	3.593	(0.930)	355781	31.4051	1200(Q)
8 2-Chlorophenol	128	3.725	3.733	(0.965)	271932	28.3091	1080
11 1,4-Dichlorobenzene	146	3.872	3.877	(1.003)	202247	19.6077	747
17 N-Nitrosodipropylamine	70	4.096	4.104	(1.061)	163208	29.0713	1110(Q)
28 1,2,4-Trichlorobenzene	180	4.678	4.681	(0.990)	222682	24.8378	947
33 4-Chloro-3-methylphenol	107	5.078	5.076	(1.075)	255724	34.5615	1320
47 Acenaphthene	154	6.001	6.006	(1.004)	514753	30.2223	1150
50 2,4-Dinitrotoluene	165	6.090	6.097	(1.019)	179356	30.2370	1150
52 4-Nitrophenol	139	6.031	6.025	(1.009)	100694	37.3068	1420
65 Pentachlorophenol	266	6.972	6.973	(0.976)	109338	37.7523	1440
79 Pyrene	202	8.413	8.418	(0.881)	1009937	29.0405	1110
2 Pyridine	79	2.384	2.375	(0.618)	202636	26.6722	1020
4 Aniline	66	3.643	3.646	(0.944)	92919	19.9373	760
7 bis(2-Chloroethyl) ether	63	3.660	3.665	(0.948)	220104	25.9057	987
9 1,3-Dichlorobenzene	146	3.825	3.834	(0.991)	193542	18.6178	710
12 Benzyl alcohol	108	3.931	3.930	(1.018)	221005	34.8634	1330
13 1,2-Dichlorobenzene	146	3.972	3.978	(1.029)	210712	23.1396	882
14 bis(2-Chloroisopropyl)ether	45	4.001	4.007	(1.037)	454756	27.2433	1040
15 o-Cresol	107	3.984	3.983	(1.032)	227887	34.1461	1300
18 m,p-Cresols	107	4.078	4.084	(1.056)	328025	34.5287	1320
19 Hexachloroethane	117	4.201	4.209	(1.088)	77400	18.1780	693
21 Nitrobenzene	77	4.237	4.243	(0.897)	289748	29.7165	1130
22 Isophorone	82	4.390	4.392	(0.929)	556655	30.0597	1140
23 2-Nitrophenol	139	4.449	4.455	(0.941)	142571	31.0238	1180
24 2,4-Dimethylphenol	122	4.443	4.450	(0.940)	238384	25.9463	989
25 bis(2-Chloroethoxy)methane	93	4.507	4.513	(0.954)	310944	28.2886	1080
26 2,4-Dichlorophenol	162	4.613	4.614	(0.976)	227116	31.2916	1190
27 Benzoic acid	105	4.501	4.498	(0.953)	299388	63.4978	2420
30 Naphthalene	128	4.743	4.749	(1.004)	746832	26.8338	1020
31 4-Chloroaniline	127	4.760	4.763	(1.007)	361786	29.7150	1130
32 Hexachlorobutadiene	225	4.807	4.811	(1.017)	117394	22.0761	841
34 2-Methylnaphthalene	142	5.225	5.225	(1.106)	522702	29.9219	1140
36 Hexachlorocyclopentadiene	237	5.325	5.331	(0.891)	87395	19.1264	729
37 2,4,6-Trichlorophenol	196	5.413	5.413	(0.906)	183902	33.7002	1280
38 2,4,5-Trichlorophenol	196	5.443	5.442	(0.910)	203007	33.4040	1270
40 2-Chloronaphthalene	162	5.578	5.582	(0.933)	513062	29.9640	1140
42 o-Nitroaniline	65	5.631	5.635	(0.942)	178079	32.0589	1220
41 m-Nitroaniline	138	5.925	5.933	(0.991)	135611	32.5299	1240
43 Dimethylphthalate	163	5.737	5.746	(0.960)	614939	30.6753	1170
44 2,6-Dinitrotoluene	165	5.795	5.803	(0.969)	140710	29.9688	1140
45 Acenaphthylene	152	5.878	5.885	(0.983)	850706	30.4748	1160
48 2,4-Dinitrophenol	184	6.001	6.006	(1.004)	49434	42.3997	1620
49 Dibenzofuran	168	6.125	6.131	(1.025)	898549	36.8145	1400
51 Diethylphthalate	149	6.248	6.251	(1.045)	657272	31.6985	1210
53 Fluorene	166	6.390	6.391	(1.069)	637586	31.2532	1190
54 4-Chlorophenylphenylether	204	6.366	6.367	(1.065)	309049	28.7148	1090
55 2-Methyl-4,6-dinitrophenol	198	6.401	6.405	(0.896)	85951	37.7199	1440



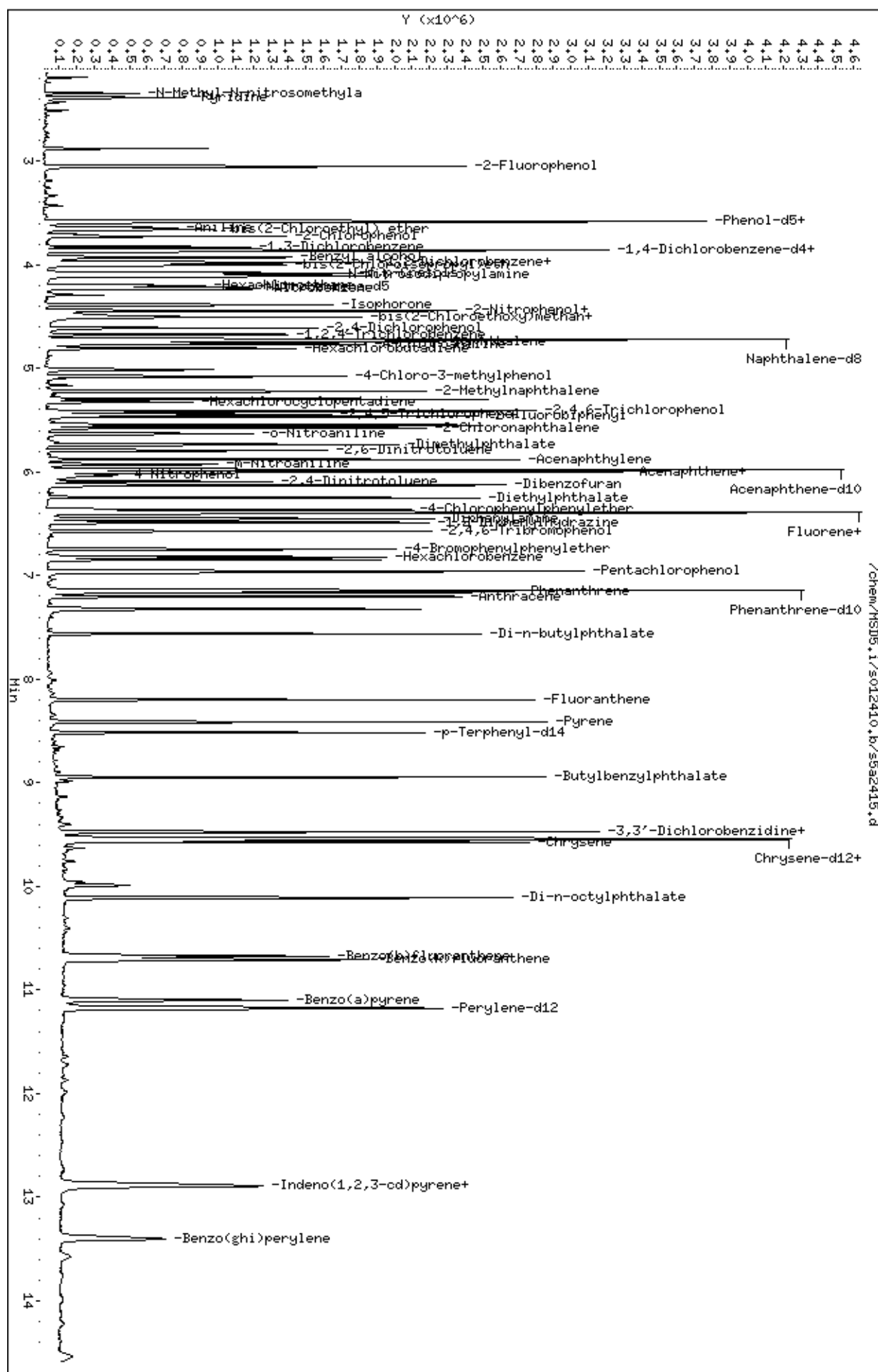
Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
56 p-Nitroaniline	138	6.384	6.386	(1.068)	122971	36.6459	1400
133 Diphenylamine	169	6.448	6.453	(0.903)	473461	27.6549	1050
58 1,2-Diphenylhydrazine	77	6.490	6.492	(0.909)	680359	33.7400	1290
61 4-Bromophenylphenylether	248	6.748	6.752	(0.945)	175959	27.6677	1050
63 Hexachlorobenzene	284	6.819	6.824	(0.955)	185922	28.8528	1100
68 Phenanthrene	178	7.160	7.166	(1.002)	863924	31.2116	1190
69 Anthracene	178	7.207	7.209	(1.009)	860890	31.0508	1180
72 Di-n-butylphthalate	149	7.566	7.566	(1.059)	1155190	33.3368	1270
76 Fluoranthene	202	8.201	8.201	(1.148)	996489	32.7452	1250
85 Butylbenzylphthalate	149	8.948	8.953	(0.937)	530365	32.2158	1230
89 Benzo(a)anthracene	228	9.536	9.540	(0.999)	891714	30.6510	1170
90 3,3'-Dichlorobenzidine	252	9.483	9.478	(0.993)	59592	6.34414	242(aR)
92 Chrysene	228	9.572	9.574	(1.002)	822973	31.1182	1190
93 bis(2-Ethylhexyl)phthalate	149	9.472	9.477	(0.992)	712117	31.3394	1190
94 Di-n-octylphthalate	149	10.113	10.118	(0.905)	1139189	29.7065	1130
95 Benzo(b)fluoranthene	252	10.678	10.681	(0.955)	815037	29.9960	1140
96 Benzo(k)fluoranthene	252	10.707	10.710	(0.958)	852100	31.9712	1220
97 Benzo(a)pyrene	252	11.101	11.105	(0.993)	723507	31.0883	1180
99 Indeno(1,2,3-cd)pyrene	276	12.877	12.887	(1.152)	653413	31.6716	1210
100 Dibenzo(a,h)anthracene	278	12.895	12.906	(1.154)	551025	33.1805	1260
101 Benzo(ghi)perylene	276	13.401	13.416	(1.199)	526839	31.3608	1200
1 N-Methyl-N-nitrosomethylamine	74	2.343	2.346	(0.607)	127680	23.1025	880

#### QC Flag Legend

- a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.
- R - Spike/Surrogate failed recovery limits.

Data File: /chem/HSD5.i/s012410.b/s5a2415.d  
 Date : 24-JAN-2010 18:01  
 Client ID: RE12-10-7272HSD  
 Sample Info: 142020488001942930141SVH11HSD  
 Volume Injected (uL): 0.5  
 Column phase: J&W DB-5MS

Instrument: HSD5.i  
 Operator: RHB  
 Column diameter: 0.20



# Miscellaneous Data

# Prep Logbook

## Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 942929      Verified by: \_\_\_\_\_  
Analyst: Robin Hunt  
Method: SW846 3550B

Lab SOP: GL-OA-E-010 REV# 18  
Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202018797 MB	19-JAN-2010 10:47:13	30	1	0.03333
1202018798 LCS	19-JAN-2010 10:47:13	30	1	0.03333
244837001	19-JAN-2010 10:47:13	30	1	0.03333
244837002	19-JAN-2010 10:47:13	30.04	1	0.03329
244837003	19-JAN-2010 10:47:13	30.02	1	0.03331
244837004	19-JAN-2010 10:47:13	30.02	1	0.03331
244837005	19-JAN-2010 10:47:13	30.03	1	0.0333
244837006	19-JAN-2010 10:47:13	30	1	0.03333
244847001	19-JAN-2010 10:47:13	30.02	1	0.03331
1202018799 MS (244847001)	19-JAN-2010 10:47:13	30	1	0.03333
1202018800 MSD (244847001)	19-JAN-2010 10:47:13	30.01	1	0.03332
244847002	19-JAN-2010 10:47:13	30.03	1	0.0333
244847003	19-JAN-2010 10:47:13	30.03	1	0.0333
244847004	19-JAN-2010 10:47:13	30.02	1	0.03331
244858001	19-JAN-2010 10:47:13	30	1	0.03333
244858002	19-JAN-2010 10:47:13	30	1	0.03333
244858003	19-JAN-2010 10:47:13	30.03	1	0.0333
244858004	19-JAN-2010 10:47:13	30.02	1	0.03331
244858005	19-JAN-2010 10:47:13	30.01	1	0.03332
244858006	19-JAN-2010 10:47:13	30.01	1	0.03332
244858007	19-JAN-2010 10:47:13	30.04	1	0.03329
244858008	19-JAN-2010 10:47:13	30.06	1	0.03327
244858009	19-JAN-2010 10:47:13	30	1	0.03333
244858010	19-JAN-2010 10:47:13	30.01	1	0.03332

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202018798	BNA LCS w/o Benzidine 50ppm	UE091217-12B	1	mL	Verified By: JAM
LCS	1202018798	BENZIDINE LCS	UE100108-21	1	mL	Final Solvent: CH2Cl2
MS	1202018799	BNA LCS w/o Benzidine 50ppm	UE091217-12B	1	mL	
MS	1202018799	BENZIDINE LCS	UE100108-21	1	mL	
MSD	1202018800	BNA LCS w/o Benzidine 50ppm	UE091217-12B	1	mL	
MSD	1202018800	BENZIDINE LCS	UE100108-21	1	mL	
SURR	All	BNA for all Surrogate	UE100108-10	1	mL	
REGNT	All	Acetone	1233927	150	mL	
REGNT	All	Methylene Chloride	1253574-D	150	mL	
SOURC	All	SODIUM SULFATE	1242582	30	g	

DATE: 11/09/2009

METHOD: See raw data

OPERATOR: JMB3

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

HARDWARE CONFIGURATION &amp; METHOD SUMMARY: No. 1 on pg. 1

SOLVENT LOT:1198658-D

Multiplier Voltage: 1565 Emv

Extr. Injection Volume: 0.5, 1.0 ul

DFTPP Solution ID: WBN091101-01

Internal Std ID: WBN091106-10

## CALIBRATION &amp; QC INFORMATION:

Initial Calibration Dates: See Calibration History and Standard Logbook.

Initial Calibration Std ID's: See Calibration History and Standard Logbook.

SOP: GL-OA-E-009 Rev. 22

Sequence Number: /chem/MSD6.i/s110909.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
s6k0901.d	WBN091101-01	JMB3	09-NOV-2009 11:20	50 PPM	s110909	1.0	DFTPP	DUSE
s6k0902.d	inst blk	JMB3	09-NOV-2009 11:35	-----	s110909	1.0	INST BLK	DUSE
s6k0903.d	WBN091106-08	JMB3	09-NOV-2009 12:23	1 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0904.d	WBN091106-07	JMB3	09-NOV-2009 13:00	10 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0905.d	WBN091106-06	JMB3	09-NOV-2009 13:36	20 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0906.d	WBN091106-05.1	JMB3	09-NOV-2009 14:14	40 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0907.d	WBN091106-04	JMB3	09-NOV-2009 14:52	50 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0908.d	WBN091106-03	JMB3	09-NOV-2009 15:30	80 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0909.d	WBN091106-02	JMB3	09-NOV-2009 16:06	100 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0910.d	WBN091106-01	JMB3	09-NOV-2009 16:43	120 PPM	s110909	1.0	MEGAICAL	DUSE
s6k0911-D.d	WBN091101-01	JMB3	09-NOV-2009 18:00	50 PPM	s110909	1.0	DFTPP	
s6k0911.d	WBN091101-01	JMB3	09-NOV-2009 18:00	50 PPM	s110909	1.0	DFTPP	
s6k0912.d	inst blk	JMB3	09-NOV-2009 18:15	-----	s110909	1.0	INST BLK	
s6k0913.d	WBN091106-08	JMB3	09-NOV-2009 18:53	1 PPM	s110909	1.0	MEGAICAL	
s6k0914.d	WBN091106-07	JMB3	09-NOV-2009 19:31	10 PPM	s110909	1.0	MEGAICAL	
s6k0915.d	WBN091106-06	JMB3	09-NOV-2009 20:09	20 PPM	s110909	1.0	MEGAICAL	
s6k0916.d	WBN091106-05.1	JMB3	09-NOV-2009 20:46	40 PPM	s110909	1.0	MEGAICAL	
s6k0917.d	WBN091106-04	JMB3	09-NOV-2009 21:25	50 PPM	s110909	1.0	MEGAICAL	
s6k0918.d	WBN091106-03	JMB3	09-NOV-2009 22:01	80 PPM	s110909	1.0	MEGAICAL	

s6k0919.d	WBN091106-02	JMB3	09-NOV-2009 22:39	100 PPM	s110909	1.0	MEGAICAL	
s6k0920.d	WBN091106-01	JMB3	09-NOV-2009 23:16	120 PPM	s110909	1.0	MEGAICAL	
s6k0921-D.d	WBN091101-01	JMB3	10-NOV-2009 11:07	50 PPM	s110909	1.0	DFTPP	
s6k0921.d	WBN091101-01	JMB3	10-NOV-2009 11:07	50 PPM	s110909	1.0	DFTPP	
s6k0922.d	inst blk	JMB3	10-NOV-2009 11:21	-----	s110909	1.0	INST BLK	
s6k0923.d	WBN091016-01	JMB3	10-NOV-2009 11:59	10 PPM	s110909	1.0	AP12ICAL	
s6k0924.d	WBN091016-02	JMB3	10-NOV-2009 12:36	20 PPM	s110909	1.0	AP12ICAL	
s6k0925.d	WBN091016-03	JMB3	10-NOV-2009 13:13	40 PPM	s110909	1.0	AP12ICAL	
s6k0926.d	WBN091016-04	JMB3	10-NOV-2009 13:51	50 PPM	s110909	1.0	AP12ICAL	
s6k0927.d	WBN091016-05	JMB3	10-NOV-2009 14:30	80 PPM	s110909	1.0	AP12ICAL	
s6k0928.d	WBN091016-06	JMB3	10-NOV-2009 15:06	100 PPM	s110909	1.0	AP12ICAL	
s6k0929.d	WBN091016-07	JMB3	10-NOV-2009 15:43	120 PPM	s110909	1.0	AP12ICAL	
s6k0930.d	WBN091029-25	JMB3	10-NOV-2009 16:20	10 PPM	s110909	1.0	PESTICAL	
s6k0931.d	WBN091029-24	JMB3	10-NOV-2009 16:56	20 PPM	s110909	1.0	PESTICAL	
s6k0932.d	WBN091029-23.1	JMB3	10-NOV-2009 17:33	40 PPM	s110909	1.0	PESTICAL	
s6k0933.d	WBN091029-22	JMB3	10-NOV-2009 18:09	50 PPM	s110909	1.0	PESTICAL	
s6k0934.d	WBN091029-21	JMB3	10-NOV-2009 18:45	80 PPM	s110909	1.0	PESTICAL	
s6k0935.d	WBN091029-20	JMB3	10-NOV-2009 19:21	100 PPM	s110909	1.0	PESTICAL	
s6k0936.d	WBN091029-19	JMB3	10-NOV-2009 19:58	120 PPM	s110909	1.0	PESTICAL	
s6k0937-D.d	WBN091106-09.1	JMB3	10-NOV-2009 20:29	40 PPM	s110909	1.0	MEGAICV	FAILED SC 8270D
s6k0937.d	WBN091106-09.1	JMB3	10-NOV-2009 20:29	40 PPM	s110909	1.0	MEGAICV	
s6k0938-D.d	WBN091016-08.1	JMB3	10-NOV-2009 21:07	40 PPM	s110909	1.0	AP12ICV	
s6k0938.d	WBN091016-08.1	JMB3	10-NOV-2009 21:07	40 PPM	s110909	1.0	AP12ICV	
s6k0939-D.d	WBN091029-26.1	JMB3	10-NOV-2009 21:35	40 PPM	s110909	1.0	PESTICV	
s6k0939.d	WBN091029-26.1	JMB3	10-NOV-2009 21:35	40 PPM	s110909	1.0	PESTICV	
s6k0940-D.d	WBN091101-01	JMB3	10-NOV-2009 22:12	50 PPM	s110909	1.0	DFTPP	
s6k0940.d	WBN091101-01	JMB3	10-NOV-2009 22:12	50 PPM	s110909	1.0	DFTPP	

s6k0941.d	inst blk	JMB3	10-NOV-2009 22:26	----- s110909		1.0 INST BLK		
s6k0942.d	WBN091016-16	JMB3	10-NOV-2009 22:55	500 PPM s110909		1.0 HEXICAL		
s6k0943.d	WBN091016-15	JMB3	10-NOV-2009 23:24	1000 PPM s110909		1.0 HEXICAL		
s6k0944.d	WBN091016-14	JMB3	10-NOV-2009 23:53	1250 PPM s110909		1.0 HEXICAL		
s6k0945.d	WBN091016-13	JMB3	11-NOV-2009 00:21	1500 PPM s110909		1.0 HEXICAL		
s6k0946.d	WBN091016-12	JMB3	11-NOV-2009 00:50	1750 PPM s110909		1.0 HEXICAL		
s6k0947.d	UBN090828-02.4-16	JMB3	11-NOV-2009 01:18	500 PPM s110909		1.0 HEXICAL		
s6k0948.d	UBN090924-01	JMB3	11-NOV-2009 01:47	10 PPM s110909		1.0 NEVICAL		
s6k0949.d	UBN090924-02	JMB3	11-NOV-2009 02:16	20 PPM s110909		1.0 NEVICAL		
s6k0950.d	UBN090924-03	JMB3	11-NOV-2009 02:44	40 PPM s110909		1.0 NEVICAL		
s6k0951.d	UBN090924-04	JMB3	11-NOV-2009 03:12	50 PPM s110909		1.0 NEVICAL	DUSE - disabled	
s6k0952.d	UBN090924-05	JMB3	11-NOV-2009 03:41	80 PPM s110909		1.0 NEVICAL		
s6k0953.d	UBN090924-06	JMB3	11-NOV-2009 04:10	100 PPM s110909		1.0 NEVICAL		
s6k0954.d	UBN090924-07	JMB3	11-NOV-2009 04:38	120 PPM s110909		1.0 NEVICAL	DUSE - disabled	
s6k0955-D.d	WBN091016-10.1	JMB3	11-NOV-2009 05:07	1250 PPM s110909		1.0 HEXICV	DUSE - failed >70%-130%	
s6k0955.d	WBN091016-10.1	JMB3	11-NOV-2009 05:07	1250 PPM s110909		1.0 HEXICV		

Instrument Batch: /chem/MSD6.i/s110909.b

Page: 2

DATE: 01/05/2010

METHOD:8270C MSD5-DFTPP8270D.m

OPERATOR:rmb

REVIEWED BY:\_\_\_\_\_

DATE:\_\_\_\_\_

HARDWARE CONFIGURATION &amp; METHOD SUMMARY: No. 1 on pg. 1

SOLVENT LOT:239699-D

Multiplier Voltage: 1494 Emv

Extr. Injection Volume: 0.5, 1.0 ul

DFTPP Solution ID: WBN091213-01

Internal Std ID: WBN091223-01

## CALIBRATION &amp; QC INFORMATION:

Initial Calibration Dates: See Calibration History and Standard Logbook.

Initial Calibration Std ID's: See Calibration History and Standard Logbook.

SOP: GL-OA-E-009 Rev. 23

Sequence Number: /chem/MSD5.i/s010510.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
s5a0501-D.d	WBN091128-01	rmb	05-JAN-2010 07:45	50PPM	s010510	1.0	DFTPP	
s5a0501.d	WBN091128-01	rmb	05-JAN-2010 07:45	50PPM	s010510	1.0	DFTPP	
s5a0502.d	instrument blank	RMB	05-JAN-2010 07:58		s010510	1.0		
s5a0503-TEST.d	WBN091225-09	RMB	05-JAN-2010 08:21	1 PPM	s010510	1.0	MEGAICAL001	8270D linear test
s5a0503.d	WBN091225-09	RMB	05-JAN-2010 08:21	1 PPM	s010510	1.0	MEGAICAL001	
s5a0504-TEST.d	WBN091225-10	RMB	05-JAN-2010 08:49	10 PPM	s010510	1.0	MEGAICAL010	8270D linear test
s5a0504.d	WBN091225-10	RMB	05-JAN-2010 08:49	10 PPM	s010510	1.0	MEGAICAL010	
s5a0505.d	WBN091225-11	RMB	05-JAN-2010 09:17	20 PPM	s010510	1.0	MEGAICAL020	
s5a0506.d	WBN091225-12.1	RMB	05-JAN-2010 09:45	40 PPM	s010510	1.0	MEGAICAL040	
s5a0507.d	WBN091225-13	RMB	05-JAN-2010 10:13	50 PPM	s010510	1.0	MEGAICAL050	
s5a0508.d	WBN091225-14	RMB	05-JAN-2010 10:42	80 PPM	s010510	1.0	MEGAICAL080	
s5a0509.d	WBN091225-15	RMB	05-JAN-2010 11:10	100 PPM	s010510	1.0	MEGAICAL100	
s5a0510.d	WBN091225-16	RMB	05-JAN-2010 11:38	120 PPM	s010510	1.0	MEGAICAL120	
s5a0511.d	instrument blank	RMB	05-JAN-2010 12:06		s010510	1.0		
s5a0512-625.d	WBN091223-17.1	RMB	05-JAN-2010 12:29	40 PPM	s010510	1.0	MEGAICV	MEGAICV - 625 - 010510
s5a0512-8270D.d	WBN091223-17.1	RMB	05-JAN-2010 12:29	40 PPM	s010510	1.0	MEGAICV	MEGAICV - 8270D - 010510
s5a0512-BOE.d	WBN091223-17.1	RMB	05-JAN-2010 12:29	40 PPM	s010510	1.0	MEGAICV	MEGAICV - BOE - 010510
s5a0512.d	WBN091223-17.1	RMB	05-JAN-2010 12:29	40 PPM	s010510	1.0	MEGAICV	MEGAICV - 8270C - 010510
s5a0513-TEST.d	WBN100103-01	RMB	05-JAN-2010 12:58	10 PPM	s010510	1.0	AP12ICAL010	8270D linear test



s5a0513.d	WBN100103-01	RMB	05-JAN-2010 12:58	10 PPM	s010510		1.0	AP12ICAL010	
s5a0514.d	WBN100103-02	RMB	05-JAN-2010 13:21	20 PPM	s010510		1.0	AP12ICAL020	
s5a0515.d	WBN100103-03.1	RMB	05-JAN-2010 13:44	40 PPM	s010510		1.0	AP12ICAL040	
s5a0516.d	WBN100103-04	RMB	05-JAN-2010 14:07	50 PPM	s010510		1.0	AP12ICAL050	
s5a0517.d	WBN100103-05	RMB	05-JAN-2010 14:30	80 PPM	s010510		1.0	AP12ICAL080	
s5a0518.d	WBN100103-06	RMB	05-JAN-2010 14:53	100 PPM	s010510		1.0	AP12ICAL100	
s5a0519.d	WBN100103-07	RMB	05-JAN-2010 15:16	120 PPM	s010510		1.0	AP12ICAL120	
s5a0520.d	WBN091202-16	RMB	05-JAN-2010 15:39	500 PPM	s010510		1.0	HEXICAL500	
s5a0521.d	WBN091202-15	RMB	05-JAN-2010 16:02	1000 PPM	s010510		1.0	HEXICAL1000	
s5a0522.d	WBN091202-14	RMB	05-JAN-2010 16:24	1250 PPM	s010510		1.0	HEXICAL1250	
s5a0523.d	WBN091202-13	RMB	05-JAN-2010 16:47	1500 PPM	s010510		1.0	HEXICAL1500	
s5a0524.d	WBN091202-12	RMB	05-JAN-2010 17:10	1750 PPM	s010510		1.0	HEXICAL1750	
s5a0525.d	UBN090828-02	RMB	05-JAN-2010 17:32	2000 PPM	s010510		1.0	HEXICAL2000	
s5a0526-625.d	WBN100103-08.1	RMB	05-JAN-2010 17:55	40 PPM	s010510		1.0	AP12ICV   AP12ICV - 625 - 010510	
s5a0526-8270D.d	WBN100103-08.1	RMB	05-JAN-2010 17:55	40 PPM	s010510		1.0	AP12ICV   AP12ICV - 8270D - 010510	
s5a0526.d	WBN100103-08.1	RMB	05-JAN-2010 17:55	40 PPM	s010510		1.0	AP12ICV   AP12ICV - 8270C - 010510	
s5a0527-625.d	WBN100103-10.4	RMB	05-JAN-2010 18:18	1250 PPM	s010510		1.0	HEXICV   HEXICV - 625 - 010510	
s5a0527-8270D.d	WBN100103-10.4	RMB	05-JAN-2010 18:18	1250 PPM	s010510		1.0	HEXICV   HEXICV - 8270D - 010510	
s5a0527.d	WBN100103-10.4	RMB	05-JAN-2010 18:18	1250 PPM	s010510		1.0	HEXICV   HEXICV - 8270C - 010510	
s5a0528-D.d	WBN091128-01	rmb	06-JAN-2010 08:51	50PPM	s010510		1.0	DFTPP	
s5a0528.d	WBN091128-01	rmb	06-JAN-2010 08:51	50PPM	s010510		1.0	DFTPP	
s5a0529.d	instrument blank	RMB	06-JAN-2010 09:04		s010510		1.0		
s5a0530.d	WBN100103-25	RMB	06-JAN-2010 09:26	10 PPM	s010510		1.0	PESTICAL010	
s5a0531.d	WBN100103-24	RMB	06-JAN-2010 09:49	20 PPM	s010510		1.0	PESTICAL020	
s5a0532.d	WBN100103-23.1	RMB	06-JAN-2010 10:12	40 PPM	s010510		1.0	PESTICAL040	
s5a0533.d	WBN100103-22	RMB	06-JAN-2010 10:35	50 PPM	s010510		1.0	PESTICAL050	
s5a0534.d	WBN100103-21	RMB	06-JAN-2010 10:58	80 PPM	s010510		1.0	PESTICAL080	

s5a0535.d	WBN100103-20	RMB	06-JAN-2010 11:21	100 PPM	s010510		1.0 PESTICAL100	
+-----+								
s5a0536.d	WBN100103-19	RMB	06-JAN-2010 11:43	120 PPM	s010510		1.0 PESTICAL120	
+-----+								
s5a0537-TEST.d	UBN091117-01	RMB	06-JAN-2010 12:06	10 PPM	s010510		1.0 NEVADAICAL010  8270D linear test	
+-----+								
s5a0537.d	UBN091117-01	RMB	06-JAN-2010 12:06	10 PPM	s010510		1.0 NEVADAICAL010	
+-----+								
s5a0538.d	UBN091117-02	RMB	06-JAN-2010 12:29	20 PPM	s010510		1.0 NEVADAICAL020	
+-----+								
s5a0539.d	UBN091117-03	RMB	06-JAN-2010 12:53	40 PPM	s010510		1.0 NEVADAICAL040	
+-----+								
s5a0540.d	UBN091117-04	RMB	06-JAN-2010 13:16	50 PPM	s010510		1.0 NEVADAICAL050	
+-----+								
s5a0541.d	UBN091117-05	RMB	06-JAN-2010 13:39	80 PPM	s010510		1.0 NEVADAICAL080	
+-----+								
s5a0542.d	UBN091117-06	RMB	06-JAN-2010 14:02	100 PPM	s010510		1.0 NEVADAICAL100	
+-----+								
s5a0543.d	UBN091117-07	RMB	06-JAN-2010 14:25	120 PPM	s010510		1.0 NEVADAICAL120	
+-----+								
s5a0544-625.d	WBN100103-26.1	RMB	06-JAN-2010 14:48	40 PPM	s010510		1.0 PESTICV   PESTICV - 625 - 010510	
+-----+								
s5a0544-8270D.d	WBN100103-26.1	RMB	06-JAN-2010 14:48	40 PPM	s010510		1.0 PESTICV   PESTICV - 8270D - 010510	
+-----+								
s5a0544.d	WBN100103-26.1	RMB	06-JAN-2010 14:48	40 PPM	s010510		1.0 PESTICV   PESTICV - 8270C - 010510	
+-----+								

Instrument Batch: /chem/MSD5.i/s010510.b

Page: 1

DATE: 01/24/2010

METHOD:8270C MSD5-DFTPPx.m

OPERATOR:rmb

REVIEWED BY:\_\_\_\_\_

DATE:\_\_\_\_\_

HARDWARE CONFIGURATION &amp; METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT:1253574-D

Multiplier Voltage: 1447 Emv Extr. Injection Volume: 0.5, 1.0 ul

DFTPP Solution ID: WBN100107-01 Internal Std ID: WBN100107-02

## CALIBRATION &amp; QC INFORMATION:

Initial Calibration Dates: See Calibration History and Standard Logbook.

Initial Calibration Std ID's: See Calibration History and Standard Logbook.

SOP: GL-OA-E-009 Rev. 23

Sequence Number: /chem/MSD5.i/s012410.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
s5a2401.d	WBN100107-01	rmb	24-JAN-2010 12:21	50PPM	s012410	1.0	DFTPP	
s5a2402.d	WBN091225-12.3	RMB	24-JAN-2010 12:35	40 PPM	s012410	1.0	MEGACVS	DUSE - fail
s5a2403.d	WBN100103-03.5	RMB	24-JAN-2010 13:04	40 PPM	s012410	1.0	AP12CVS	
s5a2404.d	WBN091225-12.3	RMB	24-JAN-2010 13:30	40 PPM	s012410	1.0	MEGACVS	452364
s5a2405-2.d	1202018797	RMB	24-JAN-2010 14:10	942930	10-1262	1.0	SBLK01	
s5a2405-3.d	1202018797	RMB	24-JAN-2010 14:10	942930	10-1253	1.0	SBLK01	
s5a2405.d	1202018797	RMB	24-JAN-2010 14:10	942930	10-1256	1.0	SBLK01	
s5a2406-2.d	1202018798	RMB	24-JAN-2010 14:33	942930	10-1262	1.0	SBLK01LCS	
s5a2406-3.d	1202018798	RMB	24-JAN-2010 14:33	942930	10-1253	1.0	SBLK01LCS	
s5a2406.d	1202018798	RMB	24-JAN-2010 14:33	942930	10-1256	1.0	SBLK01LCS	
s5a2407.d	244837001	RMB	24-JAN-2010 14:56	942930	10-1256	1.0	LANL	
s5a2408.d	244837002	RMB	24-JAN-2010 15:19	942930	10-1256	1.0	LANL	
s5a2409.d	244837003	RMB	24-JAN-2010 15:43	942930	10-1256	1.0	LANL	
s5a2410.d	244837004	RMB	24-JAN-2010 16:06	942930	10-1256	1.0	LANL	
s5a2411.d	244837005	RMB	24-JAN-2010 16:29	942930	10-1256	1.0	LANL	
s5a2412.d	244837006	RMB	24-JAN-2010 16:52	942930	10-1256	1.0	LANL	
s5a2413.d	244847001	RMB	24-JAN-2010 17:15	942930	10-1262	1.0	LANL	
s5a2414.d	1202018799	RMB	24-JAN-2010 17:38	942930	10-1262	1.0	MS	
s5a2415.d	1202018800	RMB	24-JAN-2010 18:01	942930	10-1262	1.0	MSD	

s5a2416.d	244847002	RMB	24-JAN-2010 18:25	942930	10-1262	1.0	LANL	
s5a2417.d	244847003	RMB	24-JAN-2010 18:47	942930	10-1262	1.0	LANL	
s5a2418.d	244847004	RMB	24-JAN-2010 19:10	942930	10-1262	1.0	LANL	
s5a2419.d	244858001	RMB	24-JAN-2010 19:33	942930	10-1253	1.0	LANL	
s5a2420.d	244858002	RMB	24-JAN-2010 19:56	942930	10-1253	1.0	LANL	
s5a2421.d	244858003	RMB	24-JAN-2010 20:19	942930	10-1253	1.0	LANL	
s5a2422.d	244858004	RMB	24-JAN-2010 20:41	942930	10-1253	1.0	LANL	
s5a2423.d	244858005	RMB	24-JAN-2010 21:04	942930	10-1253	1.0	LANL	
s5a2424.d	244858006	RMB	24-JAN-2010 21:27	942930	10-1253	1.0	LANL	
s5a2425.d	244858007	RMB	24-JAN-2010 21:50	942930	10-1253	1.0	LANL	
s5a2426.d	244858008	RMB	24-JAN-2010 22:12	942930	10-1253	1.0	LANL	
s5a2427.d	244858009	RMB	24-JAN-2010 22:35	942930	10-1253	1.0	LANL	
s5a2428.d	244858010	RMB	24-JAN-2010 22:58	942930	10-1253	1.0	LANL	

Instrument Batch: /chem/MSD5.i/s012410.b

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DATA EXCEPTION REPORT			
<b>Mo.Day Yr.</b> 25-JAN-10	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> SEMIVOA GC/MS	<b>Test / Method:</b> SW846 8270C	<b>Matrix Type:</b> Solid	<b>Client Code:</b> LANL
<b>Batch ID:</b> 942930	<b>Sample Numbers:</b> See Below		
<b>Potentially affected work order(s)(SDG): 244837(10-1256),244847(10-1262),244858(10-1253)</b> <b>Application Issues:</b> Failed Recovery for MS/PS Failed RPD for MS/MSD, or PS/PSD Failed Recovery for MSD/PSD			
<b>Specification and Requirements</b>		<b>DER Disposition:</b>	
<b>Exception Description:</b>			
1. The MS(1202018799) and MSD(1202018800) recovered 3,3'-Dichlorobenzidine at 20% and 13%, respectively. The limits are 35%-106%.  2. The MS(1202018799)/MSD(1202018800) RPD for 3,3'-Dichlorobenzidine at 44%. The limit is 30%.		1. Since the MSD recovery was confirmed by the MS, the failures were attributed to matrix interference and the data results have been reported.  2. The RPD failure was attributed to matrix interference and the data results have been reported.	

**Originator's Name:**  
Richard Bomar      25-JAN-10

**Data Validator/Group Leader:**  
Barbara Bailey      01-FEB-10

# LC/MS/MS PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS  
Los Alamos National Laboratory (LANL)  
SDG 10-1262**

**Method/Analysis Information**

**Procedure:** Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)

**Analytical Method:** SW846 6850 Modified

**Prep Method:** SW846 6850 Modified

**Analytical Batch Number:** 944708

**Prep Batch Number:** 944706

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202023080	Interference Check Sample (ICS)
1202023076	Method Blank (MB)
1202023077	Laboratory Control Sample (LCS)
1202023078	244828002(RE46-10-10082) Matrix Spike (MS)
1202023079	244828002(RE46-10-10082) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

**Preparation/Analytical Method Verification**

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-067 REV# 6.

10-1262-PERLCMS

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### **Calibration Information**

#### **Initial Calibration**

All initial calibration requirements have been met for this SDG. Due to software constraints, all Initial Calibration Blanks must be designated as IPB001.

#### **CCV Requirements**

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

#### **CCB Requirements**

All continuing calibration blanks (CCB) bracketing the analyses associated with this batch were within acceptance criteria.

#### **CCV Requirements**

All continuing calibration checks (CCV) requirements were met by all bracketing CCV standards.

#### **Low Level Standard (CRI) Requirements**

All low level calibration verification (CRI) requirements were met by all bracketing CRI standards.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The MB(s) analyzed with this SDG met the acceptance criteria.

#### **Interference Check Sample (ICS)**

The interference check sample (ICS) met all recovery acceptance criteria.

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

#### **QC Sample Designation**

Client sample 244828002 (RE46-10-10082) from SDG 10-1254 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

#### **Matrix Spike (MS) Recovery Statement**

The MS recoveries were within the established acceptance limits.

#### **Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries were within the established acceptance limits.

#### **MS/MSD Relative Percent Difference (RPD) Statement**

The RPD(s) between the MS and MSD met the acceptance limits.

#### **Retention Time Standard Area Acceptance**

The retention time standard areas were within the required acceptance criteria for all samples and QC.

10-1262-PERLCMS

Page 2 of 4



### **Retention Time**

During the analysis of Perchlorate by LC/MS/MS, retention time shifts are commonly observed. These retention time shifts, which are caused by fouling of the column by the sample matrices, are problematic when the retention time is used as one of the criterion for confirmation. To overcome this problem, a known amount of O(18) labeled Perchlorate was added to each sample as a retention time standard. The presence of Perchlorate was confirmed by the relative retention time (RRT) of the Perchlorate peak and the O(18) standard. A RRT window of 0.98 to 1.02, as required by Method 332.0, has been used. In addition to the isotopic ratio, the presence of Perchlorate in the samples associated with this data package have been confirmed using the relative retention criteria stated above, not the absolute retention time.

### **Technical Information**

#### **Holding Time Specifications**

All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

#### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

#### **Sample Dilutions**

The samples in this SDG did not require dilutions.

#### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG except for dilutions.

### **Miscellaneous Information**

#### **Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

#### **Manual Integrations**

Some initial calibration standards, continuing calibration standards, and/or samples may require manual integrations due to software limitations.

#### **Method Comments**

The samples in this SDG were not originally analyzed using EPA Method 314.0.

#### **Additional Comments**

The Perchlorate Isotope Ratio on the Form I may differ slightly from the ratio on the corresponding raw data due to rounding rules and/or significant figures or due to software limitations when there are manual integrations, dilutions or other factors. The ratio value of the Form I is the correct value.

The retention time marker, Perchlorate-O (18), is added to all samples, instrument blanks, and standards prior to injection. It is used to verify the retention time of Perchlorate and Perchlorate-101 and to insure an accurate injection occurred. Due to various anions affecting the recovery of Perchlorate-O (18) and not Perchlorate and Perchlorate-101, the calibration curves of Perchlorate and Perchlorate-101 are not internally corrected for using Perchlorate-O (18). They are external calibrations.

10-1262-PERLCMS

Page 3 of 4

### **Perchlorate Isotope Ratio**

The Perchlorate isotope ratio met acceptance criteria for all samples and QC samples. Please see the isotope ratio criteria in the Miscellaneous Section.

### **System Configuration**

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for perchlorate analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis. The laboratory may also utilize an Agilent 1100 liquid chromatography instrument for perchlorate analysis. It is coupled with an Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as LCMSMS #3 or LCMSMS #4. It is also fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis.

### **Chromatographic Columns**

Chromatographic separation of perchlorate is accomplished through analysis on the following anion column:

Dionex: IonPac AG-16 2 x 50 mm.

### **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

### **Review Validation:**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Heather M. Mauer Date: 02/01/10

10-1262-PERLCMS

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# SAMPLE DATA SUMMARY

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 944706

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE12-10-7272

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1262

GEL Sample ID: 244847001

Date Filtered: 25-JAN-10

Injection Volume (uL): 20

%Solids: 87

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.572	2.29	0.572	ug/kg	U	1	26-JAN-10 21:57	per0126039a
	Perchlorate Isotope Ratio						1	26-JAN-10 21:57	per0126039a
14797-73-0	Perchlorate-101	.572	2.29	0.572	ug/kg	U	1	26-JAN-10 21:57	per0126039a
	Perchlorate-O(18)			5.41	ug/kg		1	26-JAN-10 21:57	per0126039a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 944706  
 Extraction Type: Solid Prep  
 Sample Volume/Weight: 2.00 g  
 Concentrated Extract Volume: 20.0  
 Client Sample No. RE12-10-7273  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1262  
 GEL Sample ID: 244847002  
 Date Filtered: 25-JAN-10  
 Injection Volume (uL): 20  
 %Solids: 87

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.577	2.31	0.577	ug/kg	U	1	26-JAN-10 22:05	per0126040a
	Perchlorate Isotope Ratio						1	26-JAN-10 22:05	per0126040a
14797-73-0	Perchlorate-101	.577	2.31	0.577	ug/kg	U	1	26-JAN-10 22:05	per0126040a
	Perchlorate-O(18)			6.01	ug/kg		1	26-JAN-10 22:05	per0126040a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  
 Instrument Value X Concentrated Extract Volume X 1  
 Aliquot %Solids

P perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 944706  
 Extraction Type: Solid Prep  
 Sample Volume/Weight: 2.00 g  
 Concentrated Extract Volume: 20.0  
 Client Sample No. RE12-10-7274  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1262  
 GEL Sample ID: 244847003  
 Date Filtered: 25-JAN-10  
 Injection Volume (uL): 20  
 %Solids: 84

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.592	2.37	0.592	ug/kg	U	1	26-JAN-10 22:13	per0126041a
	Perchlorate Isotope Ratio						1	26-JAN-10 22:13	per0126041a
14797-73-0	Perchlorate-101	.592	2.37	0.592	ug/kg	U	1	26-JAN-10 22:13	per0126041a
	Perchlorate-O(18)			5.74	ug/kg		1	26-JAN-10 22:13	per0126041a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  
 Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 944706

Extraction Type: Solid Prep

Client Sample No.

RE12-10-7281

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1262

GEL Sample ID: 244847004

Date Filtered: 25-JAN-10

Injection Volume (uL): 20

%Solids: 90.1

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.555	2.22	0.735	ug/kg	J	1	26-JAN-10 22:21	per0126042a
	Perchlorate Isotope Ratio			3.04			1	26-JAN-10 22:21	per0126042a
14797-73-0	Perchlorate-101	.555	2.22	0.725	ug/kg	J	1	26-JAN-10 22:21	per0126042a
	Perchlorate-O(18)			5.74	ug/kg		1	26-JAN-10 22:21	per0126042a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

# QUALITY CONTROL SUMMARY



Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL                      GEL Job No. (SDG): 10-1262

Extract Batch Code: 944706                      Date Filtered: 25-JAN-10

Matrix: SOIL                      Sample ID: 1202023077

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.12	ug/kg	106		70 – 130
Perchlorate Isotope Ratio		3.19				–
Perchlorate–101	2.00	2	ug/kg	100		70 – 130
Perchlorate–O(18)		4.9	ug/kg			–

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL                      GEL Job No. (SDG): 10-1262

Extract Batch Code: 944706                      Date Filtered: 25-JAN-10

Matrix: SOIL                      Sample ID: 1202023080

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.16	ug/kg	108		70 – 130
Perchlorate Isotope Ratio		3.12				
Perchlorate-101	2.00	2.08	ug/kg	104		70 – 130
Perchlorate-O(18)		4.93	ug/kg			

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

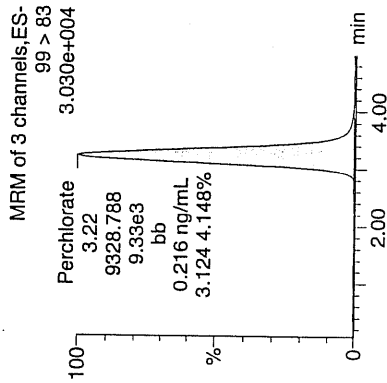
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Vial: 1:3,C

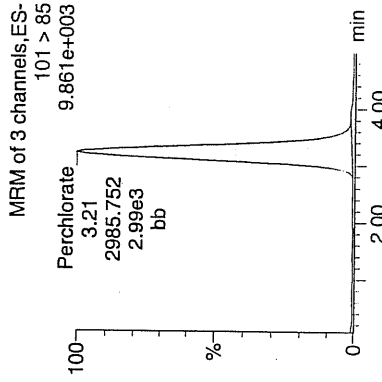
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3023D  
01-27-10

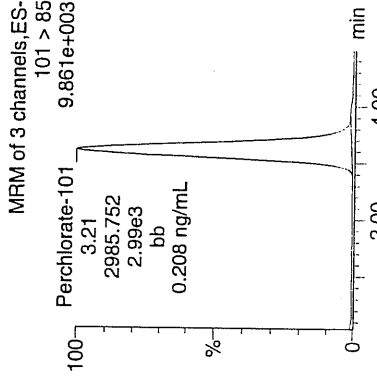
Perchlorate



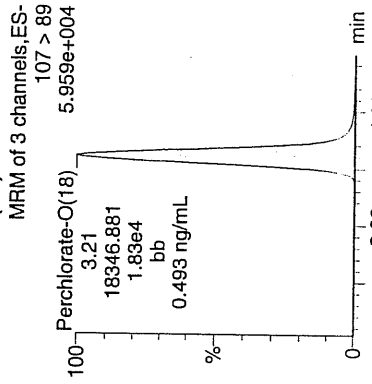
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Handwritten: Anne 01/28/10

Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202023080	Perchlorate	99 > 83	3.22	9328.788	bb			0.2160	108.01	8.01	1471.3...	3.12
202023080	Perchlorate-101	101 > 85	3.21	2985.752	bb			0.2076	103.79	3.79	464.937	
202023080	Perchlorate-O(18)	107 > 89	3.21	18346.881	bb			0.4931	98.62	-1.38	5084.2...	

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

Extract Batch Code: 944706

GEL MS/PS ID: 1202023078

GEL MSD/PSD ID: 1202023079

GEL Job No (SDG): 10-1262

Date Extracted: 25-JAN-10

Client ID: RE46-10-10082

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec	#	MSD Conc	MSD Rec	#	RPD	#	RPD Limit	Recovery Limit
Perchlorate	2.36	0.142	ug/kg	2.48	99.1		2.51	101		1.43		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3.07			2.95			0			-
Perchlorate-101	2.36	0.137	ug/kg	2.42	96.9		2.56	103		5.62		30	75 - 125
Perchlorate-O(18)	0	5.73	ug/kg	5.79			5.99			3.49			-

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

Comments:

Perchlorate Initial Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Reporting Units: ug/kg

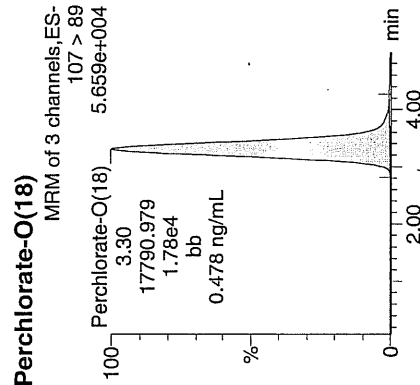
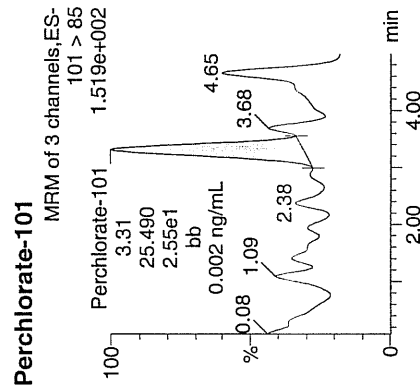
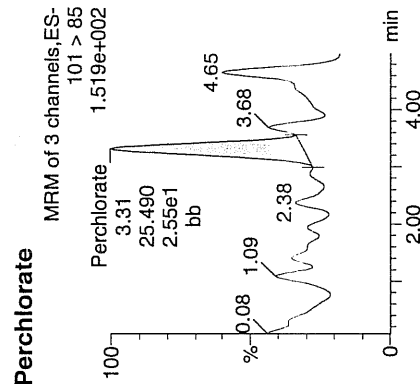
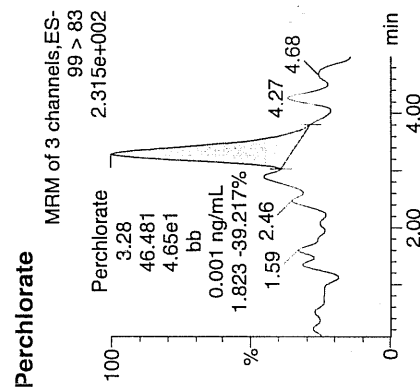
Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
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Perchlorate	0.00	0	NA	26-JAN-10	per0126002a	IPB001
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Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

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C:\MassLynx\Perchlorate.PRO\CurveDB\per012610a.cdb 27 Jan 2010 13:47:44

Name: per0126001a  
Date: 26-Jan-2010  
Time: 16:51:55  
ID: IPB001  
Vial: 1:1,A



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83	3.28	46.481	46.481	bb			0.0011			6.143	1.82
IPB001	Perchlorate-101	101 > 85	3.31	25.490	25.490	bb			0.0018			35.788	
IPB001	Perchlorate-O(18)	107 > 89	3.30	17790.979	17790.979	bb			0.4782	95.63	-4.37	1179.4...	

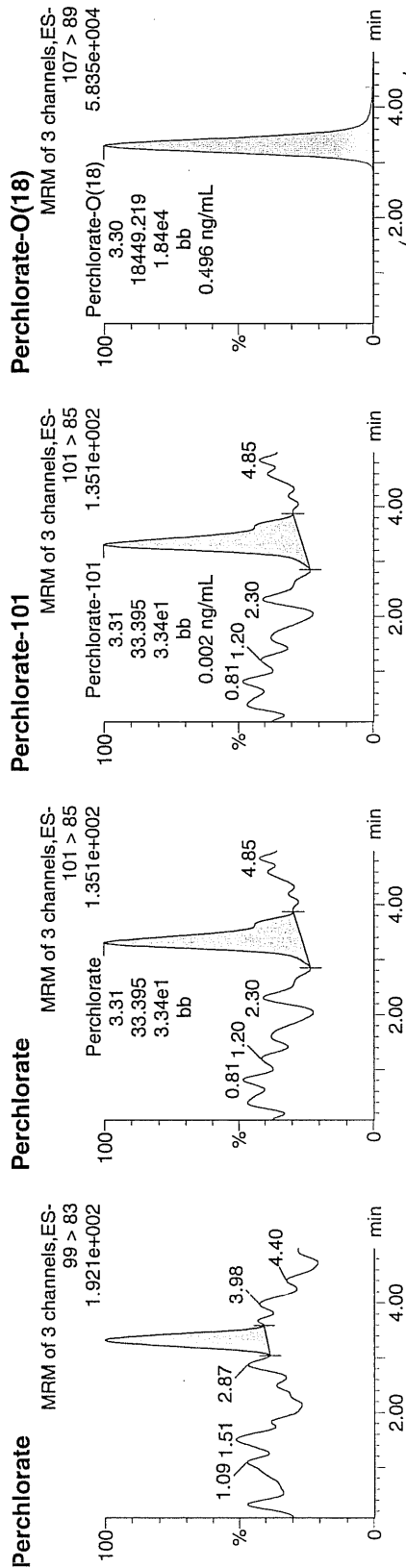
GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

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Printed:             Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

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Date: 26-Jan-2010  
Time: 16:59:57  
ID: IPB001  
Vial: 1:1,A



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IPB001	Perchlorate	99 > 83	3.32	30.727	30.727	bb			0.0007			7.768	0.92
IPB001	Perchlorate-101	101 > 85	3.31	33.395	33.395	bb			0.0023			31.993	
IPB001	Perchlorate-O(18)	107 > 89	3.30	18449.219	18449.219	bb			0.4959	99.17	-0.83	2738.2...	

6224  
20.0500

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	26-JAN-10	per0126008a	IPB002
Perchlorate-101	0.00	0	NA	26-JAN-10	per0126008a	IPB002
Perchlorate	0.00	0	NA	26-JAN-10	per0126010a	IPB003
Perchlorate-101	0.00	0	NA	26-JAN-10	per0126010a	IPB003
Perchlorate	0.00	0	NA	26-JAN-10	per0126023a	IPB004
Perchlorate-101	0.00	0	NA	26-JAN-10	per0126023a	IPB004
Perchlorate	0.00	0	NA	26-JAN-10	per0126036a	IPB005
Perchlorate-101	0.00	0	NA	26-JAN-10	per0126036a	IPB005
Perchlorate	0.00	0	NA	26-JAN-10	per0126043a	IPB006
Perchlorate-101	0.00	0	NA	26-JAN-10	per0126043a	IPB006
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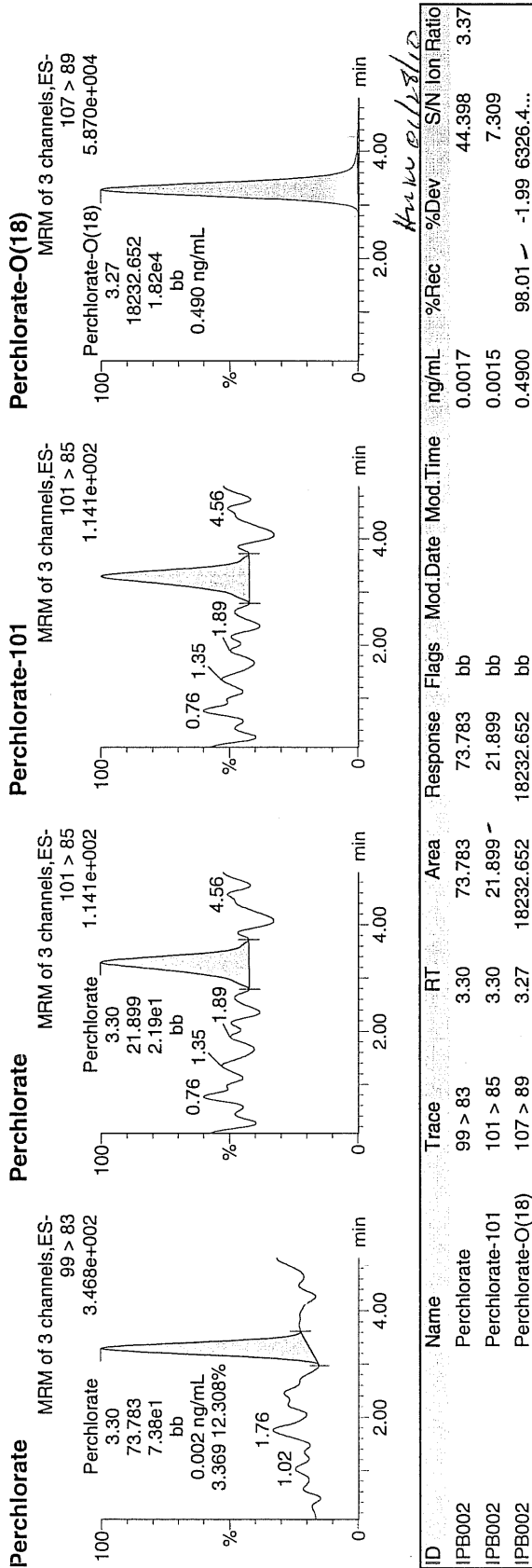
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The GEL Group, LLC Analyst: Charlers W. Wilson

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ID: IPB002  
Vial: 1:1,A

01-27-10



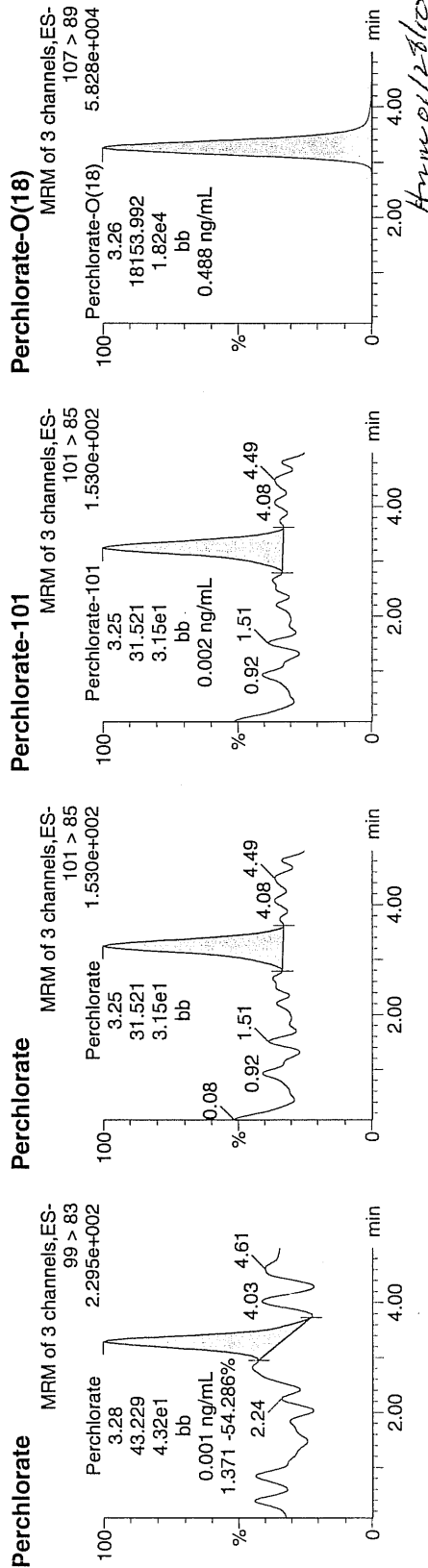
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The GEL Group, LLC Analyst: Charlers W. Wilson

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Printed:             Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126010a  
Date: 26-Jan-2010  
Time: 18:04:10  
ID: IPB003  
Vial: 1:1,A

01-27-10



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IPB003	Perchlorate	99 > 83	3.28	43.229	43.229	bb			0.0010			7.245	1.37
IPB003	Perchlorate-101	101 > 85	3.25	31.521	31.521	bb			0.0022			21.185	
IPB003	Perchlorate-O(18)	107 > 89	3.26	18153.992	18153.992	bb			0.4879	97.58	-2.42	1153.0...	

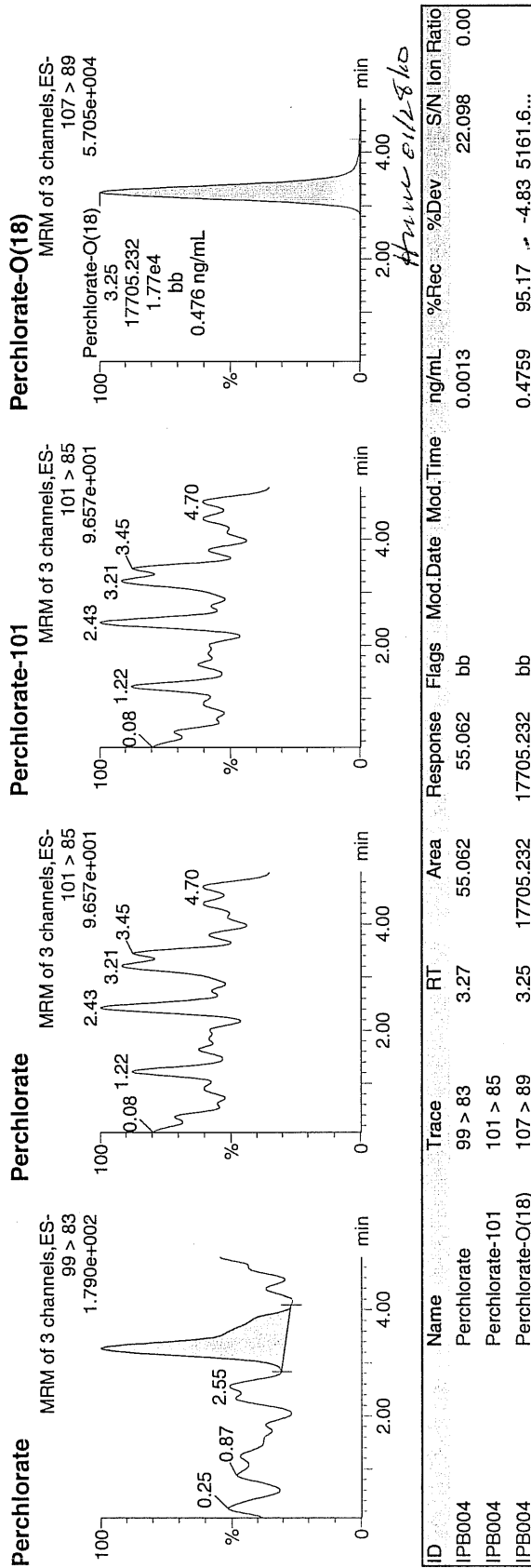
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The GEL Group, LLC Analyst: Charlers W. Wilson

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01-27-10



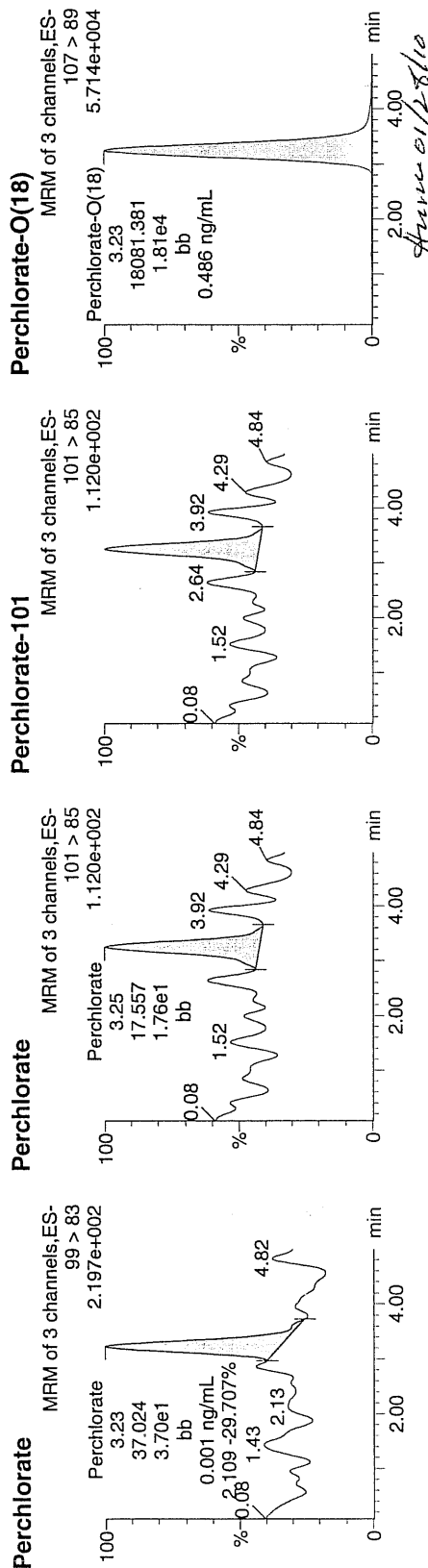
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The GEL Group, LLC Analyst: Charlers W. Wilson

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Vial: 1:1,A

01-27-10



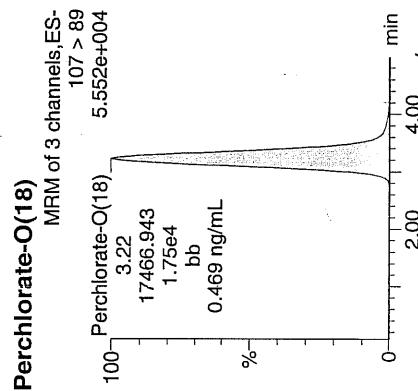
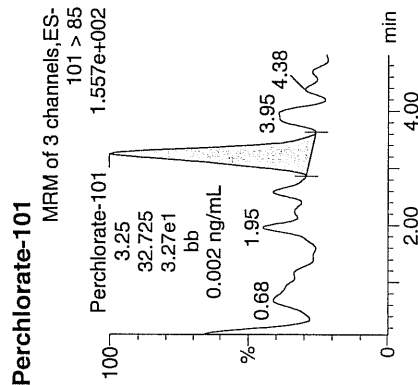
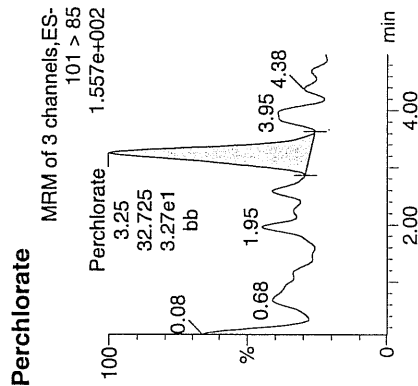
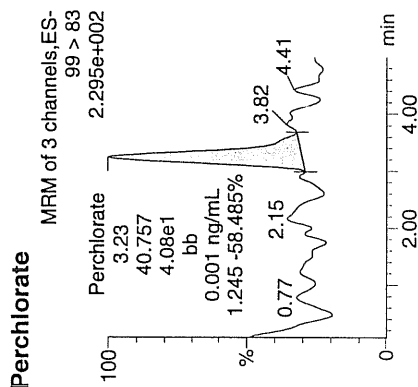
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IPB005	Perchlorate	99 > 83	3.23	37.024	37.024	bb			0.0009			22.858	2.11
IPB005	Perchlorate-101	101 > 85	3.25	17.557	17.557	bb			0.0012			3.108	
IPB005	Perchlorate-O(18)	107 > 89	3.23	18081.381	18081.381	bb			0.4860	97.19	-2.81	4424.0...	

OKAY  
200500

The GEL Group, LLC Analyst: Charlers W. Wilson

Last Altered: Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
 Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126043a  
Date: 26-Jan-2010  
Time: 22:29:39  
ID: IPB006  
Vial: 1:1,A



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB006	Perchlorate	99 > 83	3.23	40.757	40.757	bb			0.0009			44.070	1.25
PB006	Perchlorate-101	101 > 85	3.25	32.725	32.725	bb			0.0023			31.696	
PB006	Perchlorate-O(18)	107 > 89	3.22	17466.943	17466.943	bb			0.4695	93.89	-6.11	93638.3...	

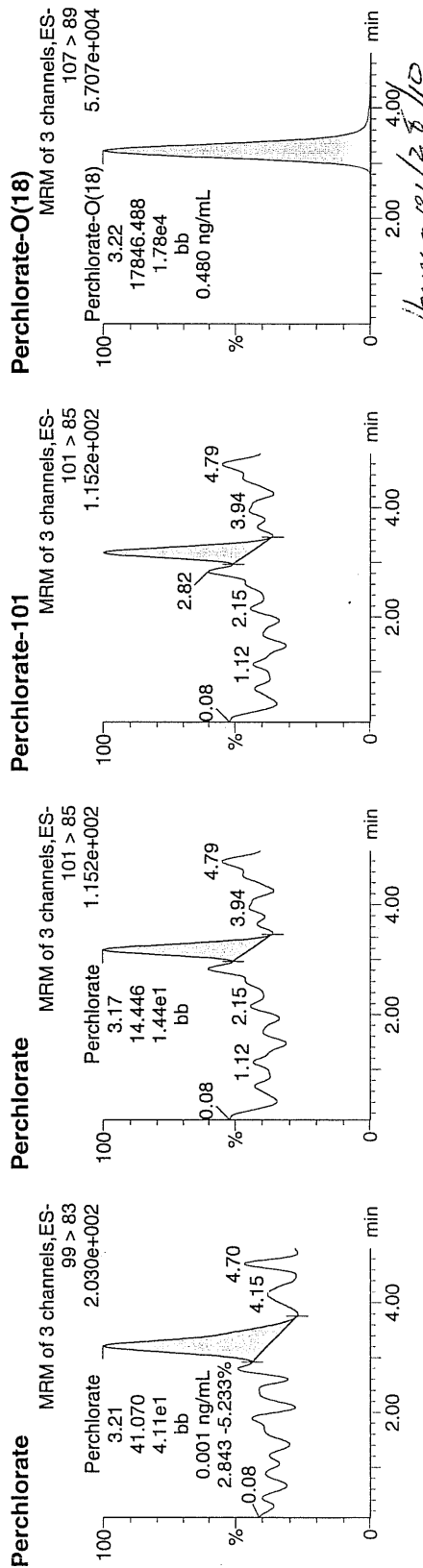
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:                    C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered:            Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed:                    Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126049a  
Date: 26-Jan-2010  
Time: 23:18:14  
ID: IPB007  
Vial: 1:1,A

01-27-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB007	Perchlorate	99 > 83	3.21	41.070	41.070	bb			0.0010			21.057	2.84
IPB007	Perchlorate-101	101 > 85	3.17	14.446	14.446	bb			0.0010			25.474	
IPB007	Perchlorate-O(18)	107 > 89	3.22	17846.488	17846.488	bb			0.4797	95.93	-4.07	3753.2...	

Nairb.ref

;Positive ion monoisotopic and average masses from solution  
 ;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H<sub>2</sub>O.  
 ;Most useful general purpose calibrant for all low  
 ;MW applications, including MS/MS work.  
 ;At high resolution, readily covers from m/z 50-2000.  
 ;At reduced resolution, can be used to over m/z 3000.  
 ;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.  
 Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

QUANTO ULTIMA: nairb\_01\_08\_08.cal

Calibration Report - MS1 Static

Printed:

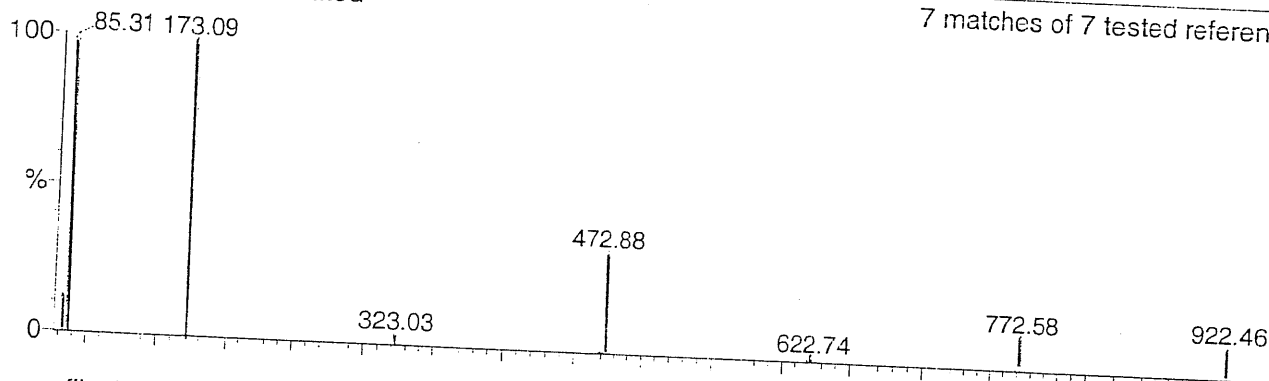
Tue Jan 08 12:19:12 2008

Page 1 of 1

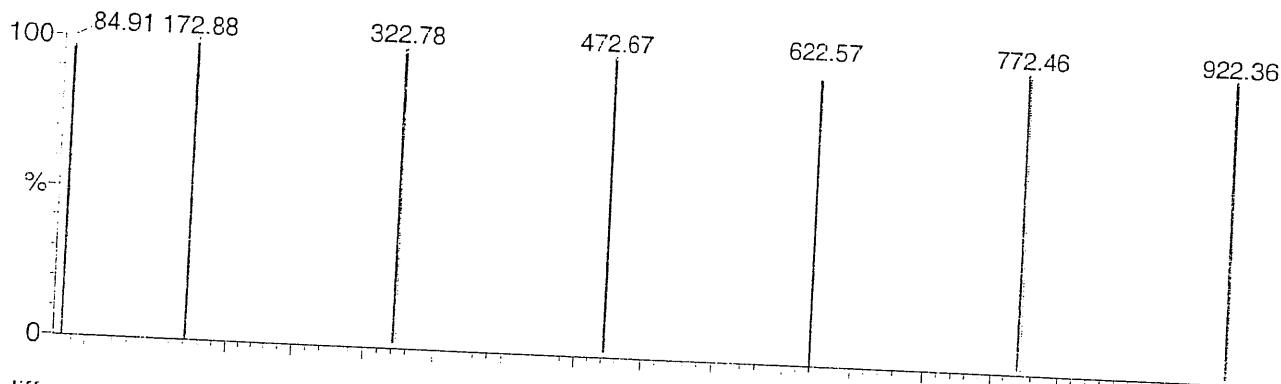
POINTS HIGHLIGHTED BY CURVE 01-01-03

Data file: STATMS1 - Uncalibrated

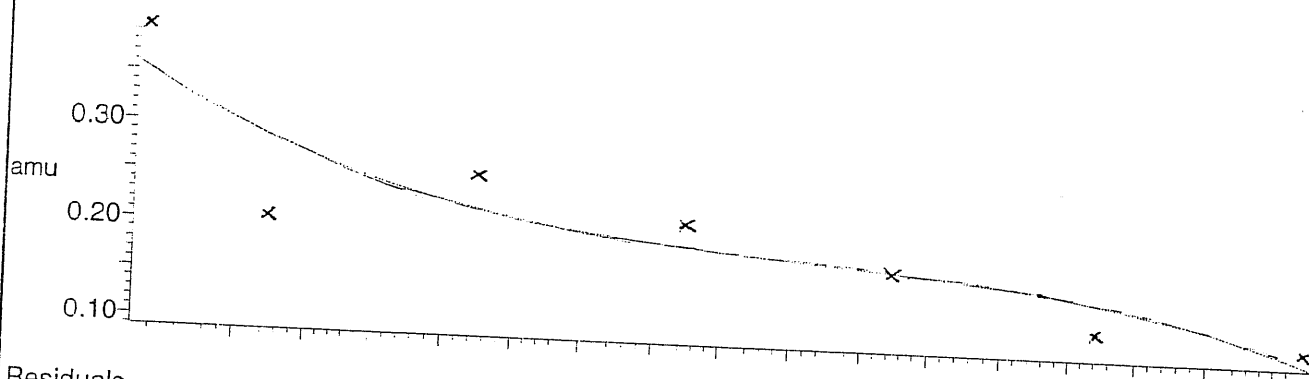
7 matches of 7 tested references



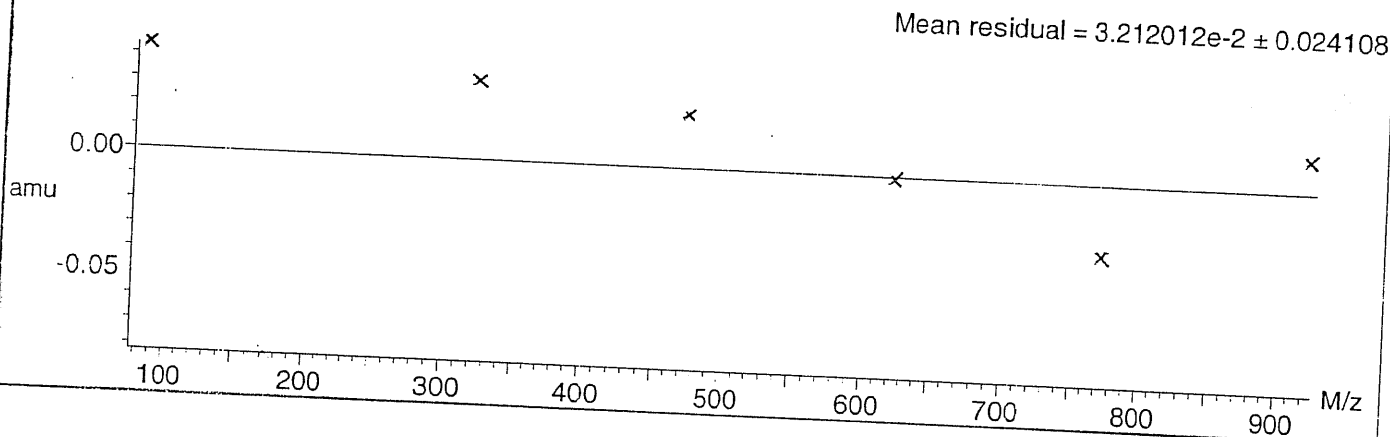
Reference file: Nairb



Mass difference (Raw - Ref mass)



Residuals





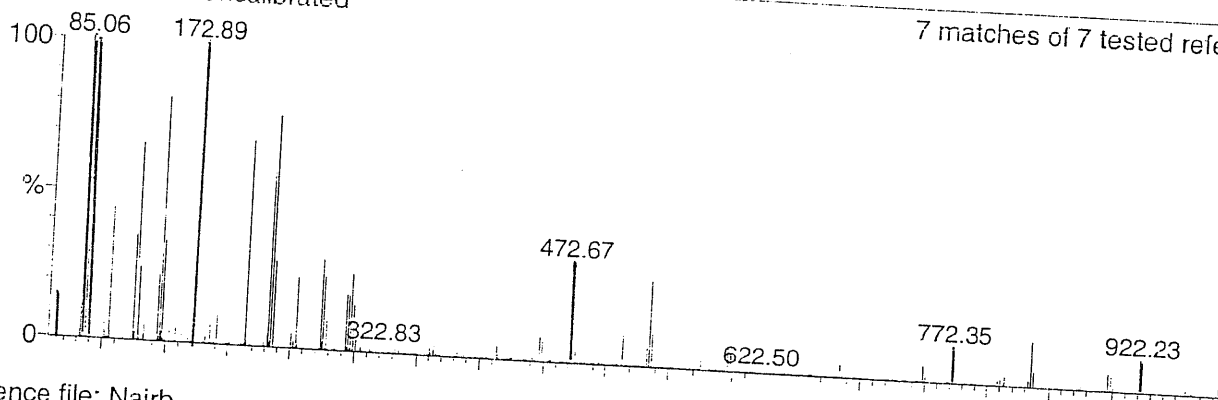
# Calibration Report - MS1 Scanning

Printed: Tue Jan 08 12:20:09 2008

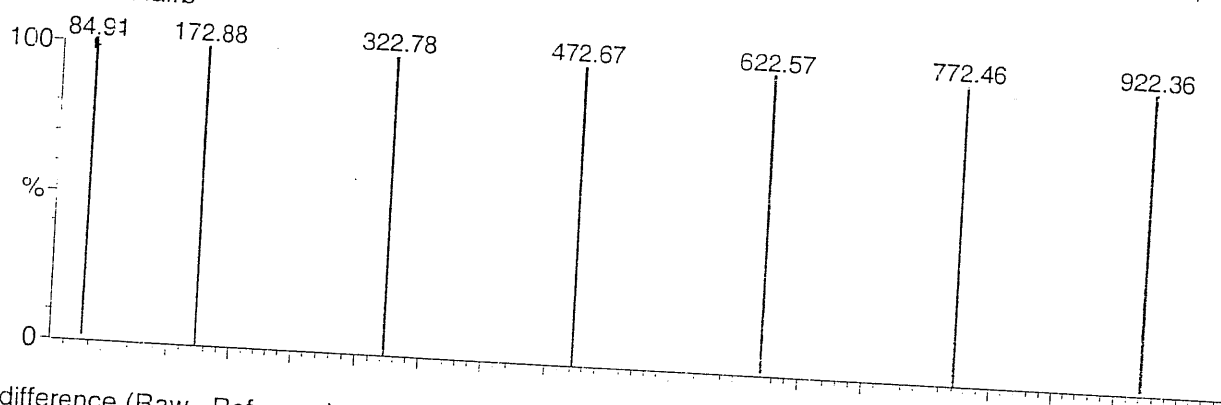
Page 1 of 1

Data file: SCNMS1 - Uncalibrated

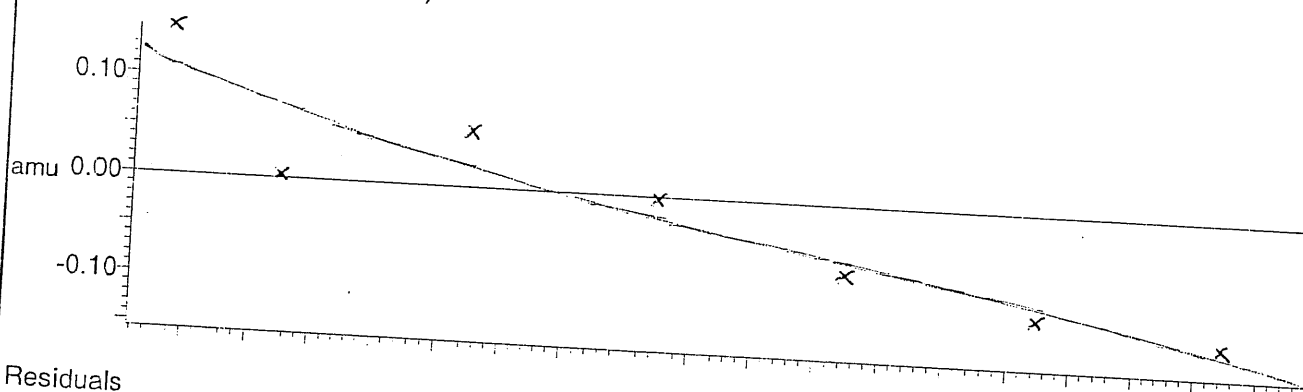
7 matches of 7 tested references



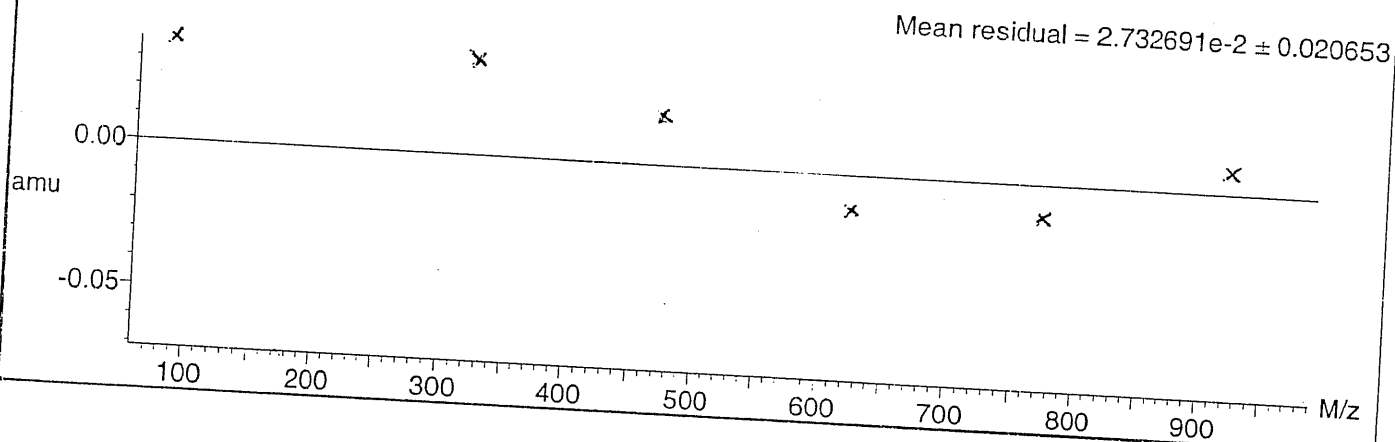
Reference file: Nairb



Mass difference (Raw - Ref mass)



Residuals



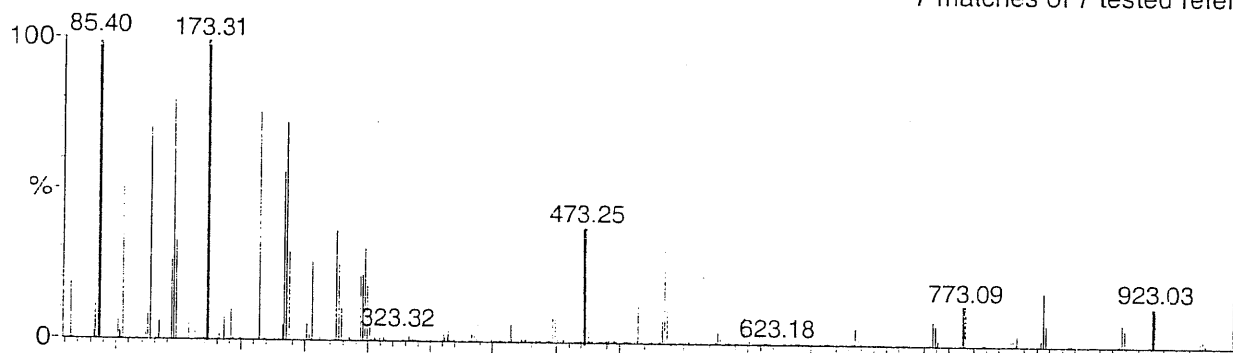
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

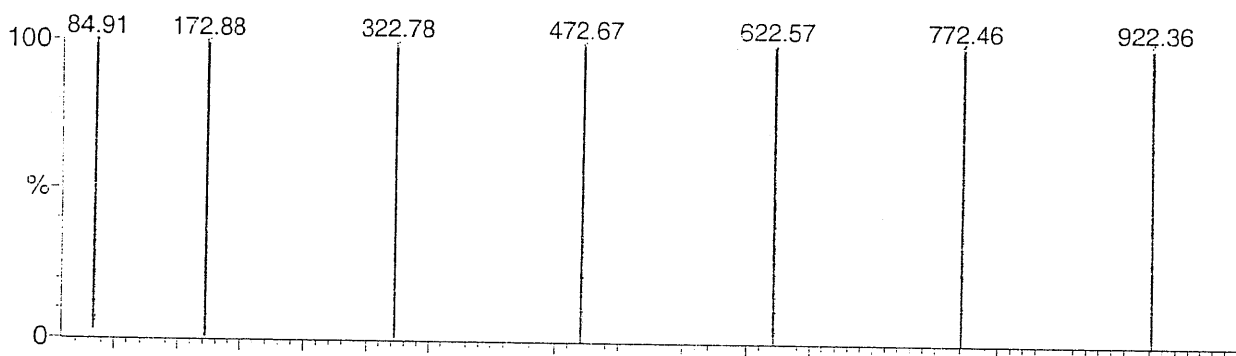
Printed: Tue Jan 08 12:21:04 2008

Data file: FASTMS1 - Uncalibrated

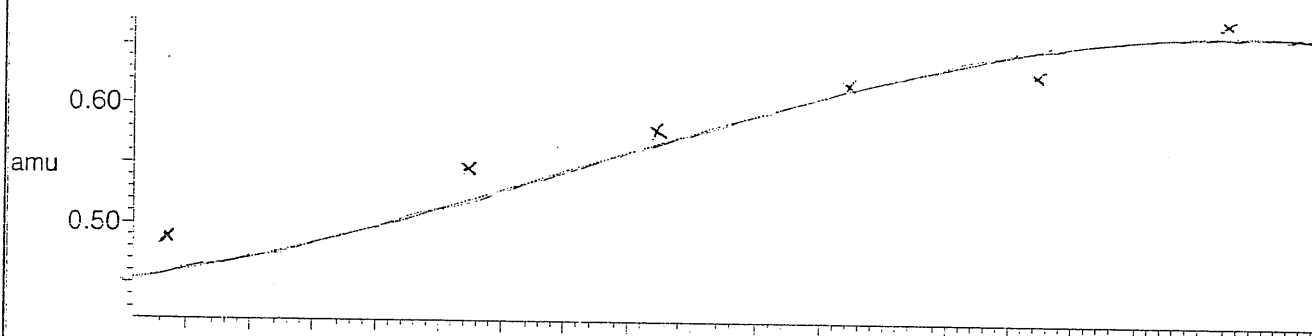
7 matches of 7 tested references



Reference file: Nairb

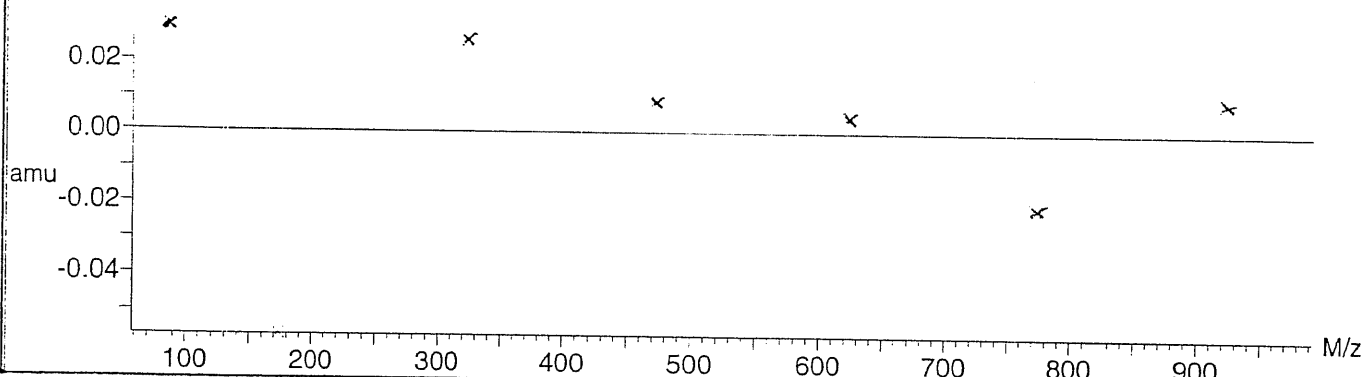


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $2.224580 \times 10^{-2} \pm 0.016544$



Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

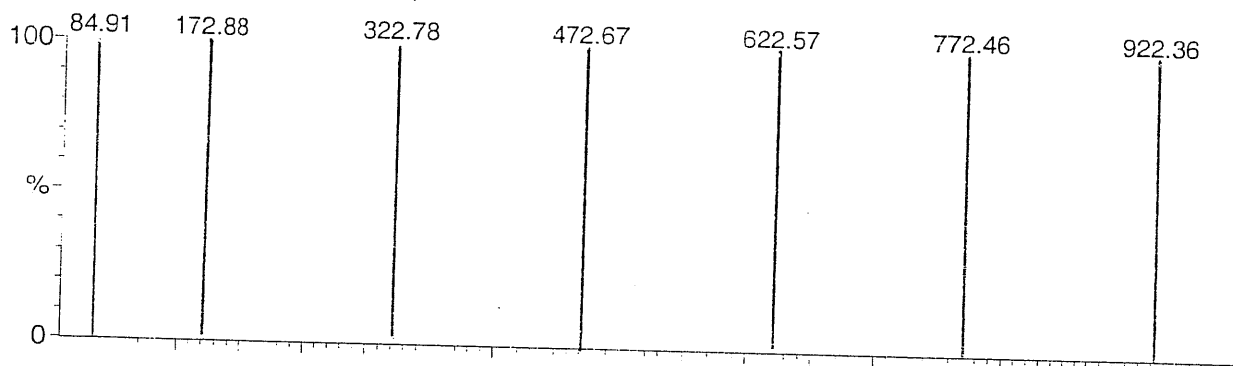
Printed: Tue Jan 08 12:23:51 2008

Data file: FASTMS2 - Uncalibrated

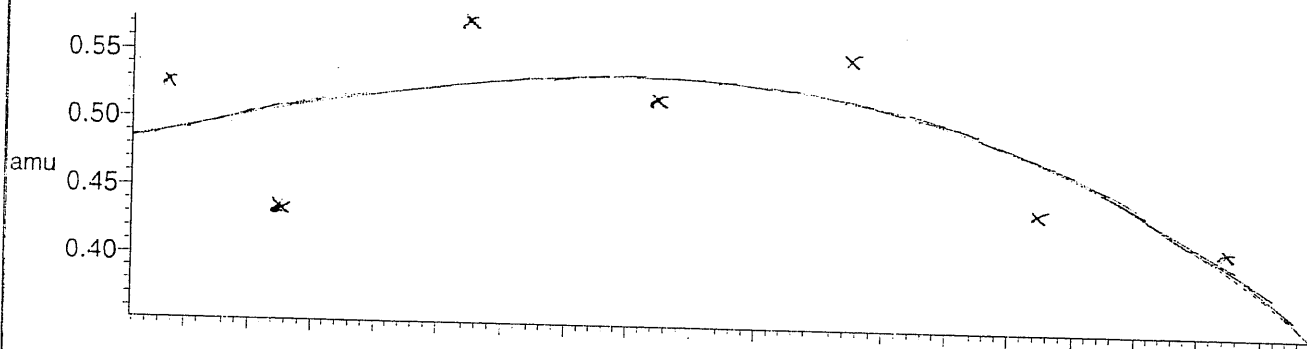
7 matches of 7 tested references



Reference file: Nairb

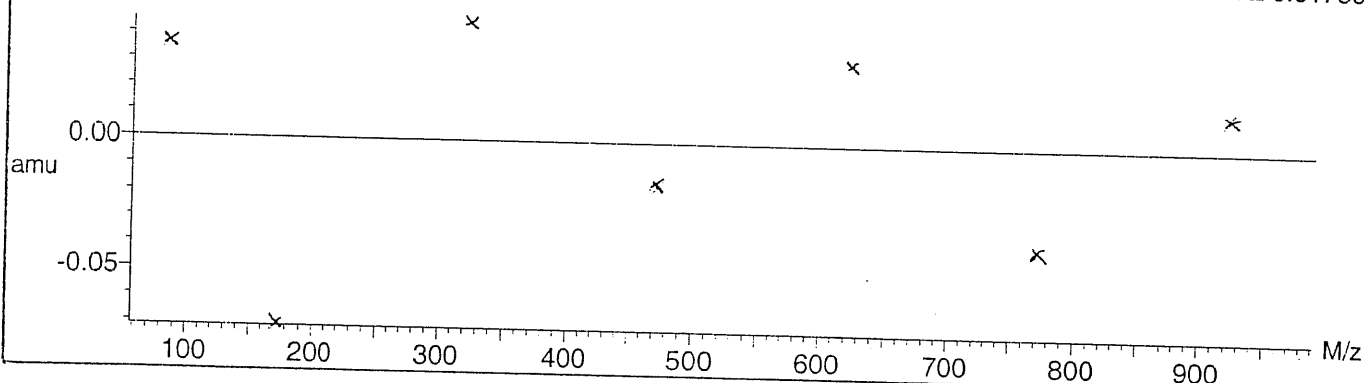


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.598289 \times 10^{-2} \pm 0.017899$



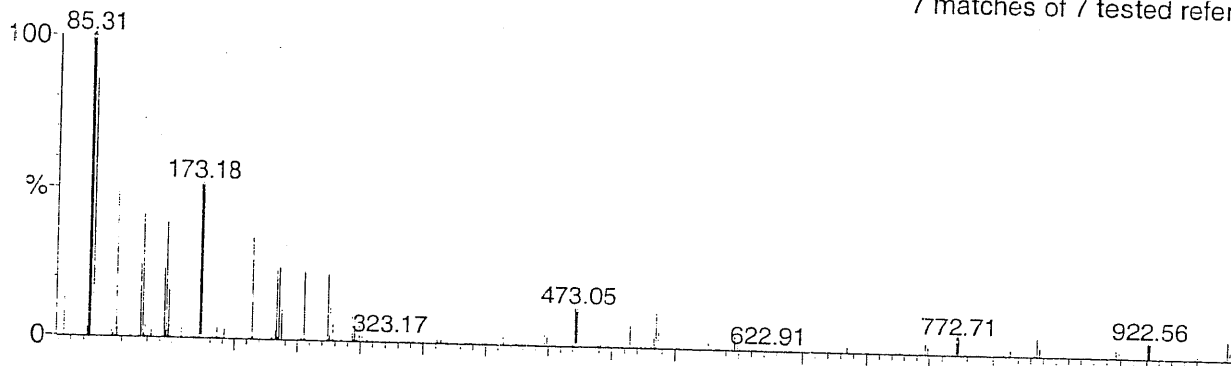
Calibration Report - MS2 Scanning

Page 1 of 1

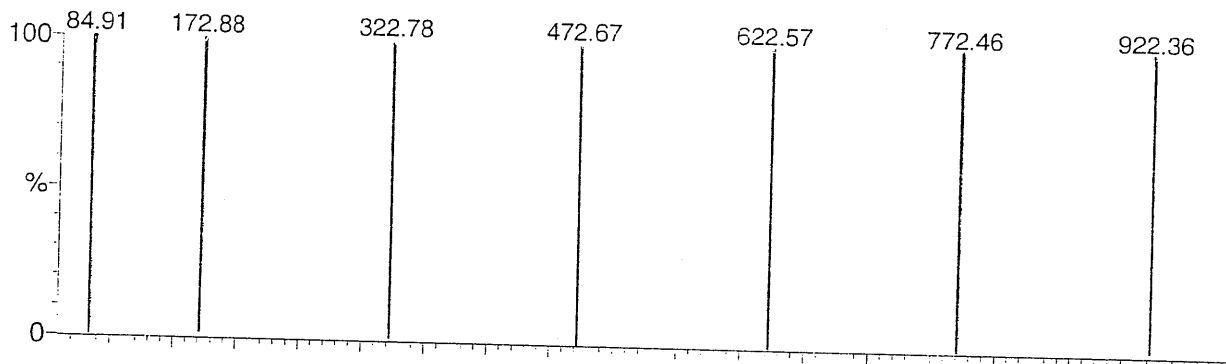
Printed: Tue Jan 08 12:22:56 2008

Data file: SCNMS2 - Uncalibrated

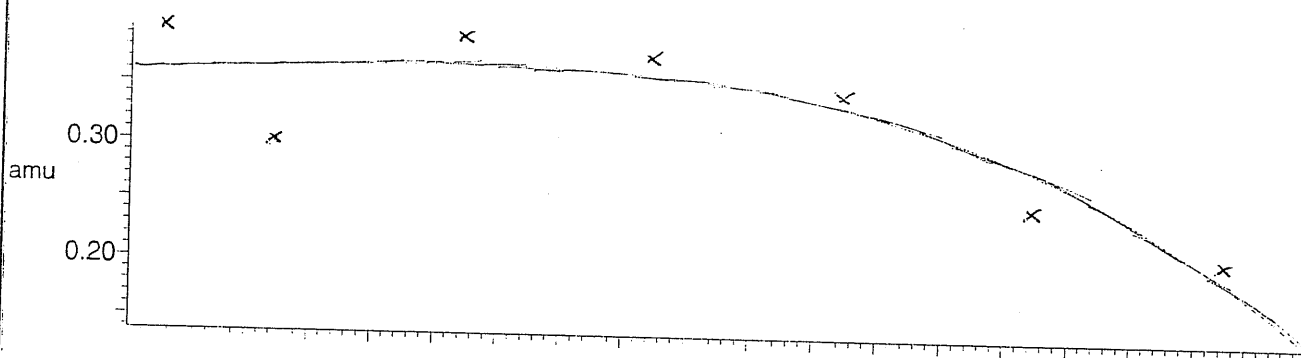
7 matches of 7 tested references



Reference file: Nairb

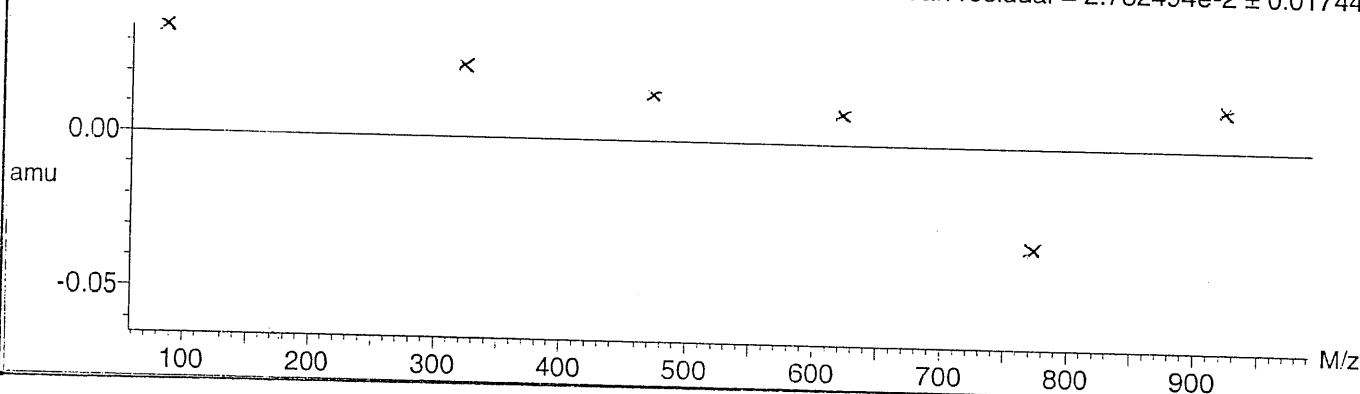


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $2.782494 \times 10^{-2} \pm 0.017442$



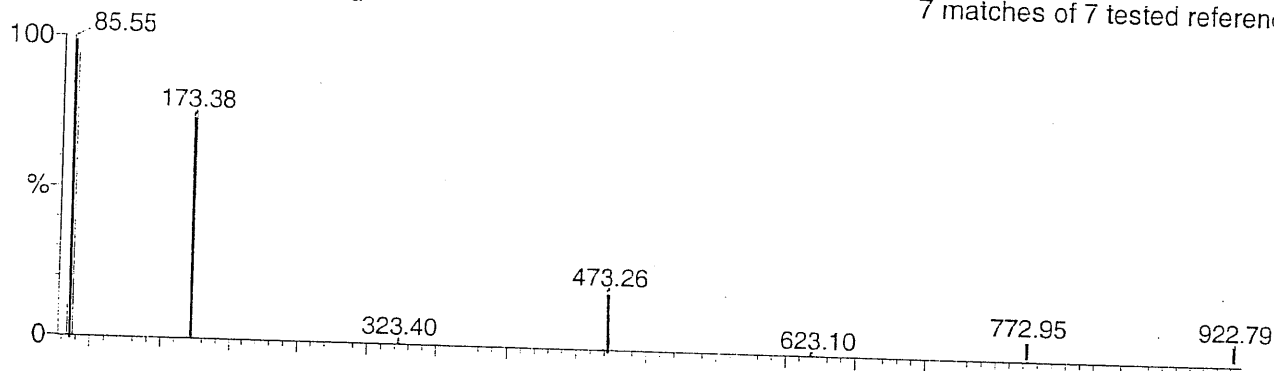
Calibration Report - MS2 Static

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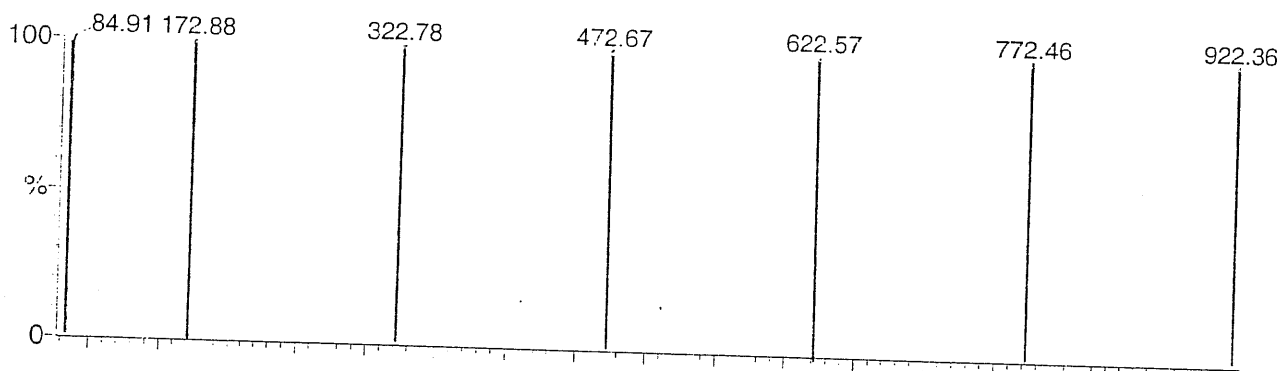
Printed: Tue Jan 08 12:21:59 2008

Data file: STATMS2 - Uncalibrated

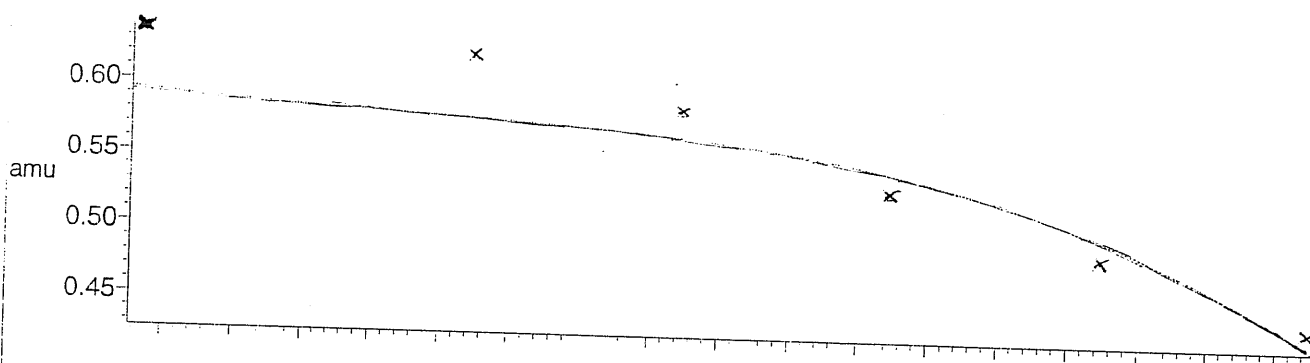
7 matches of 7 tested references



Reference file: Nairb

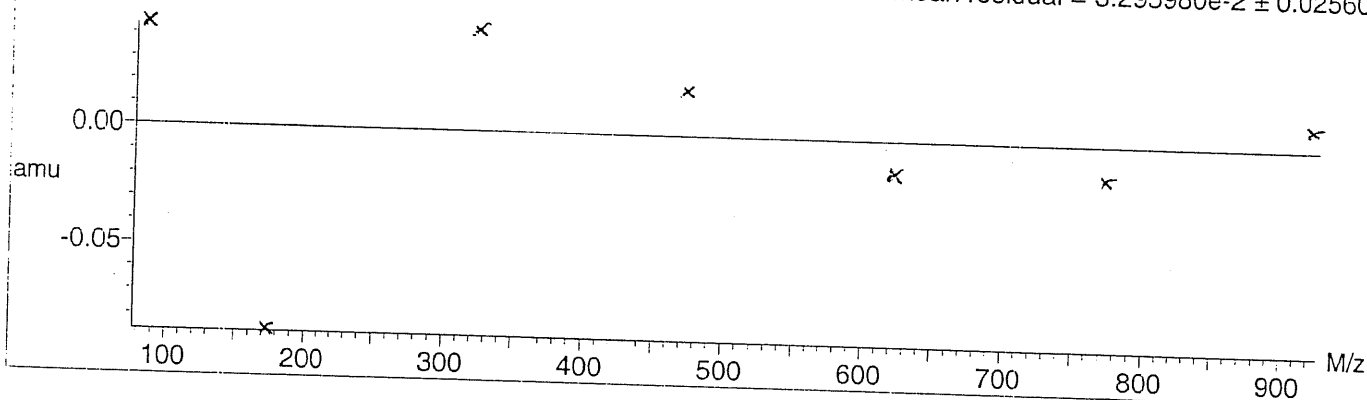


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.295980 \times 10^{-2} \pm 0.025603$



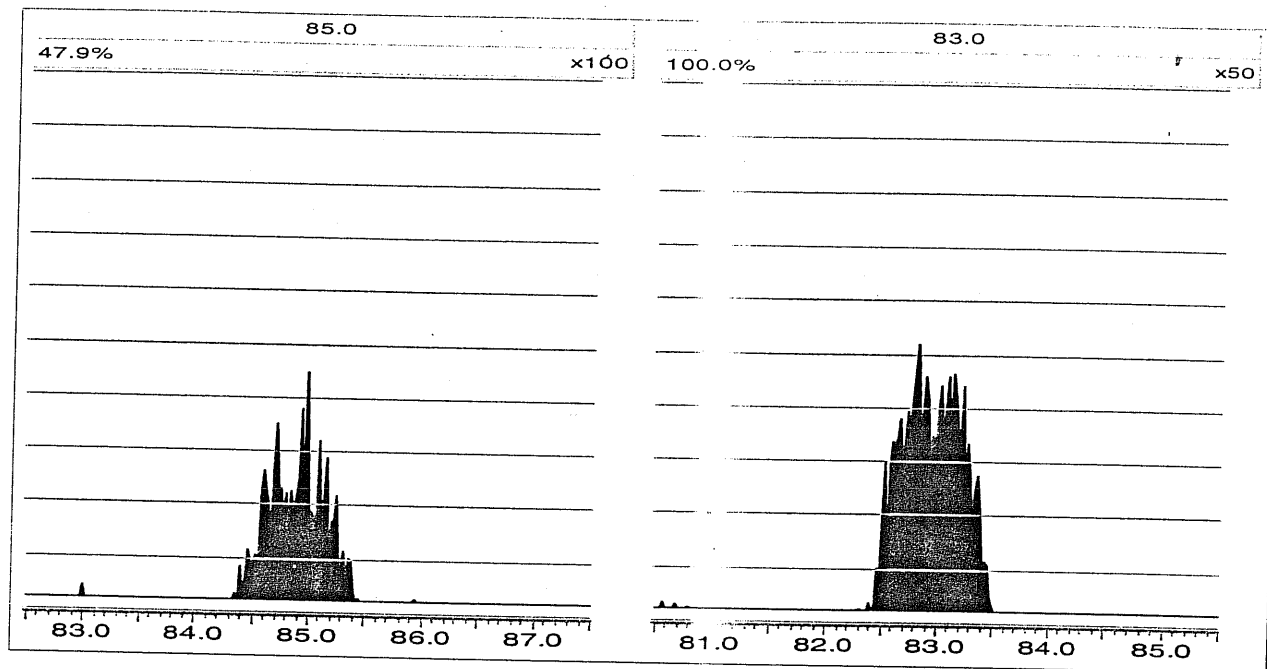
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

File: C:\MassLynx\Perchlorate.PRO\ACQUDB\Perchlorate.IPR

Printed: Tuesday, January 26, 2010 12:58:02 Eastern Standard Time



Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98-1.02
MidLevel Standard Area	per0126006a	26-JAN-10	18498.9				
Lower Area Limit			9249.45				
Upper Area Limit			36997.8				
1202023076	per0126012a	26-JAN-10 18:20	17586	3.27	3.29648	1.008	
1202023077	per0126013a	26-JAN-10 18:28	18225.6	3.27	3.28417	1.004	
1202023080	per0126014a	26-JAN-10 18:36	18346.9	3.21	3.22193	1.004	
244847001	per0126039a	26-JAN-10 21:57	17608.9	3.22	3.27172	1.016	
244847002	per0126040a	26-JAN-10 22:05	19398.9	3.22	3.24685	1.008	
244847003	per0126041a	26-JAN-10 22:13	18029.9	3.22	3.24688	1.008	
244847004	per0126042a	26-JAN-10 22:21	19249.3	3.22	3.23438	1.004	

# SAMPLE DATA



Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 944706  
**Extraction Type:** Solid Prep  
**Client Sample No.** RE12-10-7272  
**Date Received:** 15-JAN-10  
**GEL Job No (SDG):** 10-1262  
**GEL Sample ID:** 244847001  
**Date Filtered:** 25-JAN-10  
**Injection Volume (uL):** 20  
**%Solids:** 87

**Sample Volume/Weight:** 2.00 g

**Concentrated Extract Volume:** 20.0

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.572	2.29	0.572	ug/kg	U	1	26-JAN-10 21:57	per0126039a
	Perchlorate Isotope Ratio						1	26-JAN-10 21:57	per0126039a
14797-73-0	Perchlorate-101	.572	2.29	0.572	ug/kg	U	1	26-JAN-10 21:57	per0126039a
	Perchlorate-O(18)			5.41	ug/kg		1	26-JAN-10 21:57	per0126039a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area.  
 The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  
 Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

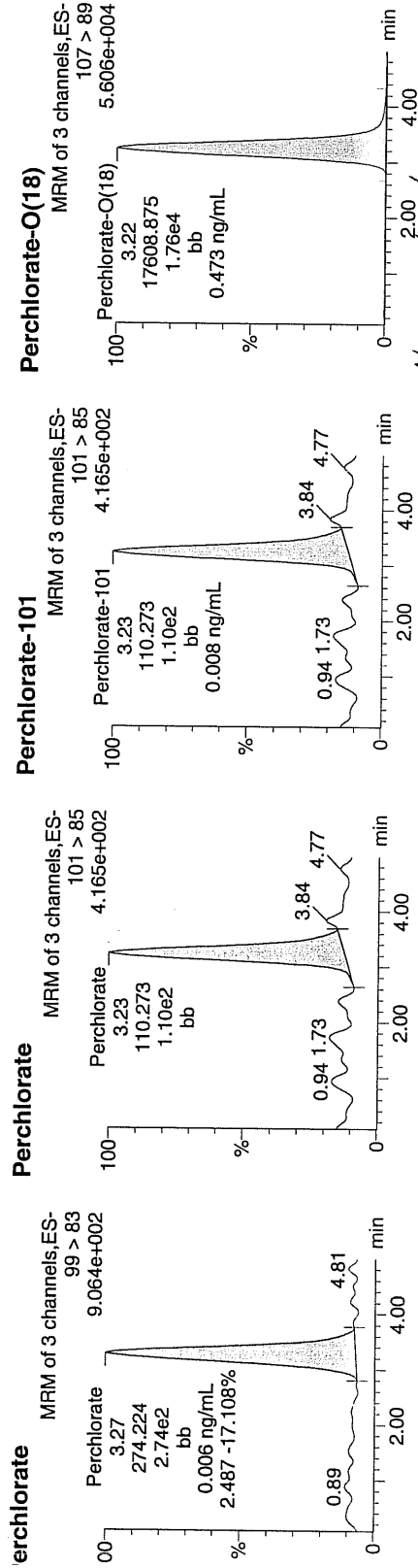
Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered: Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Sample Name: per0126039a  
Date: 26-Jan-2010  
Time: 21:57:27  
ID: 244847001  
Label: 1:6,D

01-27-10

LANL | 944708 | 5020 | 11



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
14847001	Perchlorate	99 > 83	3.27	274.224	bb			0.0064			128.664	2.49
14847001	Perchlorate-101	101 > 85	3.23	110.273	bb			0.0077			5.063	
14847001	Perchlorate-O(18)	107 > 89	3.22	17608.875	bb			0.4733	94.65	-5.35	1241.9...	

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 944706  
**Extraction Type:** Solid Prep  
**Client Sample No.** RE12-10-7273  
**Date Received:** 15-JAN-10  
**GEL Job No (SDG):** 10-1262  
**GEL Sample ID:** 244847002  
**Date Filtered:** 25-JAN-10  
**Injection Volume (uL):** 20  
**Sample Volume/Weight:** 2.00 g  
**%Solids:** 87

**Concentrated Extract Volume:** 20.0

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.577	2.31	0.577	ug/kg	U	1	26-JAN-10 22:05	per0126040a
	Perchlorate Isotope Ratio						1	26-JAN-10 22:05	per0126040a
14797-73-0	Perchlorate-101	.577	2.31	0.577	ug/kg	U	1	26-JAN-10 22:05	per0126040a
	Perchlorate-O(18)			6.01	ug/kg		1	26-JAN-10 22:05	per0126040a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1  
 Aliquot %Solids

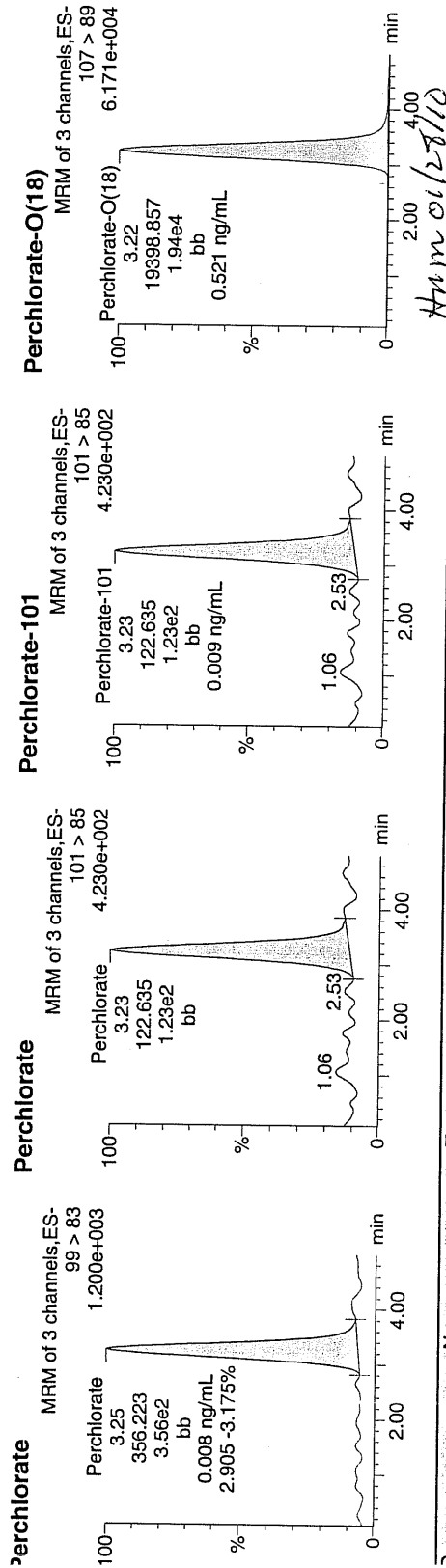
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012610a.qld  
Last Altered:    Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed:    Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126040a  
Date: 26-Jan-2010  
Time: 22:05:30  
D: 244847002  
/ial: 1:6,E

60-27-10

1500 | 944708 | 5000 | 11



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
44847002	Perchlorate	99 > 83	3.25	356.223	bb			0.0082			156.175	2.90
44847002	Perchlorate-101	101 > 85	3.23	122.635	bb			0.0085			50.199	
44847002	Perchlorate-O(18)	107 > 89	3.22	19398.857	bb			0.5214	104.28	4.28	4745.5...	

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 944706  
**Extraction Type:** Solid Prep  
**Client Sample No.**  
RE12-10-7274  
**Date Received:** 15-JAN-10  
**GEL Job No (SDG):** 10-1262  
**GEL Sample ID:** 244847003  
**Date Filtered:** 25-JAN-10  
**Injection Volume (uL):** 20  
**%Solids:** 84

**Sample Volume/Weight:** 2.00 g

**Concentrated Extract Volume:** 20.0

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.592	2.37	0.592	ug/kg	U	1	26-JAN-10 22:13	per0126041a
	Perchlorate Isotope Ratio						1	26-JAN-10 22:13	per0126041a
14797-73-0	Perchlorate-101	.592	2.37	0.592	ug/kg	U	1	26-JAN-10 22:13	per0126041a
	Perchlorate-O(18)			5.74	ug/kg		1	26-JAN-10 22:13	per0126041a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  
 Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

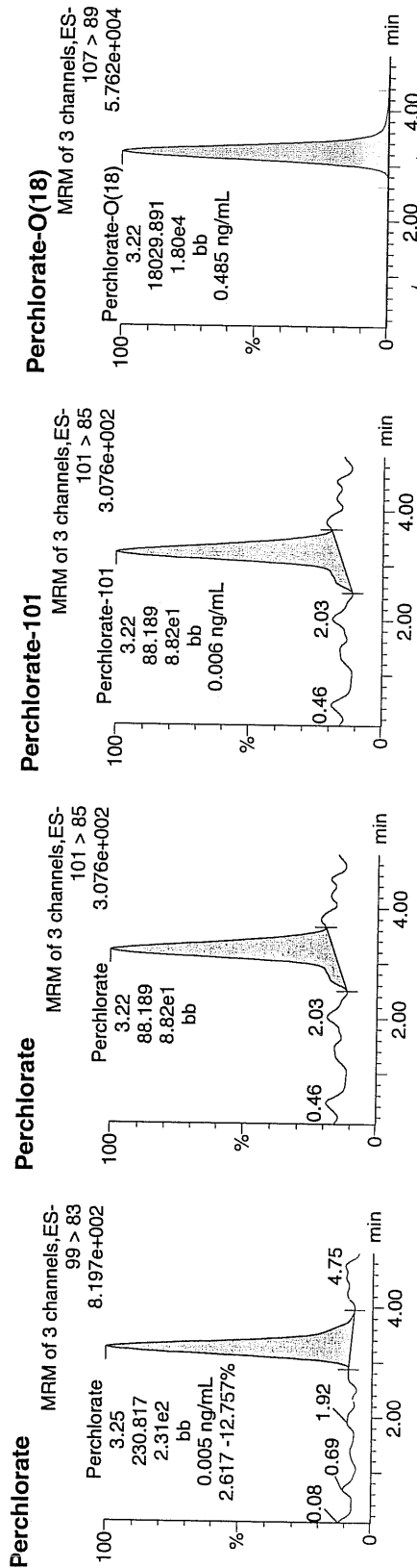
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Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126041a  
Date: 26-Jan-2010  
Time: 22:13:32  
ID: 244847003  
Vial: 1:6,F

WJ  
0127-10

LANC | 944702 | 5020 | 11



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244847003	Perchlorate	99 > 83	3.25	230.817	230.817	bb			0.0053			68.592	2.62
244847003	Perchlorate-101	101 > 85	3.22	88.189	88.189	bb			0.0061			55.296	
244847003	Perchlorate-O(18)	107 > 89	3.22	18029.891	18029.891	bb			0.4846	96.92	-3.08	4709.6...	

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 944706  
**Extraction Type:** Solid Prep  
**Client Sample No.** RE12-10-7281  
**Date Received:** 15-JAN-10  
**GEL Job No (SDG):** 10-1262  
**GEL Sample ID:** 244847004  
**Date Filtered:** 25-JAN-10  
**Injection Volume (uL):** 20  
**Sample Volume/Weight:** 2.00 g  
**%Solids:** 90.1

**Concentrated Extract Volume:** 20.0

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.555	2.22	0.735	ug/kg	J	1	26-JAN-10 22:21	per0126042a
	Perchlorate Isotope Ratio			3.04			1	26-JAN-10 22:21	per0126042a
14797-73-0	Perchlorate-101	.555	2.22	0.725	ug/kg	J	1	26-JAN-10 22:21	per0126042a
	Perchlorate-O(18)			5.74	ug/kg		1	26-JAN-10 22:21	per0126042a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area.  
 The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  
 Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

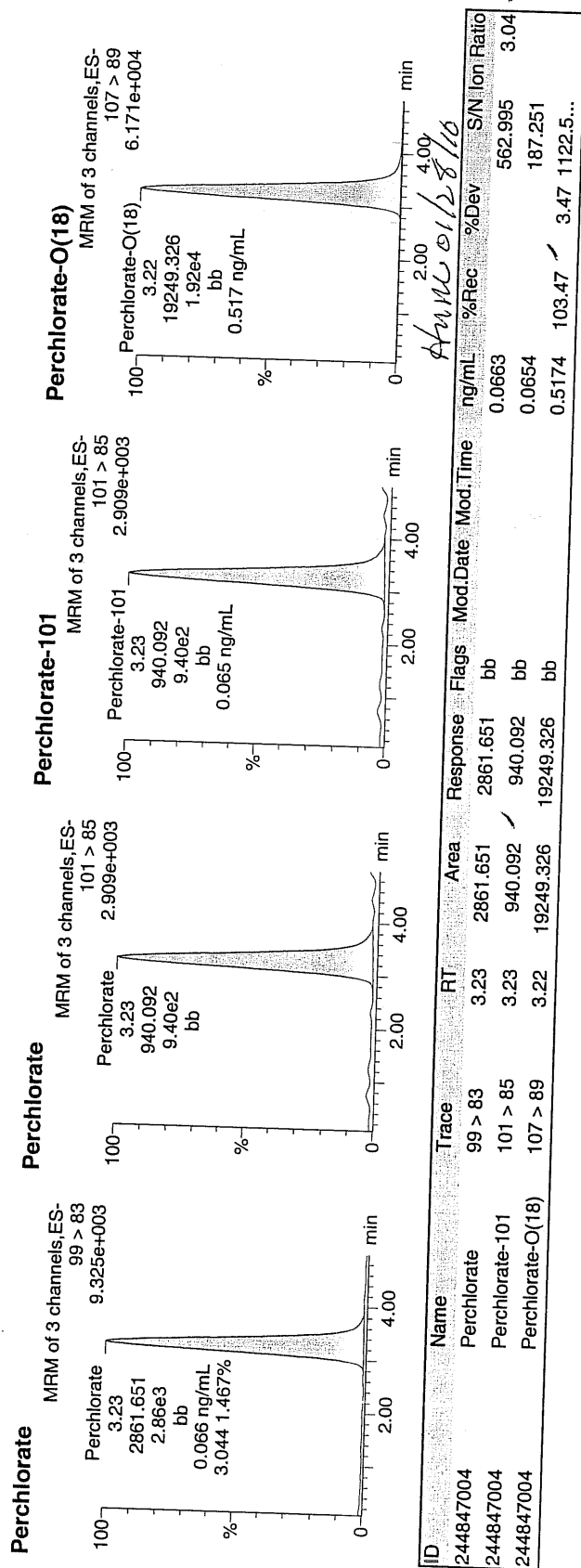
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Last Altered: Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126042a  
Date: 26-Jan-2010  
Time: 22:21:35  
ID: 244847004  
Vial: 1:7,A

01-27-10

19400 | 944708 | 50020 | 11





# STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories      GEL Job No.(SDG): 10-1262

Lab Code: GEL

Instrument ID: LCMSMS      Date Analyzed: 26-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname      Perchlorate

Coefficient of Determination:

Calibration Curve: 43184.28

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Instrument ID: LCMSMS

Date Analyzed: 26-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 14384.2

Response Type: External Standard

Curve Type: RF

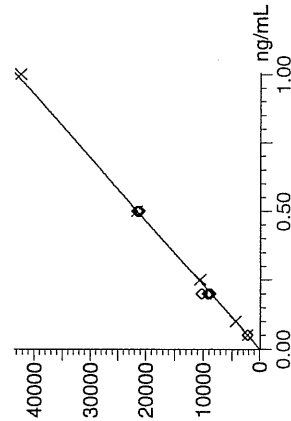
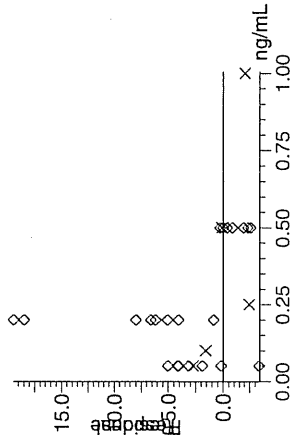
Quantify Calibration Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered: Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

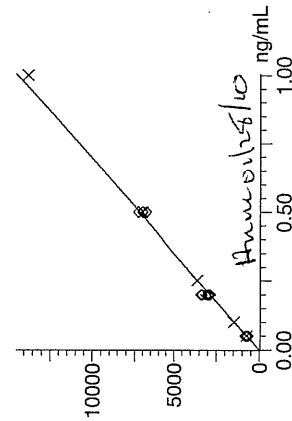
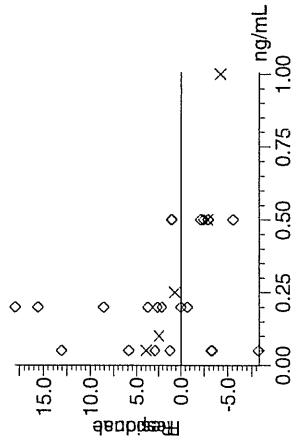
Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012610a.mdb 27 Jan 2010 13:47:32  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012610a.cdb 27 Jan 2010 13:47:44

Compound name: Perchlorate  
Response Factor: 43184.3  
RRF SD: 974.073, % Relative SD: 2.25562  
Response type: External Std, Area  
Curve type: RF



Good  
9/22/10

Compound name: Perchlorate-101  
Response Factor: 14384.2  
RRF SD: 499.594, % Relative SD: 3.47322  
Response type: External Std, Area  
Curve type: RF



Quantify Calibration Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered: Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time

Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

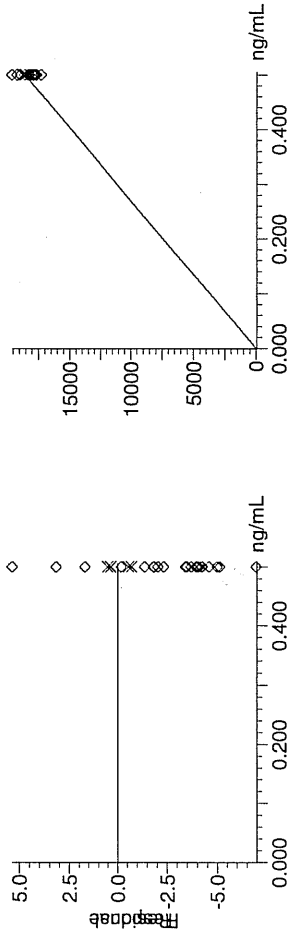
Compound name: Perchlorate-O(18)

Response Factor: 37206.6

RRF SD: 217.306, % Relative SD: 0.584054 ✓

Response type: External Std, Area

Curve type: RF ✓



Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.5	100.26	26-JAN-10 17:56	per0126009a
Perchlorate Isotope Ratio		2.98		26-JAN-10 17:56	per0126009a
Perchlorate-101	.5	.51	101.03	26-JAN-10 17:56	per0126009a

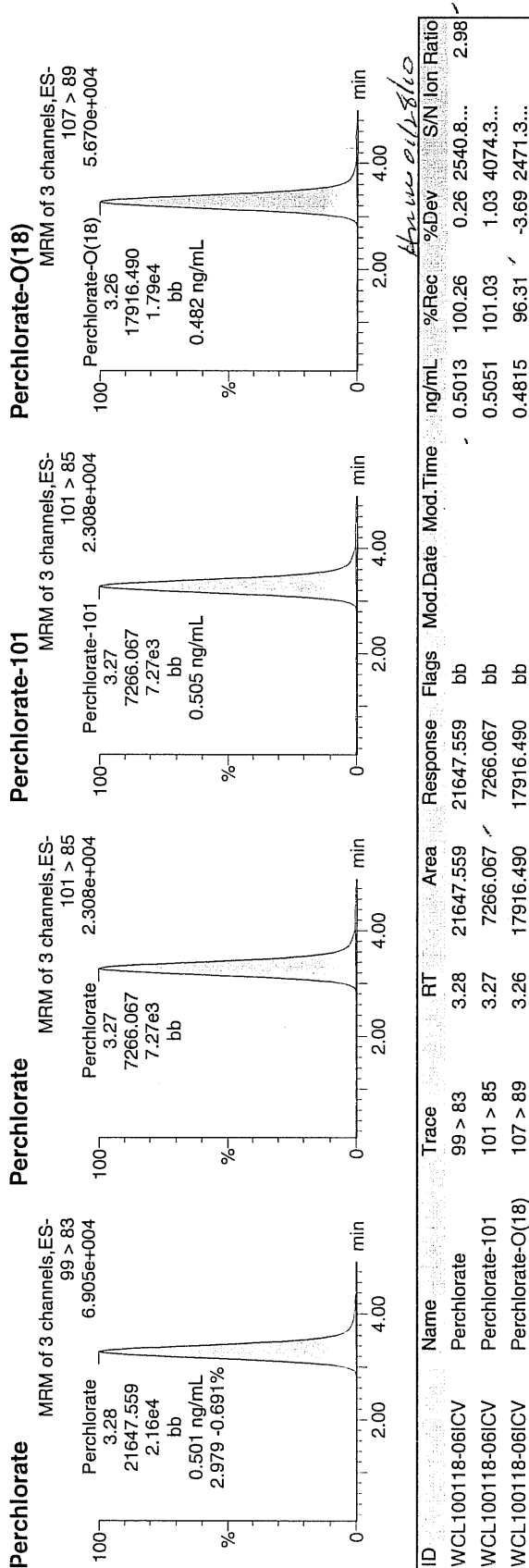
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset:            C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered:        Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed:             Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126009a  
Date: 26-Jan-2010  
Time: 17:56:08  
ID: WCL100118-06ICV  
Vial: 1:2,A

*Per  
and  
01-27-10*



Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.5	100.01	26-JAN-10 19:40	per0126022a
Perchlorate Isotope Ratio		2.97		26-JAN-10 19:40	per0126022a
Perchlorate-101	.5	.5	100.95	26-JAN-10 19:40	per0126022a
Perchlorate	.5	.49	97.71	26-JAN-10 21:25	per0126035a
Perchlorate Isotope Ratio		3.02		26-JAN-10 21:25	per0126035a
Perchlorate-101	.5	.49	97.04	26-JAN-10 21:25	per0126035a
Perchlorate	.5	.49	97.42	26-JAN-10 23:09	per0126048a
Perchlorate Isotope Ratio		3		26-JAN-10 23:09	per0126048a
Perchlorate-101	.5	.49	97.54	26-JAN-10 23:09	per0126048a



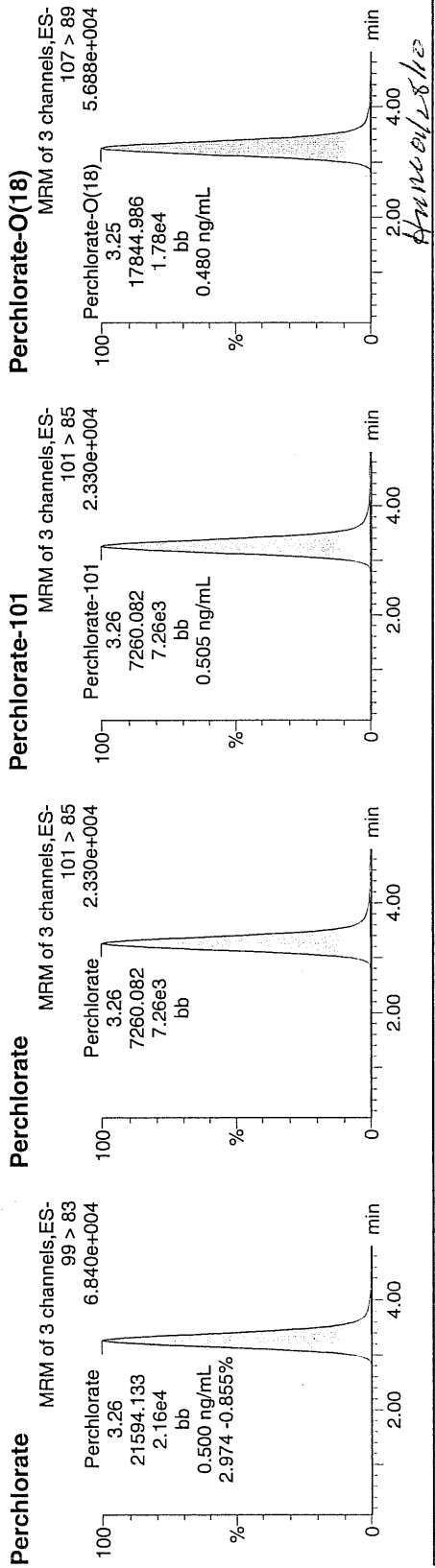
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered:    Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed:    Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126022a  
Date: 26-Jan-2010  
Time: 19:40:41  
ID: WCL100118-06CCV  
Vial: 1:2,A

*Pass and 01-27-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	3.26	21594.133	21594.133	bb			0.5000	100.01	0.01	14077	2.97
WCL100118-06CCV	Perchlorate-101	101 > 85	3.26	7260.082	7260.082	bb			0.5047	100.95	0.95	875.929	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	3.25	17844.986	17844.986	bb			0.4796	95.92	-4.08	16039	

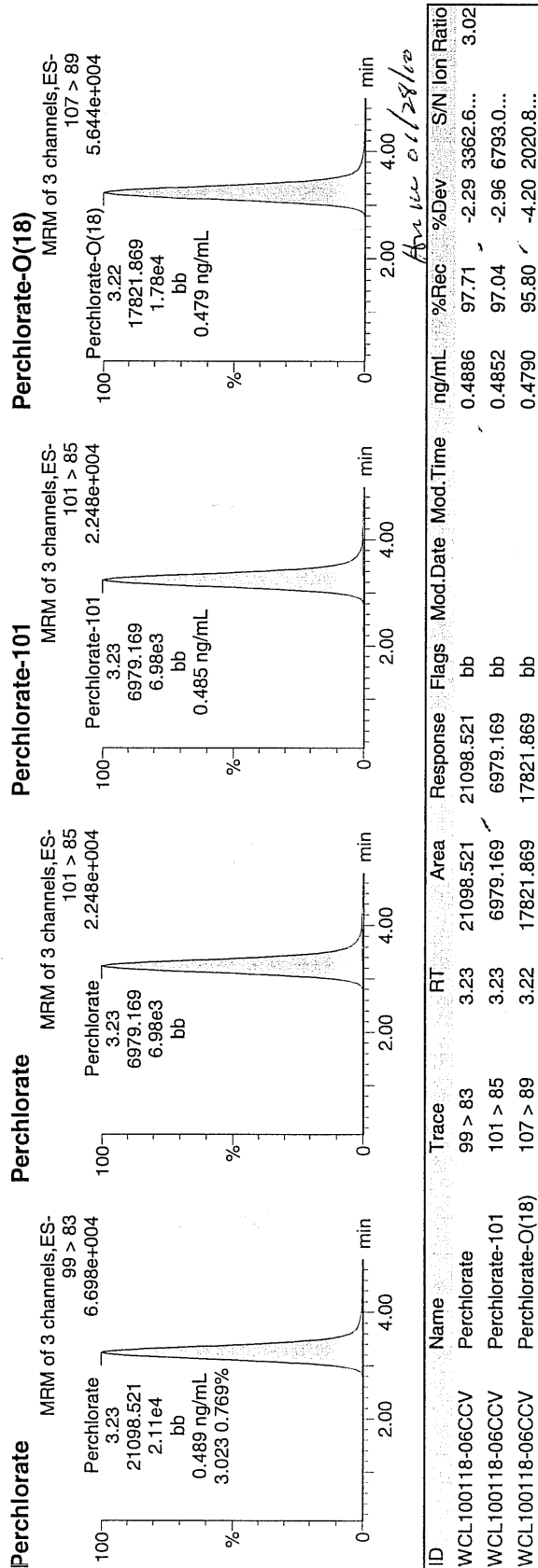
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered:    Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed:    Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126035a  
Date: 26-Jan-2010  
Time: 21:25:14  
ID: WCL100118-06CCV  
Vial: 1:2,A

Perchlorate  
01-27-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	3.23	21098.521	21098.521	bb			0.4886	97.71	-2.29	3362.6...	3.02
WCL100118-06CCV	Perchlorate-101	101 > 85	3.23	6979.169	6979.169	bb			0.4852	97.04	-2.96	6793.0...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	3.22	17821.869	17821.869	bb			0.4790	95.80	-4.20	2020.8...	

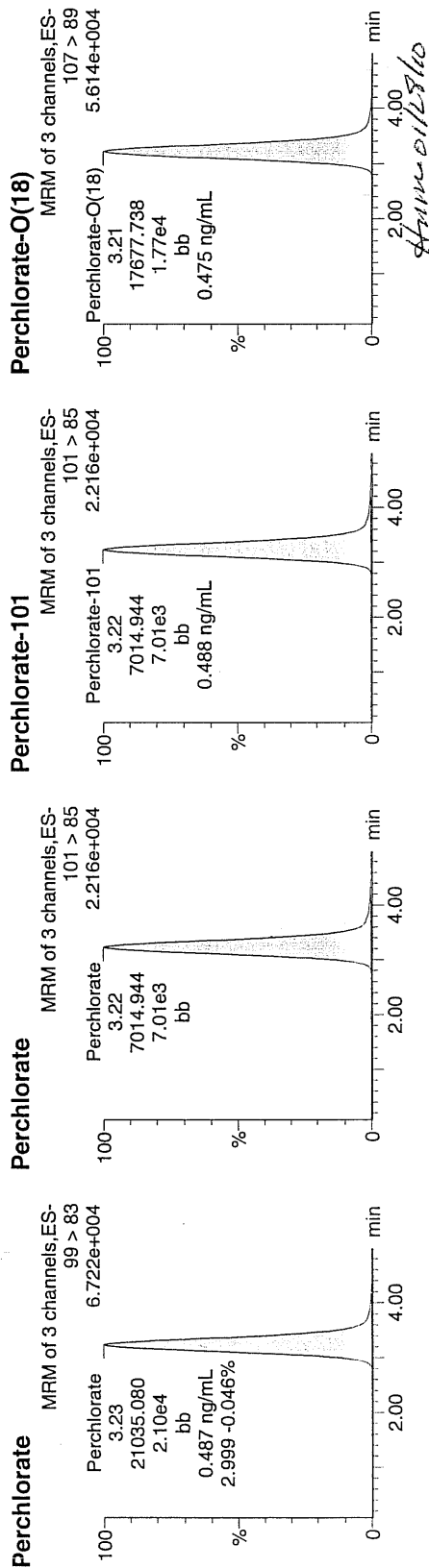
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

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Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126048a  
Date: 26-Jan-2010  
Time: 23:09:58  
ID: WCL100118-06CCV  
Vial: 1:2,A

Pass  
and  
01-27-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	3.23	21035.080	21035.080	bb			0.4871	97.42	-2.58	1602.6...	3.00
WCL100118-06CCV	Perchlorate-101	101 > 85	3.22	7014.944	7014.944	bb			0.4877	97.54	-2.46	2202.2...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	3.21	17677.738	17677.738	bb			0.4751	95.02	-4.98	9541.8...	

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	105.05	26-JAN-10 18:12	per0126011a
Perchlorate Isotope Ratio		2.98		26-JAN-10 18:12	per0126011a
Perchlorate-101	.05	.05	105.9	26-JAN-10 18:12	per0126011a
Perchlorate	.05	.05	100.18	26-JAN-10 19:56	per0126024a
Perchlorate Isotope Ratio		3.11		26-JAN-10 19:56	per0126024a
Perchlorate-101	.05	.05	96.8	26-JAN-10 19:56	per0126024a
Perchlorate	.05	.05	104.06	26-JAN-10 21:41	per0126037a
Perchlorate Isotope Ratio		3.09		26-JAN-10 21:41	per0126037a
Perchlorate-101	.05	.05	101.18	26-JAN-10 21:41	per0126037a
Perchlorate	.05	.05	104.17	26-JAN-10 23:26	per0126050a
Perchlorate Isotope Ratio		2.77		26-JAN-10 23:26	per0126050a

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate-101	.05	.06	113.07	26-JAN-10 23:26	per0126050a
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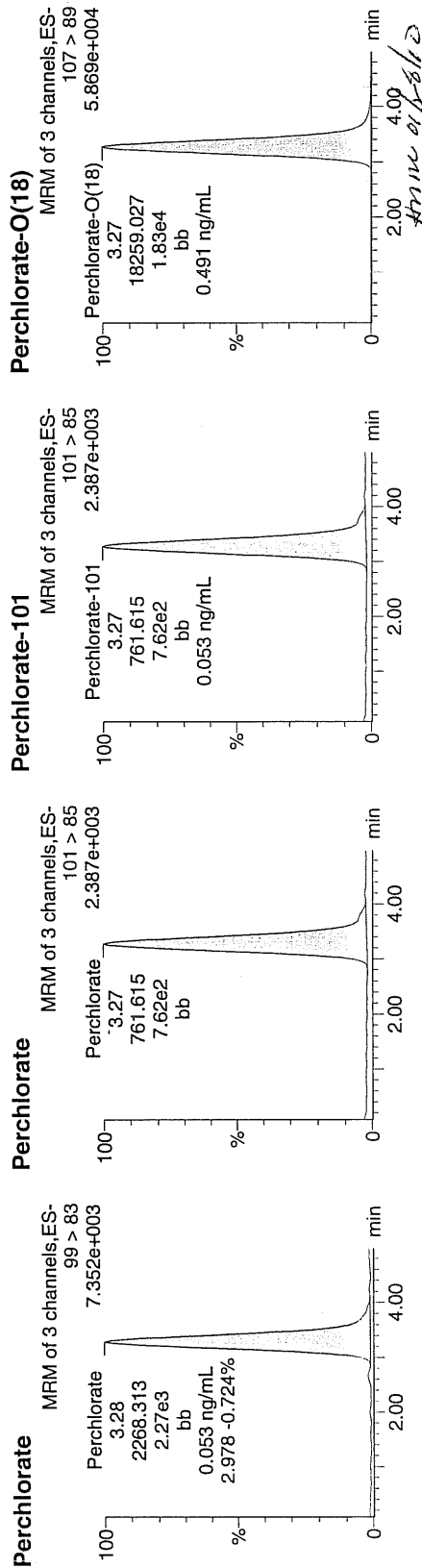
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

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Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Pass  
CWS  
01-27-10

Name: per0126011a  
Date: 26-Jan-2010  
Time: 18:12:13  
ID: WCL100118-07CRI  
Vial: 1:2,B



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	3.28	2268.313	2268.313	bb			0.0525	105.05	5.05	498.397	2.98
WCL100118-07CRI	Perchlorate-101	101 > 85	3.27	761.615	761.615	bb			0.0529	105.90	5.90	389.655	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	3.27	18259.027	18259.027	bb			0.4907	98.15	-1.85	4105.7...	

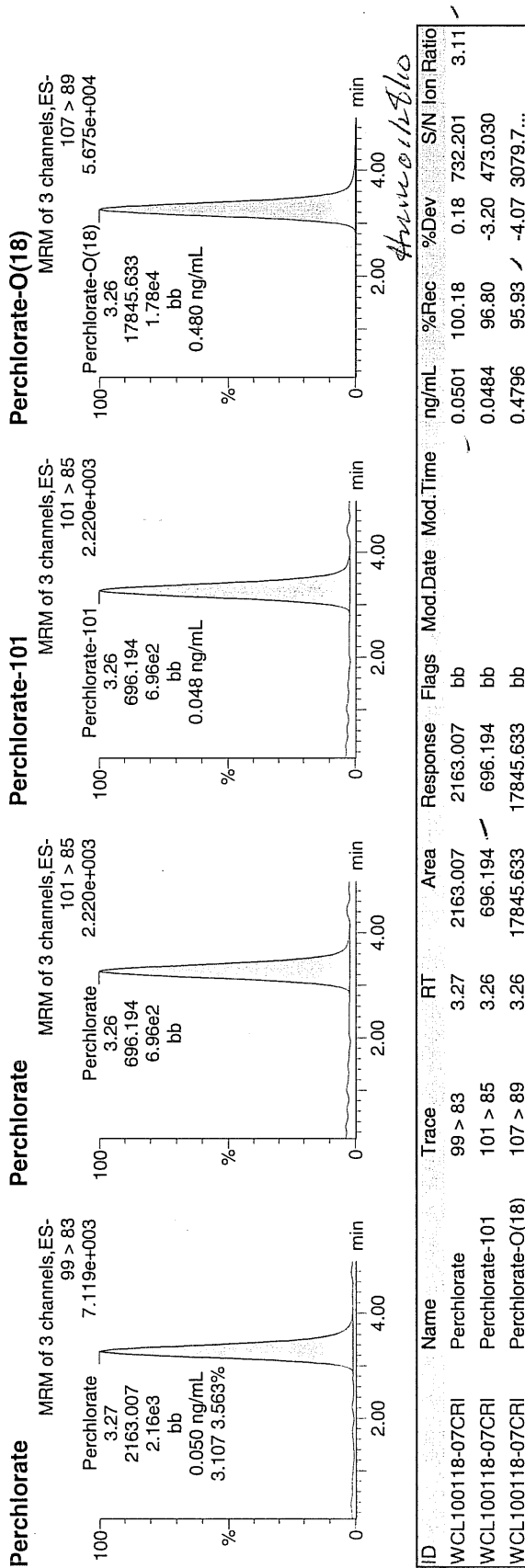
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012610a.qld

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Printed:    Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126024a  
Date: 26-Jan-2010  
Time: 19:56:45  
ID: WCL100118-07CRI  
Vial: 1:2,B

Pass  
01-27-10



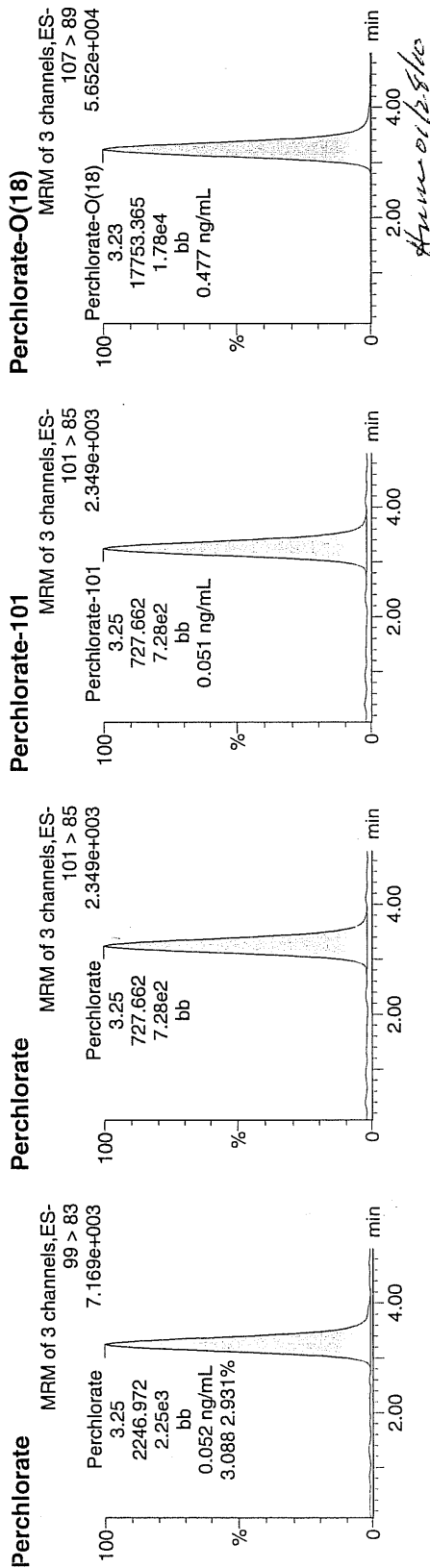
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The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012610a.qld

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Printed:    Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126037a  
Date: 26-Jan-2010  
Time: 21:41:20  
ID: WCL100118-07CRI  
Vial: 1:2,B

Pure  
conc  
01-27-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	3.25	2246.972	2246.972	bb			0.0520	104.06	4.06	1203.4...	3.09
WCL100118-07CRI	Perchlorate-101	101 > 85	3.25	727.662	727.662	bb			0.0506	101.18	1.18	103.443	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	3.23	17753.365	17753.365	bb			0.4772	95.43	-4.57	3852.1...	



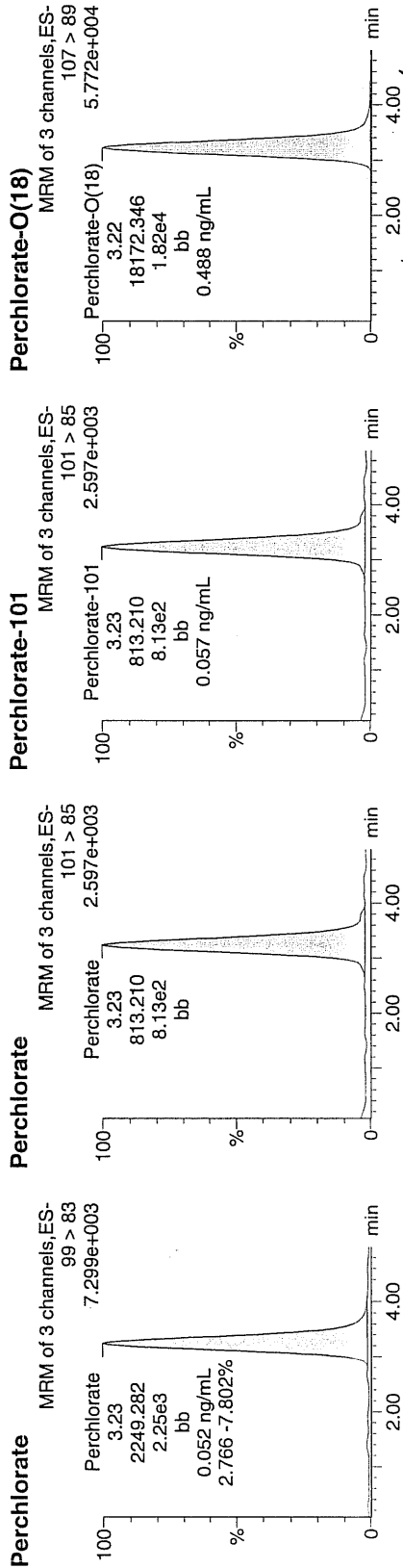
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered:    Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed:    Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126050a  
Date: 26-Jan-2010  
Time: 23:26:39  
ID: WCL100118-07CRI  
Vial: 1:2,B

01-27-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	3.23	2249.282	2249.282	bb			0.0521	104.17	4.17	1081.9...	2.77
WCL100118-07CRI	Perchlorate-101	101 > 85	3.23	813.210	813.210	bb			0.0565	113.07	13.07	413.767	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	3.22	18172.346	18172.346	bb			0.4884	97.68	-2.32	1728.8...	

# QUALITY CONTROL

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 944706

Extraction Type: Solid Prep

Client Sample No.

MB

Date Received: 25-JAN-10

GEL Job No (SDG): 10-1262

GEL Sample ID: 1202023076

Date Filtered: 25-JAN-10

Injection Volume (uL): 20

%Solids: 100

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	0.500	ug/kg	U	1	26-JAN-10 18:20	per0126012a
	Perchlorate Isotope Ratio						1	26-JAN-10 18:20	per0126012a
14797-73-0	Perchlorate-101	.5	2	0.500	ug/kg	U	1	26-JAN-10 18:20	per0126012a
	Perchlorate-O(18)			4.73	ug/kg		1	26-JAN-10 18:20	per0126012a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1  
Aliquot %Solids

Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

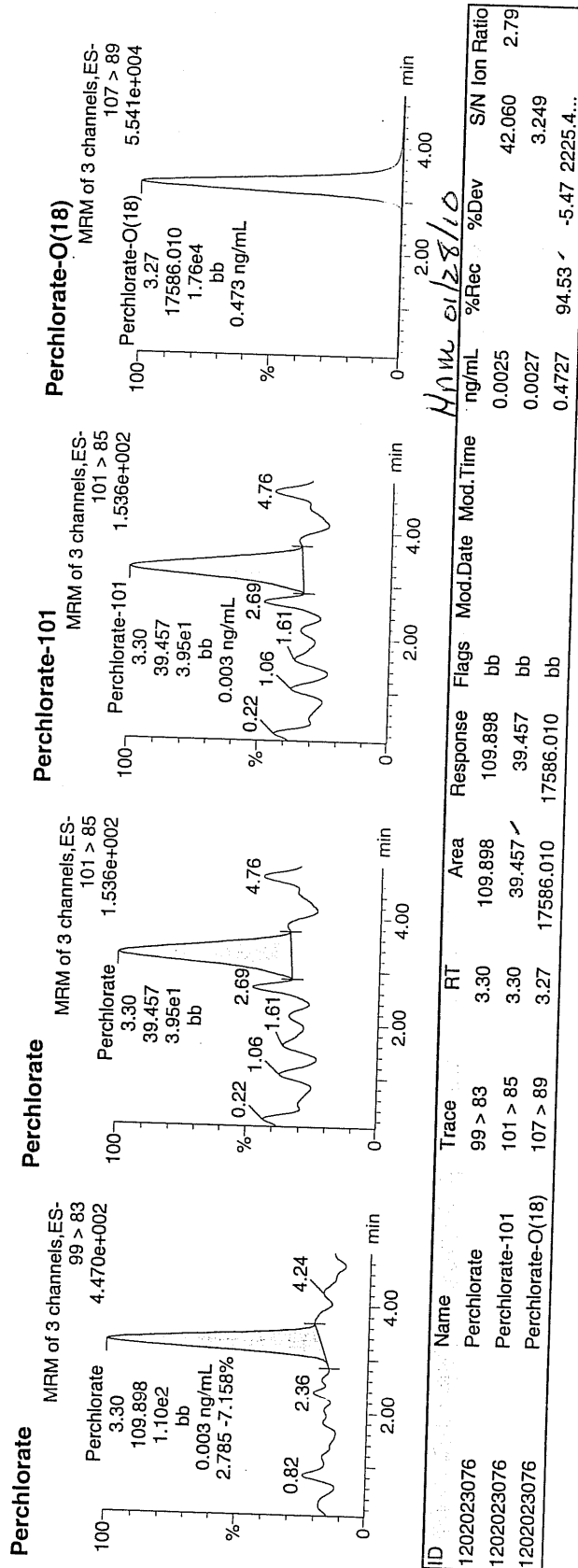
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Last Altered: Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Name: per0126012a  
Date: 26-Jan-2010  
Time: 18:20:16  
ID: 1202023076  
Vial: 1:3,A

603  
01-27-10

LOW | 944703 | 5030 | MB | 11



P perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 944706

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.  
LCS

Date Received: 25-JAN-10

GEL Job No (SDG): 10-1262

GEL Sample ID: 1202023077

Date Filtered: 25-JAN-10

Injection Volume (uL): 20

%Solids: 100

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	2.12	ug/kg		1	26-JAN-10 18:28	per0126013a
	Perchlorate Isotope Ratio			3.19			1	26-JAN-10 18:28	per0126013a
14797-73-0	Perchlorate-101	.5	2	2.00	ug/kg	J	1	26-JAN-10 18:28	per0126013a
	Perchlorate-O(18)			4.90	ug/kg		1	26-JAN-10 18:28	per0126013a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  
Instrument Value X Concentrated Extract Volume X 1  
Aliquot %Solids

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012610a.qld

Last Altered: Wednesday, January 27, 2010 1:47:45 PM Eastern Standard Time  
Printed: Wednesday, January 27, 2010 2:05:16 PM Eastern Standard Time

Sample Name: per0126013a

Date: 26-Jan-2010

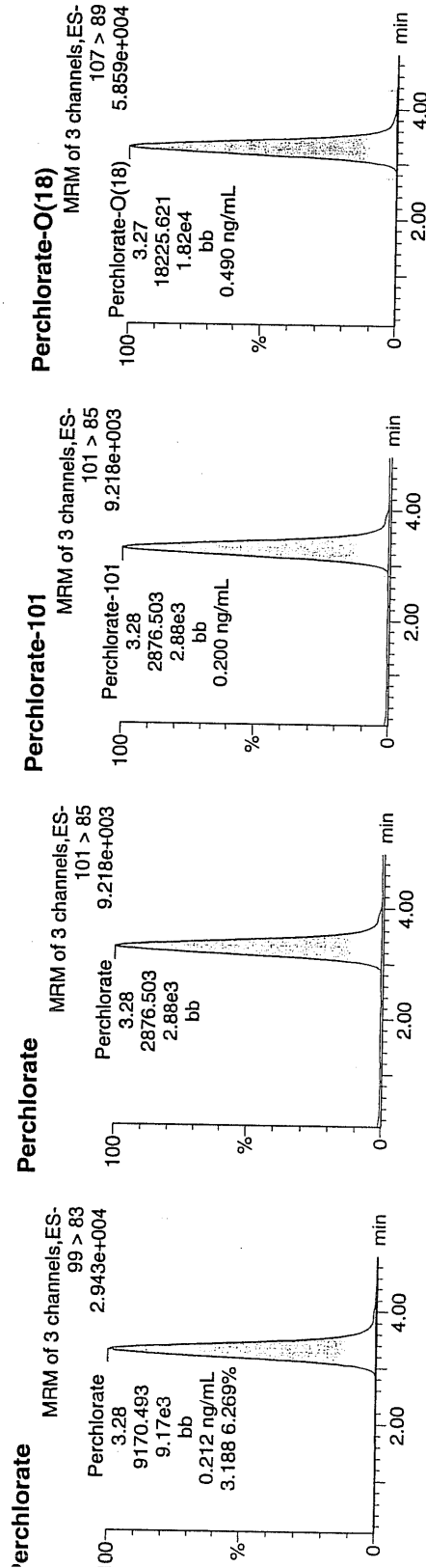
Time: 18:28:19

ID: 1202023077

File: 1:3,B

01-27-10

1202023077 | 5025 | 1.1



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202023077	Perchlorate	3.28	9170.493	9170.493	bb			0.2124	106.18	6.18	3194.8...	3.19
202023077	Perchlorate-101	3.28	2876.503	2876.503	bb			0.2000	99.99	-0.01	1004.3...	
202023077	Perchlorate-O(18)	3.27	18225.621	18225.621	bb			0.4898	97.97	-2.03	8443.3...	

9170.493  
4818423 = 0.2124  
HMK  
01/28/10

# MISCELLANEOUS DATA

# Prep Logbook

## Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)

Batch ID: 944706  
 Analyst: Lynne Russell  
 Method: SW846 6850 Modified  
 Verified by:  
 Lab SOP: GL-OA-E-067 REV# 6  
 Instrument: MicroMass Quatro Ultima

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202023076 MB	25-JAN-2010 17:08:41	2	20	10
1202023077 LCS	25-JAN-2010 17:08:41	2	20	10
244828001	25-JAN-2010 17:08:41	2	20	10
244828002	25-JAN-2010 17:08:41	2	20	10
1202023078 MS (244828002)	25-JAN-2010 17:08:41	2	20	10
1202023079 MSD (244828002)	25-JAN-2010 17:08:41	2	20	10
244828003	25-JAN-2010 17:08:41	2	20	10
244828004	25-JAN-2010 17:08:41	2	20	10
244828005	25-JAN-2010 17:08:41	2	20	10
244828006	25-JAN-2010 17:08:41	2	20	10
244828007	25-JAN-2010 17:08:41	2	20	10
244828008	25-JAN-2010 17:08:41	2	20	10
244828009	25-JAN-2010 17:08:41	2	20	10
244828010	25-JAN-2010 17:08:41	2	20	10
244842001	25-JAN-2010 17:08:41	2	20	10
244842002	25-JAN-2010 17:08:41	2	20	10
244842003	25-JAN-2010 17:08:41	2	20	10
244842004	25-JAN-2010 17:08:41	2	20	10
244842005	25-JAN-2010 17:08:41	2	20	10
244842006	25-JAN-2010 17:08:41	2	20	10
244847001	25-JAN-2010 17:08:41	2	20	10
244847002	25-JAN-2010 17:08:41	2	20	10
244847003	25-JAN-2010 17:08:41	2	20	10
244847004	25-JAN-2010 17:08:41	2	20	10
1202023080 ICS	25-JAN-2010 17:08:41	2	20	10

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
ICS	1202023080	10 ug/L ICV/CCV Second Source	UCL091230-01.2	.4	mL	
LCS	1202023077	10 ug/L ICV/CCV Second Source	UCL091230-01.2	.4	mL	
MS	1202023078	10 ug/L ICV/CCV Second Source	UCL091230-01.2	.4	mL	
MSD	1202023079	10 ug/L ICV/CCV Second Source	UCL091230-01.2	.4	mL	

De-salting cartridges: 090413-1-Ba and 091125-1-H.



GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 01/26/10  
Extr. Injection Volume: 20uL  
Sequence Number: per012610a  
Initial Calibration Date: 01/26/10

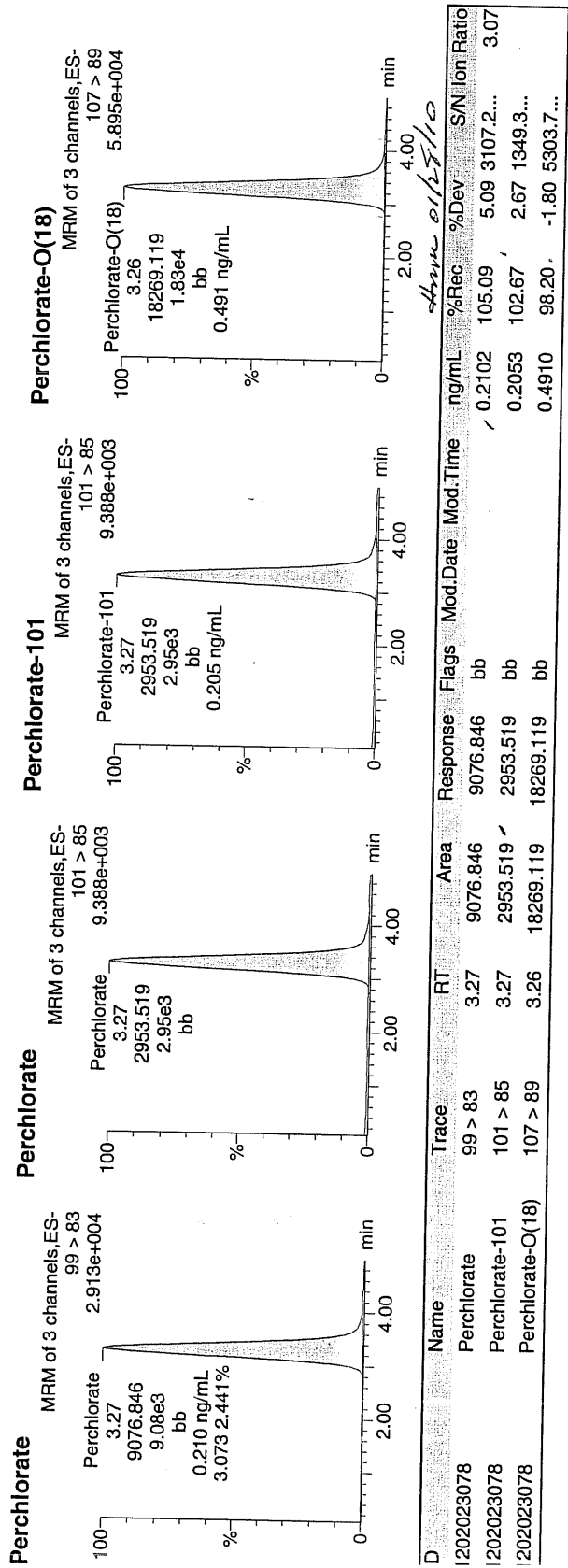
Method: EPA 6850-Modified  
Int. Std.: UCL100122-01  
Mobile Phase Lot#: 1254342, 1246195  
Standard-Samp Reagent Lot#: 1233976

Reviewed By: *HNW*  
Date: *01/28/10*  
SOP: GL-OA-E-067 Rev.6  
Alt Check Std. ID: WCL100118-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0126001a	IPB001	CWW	1/26/2010 16:51			1		USE	B
per0126002a	IPB001	CWW	1/26/2010 16:59			1		USE	B
per0126003a	WCLICAL-01	CWW	1/26/2010 17:08			1		USE	I
per0126004a	WCLICAL-02	CWW	1/26/2010 17:16			1		USE	I
per0126005a	WCLICAL-03	CWW	1/26/2010 17:24			1		USE	I
per0126006a	WCLICAL-04	CWW	1/26/2010 17:32			1		USE	I
per0126007a	WCLICAL-05	CWW	1/26/2010 17:40			1		USE	I
per0126008a	IPB002	CWW	1/26/2010 17:48			1		USE	B
per0126009a	WCLICV	CWW	1/26/2010 17:56			1		USE	C
per0126010a	IPB003	CWW	1/26/2010 18:04			1		USE	B
per0126011a	WCLCRI	CWW	1/26/2010 18:12			1		USE	C
per0126012a	1202023076	CWW	1/26/2010 18:20	944708	VARIOUS	1	LANL	USE	S
per0126013a	1202023077	CWW	1/26/2010 18:28	944708	VARIOUS	1	LANL	USE	S
per0126014a	1202023080	CWW	1/26/2010 18:36	944708	VARIOUS	1	LANL	USE	S
per0126015a	244828001	CWW	1/26/2010 18:44	944708	10-1254	1	LANL	USE	S
per0126016a	244828002	CWW	1/26/2010 18:52	944708	10-1254	1	LANL	USE	S
per0126017a	1202023078	CWW	1/26/2010 19:00	944708	10-1254	1	LANL	USE	S
per0126018a	1202023079	CWW	1/26/2010 19:08	944708	10-1254	1	LANL	USE	S
per0126019a	244828003	CWW	1/26/2010 19:16	944708	10-1254	1	LANL	USE	S
per0126020a	244828004	CWW	1/26/2010 19:24	944708	10-1254	1	LANL	USE	S
per0126021a	244828005	CWW	1/26/2010 19:32	944708	10-1254	1	LANL	USE	S
per0126022a	WCLCCV	CWW	1/26/2010 19:40			1		USE	C
per0126023a	IPB004	CWW	1/26/2010 19:48			1		USE	B
per0126024a	WCLCRI	CWW	1/26/2010 19:56			1		USE	C
per0126025a	244828006	CWW	1/26/2010 20:04	944708	10-1254	1	LANL	USE	S
per0126026a	244828007	CWW	1/26/2010 20:12	944708	10-1254	1	LANL	USE	S
per0126027a	244828008	CWW	1/26/2010 20:20	944708	10-1254	1	LANL	USE	S
per0126028a	244828009	CWW	1/26/2010 20:28	944708	10-1254	1	LANL	USE	S
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per0126031a	244842002	CWW	1/26/2010 20:53	944708	10-1257	1	LANL	USE	S
per0126032a	244842003	CWW	1/26/2010 21:01	944708	10-1257	1	LANL	USE	S
per0126033a	244842004	CWW	1/26/2010 21:09	944708	10-1257	1	LANL	USE	S
per0126034a	244842005	CWW	1/26/2010 21:17	944708	10-1257	1	LANL	USE	S
per0126035a	WCLCCV	CWW	1/26/2010 21:25			1		USE	C
per0126036a	IPB005	CWW	1/26/2010 21:33			1		USE	B
per0126037a	WCLCRI	CWW	1/26/2010 21:41			1		USE	C
per0126038a	244842006	CWW	1/26/2010 21:49	944708	10-1257	1	LANL	USE	S
per0126039a	244847001	CWW	1/26/2010 21:57	944708	10-1262	1	LANL	USE	S
per0126040a	244847002	CWW	1/26/2010 22:05	944708	10-1262	1	LANL	USE	S
per0126041a	244847003	CWW	1/26/2010 22:13	944708	10-1262	1	LANL	USE	S
per0126042a	244847004	CWW	1/26/2010 22:21	944708	10-1262	1	LANL	USE	S
per0126043a	IPB006	CWW	1/26/2010 22:29			1		USE	B
per0126044a	1202024317	CWW	1/26/2010 22:37	945187	VARIOUS	1	LANL	USE	S
per0126045a	1202024318	CWW	1/26/2010 22:45	945187	VARIOUS	1	LANL	USE	S
per0126046a	1202024327	CWW	1/26/2010 22:53	945187	VARIOUS	1	LANL	USE	S
per0126047a	245092001	CWW	1/26/2010 23:01	945187	10-1293-1	1	LANL	USE	S
per0126048a	WCLCCV	CWW	1/26/2010 23:09			1		USE	C
per0126049a	IPB007	CWW	1/26/2010 23:18			1		USE	B
per0126050a	WCLCRI	CWW	1/26/2010 23:26			1		USE	C
per0126051a	245092002	CWW	1/26/2010 23:34	945187	10-1293-1	1	LANL	USE	S
per0126052a	1202024319	CWW	1/26/2010 23:43	945187	10-1293-1	1	LANL	USE	S
per0126053a	1202024320	CWW	1/26/2010 23:51	945187	10-1293-1	1	LANL	USE	S
per0126054a	245092003	CWW	1/26/2010 23:59	945187	10-1293-1	1	LANL	USE	S
per0126055a	245092004	CWW	1/27/2010 0:07	945187	10-1293-1	1	LANL	USE	S
per0126056a	245092005	CWW	1/27/2010 0:15	945187	10-1293-1	1	LANL	USE	S
per0126057a	245092006	CWW	1/27/2010 0:23	945187	10-1293-1	1	LANL	USE	S
per0126058a	245092007	CWW	1/27/2010 0:31	945187	10-1293-1	1	LANL	USE	S
per0126059a	245092008	CWW	1/27/2010 0:39	945187	10-1293-1	1	LANL	USE	S
per0126060a	WCLCCV	CWW	1/27/2010 0:47			1		USE	C
per0126061a	IPB008	CWW	1/27/2010 0:56			1		USE	B
per0126062a	WCLCRI	CWW	1/27/2010 1:04			1		USE	C
per0126063a	245092009	CWW	1/27/2010 1:12	945187	10-1293-1	1	LANL	USE	S
per0126064a	245092010	CWW	1/27/2010 1:20	945187	10-1293-1	1	LANL	USE	S
per0126065a	245092011	CWW	1/27/2010 1:30	945187	10-1293-1	1	LANL	USE	S
per0126066a	245092012	CWW	1/27/2010 1:39	945187	10-1293-1	1	LANL	USE	S

per0126067a	245092013	CWW	1/27/2010 1:47	945187	10-1293-1	1	LANL	USE	S
per0126068a	245092014	CWW	1/27/2010 1:56	945187	10-1293-1	1	LANL	USE	S
per0126069a	245138001	CWW	1/27/2010 2:05	945187	10-1338	1	LANL	USE	S
per0126070a	245138002	CWW	1/27/2010 2:14	945187	10-1338	1	LANL	USE	S
per0126071a	WCLCCV	CWW	1/27/2010 2:23			1		USE	C
per0126072a	IPB009	CWW	1/27/2010 2:31			1		USE	B
per0126073a	WCLCRI	CWW	1/27/2010 2:39			1		USE	C
per0126074a	1260110 Supp	CWW	1/27/2010 2:47	Screen	Inhouse	1	GEL	DUSE	B
per0126075a	1246195 H2O	CWW	1/27/2010 2:55	Screen	Inhouse	1	GEL	DUSE	B
per0126076a	JCL100126-01 O1	CWW	1/27/2010 3:03	Screen	Inhouse	1	GEL	DUSE	B
per0126077a	ICL100126-02.1 Sf	CWW	1/27/2010 3:11	Screen	Inhouse	1	GEL	DUSE	B
per0126078a	WCLCCV	CWW	1/27/2010 3:19			1		DUSE	C
per0126079a	IPB010	CWW	1/27/2010 3:28			1		DUSE	B
per0126080a	WCLCRI	CWW	1/27/2010 3:36			1		DUSE	C



Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

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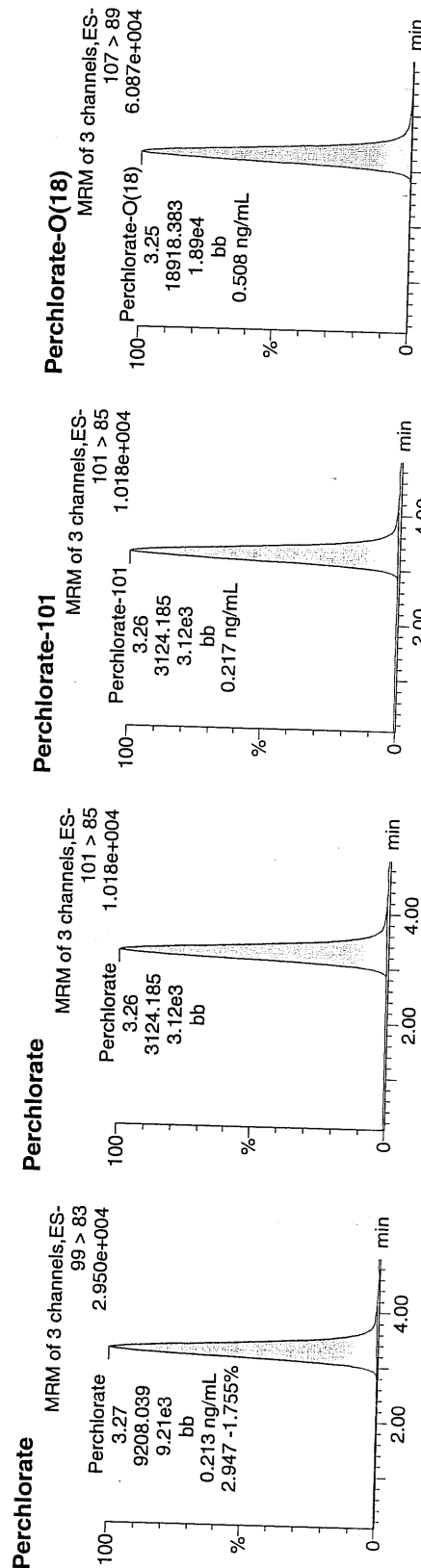
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Name: per0126018a  
Date: 26-Jan-2010  
Time: 19:08:30  
ID: 1202023079  
Vial: 1:4,A

663  
01-27-10

LANL | 944708 | 30020 | 1750 | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202023079	Perchlorate	99 > 83	3.27	9208.039	9208.039	bb			0.2132	106.61	6.61	2994.4...	2.95
1202023079	Perchlorate-101	101 > 85	3.26	3124.185	3124.185	bb			0.2172	108.60	8.60	602.320	
1202023079	Perchlorate-O(18)	107 > 89	3.25	18918.383	18918.383	bb			0.5085	101.69	1.69	5226.1...	

## Isotope Ratio Criteria

### Isotope Ratio $^{35}\text{Cl}/^{37}\text{Cl}$

2.31-3.85

## Tune Criteria

The tuning solution is introduced directly into the mass spectrometer using the ESI interface in the positive ion mode. The mass range scanned is 20 to 1100 amu using at least six scans. The observed mass for the target compound in the daily calibration standards must be within 0.2 amu of the expected value. If it is greater than 0.2 amu, then a mass calibration is performed and the instrument is re-calibrated.

# LC/MS/MS PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS  
Los Alamos National Laboratory (LANL)  
SDG 10-1262-1**

**Method/Analysis Information**

**Procedure:** **Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**

Analytical Method: SW846 6850 Modified

Prep Method: SW846 6850 Modified

Analytical Batch Number: 943784

Prep Batch Number: 943783

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244849001	RE12-10-7286
1202020836	Interference Check Sample (ICS)
1202020832	Method Blank (MB)
1202020833	Laboratory Control Sample (LCS)
1202020834	244922001(RE15-10-7229) Matrix Spike (MS)
1202020835	244922001(RE15-10-7229) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

**Preparation/Analytical Method Verification**

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-067 REV# 6.

**Calibration Information**

**Initial Calibration**

All initial calibration requirements have been met for this SDG. Due to software constraints, all Initial Calibration Blanks must be designated as IPB001.

10-1262-1-PERLCMS

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**CCV Requirements**

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

**CCB Requirements**

All continuing calibration blanks (CCB) bracketing the analyses associated with this batch were within acceptance criteria.

**CCV Requirements**

All continuing calibration checks (CCV) requirements were met by all bracketing CCV standards.

**Low Level Standard (CRI) Requirements**

All low level calibration verification (CRI) requirements were met by all bracketing CRI standards.

**Quality Control (QC) Information****Method Blank (MB) Statement**

The MB(s) analyzed with this SDG met the acceptance criteria.

**Interference Check Sample (ICS)**

The interference check sample (ICS) met all recovery acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**QC Sample Designation**

Client sample 244922001 (RE15-10-7229) from SDG 10-1288-1 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

**Matrix Spike (MS) Recovery Statement**

The MS recoveries were within the established acceptance limits.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries were within the established acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPD(s) between the MS and MSD met the acceptance limits.

**Retention Time Standard Area Acceptance**

The retention time standard areas were within the required acceptance criteria for all samples and QC.

**Retention Time**

During the analysis of Perchlorate by LC/MS/MS, retention time shifts are commonly observed. These retention time shifts, which are caused by fouling of the column by the sample matrices, are problematic when the retention time is used as one of the criterion for confirmation. To overcome this problem, a known amount of O(18) labeled Perchlorate was added to each sample as a retention time standard. The presence of Perchlorate was confirmed by the relative retention time (RRT) of the Perchlorate peak and the O(18) standard. A RRT window of 0.98 to 1.02, as required by Method 332.0, has been used. In addition to the isotopic ratio, the presence of Perchlorate in the samples associated with this data package have been confirmed using the relative retention criteria stated above, not the absolute retention time.

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## **Technical Information**

### **Holding Time Specifications**

All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

### **Sample Dilutions**

The samples in this SDG did not require dilutions.

### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG except for dilutions.

## **Miscellaneous Information**

### **Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

### **Manual Integrations**

Some initial calibration standards, continuing calibration standards, and/or samples may require manual integrations due to software limitations.

### **Method Comments**

The sample in this SDG was not originally analyzed using EPA Method 314.0.

### **Additional Comments**

The Perchlorate Isotope Ratio on the Form I may differ slightly from the ratio on the corresponding raw data due to rounding rules and/or significant figures or due to software limitations when there are manual integrations, dilutions or other factors. The ratio value of the Form I is the correct value.

The retention time marker, Perchlorate-O (18), is added to all samples, instrument blanks, and standards prior to injection. It is used to verify the retention time of Perchlorate and Perchlorate-101 and to insure an accurate injection occurred. Due to various anions affecting the recovery of Perchlorate-O (18) and not Perchlorate and Perchlorate-101, the calibration curves of Perchlorate and Perchlorate-101 are not internally corrected for using Perchlorate-O (18). They are external calibrations.

### **Perchlorate Isotope Ratio**

The Perchlorate isotope ratio met acceptance criteria for all samples and QC samples. Please see the isotope ratio criteria in the Miscellaneous Section.

### System Configuration

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for perchlorate analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis. The laboratory may also utilize an Agilent 1100 liquid chromatography instrument for perchlorate analysis. It is coupled with an Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as LCMSMS #3 or LCMSMS #4. It is also fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis.

### Chromatographic Columns

Chromatographic separation of perchlorate is accomplished through analysis on the following anion column:

Dionex: IonPac AG-16 2 x 50 mm.

### Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

### Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Heather M. Mauer Date: 02/01/10

# SAMPLE DATA SUMMARY

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: WATER

Extraction Batch ID: 943783

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

RE12-10-7286

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1262-1

GEL Sample ID: 244849001

Date Filtered: 21-JAN-10

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:21	per0121030a
	Perchlorate Isotope Ratio						1	21-JAN-10 17:21	per0121030a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:21	per0121030a
	Perchlorate-O(18)			0.479	ug/L		1	21-JAN-10 17:21	per0121030a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

# QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL                      GEL Job No. (SDG): 10-1262-1

Extract Batch Code: 943783

Date Filtered: 21-JAN-10

Matrix: WATER

Sample ID: 1202020833

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.203	ug/L	102		85 – 115
Perchlorate Isotope Ratio		2.85				–
Perchlorate–101	0.200	.208	ug/L	104		85 – 115
Perchlorate–O(18)		.498	ug/L			–

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL GEL Job No. (SDG): 10-1262-1

Extract Batch Code: 943783 Date Filtered: 21-JAN-10

Matrix: WATER Sample ID: 1202020836

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.21	ug/L	105		70 - 130
Perchlorate Isotope Ratio		2.98				
Perchlorate-101	0.200	.205	ug/L	103		70 - 130
Perchlorate-O(18)		.483	ug/L			

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.



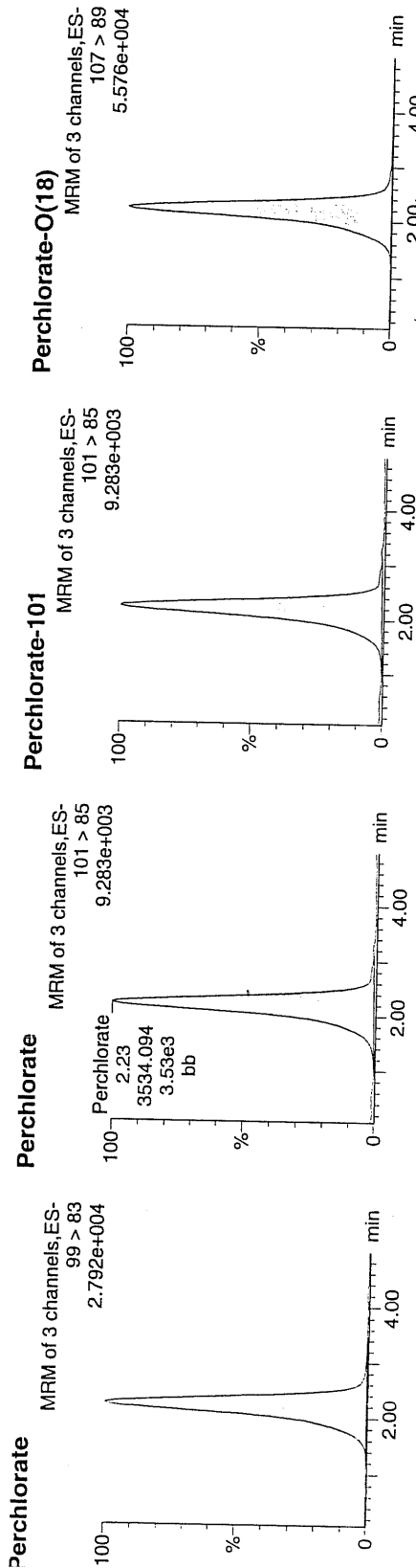
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Date: 21-Jan-2010  
Time: 15:12:58  
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Vial: 1:3,C

6002  
01-21-10

1202020836 | 1202020836 | 1202020836



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202020836	Perchlorate	99 > 83	2.24	10525.255	bb			0.2095	104.75	4.75	2562.6...	2.98
202020836	Perchlorate-101	101 > 85	2.23	3534.094	bb			0.2051	102.54	2.54	298.706	
202020836	Perchlorate-O(18)	107 > 89	2.22	21014.701	bb			0.4828	96.56	-3.44	851.611	

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10-1262-1

Extract Batch Code: 943783

Date Extracted: 21-JAN-10

GEL MS/PS ID: 1202020834

Client ID: RE15-10-7229

GEL MSD/PSD ID: 1202020835

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec	#	MSD Conc	MSD Rec	#	RPD	#	RPD Limit	Recovery Limit
Perchlorate	0.200	0.0027	ug/L	0.203	100		.209	103		2.96		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3.11			3.01			0			-
Perchlorate-101	0.200	0.00268	ug/L	0.191	93.9		.203	100		6.22		30	75 - 125
Perchlorate-O(18)	0	0.482	ug/L	0.458			.486			5.84			-

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

Comments:

Perchlorate Initial Calibration Blank

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	21-JAN-10	per0121001a	IPB001
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121001a	IPB001
Perchlorate	0.00	0	NA	21-JAN-10	per0121002a	IPB001
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121002a	IPB001

Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charliers W. Wilson

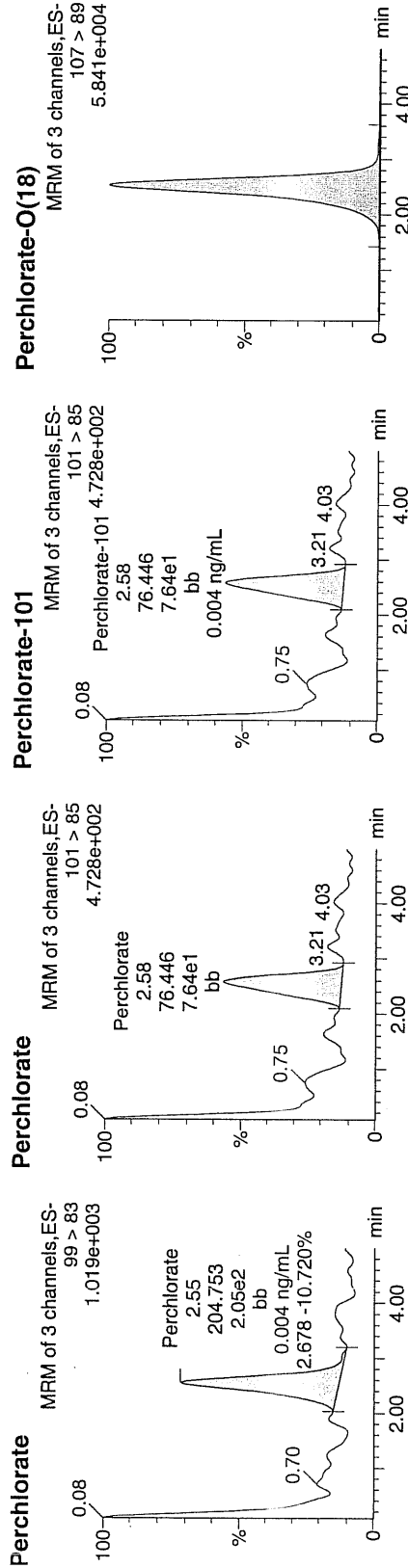
Dataset:    C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered:    Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed:    Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012110a.mdb 22 Jan 2010 13:03:42  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012110a.cdb 22 Jan 2010 13:03:55

Name: per0121001a  
Date: 21-Jan-2010  
Time: 13:28:21  
ID: IPB001  
Vial: 1:1,A

Q1-21.10



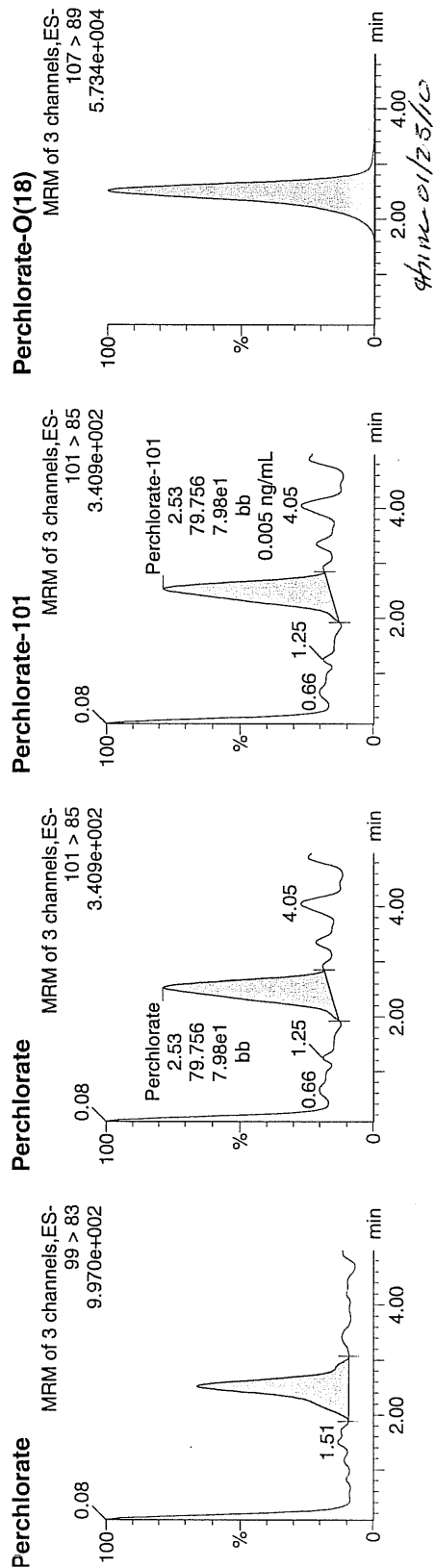
ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83	2.55	204.753	204.753	bb			0.0041			36.786	2.68
IPB001	Perchlorate-101	101 > 85	2.58	76.446	76.446	bb			0.0044			19.217	
IPB001	Perchlorate-O(18)	107 > 89	2.51	21984.707	21984.707	bb			0.5051	101.02	1.02	3540.1...	

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121002a  
Date: 21-Jan-2010  
Time: 13:36:33  
ID: IPB001  
Vial: 1:1,A

0000  
01-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83	2.51	210.246	210.246	bb			0.0042			60.536	2.64
IPB001	Perchlorate-101	101 > 85	2.53	79.756	79.756	bb			0.0046			7.448	
IPB001	Perchlorate-O(18)	107 > 89	2.51	21671.338	21671.338	bb			0.4979	99.58	-0.42	681.037	

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	21-JAN-10	per0121008a	IPB002
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121008a	IPB002
Perchlorate	0.00	0	NA	21-JAN-10	per0121010a	IPB003
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121010a	IPB003
Perchlorate	0.00	0	NA	21-JAN-10	per0121021a	IPB004
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121021a	IPB004
Perchlorate	0.00	0	NA	21-JAN-10	per0121032a	IPB005
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121032a	IPB005

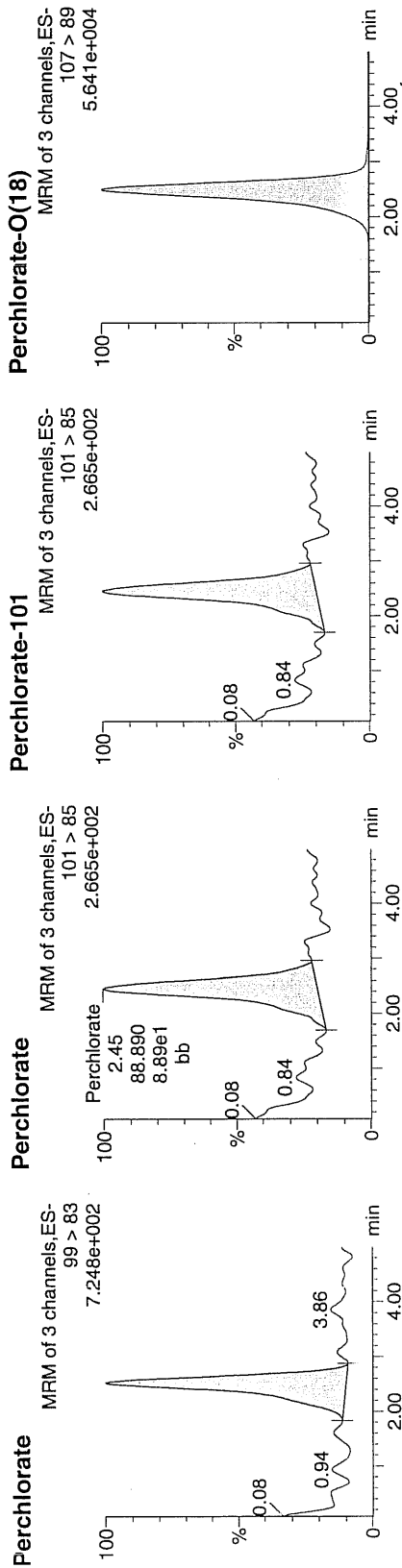
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121008a  
Date: 21-Jan-2010  
Time: 14:24:42  
ID: IPB002  
Vial: 1:1,A

01-22-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83	2.51	222.464	222.464	bb			0.0044			42.609	2.50
IPB002	Perchlorate-101	101 > 85	2.45	88.890	88.890	bb			0.0052			32.880	
IPB002	Perchlorate-O(18)	107 > 89	2.49	21012.908	21012.908	bb			0.4828	96.56	-3.44	1392.1...	

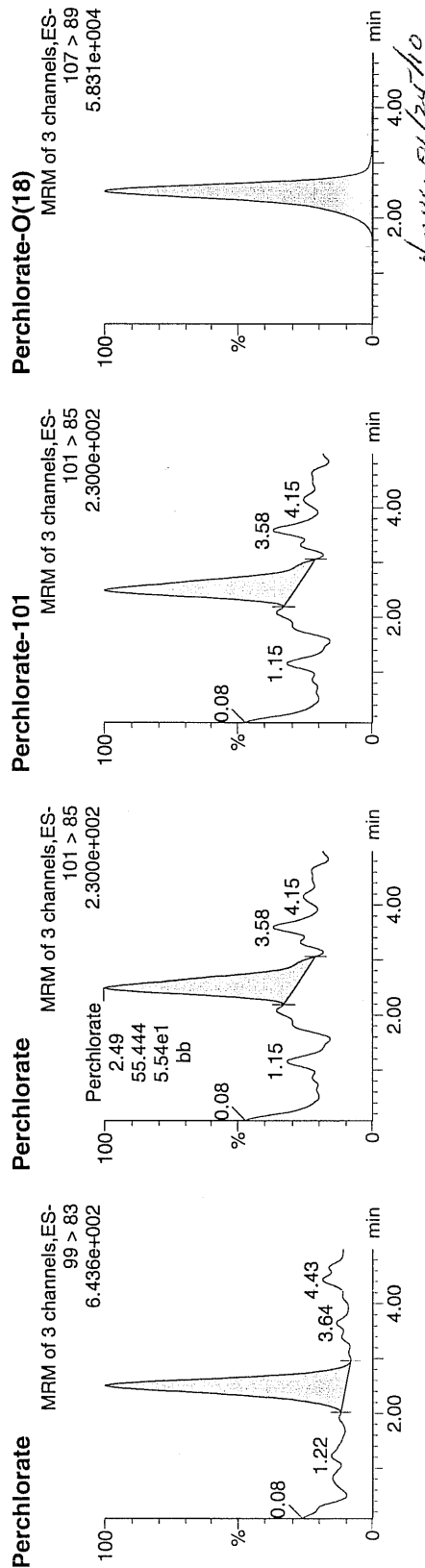
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121010a  
Date: 21-Jan-2010  
Time: 14:40:46  
ID: IPB003  
Vial: 1:1,A

01-22-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83	2.50	193.590	193.590	bb			0.0039			104.378	3.49
IPB003	Perchlorate-101	101 > 85	2.49	55.444	55.444	bb			0.0032			26.855	
IPB003	Perchlorate-O(18)	107 > 89	2.49	21401.723	21401.723	bb			0.4917	98.34	-1.66	6111.1...	



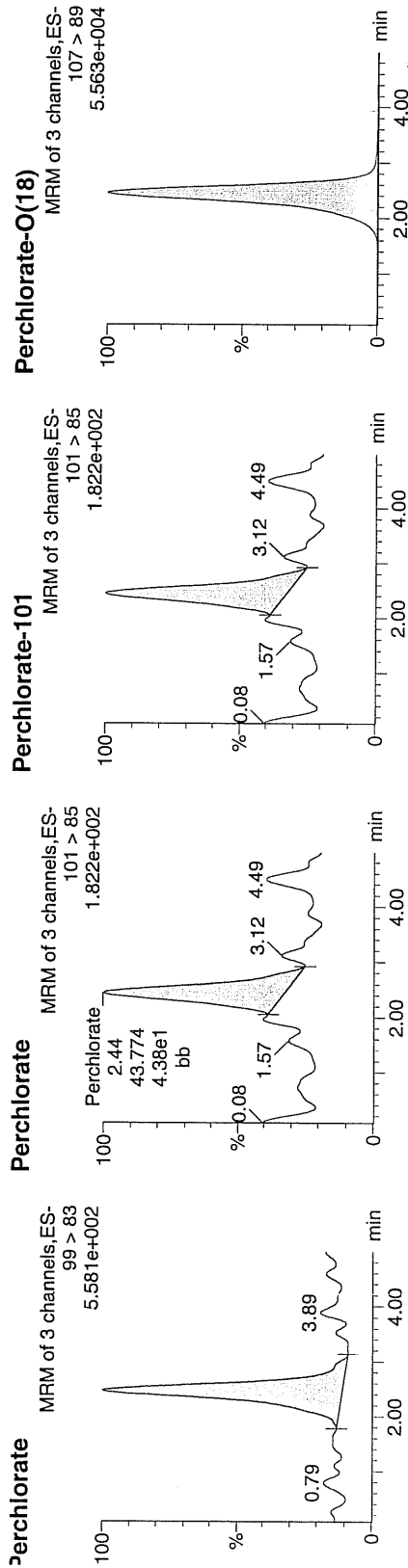
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121021a  
Date: 21-Jan-2010  
Time: 16:09:13  
D: IPB004  
Vial: 1:1,A

www  
01-22-10



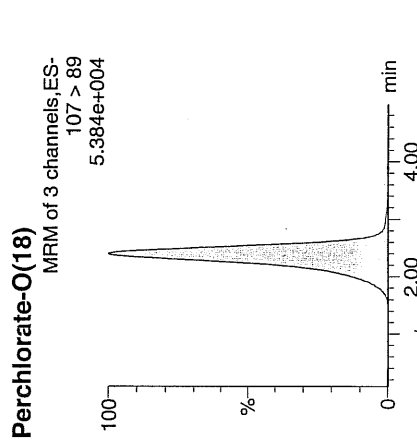
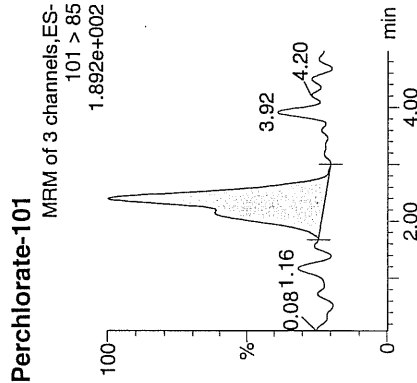
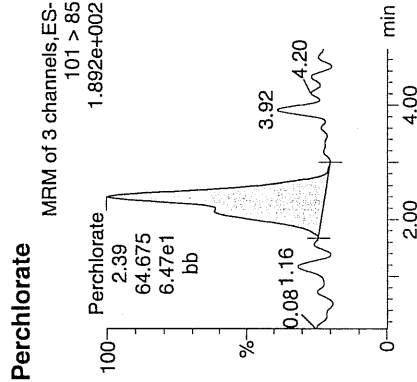
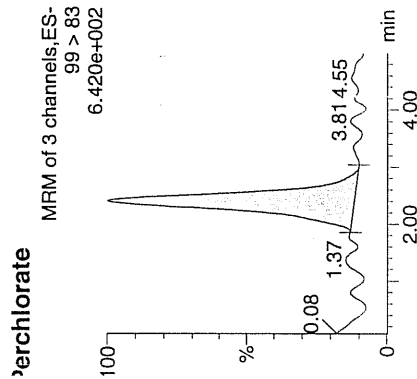
D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB004	Perchlorate	99 > 83	2.46	180.474	180.474	bb			0.0036	41.034	41.12	41.034	4.12
PB004	Perchlorate-101	101 > 85	2.44	43.774	43.774	bb			0.0025	40.786	40.786	40.786	40.786
PB004	Perchlorate-O(18)	107 > 89	2.45	20657.713	20657.713	bb			0.4746	94.92	-5.08	4317.2	4317.2

Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Sample Name: per0121032a  
Date: 21-Jan-2010  
Time: 17:37:38  
Dilution: 1:1, A



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB005	Perchlorate	99 > 83	2.40	202.343	202.343	bb			0.0040			37,250	3.13
PB005	Perchlorate-101	101 > 85	2.39	64.675	64.675	bb			0.0038			58,231	
PB005	Perchlorate-O(18)	107 > 89	2.40	19935.807	19935.807	bb			0.4580	91.61	-8.39	6054.8...	

Nairb.ref

;Positive ion monoisotopic and average masses from solution  
 ;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H<sub>2</sub>O.  
 ;Most useful general purpose calibrant for all low  
 ;MW applications, including MS/MS work.  
 ;At high resolution, readily covers from m/z 50-2000.  
 ;At reduced resolution, can be used to over m/z 3000.  
 ;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.  
 Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

QUATRO ULTIMA: nairb\_01\_08\_08.cal

Calibration Report - MS1 Static

Printed:

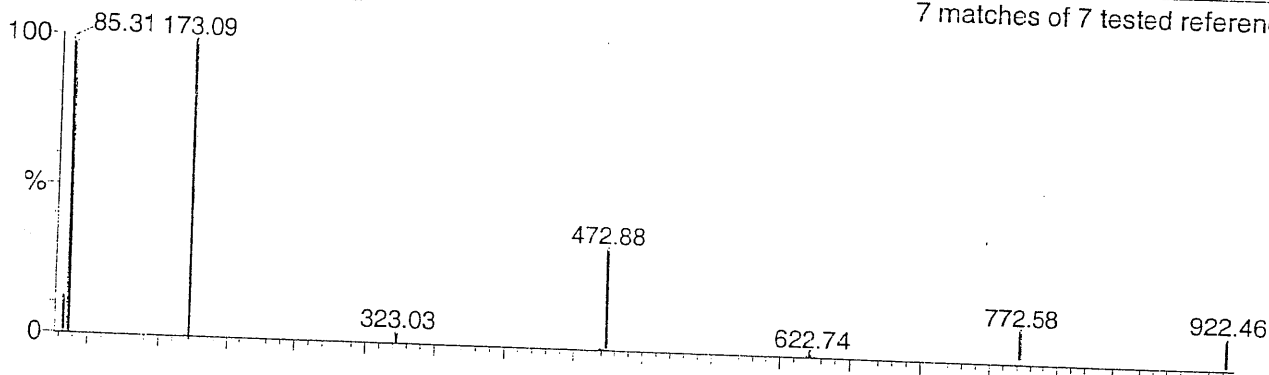
Tue Jan 08 12:19:12 2008

Page 1 of 1

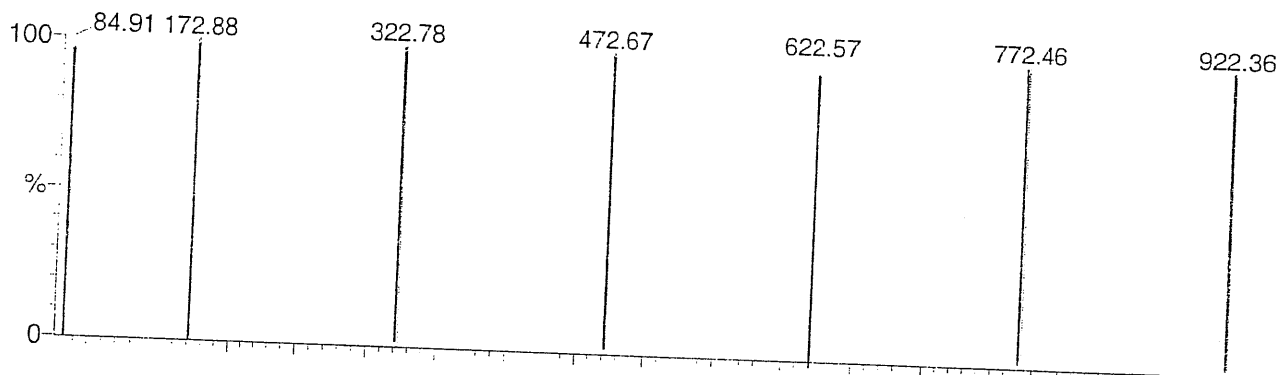
POINTS HIGHLIGHTED BY CURVE 01-08-08

Data file: STATMS1 - Uncalibrated

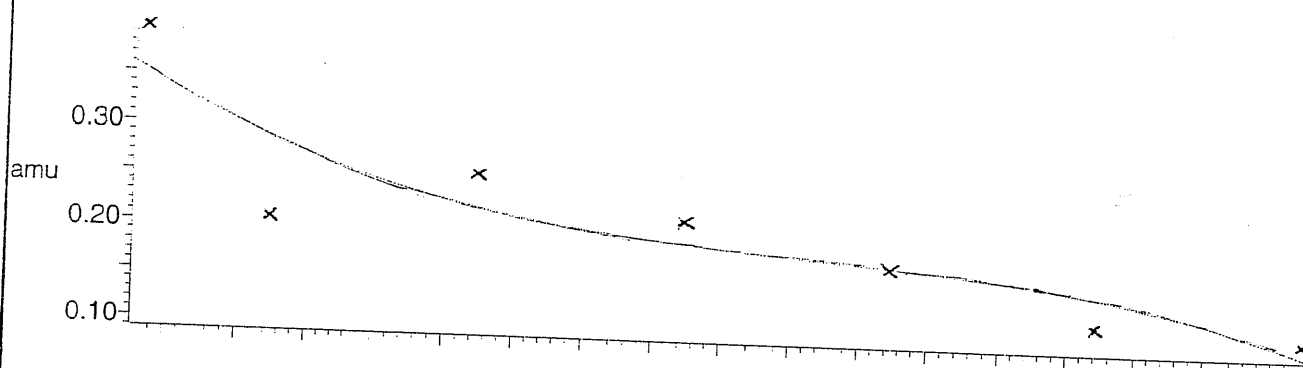
7 matches of 7 tested references



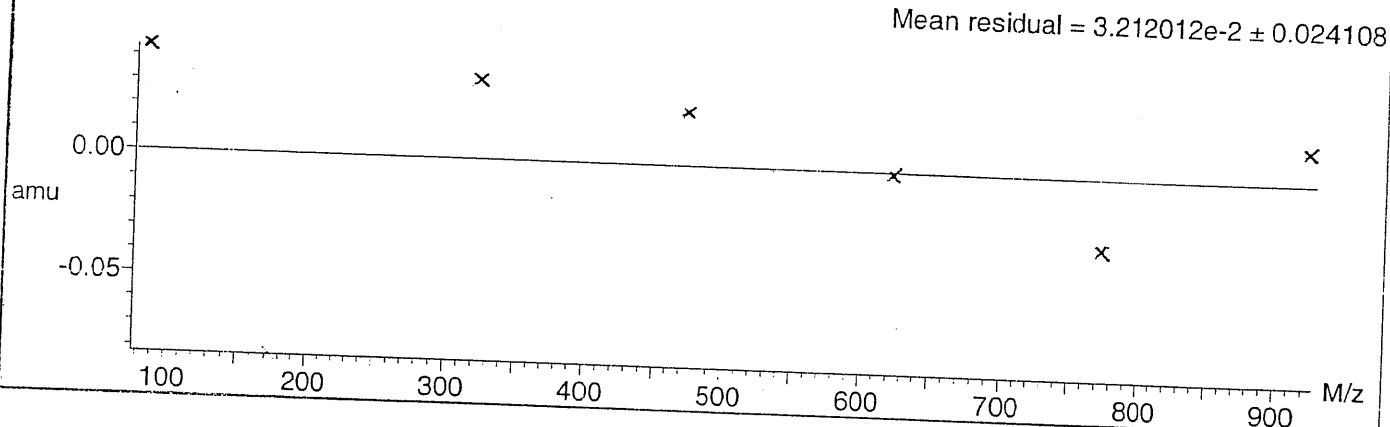
Reference file: Nairb



Mass difference (Raw - Ref mass)



Residuals



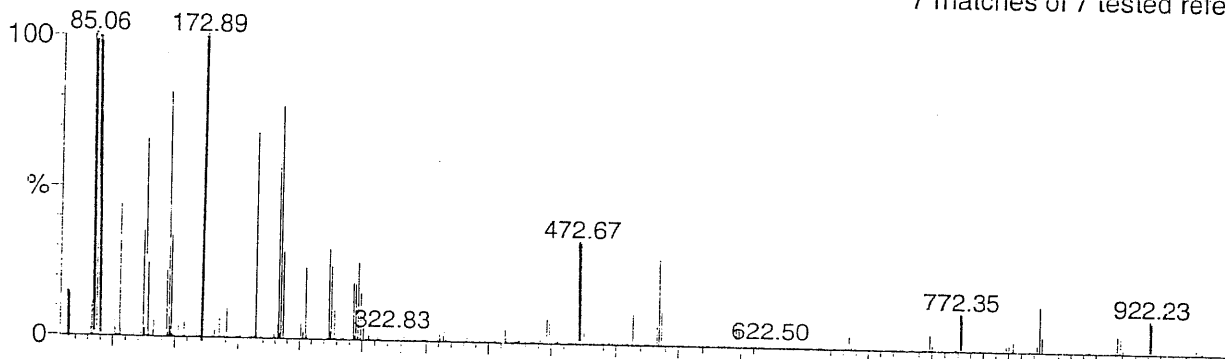
Calibration Report - MS1 Scanning

Page 1 of 1

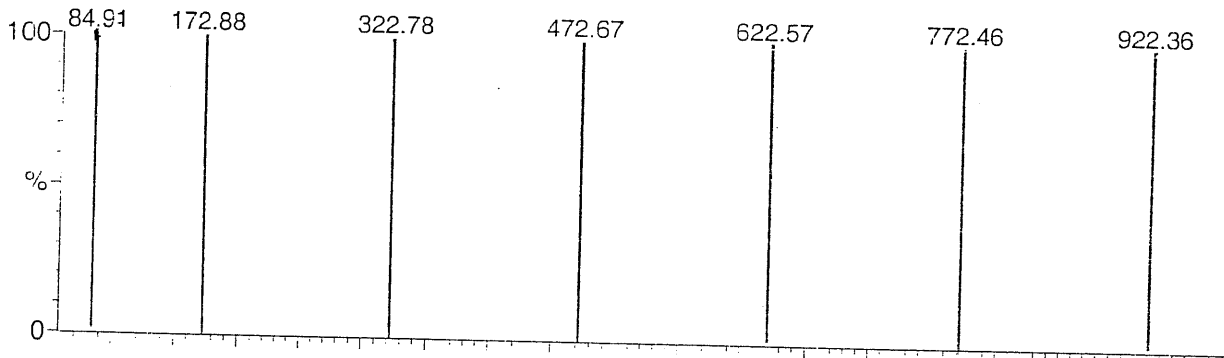
Printed: Tue Jan 08 12:20:09 2008

Data file: SCNMS1 - Uncalibrated

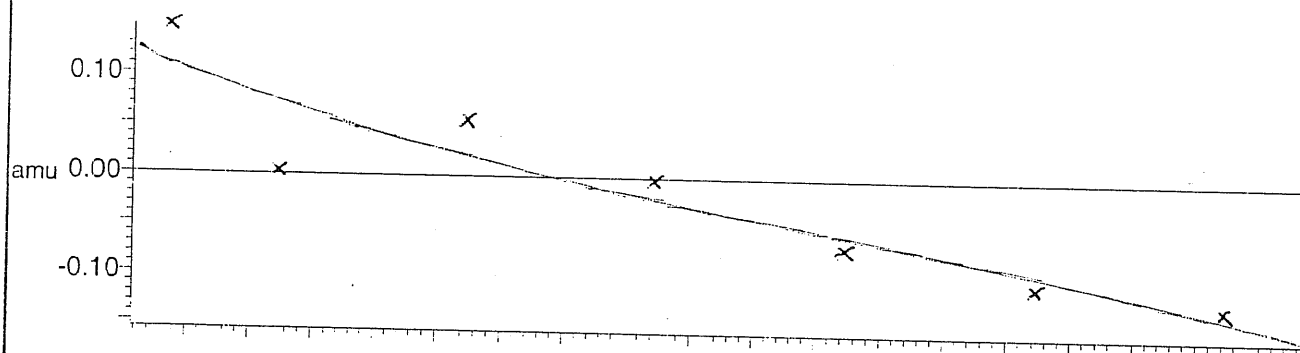
7 matches of 7 tested references



Reference file: Nairb

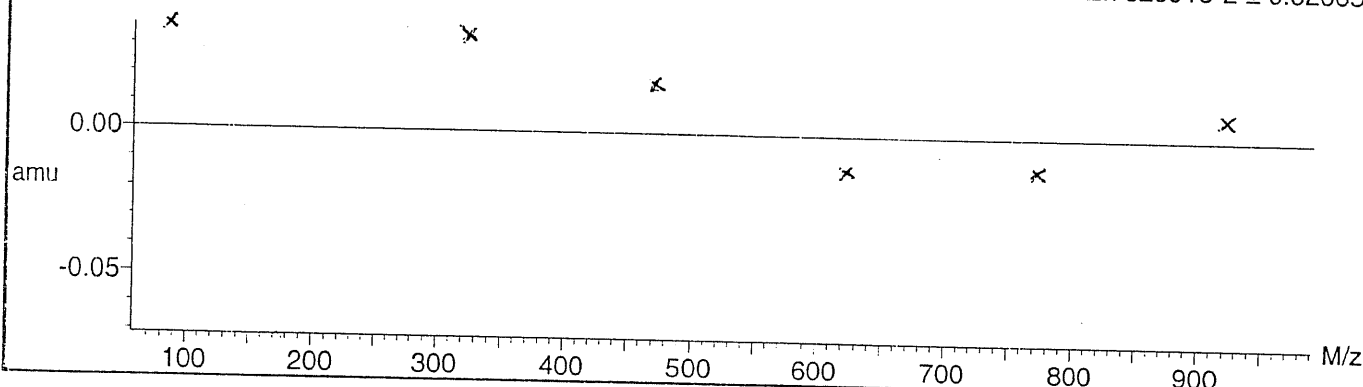


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $2.732691 \times 10^{-2} \pm 0.020653$



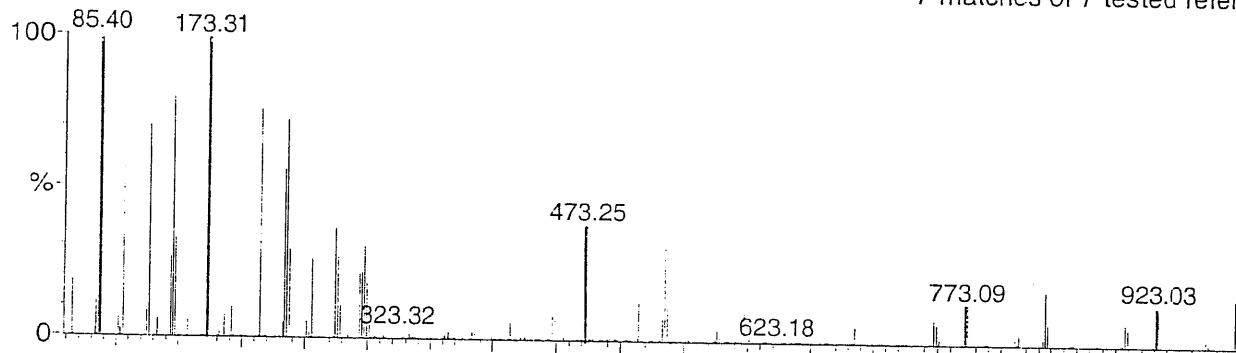
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

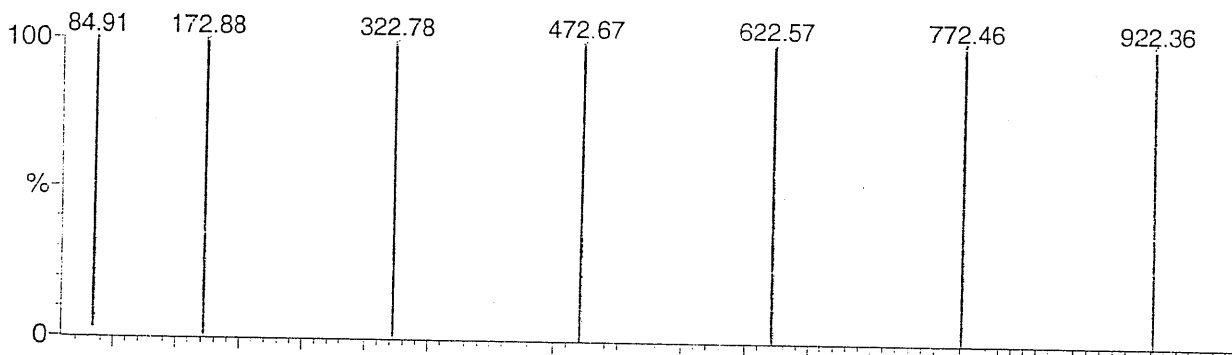
Printed: Tue Jan 08 12:21:04 2008

Data file: FASTMS1 - Uncalibrated

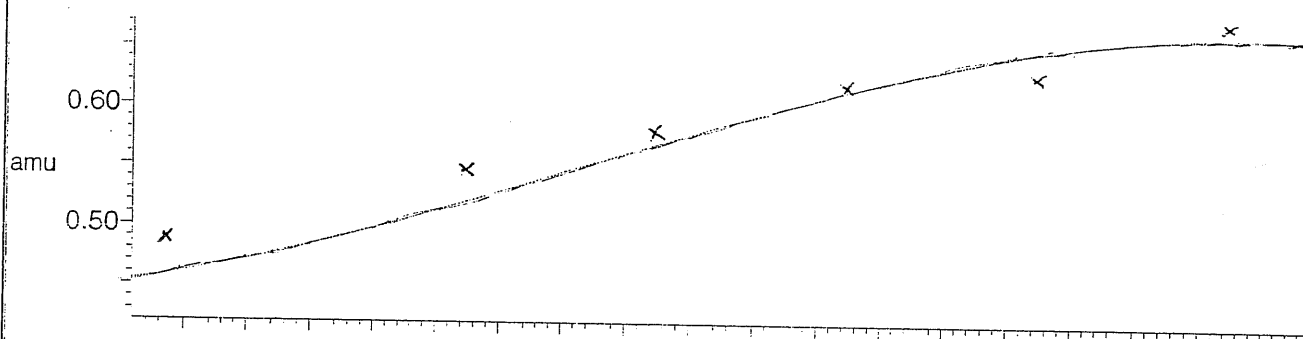
7 matches of 7 tested references



Reference file: Nairb

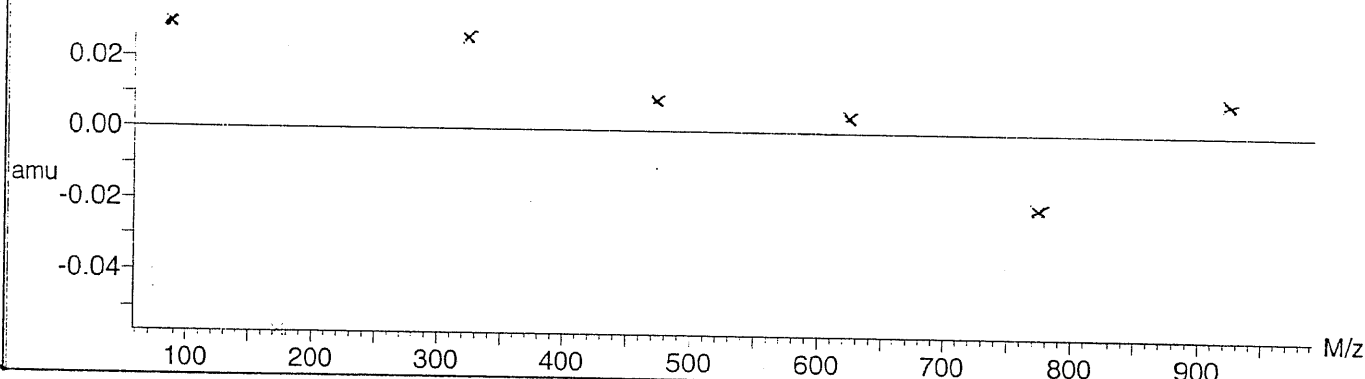


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $2.224580 \times 10^{-2} \pm 0.016544$



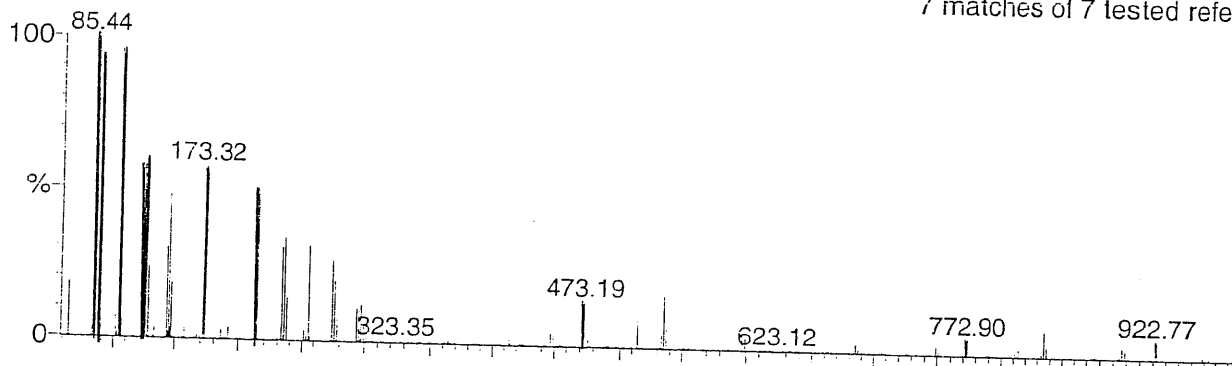
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

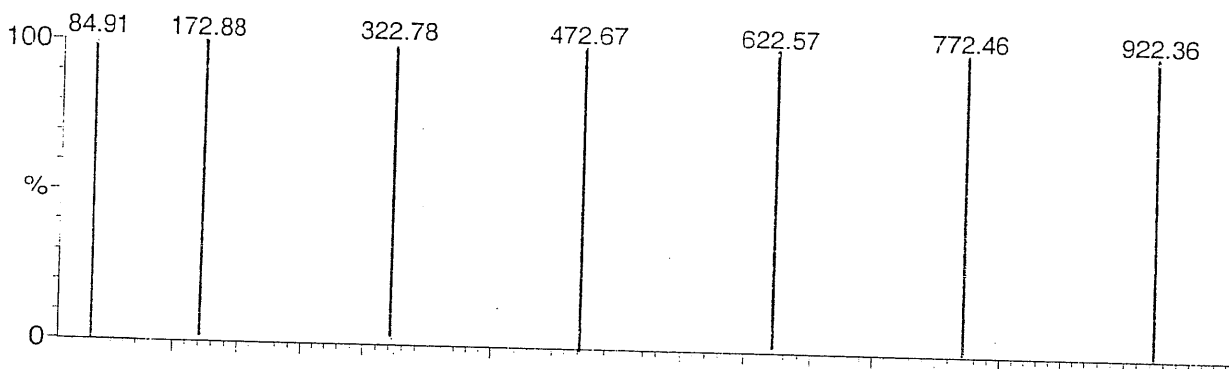
Printed: Tue Jan 08 12:23:51 2008

Data file: FASTMS2 - Uncalibrated

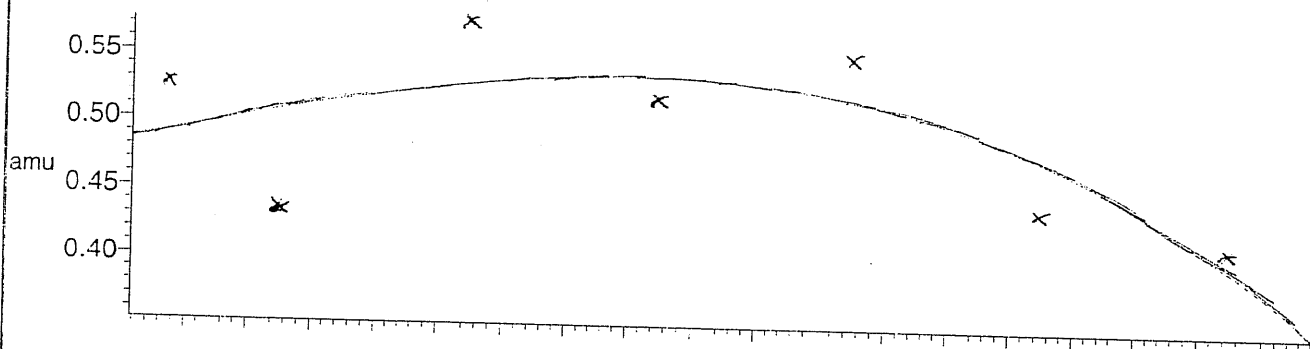
7 matches of 7 tested references



Reference file: Nairb

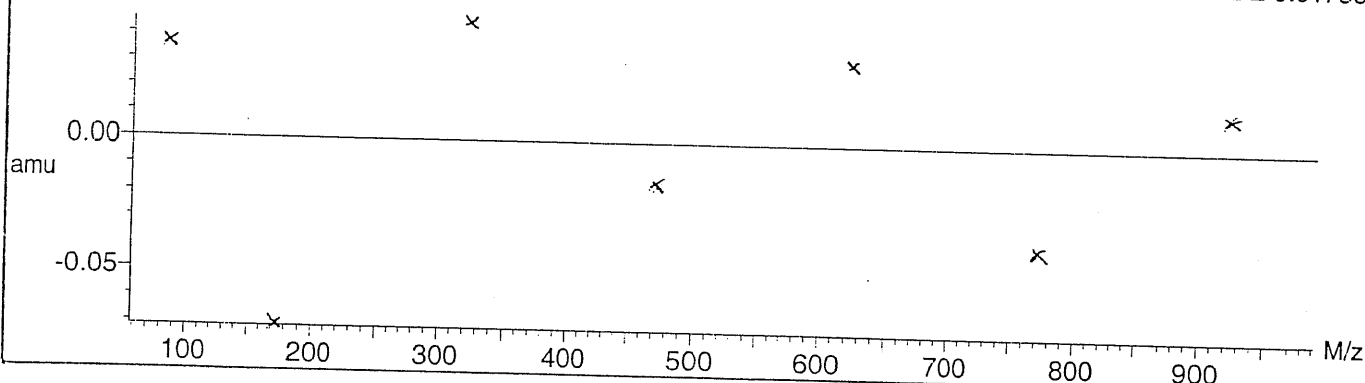


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.598289 \times 10^{-2} \pm 0.017899$



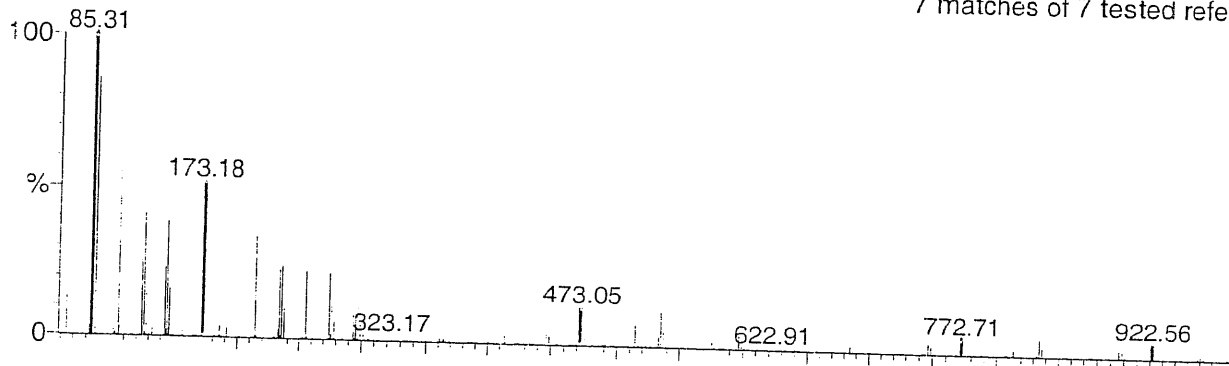
Calibration Report - MS2 Scanning

Page 1 of 1

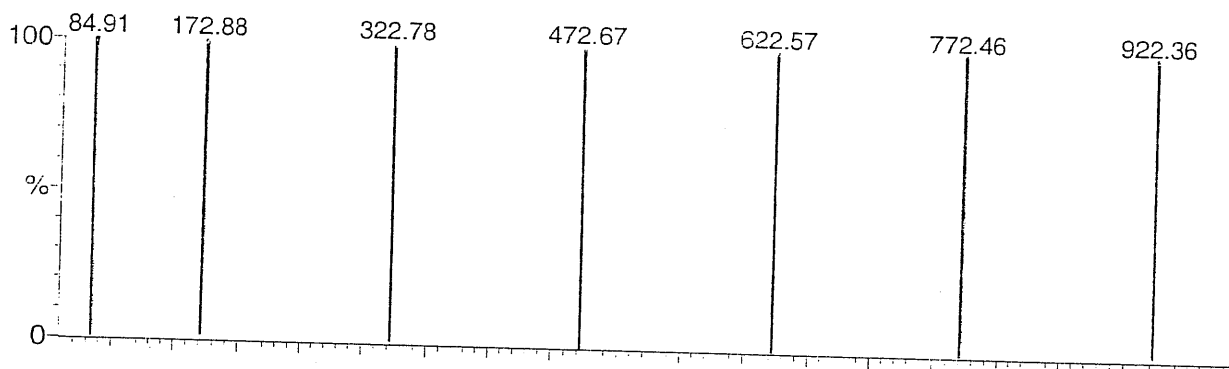
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Data file: SCNMS2 - Uncalibrated

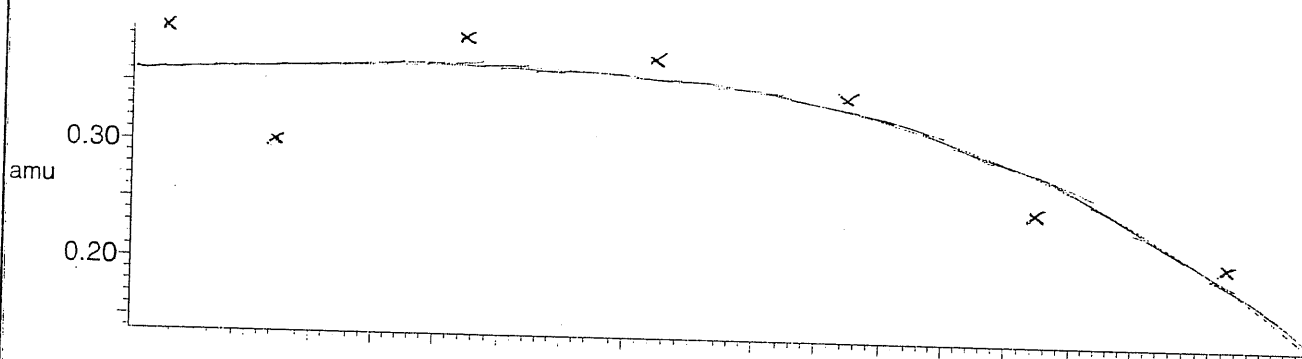
7 matches of 7 tested references



Reference file: Nairb

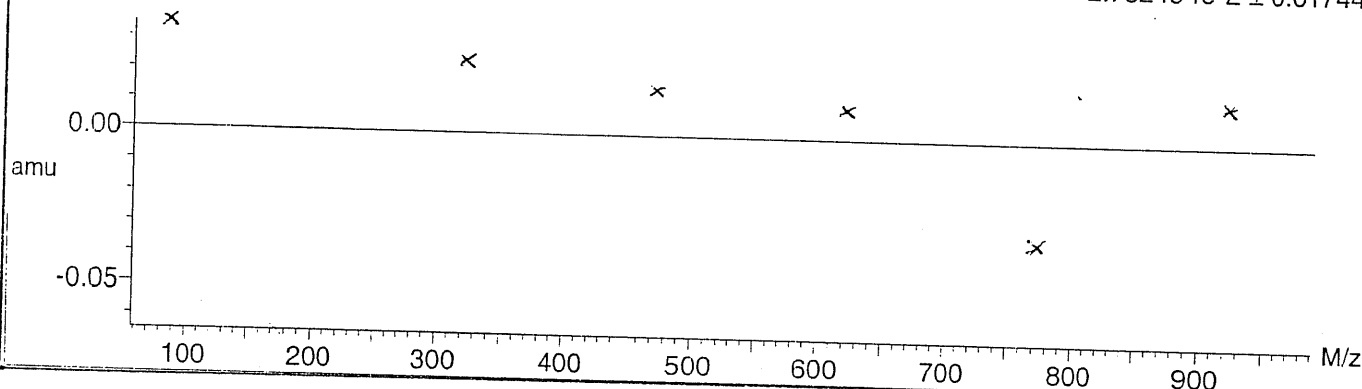


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $2.782494 \times 10^{-2} \pm 0.017442$





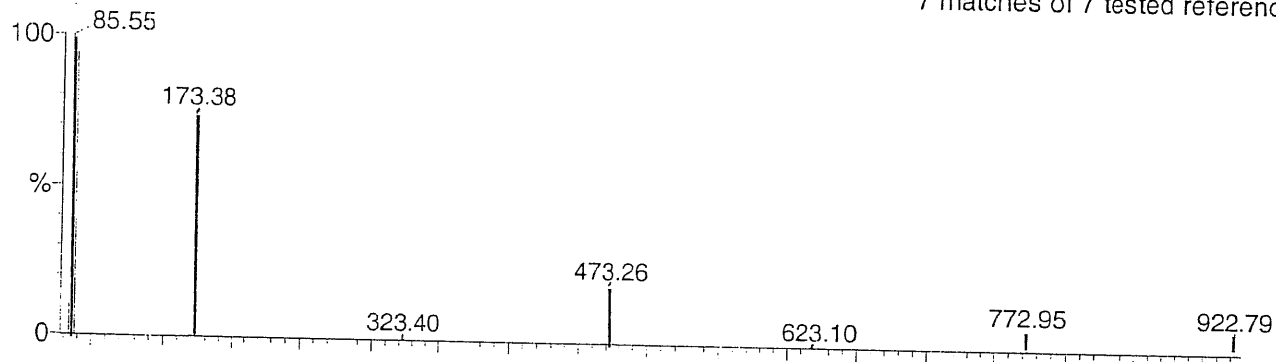
Calibration Report - MS2 Static

Page 1 of 1

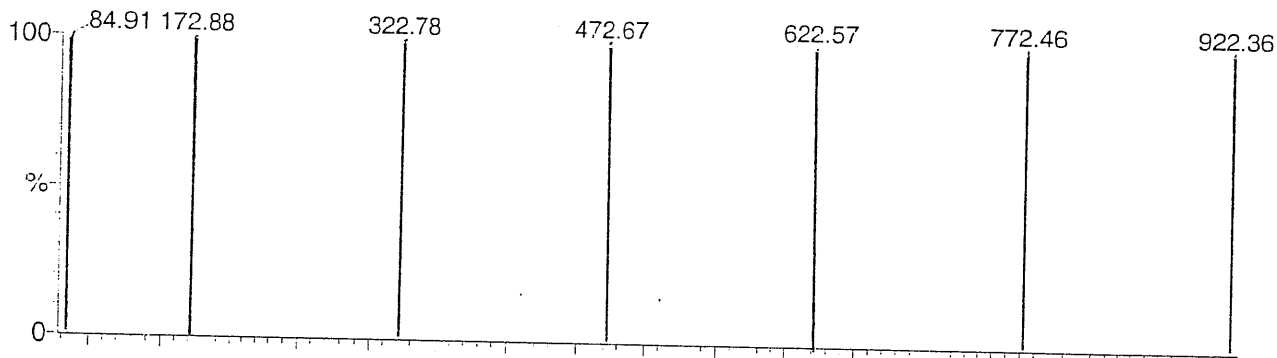
Printed: Tue Jan 08 12:21:59 2008

Data file: STATMS2 - Uncalibrated

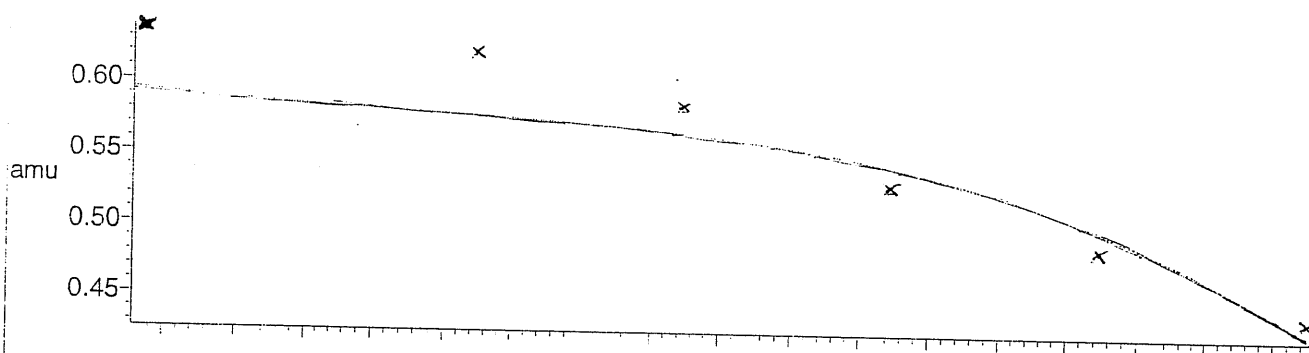
7 matches of 7 tested references



Reference file: Nairb

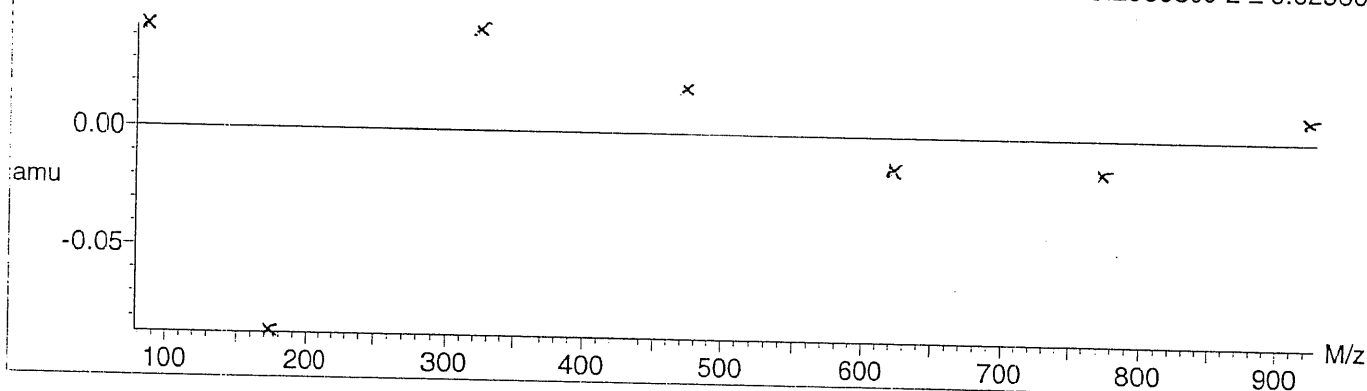


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.295980 \times 10^{-2} \pm 0.025603$



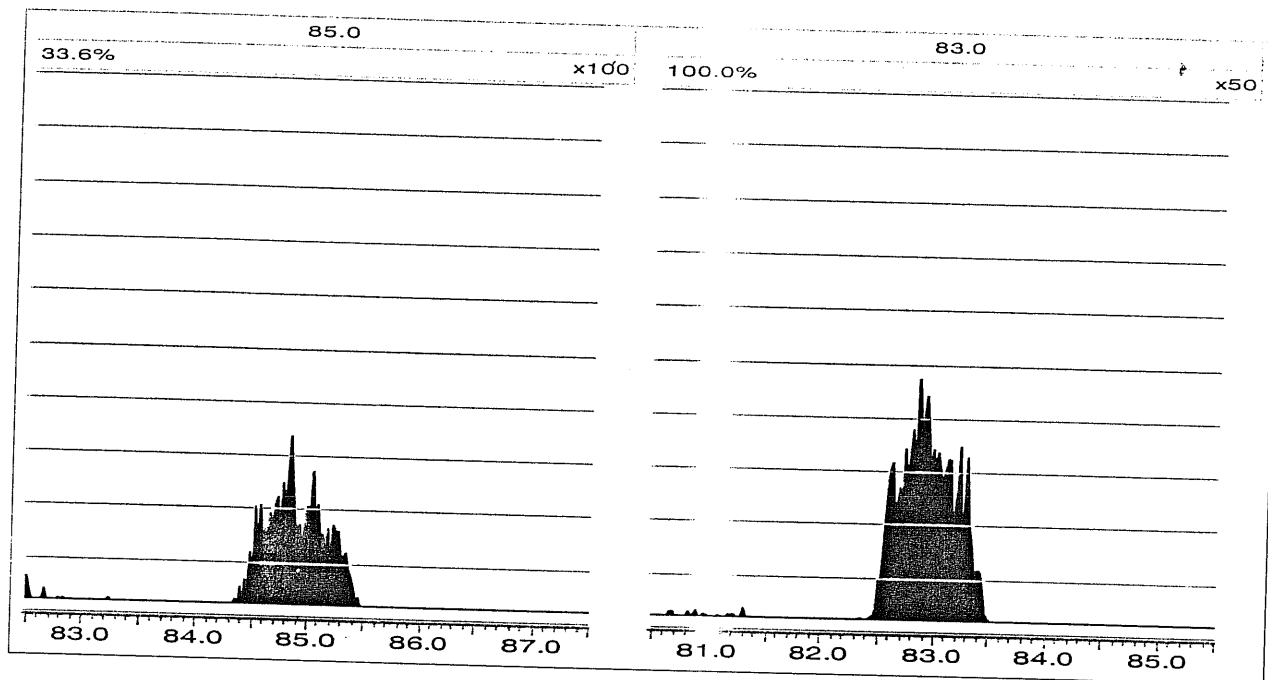
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

File: C:\MassLynx\Perchlorate.PRO\ACQUDB\Perchlorate.IPR

Printed: Thursday, January 21, 2010 13:23:09 Eastern Standard Time



Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories  
GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98-1.02
MidLevel Standard Area	per0121006a	21-JAN-10	21436.2				
Lower Area Limit			10718.1				
Upper Area Limit			42872.4				
1202020832	per0121012a	21-JAN-10 14:56	21028	2.48	2.47653	.999	
1202020833	per0121013a	21-JAN-10 15:04	21689.9	2.48	2.48902	1.004	
1202020836	per0121014a	21-JAN-10 15:12	21014.7	2.22	2.2406	1.009	
244849001	per0121030a	21-JAN-10 17:21	20847.1	2.39	2.40202	1.005	

# SAMPLE DATA

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 943783  
 Extraction Type: Filter/DAI  
 Client Sample No. RE12-10-7286  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1262-1  
 GEL Sample ID: 244849001  
 Date Filtered: 21-JAN-10  
 Injection Volume (uL): 20

%Solids:

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:21	per0121030a
	Perchlorate Isotope Ratio						1	21-JAN-10 17:21	per0121030a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:21	per0121030a
	Perchlorate-O(18)			0.479	ug/L		1	21-JAN-10 17:21	per0121030a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X Concentrated Extract Volume X  $\frac{1}{\% \text{Solids}}$   
 Aliquot

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

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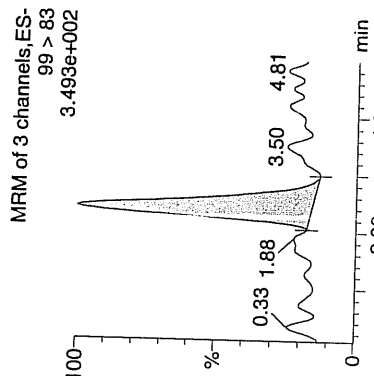
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Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

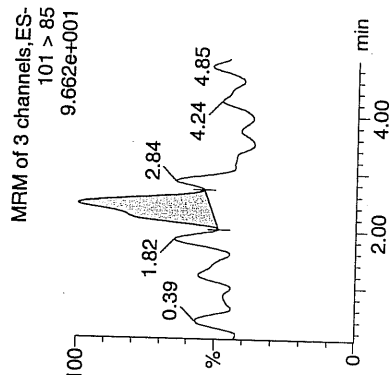
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Date: 21-Jan-2010  
Time: 17:21:32  
ID: 244849001  
Vial: 1:5,D

1222 | 943784 | 1722 | 11 |  
01-22-10

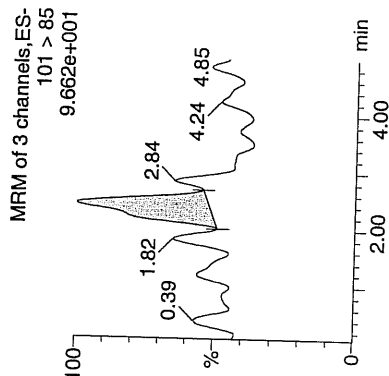
Perchlorate



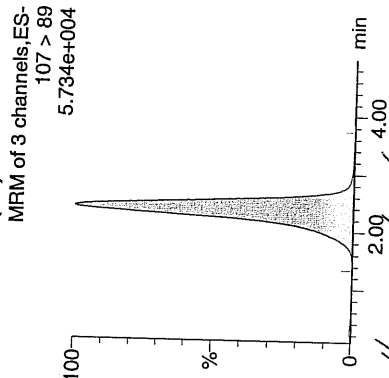
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	S/N	Ion Ratio
244849001	Perchlorate	99 > 83	2.40	103.662	103.662	bb			0.0021			43.619	6.27
244849001	Perchlorate-101	101 > 85	2.43	16.531	16.531	bb			0.0010			12.172	
244849001	Perchlorate-O(18)	107 > 89	2.39	20847.084	20847.084	bb			0.4790	95.79	-4.21	2096.4...	

OK  
20.5500

# STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Instrument ID: LCMSMS

Date Analyzed: 21-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname

Perchlorate

Coefficient of Determination:

Calibration Curve: 50239.06

Response Type: External Standard

Curve Type: RF



Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Instrument ID: LCMSMS

Date Analyzed: 21-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 17232.4

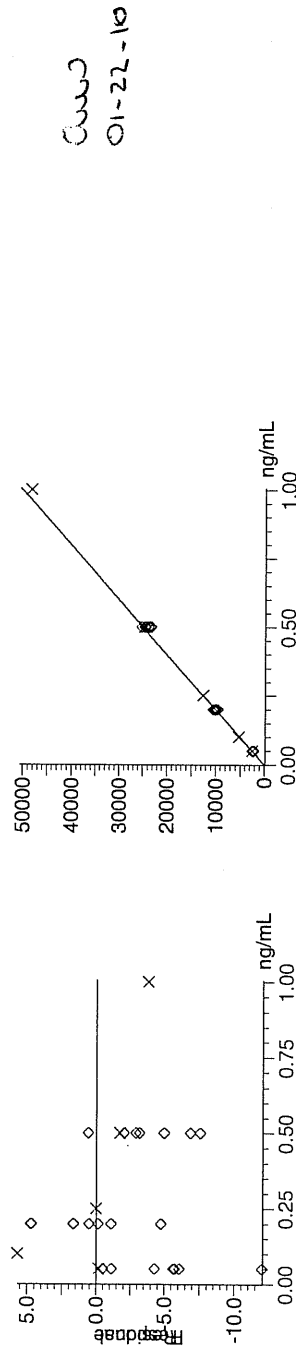
Response Type: External Standard

Curve Type: RF

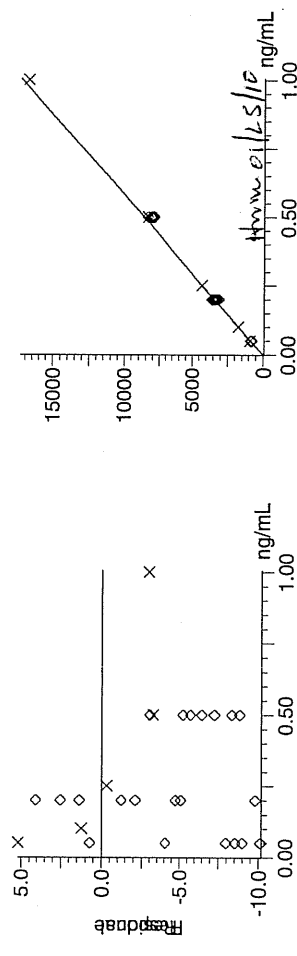
Last Altered:   Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed:   Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012110a.mdb 22 Jan 2010 13:03:42  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012110a.cdb 22 Jan 2010 13:03:55

Compound name: Perchlorate  
Response Factor: 50239  
RRF SD: 1769.18, % Relative SD: 3.52151  
Response type: External Std, Area  
Curve type: RF



Compound name: Perchlorate-101  
Response Factor: 17232.4  
RRF SD: 596.582, % Relative SD: 3.46198  
Response type: External Std, Area  
Curve type: RF

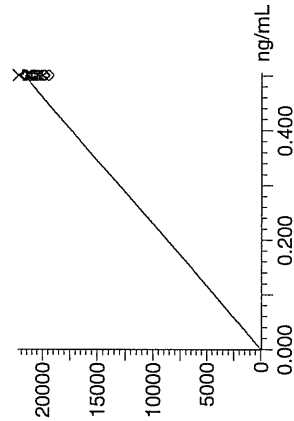
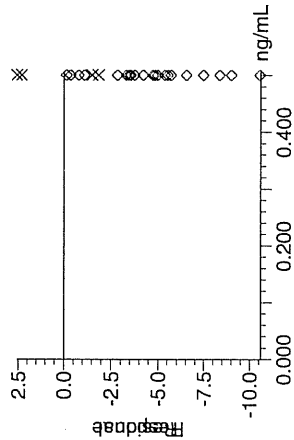


Quantify Calibration Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered:    Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed:    Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Compound name: Perchlorate-O(18)  
Response Factor: 43525.2  
RRF SD: 974.018, % Relative SD: 2.23783  
Response type: External Std, Area  
Curve type: RF



01-22-10

Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Reporting Units: ug/L

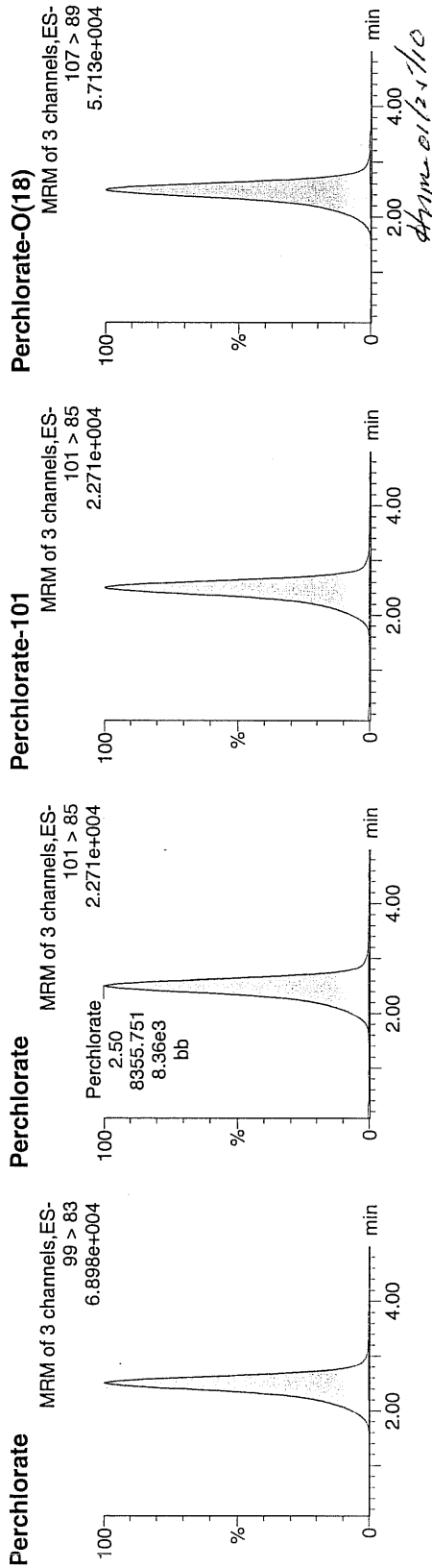
Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.5	100.6	21-JAN-10 14:32	per0121009a
Perchlorate Isotope Ratio		3.02		21-JAN-10 14:32	per0121009a
Perchlorate-101	.5	.48	96.98	21-JAN-10 14:32	per0121009a

Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121009a  
Date: 21-Jan-2010  
Time: 14:32:44  
ID: WCL100118-06ICV  
Vial: 1:2,A  
  
Pura  
CWC  
01-22-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06ICV	Perchlorate	99 > 83	2.50	25269.490	25269.490	bb			0.5030	100.60	0.60	4248.9...	3.02
WCL100118-06ICV	Perchlorate-101	101 > 85	2.50	8355.751	8355.751	bb			0.4849	96.98	-3.02	240.922	
WCL100118-06ICV	Perchlorate-O(18)	107 > 89	2.49	20988.775	20988.775	bb			0.4822	96.44	-3.56	177.662	

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.48	95.02	21-JAN-10 16:01	per0121020a
Perchlorate Isotope Ratio		3.02		21-JAN-10 16:01	per0121020a
Perchlorate-101	.5	.46	91.69	21-JAN-10 16:01	per0121020a
Perchlorate	.5	.49	97.97	21-JAN-10 17:29	per0121031a
Perchlorate Isotope Ratio		3.01		21-JAN-10 17:29	per0121031a
Perchlorate-101	.5	.47	94.78	21-JAN-10 17:29	per0121031a

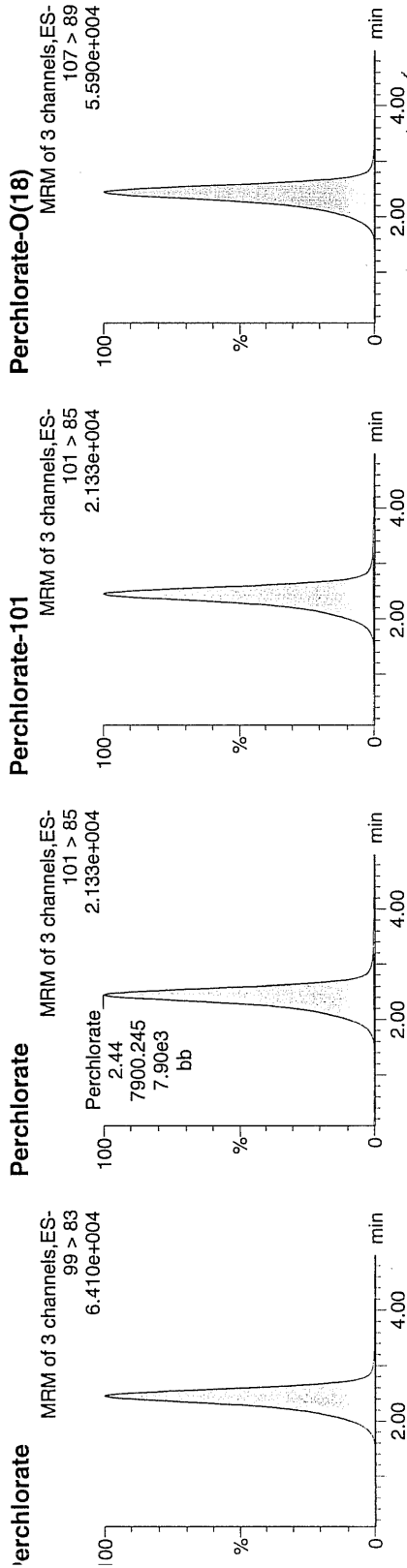
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charters W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Sample Name: per0121020a  
Date: 21-Jan-2010  
Time: 16:01:10  
Job: WCL100118-06CCV  
Vial: 1:2,A

*Perchlorate*  
*01-22-10*



	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
VCL100118-06CCV	Perchlorate	99 > 83	2.45	23869.734	23869.734	bb			0.4751	95.02	-4.98	3481.7...	3.02
VCL100118-06CCV	Perchlorate-101	101 > 85	2.44	7900.245	7900.245	bb			0.4585	91.69	-8.31	1784.4...	
VCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.44	20707.582	20707.582	bb			0.4758	95.15	-4.85	3834.6...	

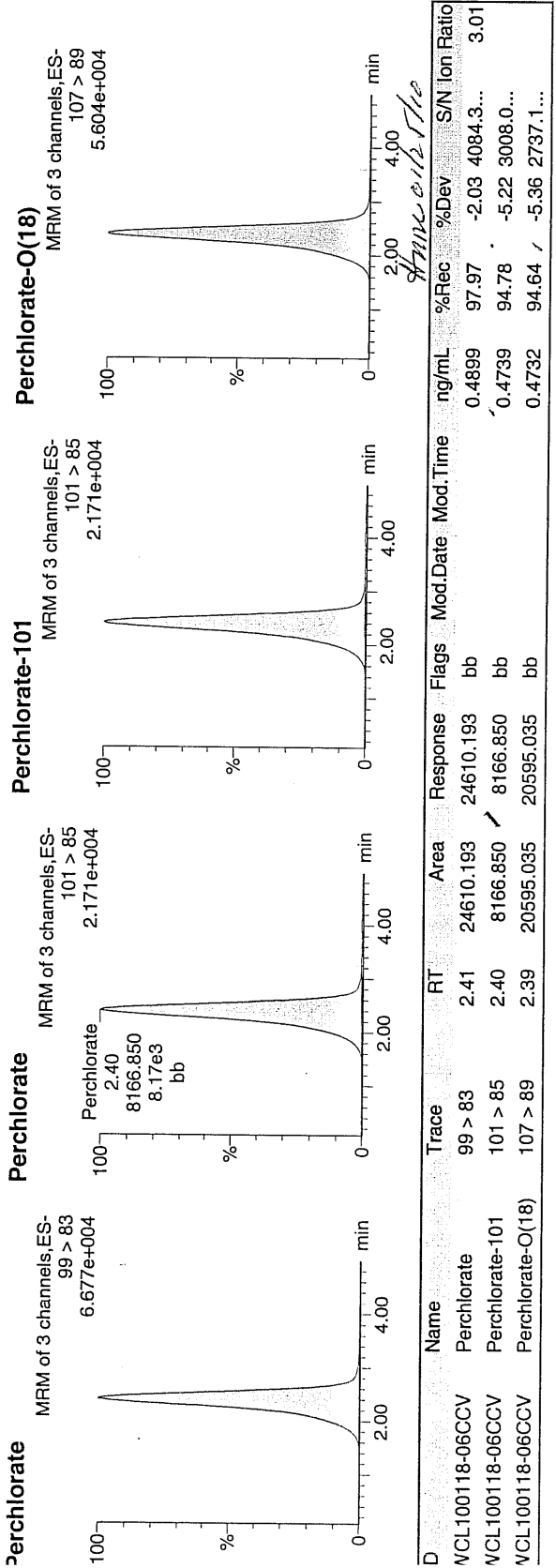
Quantify Sample Report    MassLynx 4.0 SP4  
The GEL Group, LLC    Analyst: Charlers W. Wilson

Dataset:    C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered:    Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed:    Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

*Peros*  
*GWJ*  
*01-22-10*

Name: per0121031a  
Date: 21-Jan-2010  
Time: 17:29:35  
D: WCL100118-06CCV  
Vial: 1:2,A





Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1262-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	99.52	21-JAN-10 14:48	per0121011a
Perchlorate Isotope Ratio		3.23		21-JAN-10 14:48	per0121011a
Perchlorate-101	.05	.04	89.89	21-JAN-10 14:48	per0121011a
Perchlorate	.05	.05	95.71	21-JAN-10 16:17	per0121022a
Perchlorate Isotope Ratio		2.91		21-JAN-10 16:17	per0121022a
Perchlorate-101	.05	.05	95.94	21-JAN-10 16:17	per0121022a
Perchlorate	.05	.04	88.01	21-JAN-10 17:45	per0121033a
Perchlorate Isotope Ratio		2.81		21-JAN-10 17:45	per0121033a
Perchlorate-101	.05	.05	91.47	21-JAN-10 17:45	per0121033a

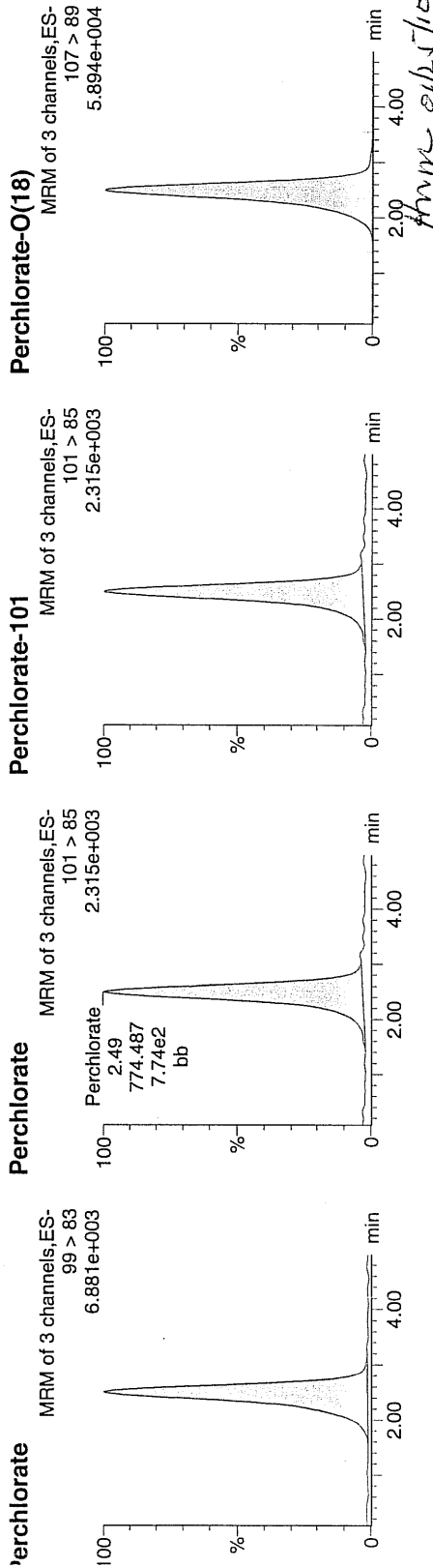
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Sample Name: per0121011a  
Date: 21-Jan-2010  
Time: 14:48:48  
D: WCL100118-07CRI  
Fial: 1:2,B

*Pass and 01-22-10*



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
VCL100118-07CRI	Perchlorate	99 > 83	2.50	2499.918	2499.918	bb			0.0498	99.52	-0.48	607.914	3.23
VCL100118-07CRI	Perchlorate-101	101 > 85	2.49	774.487	774.487	bb			0.0449	89.89	-10.11	129.026	
VCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.49	21733.771	21733.771	bb			0.4993	99.87	-0.13	6289.1...	

Quantify Sample Report MassLynx 4.0 SP4

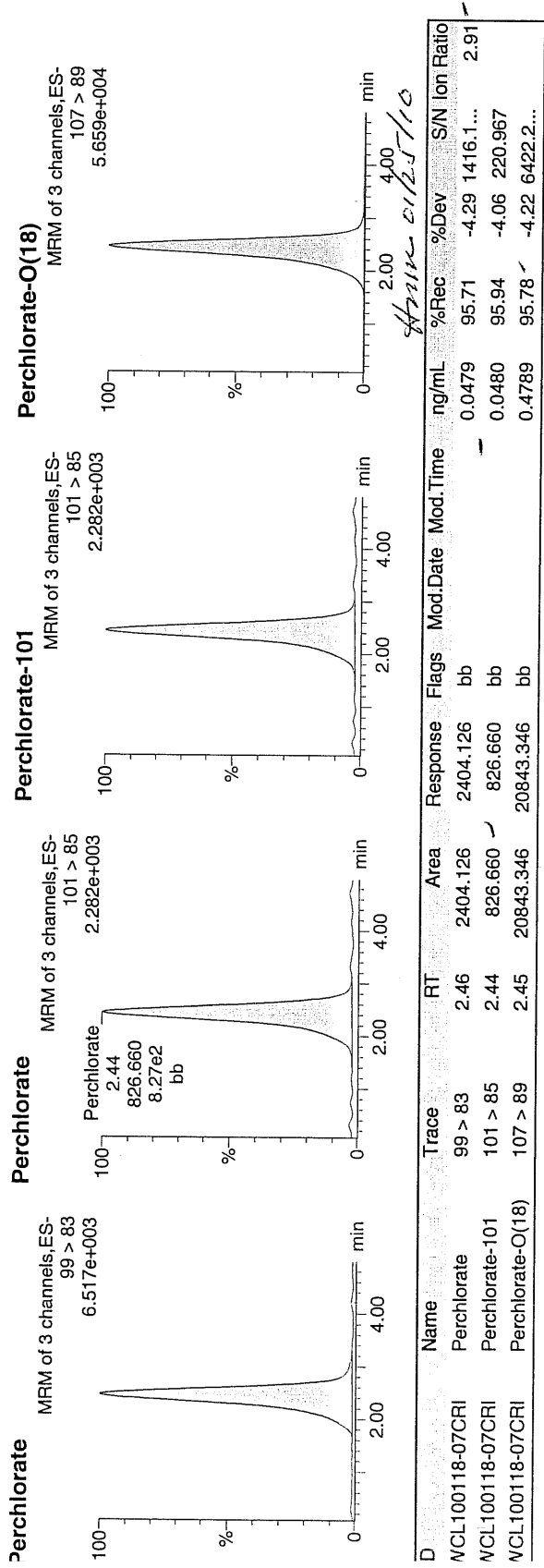
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121022a  
Date: 21-Jan-2010  
Time: 16:17:15  
D: WCL100118-07CRI  
Vial: 1:2,B

Pwd  
CWD  
01-22-10



Quantify Sample Report MassLynx 4.0 SP4

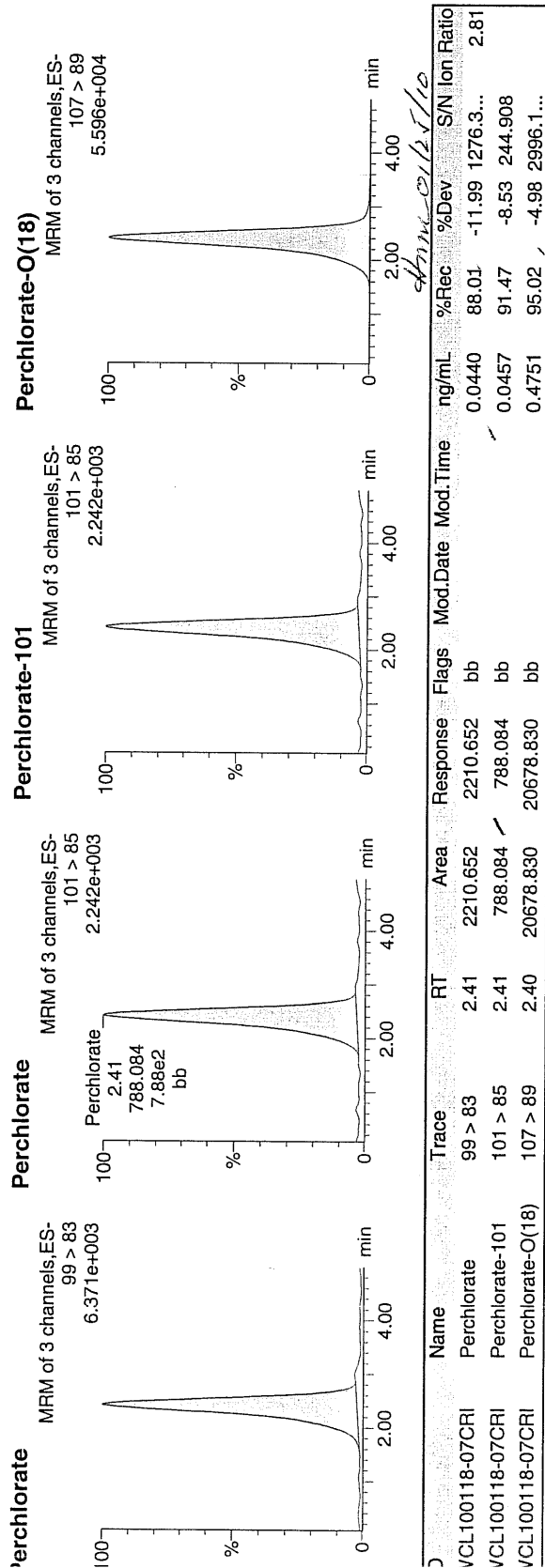
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Sample Name: per0121033a  
Date: 21-Jan-2010  
Time: 17:45:40  
D: WCL100118-07CRI  
Vial: 1:2,B

Pass  
WCL  
01-22-10



# QUALITY CONTROL

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: WATER

Extraction Batch ID: 943783

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

MB

Date Received: 21-JAN-10

GEL Job No (SDG): 10-1262-1

GEL Sample ID: 1202020832

Date Filtered: 21-JAN-10

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 14:56	per0121012a
	Perchlorate Isotope Ratio						1	21-JAN-10 14:56	per0121012a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 14:56	per0121012a
	Perchlorate-O(18)			0.483	ug/L		1	21-JAN-10 14:56	per0121012a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$



Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: WATER

Extraction Batch ID: 943783

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

LCS

Date Received: 21-JAN-10

GEL Job No (SDG): 10-1262-1

GEL Sample ID: 1202020833

Date Filtered: 21-JAN-10

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.203	ug/L		1	21-JAN-10 15:04	per0121013a
	Perchlorate Isotope Ratio			2.85			1	21-JAN-10 15:04	per0121013a
14797-73-0	Perchlorate-101	.05	.2	0.208	ug/L		1	21-JAN-10 15:04	per0121013a
	Perchlorate-O(18)			0.498	ug/L		1	21-JAN-10 15:04	per0121013a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1  
Aliquot %Solids



Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

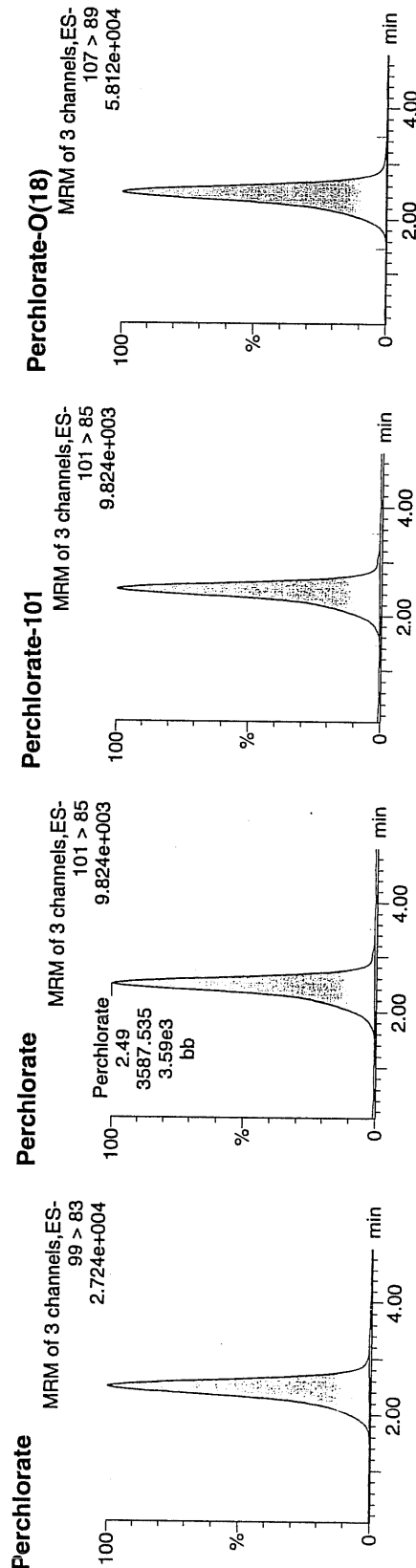
Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121013a  
Date: 21-Jan-2010  
Time: 15:04:55  
ID: 1202020833  
Vial: 1:3,B

01-22-10

LANC | 943784 | 1202 | LUS | 11



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202020833	Perchlorate	99 > 83	2.49	10216.783	10216.783	bb			0.2034	101.68	1.68	562.419	2.85
1202020833	Perchlorate-101	101 > 85	2.49	3587.535	3587.535	bb			0.2082	104.09	4.09	1450.1...	
1202020833	Perchlorate-O(18)	107 > 89	2.48	21689.895	21689.895	bb			0.4983	99.67	-0.33	2614.2...	

$\frac{10216.783}{50239} = 0.2034$   
HNNW 01/25/10

# MISCELLANEOUS DATA

# Prep Logbook

## Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)

Batch ID: 943783  
 Analyst: Charles Wilson  
 Method: SW846 6850 Modified

Verified by:

Lab SOP: GL-OA-E-067 REV# 6  
 Instrument: MicroMass Quatro Ultima

Sample ID	Run Date	Initial Volume (mL)	Final Volume (mL)	Prepped Factor (mL/mL)
1202020832 MB	21-JAN-2010 11:26:13	10	10	1
1202020833 LCS	21-JAN-2010 11:26:13	10	10	1
244418001 - 2	21-JAN-2010 11:26:13	10	10	1
244602001 - 2	21-JAN-2010 11:26:13	10	10	1
244610001 - 2	21-JAN-2010 11:26:13	10	10	1
244614001 - 2	21-JAN-2010 11:26:13	10	10	1
244618001 - 2	21-JAN-2010 11:26:13	10	10	1
244719001 - 2	21-JAN-2010 11:26:13	10	10	1
244719002 - 2	21-JAN-2010 11:26:13	10	10	1
244719003 - 2	21-JAN-2010 11:26:13	10	10	1
244722001 - 2	21-JAN-2010 11:26:13	10	10	1
244722002 - 2	21-JAN-2010 11:26:13	10	10	1
244722003 - 2	21-JAN-2010 11:26:13	10	10	1
244722004 - 2	21-JAN-2010 11:26:13	10	10	1
244849001	21-JAN-2010 11:26:13	10	10	1
244880001 - 2	21-JAN-2010 11:26:13	10	10	1
244893001 - 2	21-JAN-2010 11:26:13	10	10	1
244913001 - 2	21-JAN-2010 11:26:13	10	10	1
244919001 - 2	21-JAN-2010 11:26:13	10	10	1
244922001 - 2	21-JAN-2010 11:26:13	10	10	1
1202020834 - 2 MS (244922001)	21-JAN-2010 11:26:13	10	10	1
1202020835 - 2 MSD (244922001)	21-JAN-2010 11:26:13	10	10	1
244925001 - 2	21-JAN-2010 11:26:13	10	10	1
1202020836 ICS	21-JAN-2010 11:26:13	10	10	1

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
ICS	1202020836	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	Desalting cartridges used: BJ01/02J1609 & BJ0003J1609
LCS	1202020833	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	
MS	1202020834	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	
MSD	1202020835	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	
RGNT	All	500 ppm Carbonate, Bicarbonate, Chloride, Sulfate	1236492	10	mL	
RGNT	All	O2SI HPLC Grade Water	1246195	10	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 01/21/10

Method: EPA 6850-Modified

Extr. Injection Volume: 20uL

Int. Std.: UCL091019-03.2

Sequence Number: per012110a

Mobile Phase Lot#: 1254342, 1246195

Initial Calibration Date: 01/21/10

Standard-Samp Reagent Lot#: 1233976

Reviewed BY: *hmm*

Date: *2/1/23/10*

SOP: GL-OA-E-067 Rev.6

Alt Check Std. ID: WCL100118-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0121001a	IPB001	CWW	1/21/2010 13:28			1		USE	B
per0121002a	IPB001	CWW	1/21/2010 13:36			1		USE	B
per0121003a	WCLICAL-01	CWW	1/21/2010 13:44			1		USE	I
per0121004a	WCLICAL-02	CWW	1/21/2010 13:52			1		USE	I
per0121005a	WCLICAL-03	CWW	1/21/2010 14:00			1		USE	I
per0121006a	WCLICAL-04	CWW	1/21/2010 14:08			1		USE	I
per0121007a	WCLICAL-05	CWW	1/21/2010 14:16			1		USE	I
per0121008a	IPB002	CWW	1/21/2010 14:24			1		USE	B
per0121009a	WCLICV	CWW	1/21/2010 14:32			1		USE	C
per0121010a	IPB003	CWW	1/21/2010 14:40			1		USE	B
per0121011a	WCLCRI	CWW	1/21/2010 14:48			1		USE	C
per0121012a	1202020832	CWW	1/21/2010 14:56	943784	VARIOUS	1	LANL	USE	S
per0121013a	1202020833	CWW	1/21/2010 15:04	943784	VARIOUS	1	LANL	USE	S
per0121014a	1202020836	CWW	1/21/2010 15:12	943784	VARIOUS	1	LANL	USE	S
per0121015a	244418001	CWW	1/21/2010 15:21	943784	10-1195-1	1	LANL	USE	S
per0121016a	244602001	CWW	1/21/2010 15:29	943784	10-1212-1	1	LANL	USE	S
per0121017a	244610001	CWW	1/21/2010 15:37	943784	10-1215	1	LANL	USE	S
per0121018a	244614001	CWW	1/21/2010 15:45	943784	10-1218-1	1	LANL	USE	S
per0121019a	244618001	CWW	1/21/2010 15:53	943784	10-1220	1	LANL	USE	S
per0121020a	WCLCCV	CWW	1/21/2010 16:01			1		USE	C
per0121021a	IPB004	CWW	1/21/2010 16:09			1		USE	B
per0121022a	WCLCRI	CWW	1/21/2010 16:17			1		USE	C
per0121023a	244719001	CWW	1/21/2010 16:25	943784	10-1239	1	LANL	USE	S
per0121024a	244719002	CWW	1/21/2010 16:33	943784	10-1239	1	LANL	USE	S
per0121025a	244719003	CWW	1/21/2010 16:41	943784	10-1239	1	LANL	USE	S
per0121026a	244722001	CWW	1/21/2010 16:49	943784	10-1234-1	1	LANL	USE	S
per0121027a	244722002	CWW	1/21/2010 16:57	943784	10-1234-1	1	LANL	USE	S
per0121028a	244722003	CWW	1/21/2010 17:05	943784	10-1234-1	1	LANL	USE	S
per0121029a	244722004	CWW	1/21/2010 17:13	943784	10-1234-1	1	LANL	USE	S

per0121030a	244849001	CWW	1/21/2010 17:21	943784	10-1262-1	1	LANL	USE	S
per0121031a	WCLCCV	CWW	1/21/2010 17:29			1		USE	C
per0121032a	IPB005	CWW	1/21/2010 17:37			1		USE	B
per0121033a	WCLCRI	CWW	1/21/2010 17:45			1		USE	C
per0121034a	244880001	CWW	1/21/2010 17:53	943784	10-1264	1	LANL	USE	S
per0121035a	244893001	CWW	1/21/2010 18:01	943784	10-1278-1	1	LANL	USE	S
per0121036a	244912001	CWW	1/21/2010 18:09	943784	10-1282	1	LANL	USE	S
per0121037a	244919001	CWW	1/21/2010 18:17	943784	10-1286	1	LANL	USE	S
per0121038a	244922001	CWW	1/21/2010 18:25	943784	10-1288-1	1	LANL	USE	S
per0121039a	1202020834	CWW	1/21/2010 18:34	943784	10-1288-1	1	LANL	USE	S
per0121040a	1202020835	CWW	1/21/2010 18:42	943784	10-1288-1	1	LANL	USE	S
per0121041a	244925001	CWW	1/21/2010 18:50	943784	10-1270	1	LANL	USE	S
per0121042a	WCLCCV	CWW	1/21/2010 18:58			1		USE	C
per0121043a	IPB006	CWW	1/21/2010 19:06			1		USE	B
per0121044a	WCLCRI	CWW	1/21/2010 19:14			1		USE	C
per0121045a	1202011842	CWW	1/21/2010 19:22	940151	10-1156	1	LANL	USE	S
per0121046a	1202011843	CWW	1/21/2010 19:30	940151	10-1156	1	LANL	USE	S
per0121047a	1202011846	CWW	1/21/2010 19:38	940151	10-1156	1	LANL	USE	S
per0121048a	244224001	CWW	1/21/2010 19:46	940151	10-1156	1	LANL	USE	S
per0121049a	1202011844	CWW	1/21/2010 19:54	940151	10-1156	1	LANL	USE	S
per0121050a	1202011845	CWW	1/21/2010 20:02	940151	10-1156	1	LANL	USE	S
per0121051a	244224002	CWW	1/21/2010 20:10	940151	10-1156	1	LANL	USE	S
per0121052a	244224003	CWW	1/21/2010 20:18	940151	10-1156	1	LANL	USE	S
per0121053a	244224004	CWW	1/21/2010 20:26	940151	10-1156	1	LANL	USE	S
per0121054a	WCLCCV	CWW	1/21/2010 20:34			1		USE	S
per0121055a	IPB007	CWW	1/21/2010 20:42			1		USE	C
per0121056a	WCLCRI	CWW	1/21/2010 20:50			1		USE	B
per0121057a	244224005	CWW	1/21/2010 20:59	940151	10-1156	1	LANL	USE	C
per0121058a	244224006	CWW	1/21/2010 21:07	940151	10-1156	1	LANL	USE	S
per0121059a	244224007	CWW	1/21/2010 21:15	940151	10-1156	1	LANL	USE	S
per0121060a	244224008	CWW	1/21/2010 21:23	940151	10-1156	1	LANL	USE	S
per0121061a	244224009	CWW	1/21/2010 21:31	940151	10-1156	1	LANL	USE	S
per0121062a	244224010	CWW	1/21/2010 21:39	940151	10-1156	1	LANL	USE	S
per0121063a	244224011	CWW	1/21/2010 21:47	940151	10-1156	1	LANL	USE	S
per0121064a	244224012	CWW	1/21/2010 21:55	940151	10-1156	1	LANL	USE	S
per0121065a	WCLCCV	CWW	1/21/2010 22:03			1		USE	C
per0121066a	IPB008	CWW	1/21/2010 22:11			1		USE	B

per0121067a	WCLCRI	CWW	1/21/2010 22:19	940151	10-1156	1	LANL	USE	C
per0121068a	244224013	CWW	1/21/2010 22:27	940151	10-1156	1	LANL	USE	S
per0121069a	244224014	CWW	1/21/2010 22:36	940151	10-1156	1	LANL	USE	S
per0121070a	244224015	CWW	1/21/2010 22:44	940151	10-1156	1	LANL	USE	S
per0121071a	244224016	CWW	1/21/2010 22:52	940151	10-1156	1	LANL	USE	S
per0121072a	244224017	CWW	1/21/2010 23:00	940151	10-1156	1	LANL	USE	S
per0121073a	244224018	CWW	1/21/2010 23:08	940151	10-1156	1	LANL	USE	S
per0121074a	244224019	CWW	1/21/2010 23:16	940151	10-1156	1	LANL	USE	S
per0121075a	244224020	CWW	1/21/2010 23:24	940151	10-1156	1	LANL	USE	S
per0121076a	WCLCCV	CWW	1/21/2010 23:32			1		USE	C
per0121077a	IPB009	CWW	1/21/2010 23:40			1		USE	B
per0121078a	WCLCRI	CWW	1/21/2010 23:48			1		USE	C

Quantify Sample Report MassLynx 4.0 SP4

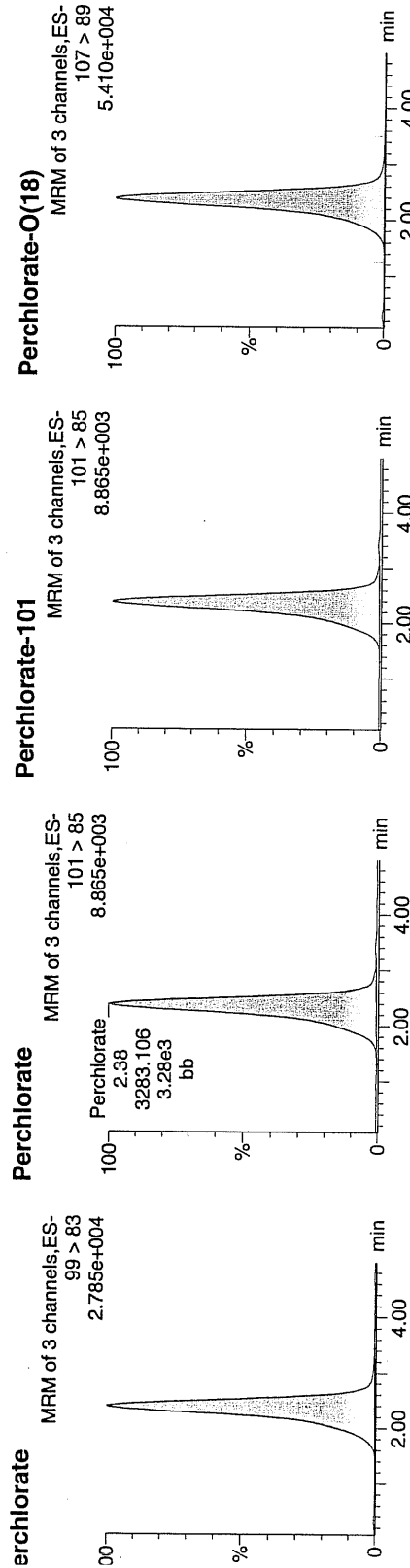
he GEL Group, LLC Analyst: Charliers W. Wilson

dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

ast Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
rinted: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

ame: per0121039a  
ate: 21-Jan-2010  
ime: 18:34:00  
p: 1202020834  
ial: 1:6,D

91-22-10  
L99L 1943784 | L202 | MS | 11



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
102020834	Perchlorate	2.39	10214.022	10214.022	bb			0.2033	101.65	1.65	2934.4...	3.11
102020834	Perchlorate-101	2.38	3283.106	3283.106	bb			0.1905	95.26	-4.74	2696.7...	
102020834	Perchlorate-O(18)	2.36	19942.906	19942.906	bb			0.4582	91.64	-8.36	3312.7...	

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

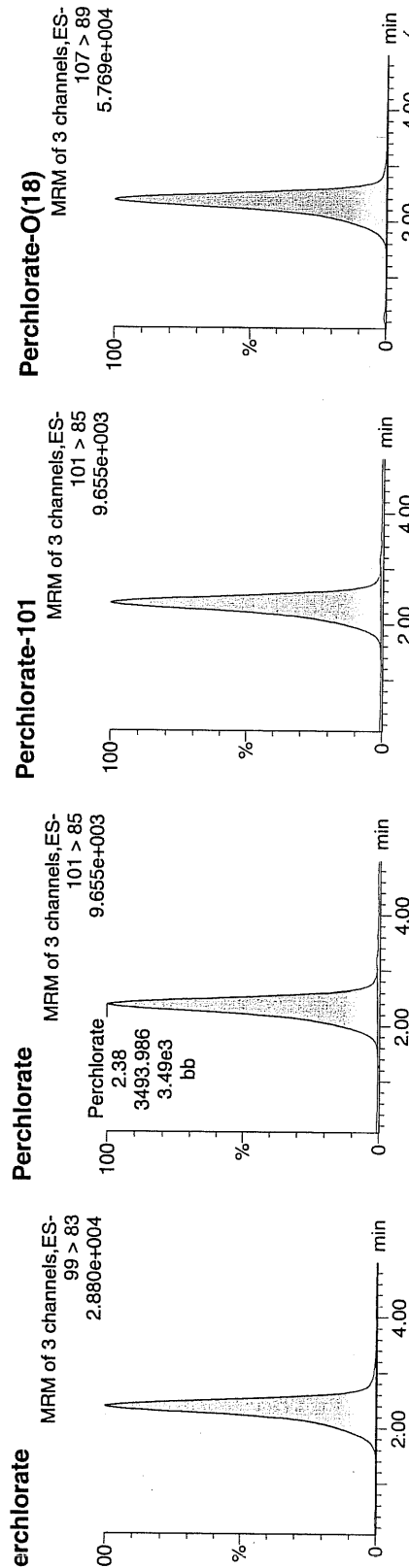
Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Sample Name: per0121040a  
Date: 21-Jan-2010  
Time: 18:42:02  
Job: 1202020835  
File: 1:6,E

Q1-22-10

14943784 | L10 | MS0 | 11



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202020835	Perchlorate	2.38	10520.571	10520.571	bb			0.2094	104.71	4.71	1267.9...	3.01
202020835	Perchlorate-101	2.38	3493.986	3493.986	bb			0.2028	101.38	1.38	447.198	
202020835	Perchlorate-O(18)	2.36	21143.459	21143.459	bb			0.4858	97.16	-2.84	2783.1...	

$$\frac{10520.571}{50239} = 0.2094$$



## Isotope Ratio Criteria

### Isotope Ratio $_{35}\text{Cl}/_{37}\text{Cl}$

2.31-3.85

## Tune Criteria

The tuning solution is introduced directly into the mass spectrometer using the ESI interface in the positive ion mode. The mass range scanned is 20 to 1100 amu using at least six scans. The observed mass for the target compound in the daily calibration standards must be within 0.2 amu of the expected value. If it is greater than 0.2 amu, then a mass calibration is performed and the instrument is re-calibrated.

# LC/MS/MS EXPLOSIVES ANALYSIS

**LC/MS/MS Case Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262**

**Method/Analysis Information**

**Procedure:** Definitive Low Level Analysis of Nitroaromatic Explosives Utilizing Liquid Chromatography / Mass Spectrometry / Mass Spectrometry (LC/MS/MS) by SW-846 Method 8321 Modified (8321M)

Analytical Method: SW846 8321A Modified

Prep Method: SW846 8330 PREP

Analytical Batch Number: 942335

Prep Batch Number: 942334

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 8321A Modified:

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202017300	Method Blank (MB)
1202017301	Laboratory Control Sample (LCS)
1202017302	244847001(RE12-10-7272) Matrix Spike (MS)
1202017303	244847001(RE12-10-7272) Matrix Spike Duplicate (MSD)

**Preparation/Analytical Method Verification**

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-056 REV# 12.

**Primary Analyte Analysis**

**Calibration Information**

**Initial Calibration**

All initial calibration requirements for this analysis have been met for this SDG.

**Calibration Verification Standard Requirements**

All associated calibration verification standard(s) (ICV or CCV) for this analysis met the acceptance criteria.

**Calibration Blank Requirements**

All initial or continuing calibration blanks (ICB or CCB) bracketing the analyses associated with this batch for this analysis were within acceptance criteria. Due to software limitations, the CCBs and/or the ICBs may have a concentration for target analytes in the Found column. These values should be zero.

10-1262-EXPLCMS

**CRI Requirements**

All low level calibration verification (CRI) requirements for this analysis were met by all bracketing CRI standards and may be based off the grand mean average percent recovery of all target analytes.

**Quality Control (QC) Information****Method Blank (MB) Statement**

The MB(s) analyzed with this SDG for this analysis met the acceptance criteria.

**Surrogate Recoveries**

All the surrogate recoveries were within the established acceptance criteria in this SDG in this analytical batch for this analysis.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries were within the established acceptance limits.

**QC Sample Designation**

Sample 244847001 (RE12-10-7272) was chosen for matrix spike and matrix spike duplicate analysis.

**Matrix Spike (MS) Recovery Statement**

The MS spike recoveries were within the established acceptance limits.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD spike recoveries were within the established acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPD(s) between the MS and MSD met the acceptance limits.

**Internal Standard (ISTD) Acceptance**

The internal standard responses were within the required acceptance criteria for all samples and QC.

**Technical Information****Holding Time Specifications**

All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

**Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

**Sample Dilutions**

According to the GEL SOP for Method 8321A, all sample and QC extracts are diluted 1:1 v/v with HPLC grade water. The samples in this SDG in this analytical batch for this analysis did not require any additional dilutions.

**Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG in this analytical batch for this analysis except for dilutions.

## Secondary Analyte Analysis

### Calibration Information

#### **Initial Calibration**

All initial calibration requirements for this analysis have been met for this SDG.

#### **Calibration Verification Standard Requirements**

All associated calibration verification standard(s) (ICV or CCV) for this analysis met the acceptance criteria.

#### **Calibration Blank Requirements**

All initial or continuing calibration blanks (ICB or CCB) bracketing the analyses associated with this batch for this analysis were within acceptance criteria. Due to software limitations, the CCBs and/or the ICBs may have a concentration for target analytes in the Found column. These values should be zero.

#### **CRI Requirements**

All low level calibration verification (CRI) requirements for this analysis were met by all bracketing CRI standards and may be based off the grand mean average percent recovery of all target analytes.

### Quality Control (QC) Information

#### **Method Blank (MB) Statement**

The MB(s) analyzed with this SDG for this analysis met the acceptance criteria.

#### **Surrogate Recoveries**

All the surrogate recoveries were within the established acceptance criteria in this SDG in this analytical batch for this analysis.

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries were within the established acceptance limits.

#### **QC Sample Designation**

Sample 244847001 (RE12-10-7272) was chosen for matrix spike and matrix spike duplicate analysis.

#### **Matrix Spike (MS) Recovery Statement**

The MS recovered TATB at 440%. The recovery limits are 44-166%. Since the LCS met acceptance limits for TATB, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 785558.

#### **Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD spike recoveries were within the established acceptance limits.

#### **MS/MSD Relative Percent Difference (RPD) Statement**

The MS/MSD RPD for TATB was 92.2%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 785558.

#### **Internal Standard (ISTD) Acceptance**

The internal standards were not added to the secondary analyte extracts.

## **Technical Information**

### **Holding Time Specifications**

All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

### **Sample Dilutions**

According to the GEL SOP for Method 8321A, all sample and QC extracts are diluted 1:1 v/v with HPLC grade water. The samples in this SDG in this analytical batch for this analysis did not require any additional dilutions.

### **Sample Re-extraction/Re-analysis**

Sample 244847002 (RE12-10-7273) failed acceptance criteria. It was re-analyzed and passed acceptance criteria. The re-analysis is reported.

## **Miscellaneous Information**

### **Data Exception (DER) Documentation**

Data exception report 785558 was generated for this SDG.

The MS recovered TATB at 440%. The recovery limits are 44-166%. Since the LCS met acceptance limits for TATB, the noted exception is attributed to vagaries in the extraction process. The data are reported.

The MS/MSD RPD for TATB was 92.2%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported.

### **Manual Integrations**

Some initial calibration standards, continuing calibration standards, and/or samples required manual integrations due to software limitations.

### **Flagging Convention**

The samples were not originally analyzed using SW-846 Method 8330.

### **Additional Comments**

Due to software limitations, all initial calibration blanks must be designated as XIB001 in order for the forms to be correct.

Due to software limitations in the secondary analyte analysis, false positives and analytes detected below the MDL cannot be deleted from the raw data.

Due to software limitations, file extensions such as DL, RE, etc. may not appear on the generated forms and/or raw data.

### System Configuration

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for primary analyte analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an APCI (Atmospheric Pressure chemical Ionization) probe that is operated in the negative ionization mode for the primary analyte analysis. The laboratory also utilizes an Agilent 1100 liquid chromatography instrument for either primary or secondary analyte analysis. It is coupled with a Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as either LCMSMS #3 or LCMSMS #4. It is fitted with a APCI (Atmospheric Pressure chemical Ionization) probe that is operated in the negative ionization mode for both the primary and secondary analyte analysis.

### Chromatographic Columns

The detection of the primary analyte nitroaromatic and nitramines is accomplished through analysis on the following reversed phase column:

Phenomenex: Ultracarb 5u ODS (20), 250 x 4.60 mm ID.

The detection of the secondary analytes is accomplished through analysis on the following reversed phase column:

YMC: J'sphere ODS-H80, 150 x 4.6mm I.D.

### Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

### Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Herbert K. Mauer Date: 02/04/10

# SAMPLE DATA SUMMARY



1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847001

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131015a

Date Analyzed: 31-JAN-10 19:28

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847001

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250019.wiff

Date Analyzed: 25-JAN-10 15:15

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7273

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847002

Sample Amount 2

Moisture: 13.3

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131018a

Date Analyzed: 31-JAN-10 20:57

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$	X	Dilution Factor
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1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7273

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847002

Sample Amount 2

Moisture: 13.3

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250096.wiff

Date Analyzed: 26-JAN-10 11:25

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7274

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847003

Sample Amount 2

Moisture: 15.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131019a

Date Analyzed: 31-JAN-10 21:26

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7274

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847003

Sample Amount 2

Moisture: 15.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250023.wiff

Date Analyzed: 25-JAN-10 16:18

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7281

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847004

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131020a

Date Analyzed: 31-JAN-10 21:56

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$	X	Dilution Factor
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1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7281

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847004

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250027.wiff

Date Analyzed: 25-JAN-10 17:21

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor



# QUALITY CONTROL SUMMARY

# High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
244847001	RE12-10-7272	94.9	73.7 – 133.3	
244847001	RE12-10-7272	100	73.7 – 133.3	
244847002	RE12-10-7273	102	73.7 – 133.3	
244847002	RE12-10-7273	103	73.7 – 133.3	
244847003	RE12-10-7274	103	73.7 – 133.3	
244847003	RE12-10-7274	78	73.7 – 133.3	
244847004	RE12-10-7281	88.8	73.7 – 133.3	
244847004	RE12-10-7281	98.4	73.7 – 133.3	
1202017300	MB for batch 942334	93.6	73.7 – 133.3	
1202017300	MB for batch 942334	102	73.7 – 133.3	
1202017301	LCS for batch 942334	97.5	73.7 – 133.3	
1202017301	LCS for batch 942334	110	73.7 – 133.3	
1202017302	RE12-10-7272(244847001MS)	90.1	73.7 – 133.3	
1202017302	RE12-10-7272(244847001MS)	103	73.7 – 133.3	
1202017303	RE12-10-7272(244847001MSD)	107	73.7 – 133.3	
1202017303	RE12-10-7272(244847001MSD)	105	73.7 – 133.3	

DNT = 3,4-Dinitrotoluene

**3B**  
**High Explosives LCS/LCS Duplicate Summary**

**Lab Name:** GEL Laboratories LLC

**Client ID:** LCS

**Lab Code:** GEL

**GEL Job No (SDG)** 10-1262

**Extract Batch Code:** 942334

**Date Extracted:** 22-JAN-10

**GEL LCS ID:** 1202017301

**GEL LCSDUP ID:**

**Analysis Date/Time:** 31-JAN-10 18:59

**DUP Analysis Date/Time:**

**Reporting Units:** ug/kg

**QC Type:** LCS/LCSD

Compound	Spike Added	LCS Conc	LCS Rec #	LCSD Conc	LCSD Rec #	RPD #	RPD	Recovery Limits
m-Nitrotoluene	5000	4460	89.1					71.9 – 126
2,6-Dinitrotoluene	5000	4740	94.9					86.9 – 122
4-Amino-2,6-dinitrotoluene	5000	5080	102					85.6 – 133
Nitrobenzene	5000	5170	103					71.8 – 126
m-Dinitrobenzene	5000	4570	91.4					80.9 – 127
Tetryl	5000	3150	62.9					31.2 – 119
RDX	5000	4970	99.5					78.7 – 144
PETN	5000	4210	84.2					64.6 – 147
HMX	5000	4340	86.8					66.5 – 142
2-Amino-4,6-dinitrotoluene	5000	4750	95					84.2 – 149
2,4-Dinitrotoluene	5000	5150	103					82.7 – 132
o-Nitrotoluene	5000	4840	96.8					75 – 123
1,3,5-Trinitrobenzene	5000	4060	81.3					62.1 – 124
2,4,6-Trinitrotoluene	5000	5030	101					78.3 – 132
p-Nitrotoluene	5000	4830	96.6					73.7 – 124

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

3B

High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1262

Extract Batch Code: 942334

Date Extracted: 22-JAN-10

GEL LCS ID: 1202017301

GEL LCSDUP ID:

Analysis Date/Time: 25-JAN-10 14:59

DUP Analysis Date/Time:

Reporting Units: ug/kg

QC Type: LCS/LCSD

Compound	Spike Added	LCS Conc	LCS Rec #	LCSD Conc	LCSD Rec #	RPD #	RPD	Recovery Limits
2,4-Diamino-6-nitrotoluene	5000	5410	108					64.8 – 128
2,6-Diamino-4-nitrotoluene	5000	4930	98.6					69.6 – 133
TATB	5000	5370	107					46.8 – 166
3,5-Dinitroaniline	5000	5260	105					77.3 – 123
tris(o-cresyl) phosphate	5000	5040	101					84.3 – 120

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

# High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Extract Batch Code: 942334

Date Extracted:22-JAN-10

GEL Spike ID: 1202017302

GEL SpikeDup ID:1202017303

Analysis Date/Time: 31-JAN-10 19:58

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
1,3,5-Trinitrobenzene	5000	0	4910	98.2	4700	94.1	4.32	30	70.7 – 130
2,4,6-Trinitrotoluene	5000	0	5060	101	6180	124	20	30	83.4 – 138
2,4-Dinitrotoluene	5000	0	5010	100	5340	107	6.38	30	79.1 – 137
2,6-Dinitrotoluene	5000	0	4880	97.6	5060	101	3.63	30	85.4 – 125
2-Amino-4,6-dinitrotoluene	5000	0	5140	103	4790	95.7	7.24	30	77.4 – 154
4-Amino-2,6-dinitrotoluene	5000	0	5110	102	6090	122	17.6	30	77.3 – 140
HMX	5000	0	4650	93	4440	88.9	4.56	30	66.7 – 144
Nitrobenzene	5000	0	5240	105	4660	93.1	11.9	30	70.4 – 129
PETN	5000	0	4040	80.8	4060	81.1	.399	30	61.9 – 153
RDX	5000	0	5340	107	4630	92.6	14.2	30	73 – 140
Tetryl	5000	0	4520	90.3	4810	96.3	6.4	30	46.8 – 138
m-Dinitrobenzene	5000	0	4930	98.5	4650	93	5.78	30	83.5 – 126
m-Nitrotoluene	5000	0	4430	88.5	4520	90.4	2.08	30	68.6 – 135
o-Nitrotoluene	5000	0	4210	84.2	4900	98	15.1	30	71.2 – 131
p-Nitrotoluene	5000	0	4350	87	4810	96.2	10	30	69.3 – 133

#Column to be used to flag recovery and RPD values with an asterisk

# High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Extract Batch Code: 942334

Date Extracted:22-JAN-10

GEL Spike ID: 1202017302

GEL SpikeDup ID:1202017303

Analysis Date/Time: 25-JAN-10 15:31

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
2,4-Diamino-6-nitrotoluene	5000	0	3720	74.4	4490	89.8	18.8	30	51.6 – 127
2,6-Diamino-4-nitrotoluene	5000	0	4030	80.6	4750	95	16.4	30	58.9 – 135
3,5-Dinitroaniline	5000	0	5200	104	4970	99.4	4.52	30	72.8 – 125
tris(o-cresyl) phosphate	5000	0	4540	90.8	3990	79.8	12.9	30	79.1 – 124
TATB	5000	0	22000	440 *	8120	162	92.2 *	30	43.9 – 166

#Column to be used to flag recovery and RPD values with an asterisk

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 31-JAN-10 12:35

GEL Data File: EXP0131001a

Instrument ID: LCMSMS

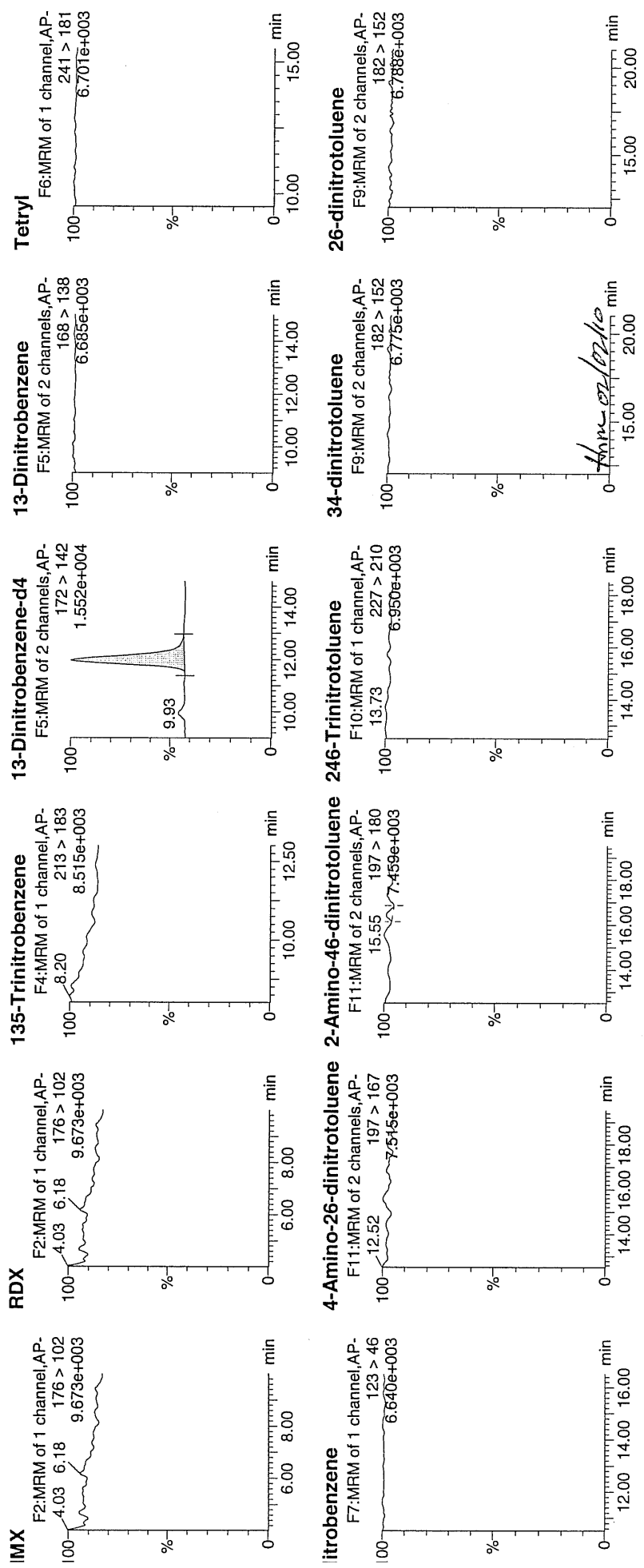
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	536.185
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	570.359
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

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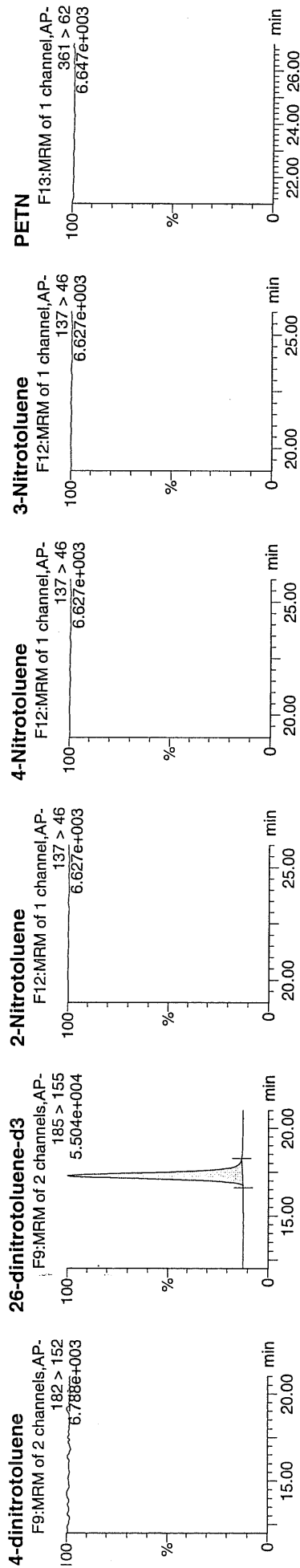
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Acquisition Date: 31-Jan-2010  
Time: 12:35:42  
Sample ID: XIBLK01  
Injection Volume: 1:1,A

*Handwritten:* 2/1/10





Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
'IBLK01	HMX	176 > 102			3547.960									
'IBLK01	RDX	176 > 102			3547.960									
'IBLK01	135-Trinitrobenzene	213 > 183			3547.960									
'IBLK01	13-Dinitrobenzene-d4	172 > 142	11.97	3547.960										
'IBLK01	13-Dinitrobenzene	168 > 138			3547.960									
'IBLK01	Tetryl	241 > 181			3547.960									
'IBLK01	Nitrobenzene	123 > 46			3547.960									
'IBLK01	4-Amino-26-dinitrotoluene	197 > 167			20734.992									
'IBLK01	2-Amino-46-dinitrotoluene	197 > 180			20734.992									
'IBLK01	246-Trinitrotoluene	227 > 210			20734.992									
'IBLK01	34-dinitrotoluene	182 > 152			20734.992									
'IBLK01	26-dinitrotoluene	182 > 152			20734.992									
'IBLK01	24-dinitrotoluene	182 > 152			20734.992									
'IBLK01	26-dinitrotoluene-d3	185 > 155	17.27	20734.992										
'IBLK01	2-Nitrotoluene	137 > 46			20734.992									
'IBLK01	4-Nitrotoluene	137 > 46			20734.992									
'IBLK01	3-Nitrotoluene	137 > 46			20734.992									
'IBLK01	PETN	361 > 62			20734.992									
						20734.992	20734.992	bb		01-Feb-10 14:12:40	536.1853	107.2	7.2	275.2
						3547.960	3547.960	bb			570.3587	114.1	14.1	1186.5

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 31-JAN-10 13:05

GEL Data File: EXP0131002a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	504.609
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	521.251
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

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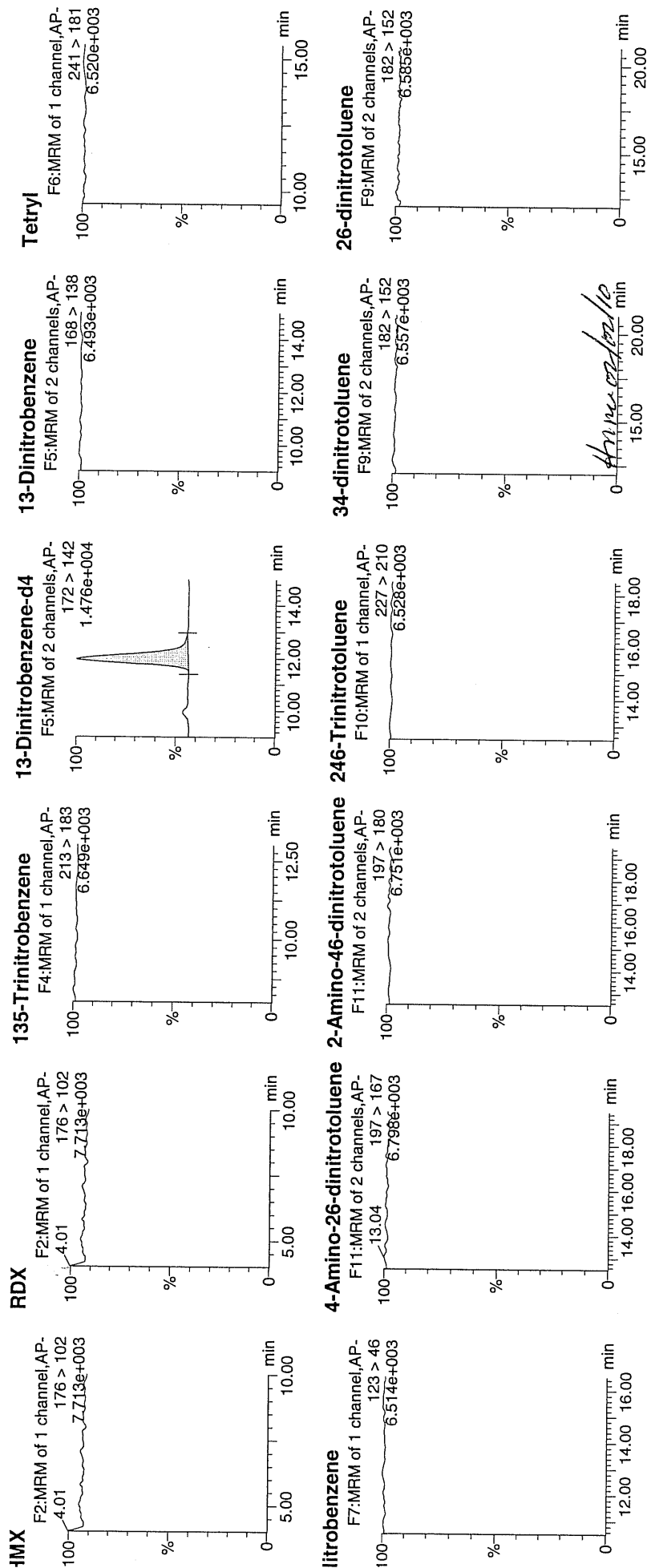
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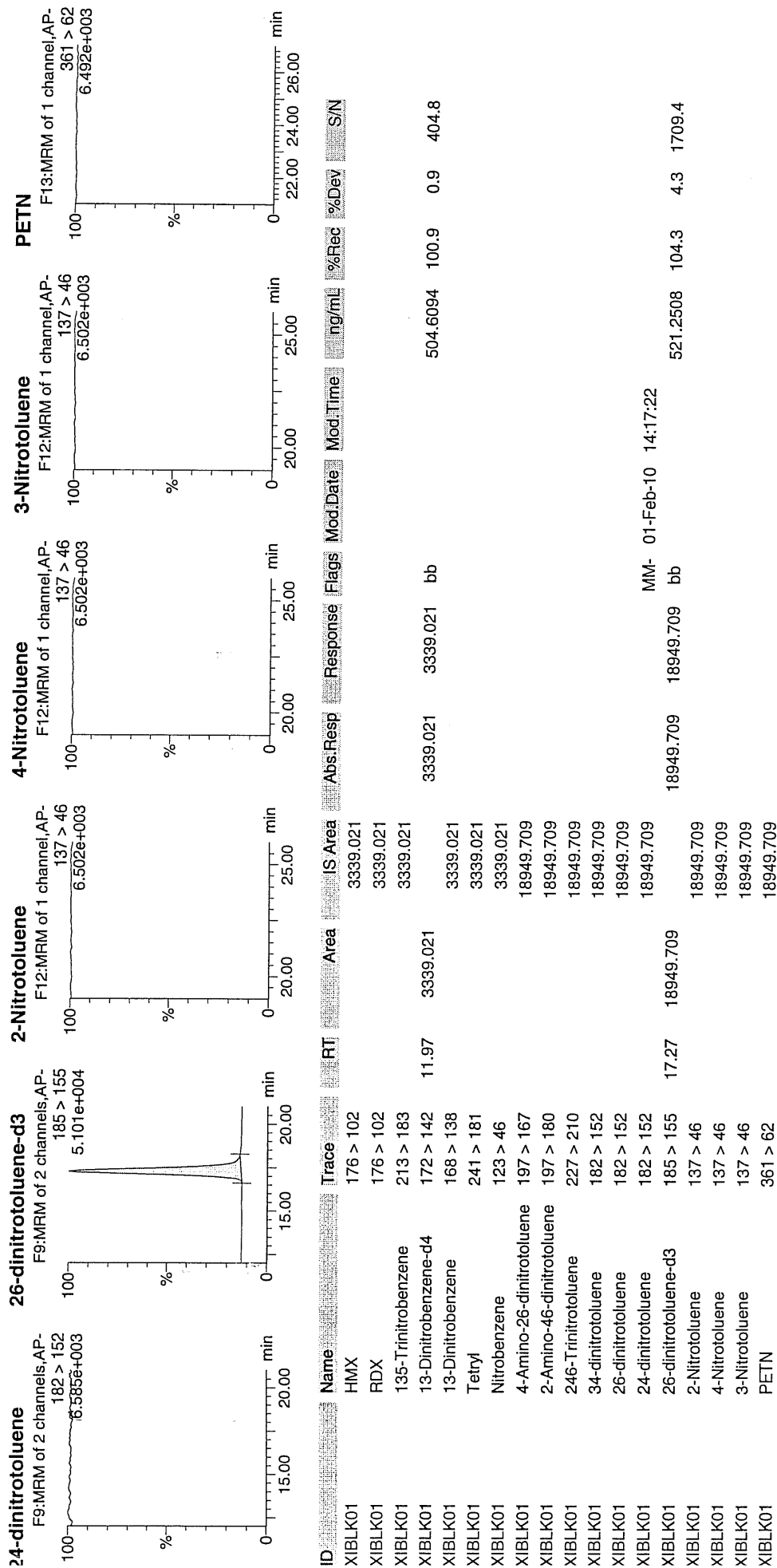
D: XIBLK01

/ial: 1:1,A

2/1/10



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Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 10:28

GEL Data File: EXS01250001.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1/27/10

Sample Name: "XIBLK01" Sample ID: "1111ER" File: "EXS01250001.wif"

Peak Name: "1A1B" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

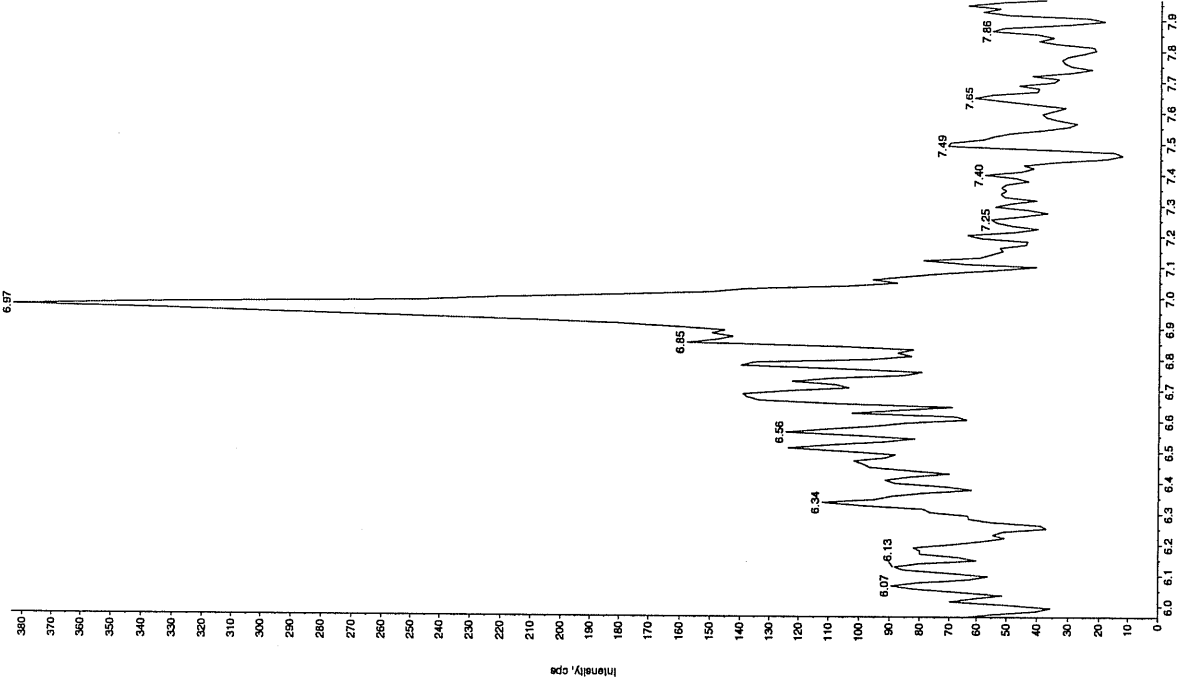
Concentration: N/A ng/mL

Calculated Conc: 0.00

Date: 1/25/2010

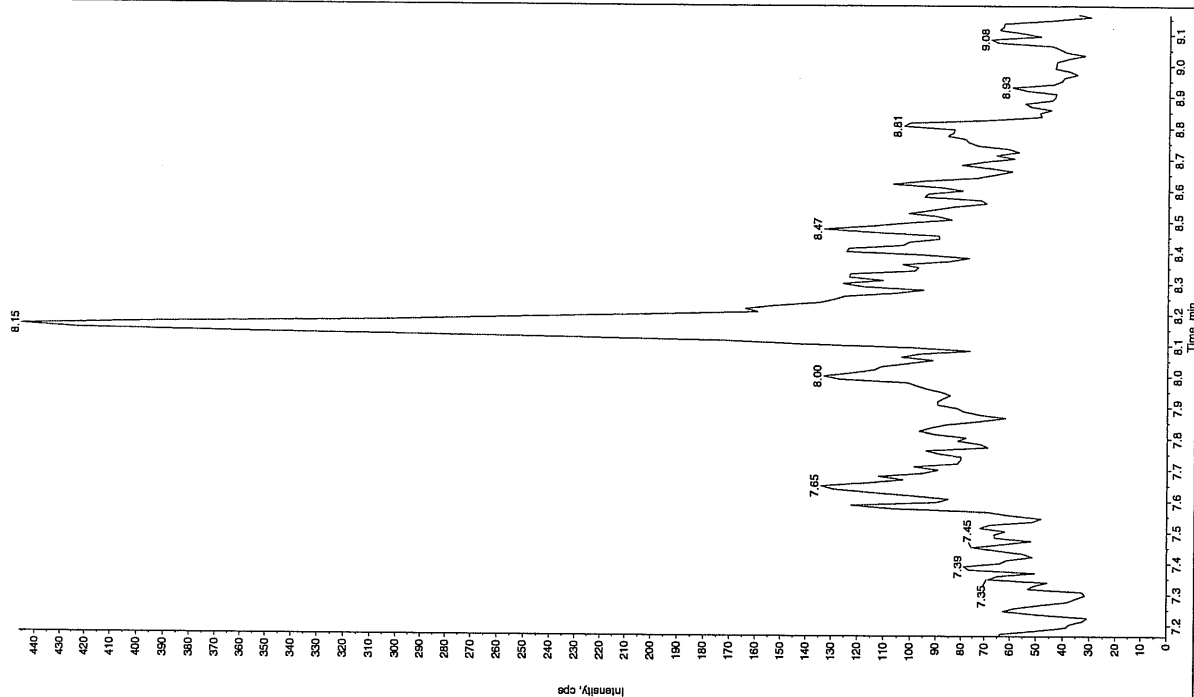
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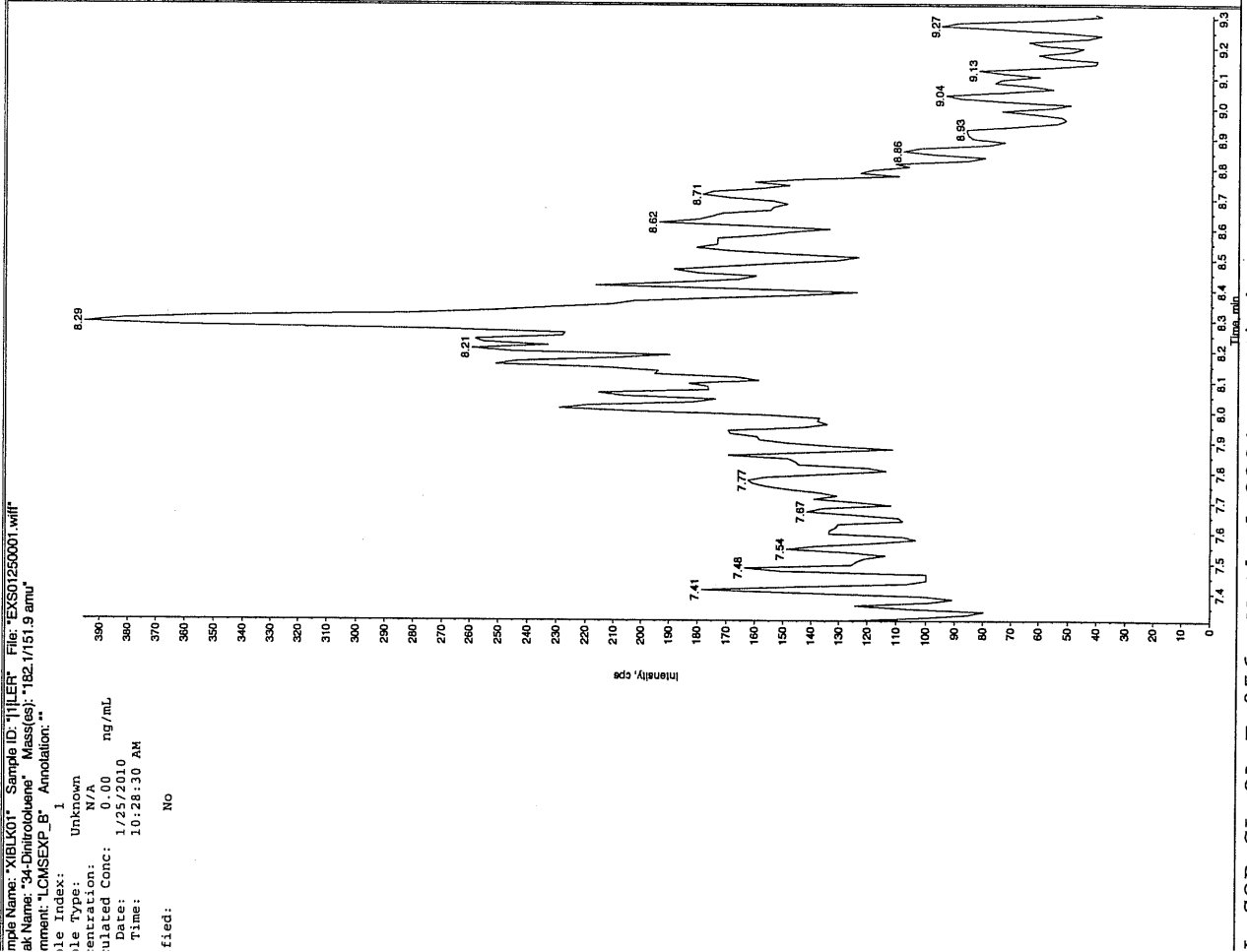
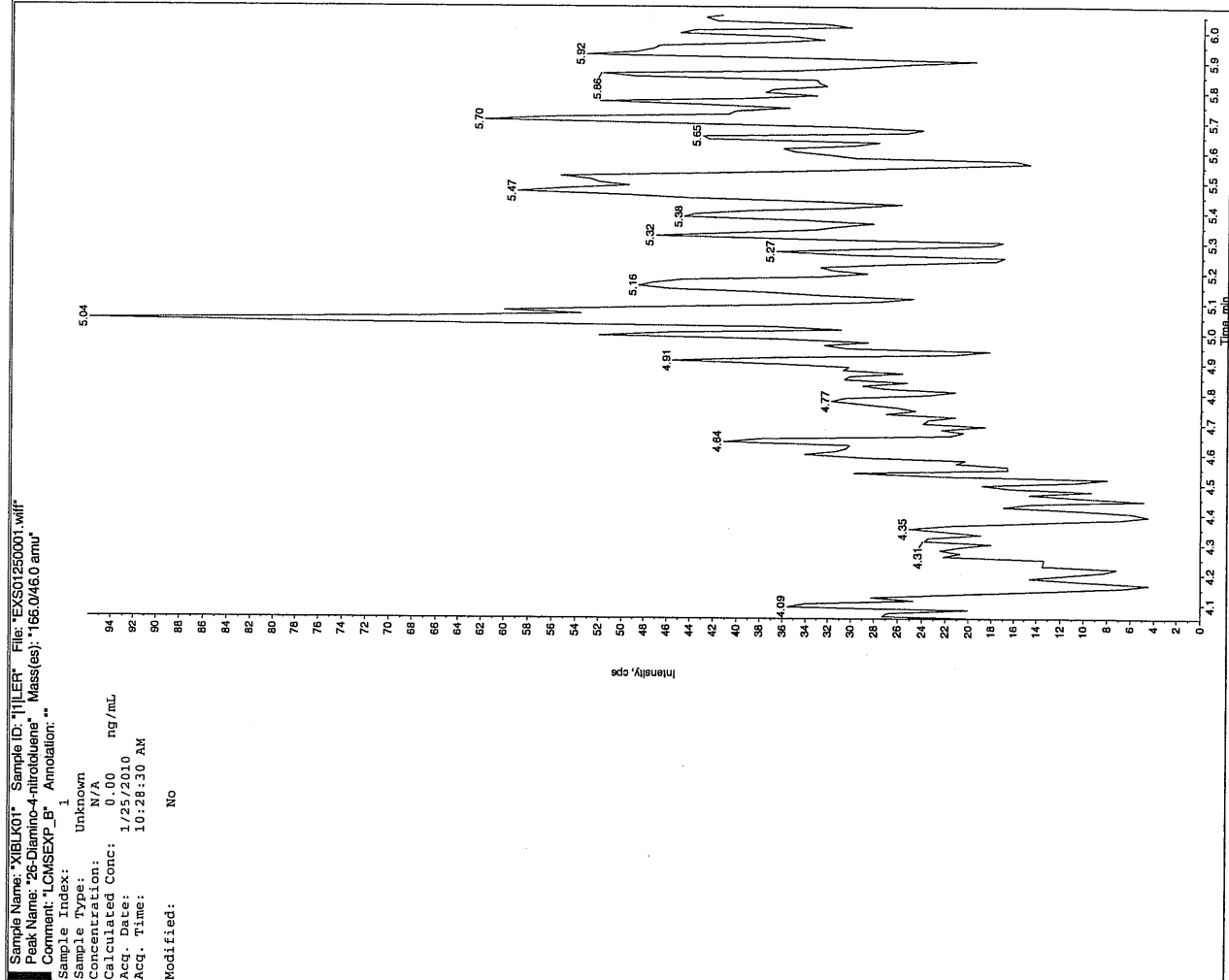
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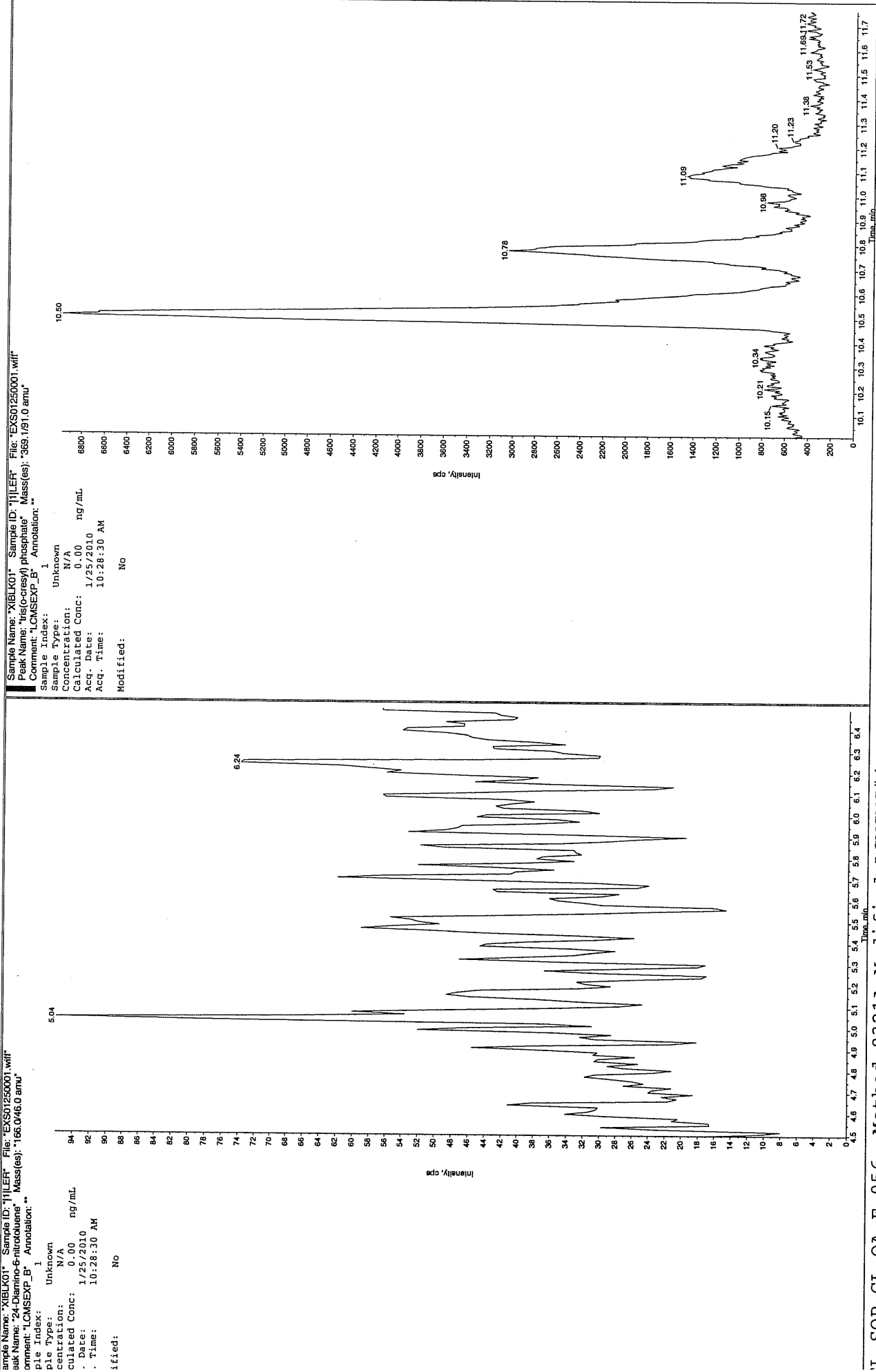
See 1/27/10

IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 10:46

GEL Data File: EXS01250002.wiff

Instrument ID: LCMSMS

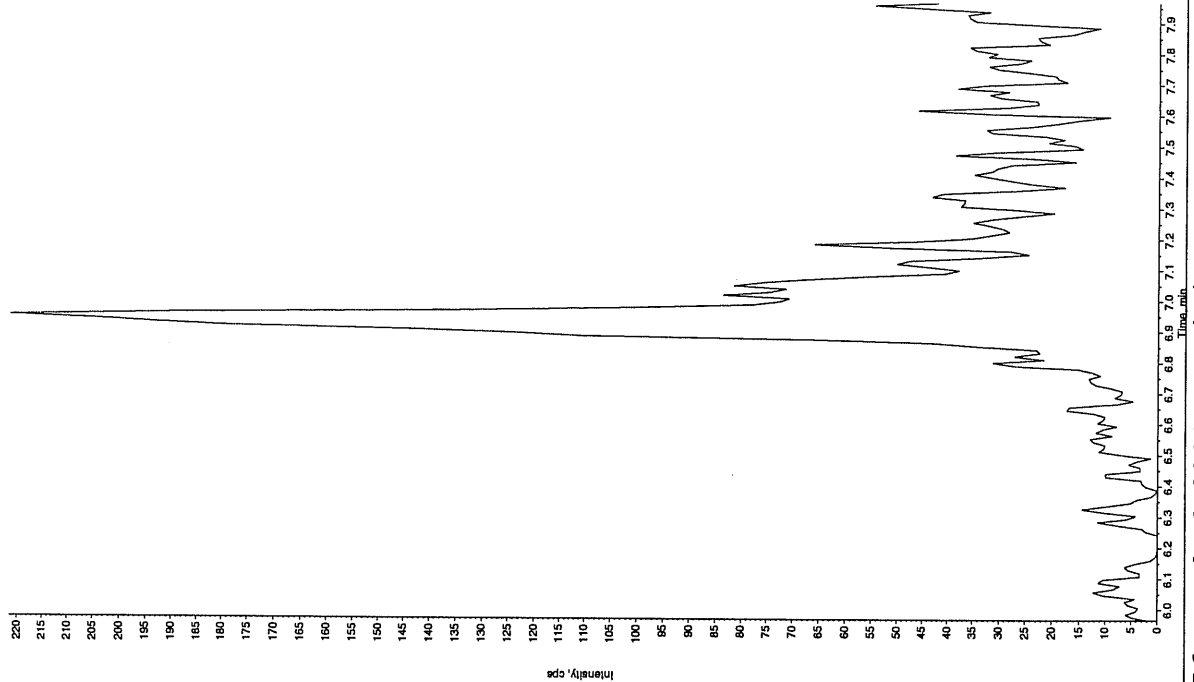
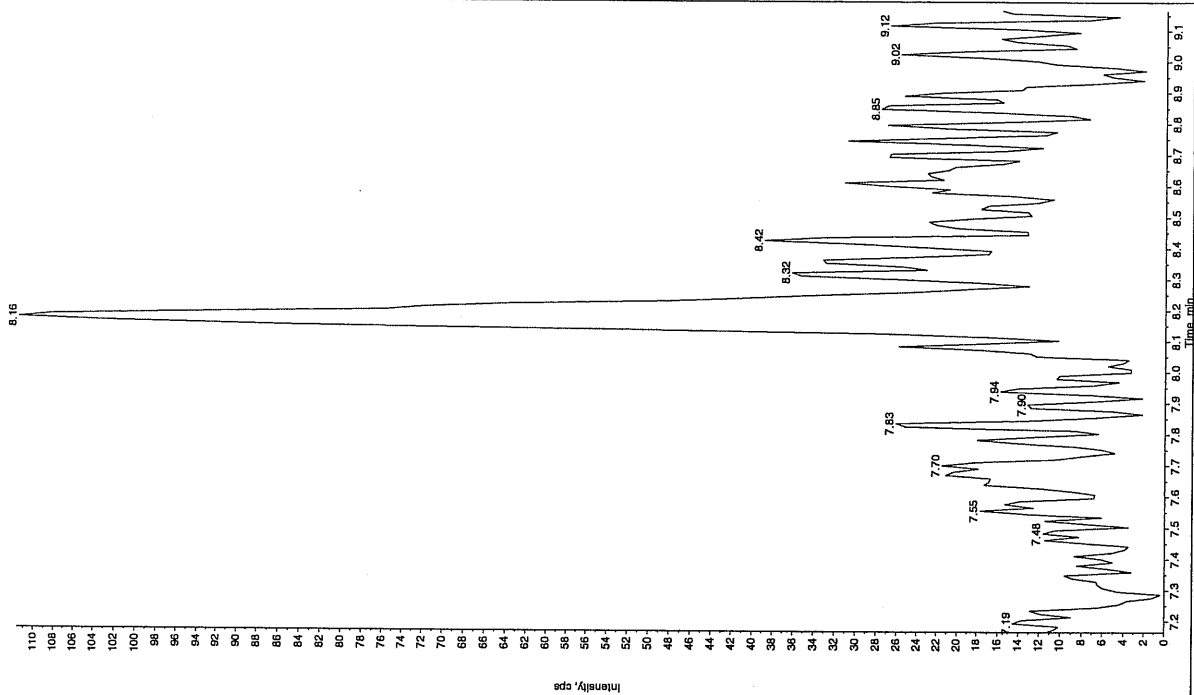
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1127110

Sample Name: "XBLK01" Sample ID: "111LER" File: "EX501250002.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:46:38 AM  
 Modified: No



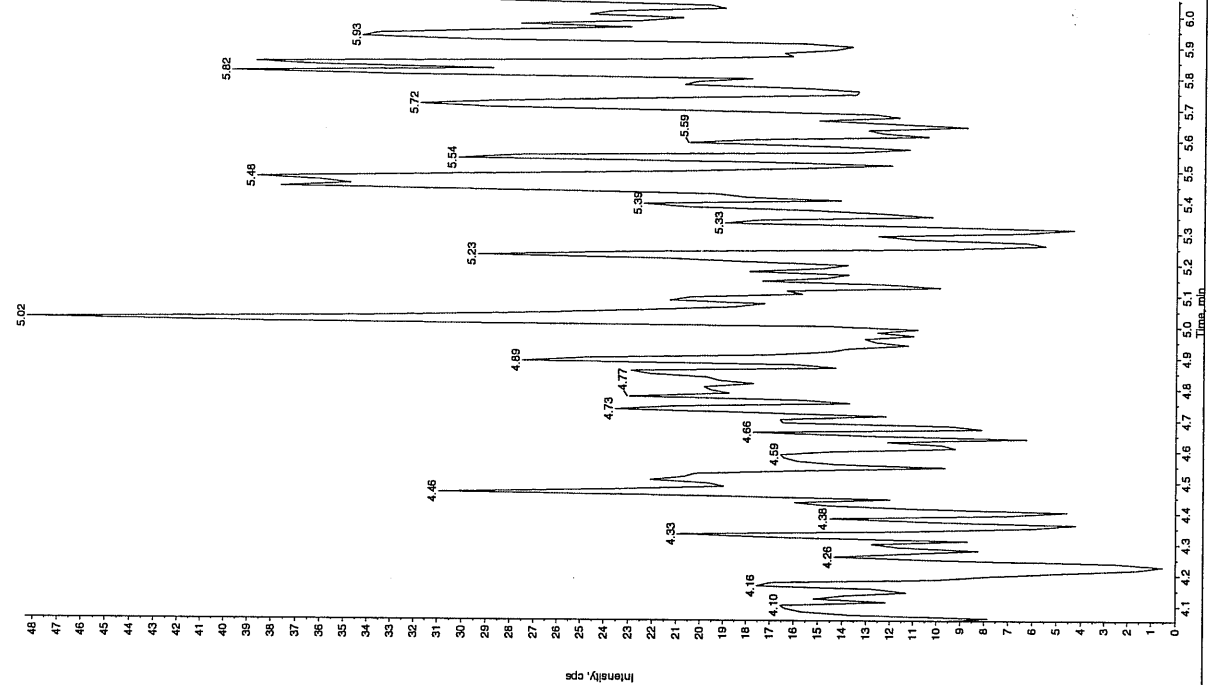
Sample Name: "XBLK01" Sample ID: "111LER" File: "EX501250002.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:46:38 AM  
 Modified: No

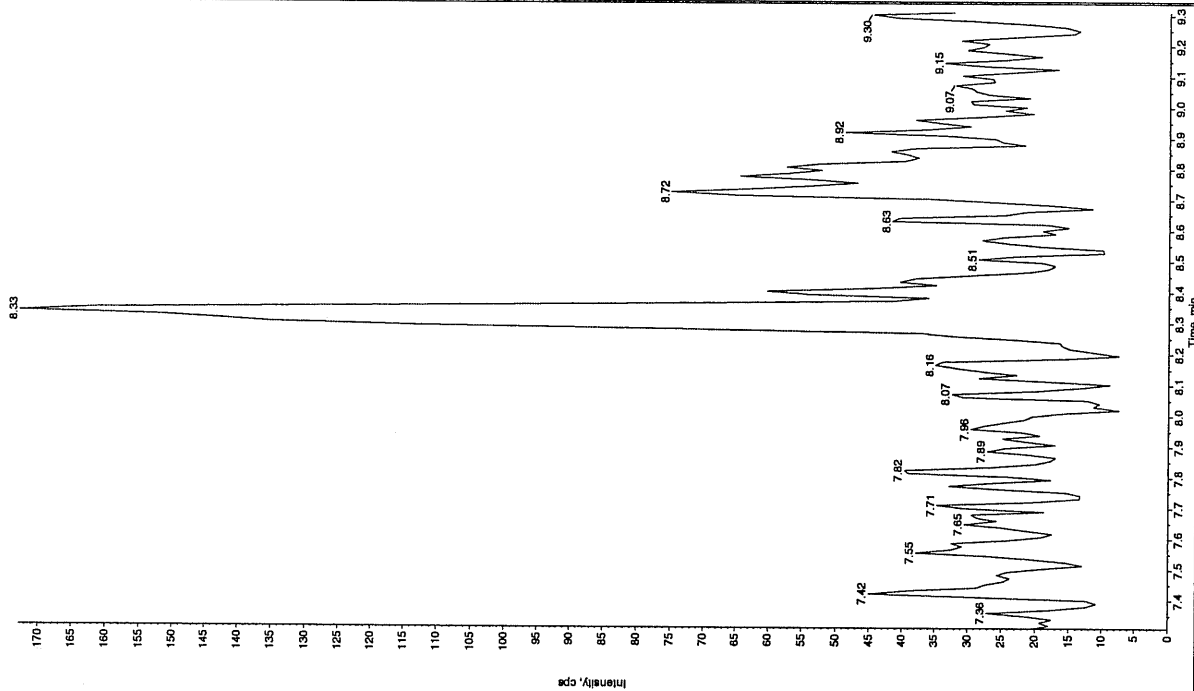
See 01127110

EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XBLK01" Sample ID: "111111" File: "EX501250002.wif"  
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:46:38 AM  
 Modified: No

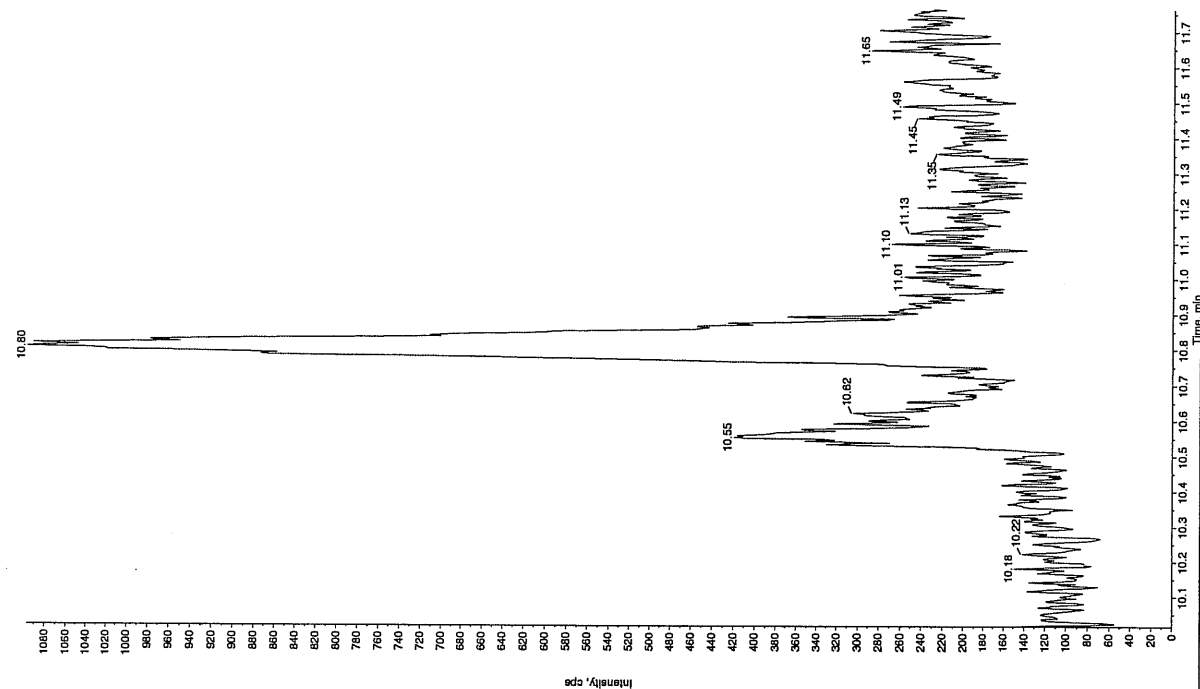


Sample Name: "XBLK01" Sample ID: "111111" File: "EX501250002.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.17151.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:46:38 AM  
 Modified: No

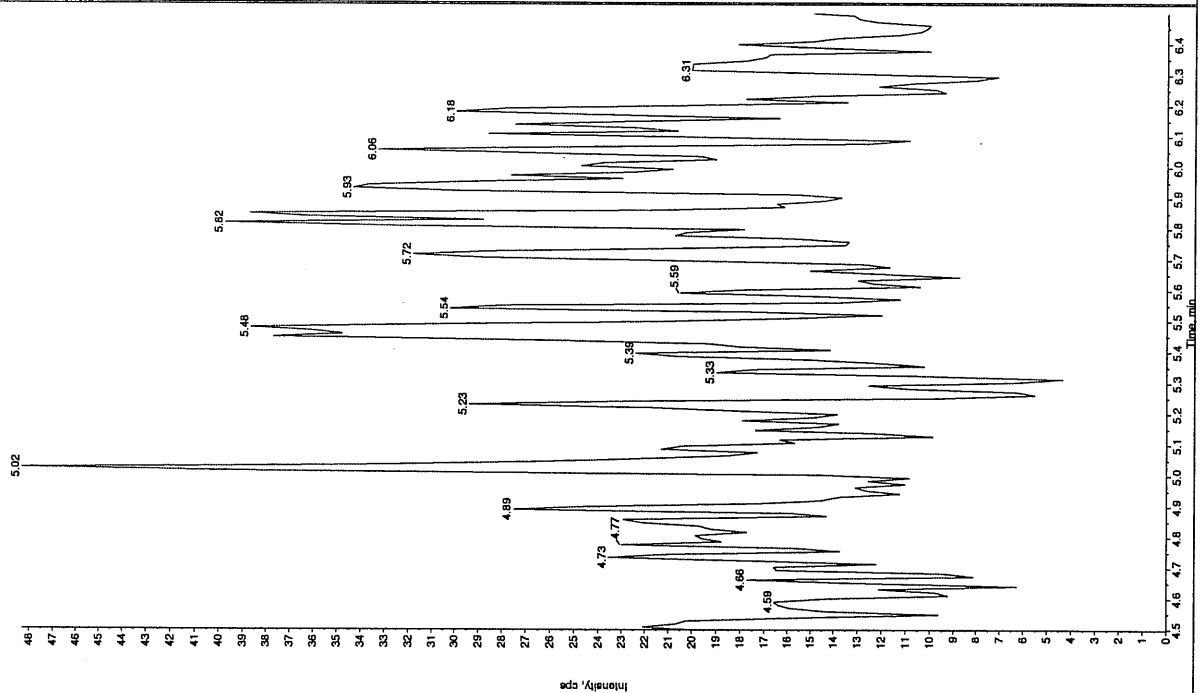


EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK01" Sample ID: "11LER" File: "EXS01250002.wif"  
 Peak Name: "tris(o-cressyl) phosphate" Mass(es): "359.191.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/25/2010  
 Acq. Time: 10:46:38 AM  
 Modified: No



Sample Name: "XIBLK01" Sample ID: "11LER" File: "EXS01250002.wif"  
 Peak Name: "24-Diamino-6-nitrofoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/25/2010  
 Acq. Time: 10:46:38 AM  
 Modified: No



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 31-JAN-10 16:32

GEL Data File: EXP0131009a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	533.449
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	543.732
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

uantify Sample Report  
EL Laboratories, LLC / Analyst: Michael A. Penny

atasset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ame: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131009a

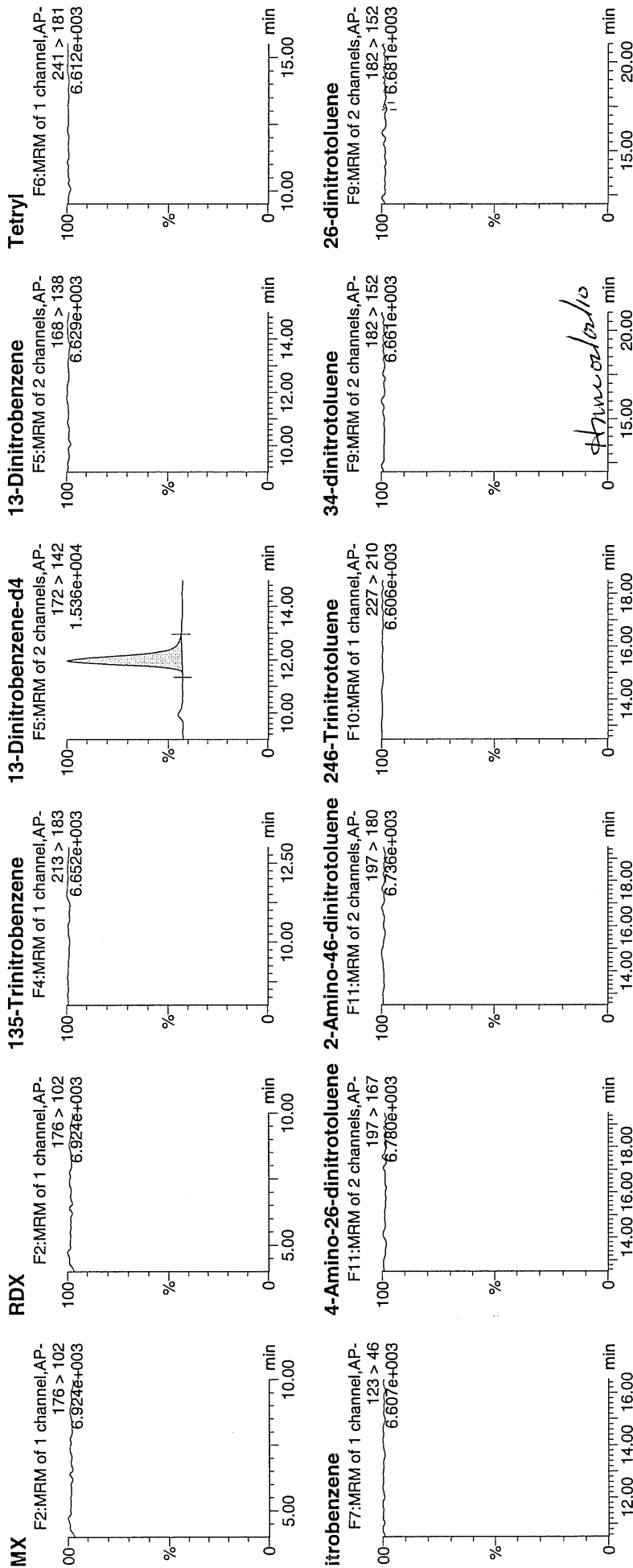
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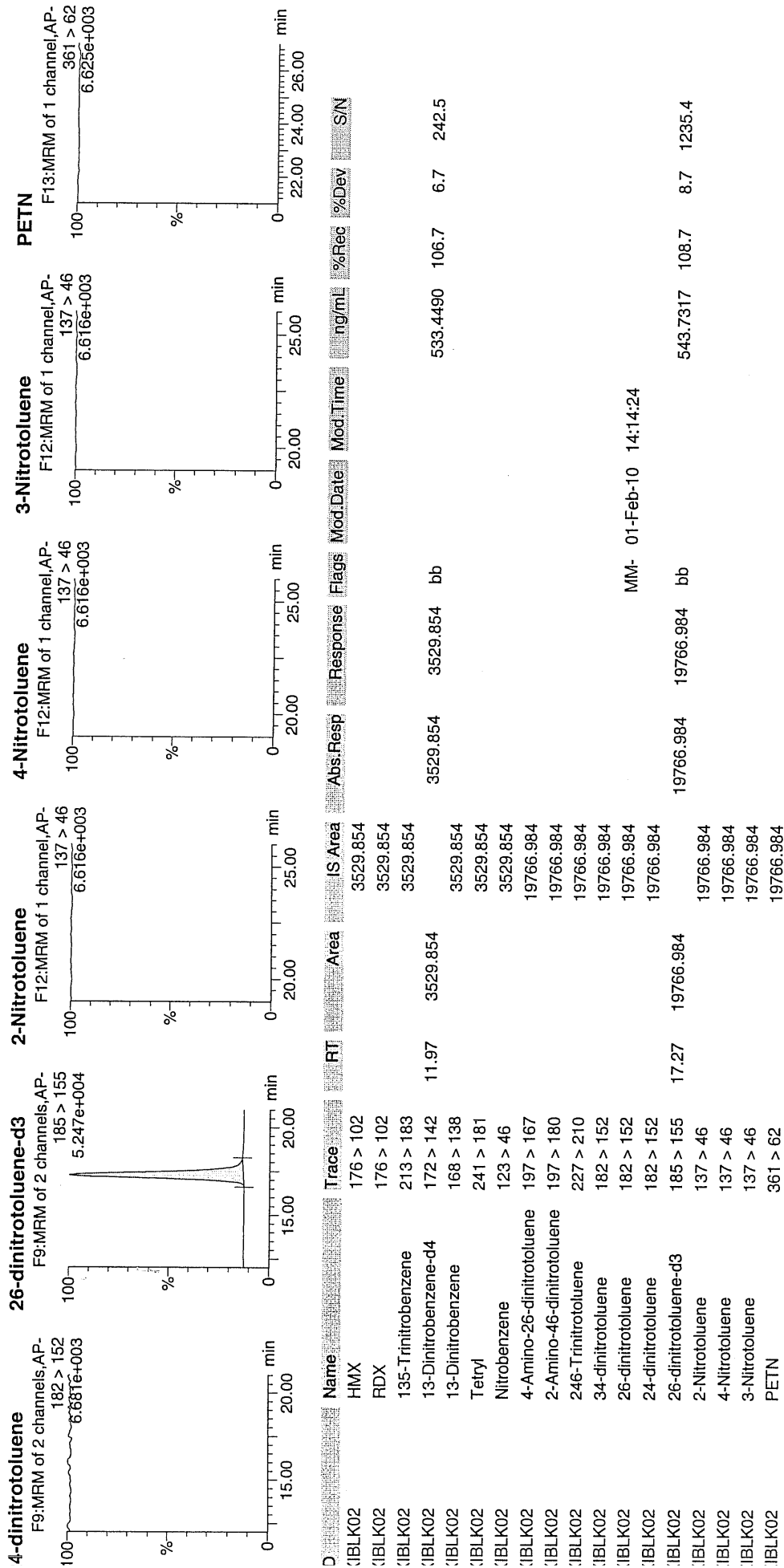
); XIBLK02

ial: 1:1,A

MR  
2/1/10



Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 31-JAN-10 17:31

GEL Data File: EXP0131011a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	504.9
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	516.084
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0



Quantify Sample Report  
 JEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Sample Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131011a

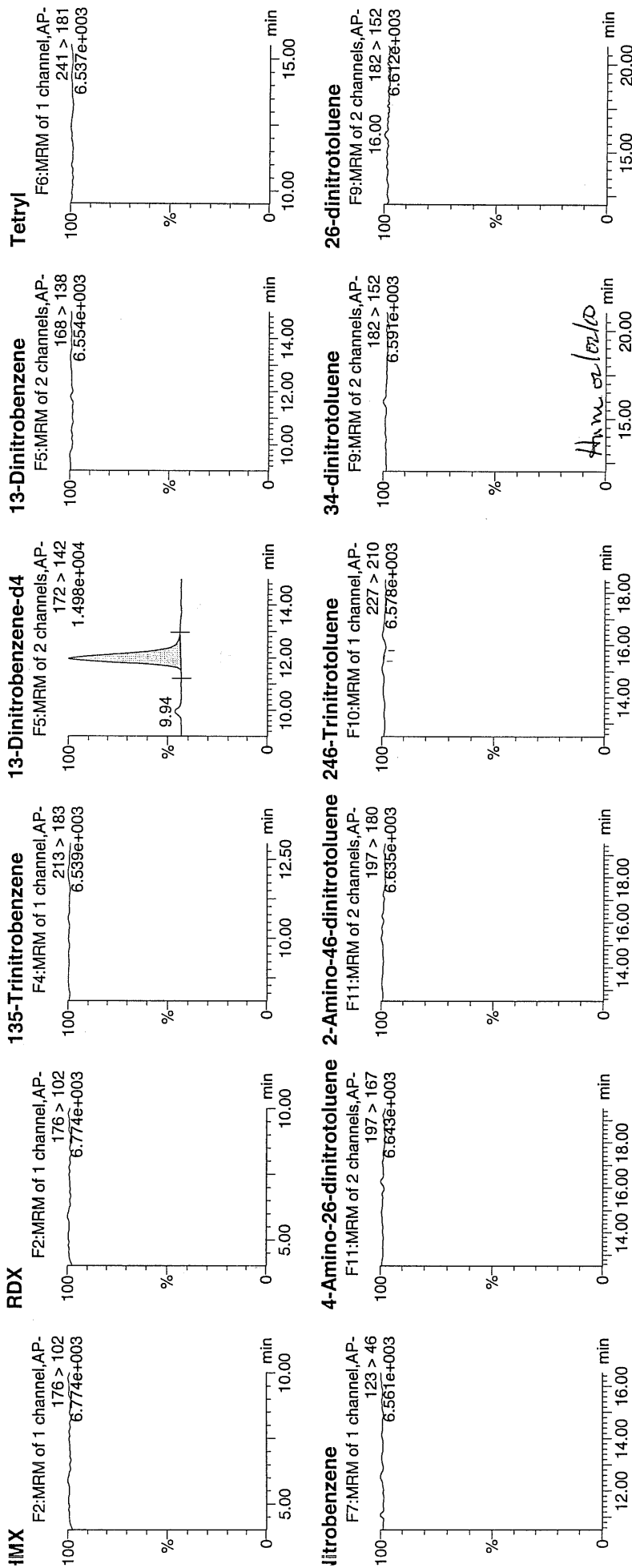
Date: 31-Jan-2010

Time: 17:31:00

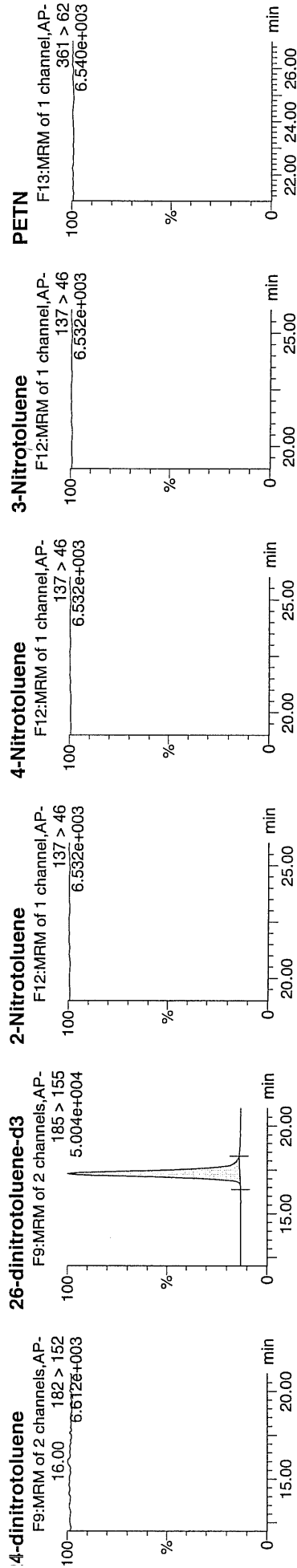
D: XIBLK03

Vial: 1:1,A

2/1/10  
 MP



Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



D	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
<BLK03	HMX	176 > 102			3340.941									
<BLK03	RDX	176 > 102			3340.941									
<BLK03	135-Trinitrobenzene	213 > 183			3340.941									
<BLK03	13-Dinitrobenzene-d4	172 > 142	11.97	3340.941				bb			504.8996	101.0	1.0	381.1
<BLK03	13-Dinitrobenzene	168 > 138			3340.941									
<BLK03	Tetryl	241 > 181			3340.941									
<BLK03	Nitrobenzene	123 > 46			18761.885									
<BLK03	4-Amino-26-dinitrotoluene	197 > 167			18761.885									
<BLK03	2-Amino-46-dinitrotoluene	197 > 180			18761.885				MM- 01-Feb-10	14:12:50				
<BLK03	246-Trinitrotoluene	227 > 210			18761.885									
<BLK03	34-dinitrotoluene	182 > 152			18761.885									
<BLK03	26-dinitrotoluene	182 > 152			18761.885									
<BLK03	24-dinitrotoluene	182 > 152			18761.885									
<BLK03	26-dinitrotoluene-d3	185 > 155	17.27	18761.885				bb			516.0843	103.2	3.2	1825.0
<BLK03	2-Nitrotoluene	137 > 46			18761.885									
<BLK03	4-Nitrotoluene	137 > 46			18761.885									
<BLK03	3-Nitrotoluene	137 > 46			18761.885									
<BLK03	PETN	361 > 62			18761.885									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 31-JAN-10 23:54

GEL Data File: EXP0131024a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	469.819
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	476.945
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report  
 JEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Sample Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131024a

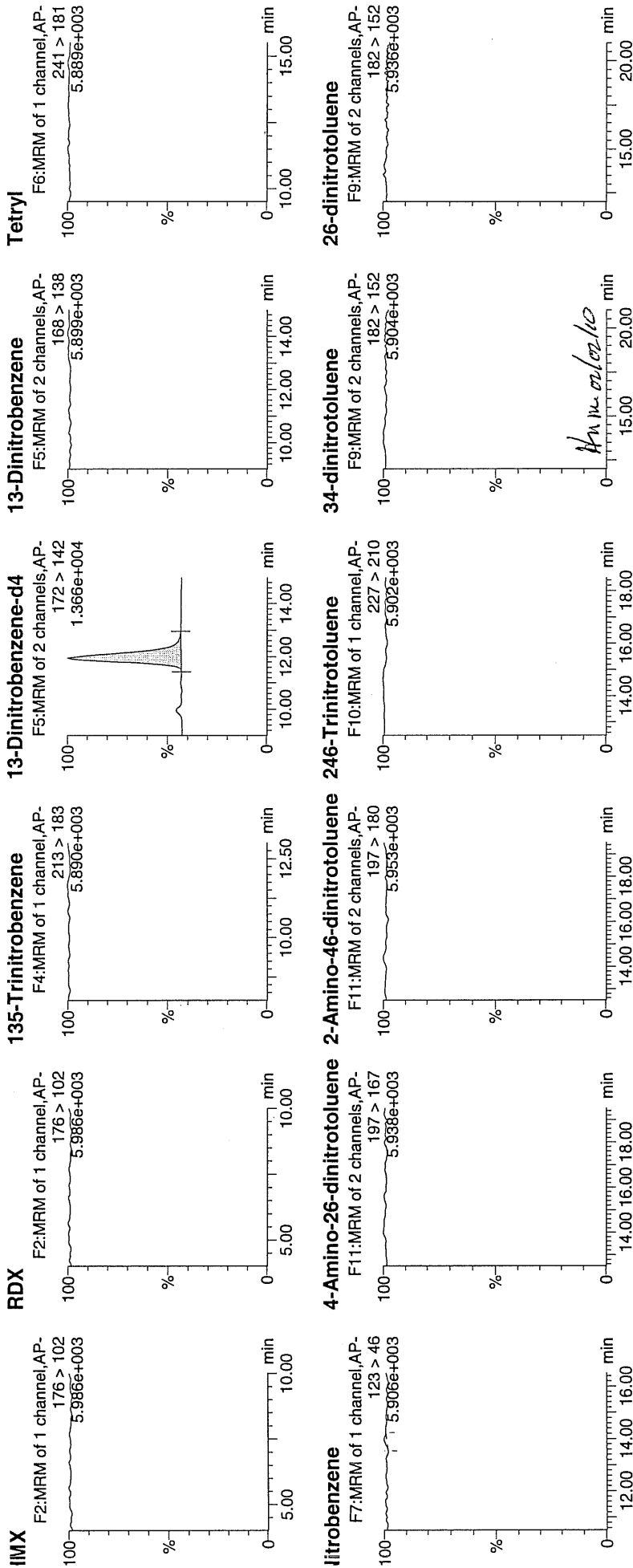
Date: 31-Jan-2010

Time: 23:54:18

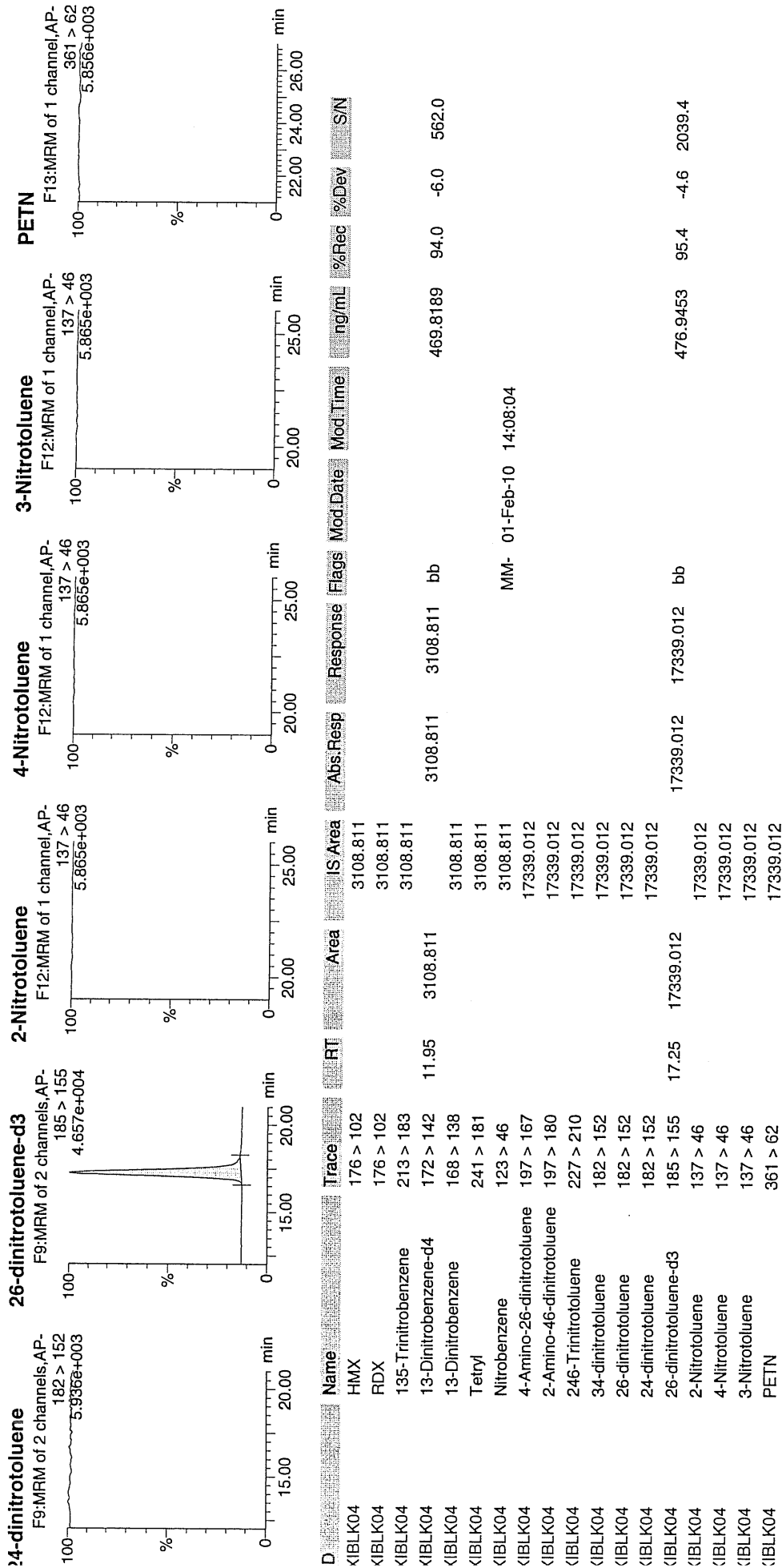
Operator: D: XIBLK04

File: 1:1,A

2/1/10



Dataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 25-JAN-10 12:54

GEL Data File: EXS01250010.wiff

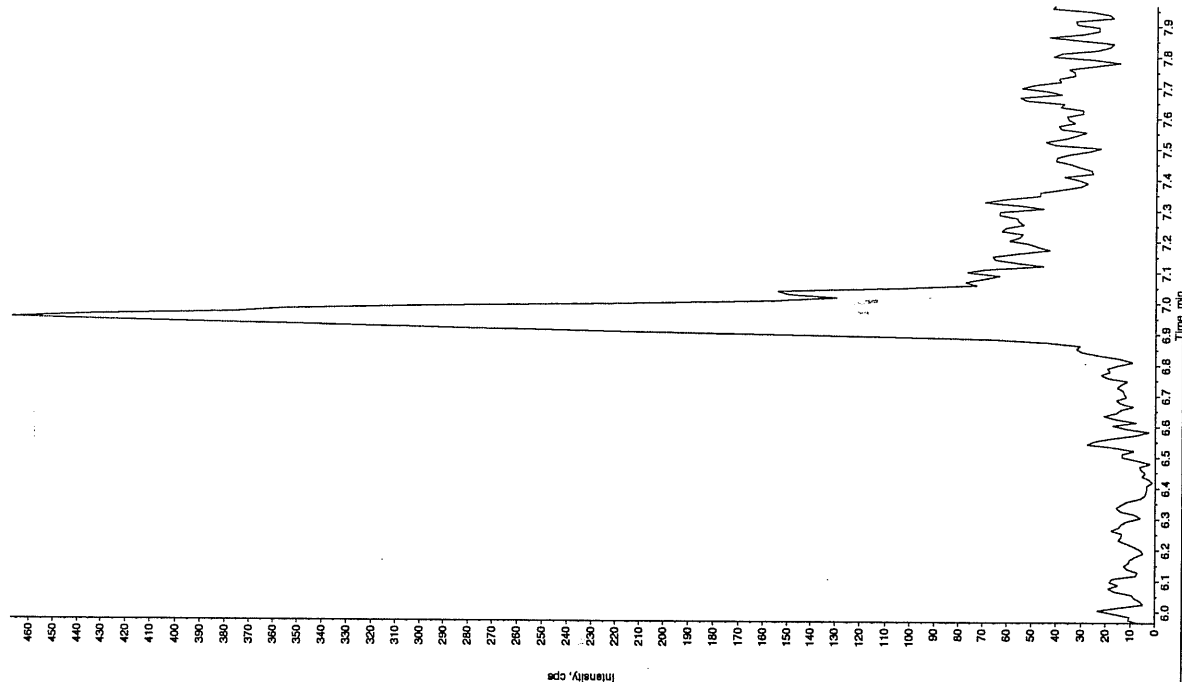
Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

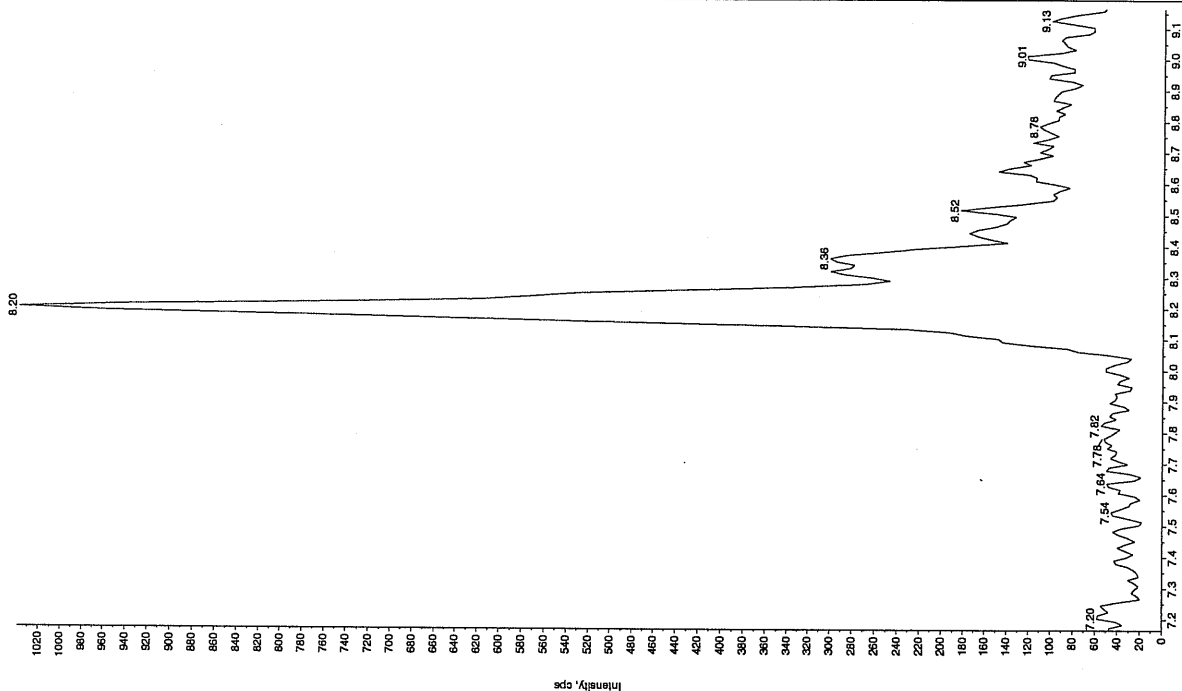
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.7
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 112710

Sample Name: "XIBLK02" Sample ID: "JILLER" File: "EXS01250010.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 12:54:10 PM  
 Modified: No

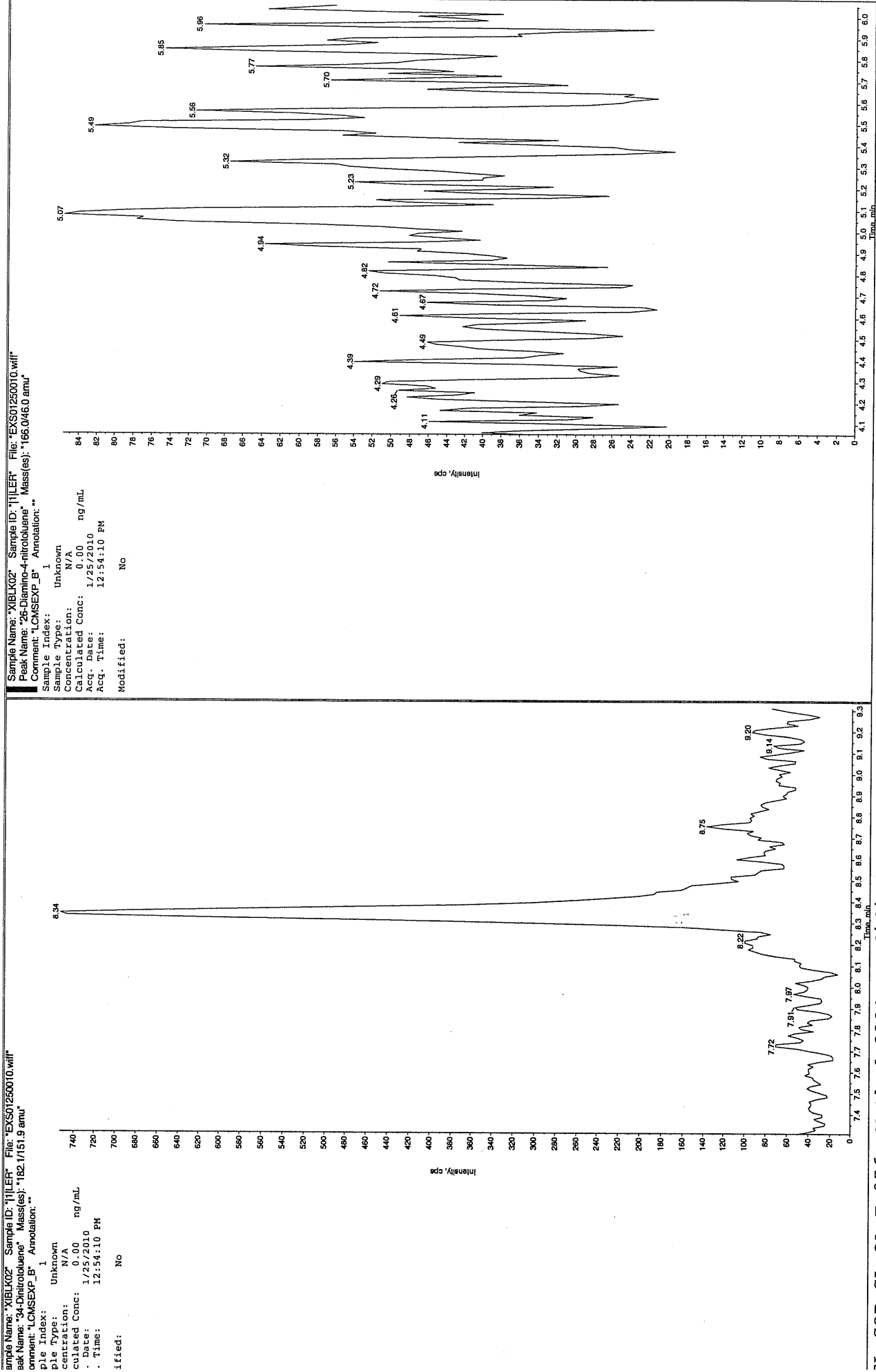


Sample Name: "XIBLK02" Sample ID: "JILLER" File: "EXS01250010.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 12:54:10 PM  
 Modified: No



Am m 01/27/10

IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

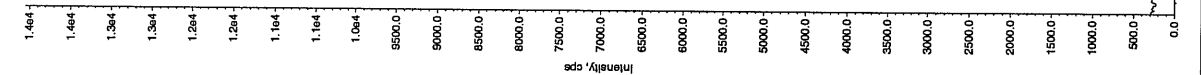


EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



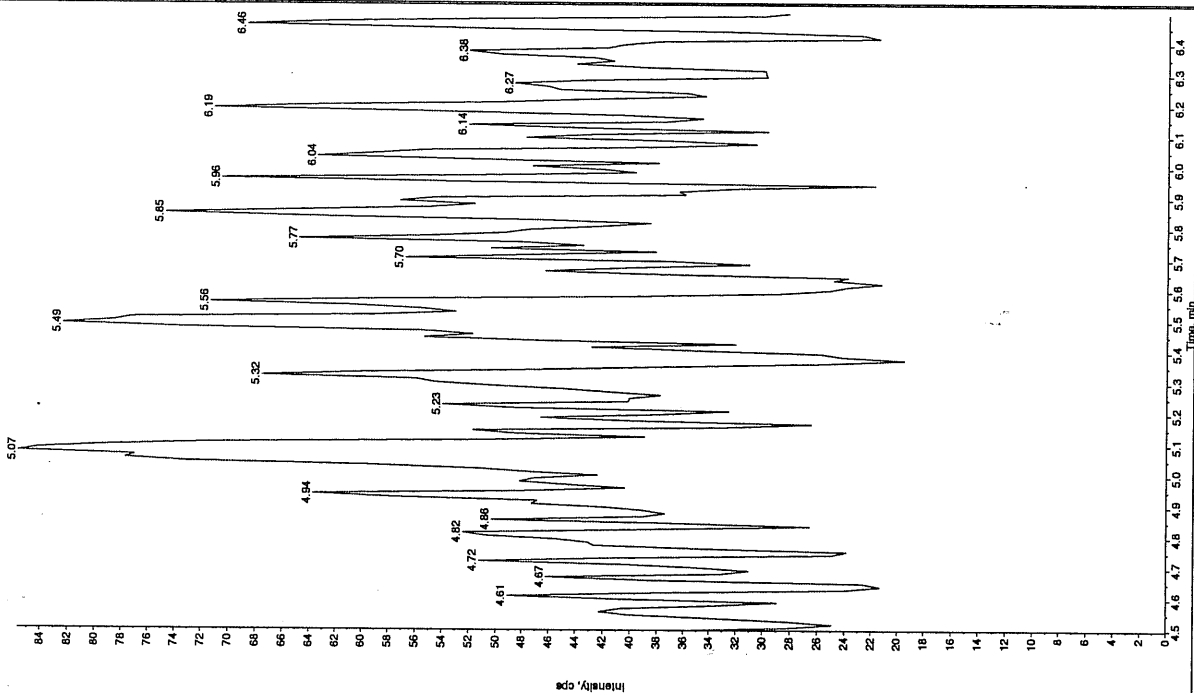
Sample Name: "XBLK02" Sample ID: "111LER" File: "EX501250010.wif"  
 Peak Name: "Is(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 16.7 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 12:54:10 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1.00e4 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 10.8 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 10.8 min  
 Area: 6.01e+004 counts  
 Height: 13557.476 cps  
 Start Time: 10.7 min  
 End Time: 11.1 min



Sample Name: "XBLK02" Sample ID: "111LER" File: "EX501250010.wif"  
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.0/46.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 12:54:10 PM  
 Modified: No



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 25-JAN-10 13:25

GEL Data File: EXS01250012.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Jan 1/27/10

Sample Name: "XIBLK03" Sample ID: "1111ER" File: "EXS01250012.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

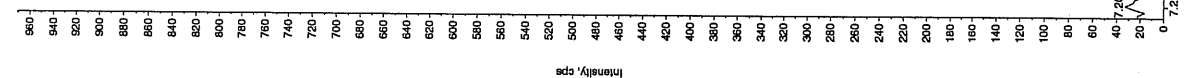
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 1:25:34 PM

Modified: No



Ann 01/27/10

Sample Name: "XIBLK03" Sample ID: "1111ER" File: "EXS01250012.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

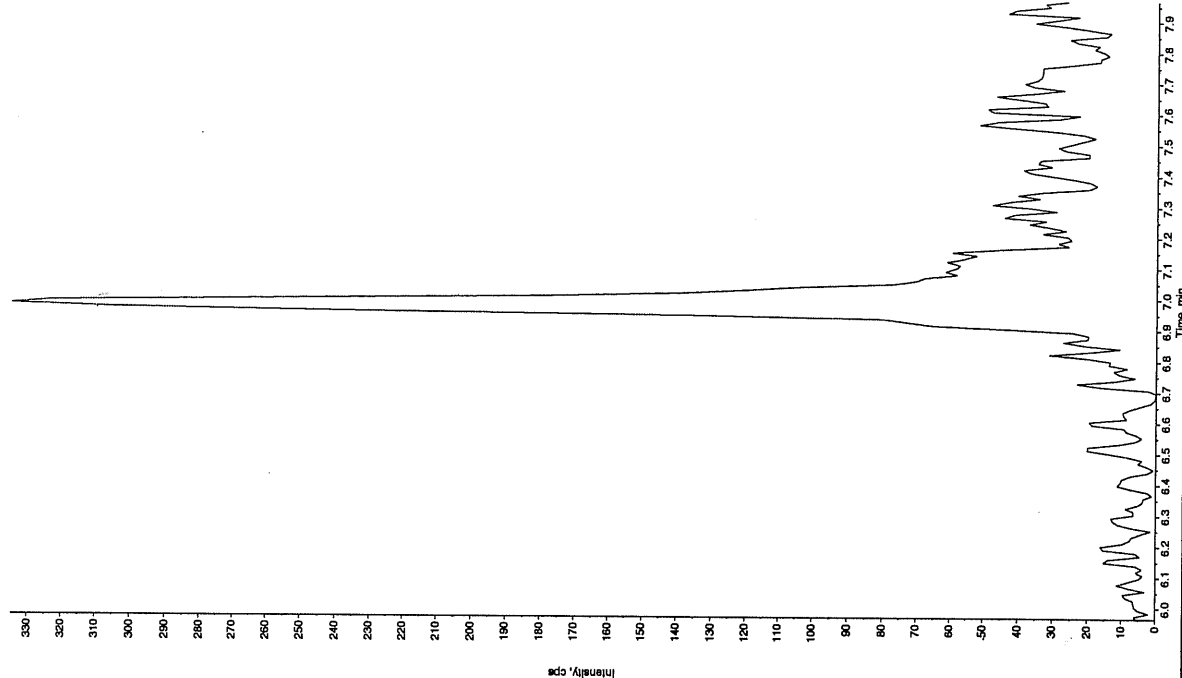
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

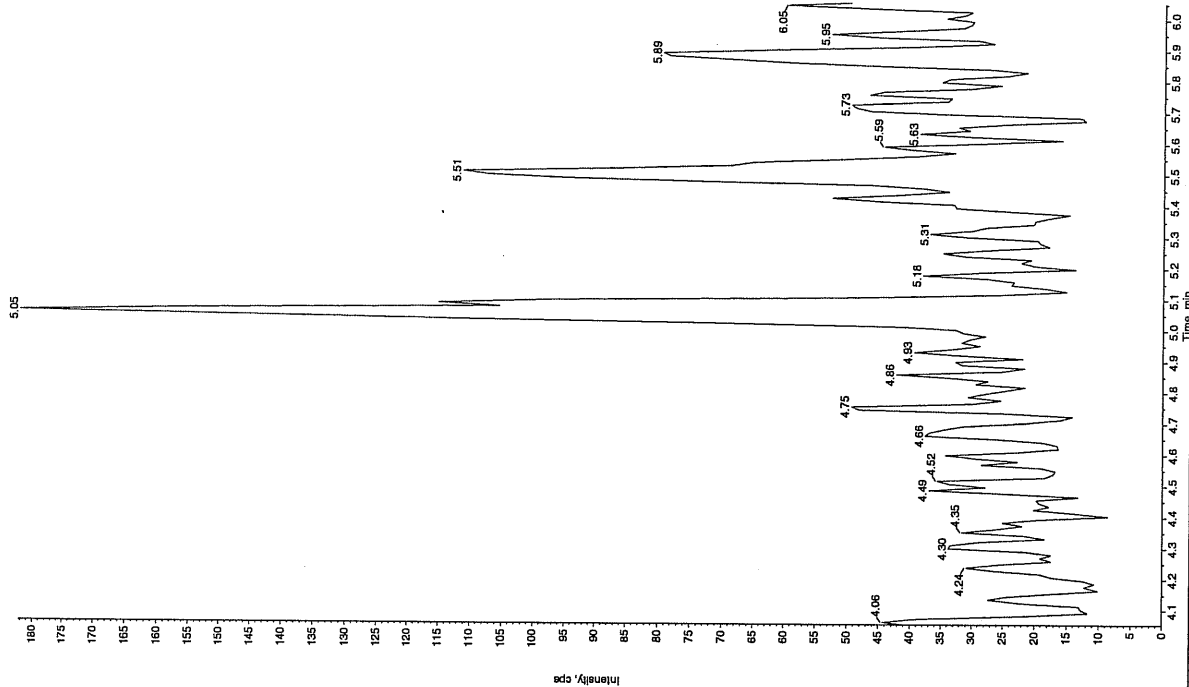
Acq. Time: 1:25:34 PM

Modified: No

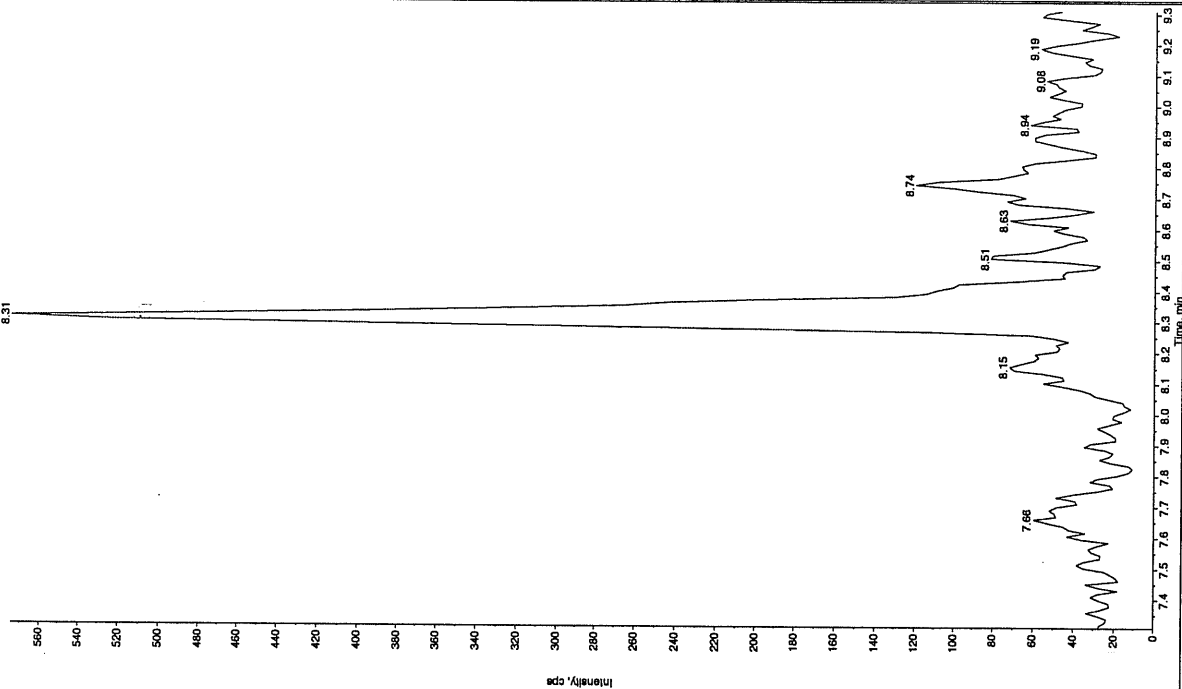


L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

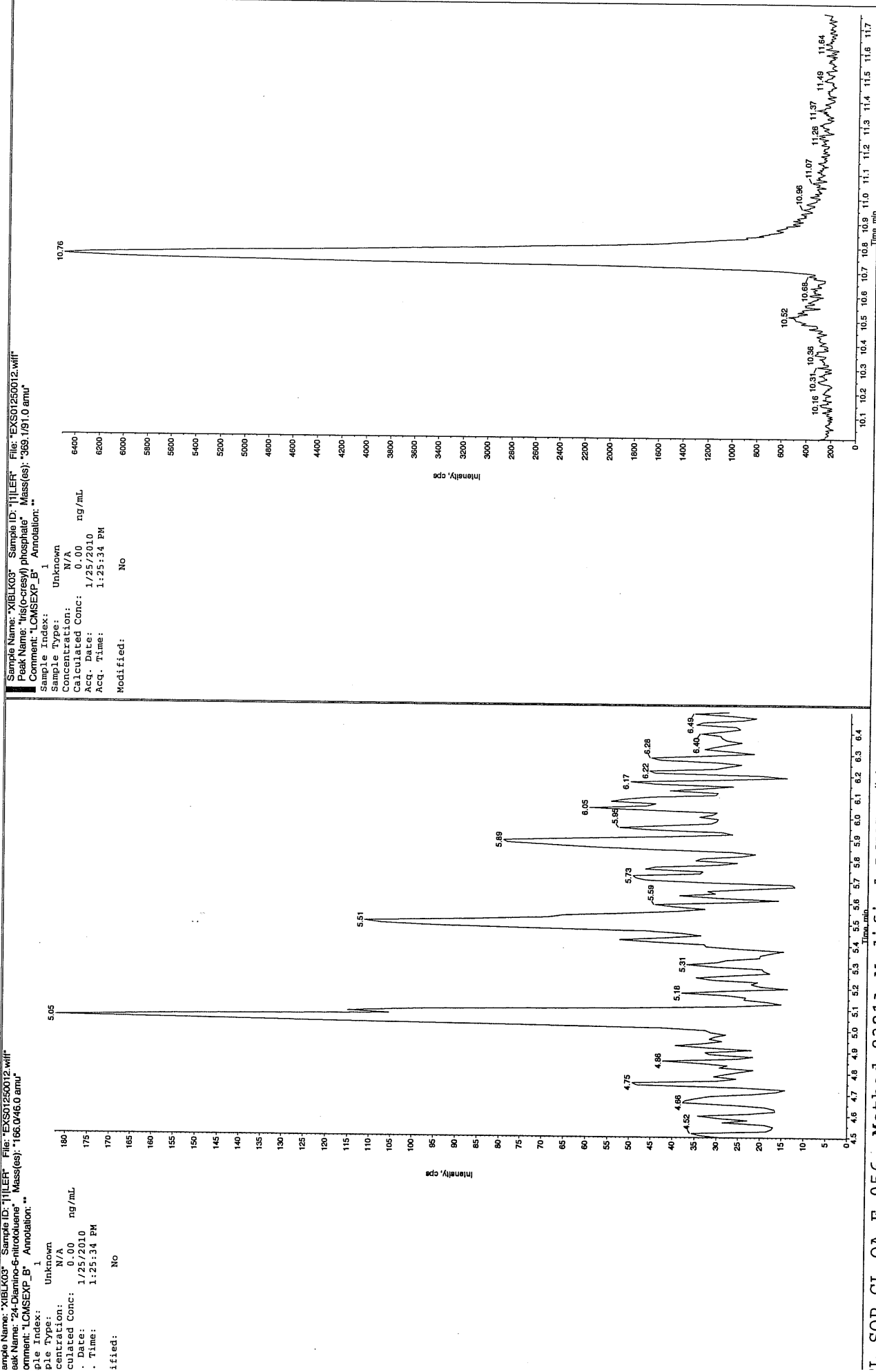
Sample Name: "XIBLK03" Sample ID: "1111ER" File: "EXS01250012.wif"  
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 1:25:34 PM  
 Modified: No



Sample Name: "XIBLK03" Sample ID: "1111ER" File: "EXS01250012.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1151.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 1:25:34 PM  
 Modified: No



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 25-JAN-10 14:28

GEL Data File: EXS01250016.wiff

Instrument ID: LCMSMS

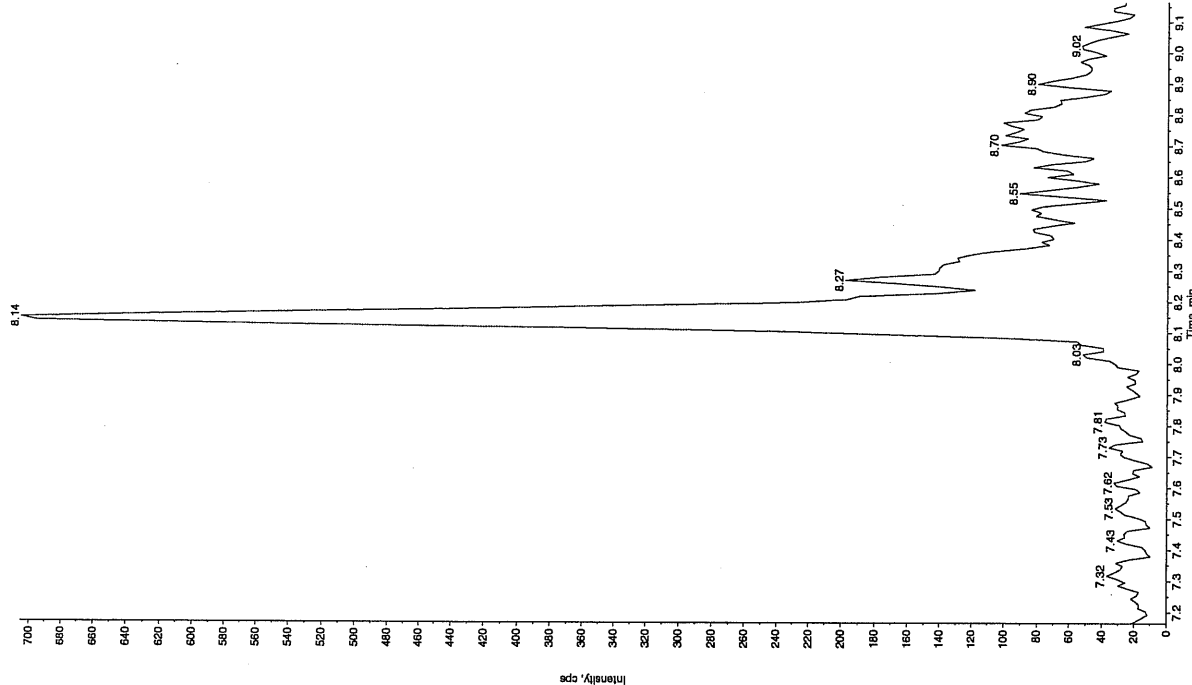
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1127110

Sample Name: "XIBLK04" Sample ID: "1111ER" File: "EXS01250016.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

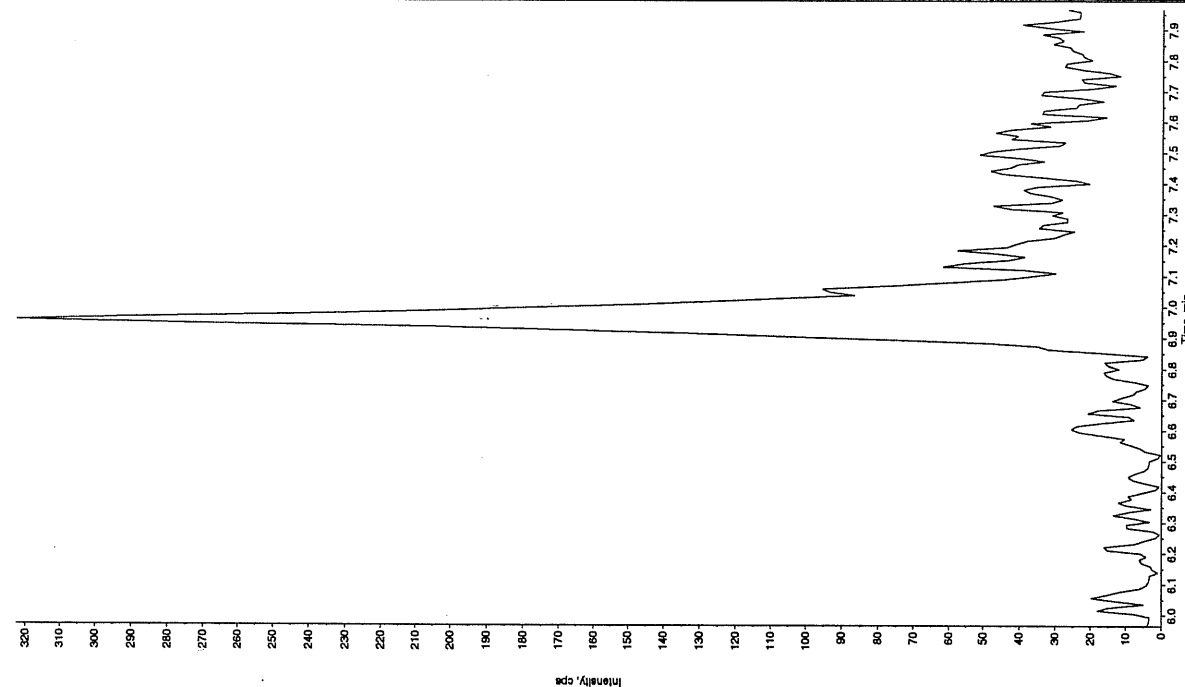
Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 2:28:22 PM  
 Modified: No



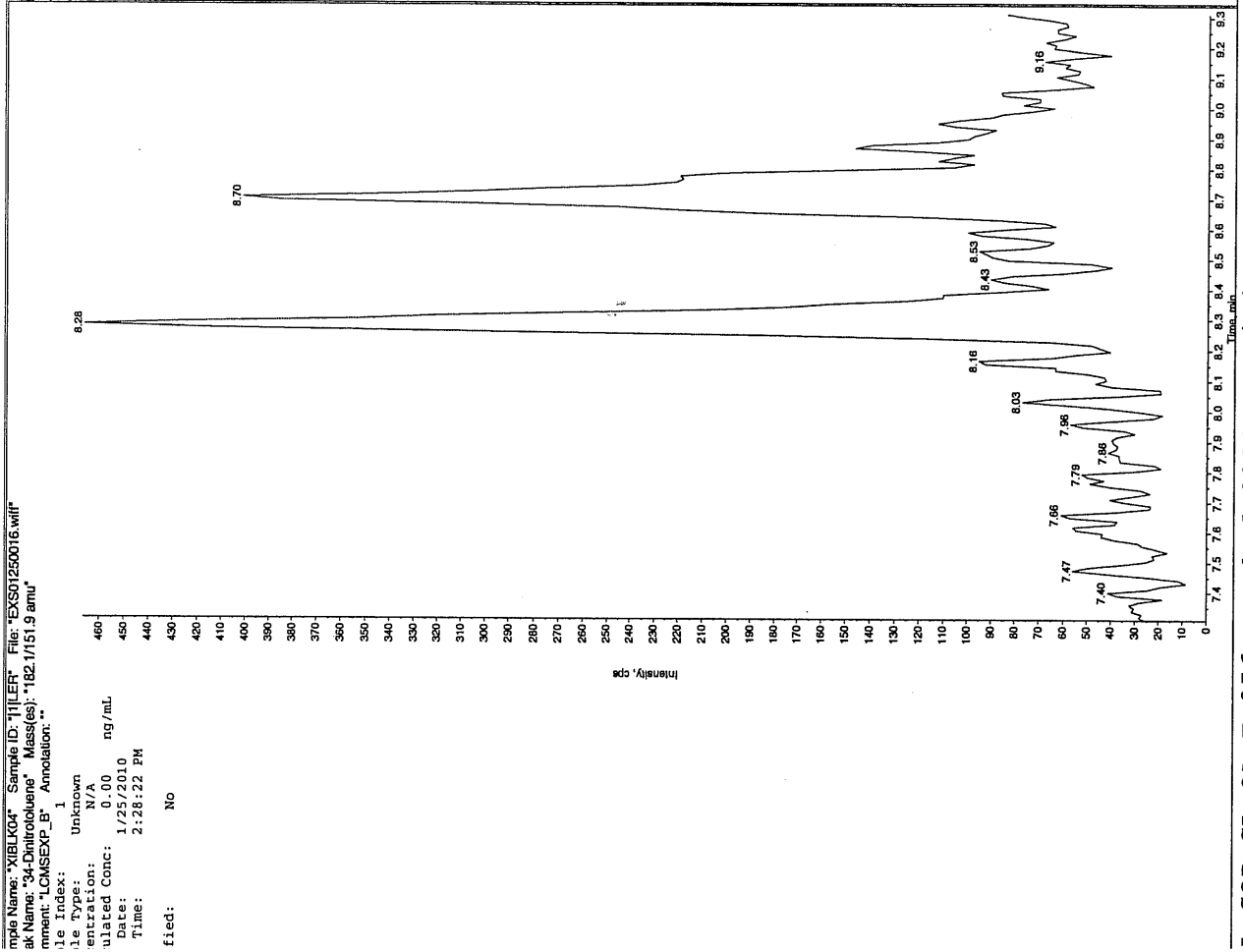
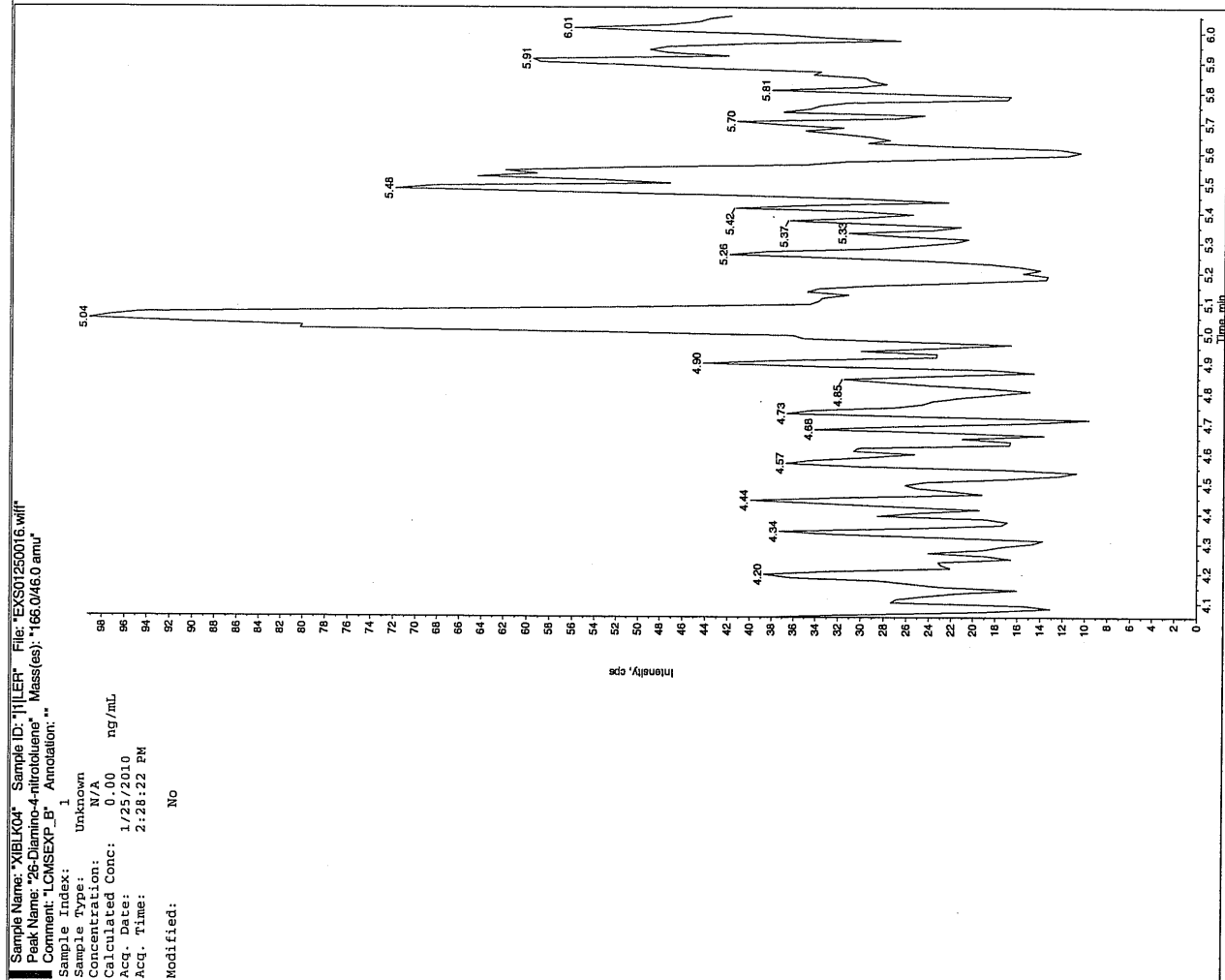
Ann 01/27/10

Sample Name: "XIBLK04" Sample ID: "1111ER" File: "EXS01250016.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

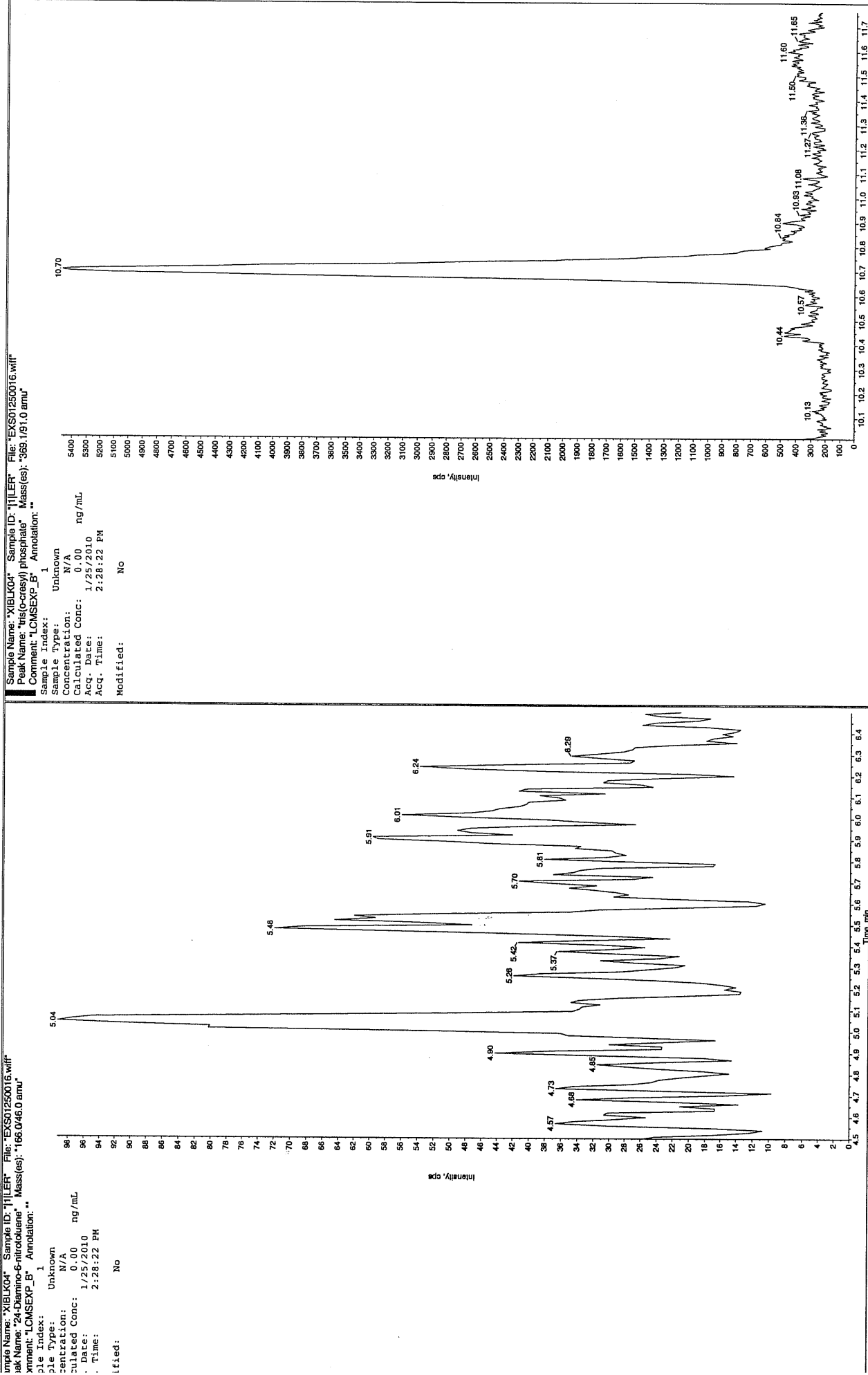
Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 2:28:22 PM  
 Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4







IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 25-JAN-10 16:49

GEL Data File: EXS01250025.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Sen 11/27/10

Sample Name: "XIBLK05" Sample ID: "1111ER" File: "EXS01250025.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_B" Annotation: "

1

Sample Index:

Sample Type: Unknown

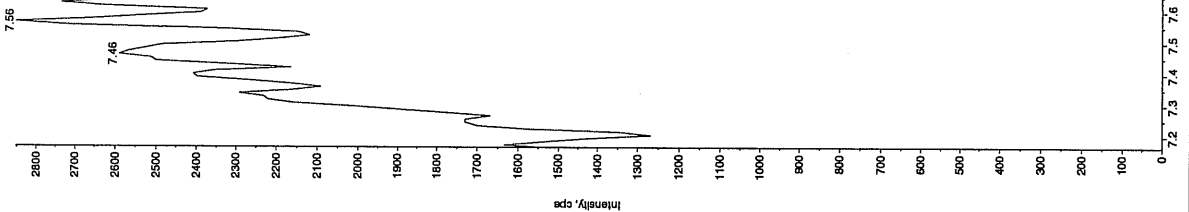
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 4:49:39 PM

Modified: No



Amw 01/27/10

Sample Name: "XIBLK05" Sample ID: "1111ER" File: "EXS01250025.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_B" Annotation: "

1

Sample Index:

Sample Type: Unknown

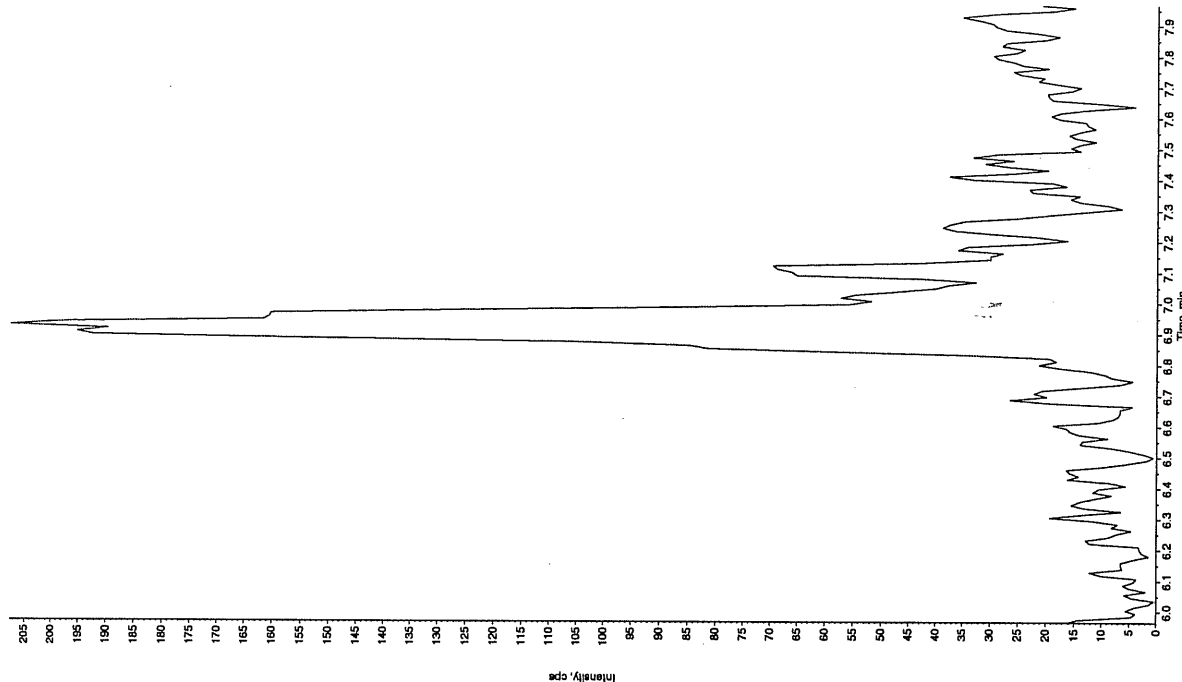
Concentration: N/A

Calculated Conc: 0.00 ng/mL

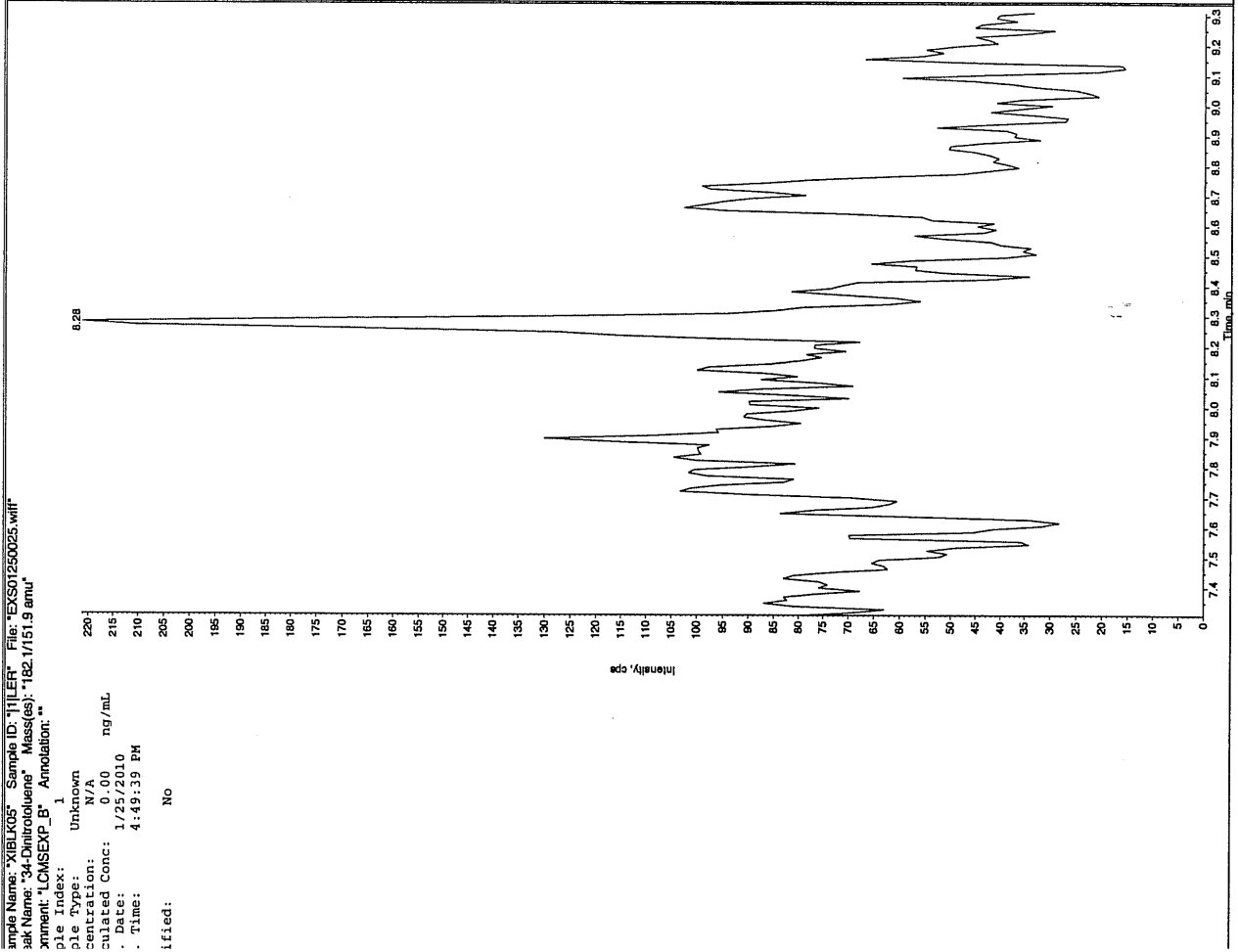
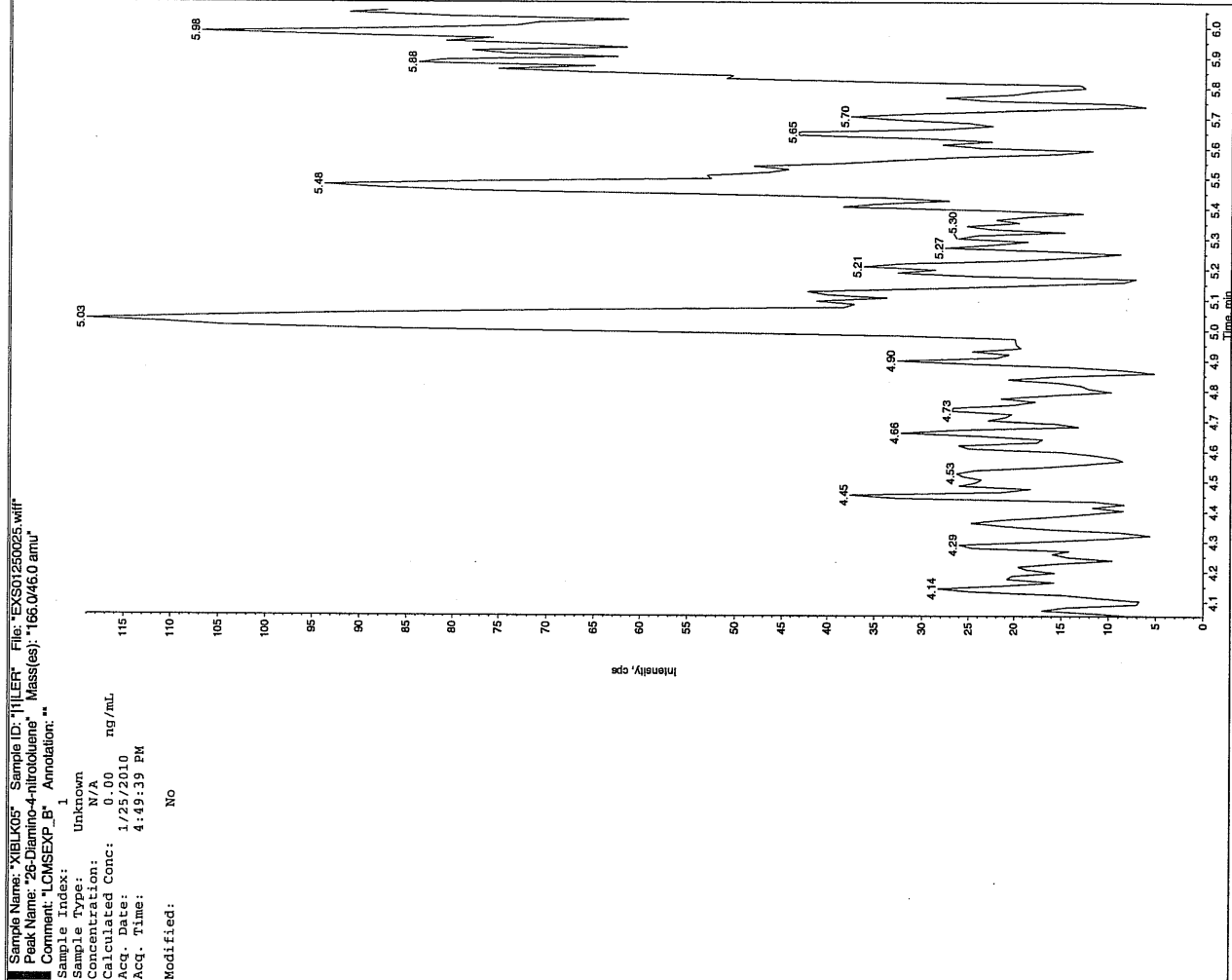
Acq. Date: 1/25/2010

Acq. Time: 4:49:39 PM

Modified: No



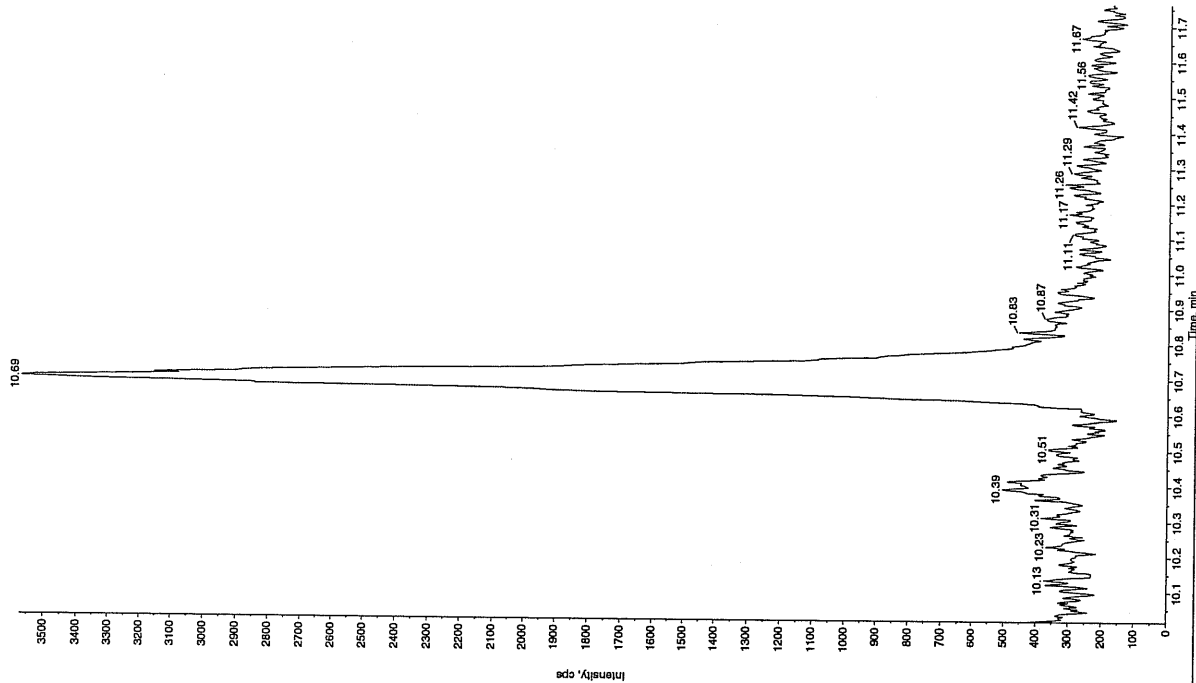
EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

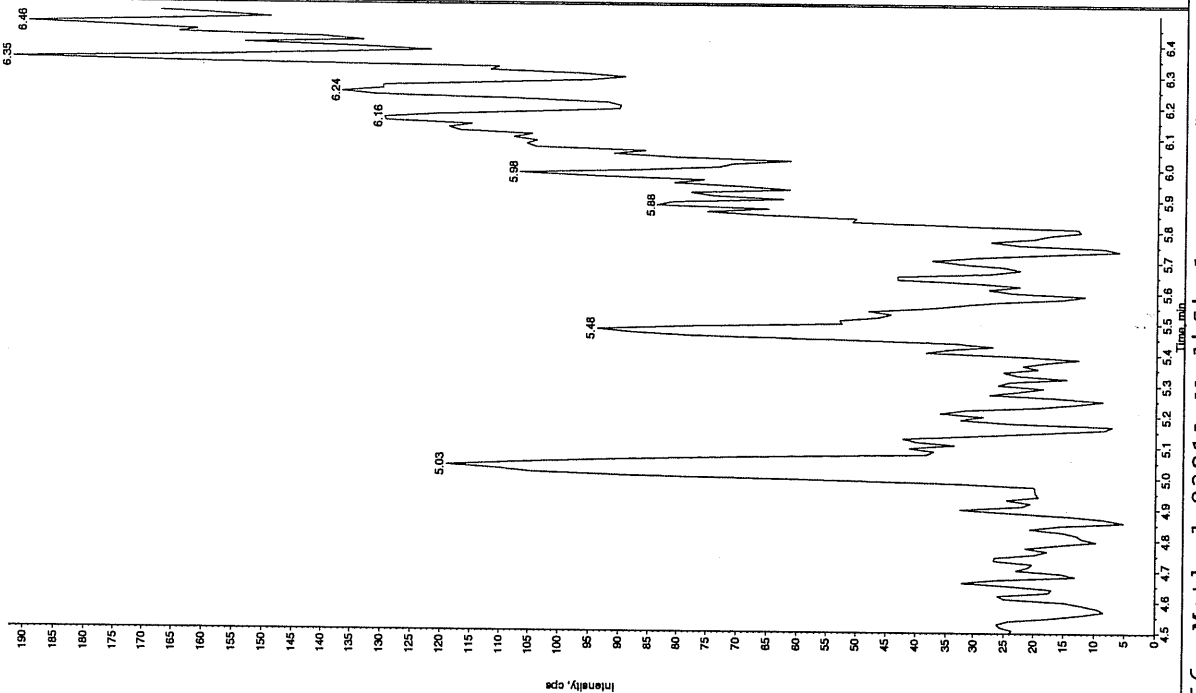
Sample Name: "XIBLK05" Sample ID: "1111ER" File: "EXS01250025.wif"  
 Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.191.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:49:39 PM  
 Modified: No



Sample Name: "XIBLK05" Sample ID: "1111ER" File: "EXS01250025.wif"  
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:49:39 PM  
 Modified: No



PL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 25-JAN-10 20:14

GEL Data File: EXS01250038.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

dan 1/22/10

Sample Name: "XIBLK06" Sample ID: "JILLER" File: "EXS01250038.wiff"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

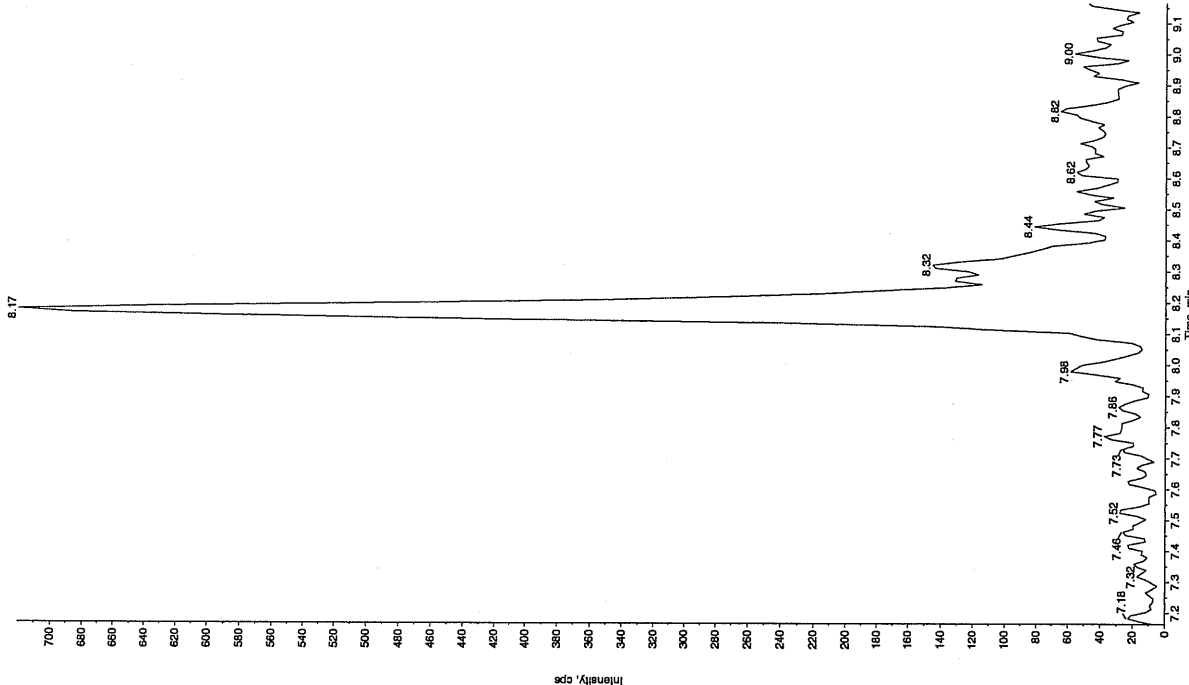
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 8:14:02 PM

Modified: No



Am 01/24/10

Sample Name: "XIBLK06" Sample ID: "JILLER" File: "EXS01250038.wiff"

Peak Name: "TATB" Mass(es): "237.2204.9 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

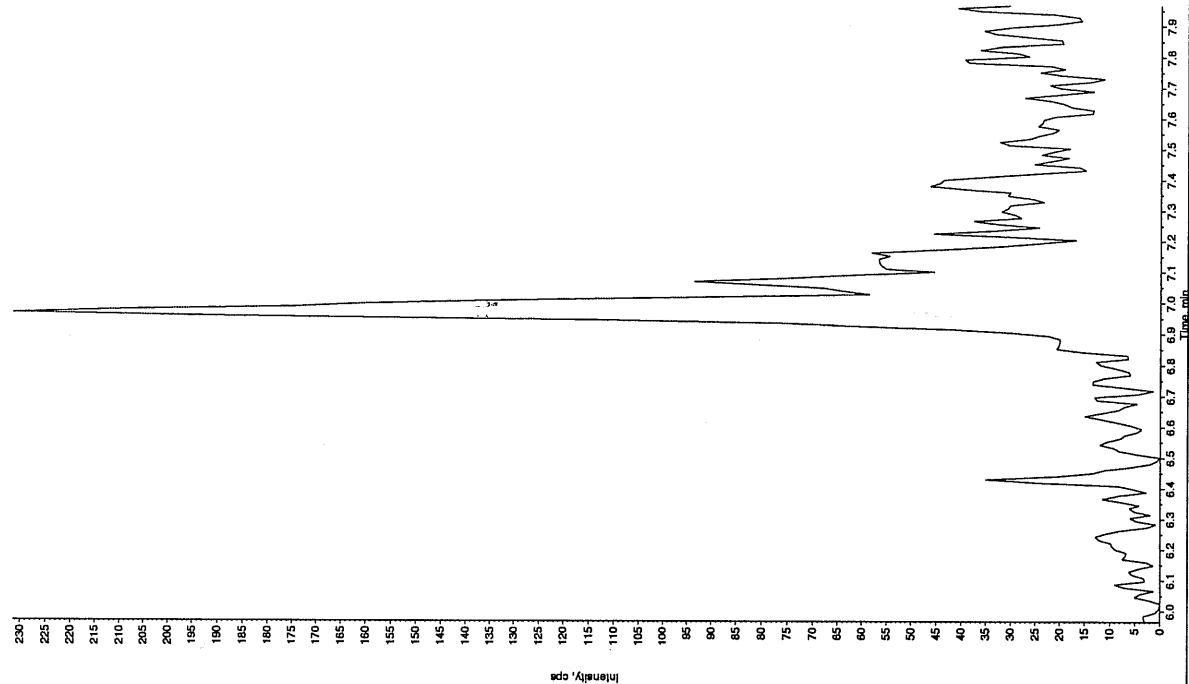
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

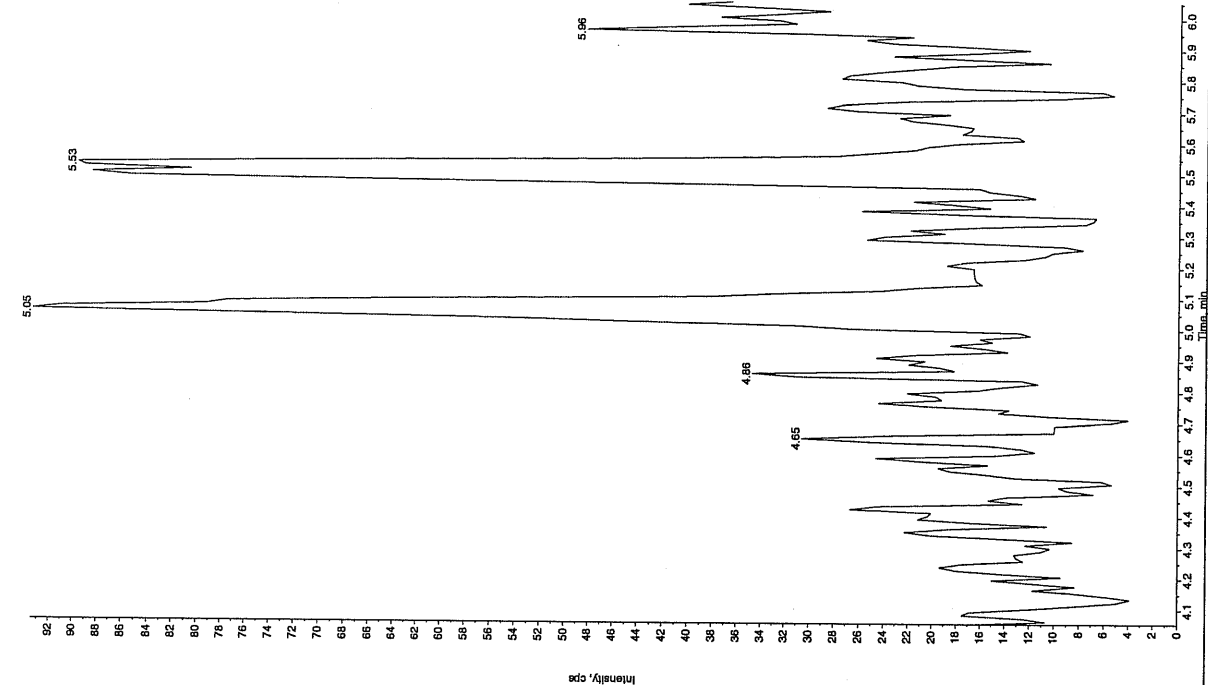
Acq. Time: 8:14:02 PM

Modified: No

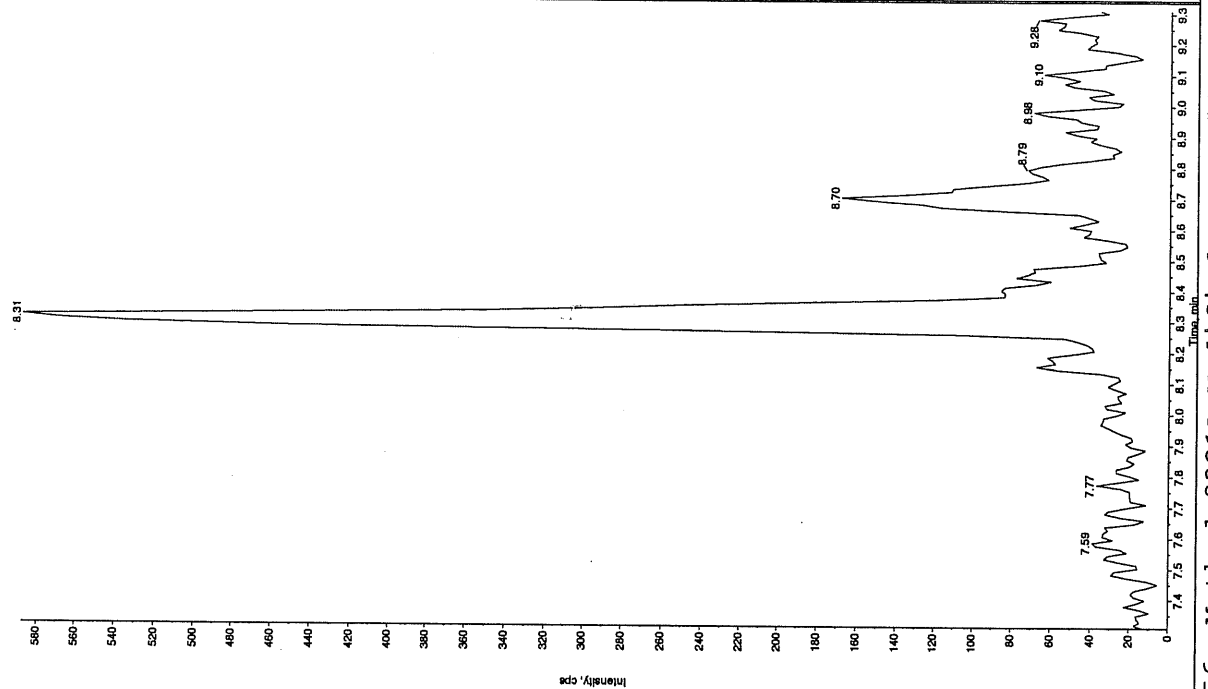


IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK06" Sample ID: "111LER" File: "EX501250038.wif"  
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 8:14:02 PM  
 Modified: No

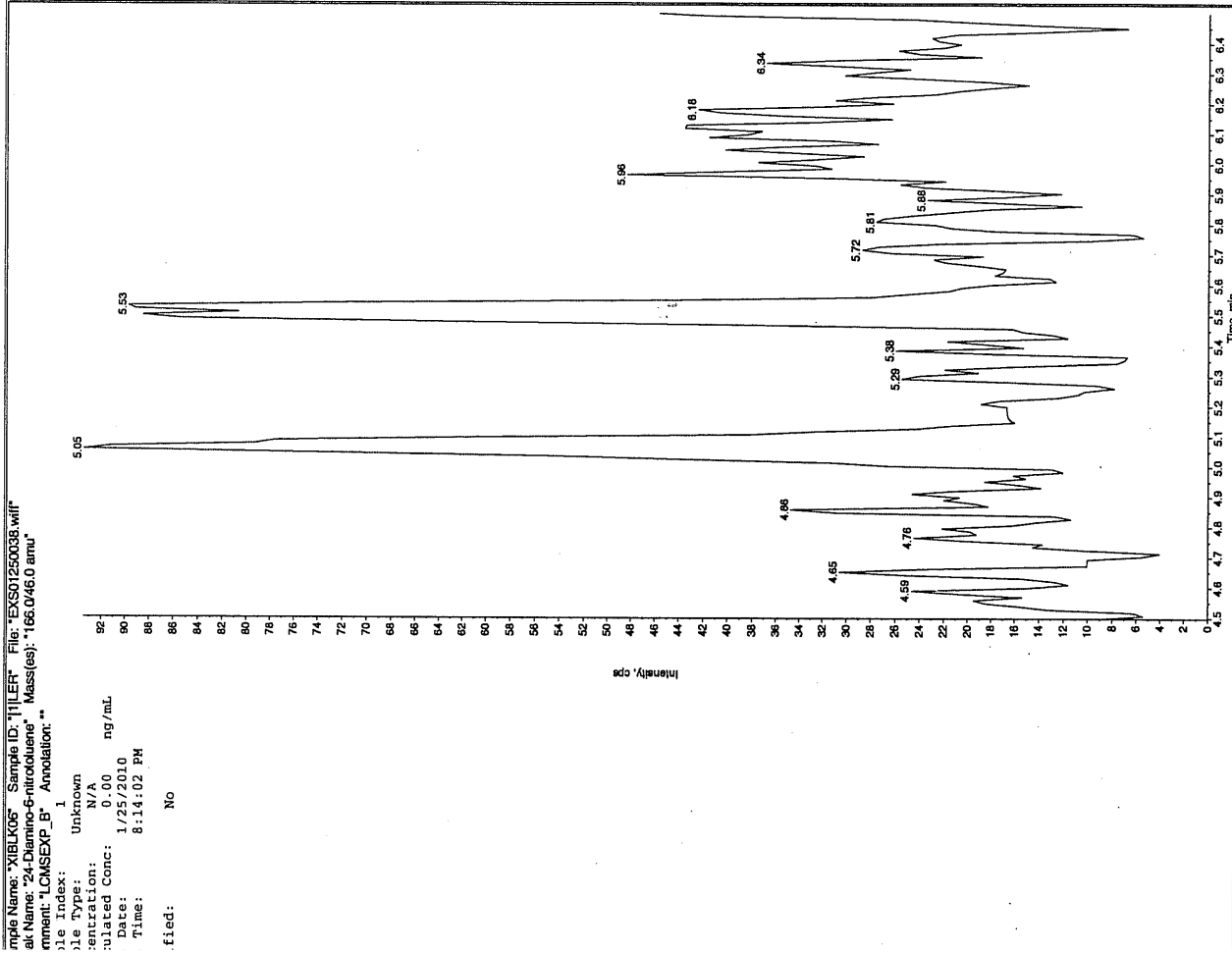
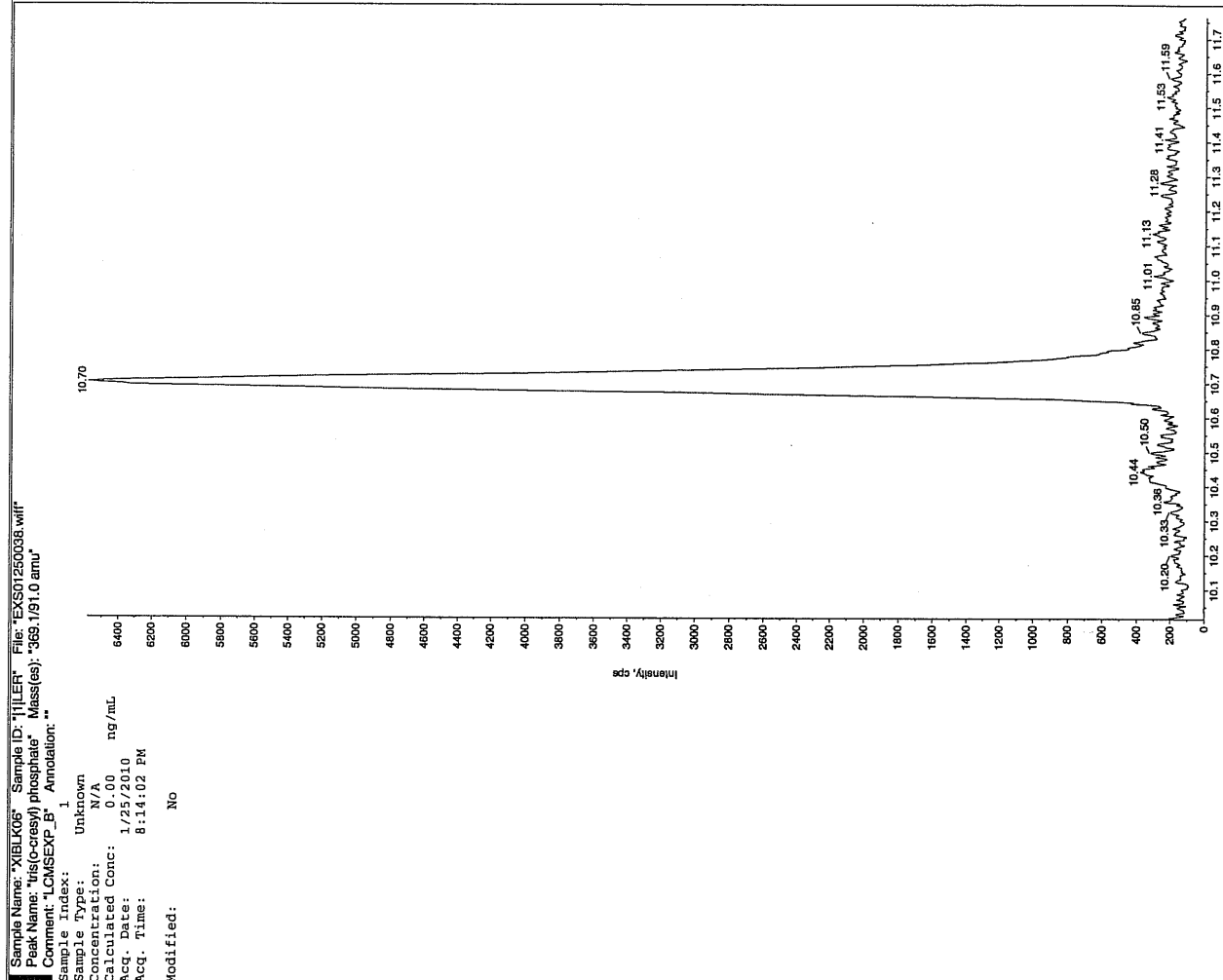


Sample Name: "XIBLK06" Sample ID: "111LER" File: "EX501250038.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1151.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 8:14:02 PM  
 Modified: No



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 25-JAN-10 22:19

GEL Data File: EXS01250046.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Jan 11 27/10

Sample Name: "XIBLK07" Sample ID: "JILLER" File: "EXS01250046.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

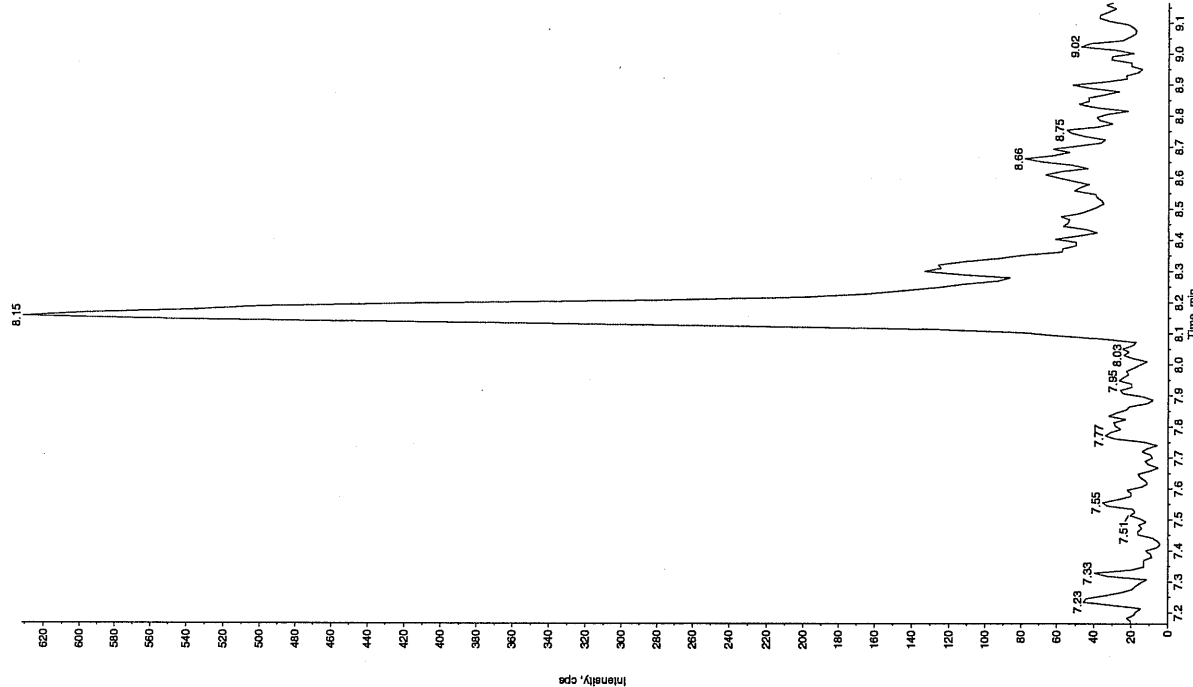
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 10:19:41 PM

Modified: No



Jan 01/27/10

Sample Name: "XIBLK07" Sample ID: "JILLER" File: "EXS01250046.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

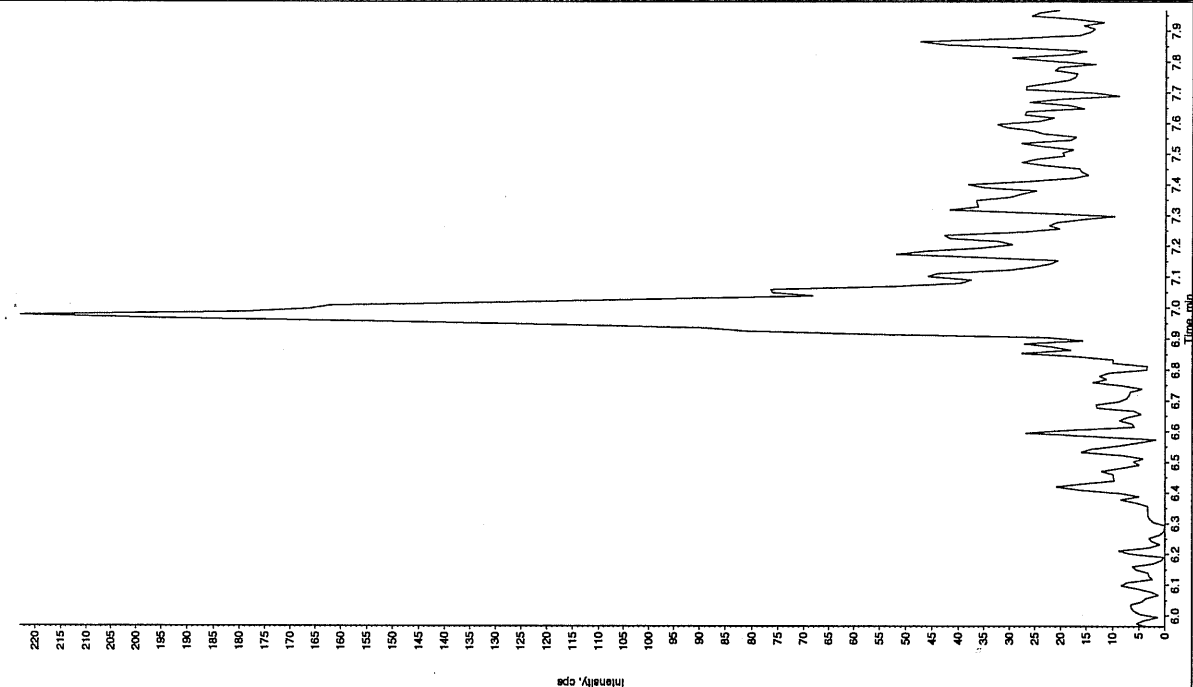
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

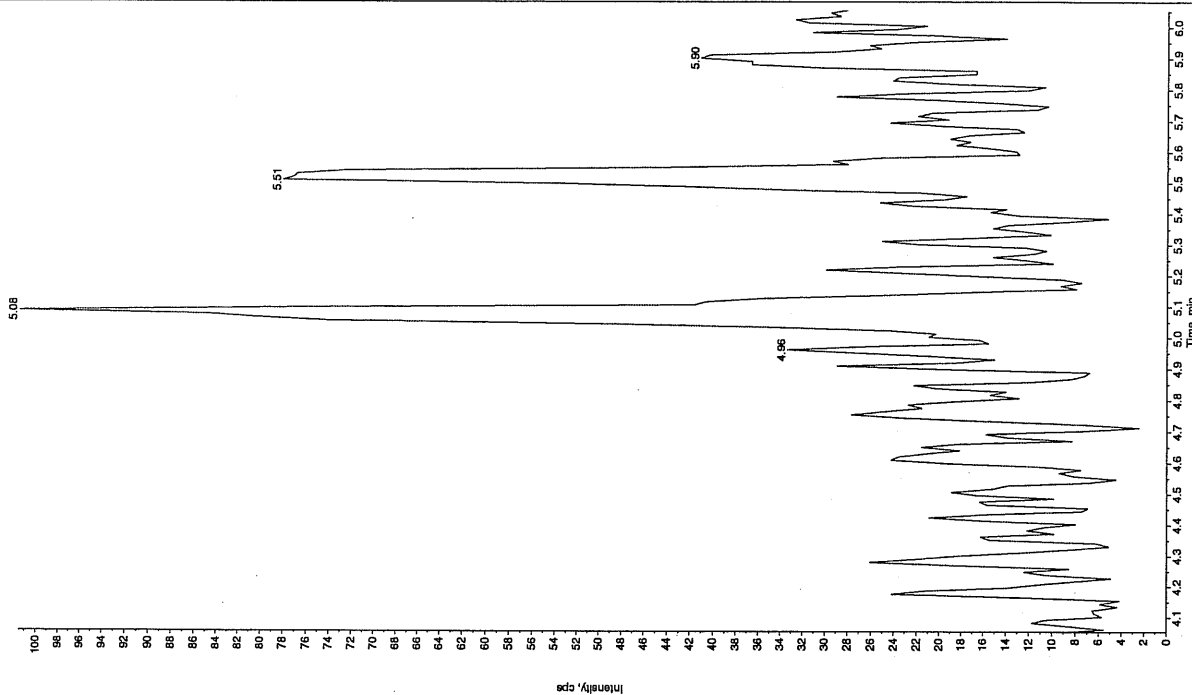
Acq. Time: 10:19:41 PM

Modified: No

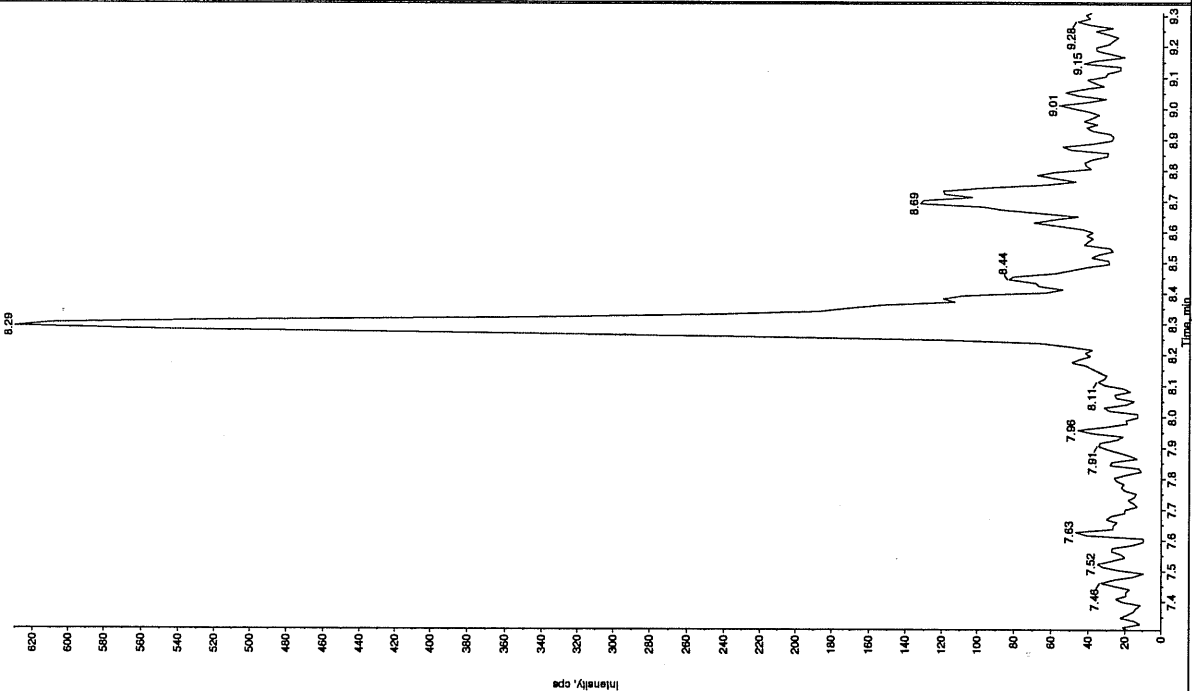


EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK07" Sample ID: "1111ER" File: "EXS01250046.wif"  
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:19:41 PM  
 Modified: No

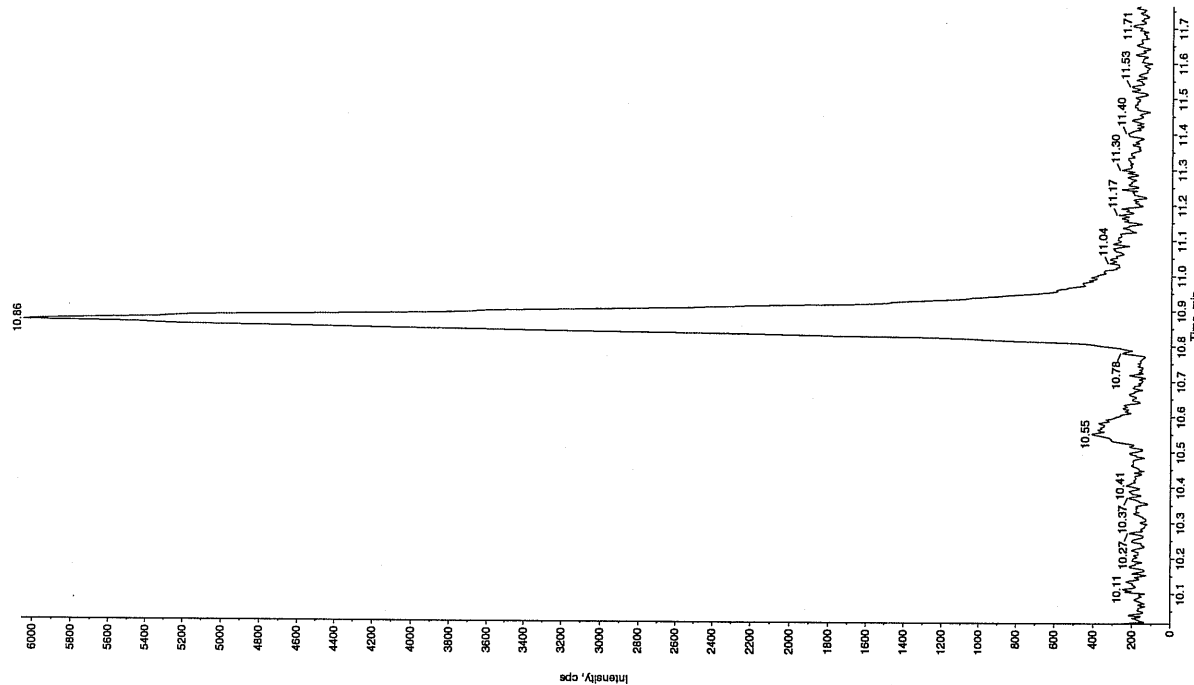


Sample Name: "XIBLK07" Sample ID: "1111ER" File: "EXS01250046.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1151.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:19:41 PM  
 Modified: No

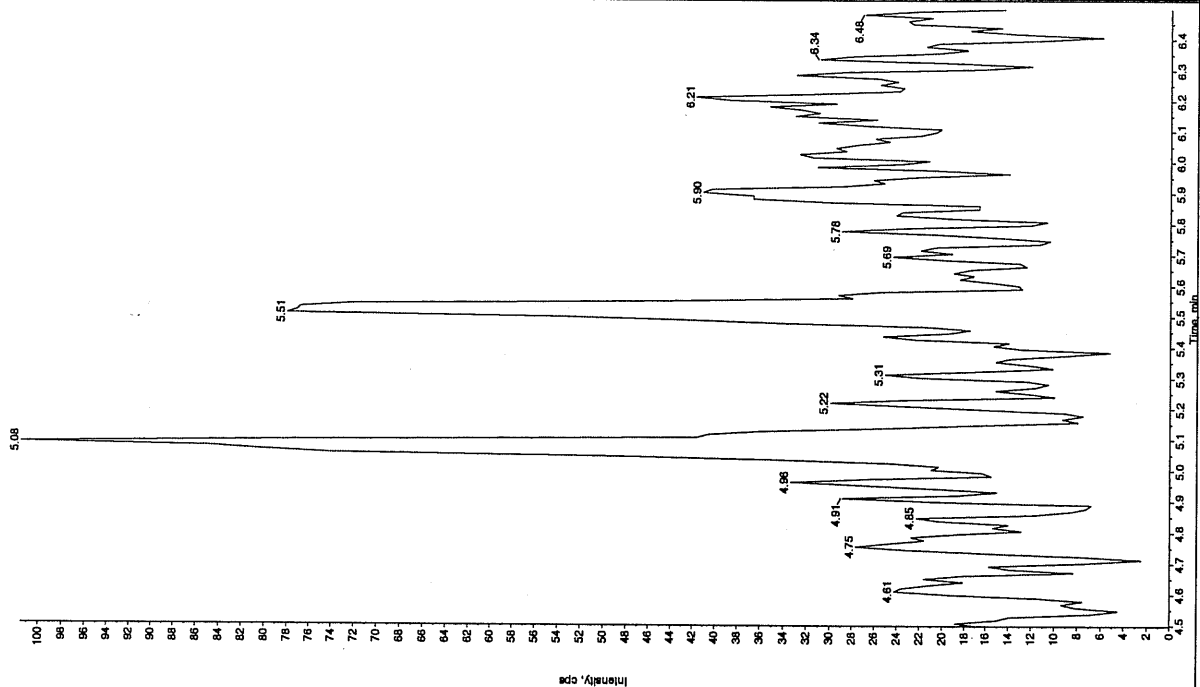


EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK07" Sample ID: "111LER" File: "EXS01250046.wif"  
 Peak Name: "Ins(O-cresyl) phosphate" Mass(es): "369.1/91.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/25/2010  
 Acq. Time: 10:19:41 PM  
 Modified: No



Sample Name: "XIBLK07" Sample ID: "111LER" File: "EXS01250046.wif"  
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/25/2010  
 Acq. Time: 10:19:41 PM  
 Modified: No



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 26-JAN-10 01:44

GEL Data File: EXS01250059.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1/27/10

Sample Name: "XIBLK08" Sample ID: "TJLER" File: "EXS01250039.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

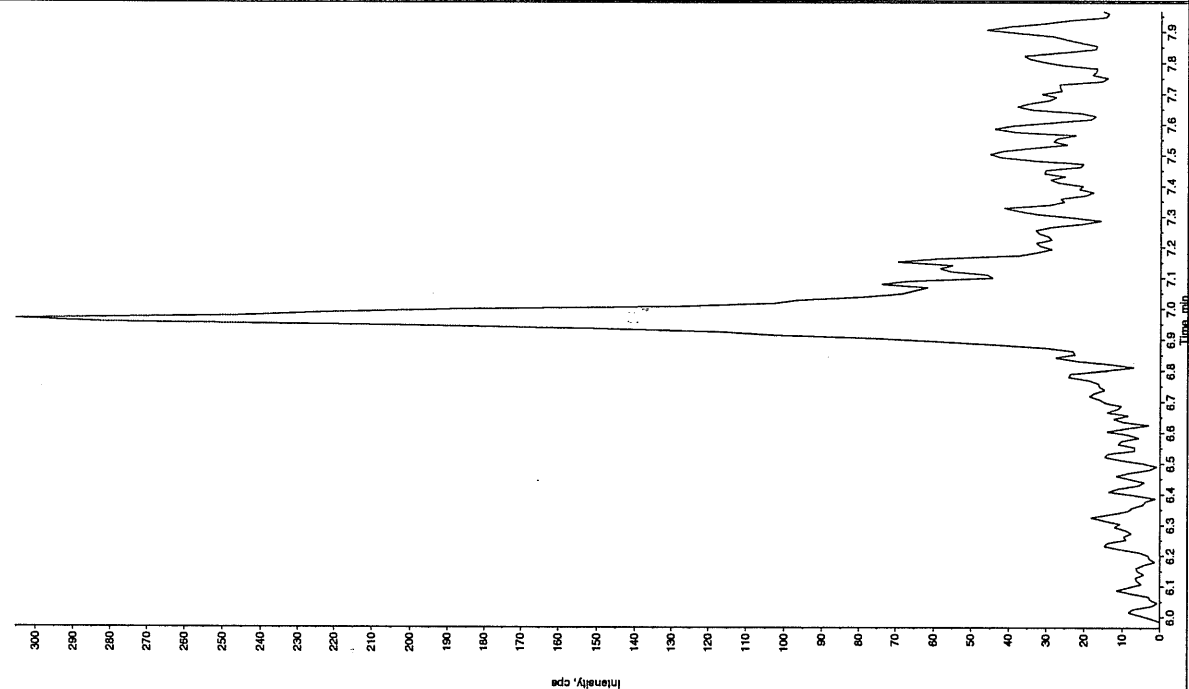
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/26/2010

Acq. Time: 1:44:00 AM

Modified: No



Sample Name: "XIBLK08" Sample ID: "TJLER" File: "EXS01250039.wif"

Peak Name: "TATB" Mass(es): "257.2/204.9 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

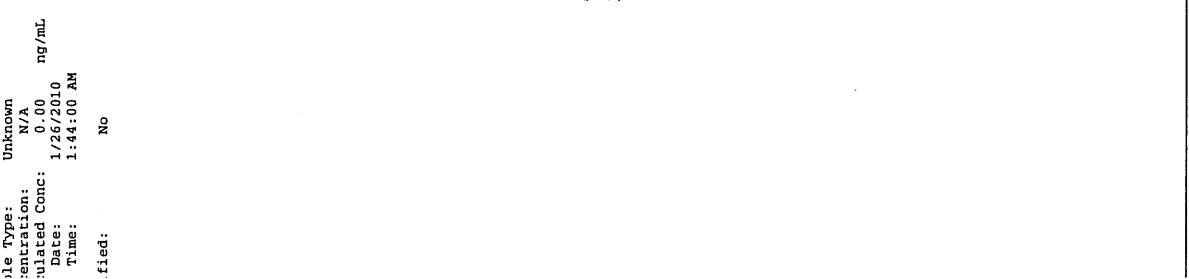
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/26/2010

Acq. Time: 1:44:00 AM

Modified: No

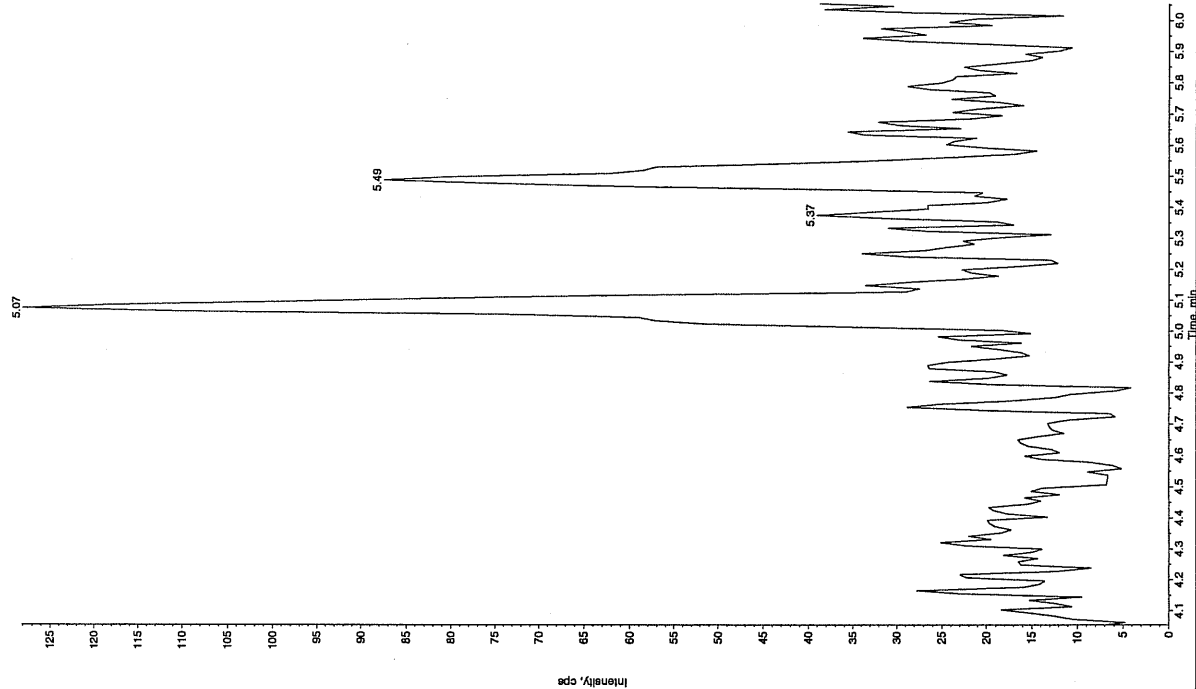
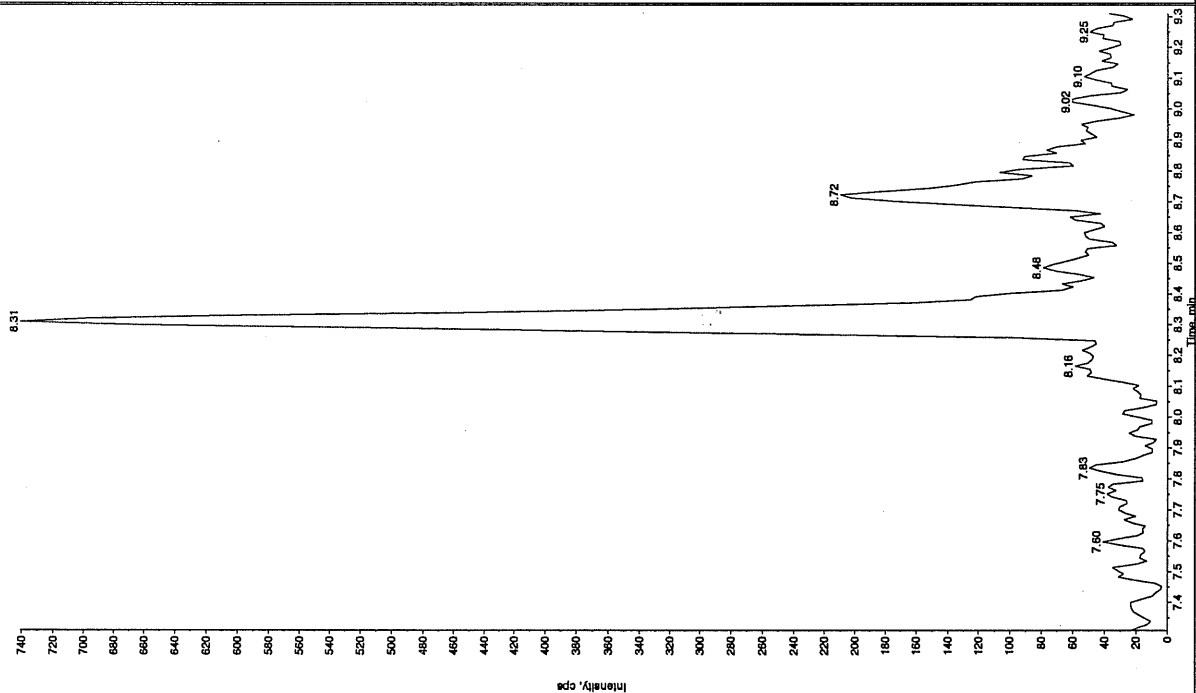


See 01/27/10

IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

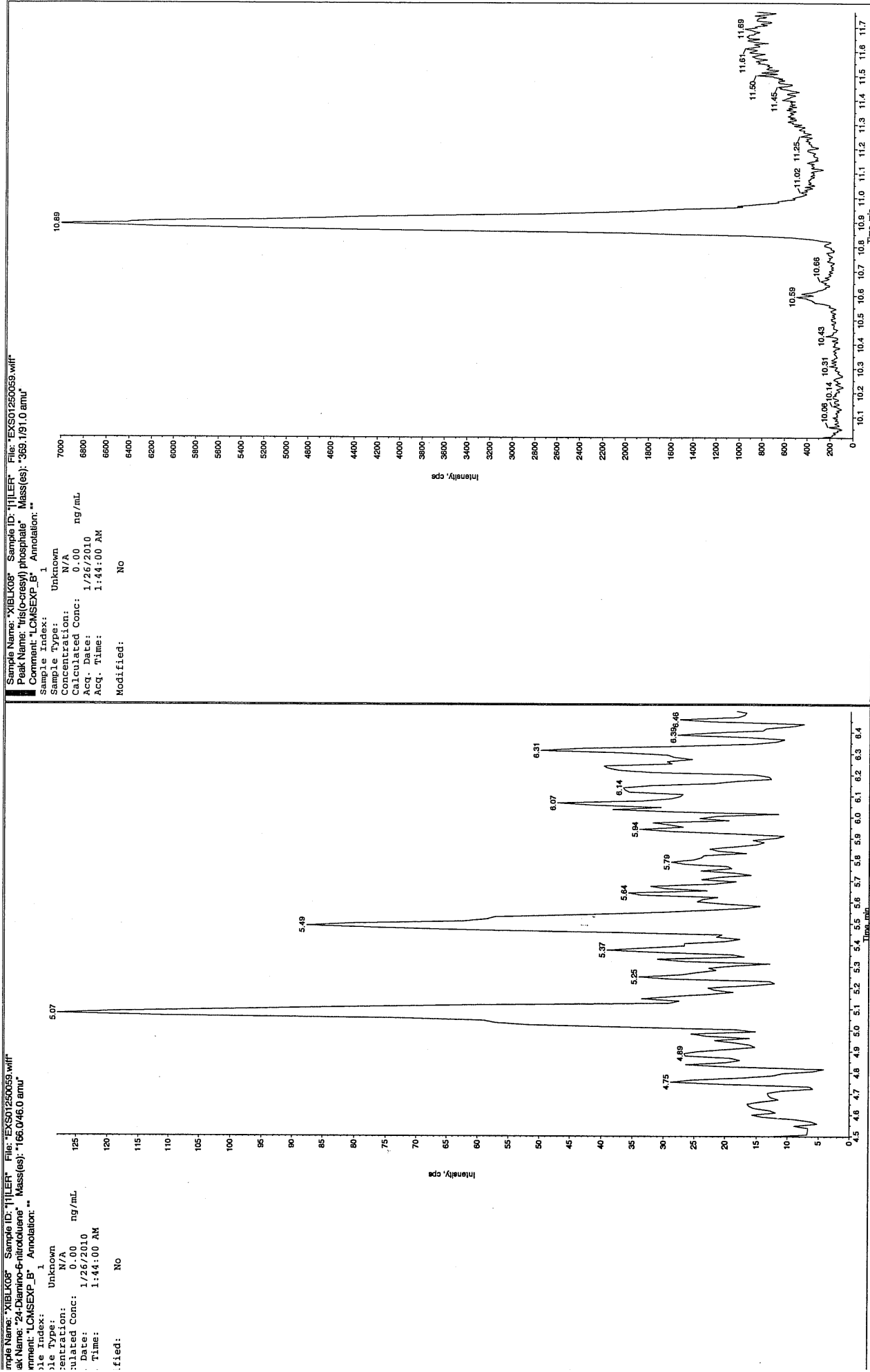
Sample Name: "XIBLK08" Sample ID: "T1LER" File: "EXS01250059.will"  
 Peak Name: "34-Dinitrofluorene" Mass(es): "182.1/151.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/26/2010  
 Time: 1:44:00 AM  
 Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 26-JAN-10 04:05

GEL Data File: EXS01250068.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1127110

Sample Name: "XIBLK09" Sample ID: "1111ER" File: "EXS01250068.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/26/2010

Acq. Time: 4:05:24 AM

Modified: No

Sample Name: "XIBLK09" Sample ID: "1111ER" File: "EXS01250068.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

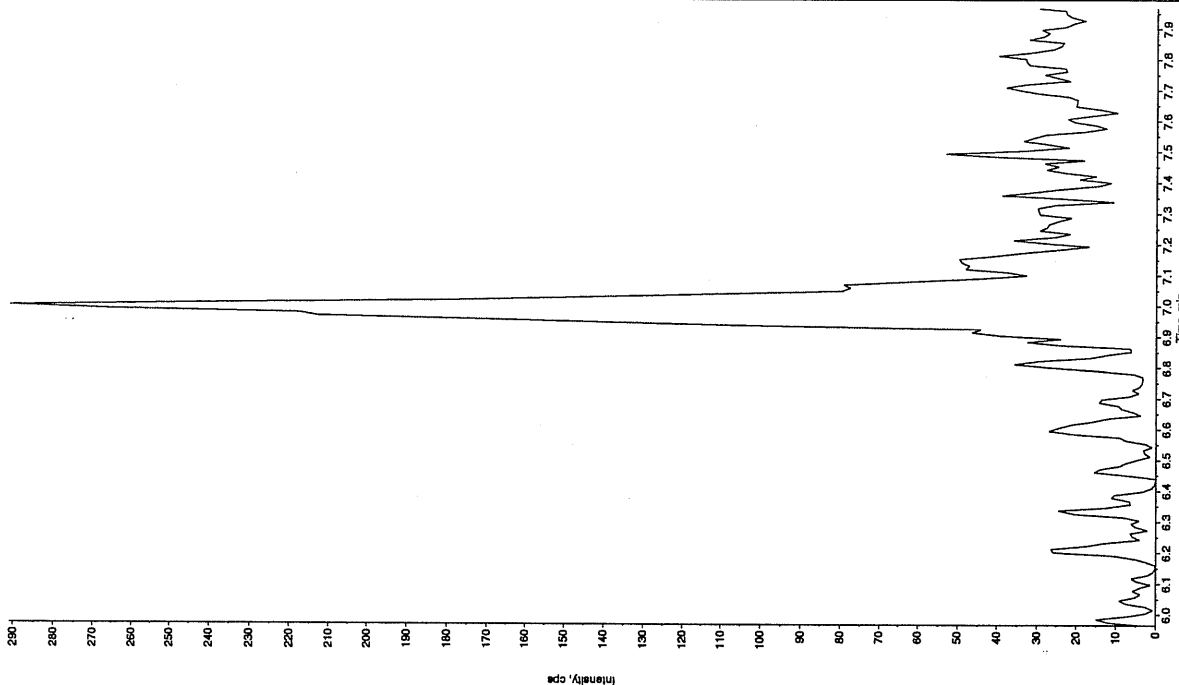
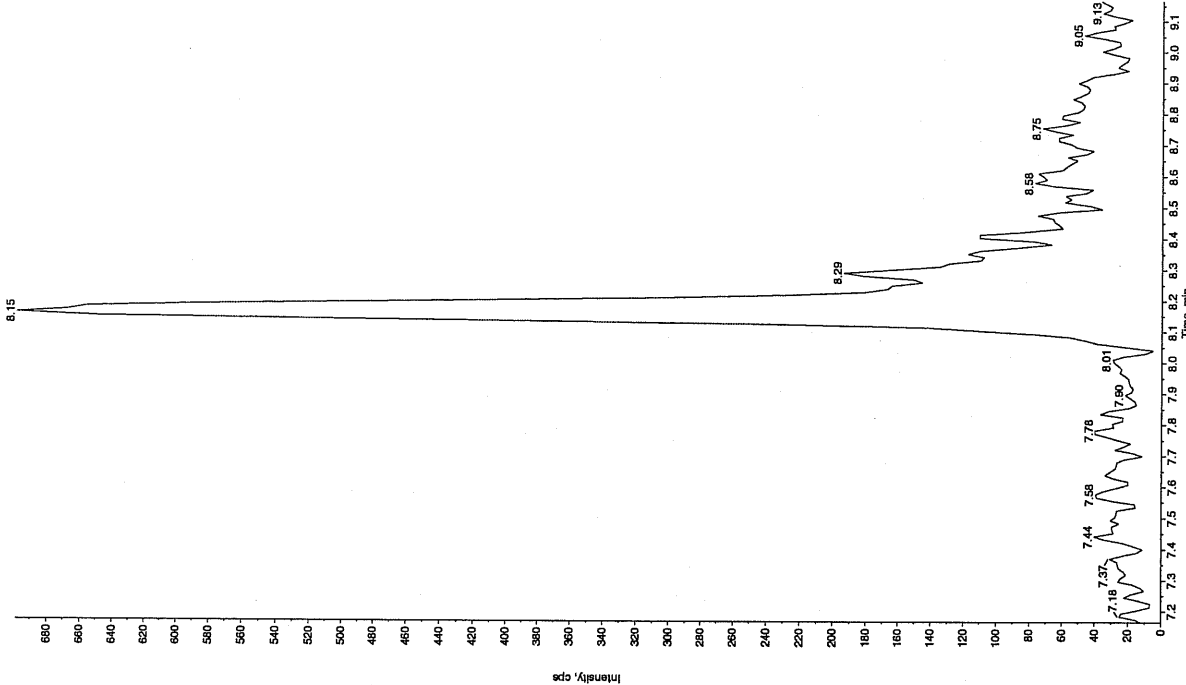
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/26/2010

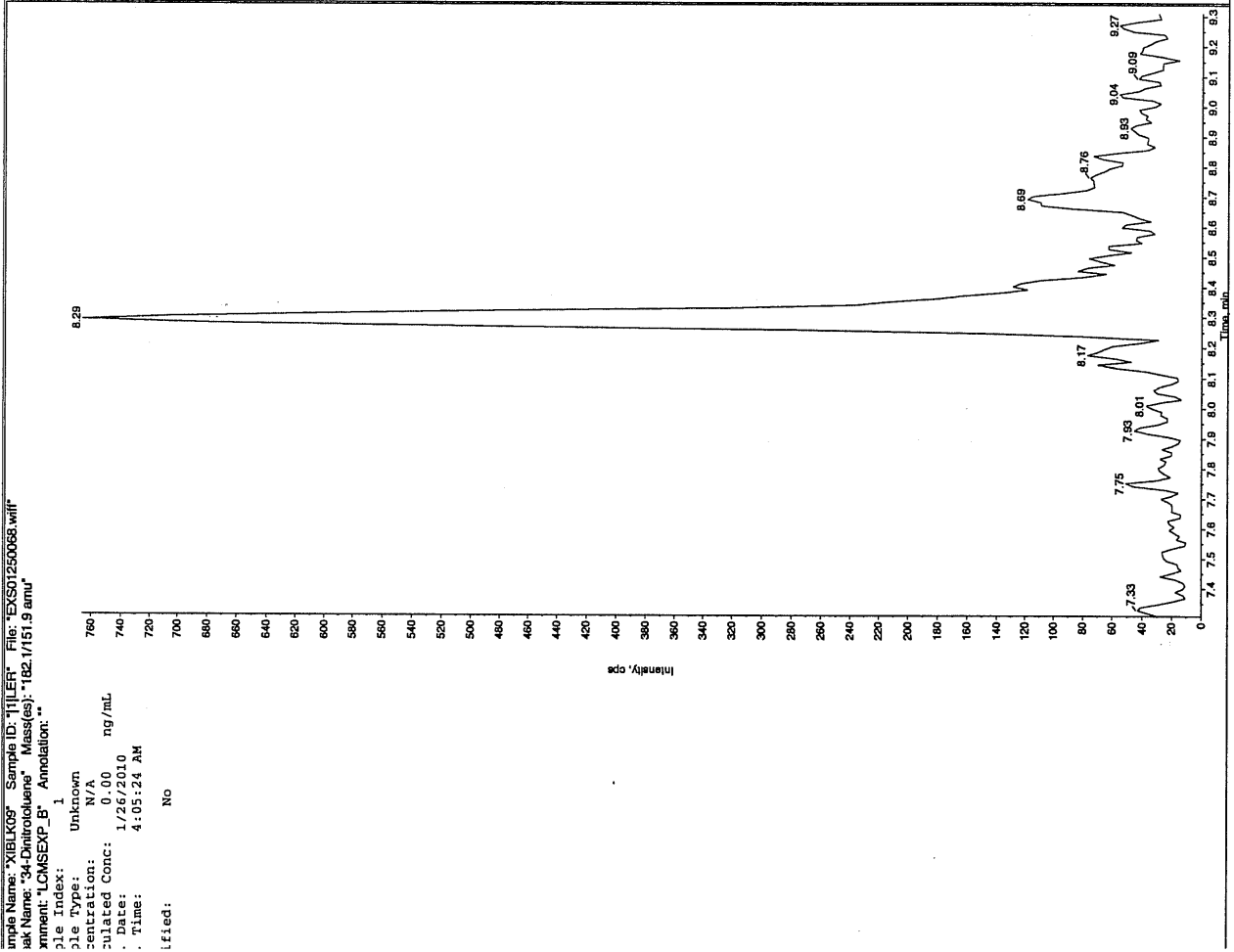
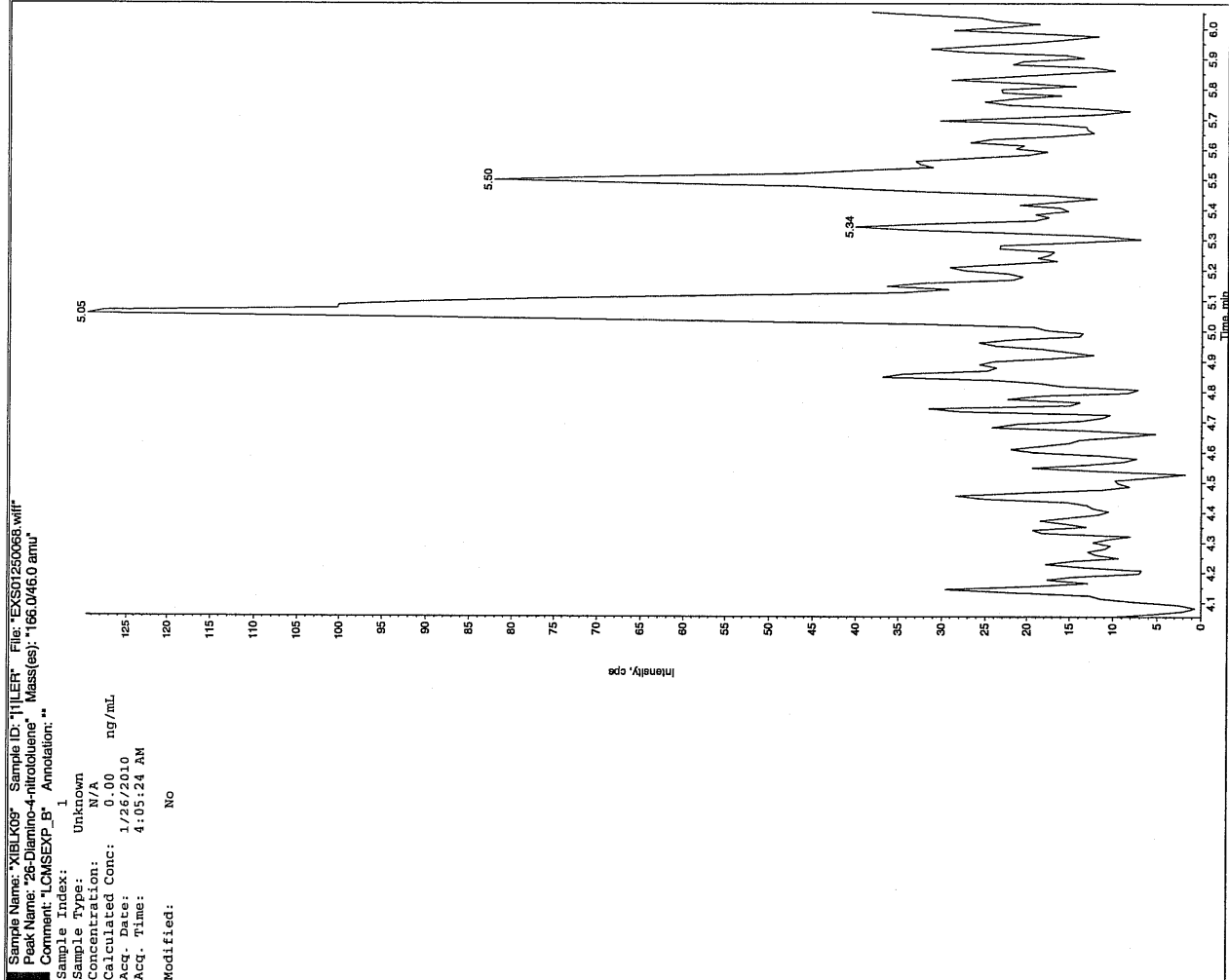
Acq. Time: 4:05:24 AM

Modified: No



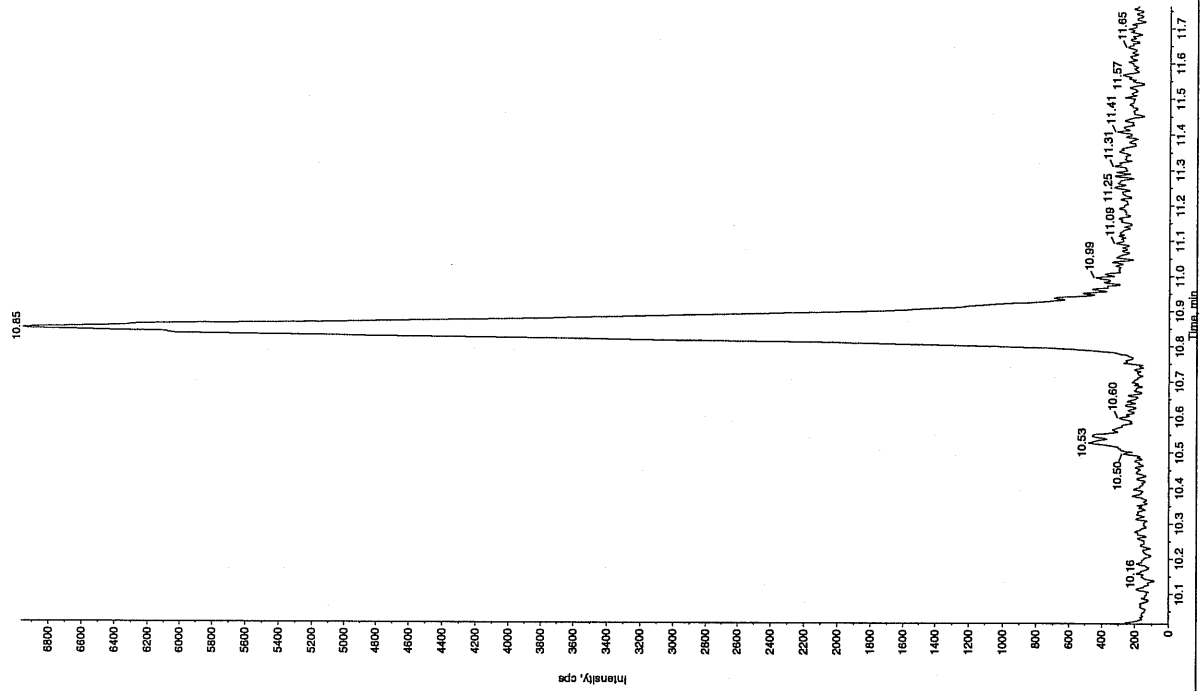
Run 01127110

EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

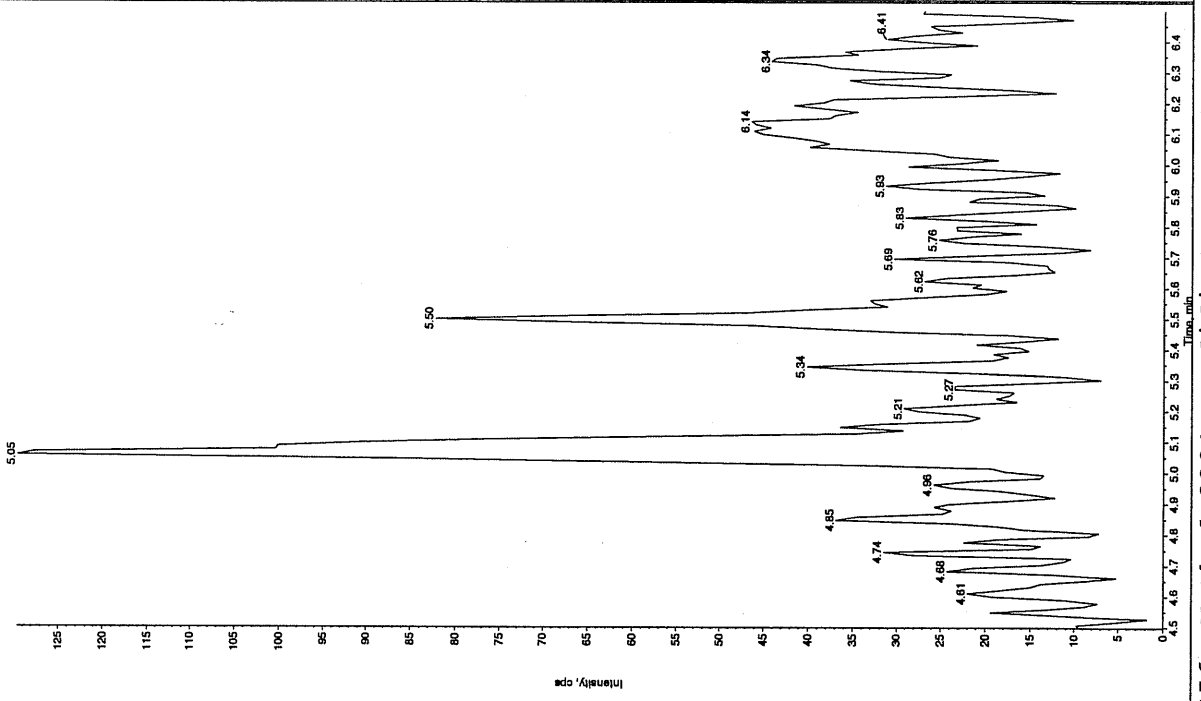


IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK09" Sample ID: "111LER" File: "EXS01250068.wif"  
Peak Name: "tris-(o-cresyl) phosphate" Mass(es): "369.191.0 amu"  
Comment: "LCMSEXP\_B" Annotation: ""  
Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 0.00 ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 4:05:24 AM  
Modified: No



Sample Name: "XIBLK09" Sample ID: "111LER" File: "EXS01250068.wif"  
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"  
Comment: "LCMSEXP\_B" Annotation: ""  
Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 0.00 ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 4:05:24 AM  
Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK10

Analysis Date: 26-JAN-10 07:29

GEL Data File: EXS01250081.wiff

Instrument ID: LCMSMS

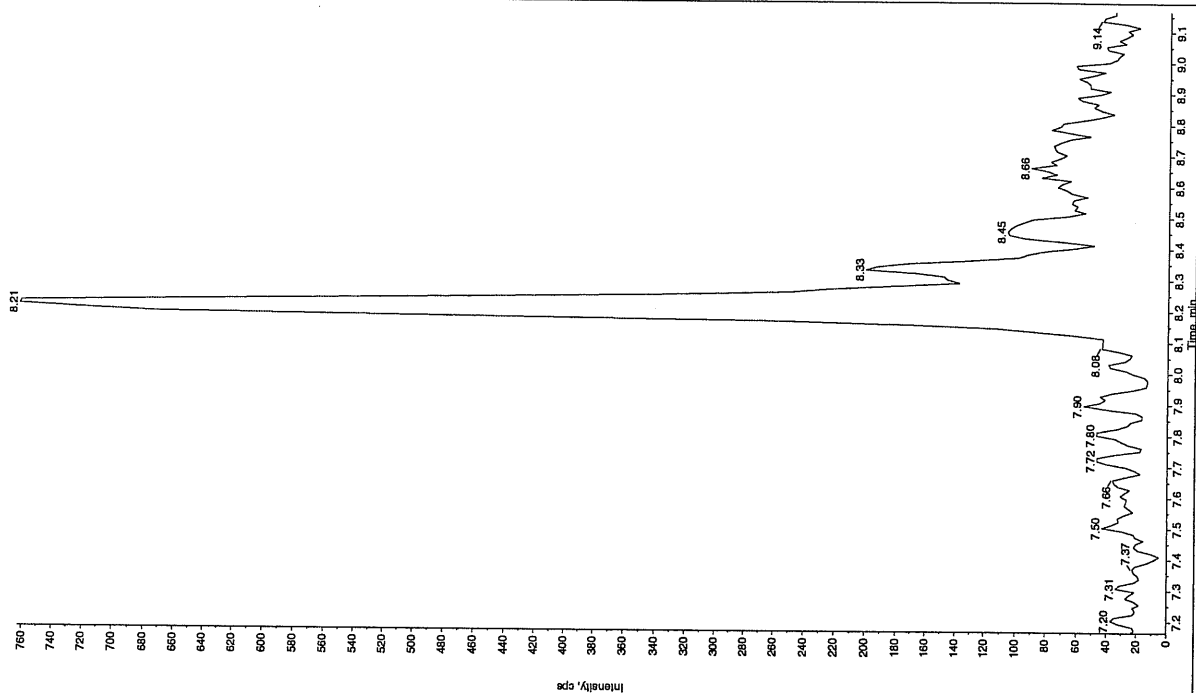
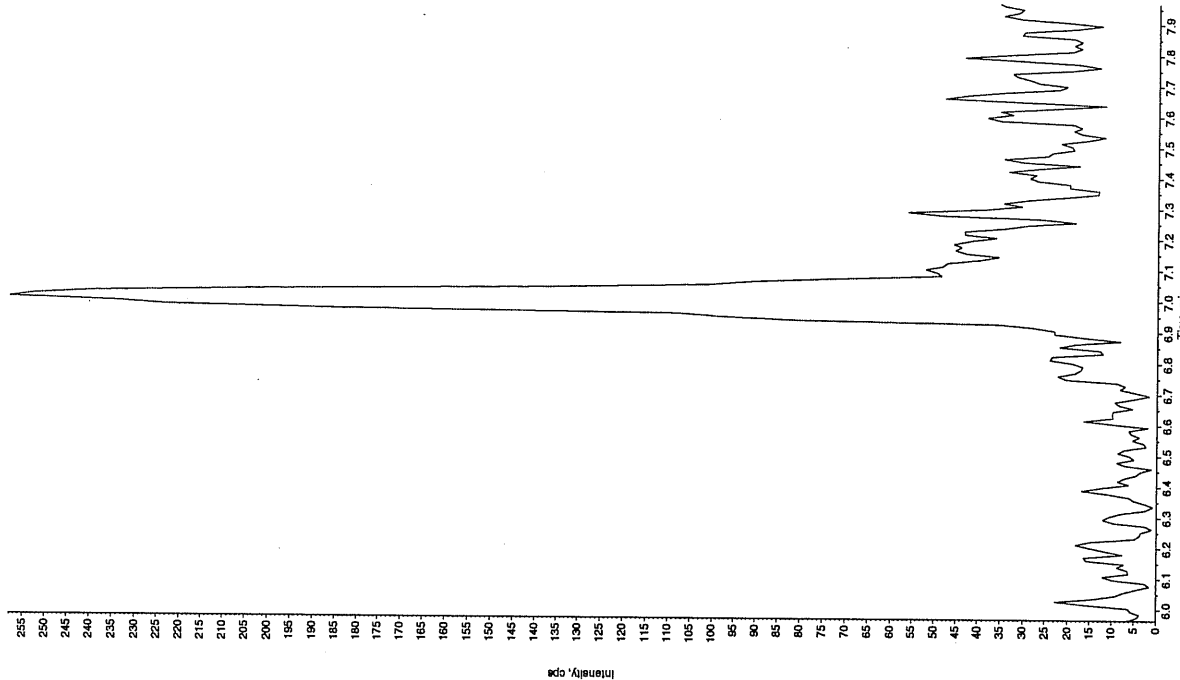
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.2
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1/27/10

Sample Name: "XIBLK10" Sample ID: "JILLER" File: "EXS01250081.wiff"  
 Peak Name: "35-Dinitroaniline" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/26/2010  
 Time: 7:29:33 AM  
 Modified: No

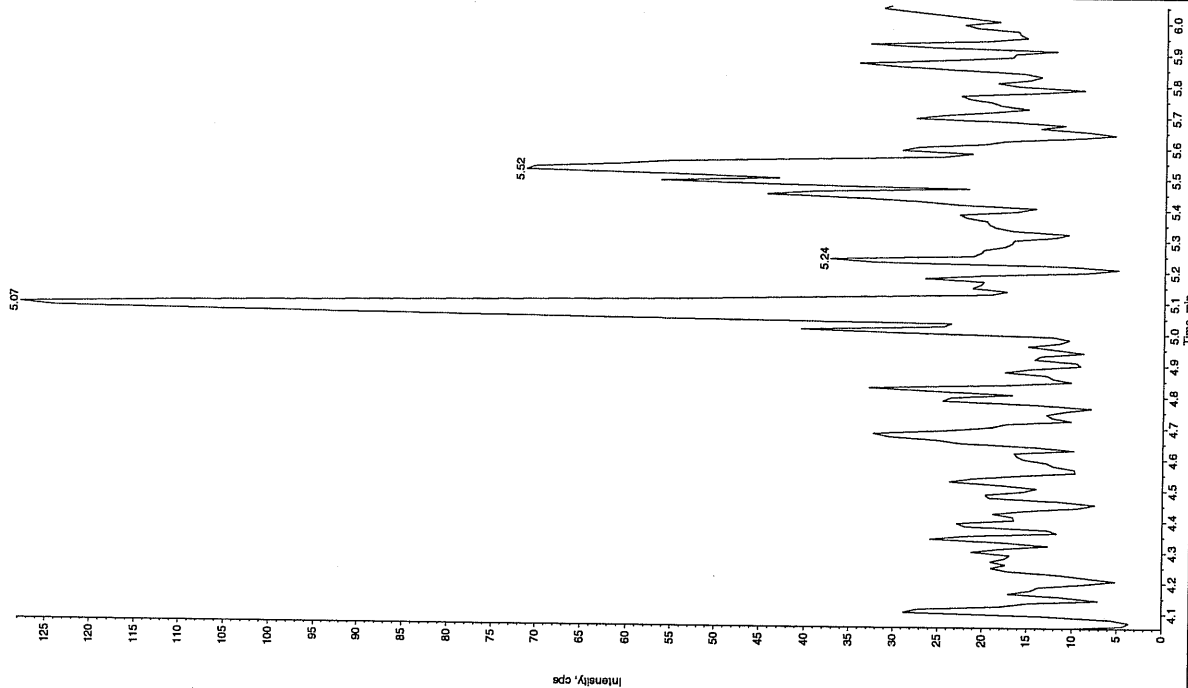


See 1/27/10

L SOP GL-OA-E-056, Method 8321A-Modified LCM SMS#4

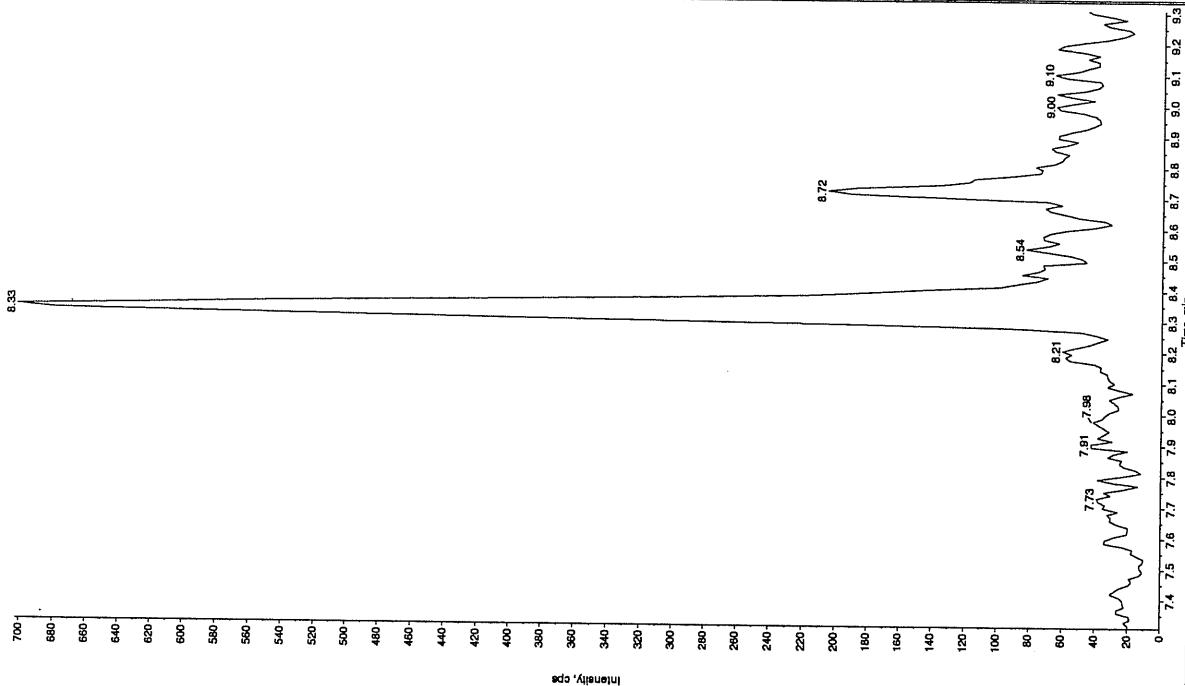
Sample Name: "XIBLK10" Sample ID: "11LER" File: "EXS01250081.wif"  
Peak Name: "26-Diamino-4-nitrofluorene" Mass(es): "166.046.0 amu"  
Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 0.00 ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 7:29:33 AM  
Modified: No



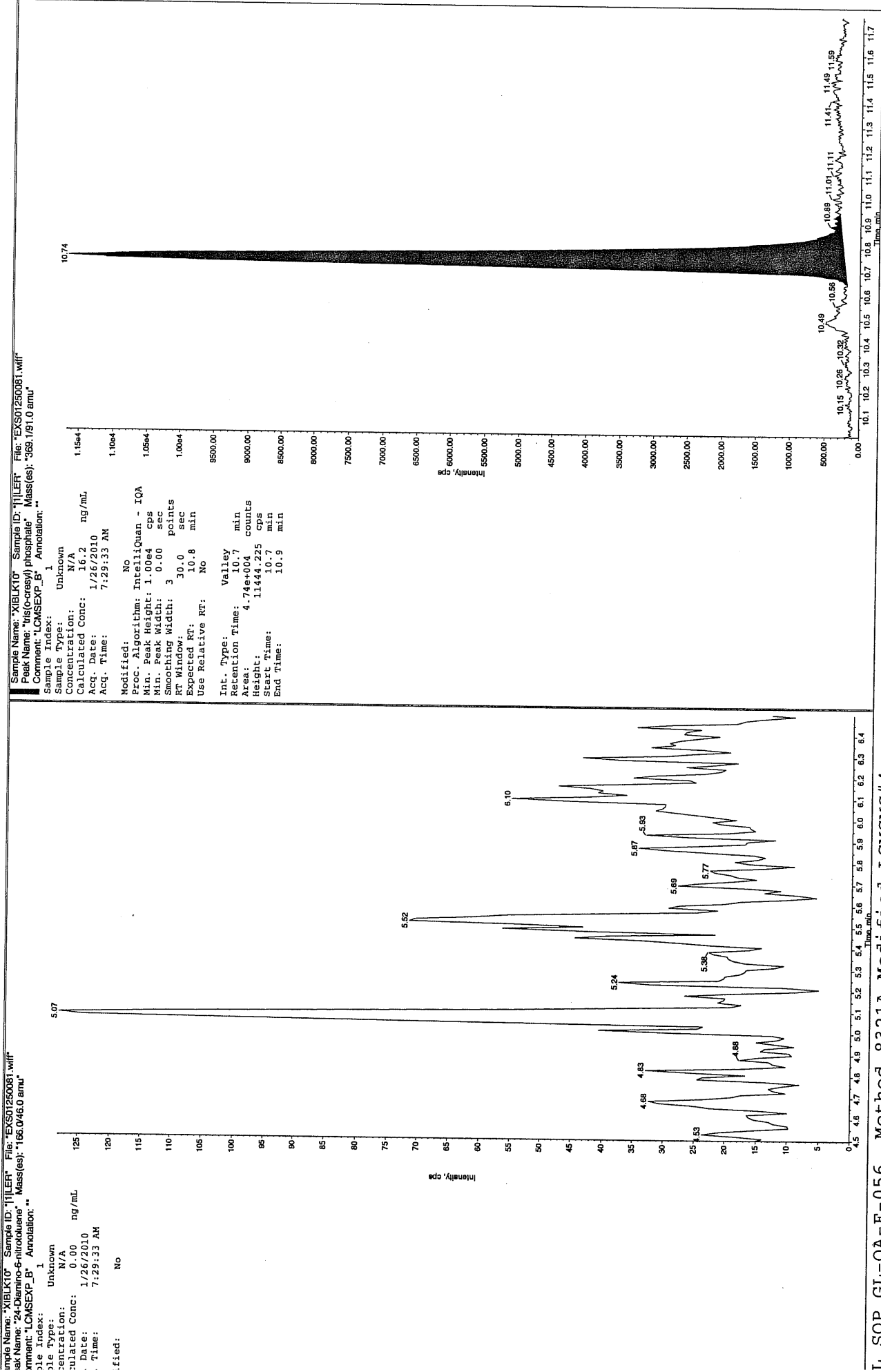
Sample Name: "XIBLK10" Sample ID: "11LER" File: "EXS01250081.wif"  
Peak Name: "34-Dinitrofluorene" Mass(es): "182.17151.9 amu"  
Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 0.00 ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 7:29:33 AM  
Modified: No



L SOP GL-OA-E-056, Method 8321A-Modified LCMSEXP#4





L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK11

Analysis Date: 26-JAN-10 10:53

GEL Data File: EXS01250094.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.4
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 15710

Sample Name: "XIBLK11" Sample ID: "J1LER" File: "EXS01250094.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/26/2010

Acq. Time: 10:53:40 AM

Modified: No

Intensity, cps

Time, min

8.16

8.30

8.55

8.62

8.92

9.06

7.22

7.39

7.59

7.72

7.85

8.00

8.16

8.30

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7.22

7.39

7.59

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7.85

8.00

8.16

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9.06

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8.00

8.16

8.30

8.55

8.62

8.92

9.06

7.22

7.39

7.59

7.72

7.85

8.00

8.16

8.30

8.55

8.62

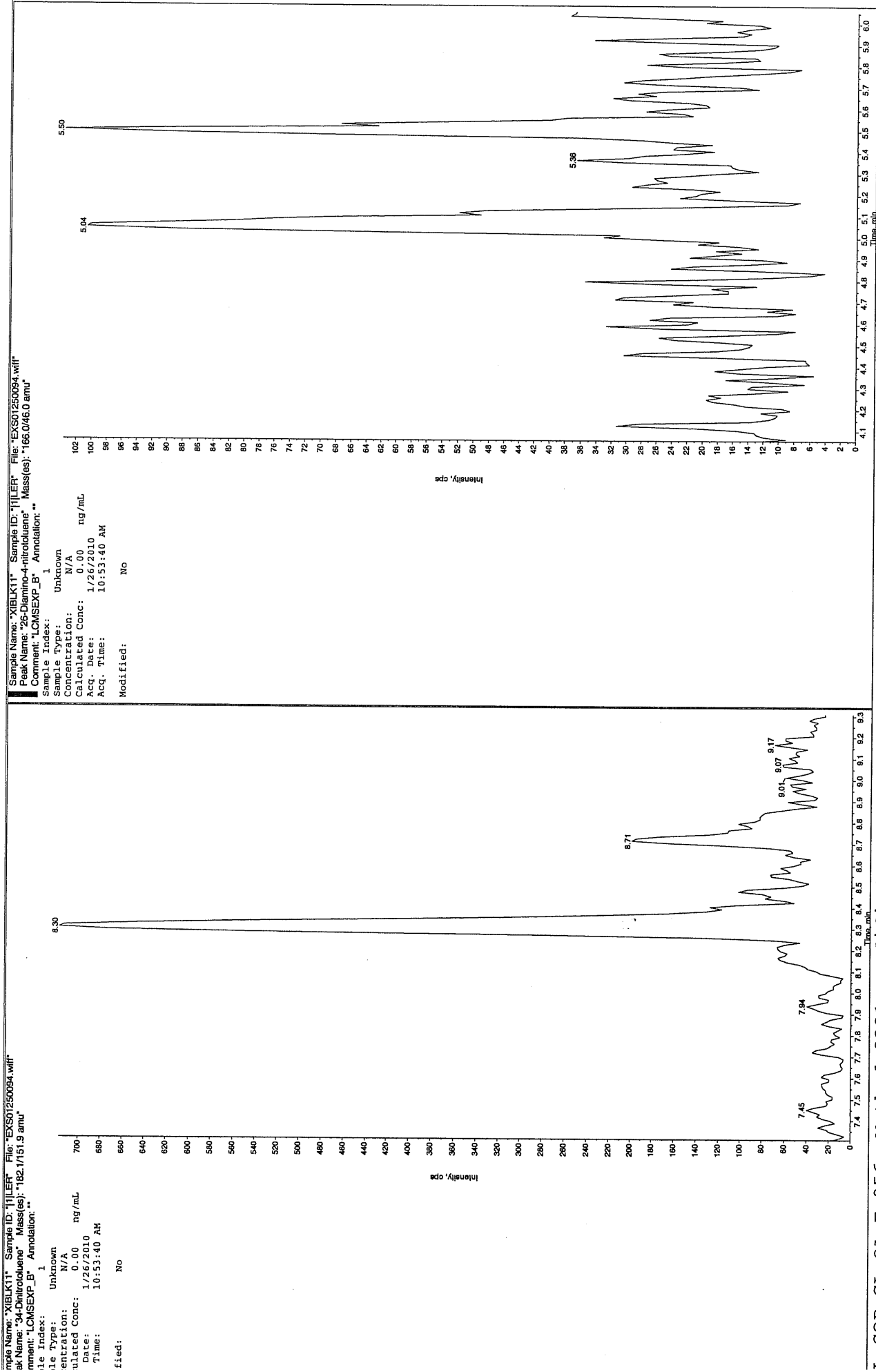
8.92

9.06

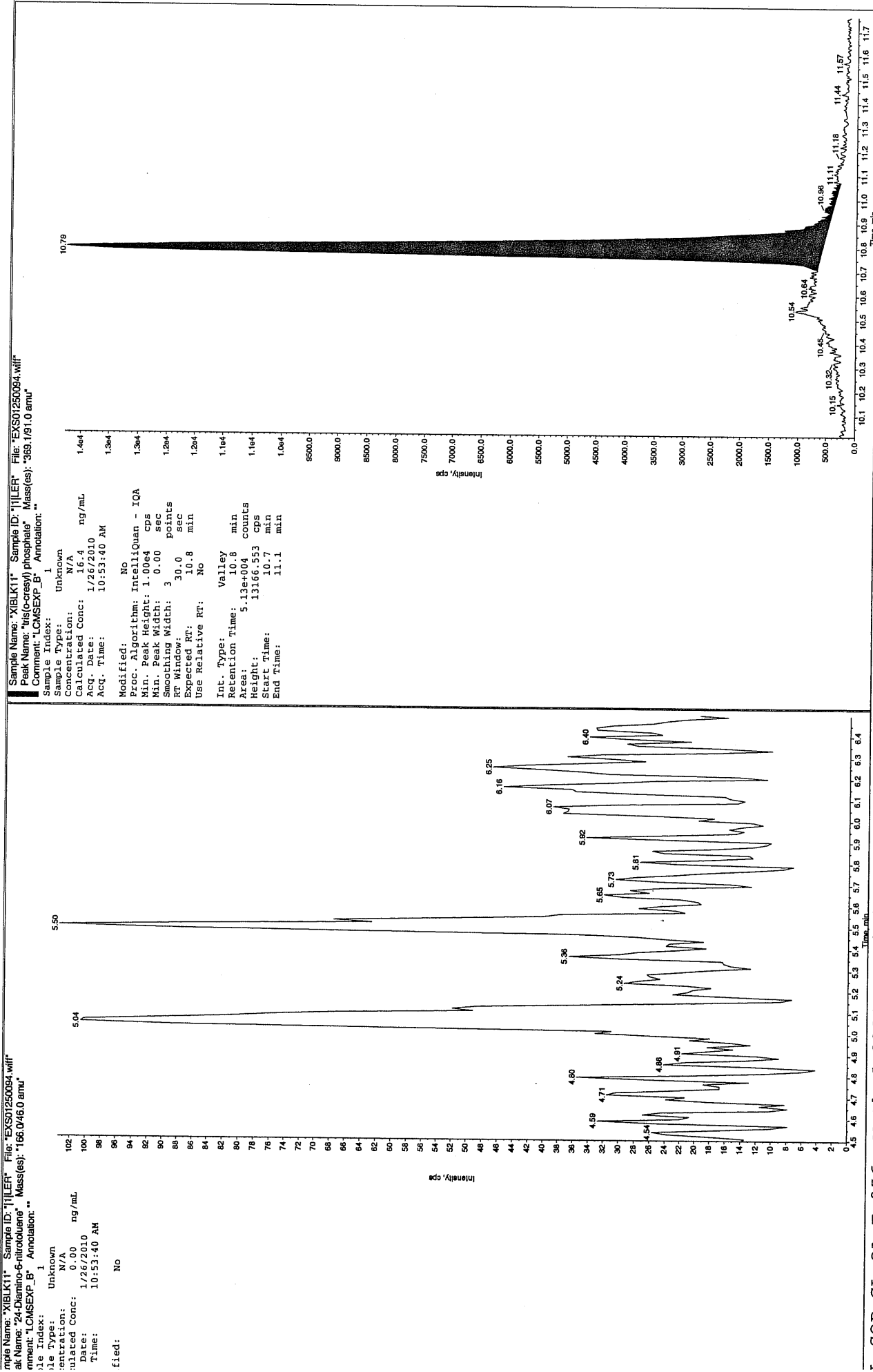
7.22

7.39

7.59



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK12

Analysis Date: 26-JAN-10 11:40

GEL Data File: EXS01250097.wiff

Instrument ID: LCMSMS

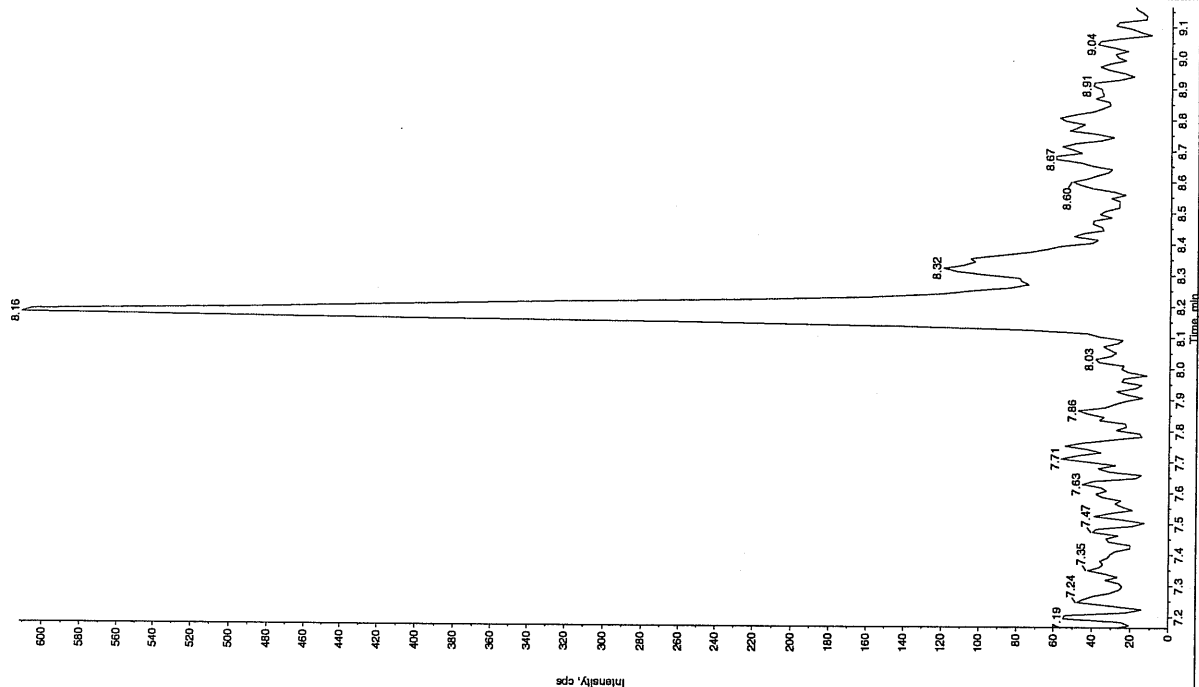
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1/27/10

Sample Name: "XIBLK12" Sample ID: "1111ER" File: "EXS01250097.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

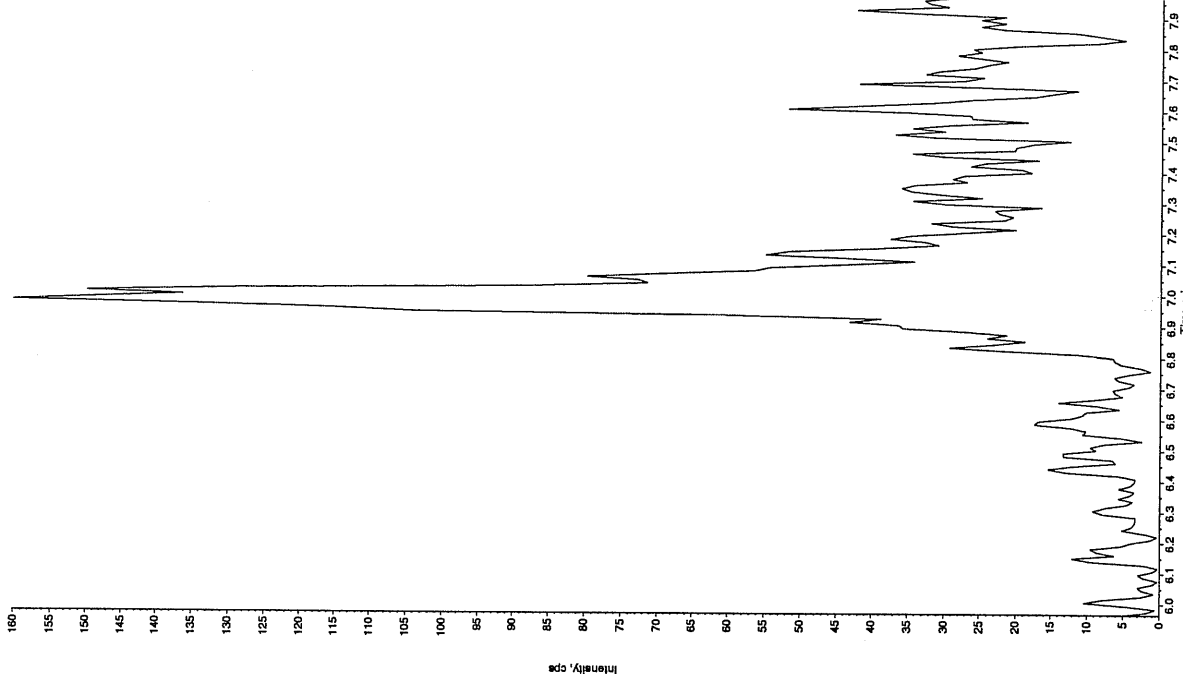
Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 11:40:53 AM  
 Modified: No



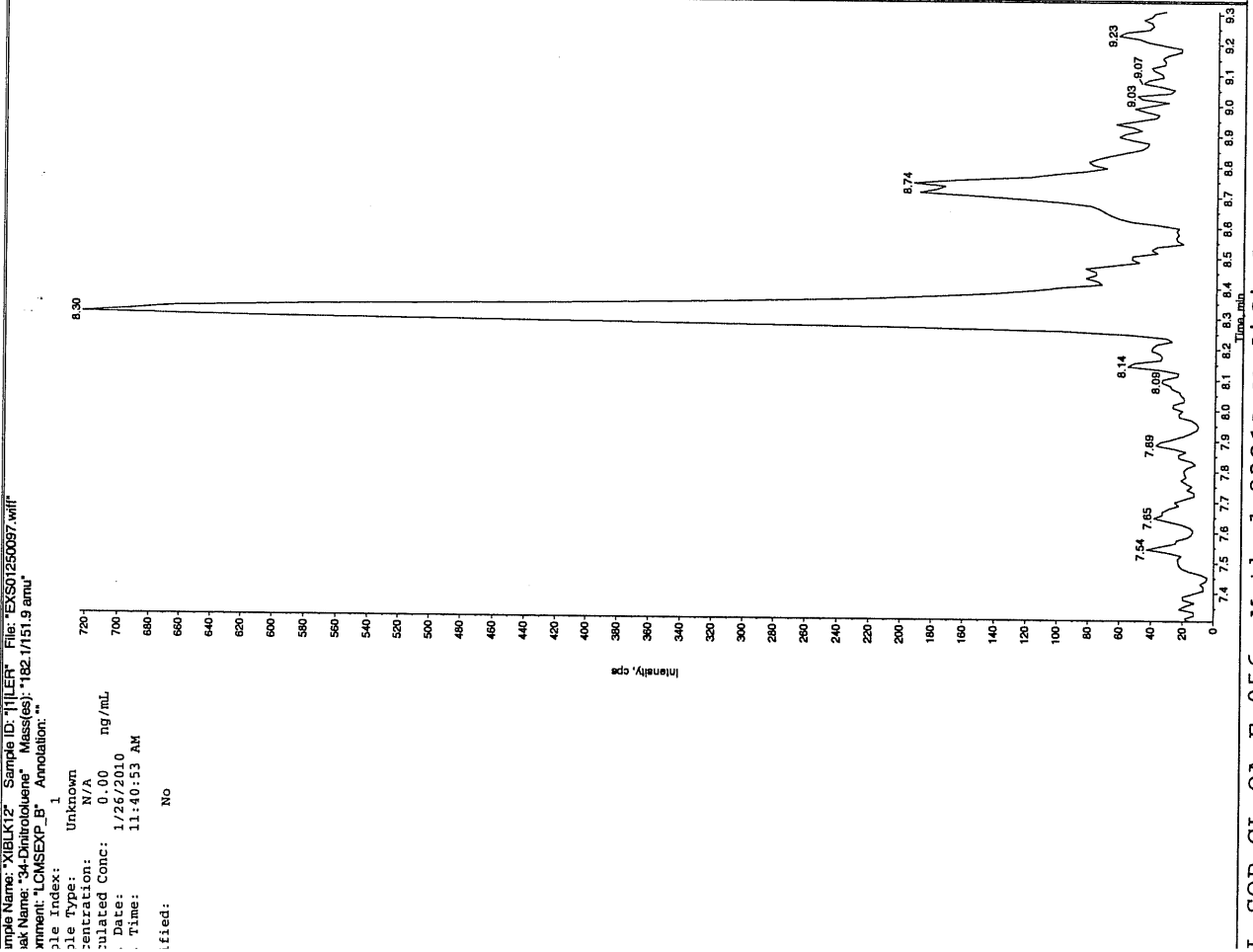
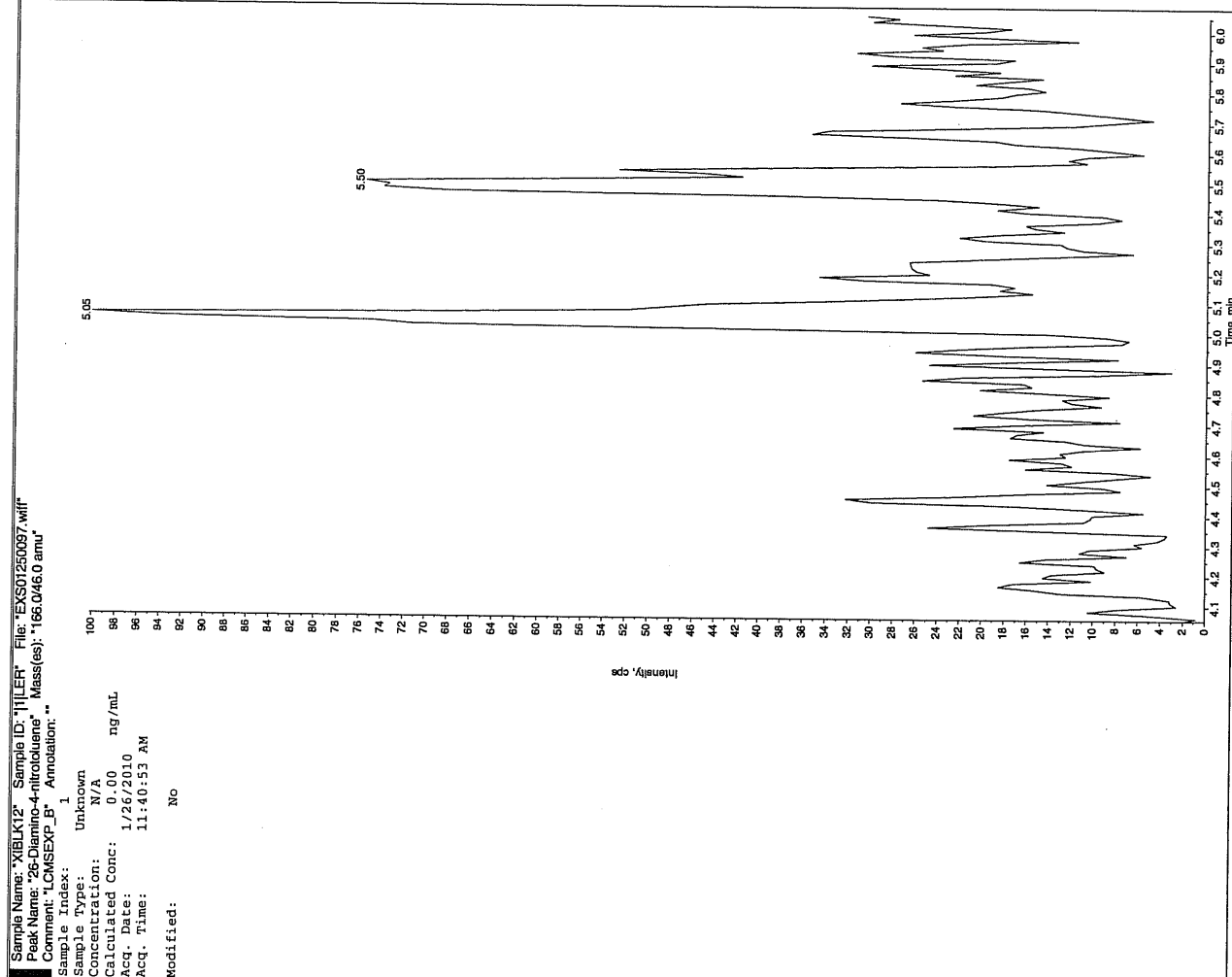
See 1/27/10

Sample Name: "XIBLK12" Sample ID: "1111ER" File: "EXS01250097.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 11:40:53 AM  
 Modified: No



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

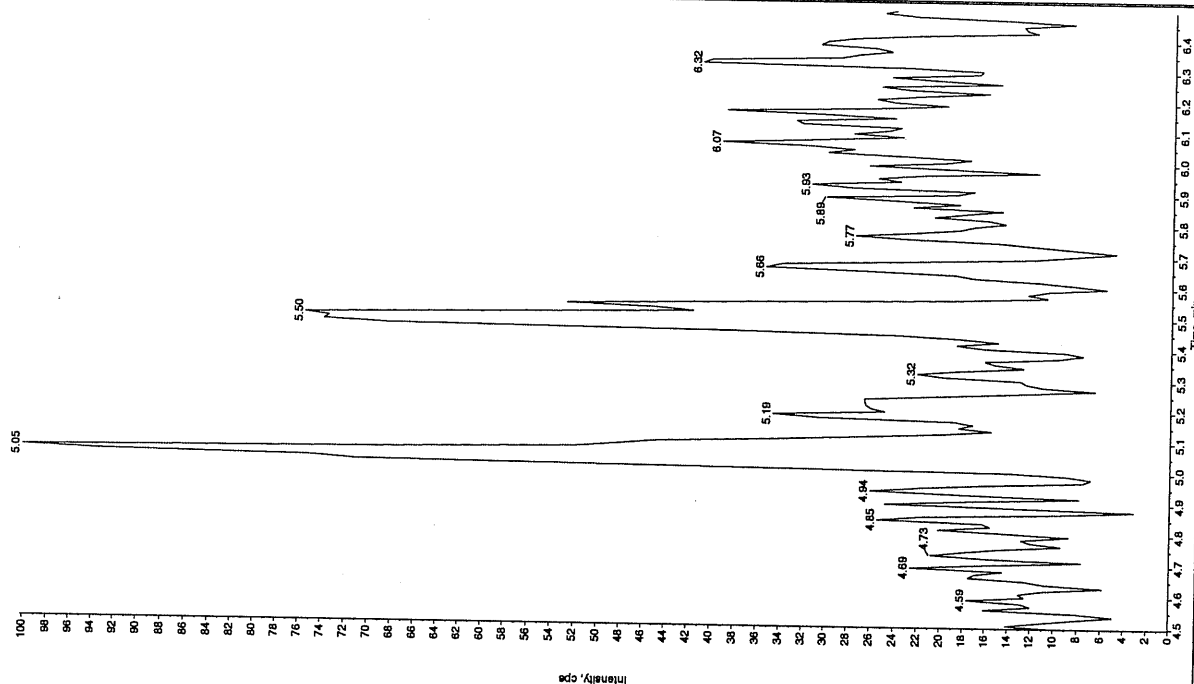


L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



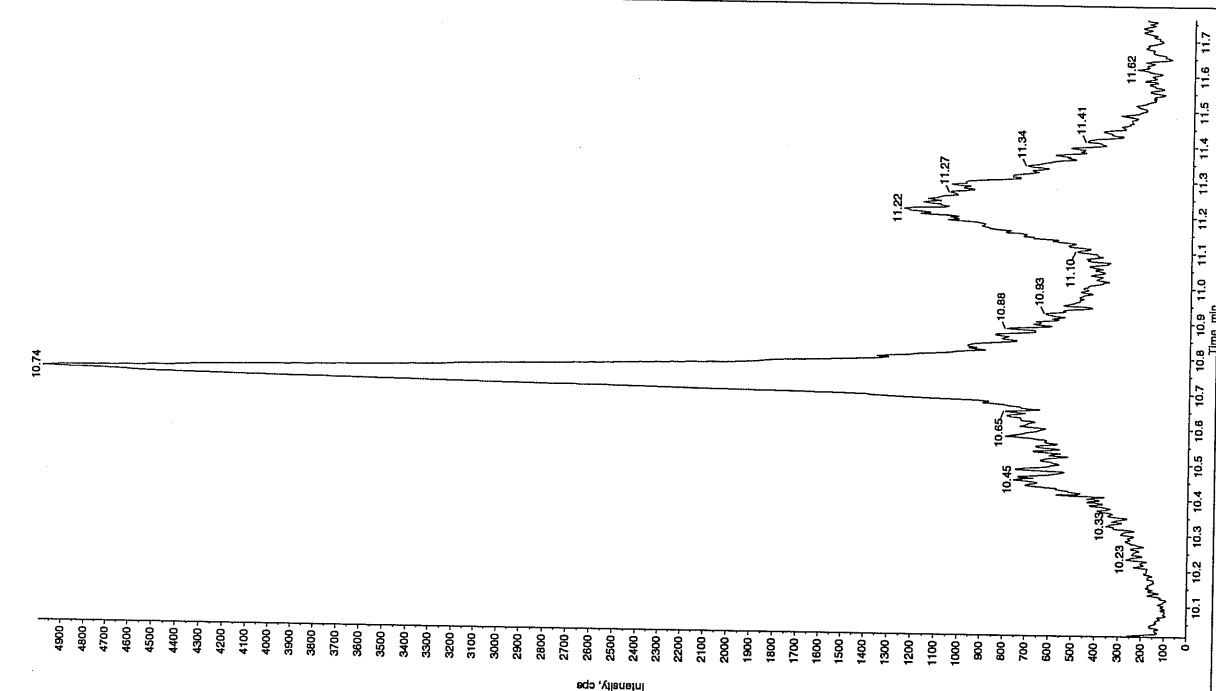
Sample Name: "XBLK12" Sample ID: "1111ER" File: "EX301250097.wif"  
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.0/46.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/26/2010  
 Acq. Time: 11:40:53 AM  
 Modified: No



Sample Name: "XBLK12" Sample ID: "1111ER" File: "EX301250097.wif"  
 Peak Name: "tris(O-cresyl) phosphate" Mass(es): "369.1/91.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Date: 1/26/2010  
 Acq. Time: 11:40:53 AM  
 Modified: No



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1262

Lab Code: GEL

Lab Sample ID: XIBLK13

Analysis Date: 26-JAN-10 14:17

GEL Data File: EXS01250107.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.3
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

OK 1/27/10

Sample Name: "XIBLK13" Sample ID: "JILLER" File: "EXS01250107.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

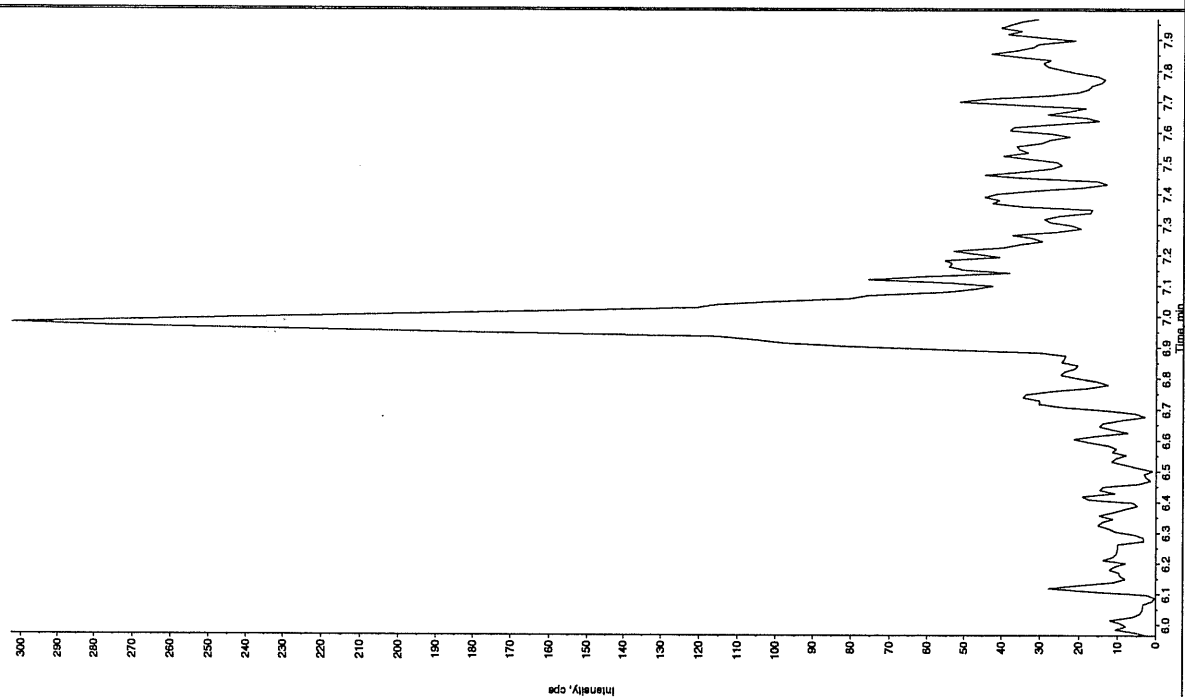
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/26/2010

Acq. Time: 2:17:56 PM

Modified: No



Sample Name: "XIBLK13" Sample ID: "JILLER" File: "EXS01250107.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

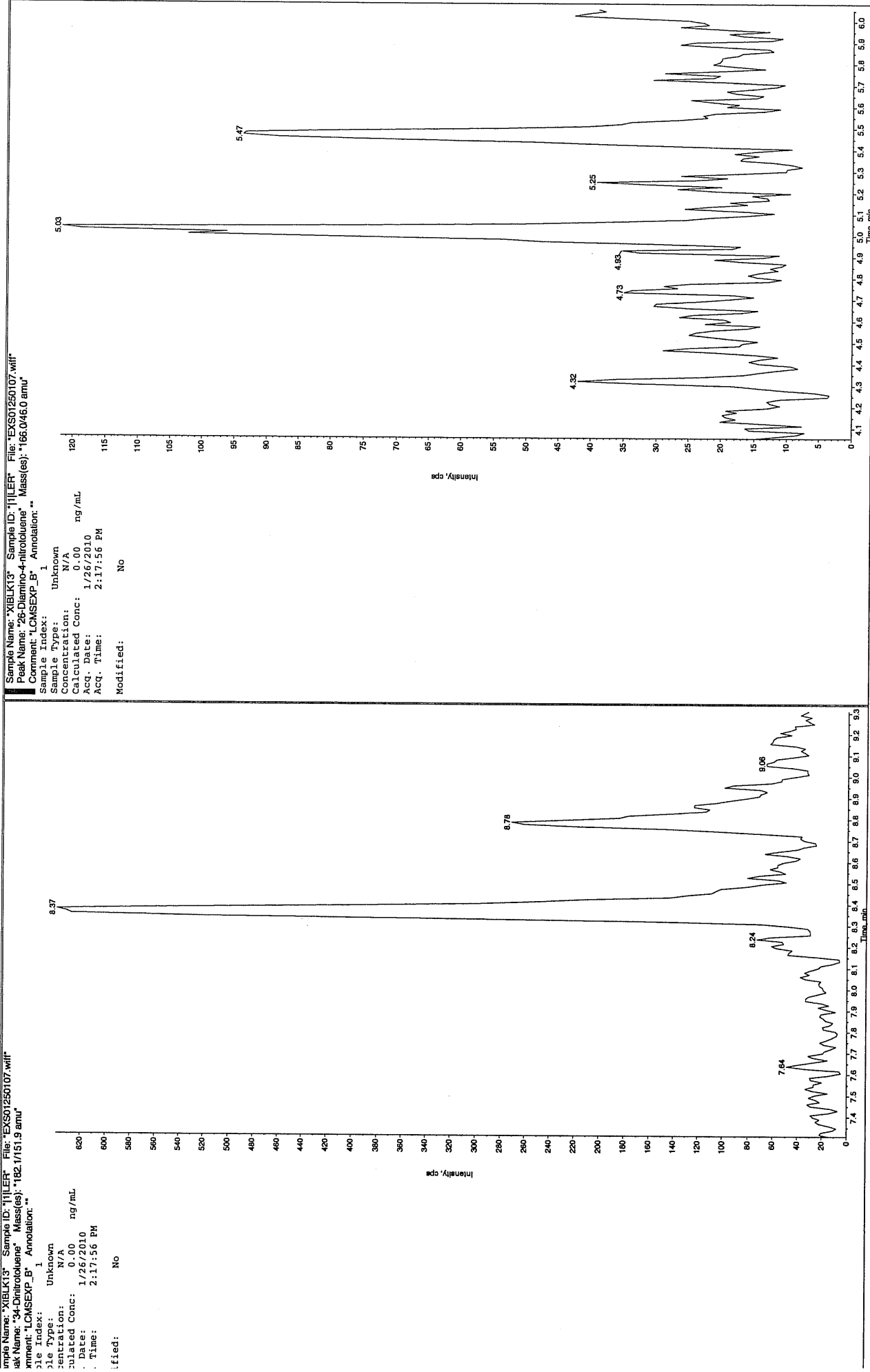
Acq. Date: 1/26/2010

Acq. Time: 2:17:56 PM

Modified: No

1/27/10

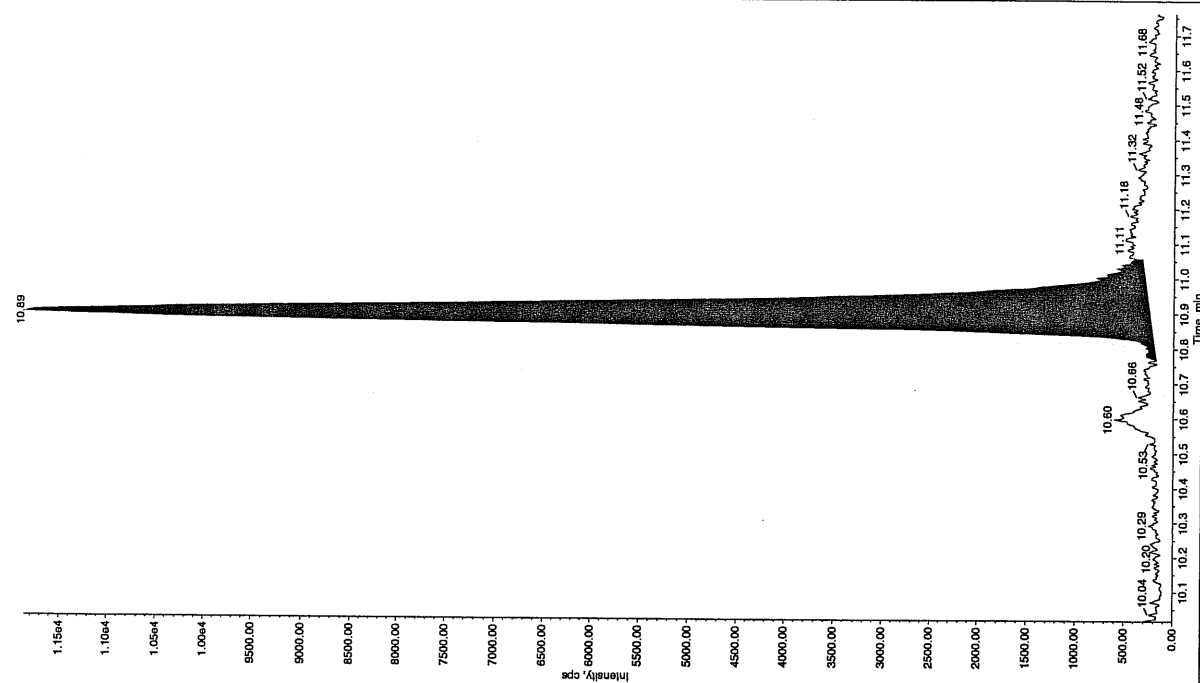
L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

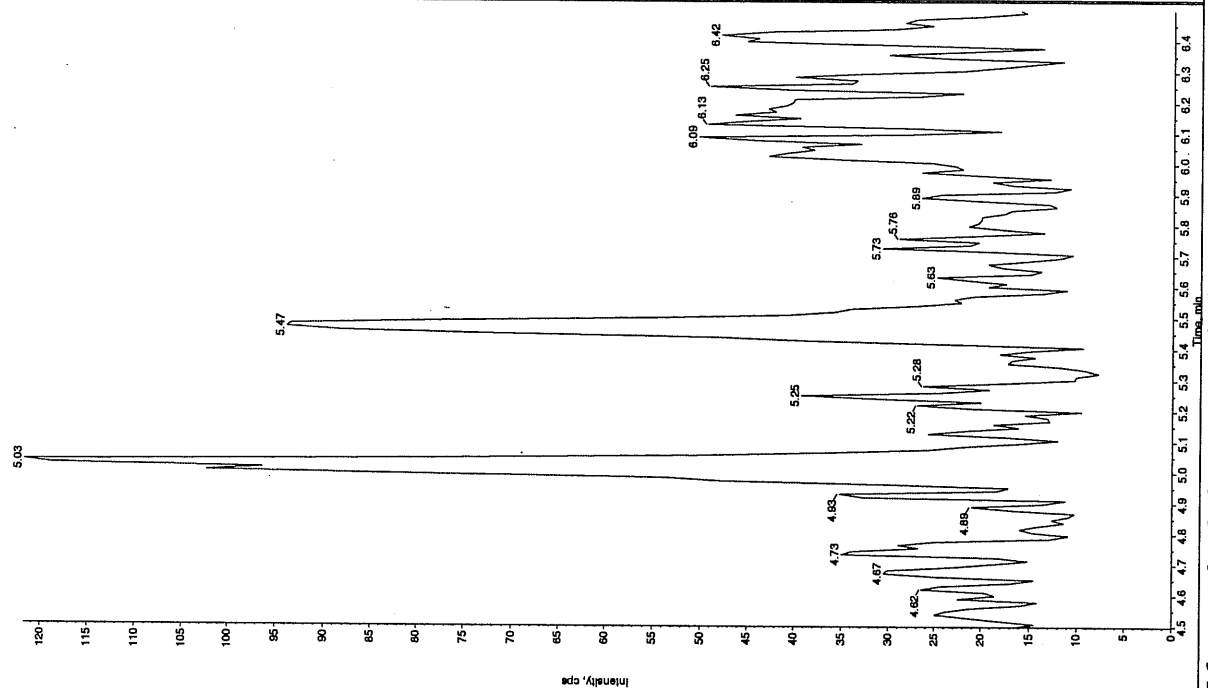
Sample Name: "XIBLK13" Sample ID: "JILER" File: "EXS01250107.wif"  
 Peak Name: "tris(O-cresyl) phosphate" Mass(es): "359.191.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 16.3 ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 2:17:56 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1.00e4 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 10.8 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 10.9 min  
 Area: 5.06e+004 counts  
 Height: 11621.375 cps  
 Start Time: 10.8 min  
 End Time: 11.1 min



Sample Name: "XIBLK13" Sample ID: "JILER" File: "EXS01250107.wif"  
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "168.046.0 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 2:17:56 PM  
 Modified: No



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Nairb.ref

;Positive ion monoisotopic and average masses from solution  
 ;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H<sub>2</sub>O.  
 ;Most useful general purpose calibrant for all low  
 ;MW applications, including MS/MS work.  
 ;At high resolution, readily covers from m/z 50-2000.  
 ;At reduced resolution, can be used to over m/z 3000.  
 ;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.  
 Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

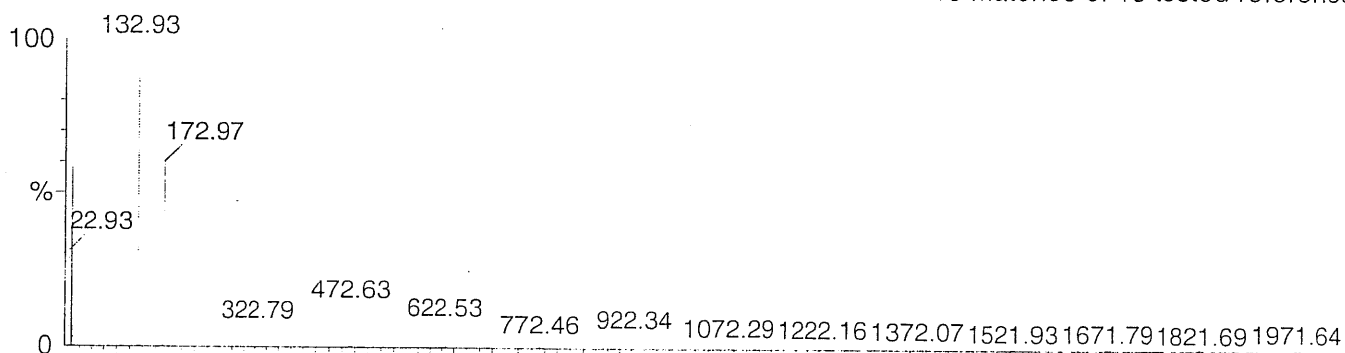
Calibration Report - MS1 Static

Page 1 of 1

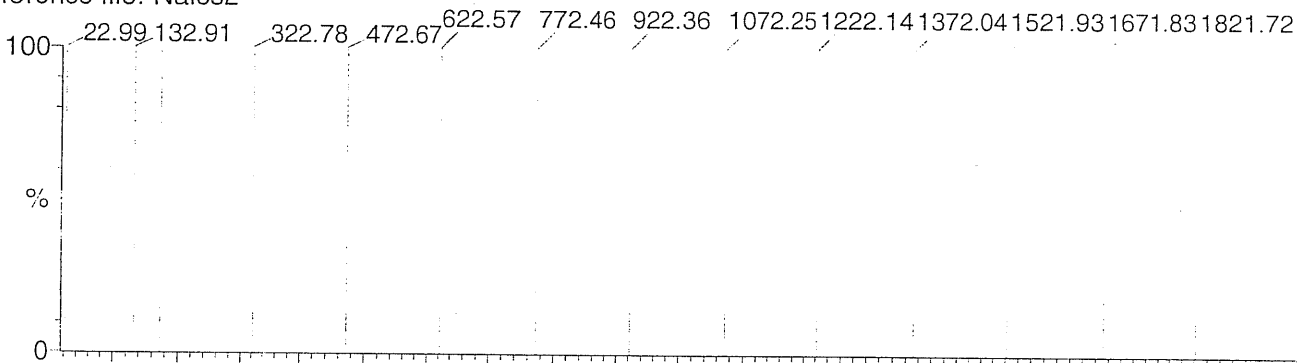
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

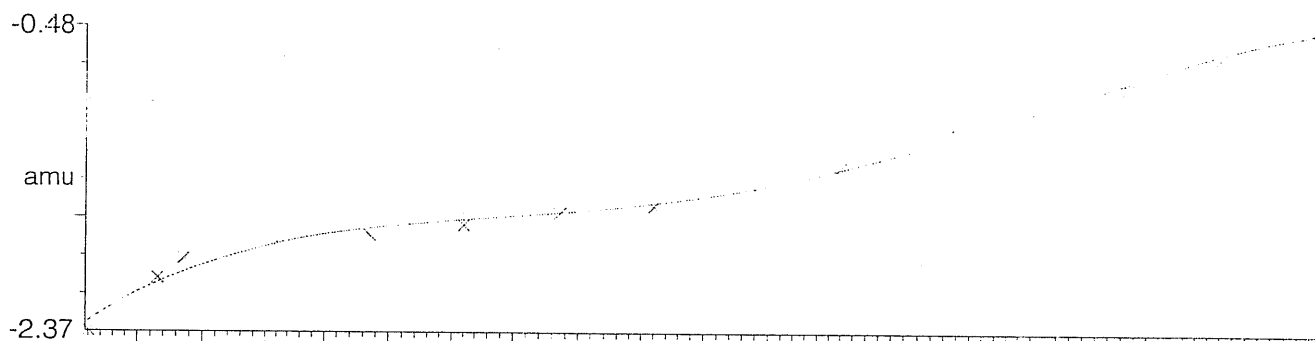
15 matches of 15 tested references



Reference file: Naics2

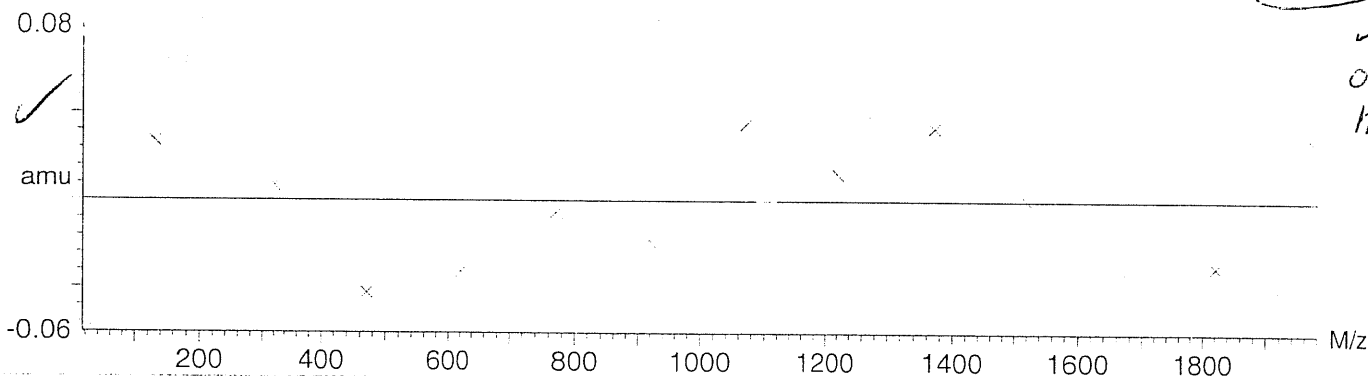


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $-1.673470 \times 10^{-9} \pm 0.036953$



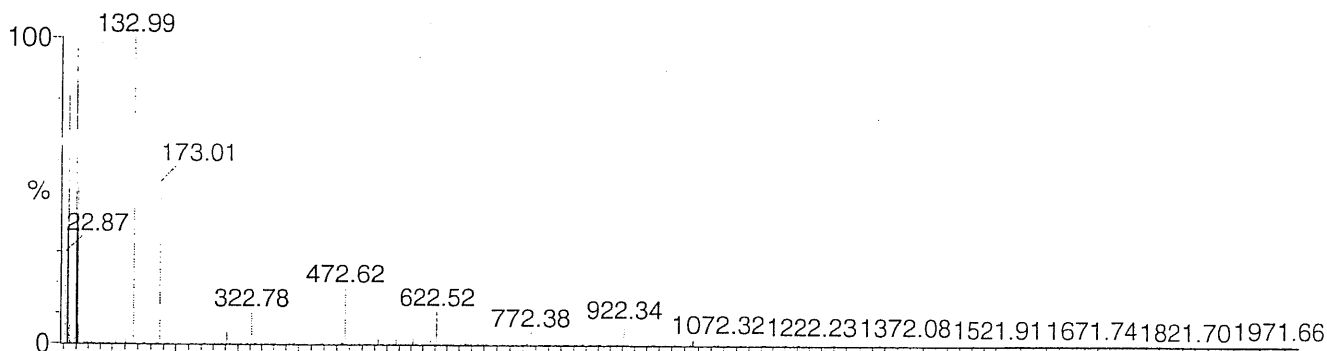
Calibration Report - MS1 Scanning

Page 1 of 1

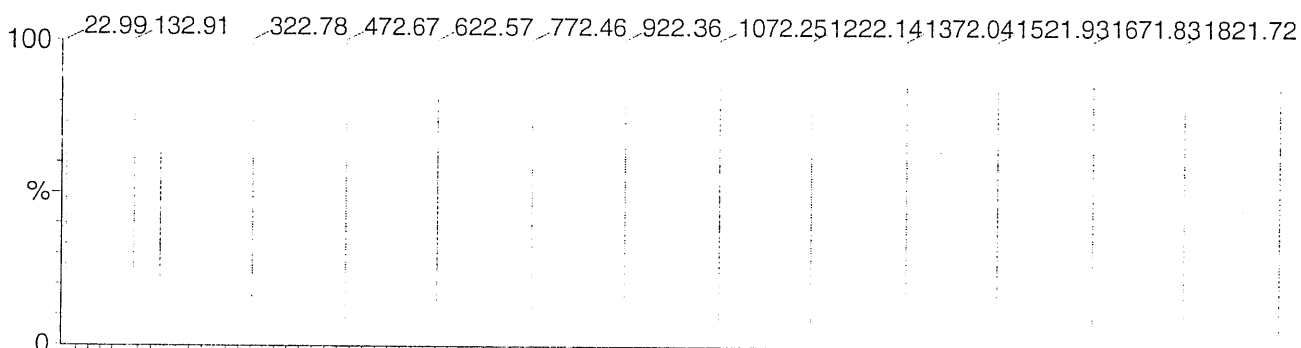
Printed: Fri Aug 25 10:51:06 2006

Data file: SCNMS1 - Calibrated

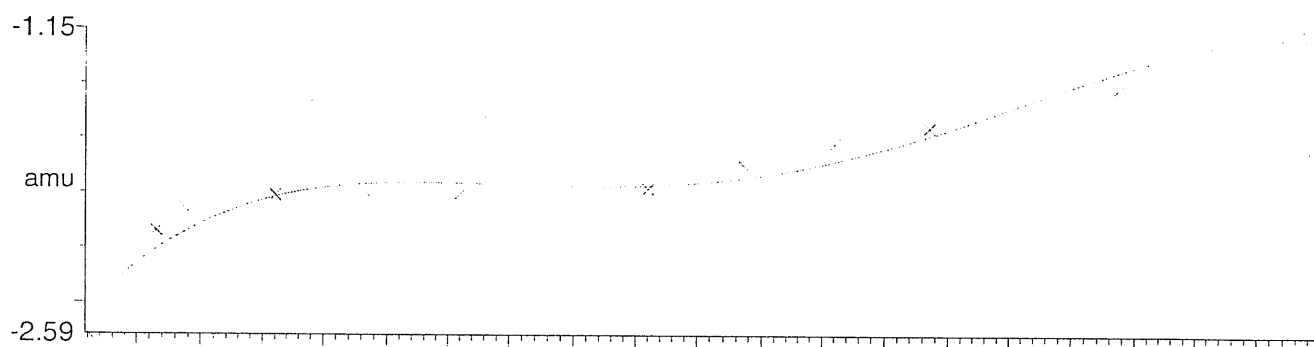
15 matches of 15 tested references



Reference file: Naics2

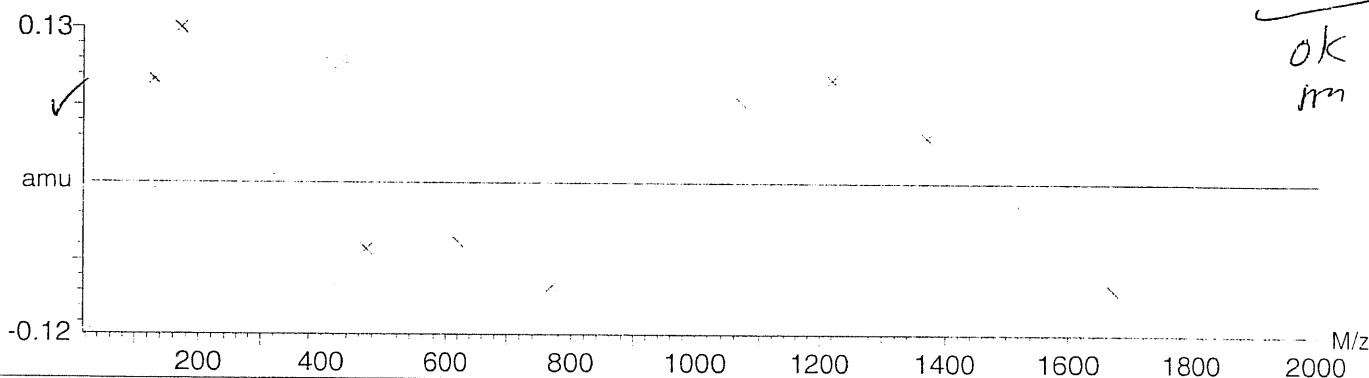


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $-5.432715e-9 \pm 0.069858$





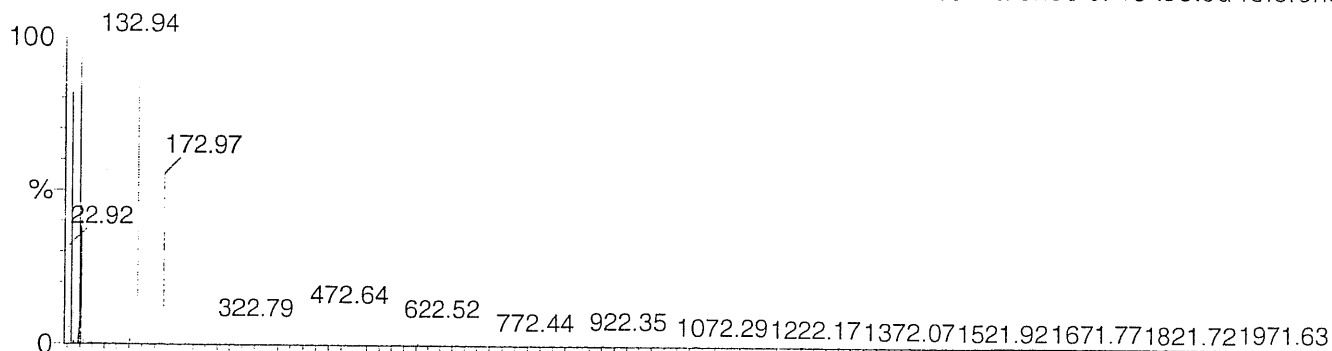
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

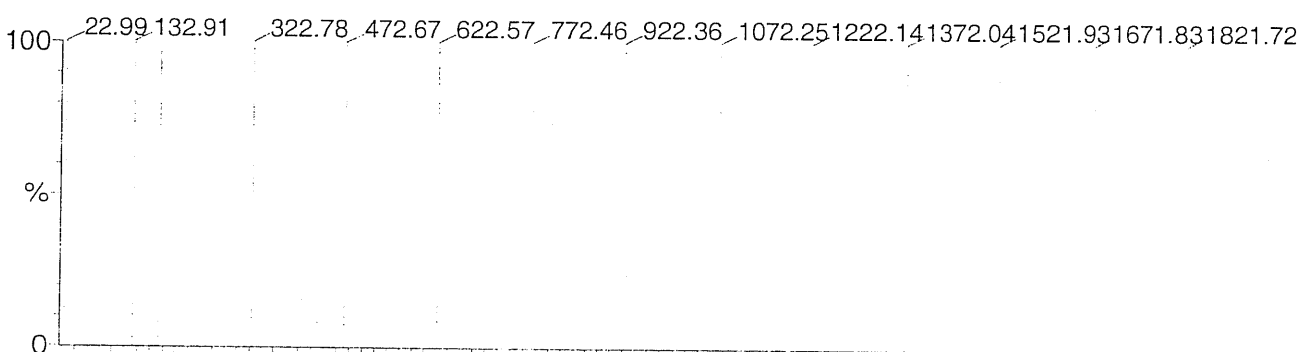
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

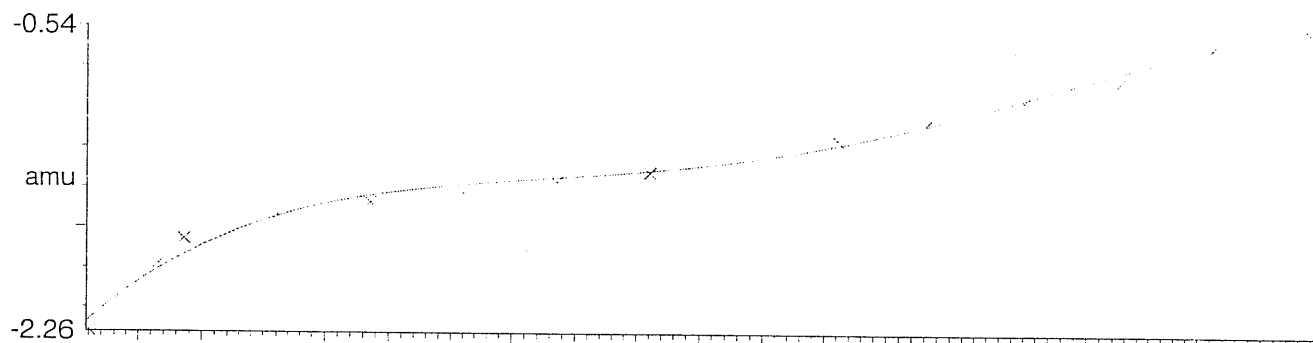
15 matches of 15 tested references



Reference file: Naics2

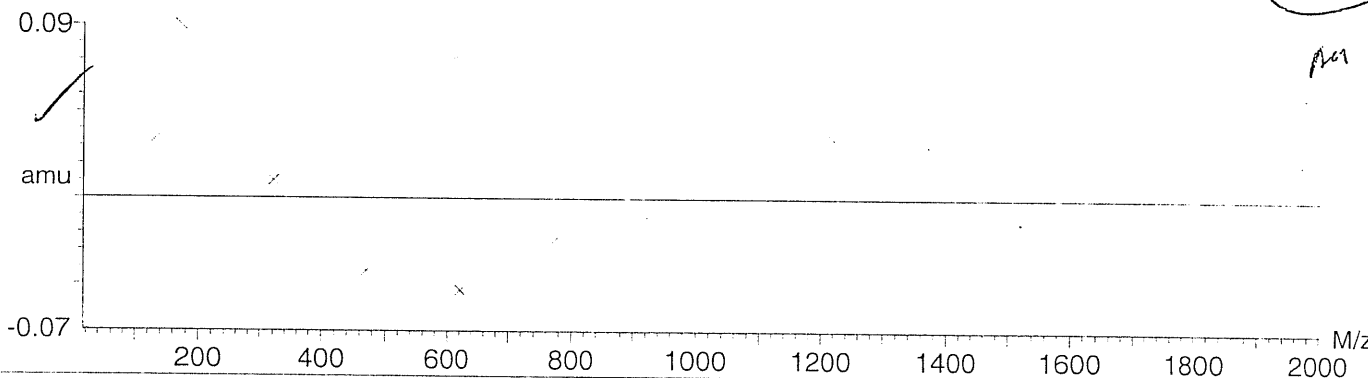


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.486639 \times 10^{-9} \pm 0.040487$



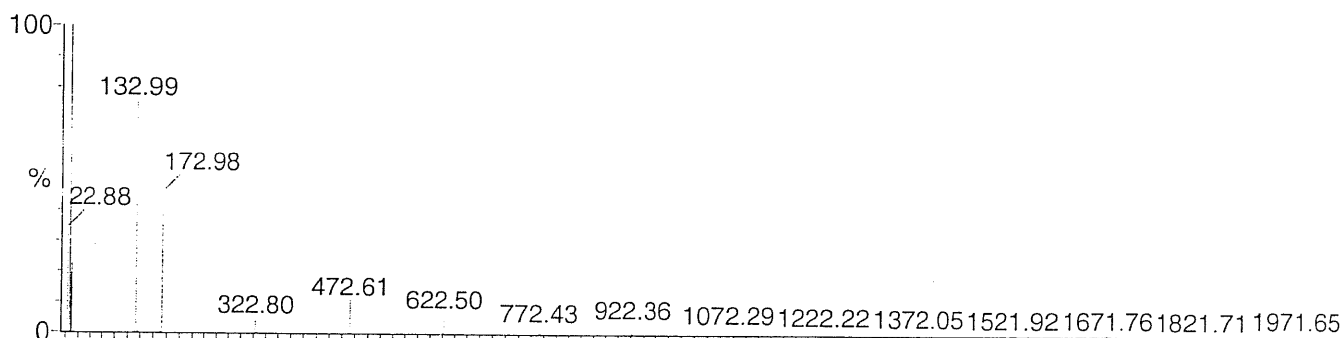
Calibration Report - MS2 Static

Page 1 of 1

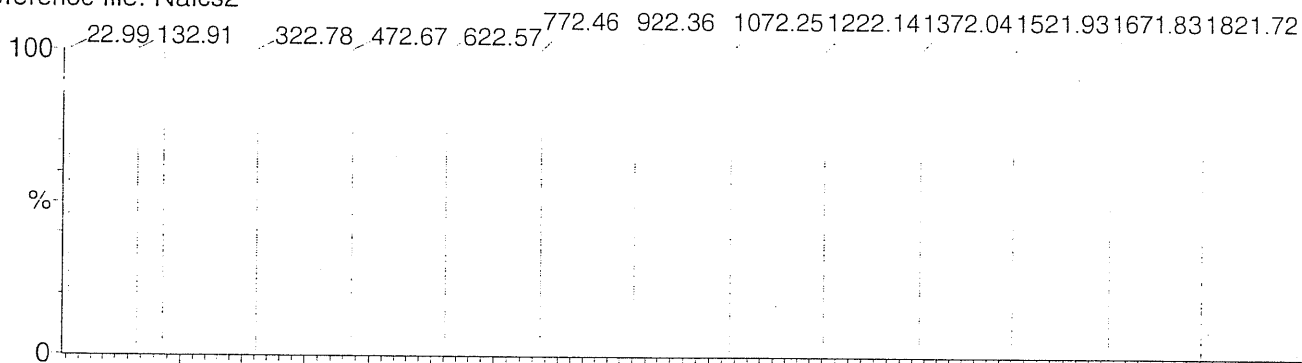
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

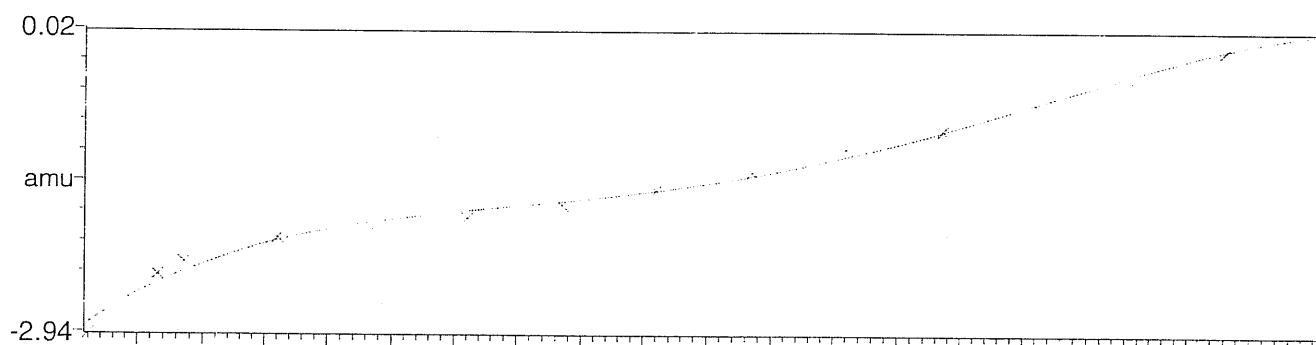
15 matches of 15 tested references



Reference file: Naics2

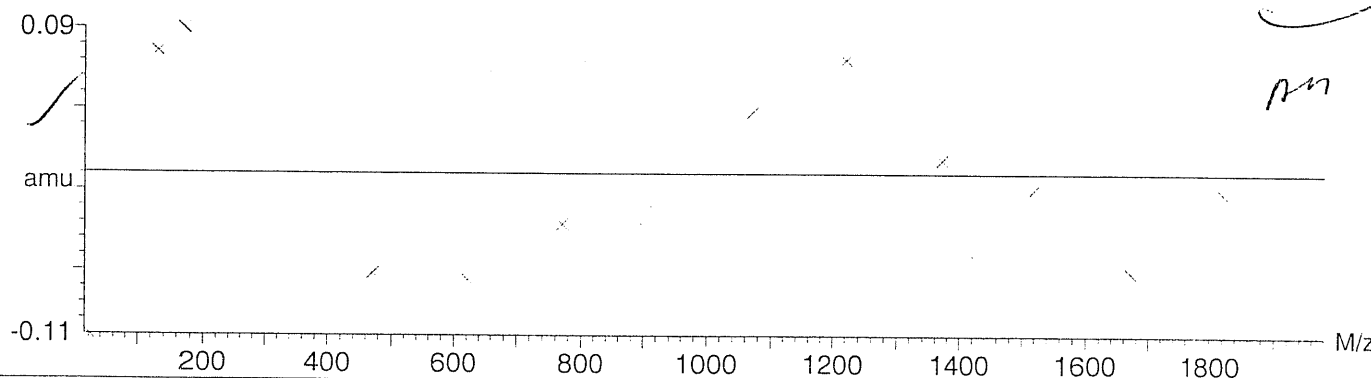


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $2.048910 \times 10^{-9} \pm 0.057803$



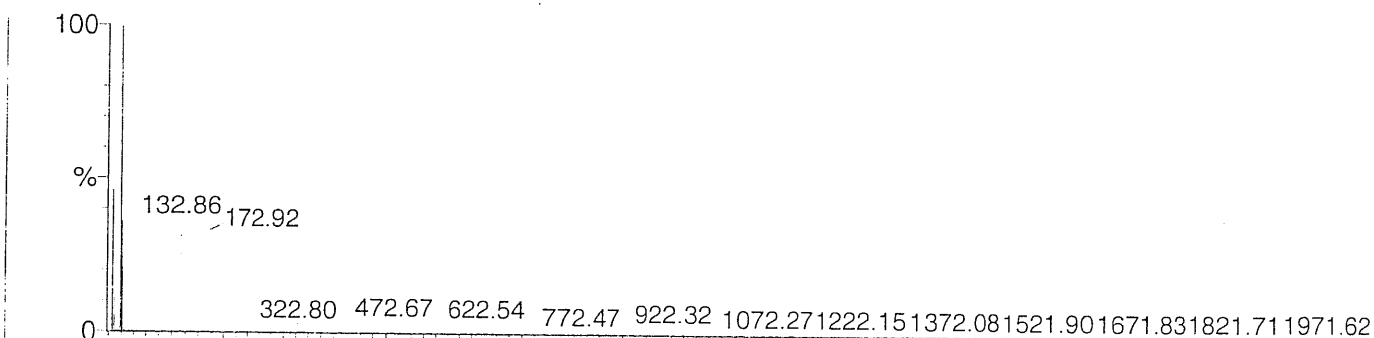
Calibration Report - MS2 Scanning

Page 1 of 1

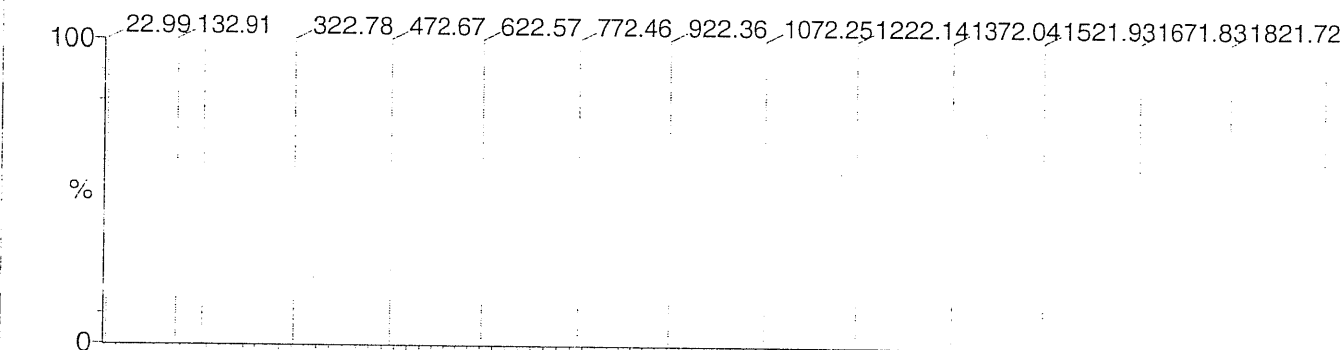
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

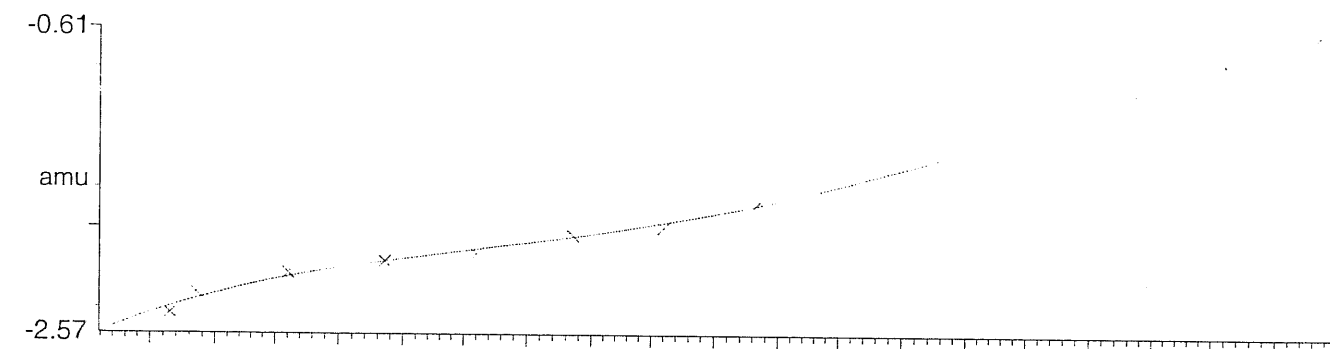
14 matches of 15 tested references



Reference file: Naics2

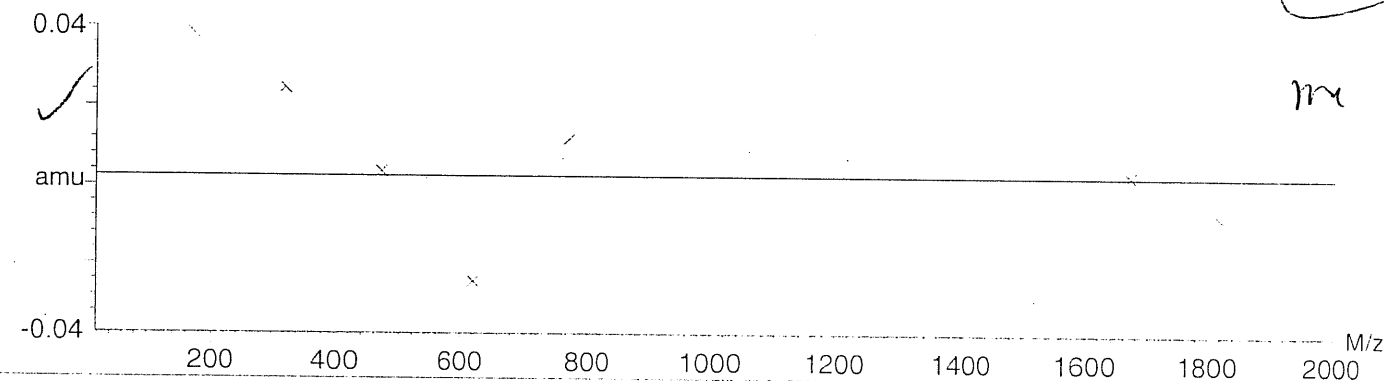


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $-2.623502 \times 10^{-9} \pm 0.025622$



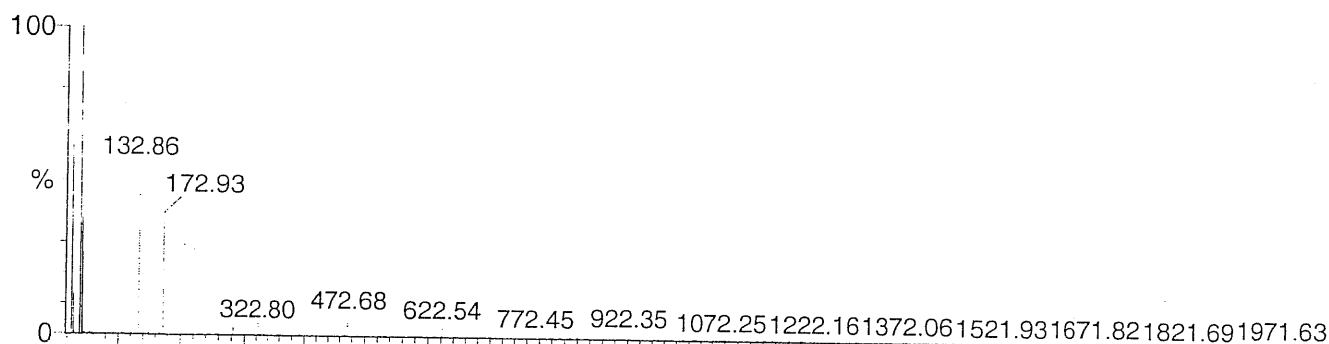
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

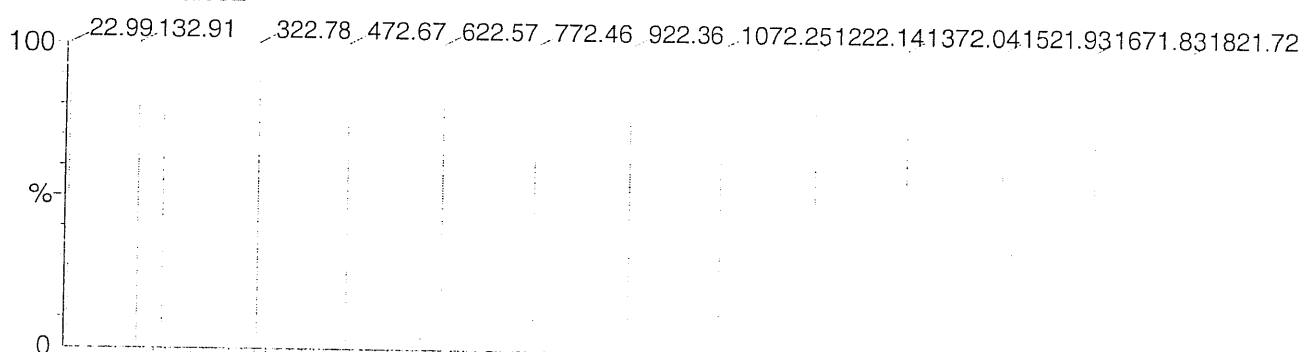
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

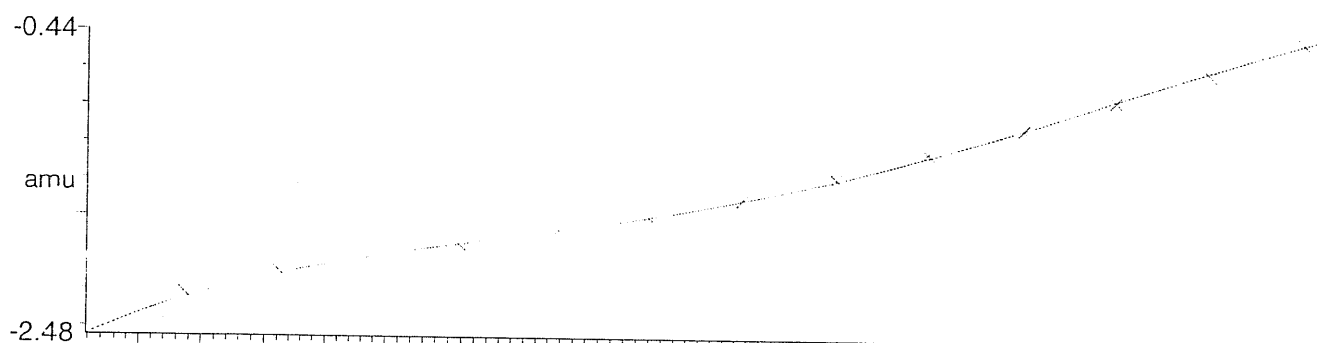
14 matches of 15 tested references



Reference file: Naics2

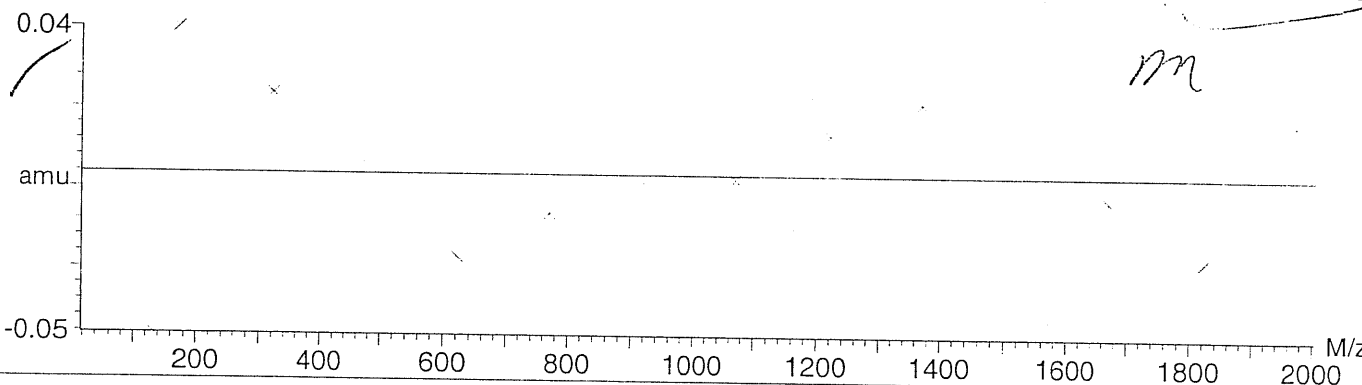


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $-6.785350 \times 10^{-9} \pm 0.023134$

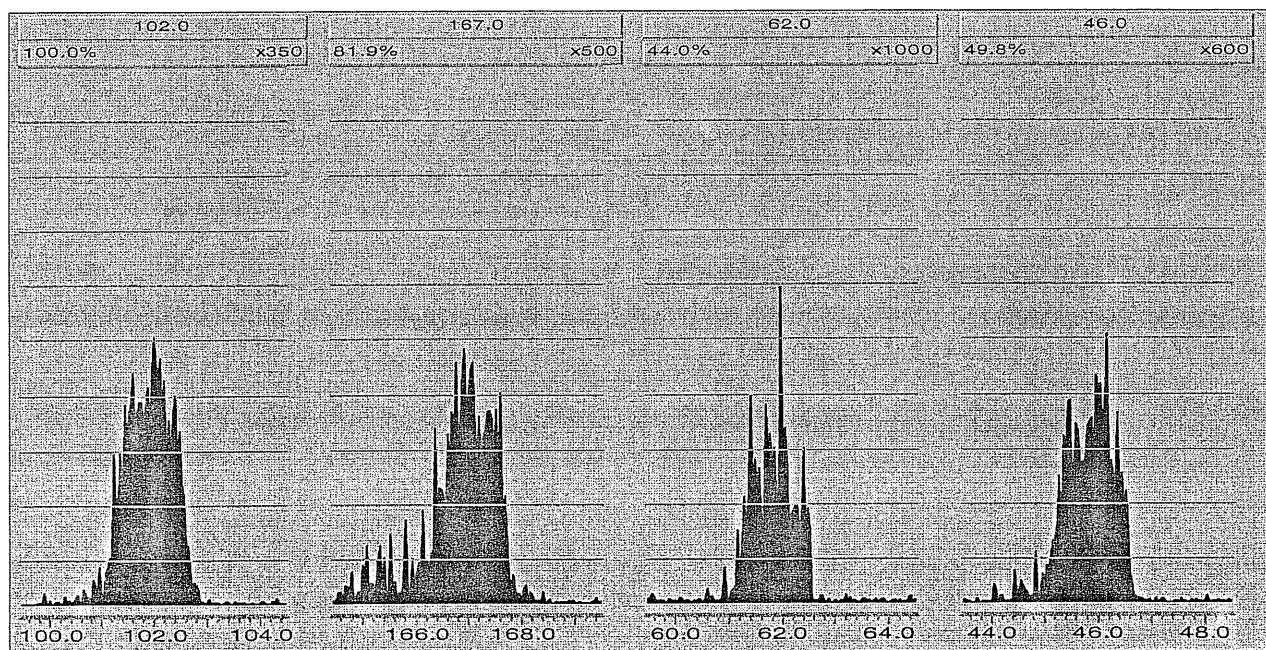


# Quattro Micro Tune Parameters

Page 1

Parameter File: C:\MASSLYNX\NEW\_EXP.PRO\ACQUDB\explosives04.IPR

Printed : Sun Jan 31 12:32:54 2010



# High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Instrument ID: LCMSMS

	Analysis Date/Time	GEL Data File	IS1 (DNB) (Area) #	RT (min) #	IS2 (DNT) (Area) #	RT2 (min) #
			3308.52	11.961	18177.133	17.265
Upper Limit			4301.076	12.461	23630.2729	17.765
Lower Limit			2315.964	11.461	12723.9931	16.765
MB for batch 942334	31-jan-10 18:29	EXP0131013a	3132.8	11.946	18680.1	17.269
LCS for batch 942334	31-jan-10 18:59	EXP0131014a	3252.73	11.946	17898.4	17.247
RE12-10-7272	31-jan-10 19:28	EXP0131015a	3126.96	11.943	17655.5	17.258
RE12-10-7272(244847001MS)	31-jan-10 19:58	EXP0131016a	3101.36	11.944	20092.5	17.258
RE12-10-7272(244847001MSD)	31-jan-10 20:27	EXP0131017a	3587.38	11.946	19555.8	17.269
RE12-10-7273	31-jan-10 20:57	EXP0131018a	3214.87	11.946	18698.2	17.247
RE12-10-7274	31-jan-10 21:26	EXP0131019a	3083.93	11.943	18012.6	17.258
RE12-10-7281	31-jan-10 21:56	EXP0131020a	2987.71	11.944	19777.1	17.258

IS1 (DNB) = 1,3-Dinitrobenzene-d4

IS2 (DNT) = 2,6-Dinitrotoluene-d3

Area Upper Limit = + 30% of average IS area from multipoint calibration

Area Lower Limit = - 30% of average IS area from multipoint calibration

RT Upper Limit = +0.5 of average multipoint RT

RT Lower Limit = -0.5 of average multipoint RT

# Column used to flag values outside QC limits with an asterisk

\* Values outside of QC limits

# SAMPLE DATA

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847001

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131015a

Date Analyzed: 31-JAN-10 19:28

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$	X	Dilution Factor
------------------	---	---	---	-----------------



Quantify Sample Report  
 iEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131015a

Date: 31-Jan-2010

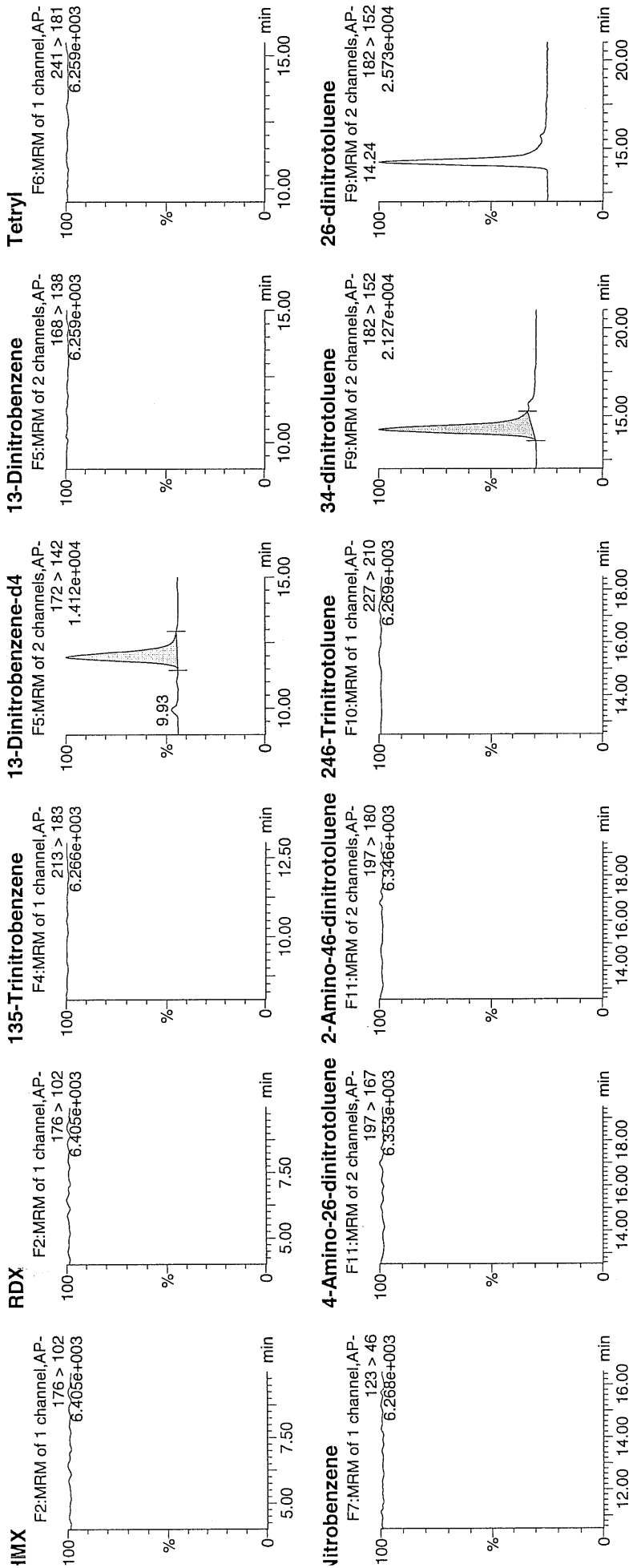
Time: 19:28:57

D: 244847001

Vial: 1:4,C

μg/g  
 2/1/10

942335 / 8022 / 21

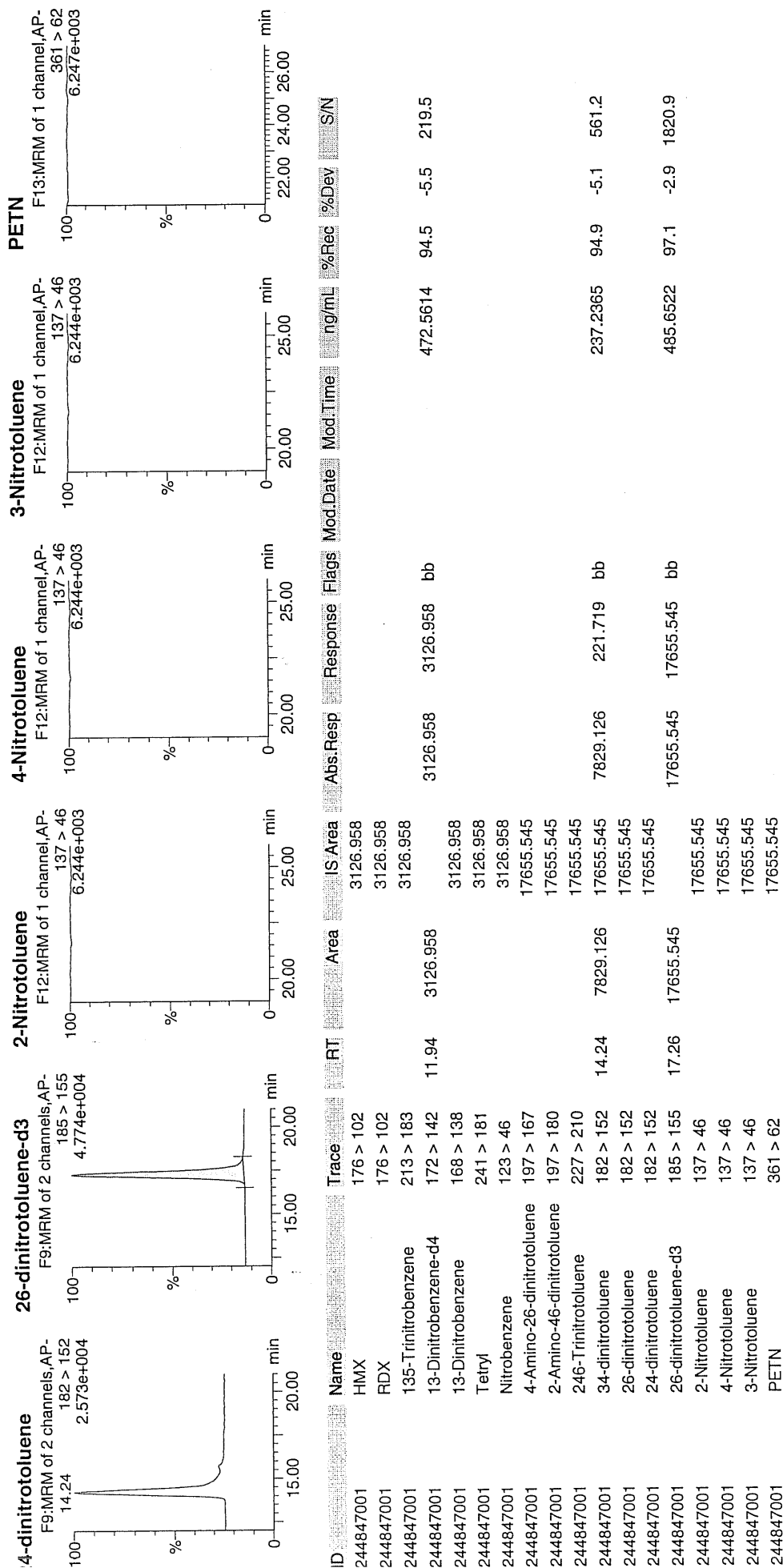


Handwritten signature/initials.

# Quantify Sample Report

IEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847001

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250019.wiff

Date Analyzed: 25-JAN-10 15:15

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

Gen 1127110

Sample Name: "244847001" Sample ID: "942335121.ER" File: "EXS01250019.will"

Peak Name: "1A1B" Mass(es): "237.2204.9 amu"

Comment: "LCX83212S" Annotation: "i"

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 1/2372010 ng/mL

Acq. Rate: 3.15:29 PM

Acq. Time: 3.15:29 PM

Modified: Yes

Sample Name: "244847001" Sample ID: "942335121.ER" File: "EXS01250019.will"

Peak Name: "1A1B" Mass(es): "237.2204.9 amu"

Comment: "LCX83212S" Annotation: "i"

Sample Index: 1

Sample Type: Unknown

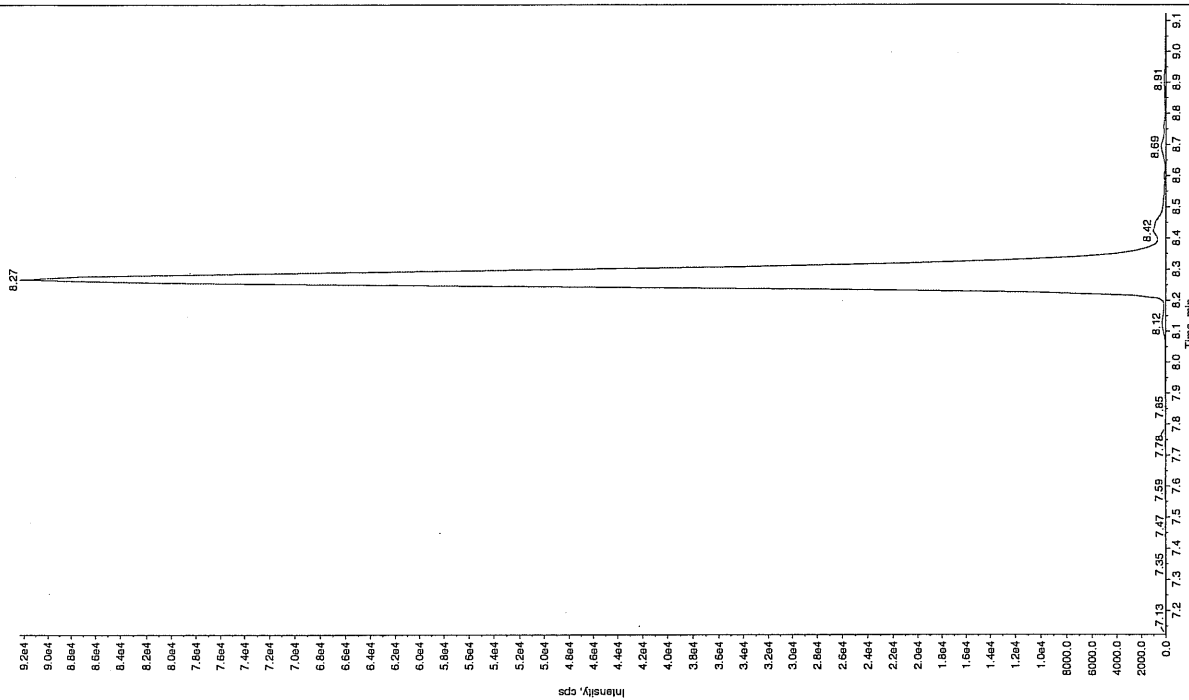
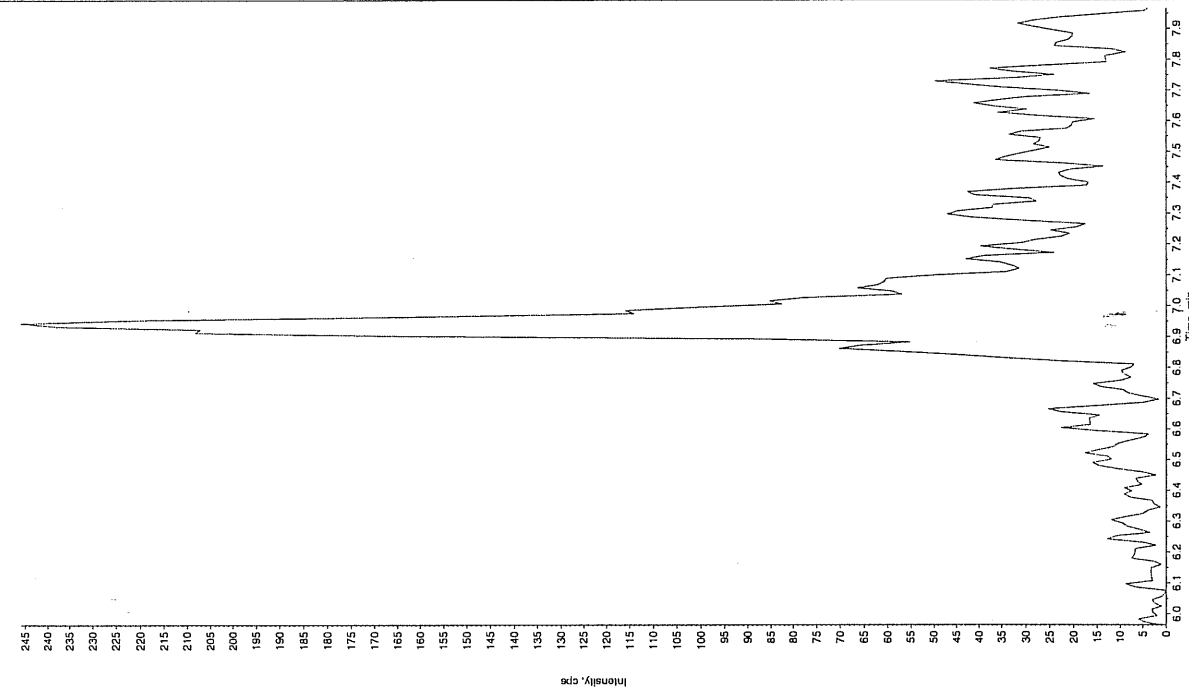
Concentration: N/A

Calculated Conc: 1/2372010 ng/mL

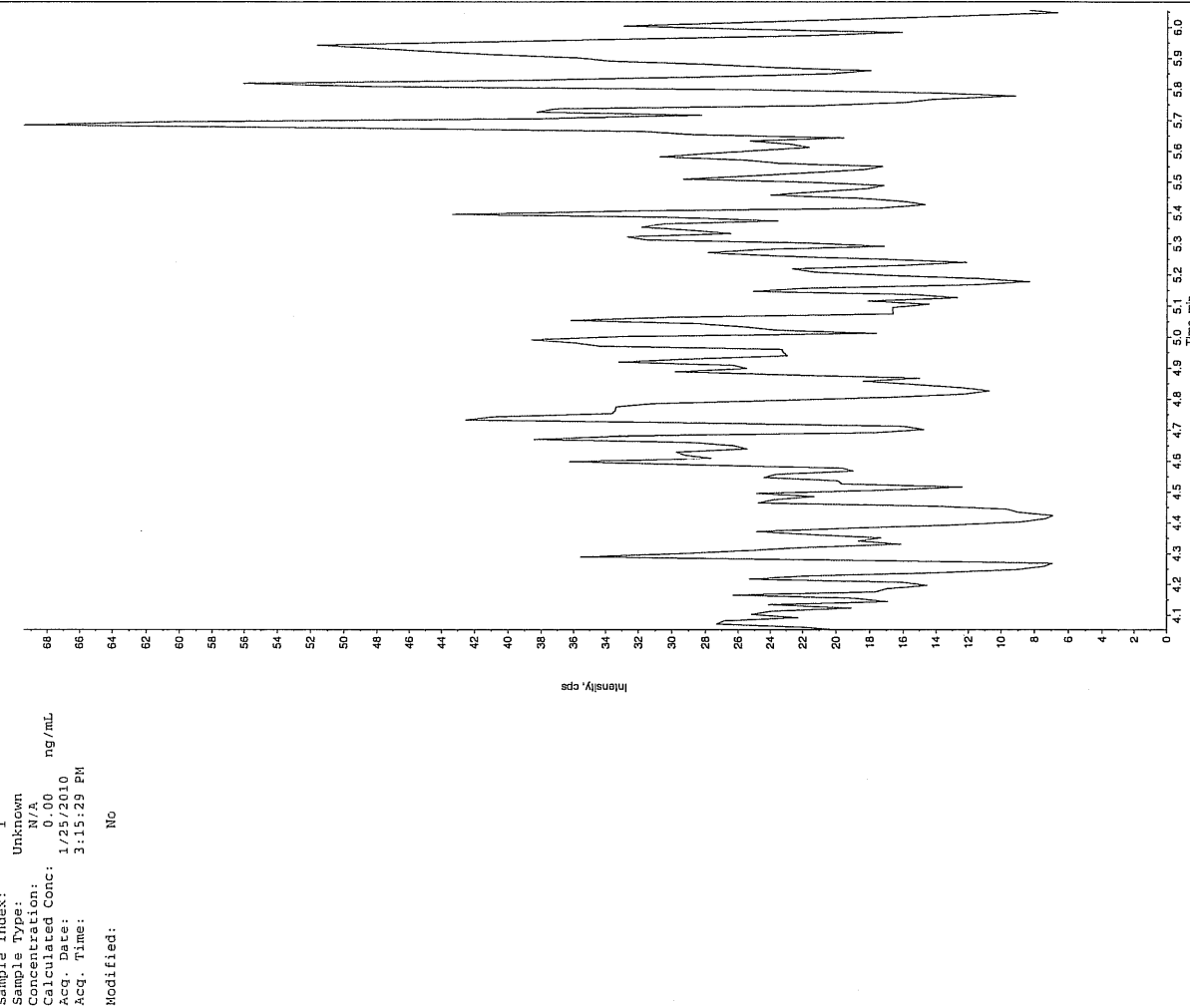
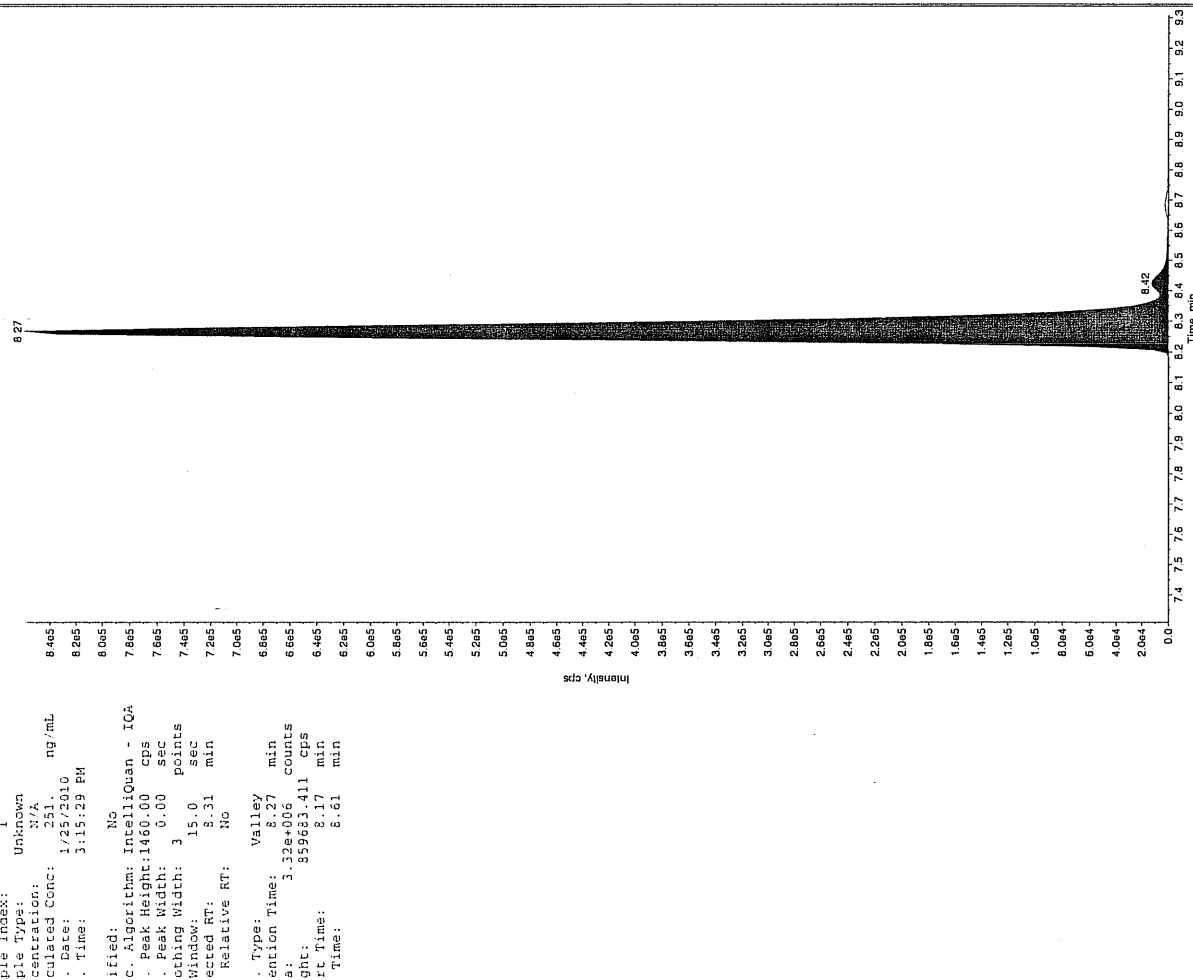
Acq. Rate: 3.15:29 PM

Acq. Time: 3.15:29 PM

Modified: No



Gen 1127110



Sample Name: "244847001" Sample ID: "94233521" File: "EXS01250019.wif"

Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 3:15:29 PM

Modified: No

Sample Name: "244847001" Sample ID: "94233521" File: "EXS01250019.wif"

Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1

Sample Type: Unknown

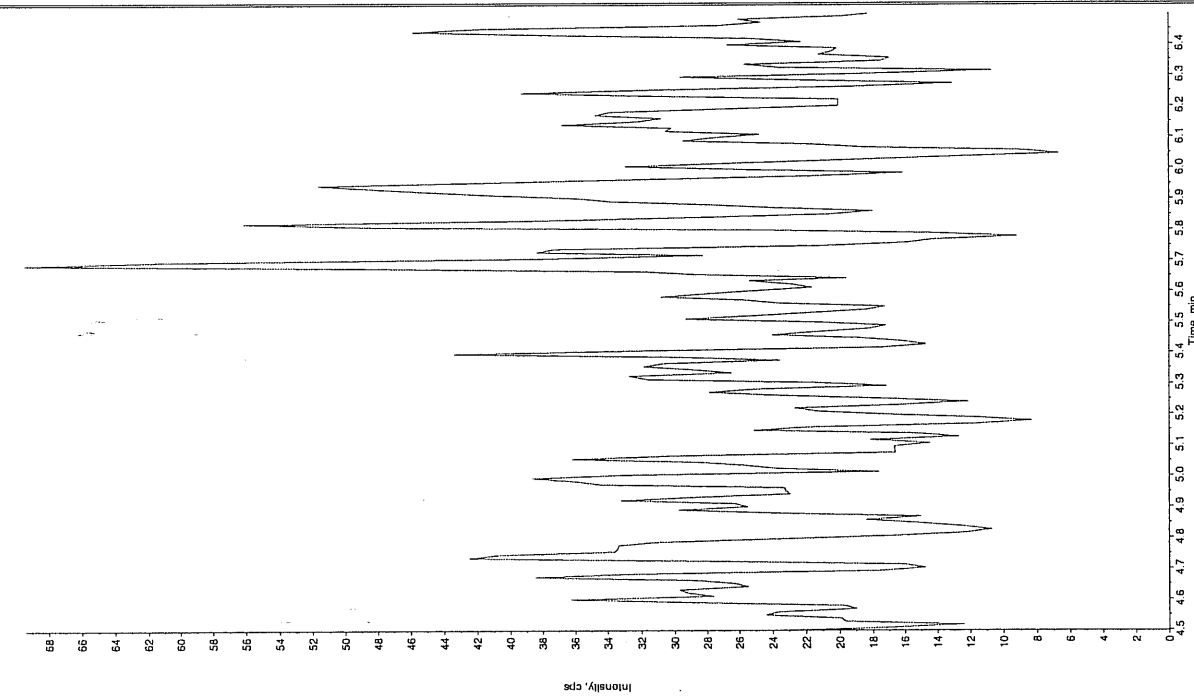
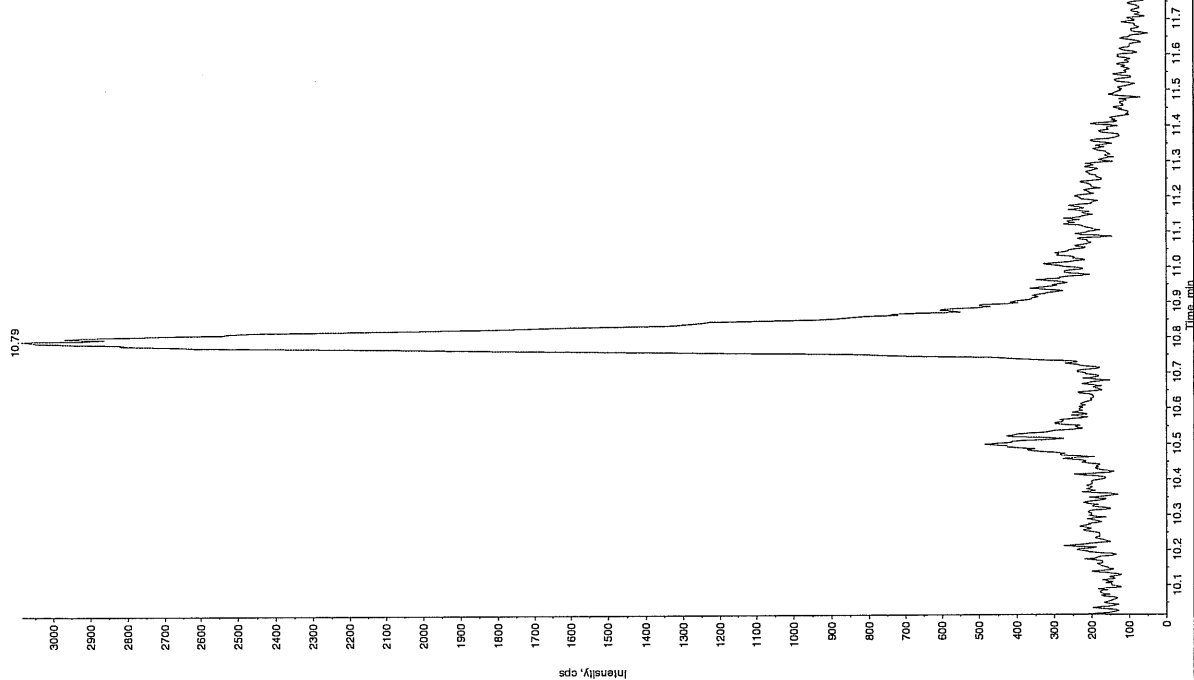
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 3:15:29 PM

Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7273

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847002

Sample Amount 2

Moisture: 13.3

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131018a

Date Analyzed: 31-JAN-10 20:57

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument	X	<u>Concentrated Extract Volume</u>	X	Dilution
Value		<u>Sample Amount</u>		Factor

Quantify Sample Report  
JEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131018a

Date: 31-Jan-2010

Time: 20:57:23

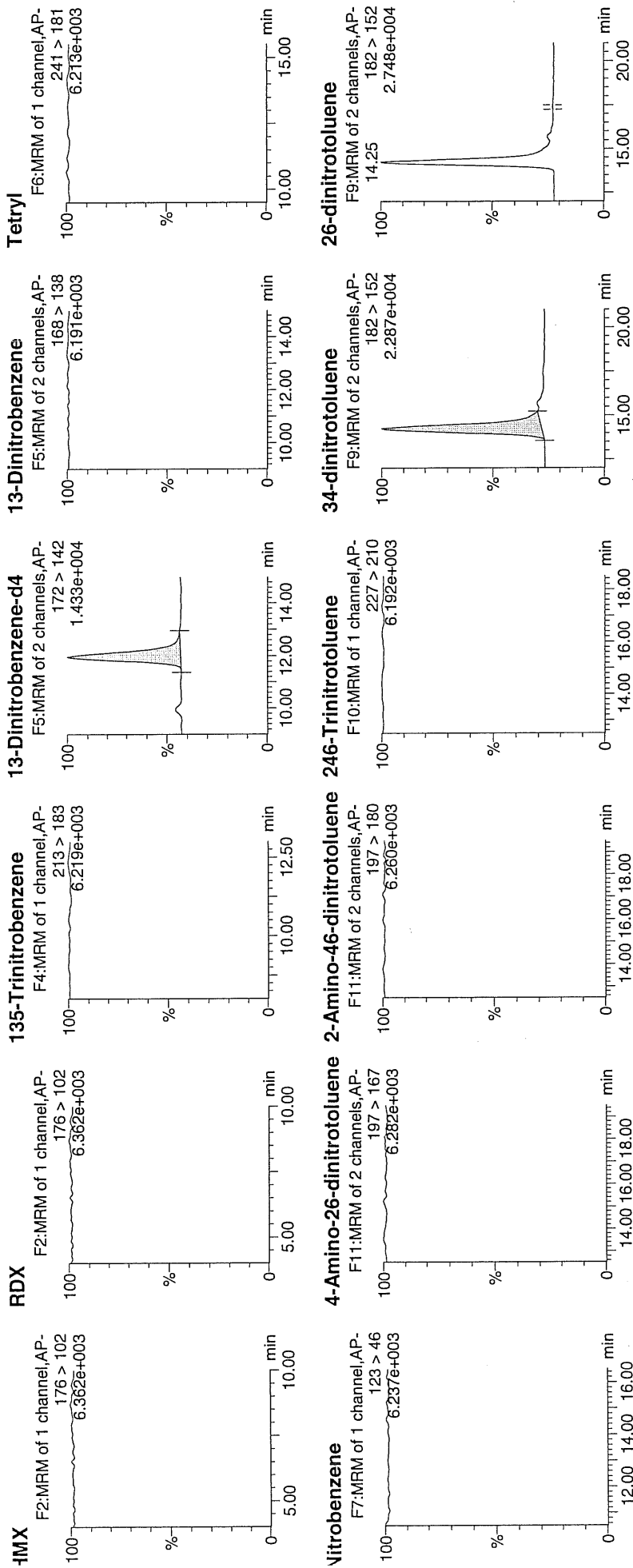
D: 244847002

/ial: 1:4,F

MSD

2/1/10

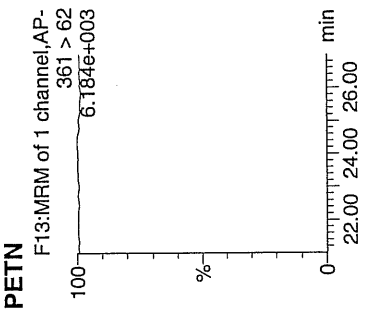
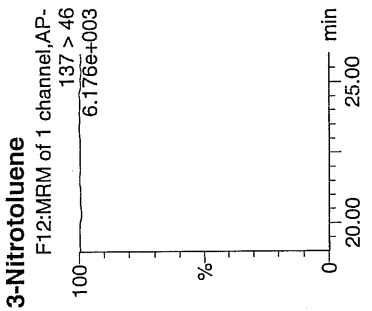
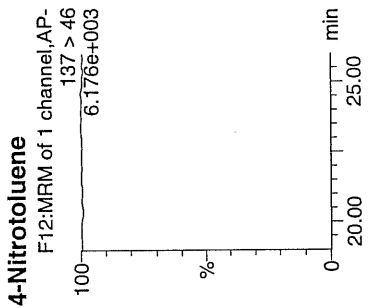
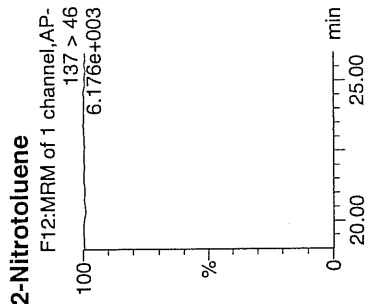
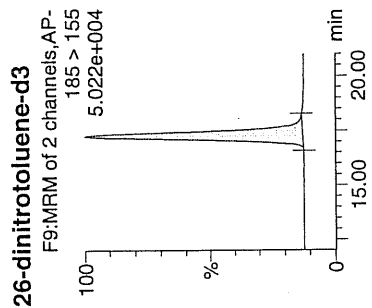
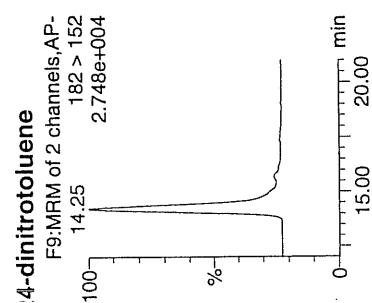
WAV/942335 / Source / 2 /



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Dataset: C:\MASSLYNX\New Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
244847002	HMX	176 > 102			3214.871									
244847002	RDX	176 > 102			3214.871									
244847002	135-Trinitrobenzene	213 > 183			3214.871									
244847002	13-Dinitrobenzene-d4	172 > 142	11.95	3214.871		3214.871	3214.871	bb			485.8472	97.2	-2.8	313.7
244847002	13-Dinitrobenzene	168 > 138			3214.871									
244847002	Tetryl	241 > 181			3214.871									
244847002	Nitrobenzene	123 > 46			18698.215									
244847002	4-Amino-26-dinitrotoluene	197 > 167			18698.215									
244847002	2-Amino-46-dinitrotoluene	197 > 180			18698.215									
244847002	246-Trinitrotoluene	227 > 210			18698.215									
244847002	34-dinitrotoluene	182 > 152	14.25	8885.509	18698.215	8885.509	237.603	bb			254.2327	101.7	1.7	869.0
244847002	26-dinitrotoluene	182 > 152			18698.215			MM-	01-Feb-10	14:15:21				
244847002	24-dinitrotoluene	182 > 152			18698.215									
244847002	26-dinitrotoluene-d3	185 > 155	17.25	18698.215		18698.215	18698.215	bb			514.3330	102.9	2.9	1520.8
244847002	2-Nitrotoluene	137 > 46			18698.215									
244847002	4-Nitrotoluene	137 > 46			18698.215									
244847002	3-Nitrotoluene	137 > 46			18698.215									
244847002	PETN	361 > 62			18698.215									

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7273

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847002

Sample Amount 2

Moisture: 13.3

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250096.wiff

Date Analyzed: 26-JAN-10 11:25

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

See 1/27/10

Sample Name: "244847002" Sample ID: "94233512" File: "EXS01250036.wif"

Peak Name: "TATB" Mass(es): "257.2/204.9 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1

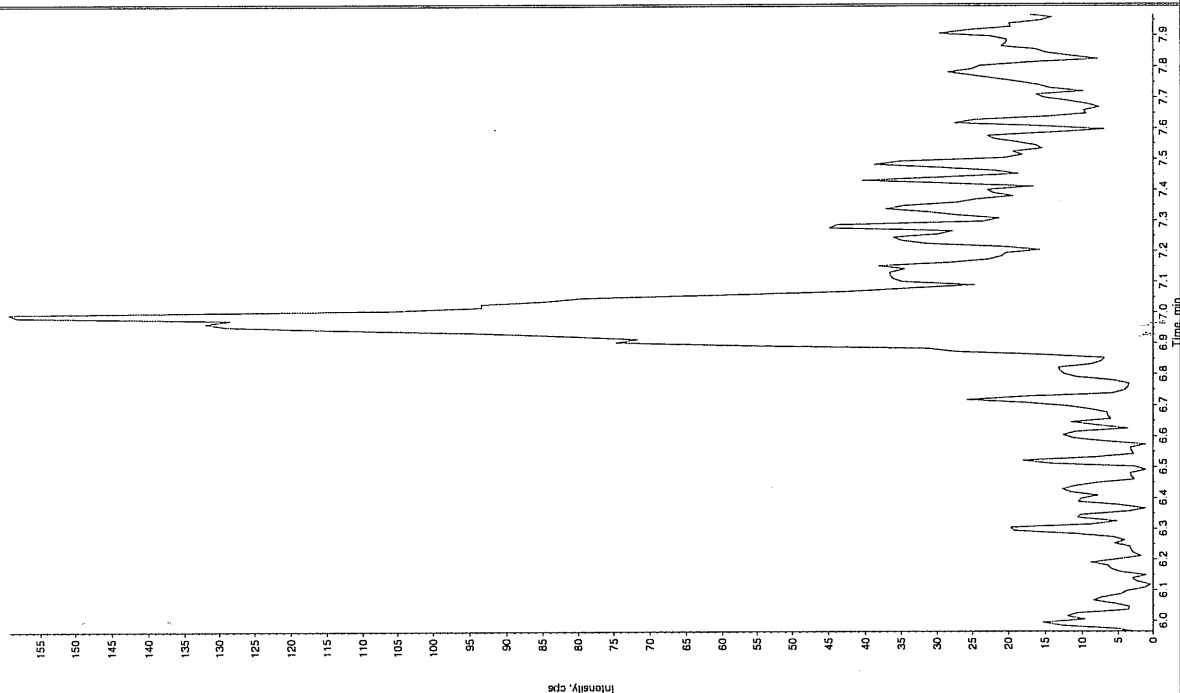
Sample Type: Unknown

Concentration: 0.00 ng/mL

Acq. Date: 1/26/2010

Acq. Time: 11:25:04 AM

Modified: No



Sample Name: "244847002" Sample ID: "94233512" File: "EXS01250036.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1

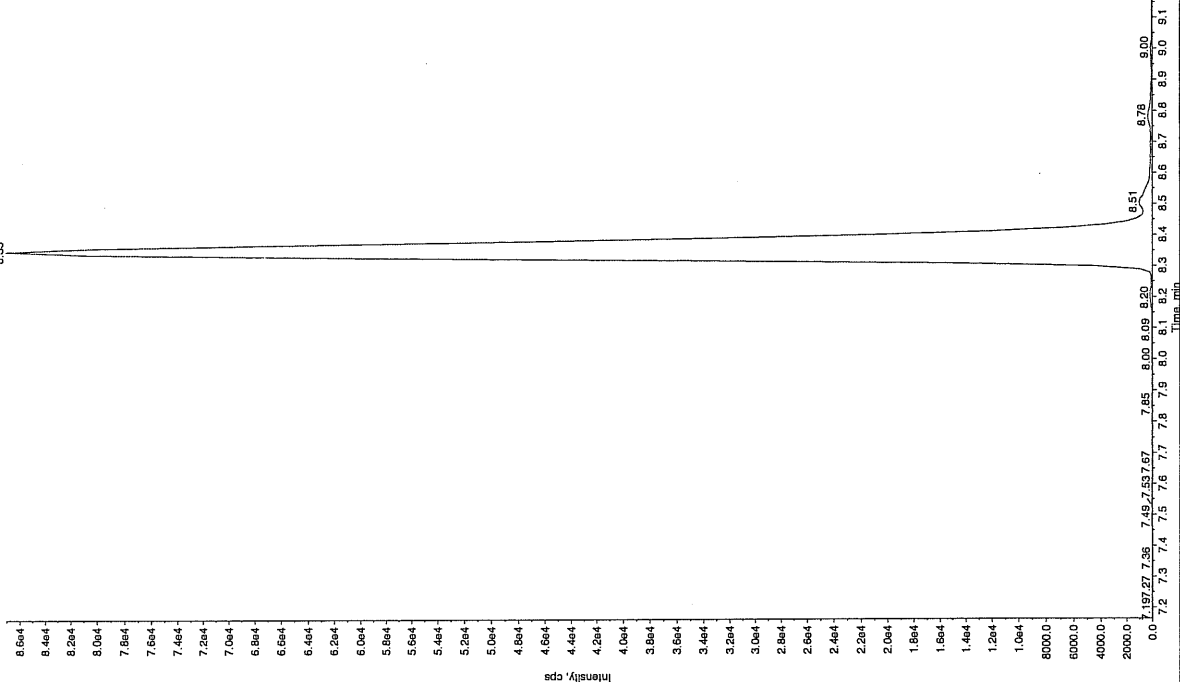
Sample Type: Unknown

Concentration: 0.00 ng/mL

Acq. Date: 1/26/2010

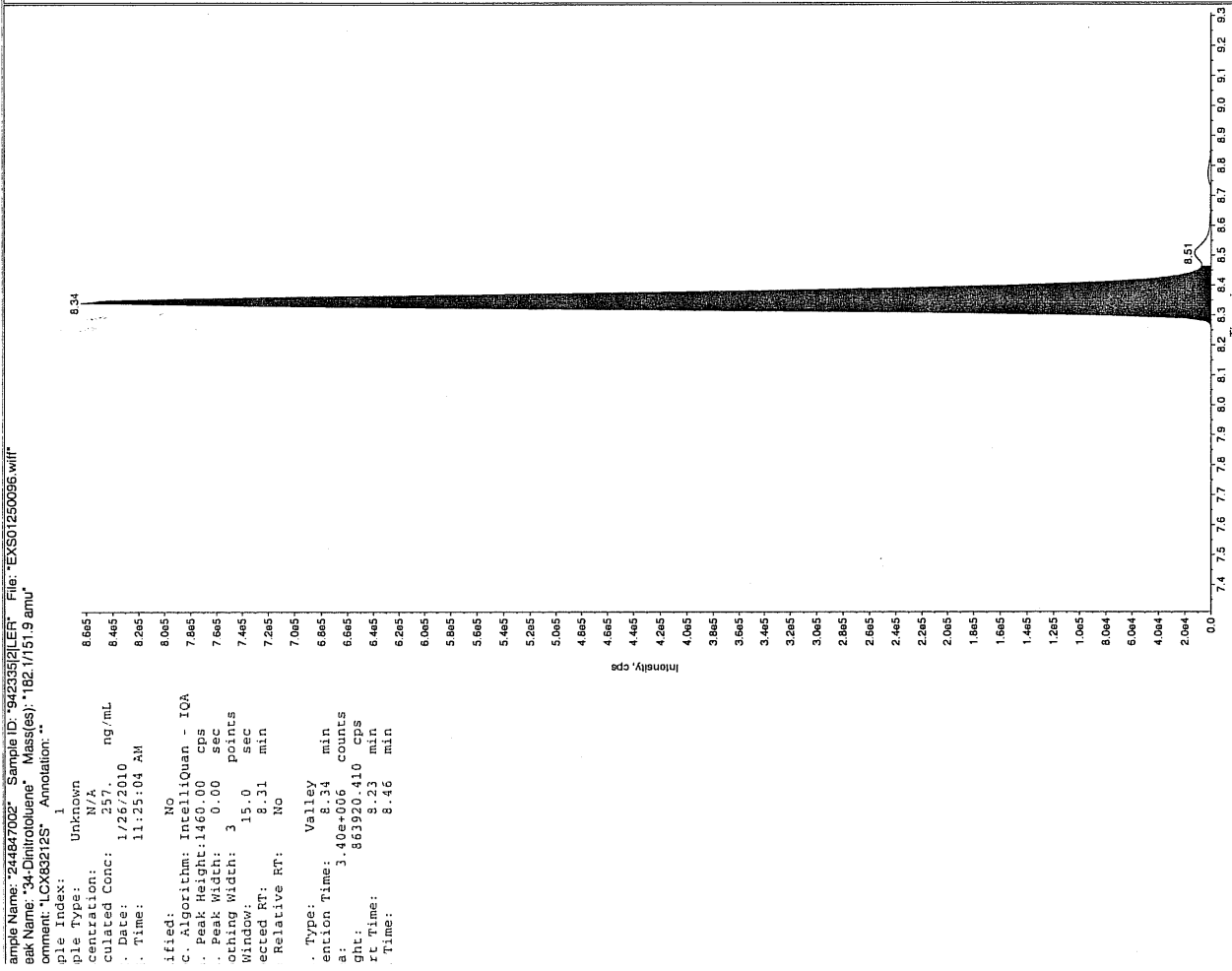
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Modified: No



4/11/01/27/10

Sample Name: "244847002" Sample ID: "94233521LER" File: "EXS01250096.wif"  
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"  
Comment: "LCX83212S" Annotation: ""  
Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 0.00 ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 11:25:04 AM  
Modified: No

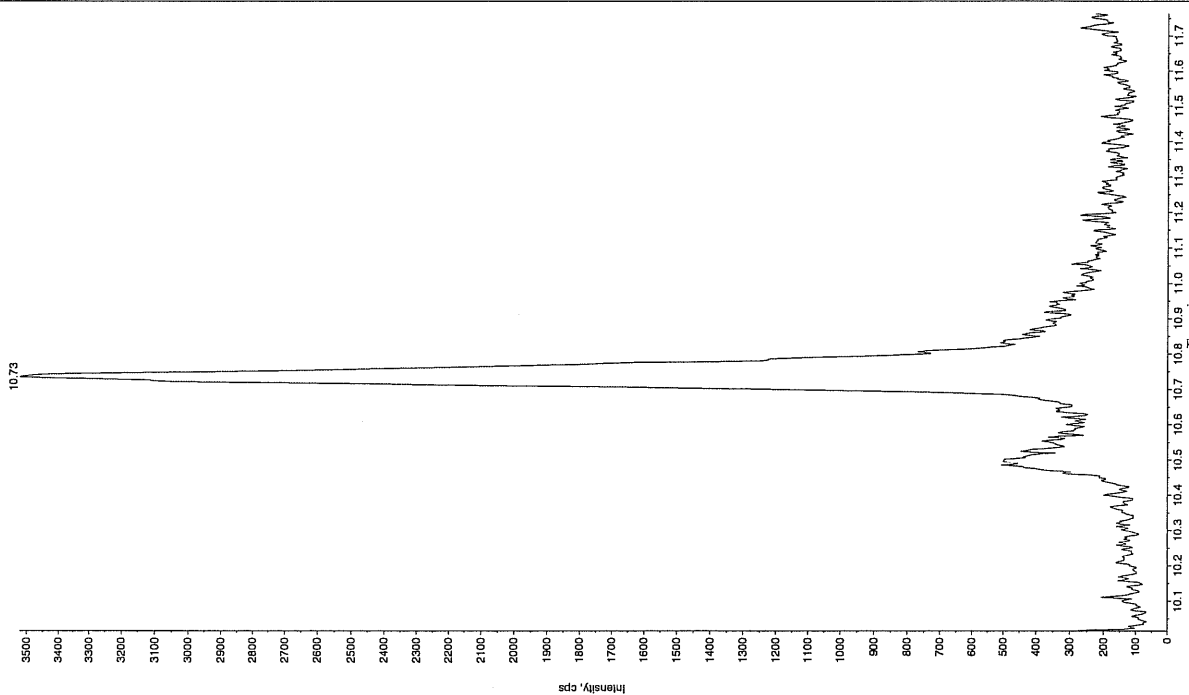
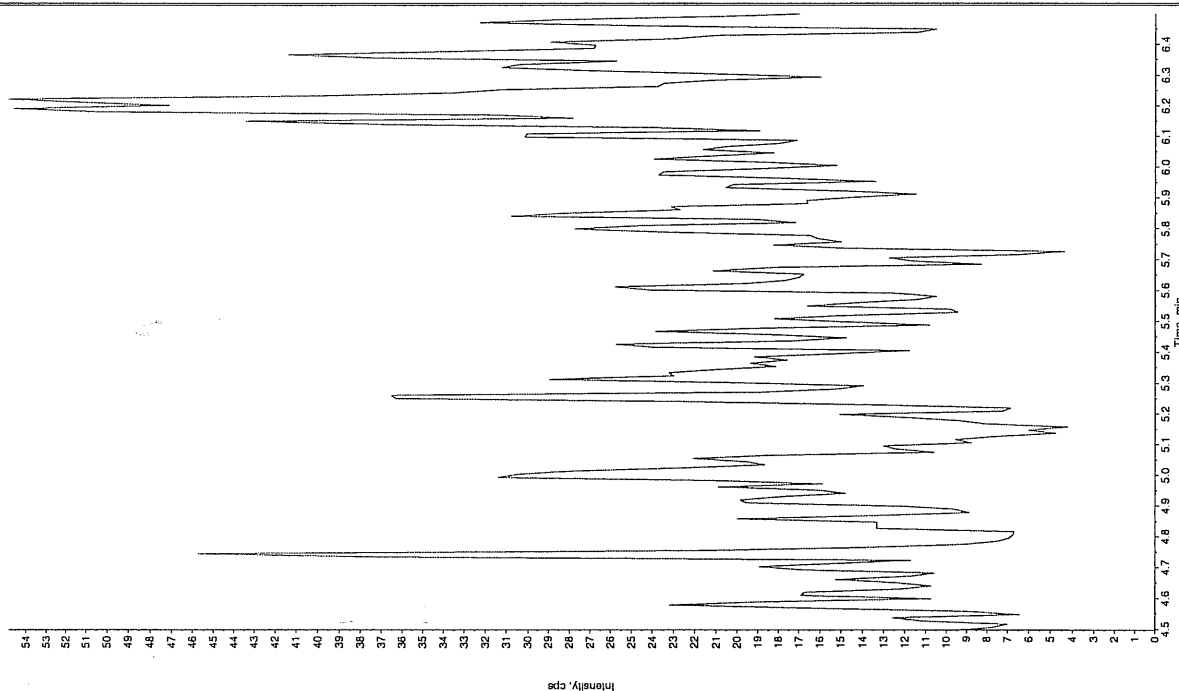


Sample Name: "244847002" Sample ID: "94233521LER" File: "EXS01250096.wif"  
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"  
Comment: "LCX83212S" Annotation: ""  
Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 257. ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 11:25:04 AM  
Modified: No  
C. Algorithm: IntelliQuan - IQA  
Peak Height: 1460.00 cps  
Peak Width: 0.00 sec  
Window: 3 points  
Window: 15.0 sec  
Ret Time: 8.31 min  
Relative RT: No  
Type: Valley  
Retention Time: 8.34 min  
Area: 3.40e+006 counts  
Height: 863920.410 cps  
RT Time: 8.23 min  
Time: 8.46 min

EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "244847002" Sample ID: "94233521LER" File: "EXS01250096.wif"  
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 11:25:04 AM  
 Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7274

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847003

Sample Amount 2

Moisture: 15.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131019a

Date Analyzed: 31-JAN-10 21:26

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

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Date: 31-Jan-2010

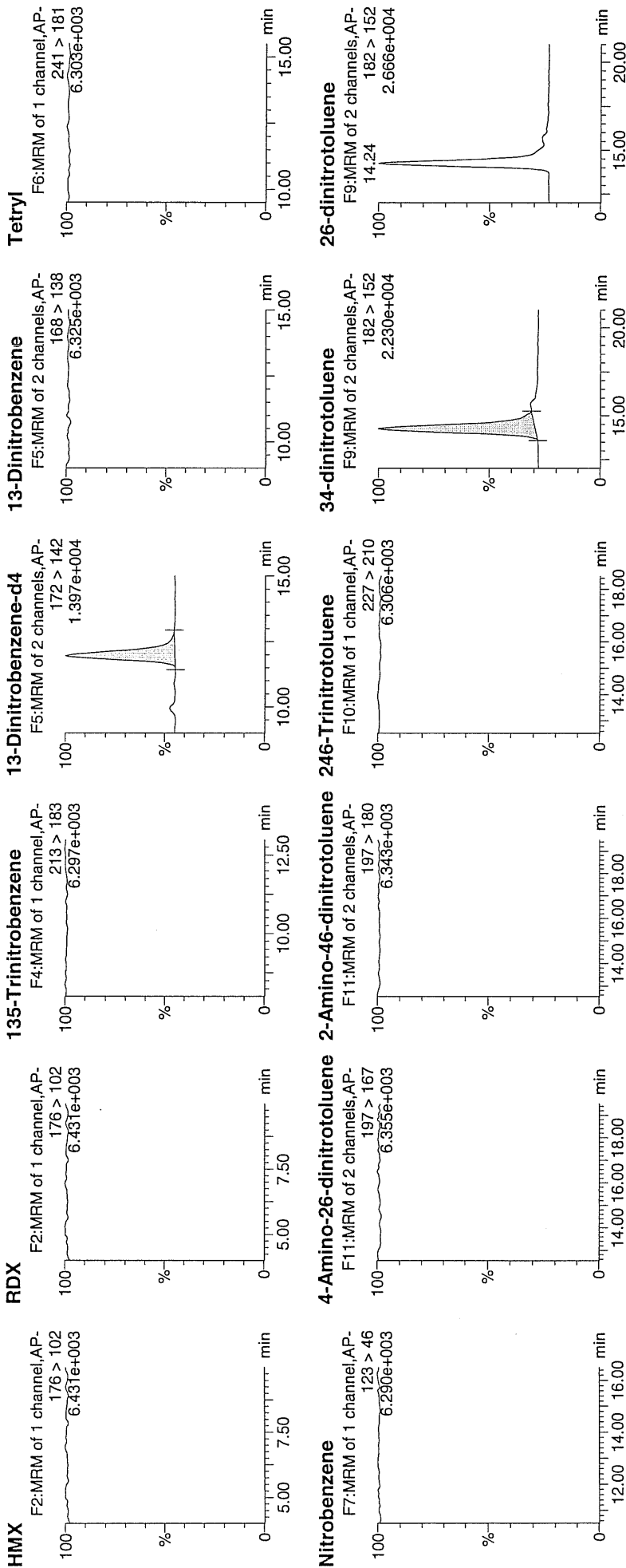
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ID: 244847003

Vial: 1:5,A

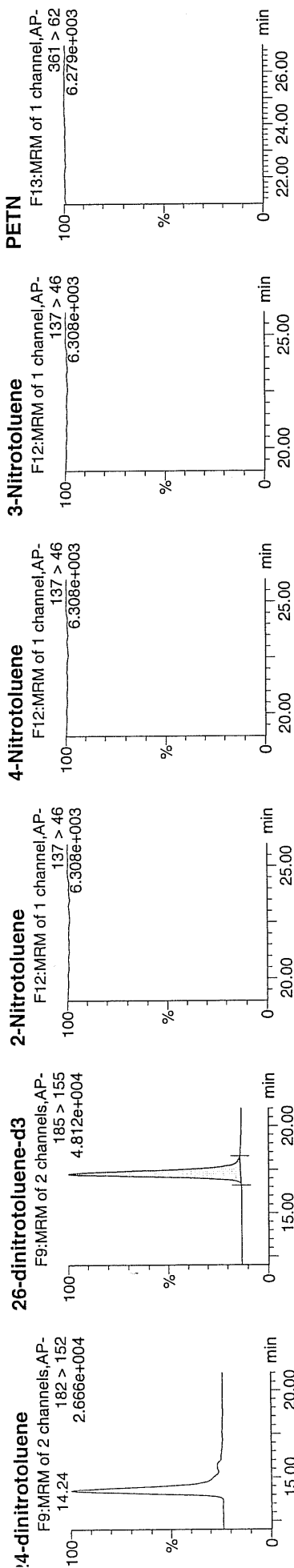
2/1/10

LANC | 942335 | 8022 | 21



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Dataset: C:\MASSLYNX\New Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



ID	Name	Trace	RT	Area	IS Area	Abs. Resp	Response	Flags	Mod. Date	Mod. Time	ng/mL	%Rec	%Dev	S/N
244847003	HMX	176 > 102			3083.926									
244847003	RDX	176 > 102			3083.926									
244847003	135-Trinitrobenzene	213 > 183			3083.926									
244847003	13-Dinitrobenzene-d4	172 > 142	11.94	3083.926		3083.926	3083.926	bb			466.0582	93.2	-6.8	392.8
244847003	13-Dinitrobenzene	168 > 138			3083.926									
244847003	Tetryl	241 > 181			3083.926									
244847003	Nitrobenzene	123 > 46			3083.926									
244847003	4-Amino-26-dinitrotoluene	197 > 167			18012.643									
244847003	2-Amino-46-dinitrotoluene	197 > 180			18012.643									
244847003	246-Trinitrotoluene	227 > 210			18012.643									
244847003	34-dinitrotoluene	182 > 152	14.24	8674.406	18012.643	8674.406	240.787	bb			257.6390	103.1	3.1	892.3
244847003	26-dinitrotoluene	182 > 152			18012.643									
244847003	24-dinitrotoluene	182 > 152			18012.643									
244847003	26-dinitrotoluene-d3	185 > 155	17.26	18012.643		18012.643	18012.643	bb			495.4749	99.1	-0.9	2235.3
244847003	2-Nitrotoluene	137 > 46			18012.643									
244847003	4-Nitrotoluene	137 > 46			18012.643									
244847003	3-Nitrotoluene	137 > 46			18012.643									
244847003	PETN	361 > 62			18012.643									



1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7274

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847003

Sample Amount 2

Moisture: 15.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250023.wiff

Date Analyzed: 25-JAN-10 16:18

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

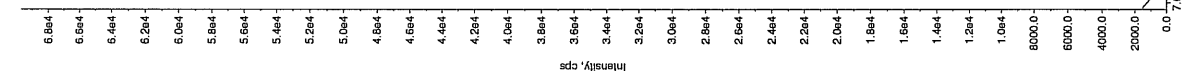
See 112710

Sample Name: "244847003" Sample ID: "942335121" File: "EXS01250023.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:18:15 PM  
 Modified: Yes

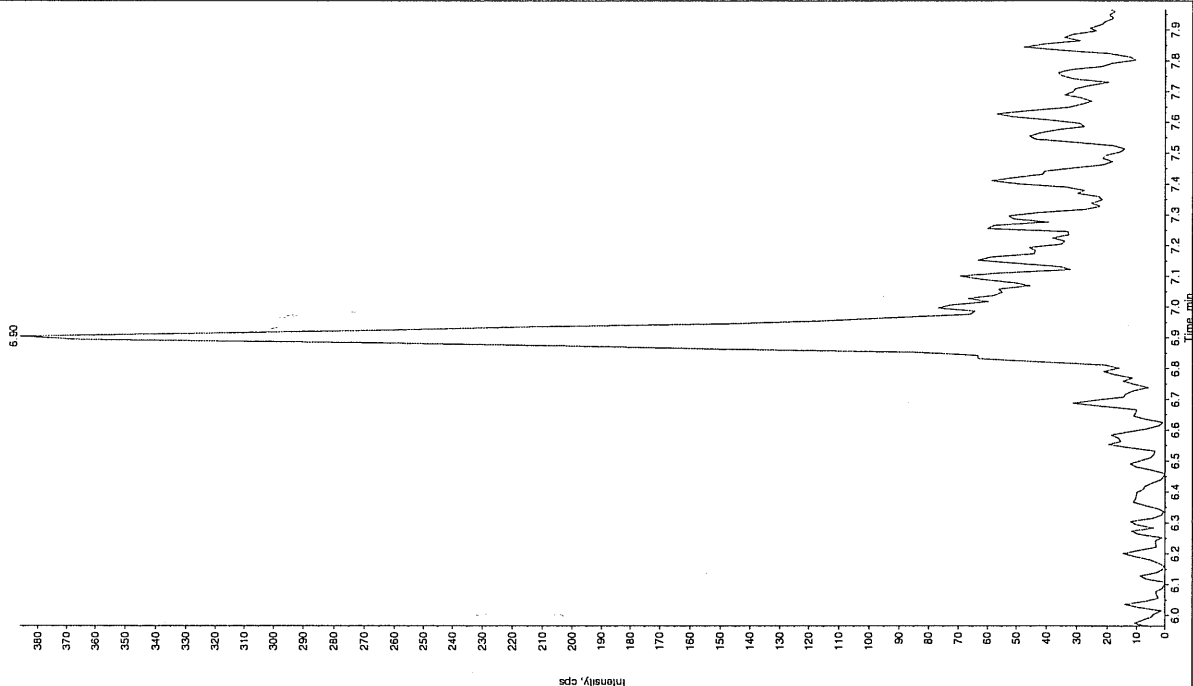


Sample Name: "244847003" Sample ID: "942335121" File: "EXS01250023.wif"

Peak Name: "TATB" Mass(es): "257.2/204.9 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:18:15 PM  
 Modified: No



Amic-01/27/10

Sample Name: "244847003" Sample ID: "942335[2]LER" File: "EXS01250023.wif"  
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"

Comment: "LCX83212S" Annotation: ""  
Sample Index: 1

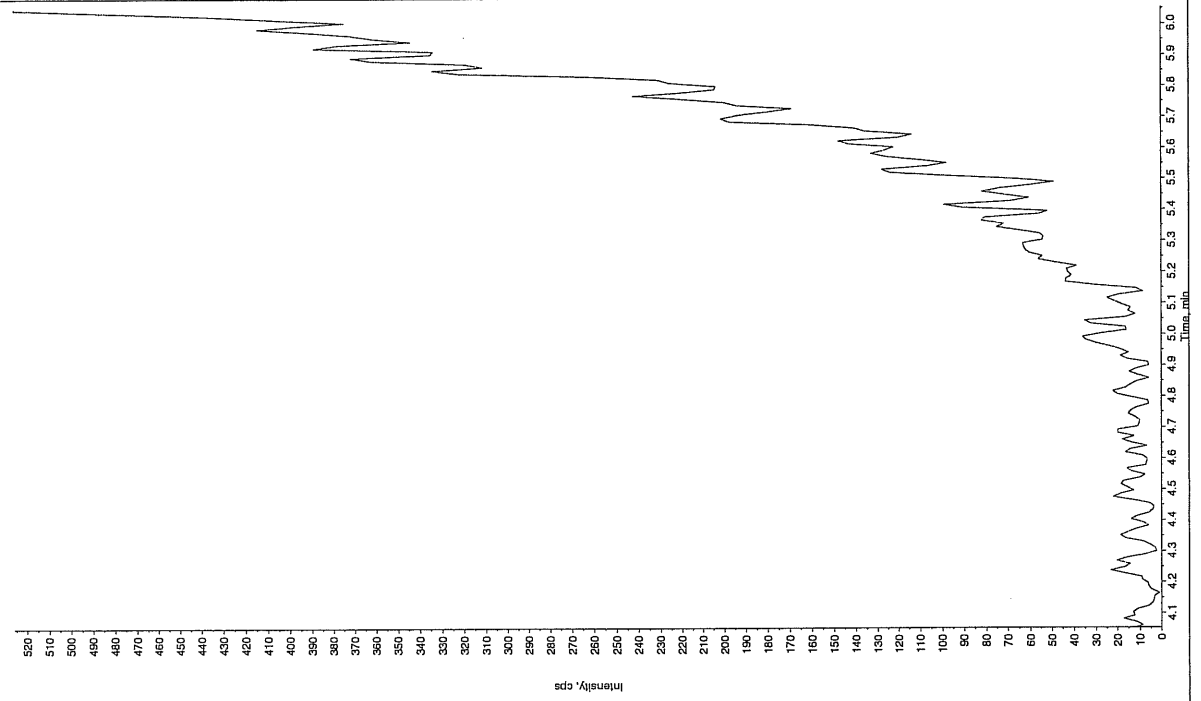
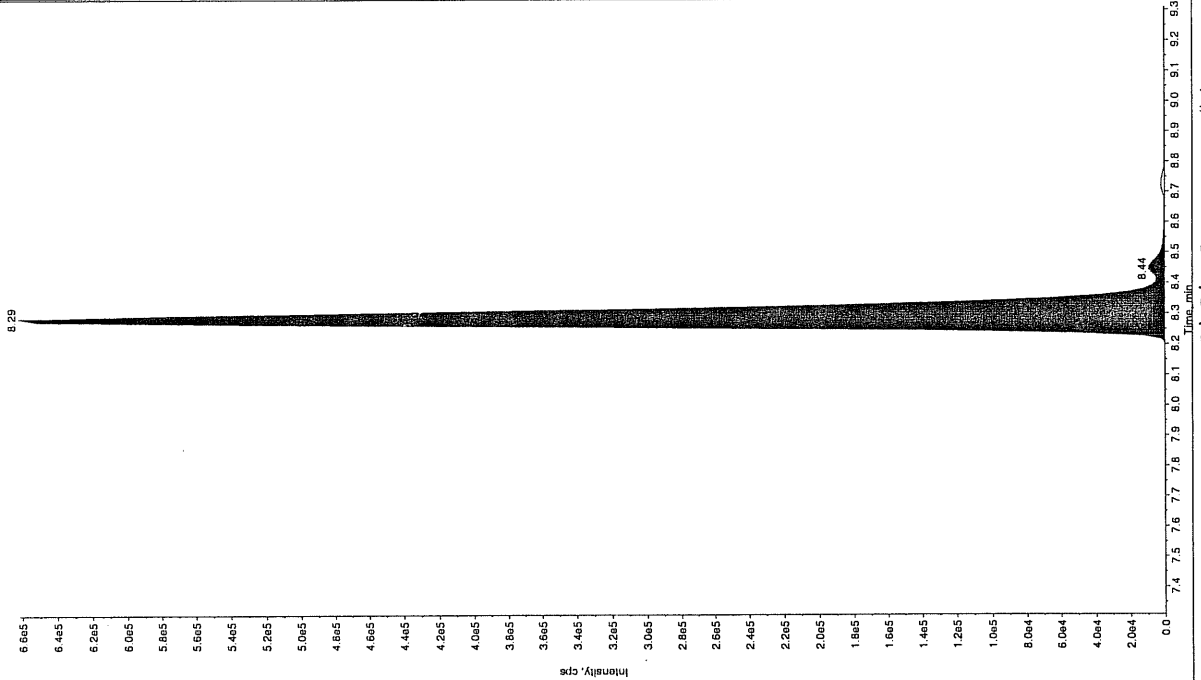
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 0.00 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 4:18:15 PM  
Modified: No

Sample Name: "244847003" Sample ID: "942335[2]LER" File: "EXS01250023.wif"  
Peak Name: "24-Dinitrotoluene" Mass(es): "182.1/151.9 amu"

Comment: "LCX83212S" Annotation: ""  
Sample Index: 1

Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 195 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 4:18:15 PM  
Modified: No

2. Algorithm: IntelliQuan - IQA  
Peak Height: 1460.00 cps  
Peak Width: 3 0.00 points  
Window: 15 0 sec  
Selected RT: 8.29 min  
Relative RT: No  
Type: Valley  
Retention Time: 8.29 min  
Height: 2.61e+006 counts  
Width: 562514.709 cps  
Acq. Time: 8.19 min  
Time: 2.65 min



Sample Name: "244847003" Sample ID: "94233521" File: "EXS01250023.wif"

Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.191.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 4:18:15 PM

Modified: No

Sample Name: "244847003" Sample ID: "94233521" File: "EXS01250023.wif"

Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.046.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1

Sample Type: Unknown

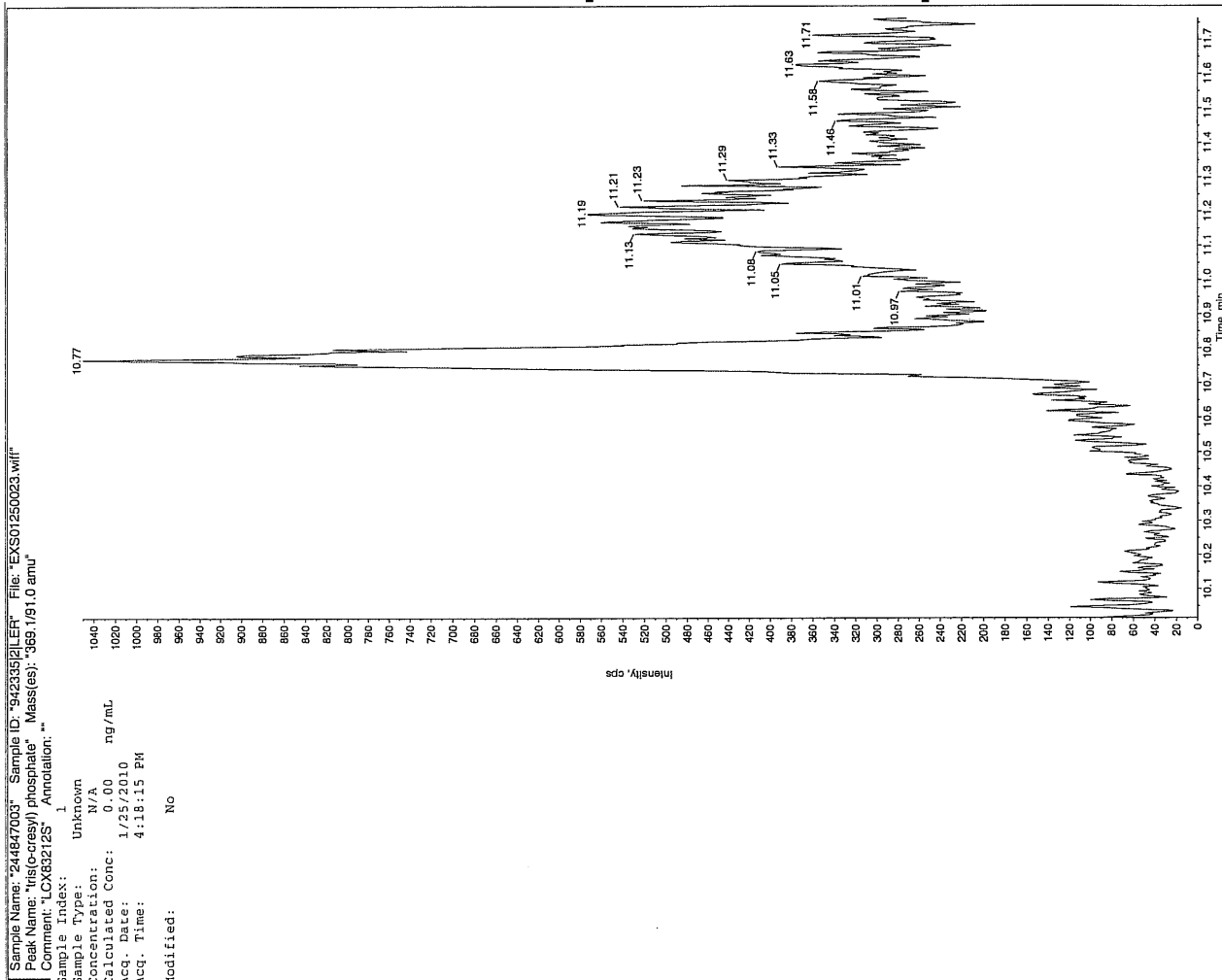
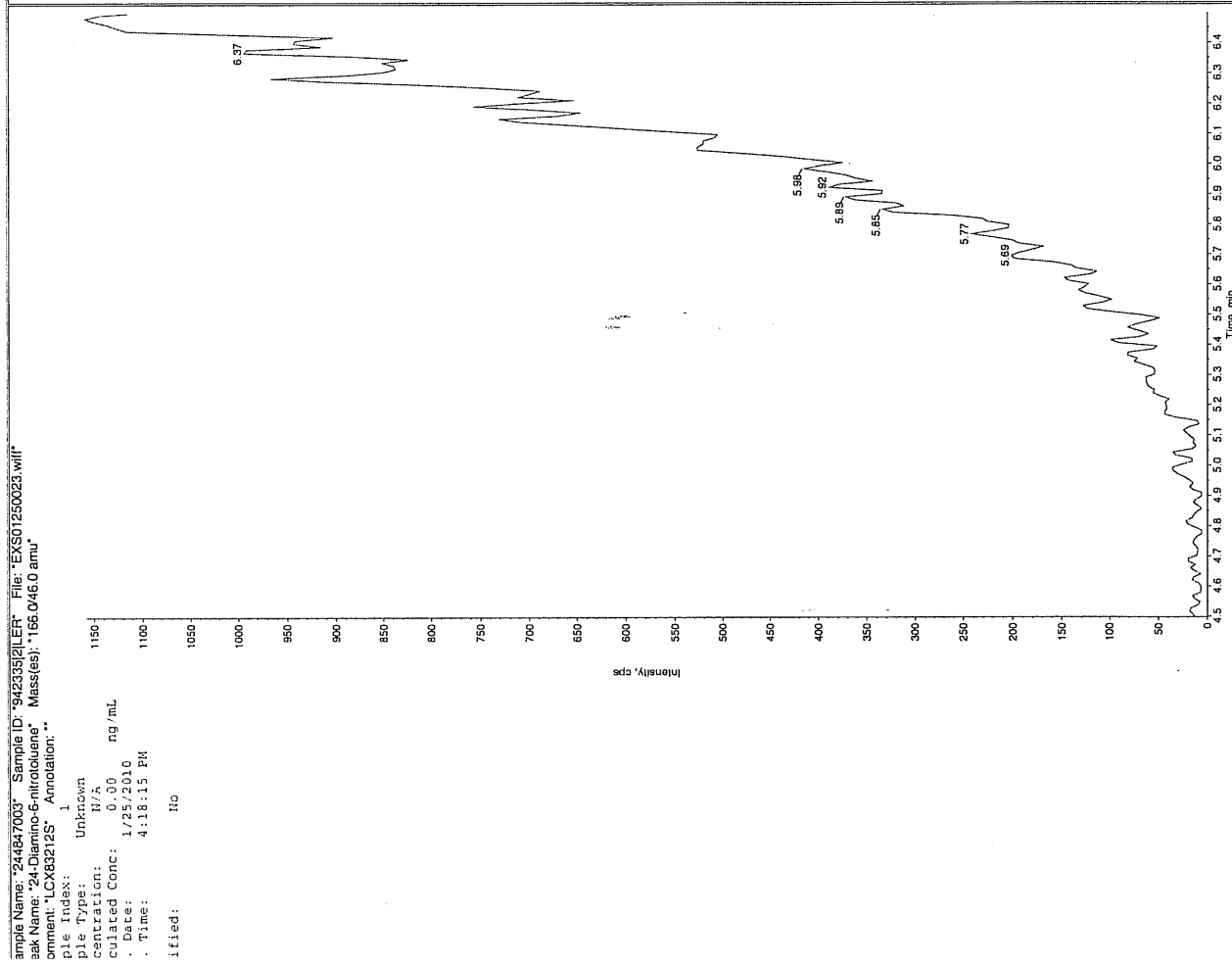
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 4:18:15 PM

Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7281

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847004

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131020a

Date Analyzed: 31-JAN-10 21:56

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument	X	<u>Concentrated Extract Volume</u>	X	Dilution
Value		<u>Sample Amount</u>		Factor

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Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131020a

Date: 31-Jan-2010

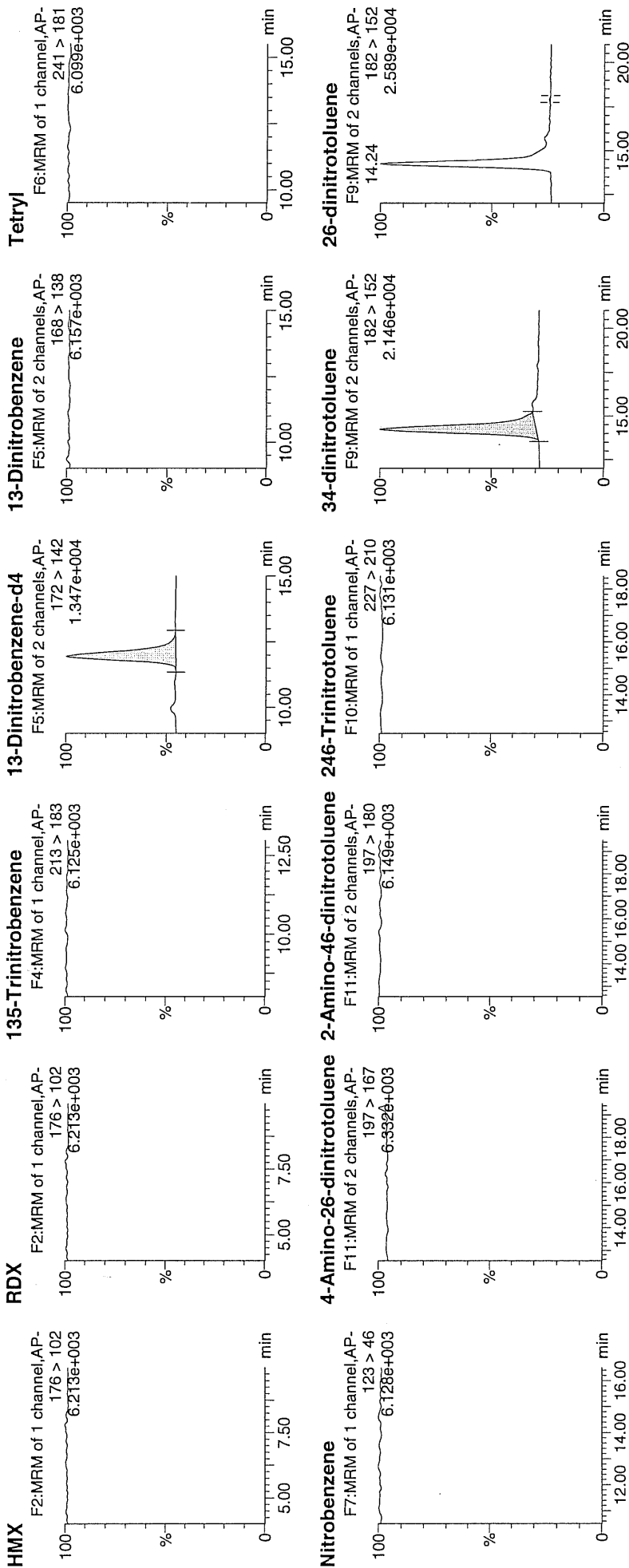
Time: 21:56:22

ID: 244847004

Vial: 1:5,B

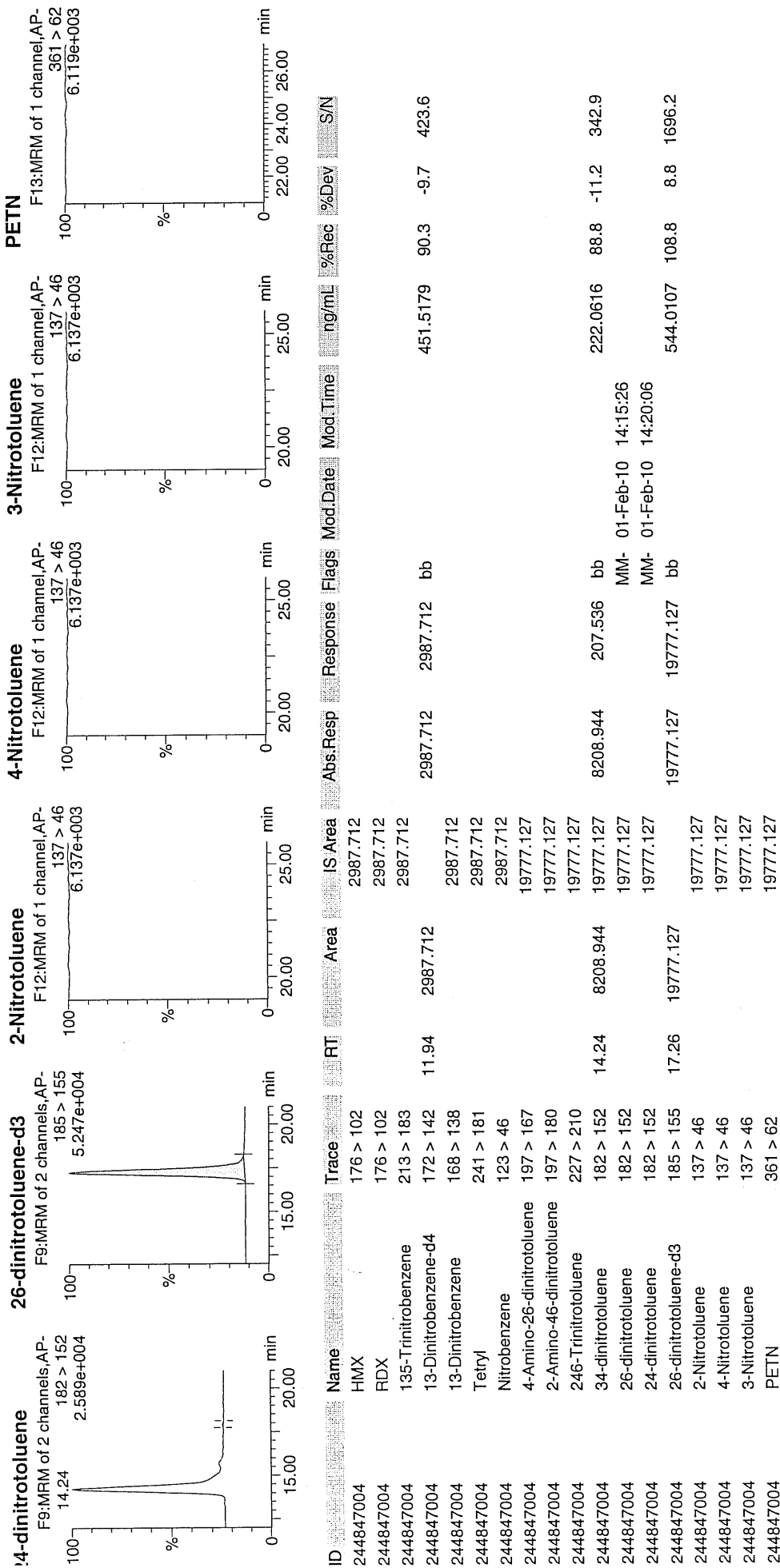
not  
2/1/10

942335 / 2 /



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Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7281

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 244847004

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250027.wiff

Date Analyzed: 25-JAN-10 17:21

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

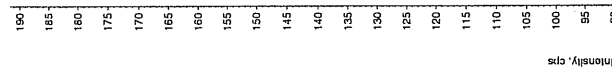
Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor



See 1/27/10

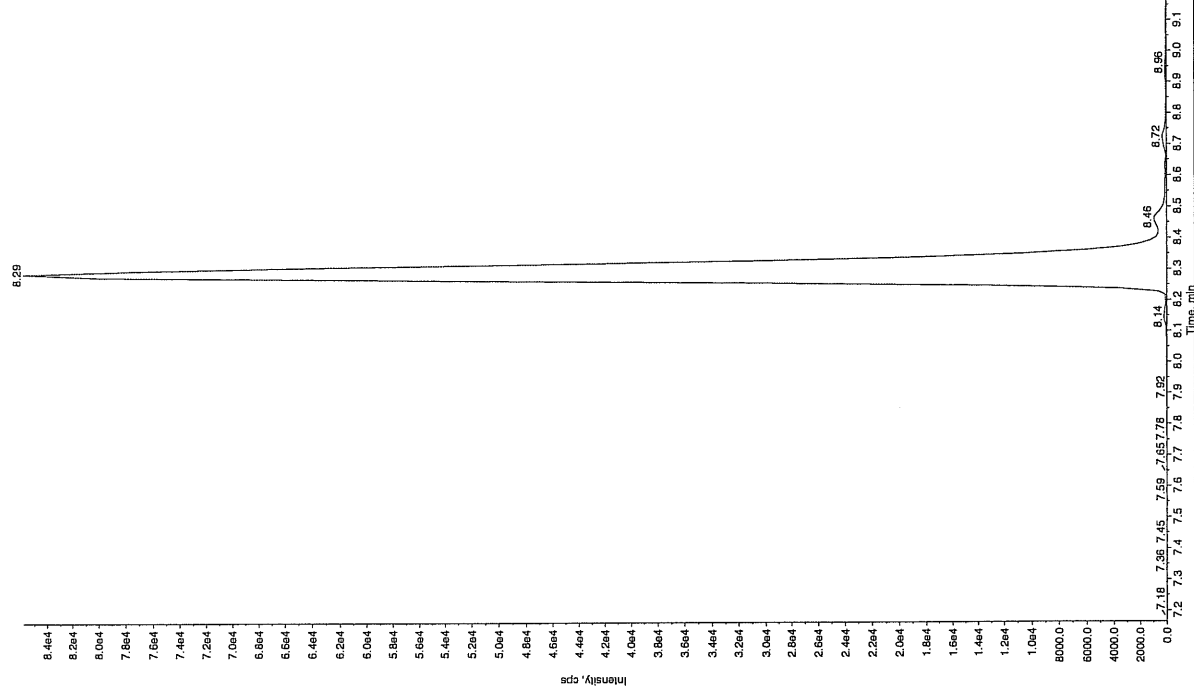
Sample Name: "244847004" Sample ID: "94233521" LER File: "EX501250027.wif"  
 Peak Name: "1ATB" Mass(es): "257.2/204.9 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Date: 1/25/2010  
 Time: 5:21:03 PM  
 Modified: No

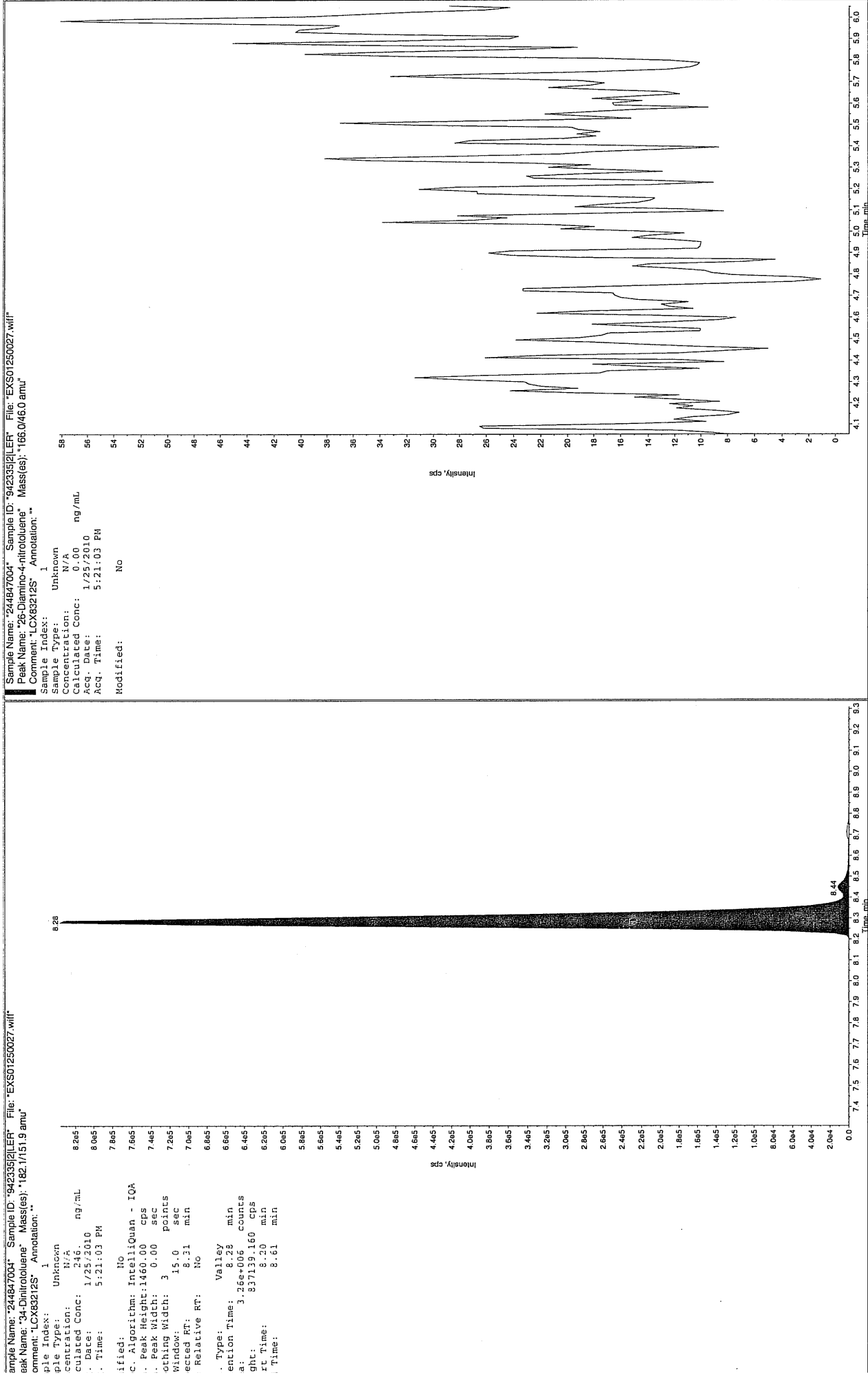


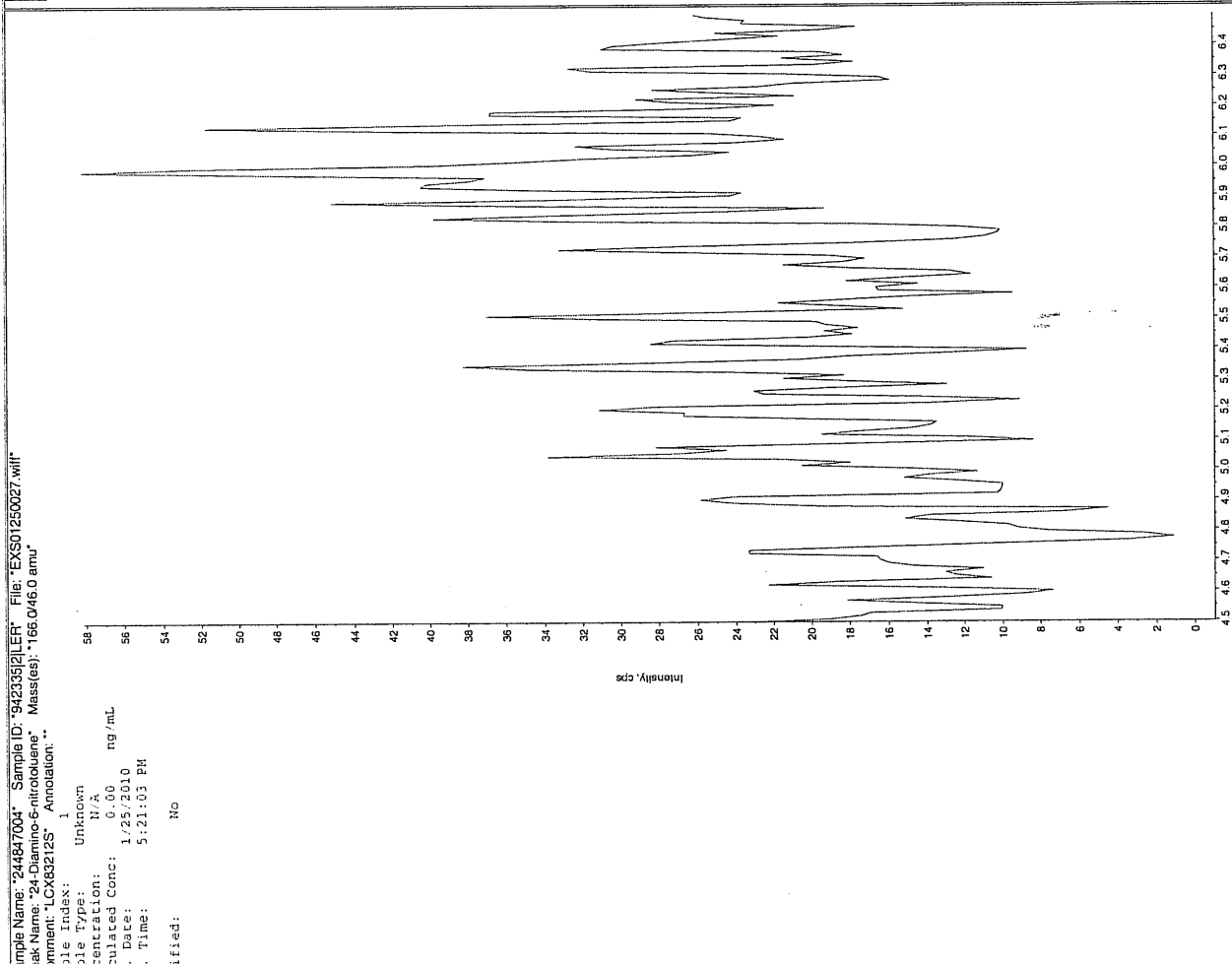
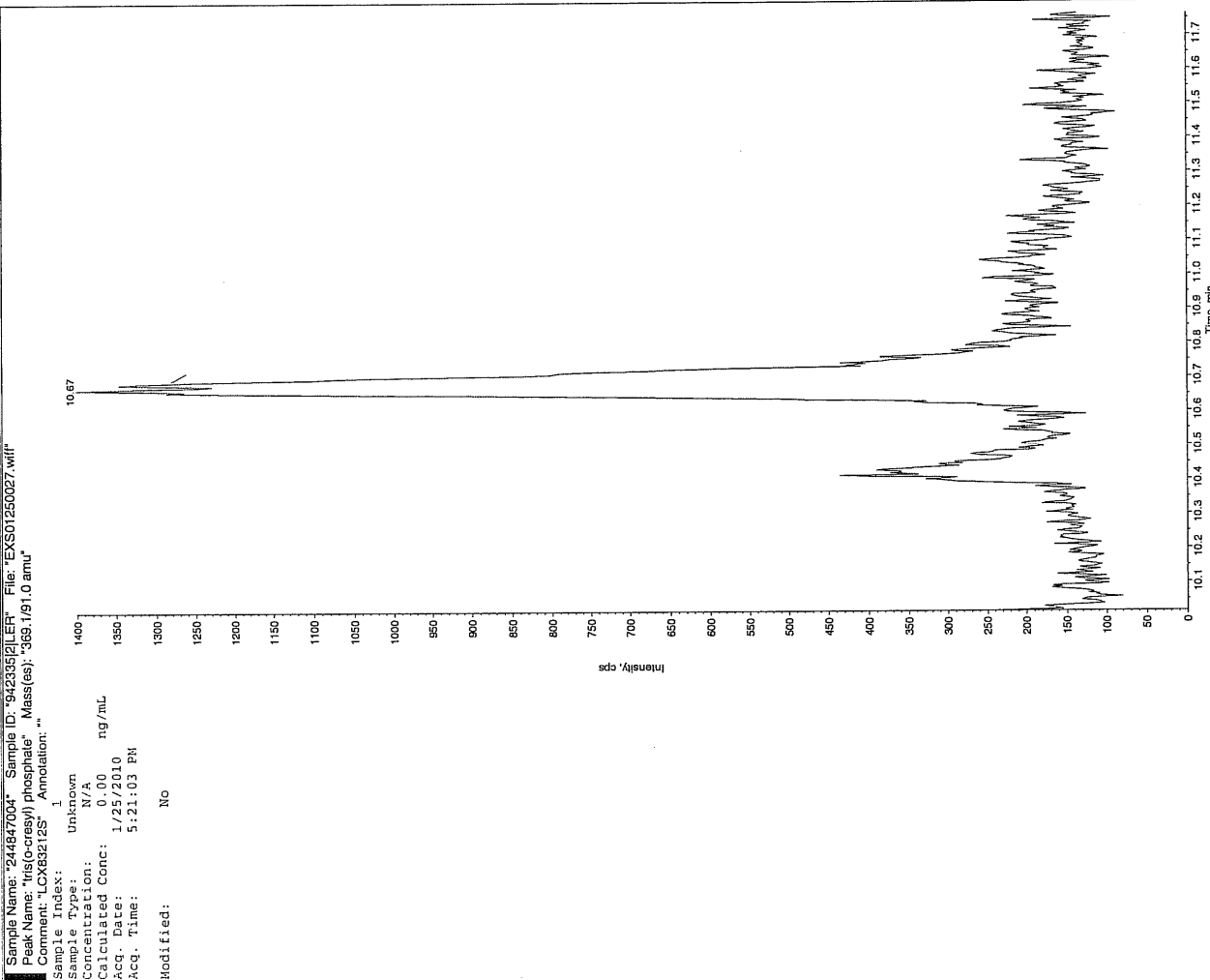
Sample Name: "244847004" Sample ID: "94233521" LER File: "EX501250027.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Date: 1/25/2010  
 Time: 5:21:03 PM  
 Modified: No



See 1/27/10





EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

# STANDARDS DATA

**SW846 8321A Modified-Explosives  
Calibration Standard Concentration Levels**

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	CCV
3,4-Dinitrotoluene (Surrogate)	12.5	25	100	200	400	500		300
<b>Primary Analytes</b>								
HMX	25	50	200	400	800	1000	na	600
RDX	25	50	200	400	800	1000	na	600
DNX	25	50	200	400	800	1000	na	600
MXN	25	50	200	400	800	1000	na	600
TNX	25	50	200	400	800	1000	na	600
1,3,5-Trinitrobenzene	25	50	200	400	800	1000	na	600
1,3-Dinitrobenzene	25	50	200	400	800	1000	na	600
Nitrobenzene	25	50	200	400	800	1000	na	600
Tetryl	25	50	200	400	800	1000	na	600
Nitroglycerin	50	100	200	400	800	1000	na	600
2,4,6-Trinitrotoluene	25	50	200	400	800	1000	na	600
2-Amino-4,6-dinitrotoluene	25	50	200	400	800	1000	na	600
4-Amino-2,6-dinitrotoluene	25	50	200	400	800	1000	na	600
2,4-Dinitrotoluene	25	50	200	400	800	1000	na	600
2,6-Dinitrotoluene	25	50	200	400	800	1000	na	600
2-Nitrotoluene	25	50	200	400	800	1000	na	600
4-Nitrotoluene	25	50	200	400	800	1000	an	600
3-Nitrotoluene	25	50	200	400	800	1000	na	600
PETN	25	50	200	400	800	1000	na	600
Picric Acid	200	400	1600	3200	6400	8000	na	4800
3,4-Dinitrotoluene (Surrogate)	25	50	125	250	375	500	1000	250
<b>Secondary Analytes</b>								
2,4-Diamino-6-nitrotoluene	50	100	250	500	750	1000	2000	500
2,6-Diamino-4-nitrotoluene	50	100	250	500	750	1000	2000	500
3,5-Dinitroaniline	50	100	250	500	750	1000	2000	500
TATB	50	100	250	500	750	1000	2000	500
tris(o-Cresyl)phosphate	50	100	250	500	750	1000	2000	500

All values are ug/L without the prep factor

Calibration Levels 8321A-Modified-EXPL.xls (08/09A)

Calibration Levels 8321A-Modified-EXPL.xls

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC      GEL Job No: 10-1262      Run Date: 25-JAN-10 31-JAN-10

Lab Code: GEL      Method: 8321A Modified      HPLC Column: Phenomenex Ultracarb 5 ODS(20)

LCMSMS Instrument ID: LCMSMS

Calibration Type: Average RF

Parname	1	2	3	4	5	6	Ave RF	RSD	Q
Calibration Level:	EXP0131003a	EXP0131004a	EXP0131005a	EXP0131006a	EXP0131007a	EXP0131008a			
Data File:									
1,3-Dinitrobenzene-d4	6.817	6.914	7.084	6.68	6.053	6.154	6.617	6.35	
2,4,6-Trinitrotoluene	.295	.339	.31	.306	.338	.353	0.324	7.032	
2,4-Dinitrotoluene	.218	.221	.235	.245	.266	.269	0.242	9.045	
2,6-Dinitrotoluene	1.128	1.167	1.048	1.099	1.099	1.104	1.108	3.534	
2,6-Dinitrotoluene-d3	38.769	38.103	38.437	36.61	34.533	31.673	36.354	7.635	
2-Amino-4,6-dinitrotoluene	.416	.381	.381	.395	.412	.445	0.405	6.043	
3,4-Dinitrotoluene	.957	.893	.877	.919	.979	.983	0.935	4.811	
4-Amino-2,6-dinitrotoluene	.23	.23	.276	.291	.298	.319	0.274	13.366	
HMX	3.605	3.476	3.373	3.479	3.76	3.523	3.536	3.761	
Nitrobenzene	.639	.744	.762	.798	.876	.803	0.770	10.21	
PETN	2.471	2.449	1.998	1.841	1.518	.307	1.764	19.85	
RDX	2.199	2.109	2.168	2.219	2.463	2.423	2.264	6.382	
Tetryl	.945	.774	.832	.817	.844	.751	0.827	8.193	
m-Dinitrobenzene	1.34	1.134	1.093	1.184	1.209	1.14	1.183	7.337	
m-Nitrotoluene	.108	.109	.091	.092	.09	.096	0.098	8.887	
o-Nitrotoluene	.143	.172	.146	.151	.152	.167	0.155	7.546	
p-Nitrotoluene	.089	.085	.076	.074	.074	.08	0.080	7.916	

Q column used to flag RSD values outside of Limit (>20%)

\* Values outside of QC Limit

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1262

Lab Code: GEL

Run Date: 25-JAN-10.31-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Linear

Calibration Level:	1	2	3	4	5	6	Slope	Intercept	COD	Q
Data File:	EXP0131003a	EXP0131004a	EXP0131005a	EXP0131006a	EXP0131007a	EXP0131008a				
Parname										
1,3,5-Trinitrobenzene	817.757	1447.53	4695.28	8548.34	16411.1	20141.8	3.277	24.282	.999	

Linear fit :  $Y=nx +b$   
where b is Intercept and m is slope

COD is Coefficient of Determination

Q column used to flag COD values outside of Limit (<0.990)

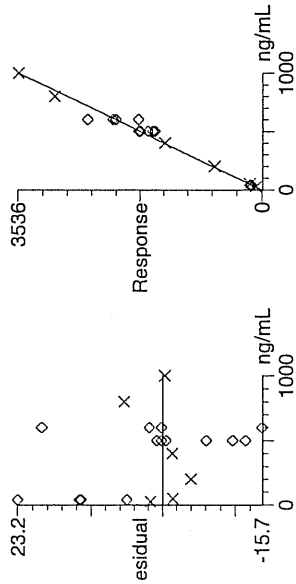
\* Values outside of QC Limit

uantify Calibration Report  
EL Laboratories, LLC / Analyst : Michael A. Penny

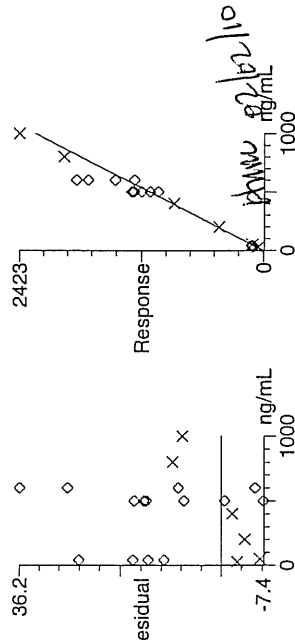
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ethod: C:\MASSLYNX\NEW\_EXP.PRO\MethDB\013110expa.mdb, Time: Mon Feb 01 10:41:50 2010  
alibration: Untitled, Time: Mon Feb 01 14:26:07 2010

ompound name: HMX  
esponse Factor: 3.53591  
RF SD: 0.132997, % Relative SD: 3.76133  
esponse type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
urve type: RF



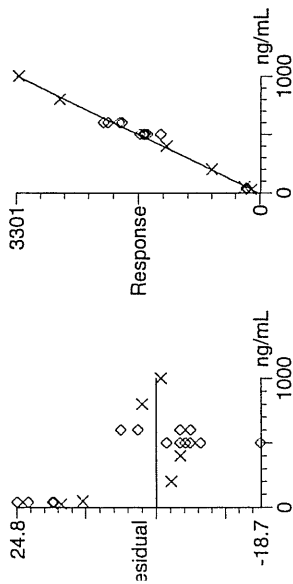
ompound name: RDX  
esponse Factor: 2.26349  
RF SD: 0.144453, % Relative SD: 6.38187  
esponse type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
urve type: RF



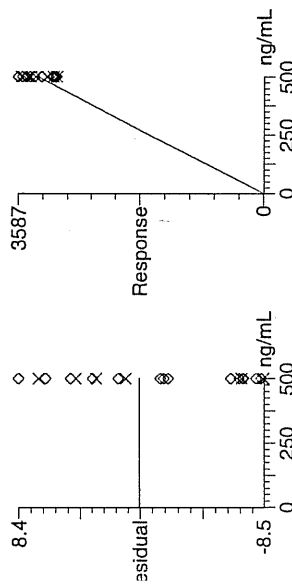


Dataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 135-Trinitrobenzene  
Correlation coefficient:  $r = 0.999487$ ,  $r^2 = 0.998974$   
Calibration curve:  $3.27689 \times 10^4 + 24.2817$   
Response type: Internal Std (Ref 4), Area \* (IS Conc. / IS Area)  
Curve type: Linear, Origin: Exclude, Weighting: Null, Axis trans: None

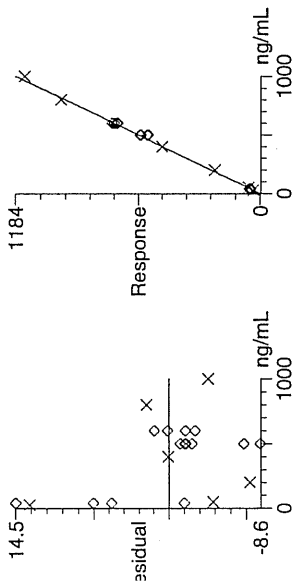


Compound name: 13-Dinitrobenzene-d4  
Response Factor: 6.61704  
RF SD: 0.420192, % Relative SD: 6.35015  
Response type: External Std, Area  
Curve type: RF

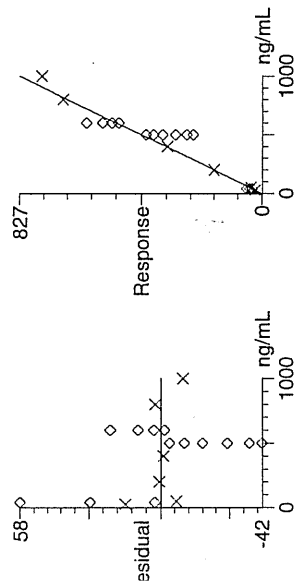


Dataset: C:\MASSLYNX\New\_Exp\PRO13110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 13-Dinitrobenzene  
Response Factor: 1.18353  
RF SD: 0.0868371, % Relative SD: 7.33714  
Response type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

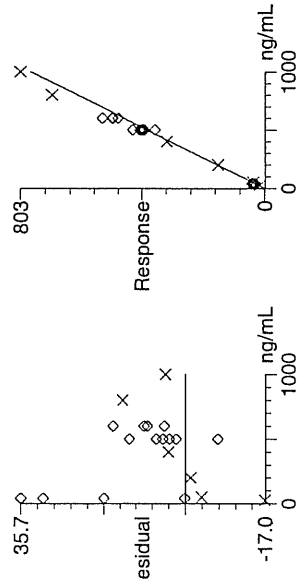


Compound name: Tetrahydrocannabinol  
Response Factor: 0.82703  
RF SD: 0.0677622, % Relative SD: 8.19344  
Response type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

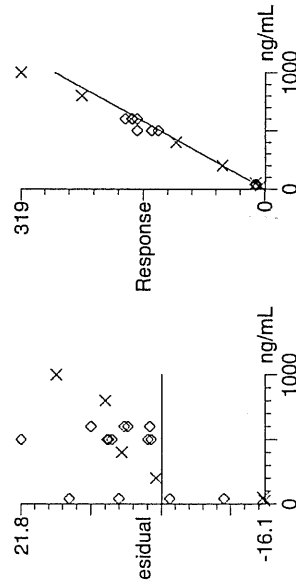


atasset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ompound name: Nitrobenzene  
esponse Factor: 0.770294  
RF SD: 0.0786442, % Relative SD: 10.2096  
esponse type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
urve type: RIF

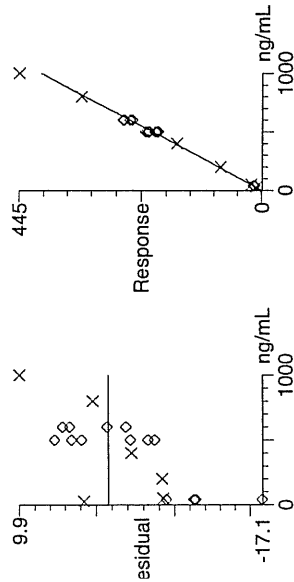


ompound name: 4-Amino-26-dinitrotoluene  
esponse Factor: 0.274065  
RF SD: 0.0366302, % Relative SD: 13.3655  
esponse type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
urve type: RIF

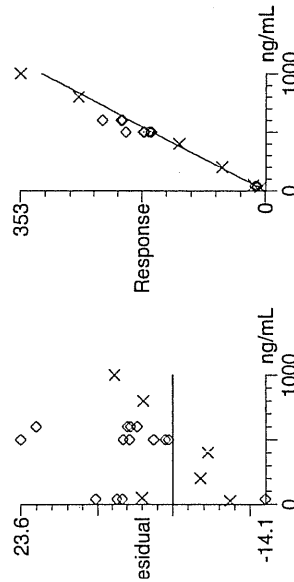


ataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ompound name: 2-Amino-46-dinitrotoluene  
sponse Factor: 0.404725  
RF SD: 0.0244566, % Relative SD: 6.04278  
sponse type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
urve type: RF

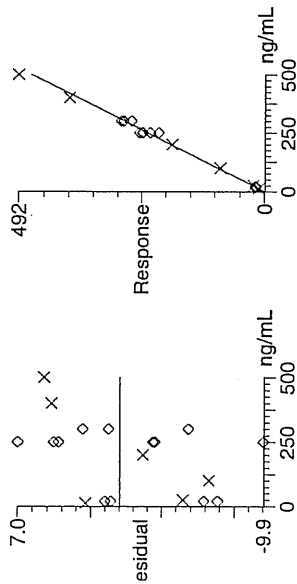


ompound name: 246-Trinitrotoluene  
sponse Factor: 0.323375  
RF SD: 0.022739, % Relative SD: 7.03176  
sponse type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
urve type: RF

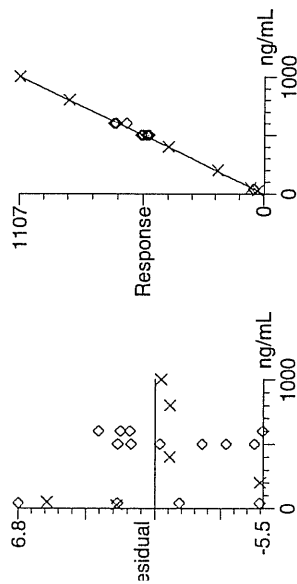


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Compound name: 34-dinitrotoluene  
Response Factor: 0.934589  
RF SD: 0.0449669, % Relative SD: 4.8114  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

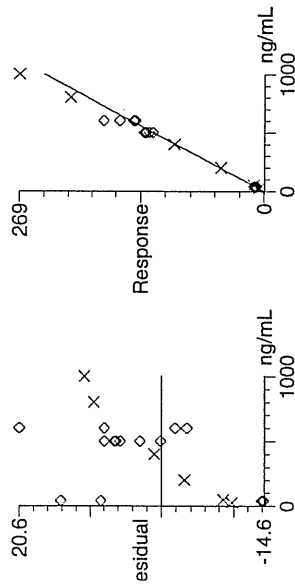


Compound name: 26-dinitrotoluene  
Response Factor: 1.10747  
RF SD: 0.0391335, % Relative SD: 3.53361  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

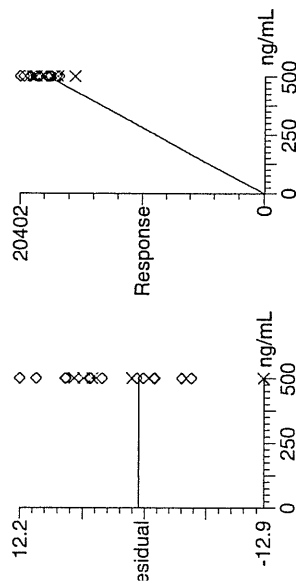


ataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 24-dinitrotoluene  
Response Factor: 0.242324  
RF SD: 0.0219184, % Relative SD: 9.0451  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

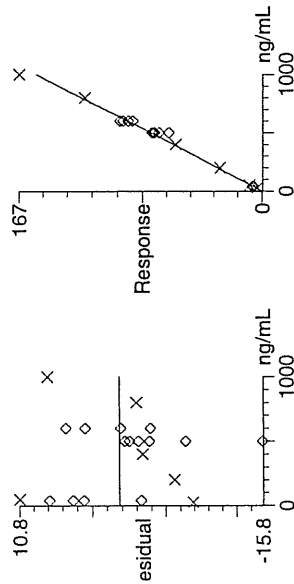


Compound name: 26-dinitrotoluene-d3  
Response Factor: 36.3543  
RF SD: 2.7758, % Relative SD: 7.6354  
Response type: External Std, Area  
Curve type: RF

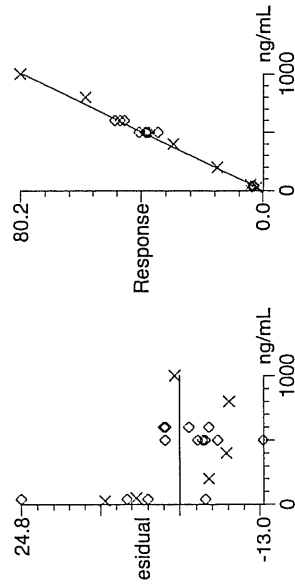


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Compound name: 2-Nitrotoluene  
Response Factor: 0.155239  
RF SD: 0.0117139, % Relative SD: 7.54574  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

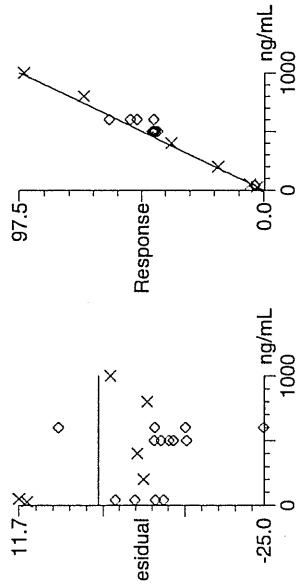


Compound name: 4-Nitrotoluene  
Response Factor: 0.0795663  
RF SD: 0.00629818, % Relative SD: 7.91564  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

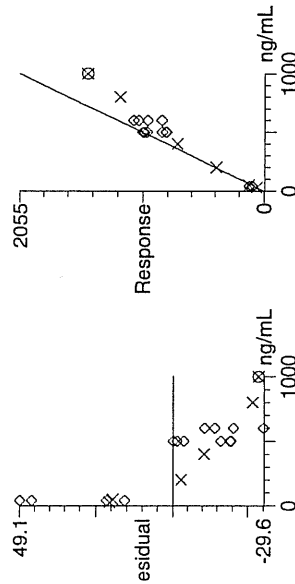


atset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 3-Nitrotoluene  
Response Factor: 0.0975163  
RF SD: 0.00866625, % Relative SD: 8.88697  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF



Compound name: PETN  
Response Factor: 2.05549  
RF SD: 0.408005, % Relative SD: 19.8495  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF





Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0131010a

Analysis Date: 31-JAN-10 17:01

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	574.951	96	
1,3-Dinitrobenzene-d4	500	507.449	101	
2,4,6-Trinitrotoluene	600	632.569	105	
2,4-Dinitrotoluene	600	723.495	121	*
2,6-Dinitrotoluene	600	610.251	102	
2,6-Dinitrotoluene-d3	500	500.938	100	
2-Amino-4,6-dinitrotoluene	600	600.809	100	
3,4-Dinitrotoluene	300	307.705	103	
4-Amino-2,6-dinitrotoluene	600	631.208	105	
HMX	600	601.092	100	
Nitrobenzene	600	653.475	109	
PETN	600	480.333	80	
RDX	600	646.666	108	
Tetryl	600	616.556	103	
m-Dinitrobenzene	600	608.411	101	
m-Nitrotoluene	600	635.669	106	
o-Nitrotoluene	600	633.972	106	
p-Nitrotoluene	600	613.107	102	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Identify Sample Report  
EL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

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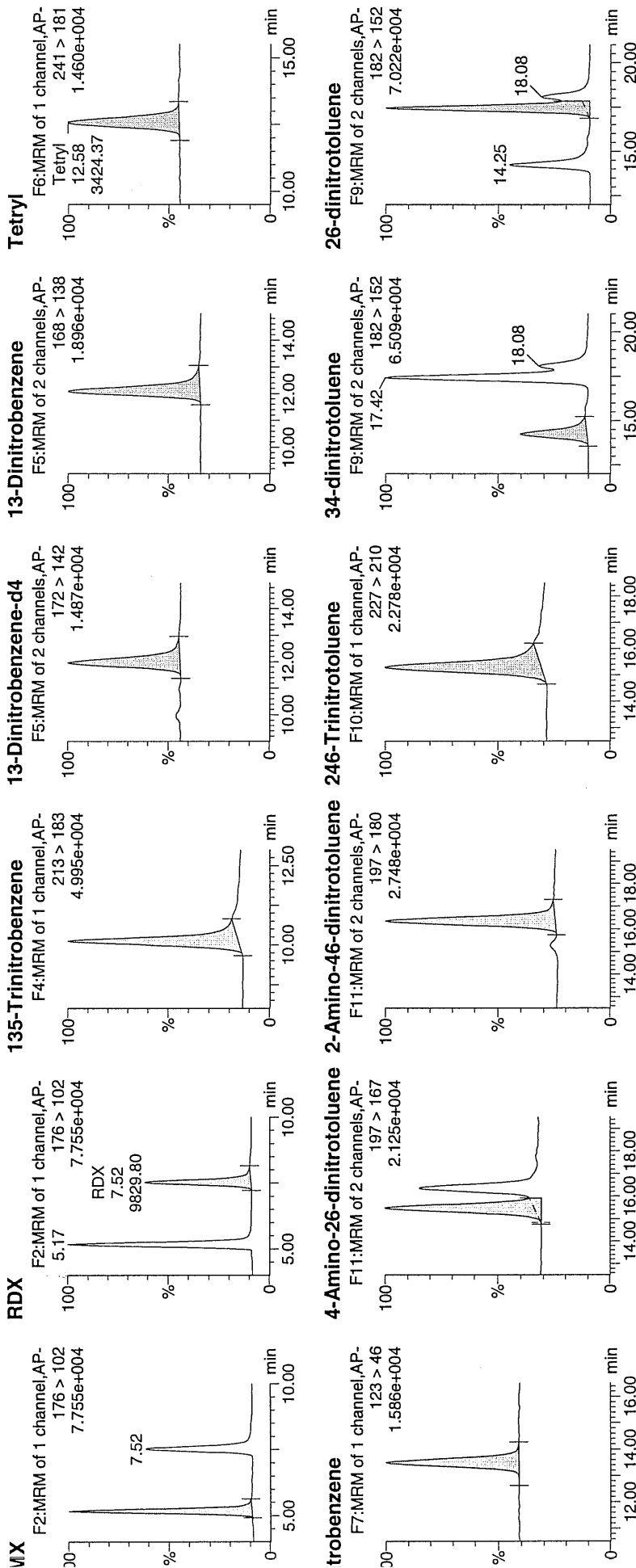
Date: 31-Jan-2010

Time: 17:01:32

File: WXX100131-07ICV

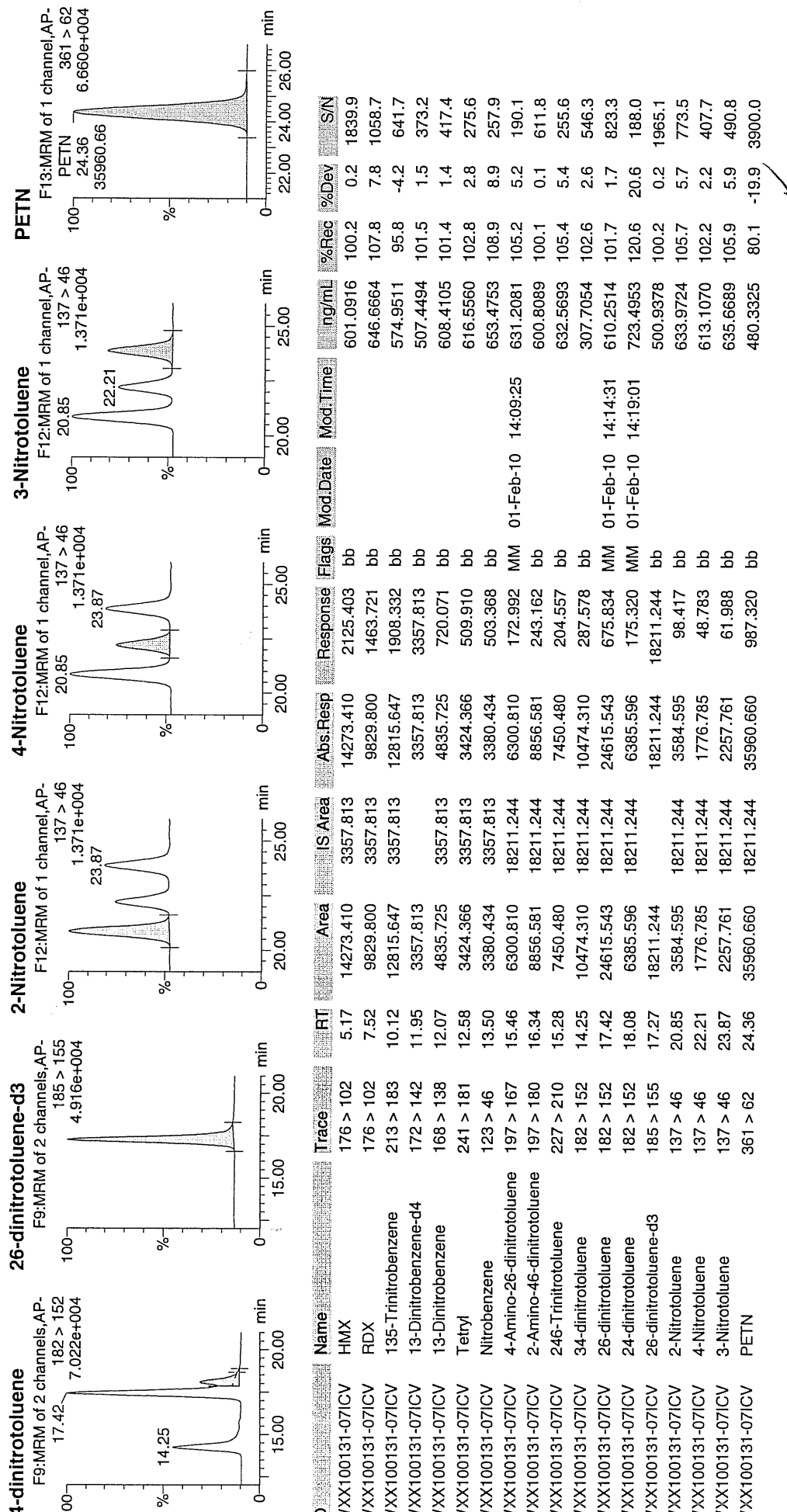
Alt: 1:1,B

2/1/10



Handwritten note: 2/1/10

atset: C:\MASSLYNX\New\_Exp\PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



GRAND MEAN AVERAGE

Vendor: Restek  
 Date of Analysis: 01/31/10  
 Time of Injection: 1701  
 Standard Number: WXX100131-07ICV  
 Data File: EXP0131010a

HMX	100.2
RDX	107.8
135-TNB	95.8
13-DNB	101.4
Tetryl	102.8
Nitrobenzene	108.9
4A-26-DNT	105.2
2A-46-DNT	100.1
246-TNT	105.4
34-DNT(surr)	102.6
26-DNT	101.7
24-DNT	120.6
2-NT	105.7
4-NT	102.2
3-NT	105.9
PETN	80.1

*Handwritten:*  
 2/1/10

Total 1646.4

Average 102.9

*Handwritten:* 100 or 102

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC  
Lab Code: GEL  
LCMSMS Instrument ID: LCMSMS4  
Calibration Type: 2nd Order

GEL Job No: 10-1262  
Run Date: 25-JAN-10.31-JAN-10  
HPLC Column: YMC J-Sphere ODS-H8Q

Method: 8321A Modified

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS01250003.wif	EXS01250004.wif	EXS01250005.wif	EXS01250006.wif	EXS01250007.wif	EXS01250008.wif	EXS01250009.wif					
Parname:												
2,4-Diamino-6-nitrotoluene	124000	243000	556000	1130000	1930000	2390000	4860000	-20500	2450	-.006	.9993	
2,6-Diamino-4-nitrotoluene	196000	379000	859000	1770000	2910000	3810000	7350000	-50100	3930	-.114	.9996	
3,4-Dinitrotoluene	318000	666000	1460000	3270000	4740000	5910000	10800000	-61500	14400	-3.5	.9975	
3,5-Dinitroaniline	504000	1060000	2200000	4760000	6820000	8600000	14400000	-27700	10200	-1.48	.9998	
TATB	71000	141000	345000	692000	1070000	1350000	2660000	-94.4	1410	-.043	.9998	
tris(o-cresyl) phosphate	456000	2410000	5510000	10100000	15300000	19000000	29700000	-337000	23800	-4.41	.9996	

Quadratic Fit:  $y = Ax^2 + Bx + C$   
where  $X^2$  column above is coefficient A  
 $X$  column above is coefficient B  
intercept is C

COD is Coefficient of Determination

Q column used to flag COD outside of Limit (<0.990)

\* Values outside of QC Limit

012510ICAL

Peak Name: TATB  
No Internal Standard  
Q1/Q3 Masses: 257.20/204.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-94.4			
a1	1.41e+003			
a2	-0.043			
Correlation coefficient 0.9998				
Use Area				

Peak Name: 35-Dinitroaniline  
No Internal Standard  
Q1/Q3 Masses: 182.00/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-2.77e+004			
a1	1.02e+004			
a2	-1.48			
Correlation coefficient 0.9998				
Use Area				

Peak Name: 34-Dinitrotoluene  
No Internal Standard  
Q1/Q3 Masses: 182.08/151.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-6.15e+004			
a1	1.44e+004			
a2	-3.5			
Correlation coefficient 0.9975				
Use Area				

Peak Name: 26-Diamino-4-nitrotoluene  
No Internal Standard  
Q1/Q3 Masses: 165.97/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-5.01e+004			
a1	3.93e+003			
a2	-0.114			
Correlation coefficient 0.9996				
Use Area				

*See*  
1/27/10

*Amw* 1/27/10

012510ICAL

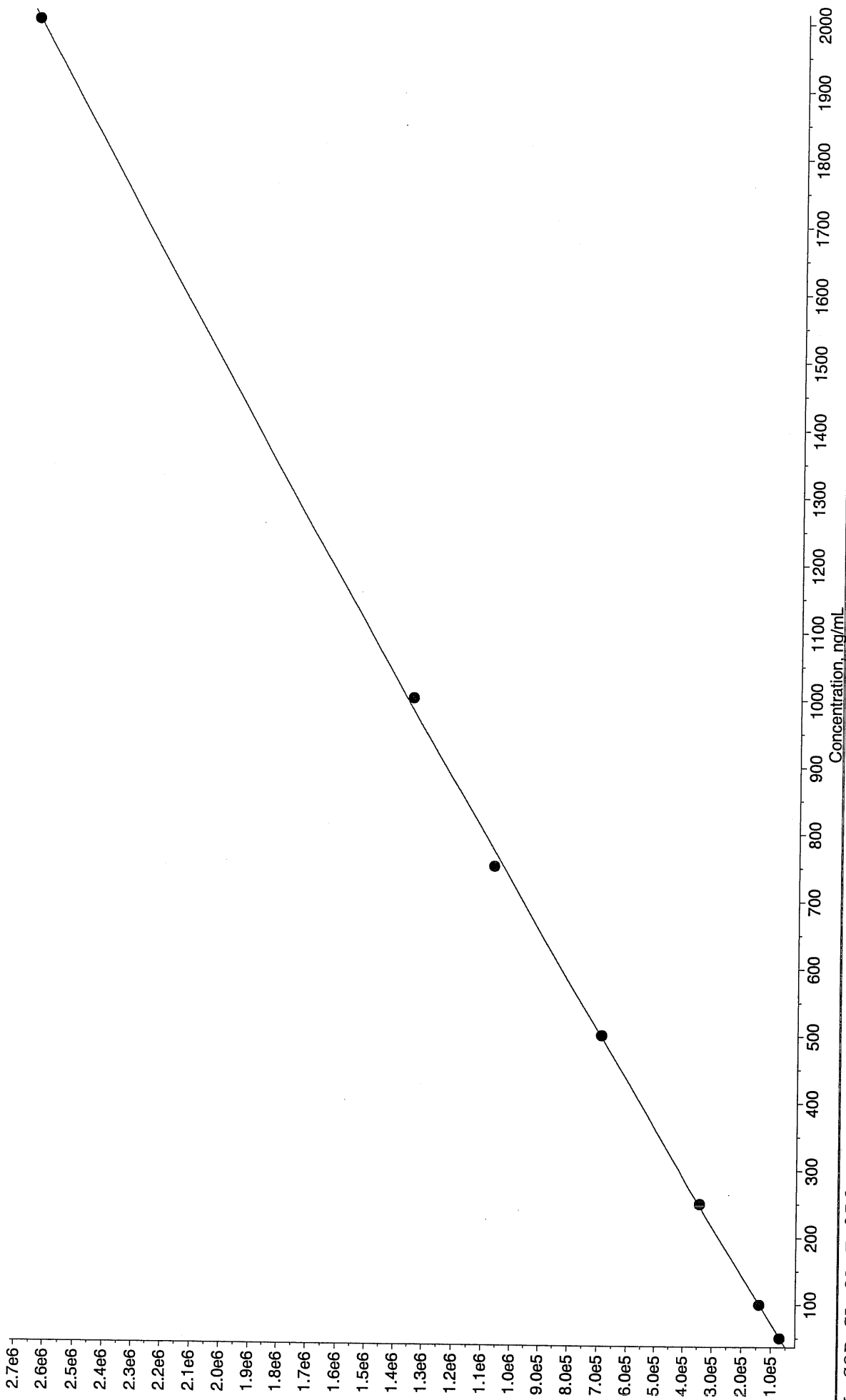
Peak Name: 24-Diamino-6-nitrotoluene  
No Internal Standard  
Q1/Q3 Masses: 165.97/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-2.05e+004			
a1	2.45e+003			
a2	-0.00578			
Correlation coefficient 0.9993				
Use Area				

Peak Name: tris(o-cresyl) phosphate  
No Internal Standard  
Q1/Q3 Masses: 369.15/91.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-3.37e+005			
a1	2.38e+004			
a2	-4.41			
Correlation coefficient 0.9996				
Use Area				

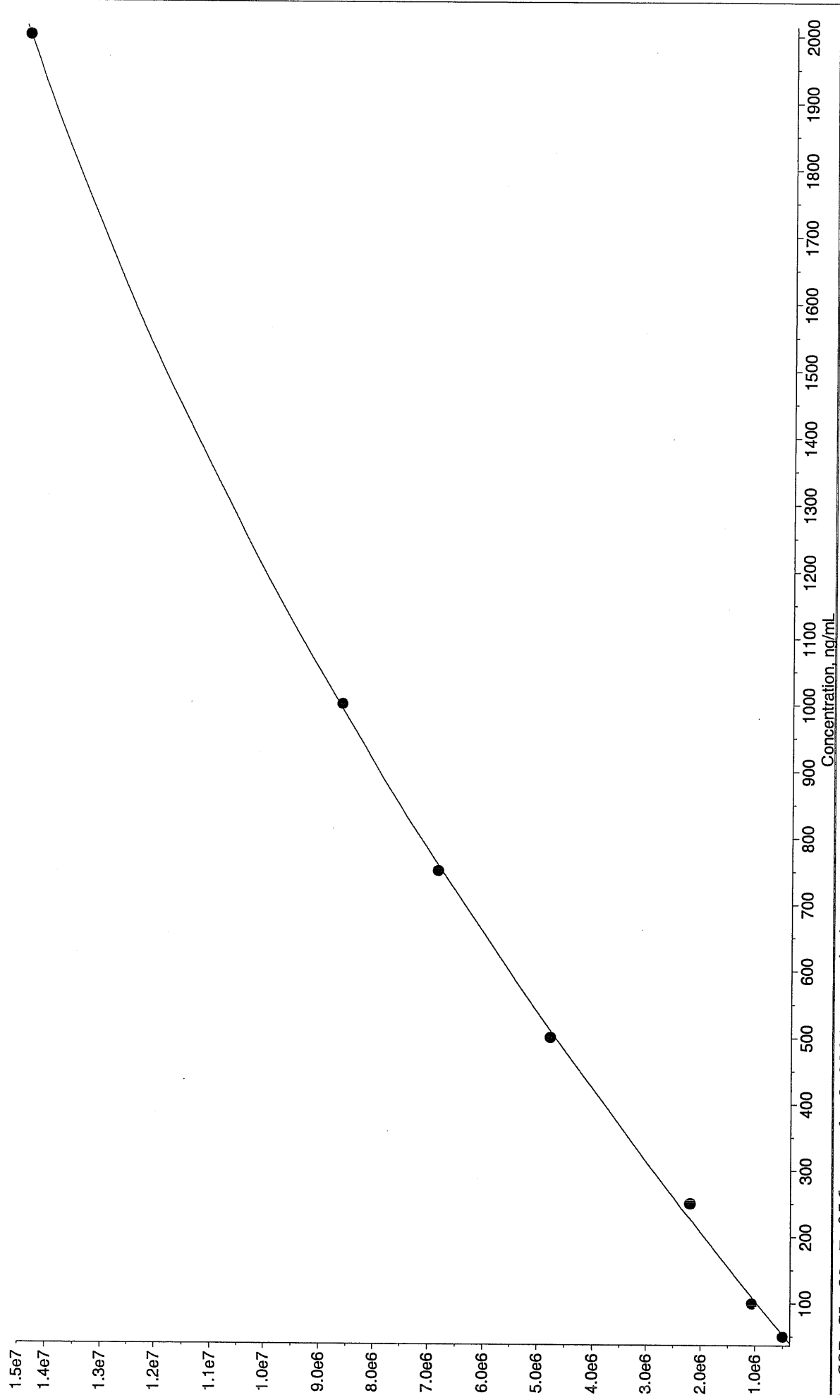
012510.rdb (TATB): "Quadratic" Regression ("No" weighting):  $y = -0.043 x^2 + 1.41e+003 x + -94.4$  ( $r = 0.9998$ )



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

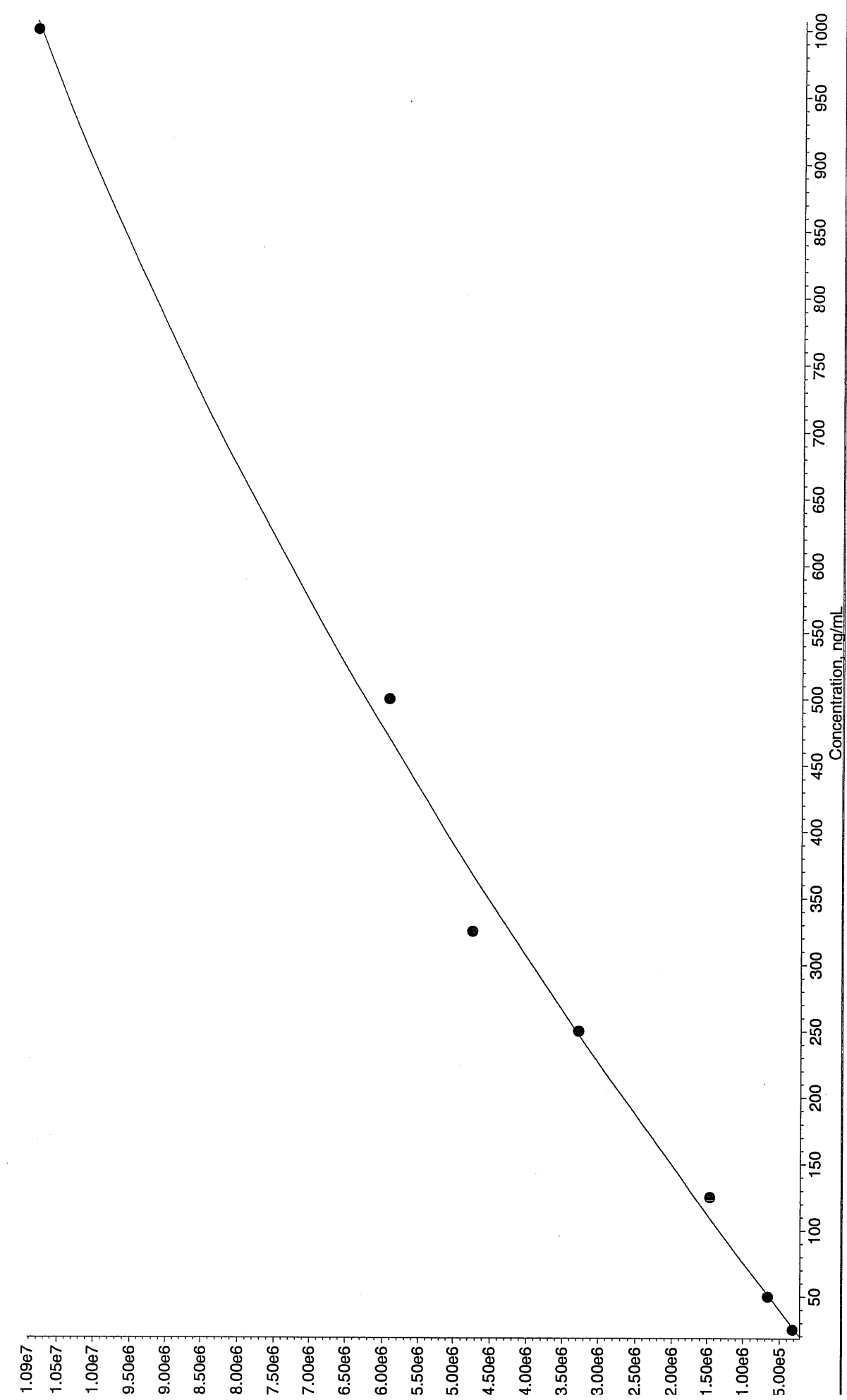


012510.rdb (35-Dinitroaniline): "Quadratic" Regression ("No" weighting):  $y = -1.48 x^2 + 1.02e+004 x + -2.77e+004$  ( $r = 0.9998$ )

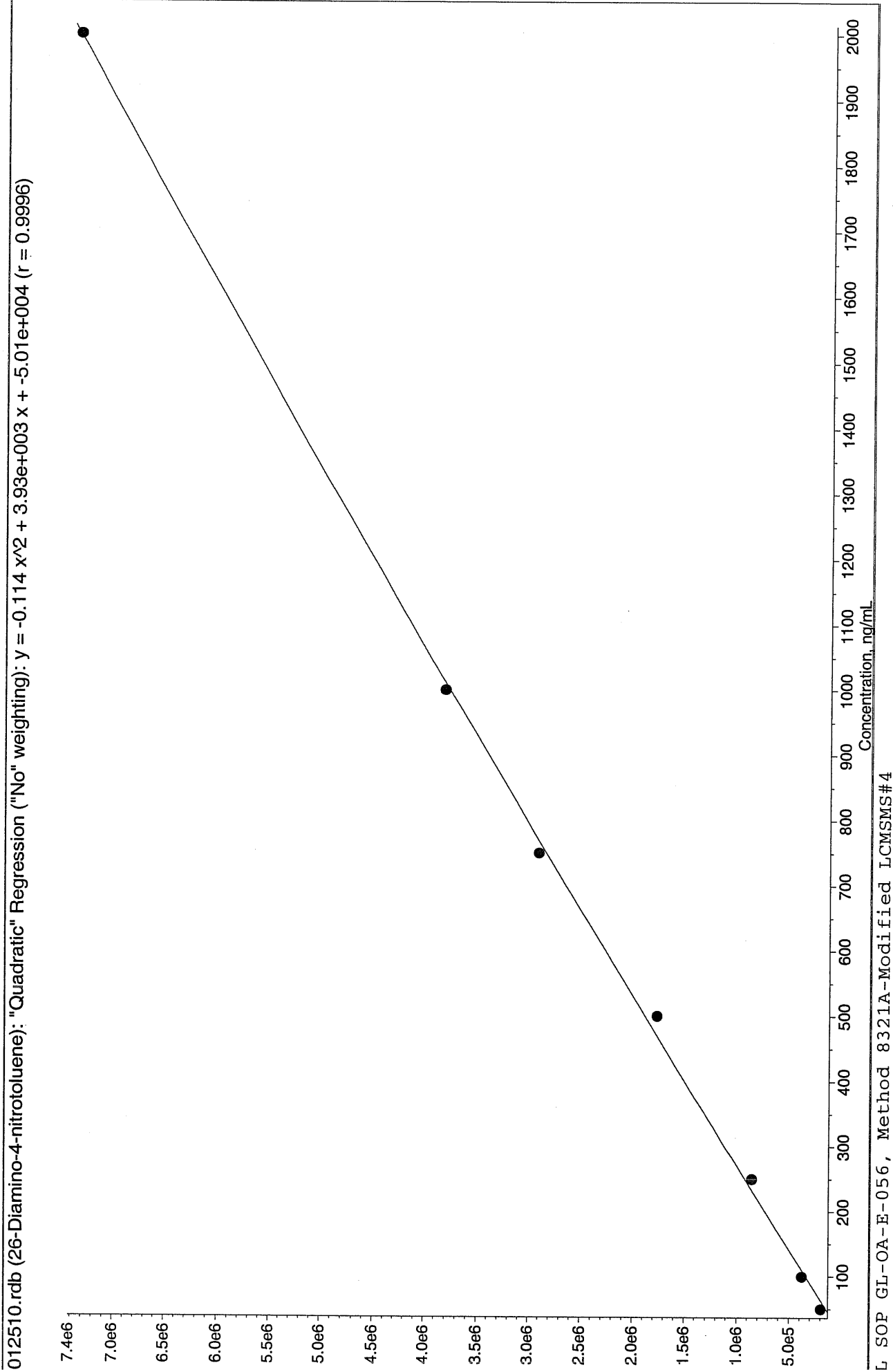


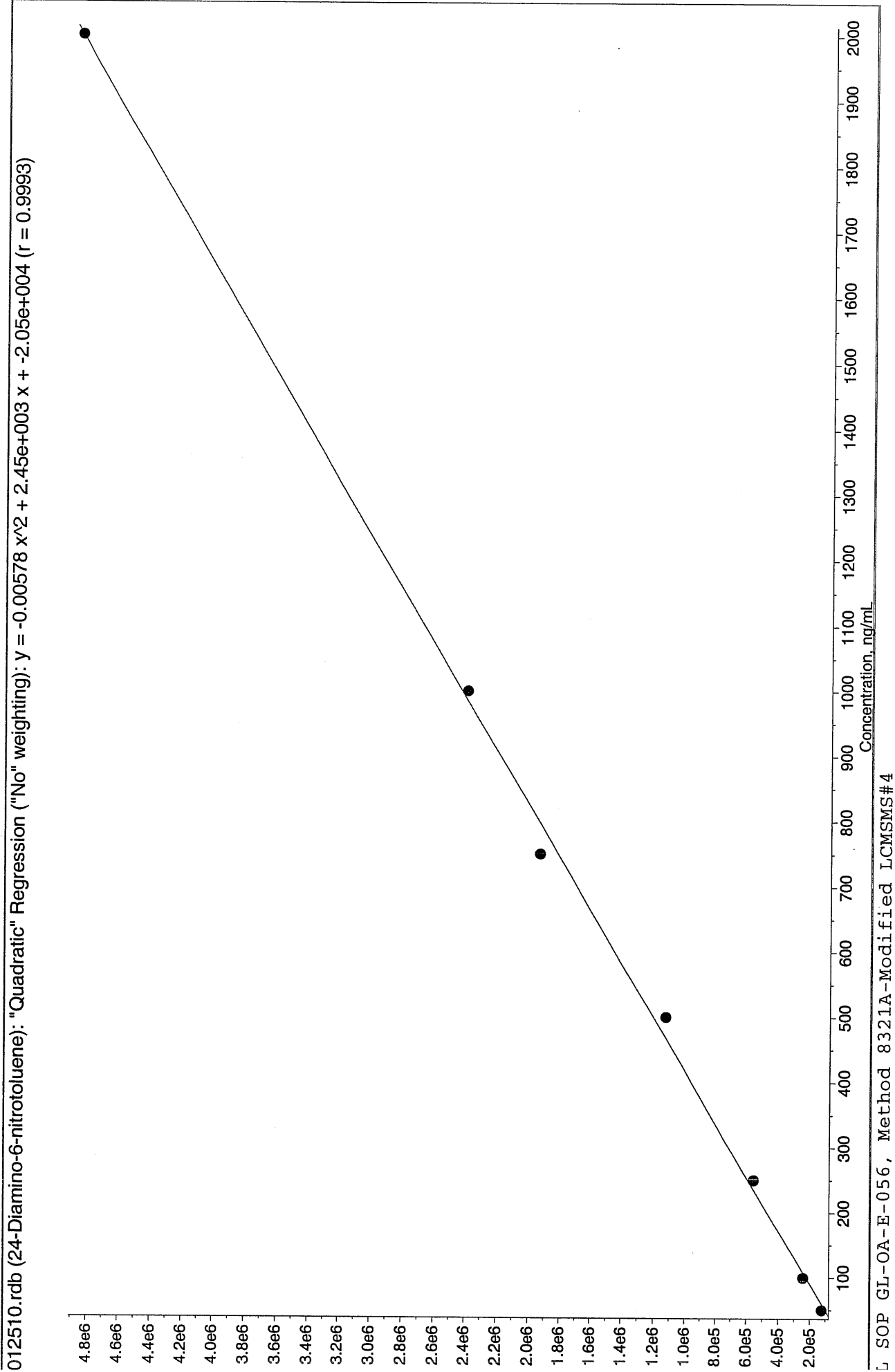
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

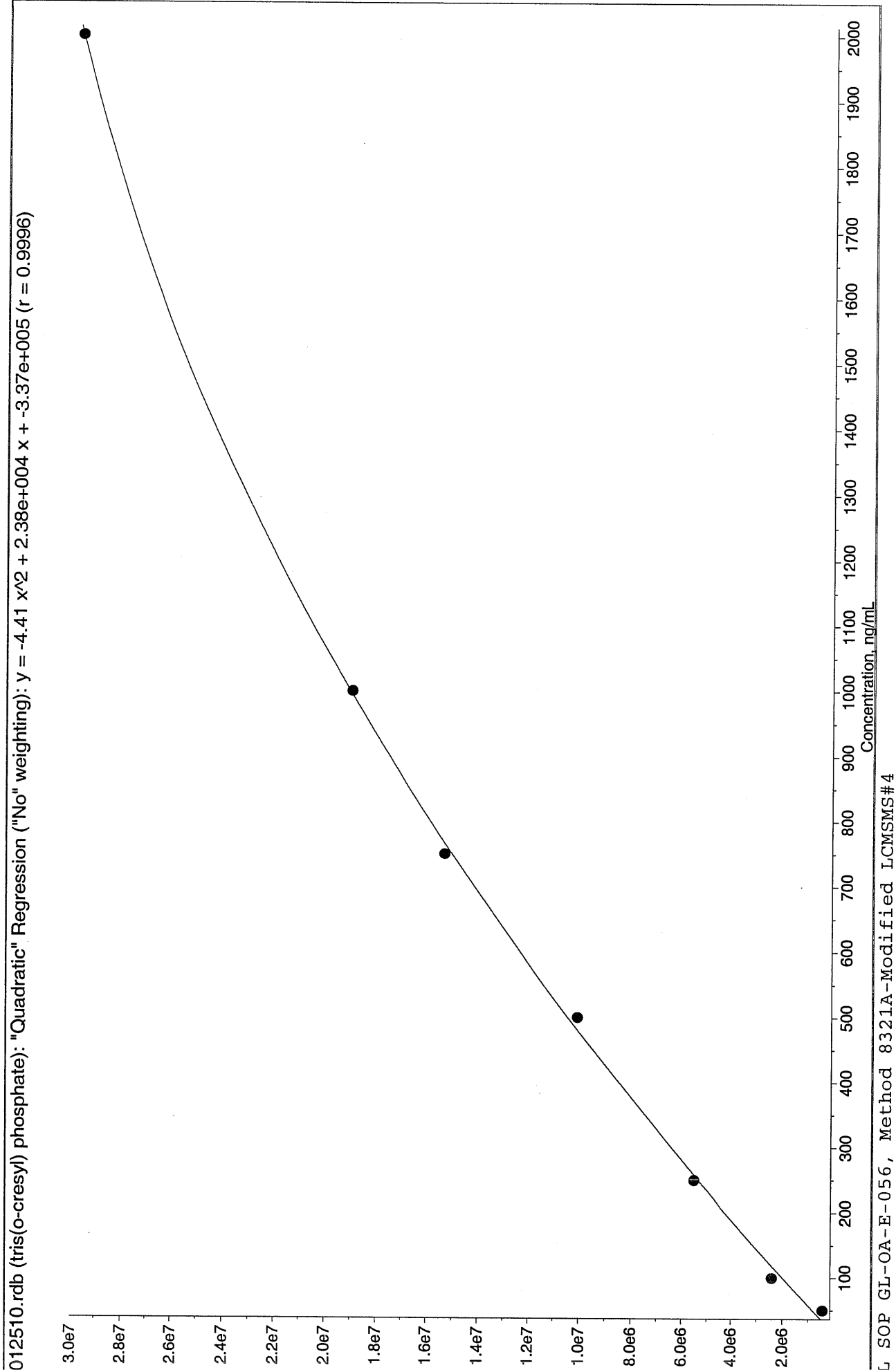
012510.rdb (34-Dinitrotoluene): "Quadratic" Regression ("No" weighting):  $y = -3.5 x^2 + 1.44e+004 x + -6.15e+004$  ( $r = 0.9975$ )



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4







# Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS01250011.wiff

Analysis Date: 25-JAN-10 13:09

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	486	97	
2,6-Diamino-4-nitrotoluene	500	478	96	
3,4-Dinitrotoluene	250	228	91	
3,5-Dinitroaniline	500	485	97	
TATB	500	478	96	
tris(o-cresyl) phosphate	500	509	102	

## Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

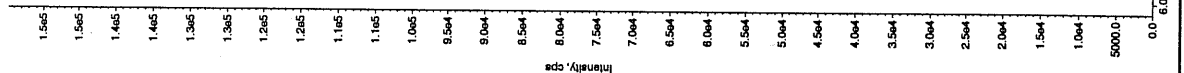
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before Jan 13/7/10

Sample Name: "WXX100125-26(CV)" Sample ID: "J1LER" File: "EXS01250011.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.0460 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 538. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 1:09:52 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IOA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.16 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.16 min  
 Area: 5.01e+006 counts  
 Height: 1089891.846 cps  
 Start Time: 8.05 min  
 End Time: 8.73 min



Sample Name: "WXX100125-26(CV)" Sample ID: "J1LER" File: "EXS01250011.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.0460 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 538. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 1:09:52 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IOA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.16 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.16 min  
 Area: 5.01e+006 counts  
 Height: 1089891.846 cps  
 Start Time: 8.05 min  
 End Time: 8.73 min

Intensity, cps

Time, min

L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

8.16

8.31

8.0

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8.2

8.3

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8.5

8.6

8.7

8.8

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9.0

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9.9

10.0

10.1

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10.3

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10.7

10.8

10.9

11.0

11.1

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12.0

12.1

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14.0

14.1

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18.0

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19.0

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20.0

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21.0

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22.0

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32.0

32.1

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32.9

33.0

33.1

33.2

33.3

33.4

33.5

33.6

33.7

33.8

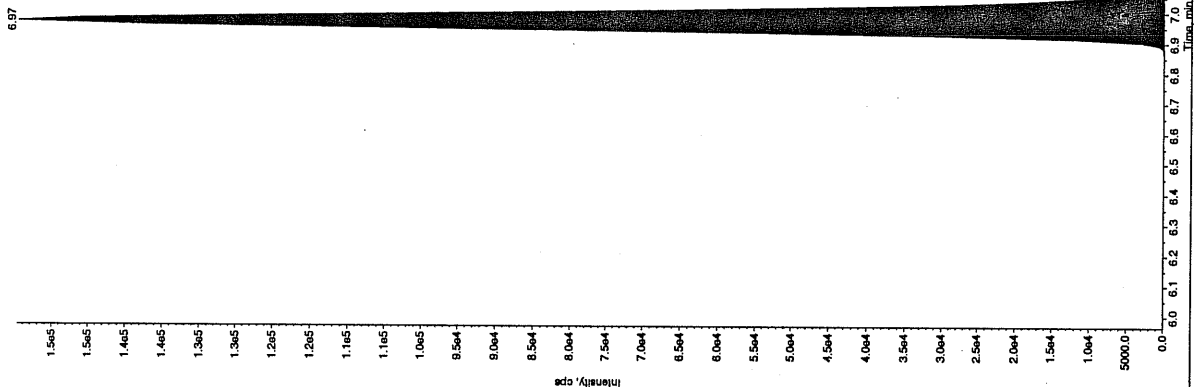
33.9

34.0

after Jan 11/27/10

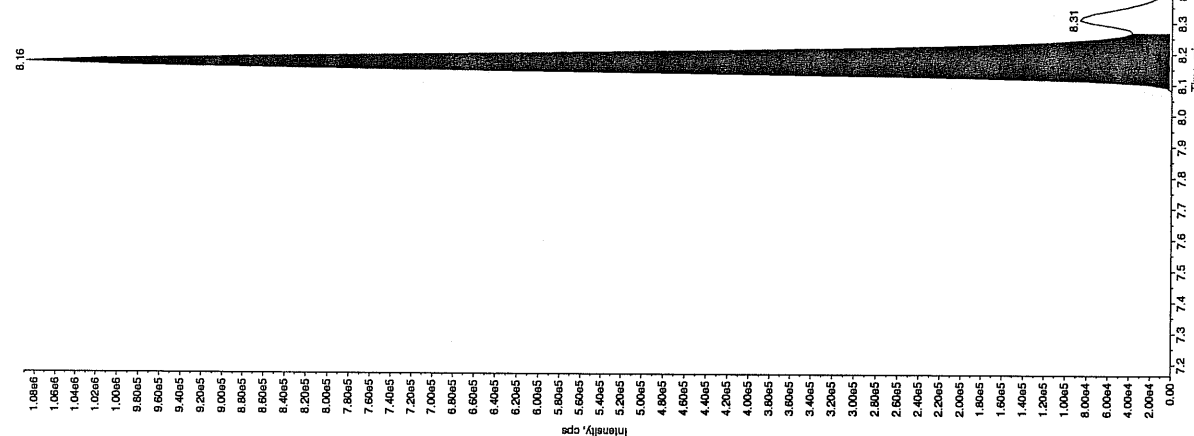
File: "EXS01250011.wif"  
 Sample Name: "WXX100125-26(CV)"  
 Peak Name: "35-Dinitroaniline" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 485. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 1:09:52 PM  
 Modified: Yes  
 RT Window: 15.0 sec  
 Expected RT: 8.16 min  
 Use Relative RT: No  
 Int. Type: Manual  
 Retention Time: 8.17 min  
 Area: 4.55e+006 counts  
 Height: 1088114.981 cps  
 Start Time: 8.09 min  
 End Time: 8.27 min

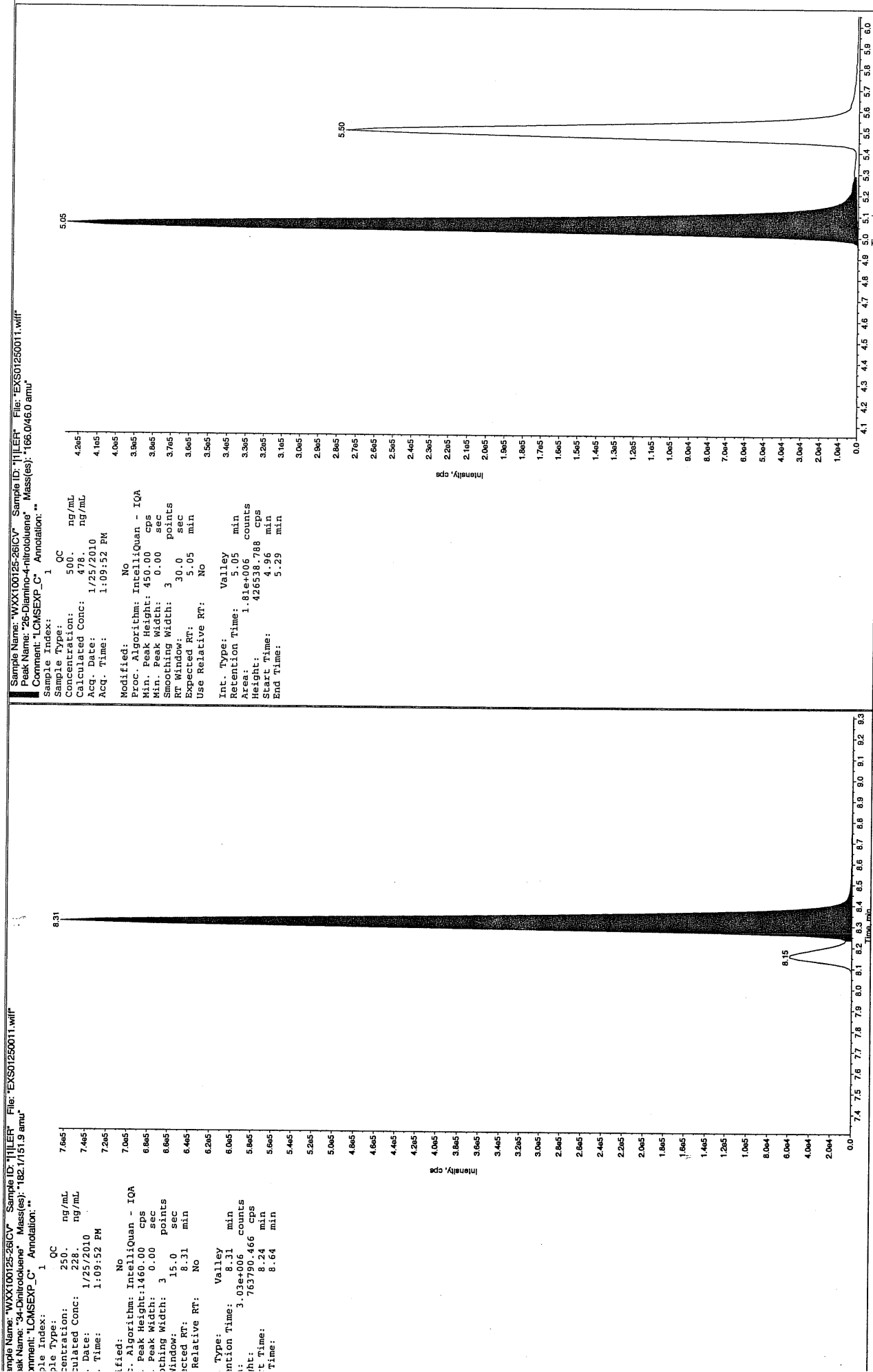


File: "EXS01250011.wif"  
 Sample Name: "WXX100125-26(CV)"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 485. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 1:09:52 PM  
 Modified: Yes  
 RT Window: 15.0 sec  
 Expected RT: 8.16 min  
 Use Relative RT: No  
 Int. Type: Manual  
 Retention Time: 8.17 min  
 Area: 4.55e+006 counts  
 Height: 1088114.981 cps  
 Start Time: 8.09 min  
 End Time: 8.27 min



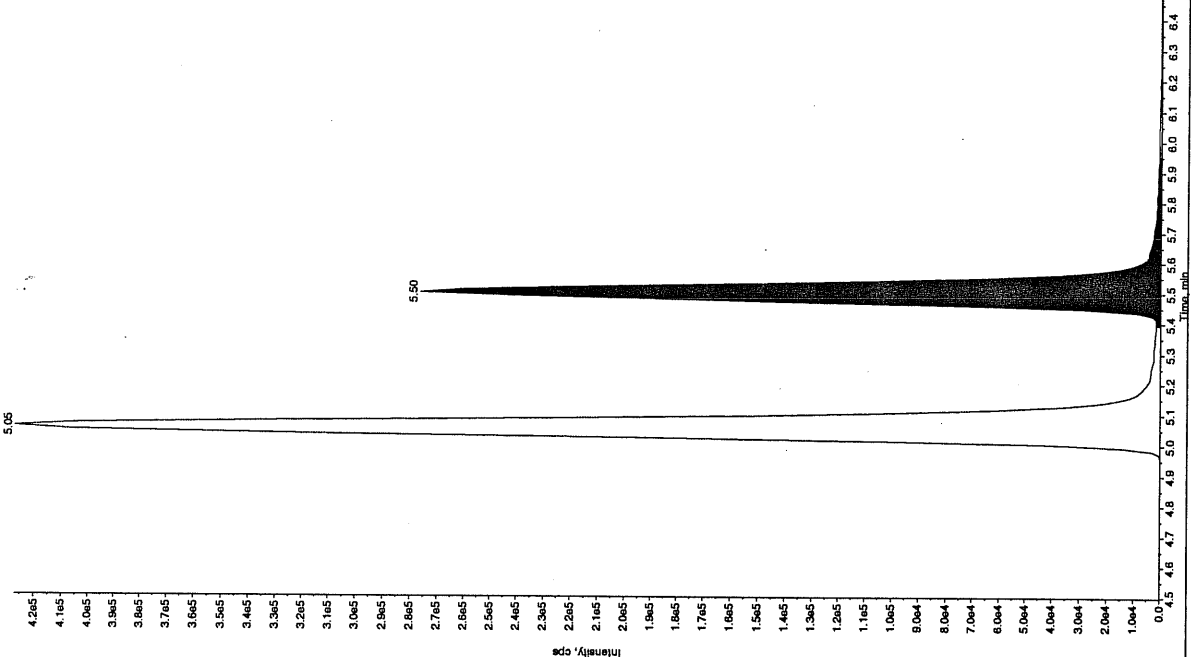




L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100125-26(CV" Sample ID: "J1LEF" File: "EXS01250011.wiff"  
 k Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046,0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index:	1	QC	
Sample Type:			
Concentration:	500	ng/mL	2.6e6
Calculated Conc:	509	ng/mL	2.7e6
Acq. Date:	1/25/2010		2.6e6
Acq. Time:	1:09:52 PM		2.6e6
Modified:	No		2.6e6
Proc. Algorithm:	IntelliQuan	- IQA	2.6e6
Min. Peak Height:	1.00e4	cps	2.6e6
Min. Peak Width:	0.00	sec	2.6e6
Smoothing Width:	3	points	2.6e6
RT Window:	30.0	sec	2.6e6
Expected RT:	10.8	min	2.6e6
Use Relative RT:	No		2.6e6
Int. Time:	Valley		2.6e6
Retention Time:	10.8	min	2.6e6
Area:	1.06e+007	counts	2.6e6
Height:	27467226.563	cps	2.6e6
Start Time:	10.7	min	2.6e6
End Time:	11.1	min	2.6e6



7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0131012a

Analysis Date: 31-JAN-10 18:00

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	49.91	125	
1,3-Dinitrobenzene-d4	500	464.651	93	
2,4,6-Trinitrotoluene	40	34.349	86	
2,4-Dinitrotoluene	40	34.169	85	
2,6-Dinitrotoluene	40	40.741	102	
2,6-Dinitrotoluene-d3	500	491.472	98	
2-Amino-4,6-dinitrotoluene	40	33.169	83	
3,4-Dinitrotoluene	20	18.64	93	
4-Amino-2,6-dinitrotoluene	40	36.063	90	
HMX	40	49.27	123	
Nitrobenzene	40	54.27	136	*
PETN	40	48.438	121	
RDX	40	46.365	116	
Tetryl	40	51.492	129	
m-Dinitrobenzene	40	42.934	107	
m-Nitrotoluene	40	36.494	91	
o-Nitrotoluene	40	42.977	107	
p-Nitrotoluene	40	42.008	105	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

uantify Sample Report  
EL Laboratories, LLC / Analyst : Michael A. Penny

at aset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ame: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131012a

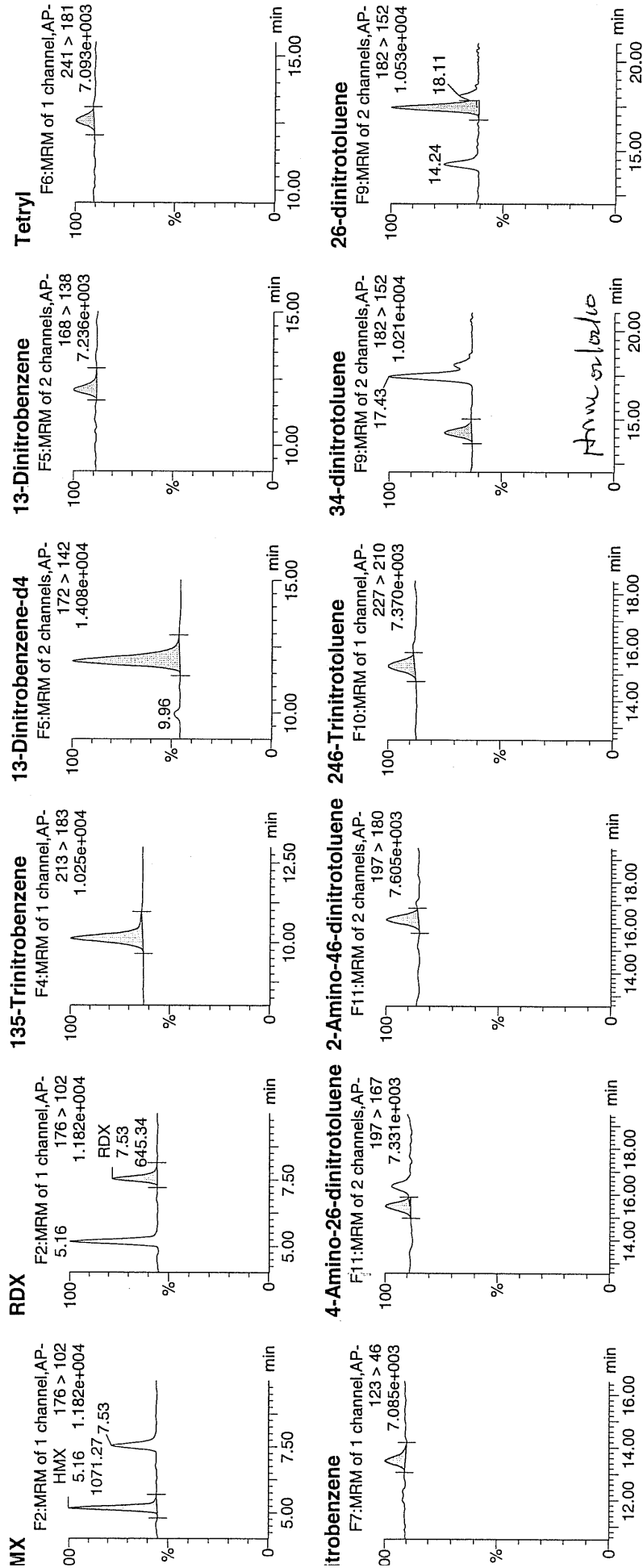
ate: 31-Jan-2010

me: 18:00:29

i: WXX100131-08CRI

al: 1:1,C

WXX  
2/1/10

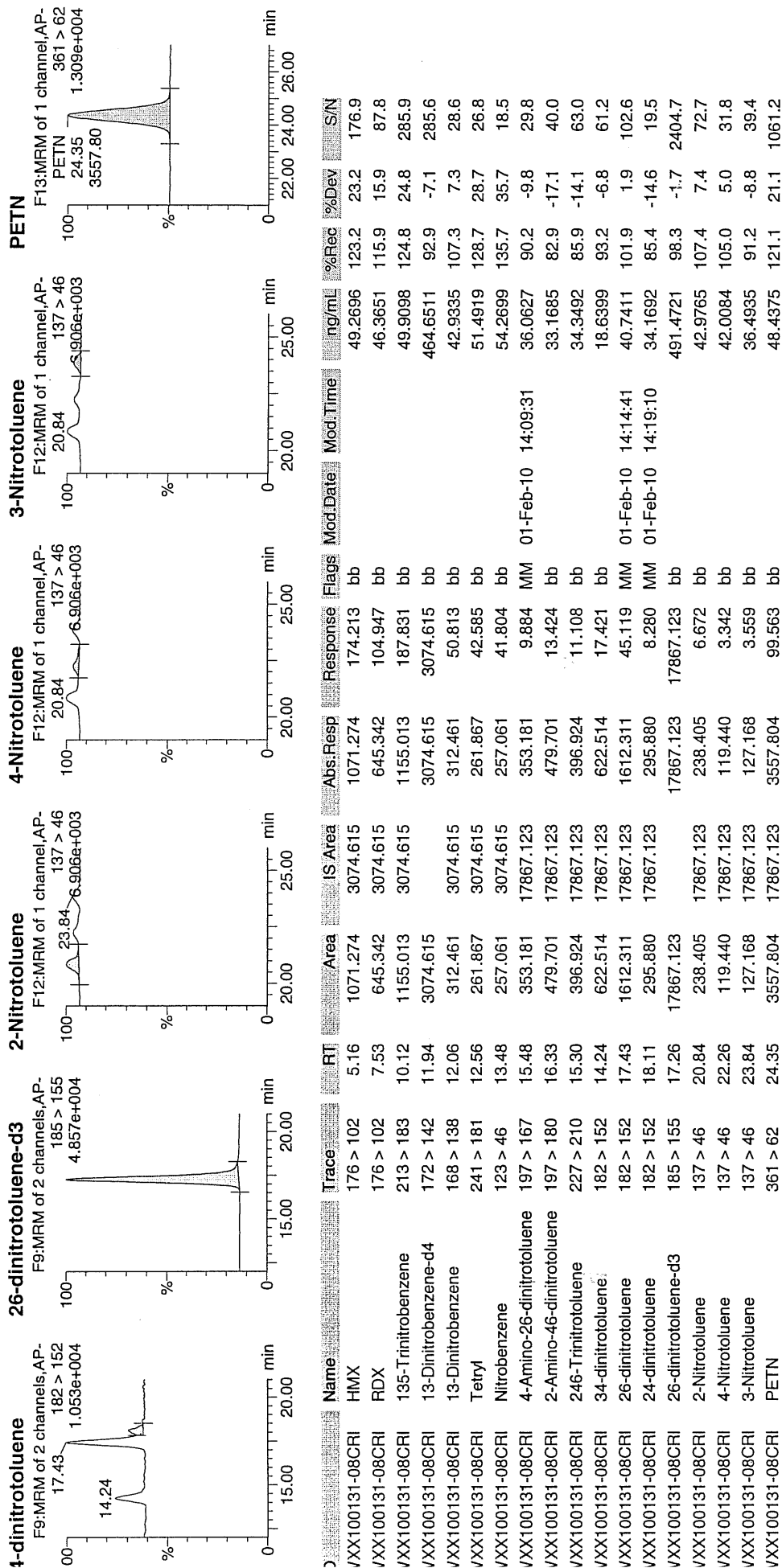


uantify Sample Report

EL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Mon Feb 01 14:31:20 2010, Page 24 of 103

atset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific  
 Date of Analysis 01/31/10  
 Time of Injection 1800  
 Standard Number WXX100131-08CRI  
 Data File EXP0131012a

HMX	123.2	✓
RDX	115.9	✓
135-TNB	124.8	✓
13-DNB	107.3	
Tetryl	128.7	
Nitrobenzene	135.7	
4A-26-DNT	90.2	
2A-46-DNT	82.9	
246-TNT	85.9	
34-DNT(surr)	93.2	
26-DNT	101.9	
24-DNT	85.4	
2-NT	107.4	
4-NT	105.0	
3-NT	91.2	
PETN	121.1	

*MTT  
2/1/10*

Total 1699.8

Average 106.2 ✓

*Hand 02/02/10*

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0131023a

Analysis Date: 31-JAN-10 23:24

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	637.282	106	
1,3-Dinitrobenzene-d4	500	464.266	93	
2,4,6-Trinitrotoluene	600	638.785	106	
2,4-Dinitrotoluene	600	588.5	98	
2,6-Dinitrotoluene	600	607.361	101	
2,6-Dinitrotoluene-d3	500	497.466	99	
2-Amino-4,6-dinitrotoluene	600	588.786	98	
3,4-Dinitrotoluene	300	285.637	95	
4-Amino-2,6-dinitrotoluene	600	610.979	102	
HMX	600	612.887	102	
Nitrobenzene	600	627.147	105	
PETN	600	516.513	86	
RDX	600	764.781	127	*
Tetryl	600	654.376	109	
m-Dinitrobenzene	600	600.713	100	
m-Nitrotoluene	600	547.947	91	
o-Nitrotoluene	600	598.923	100	
p-Nitrotoluene	600	615.302	103	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

uantify Sample Report  
EL Laboratories, LLC / Analyst: Michael A. Penny

ataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ame: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131023a

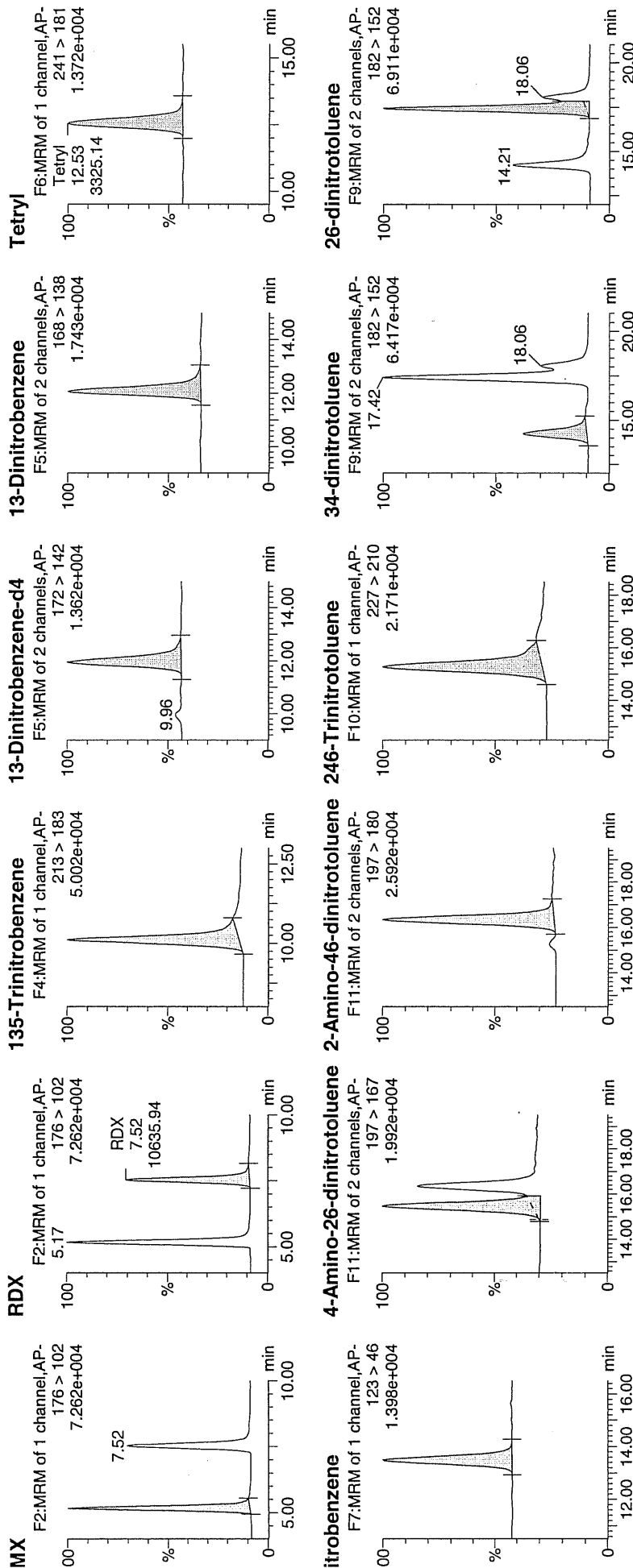
ate: 31-Jan-2010

me: 23:24:50

i: WXX100131-07CCV

ial: 1:1,B

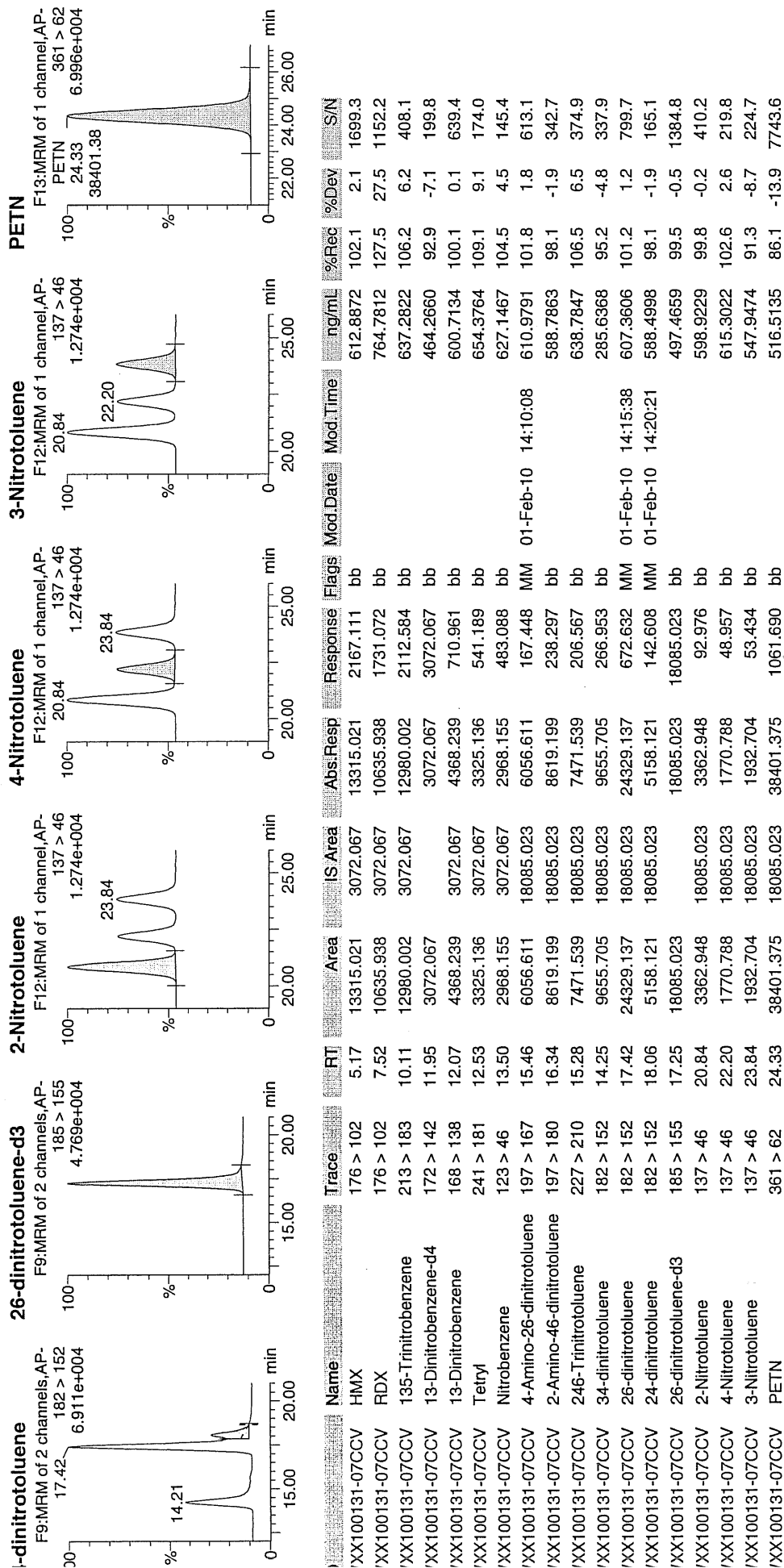
WXX  
2/1/10



Hum or 10/10



Dataset: C:\MASSLYNX\New\_Exp\PRO013110expA.qld, Time: Mon Feb 01 14:26:08 2010



GRAND MEAN AVERAGE

Vendor: Restek  
 Date of Analysis: 01/31/10  
 Time of Injection: 2324  
 Standard Number: WXX100131-07CCV  
 Data File: EXP0131023a

HMX	102.1
RDX	127.5
135-TNB	106.2
13-DNB	100.1
Tetryl	109.1
Nitrobenzene	104.5
4A-26-DNT	101.8
2A-46-DNT	98.1
246-TNT	106.5
34-DNT(surr)	95.2
26-DNT	101.2
24-DNT	98.1
2-NT	99.8
4-NT	102.6
3-NT	91.3
PETN	86.1

*MTT  
2/1/10*

Total 1630.2

Average 101.9

*Annex 102/10*

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0131025a

Analysis Date: 01-FEB-10 00:23

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	47.388	118	
1,3-Dinitrobenzene-d4	500	460.081	92	
2,4,6-Trinitrotoluene	40	44.837	112	
2,4-Dinitrotoluene	40	34.303	86	
2,6-Dinitrotoluene	40	37.847	95	
2,6-Dinitrotoluene-d3	500	472.155	94	
2-Amino-4,6-dinitrotoluene	40	37.493	94	
3,4-Dinitrotoluene	20	20.126	101	
4-Amino-2,6-dinitrotoluene	40	42.632	107	
HMX	40	42.352	106	
Nitrobenzene	40	52.368	131	*
PETN	40	58.047	145	*
RDX	40	45.288	113	
Tetryl	40	51.384	128	
m-Dinitrobenzene	40	42.219	106	
m-Nitrotoluene	40	38.946	97	
o-Nitrotoluene	40	41.495	104	
p-Nitrotoluene	40	38.44	96	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

uantify Sample Report  
EL Laboratories, LLC / Analyst : Michael A. Penny

atasset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ame: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131025a

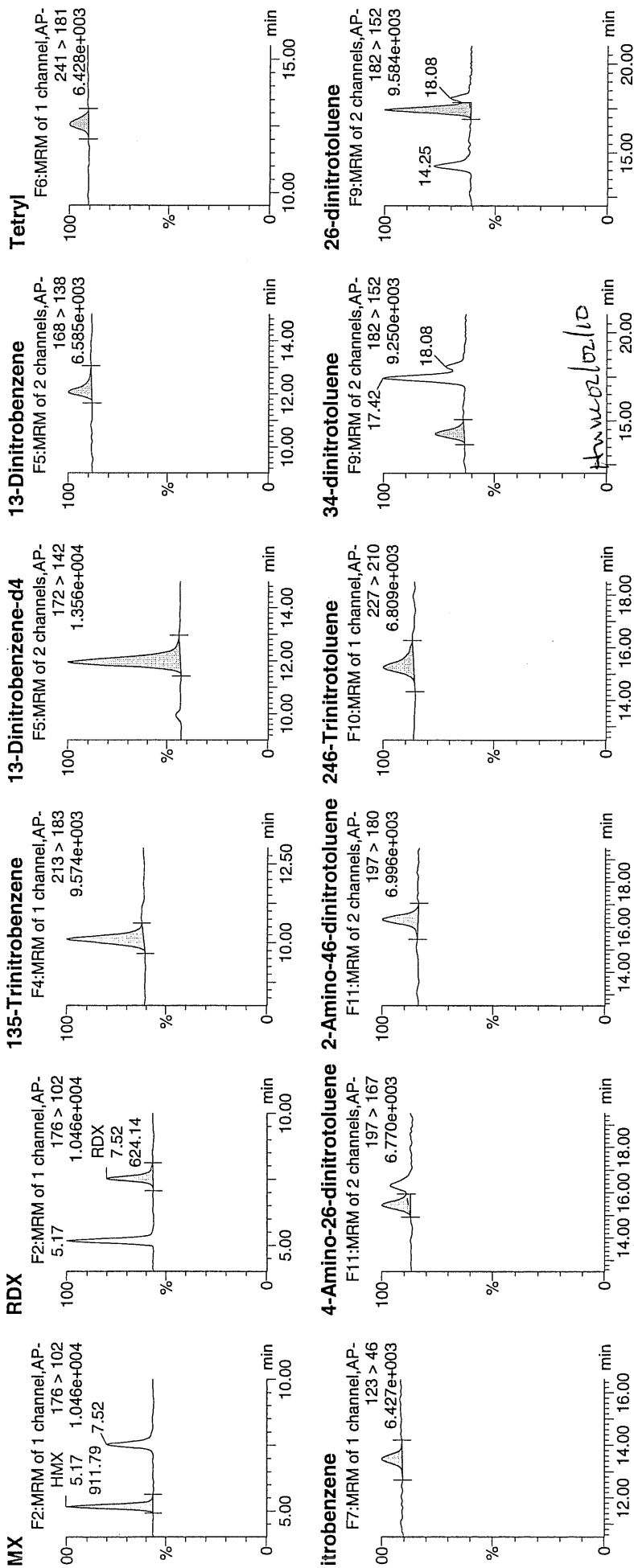
ate: 01-Feb-2010

ime: 00:23:47

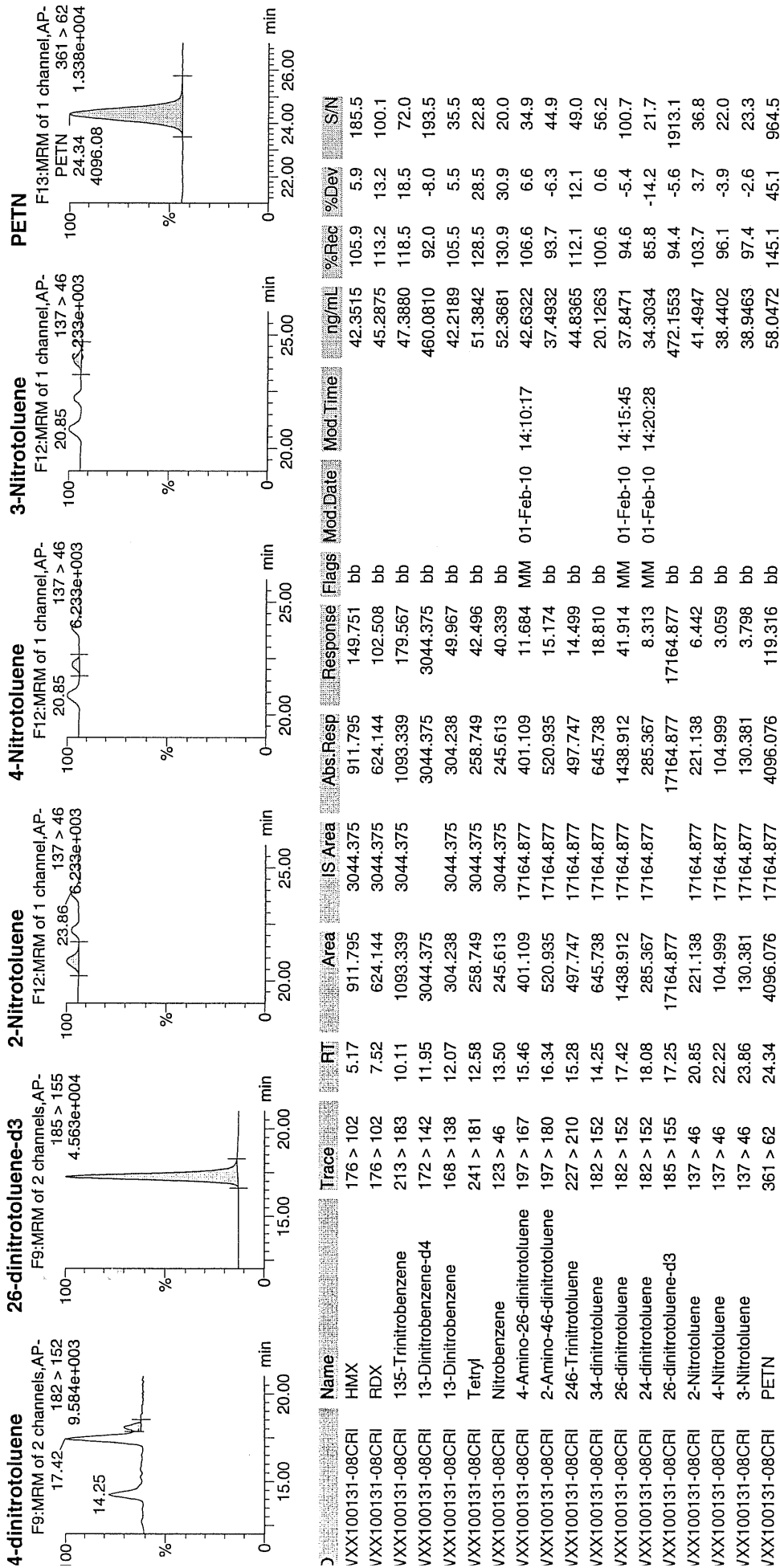
: WXX100131-08CRI

ial: 1:1,C

WXX  
2/1/10



Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific  
 Date of Analysis 02/01/10  
 Time of Injection 0023  
 Standard Number WXX100131-08CRI  
 Data File EXP0131025a

HMX		105.9	✓
RDX		113.2	✓
135-TNB		118.5	✓
13-DNB		105.5	
Tetryl		128.5	
Nitrobenzene		130.9	
4A-26-DNT		106.6	
2A-46-DNT		93.7	
246-TNT		112.1	
34-DNT(surr)		100.6	
26-DNT		94.6	
24-DNT		85.8	
2-NT		103.7	
4-NT		96.1	
3-NT		97.4	
PETN		145.1	✓

*WAT*  
*2/1/10*

Total 1738.2

Average 108.6

*4/11/10 02/02/10*

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250013.wiff

Analysis Date: 25-JAN-10 13:41

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	104	104	
2,6-Diamino-4-nitrotoluene	100	106	106	
3,4-Dinitrotoluene	50	46.7	94	
3,5-Dinitroaniline	100	104	104	
TATB	100	96.4	96	
tris(o-cresyl) phosphate	100	117	117	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

See 1127-110

File Name: "WXX100125-27CR1" Sample ID: "JILLER" File: "EXS01250013.wif"

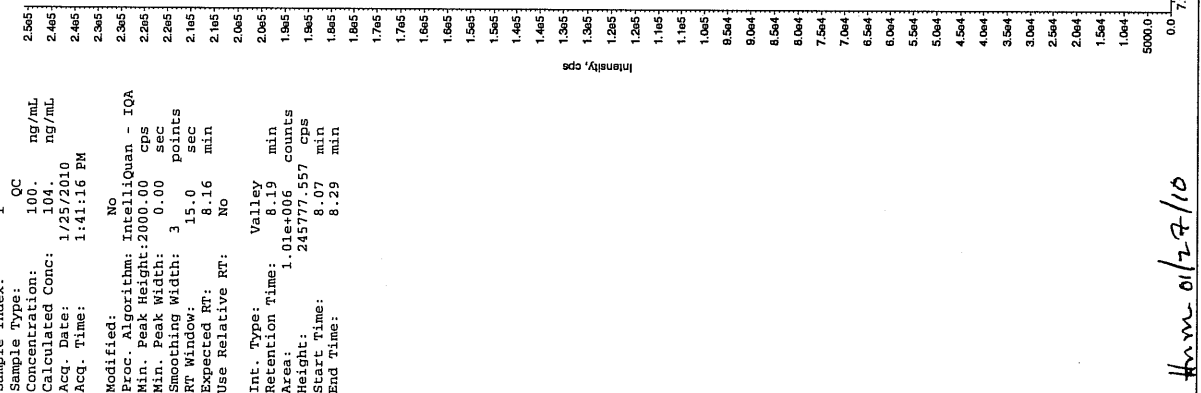
Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu" Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC  
Concentration: 100. ng/mL  
Calculated Conc: 104. ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 1:41:16 PM

Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 2000.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 15.0 sec  
Expected RT: 8.16 min  
Use Relative RT: No

Int. Type: Valley  
Retention Time: 8.19 min  
Area: 1.01e+006 counts  
Height: 245777.557 cps  
Start Time: 8.07 min  
End Time: 8.29 min



File Name: "WXX100125-27CR1" Sample ID: "JILLER" File: "EXS01250013.wif"

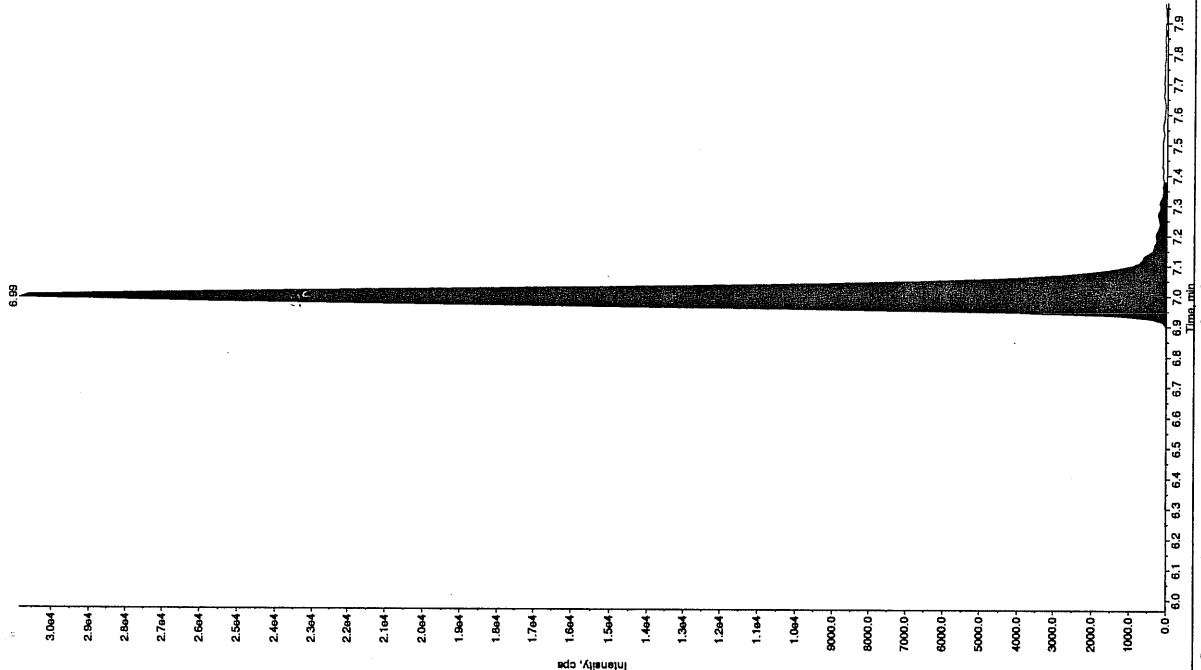
Peak Name: "35-Dinitroaniline" Mass(es): "257.2204.9 amu" Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC  
Concentration: 96.4 ng/mL  
Calculated Conc: 104. ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 1:41:16 PM

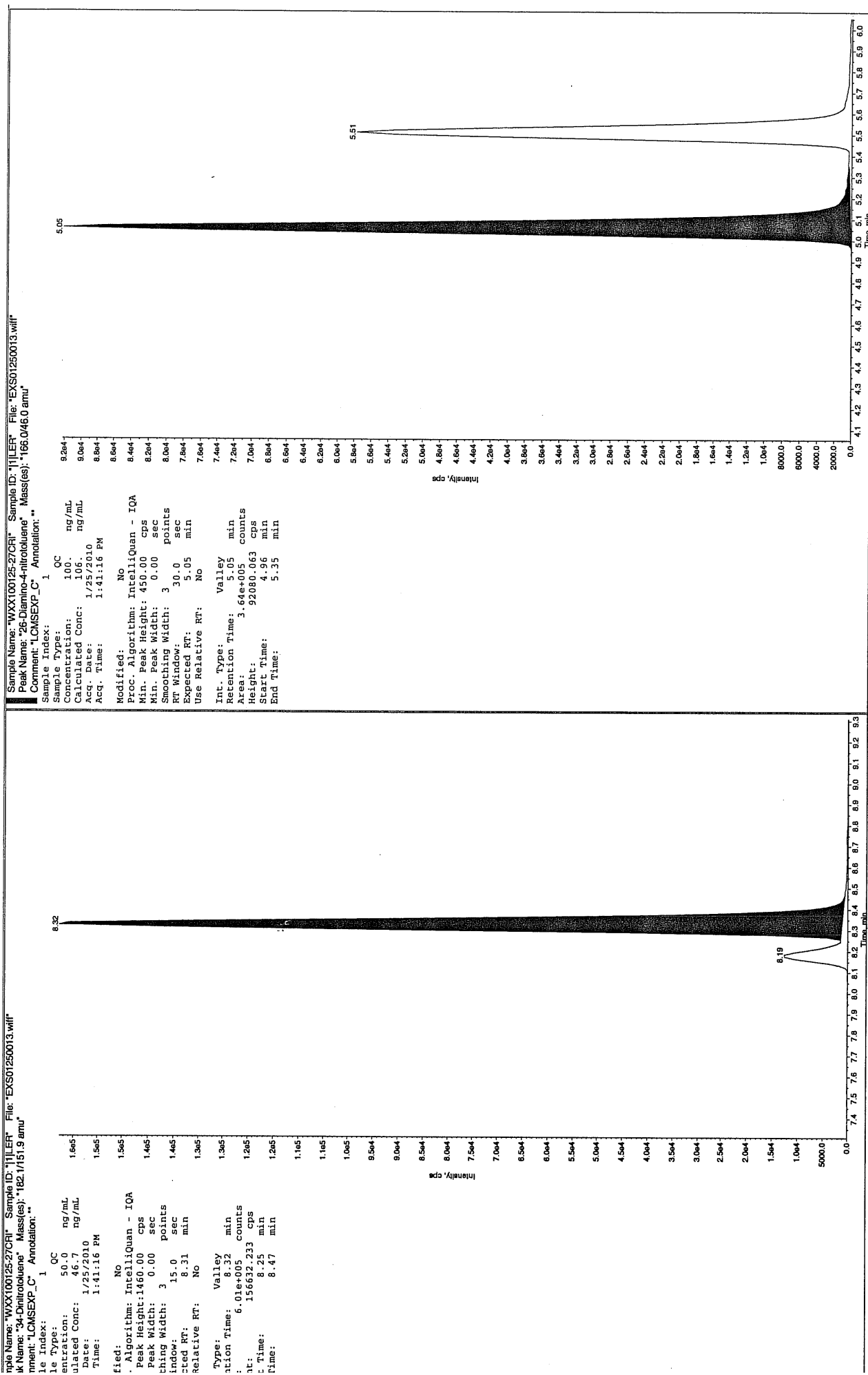
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 2500.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 30.0 sec  
Expected RT: 6.97 min  
Use Relative RT: No

Int. Type: Valley  
Retention Time: 6.99 min  
Area: 1.36e+005 counts  
Height: 30825.148 cps  
Start Time: 6.88 min  
End Time: 7.38 min

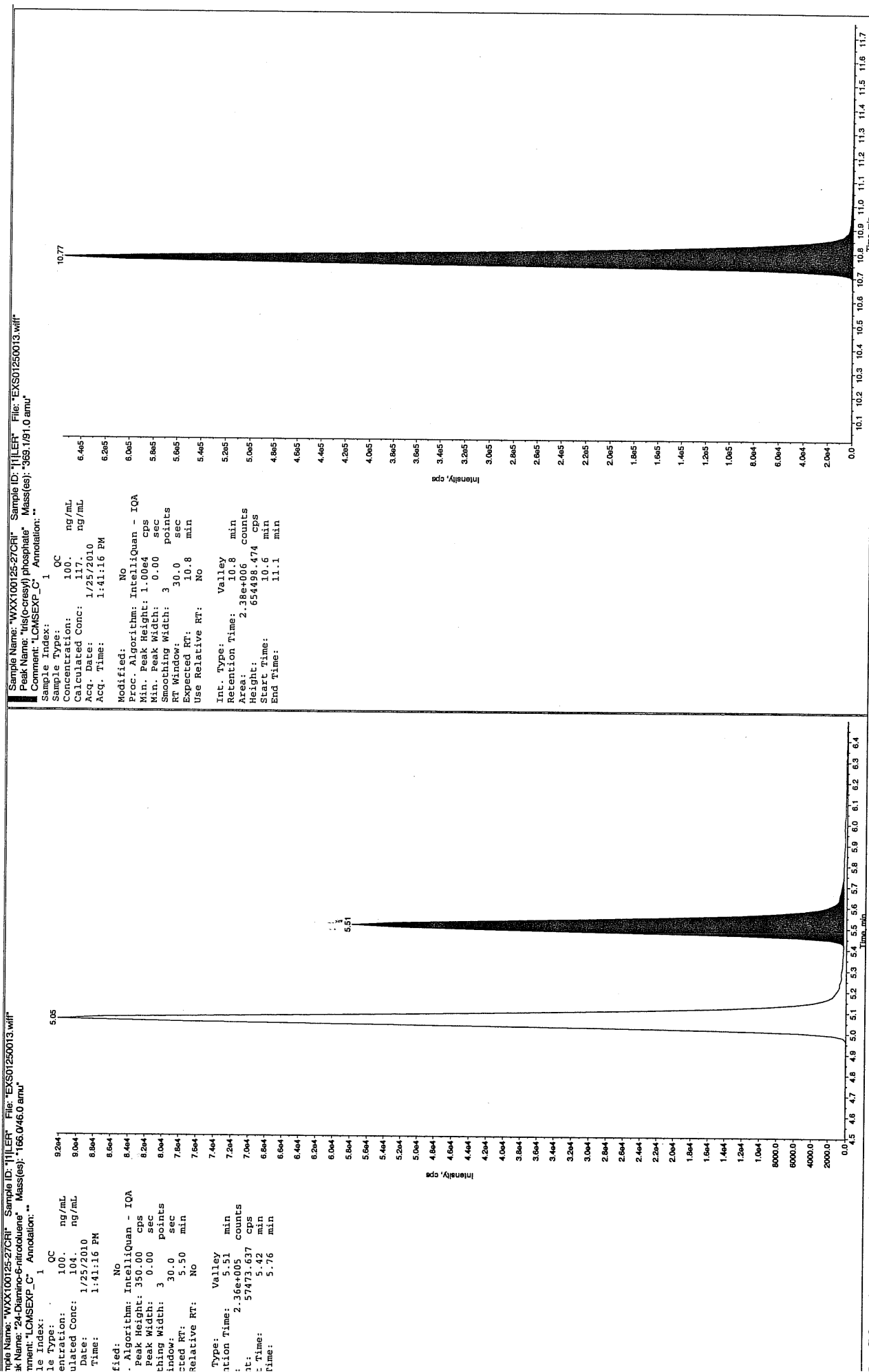


See 01/27/10





L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250024.wiff

Analysis Date: 25-JAN-10 16:33

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	456	91	
2,6-Diamino-4-nitrotoluene	500	429	86	
3,4-Dinitrotoluene	250	232	93	
3,5-Dinitroaniline	500	523	105	
TATB	500	534	107	
tris(o-cresyl) phosphate	500	455	91	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

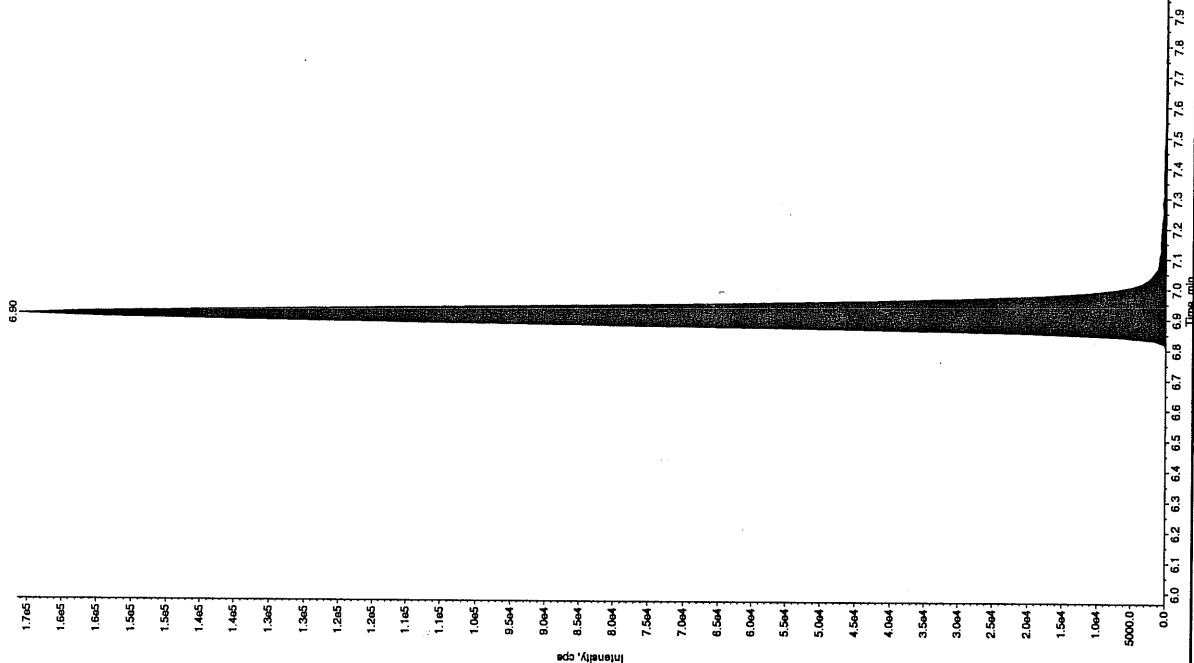
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before scan 1127110

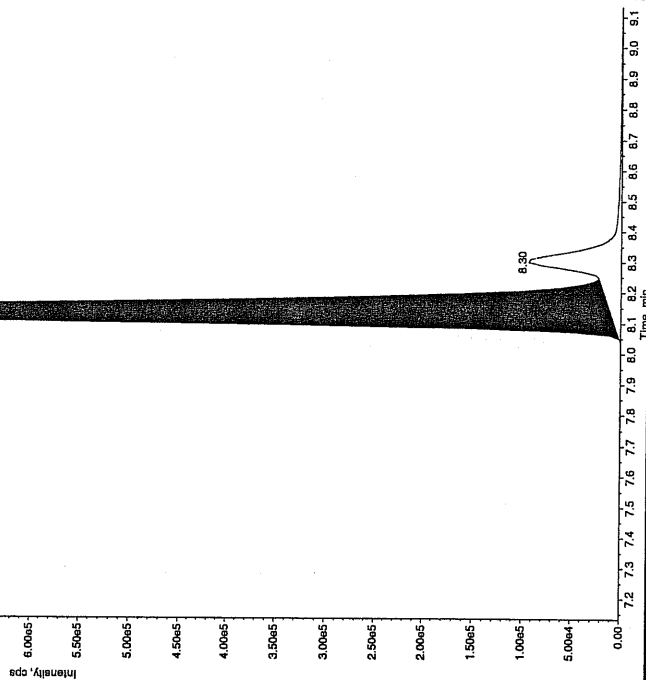
File Name: 'WXX100125-260CV' Sample ID: '111LER' File: 'EXS01250024.wif'  
 Peak Name: '35-Dinitroaniline' Mass(es): '182.046.0 amu'  
 Comment: 'LCMSEXP\_C' Annotation: ''

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 509. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:33:57 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.13 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.13 min  
 Area: 4.76e+006 counts  
 Height: 1159311.279 cps  
 Start Time: 8.05 min  
 End Time: 8.25 min



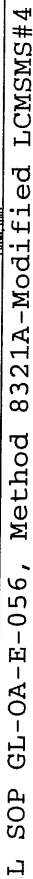
Sample Name: 'WXX100125-260CV' Sample ID: '111LER' File: 'EXS01250024.wif'  
 Peak Name: '35-Dinitroaniline' Mass(es): '182.046.0 amu'  
 Comment: 'LCMSEXP\_C' Annotation: ''

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 509. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:33:57 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.13 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.13 min  
 Area: 4.76e+006 counts  
 Height: 1159311.279 cps  
 Start Time: 8.05 min  
 End Time: 8.25 min



4mm 01/27/10

L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

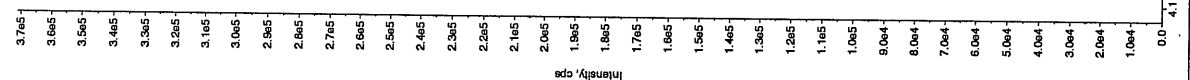


Sample Name: "WXX100125-26CCV" Sample ID: "111ER" File: "EXS01250024.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 429. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:33:57 PM

Modified: No  
 Proc. Algorithm: IntelliQuan - IOA  
 Min. Peak Height: 450.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.05 min  
 Use Relative RT: No

Int. Type: Valley  
 Retention Time: 5.02 min  
 Area: 1.62e+006 counts  
 Height: 370936.981 cps  
 Start Time: 4.91 min  
 End Time: 5.31 min

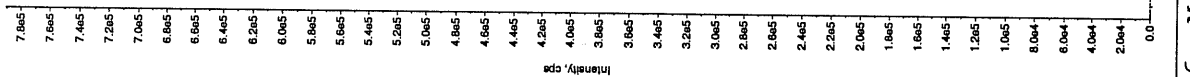


Sample Name: "WXX100125-26CCV" Sample ID: "111ER" File: "EXS01250024.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

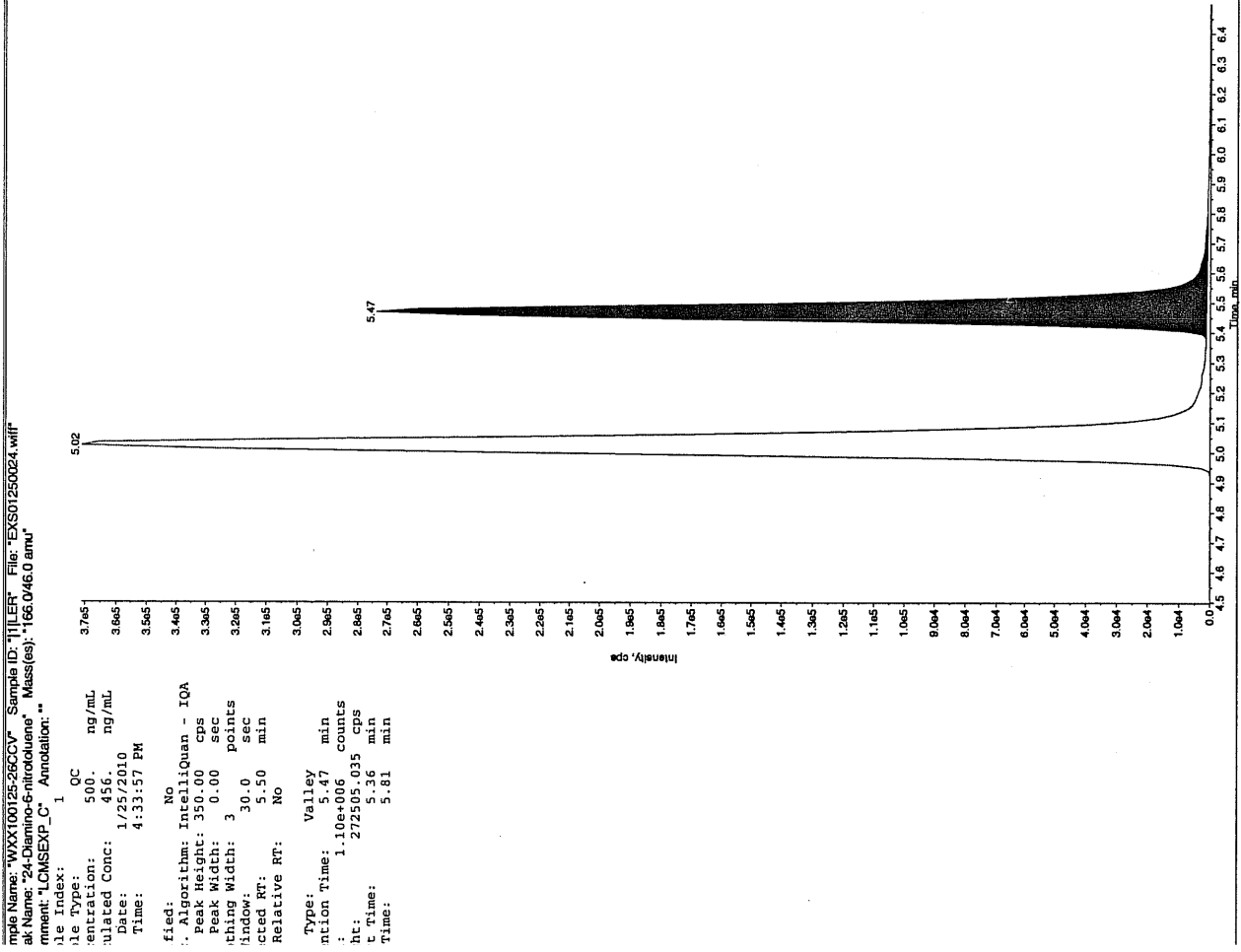
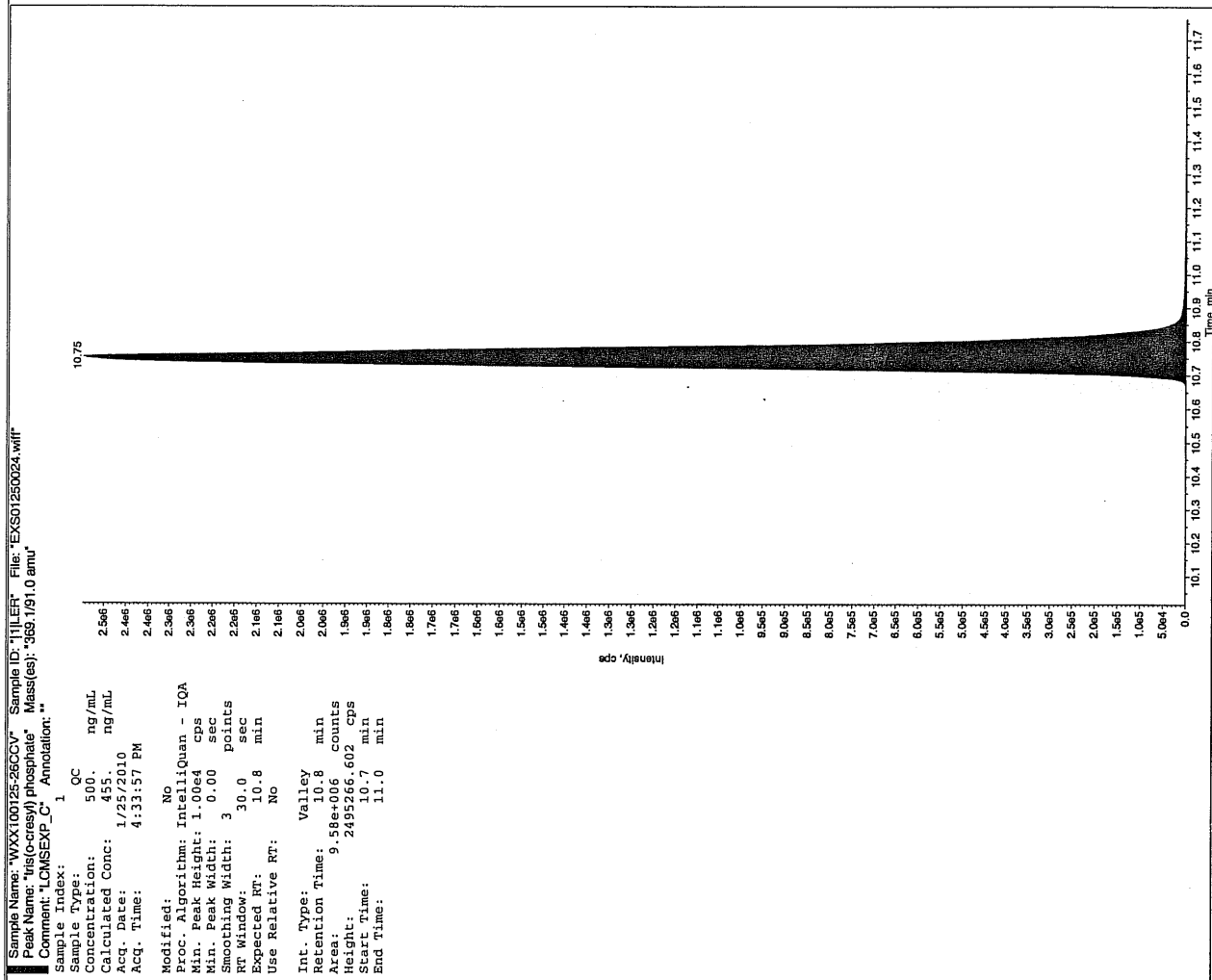
Sample Index: 1  
 Sample Type: QC  
 Concentration: 250. ng/mL  
 Calculated Conc: 232. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 4:33:57 PM

Modified: No  
 Proc. Algorithm: IntelliQuan - IOA  
 Min. Peak Height: 1460.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.31 min  
 Use Relative RT: No

Int. Type: Valley  
 Retention Time: 8.30 min  
 Area: 3.08e+006 counts  
 Height: 790474.792 cps  
 Start Time: 8.22 min  
 End Time: 8.63 min



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250026.wiff

Analysis Date: 25-JAN-10 17:05

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	104	104	
2,6-Diamino-4-nitrotoluene	100	108	108	
3,4-Dinitrotoluene	50	46.3	93	
3,5-Dinitroaniline	100	105	105	
TATB	100	99.8	100	
tris(o-cresyl) phosphate	100	110	110	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

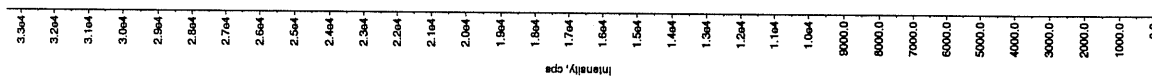
\* Value outside of Recovery Limits



Before Jan 11/27/10

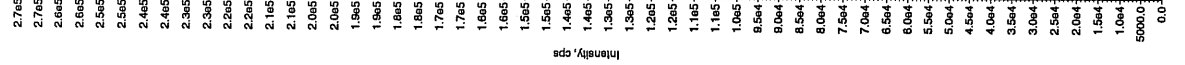
Sample Name: "WXX100125-27CIR" Sample ID: "111ER" File: "EXS01250026.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 100. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 5:05:21 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2500.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 6.93 min  
 Area: 1.41e+005 counts  
 Height: 33422.733 cps  
 Start Time: 6.83 min  
 End Time: 7.27 min



Sample Name: "WXX100125-27CIR" Sample ID: "111ER" File: "EXS01250026.wif"  
 Peak Name: "35-Dimiroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

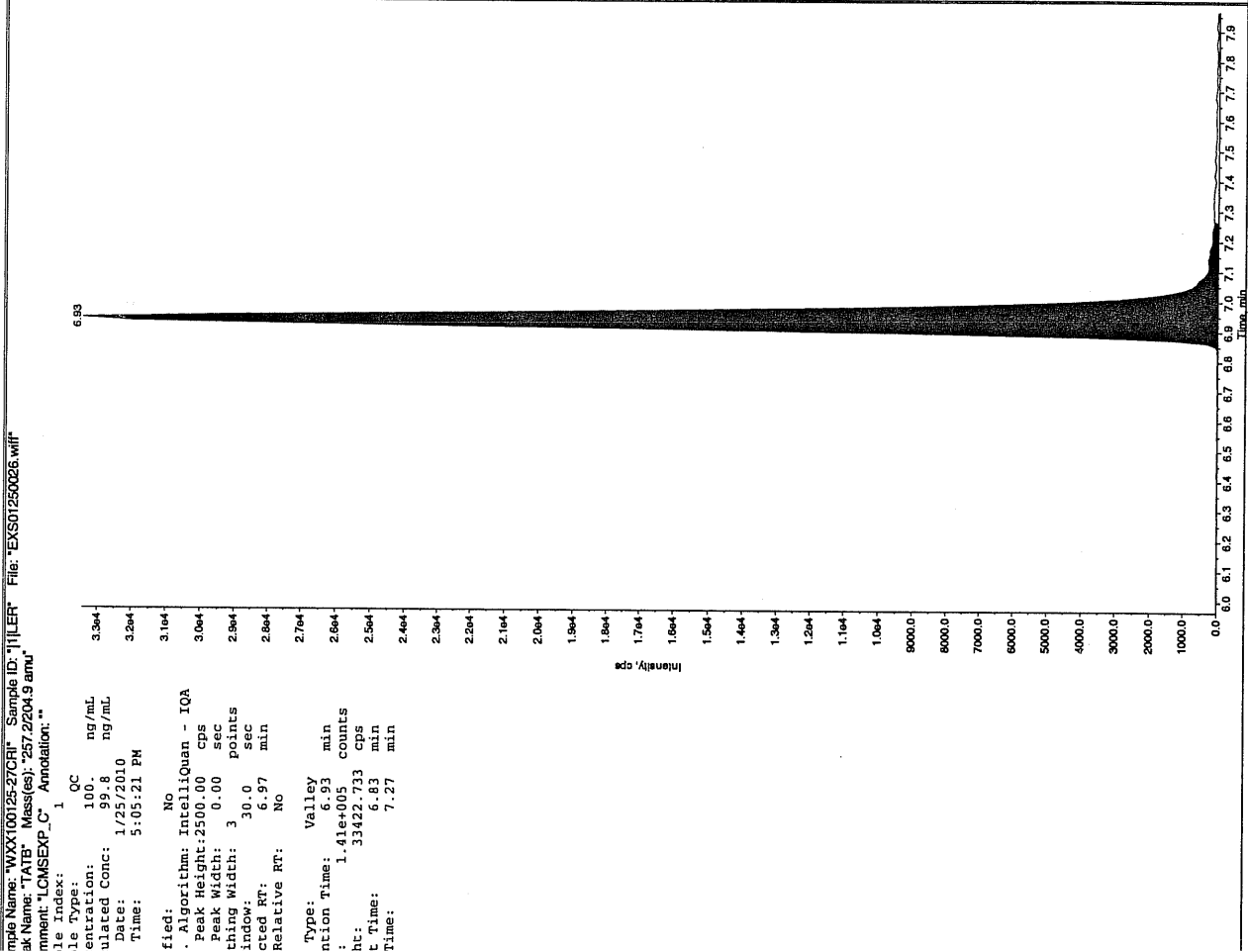
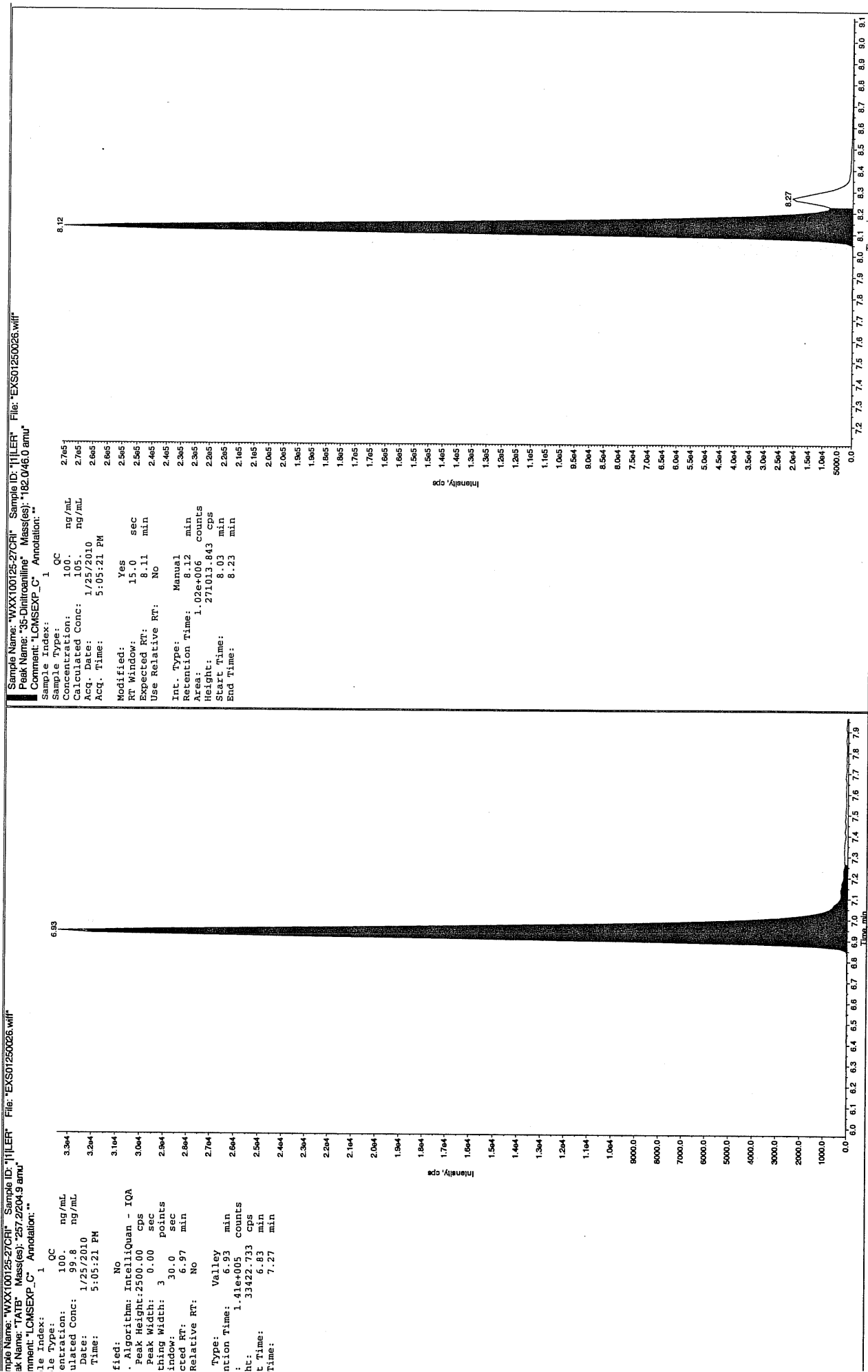
Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 100. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 5:05:21 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.11 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.12 min  
 Area: 9.77e+005 counts  
 Height: 267289.063 cps  
 Start Time: 8.05 min  
 End Time: 8.23 min



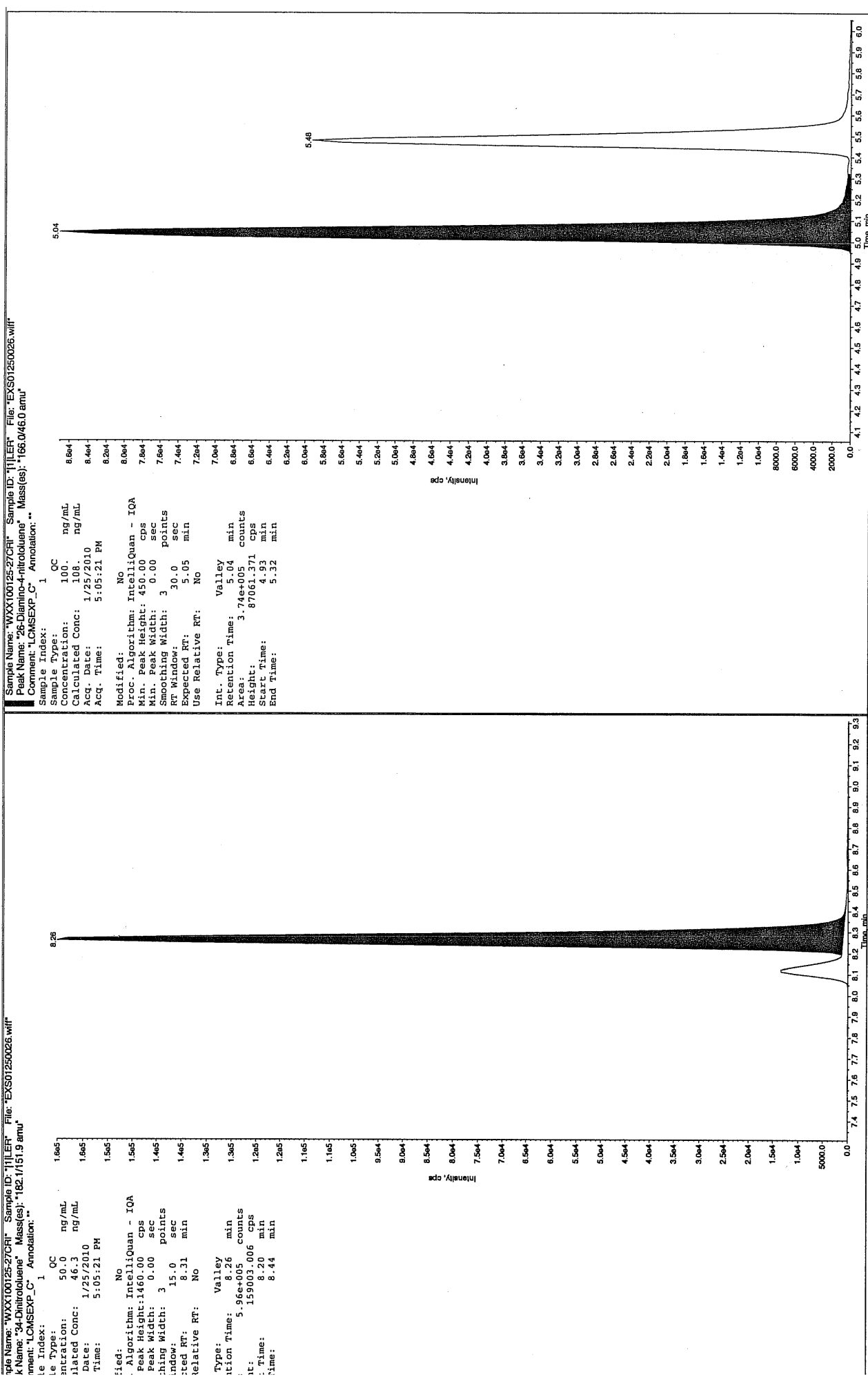
After Jan 11/27/10

L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

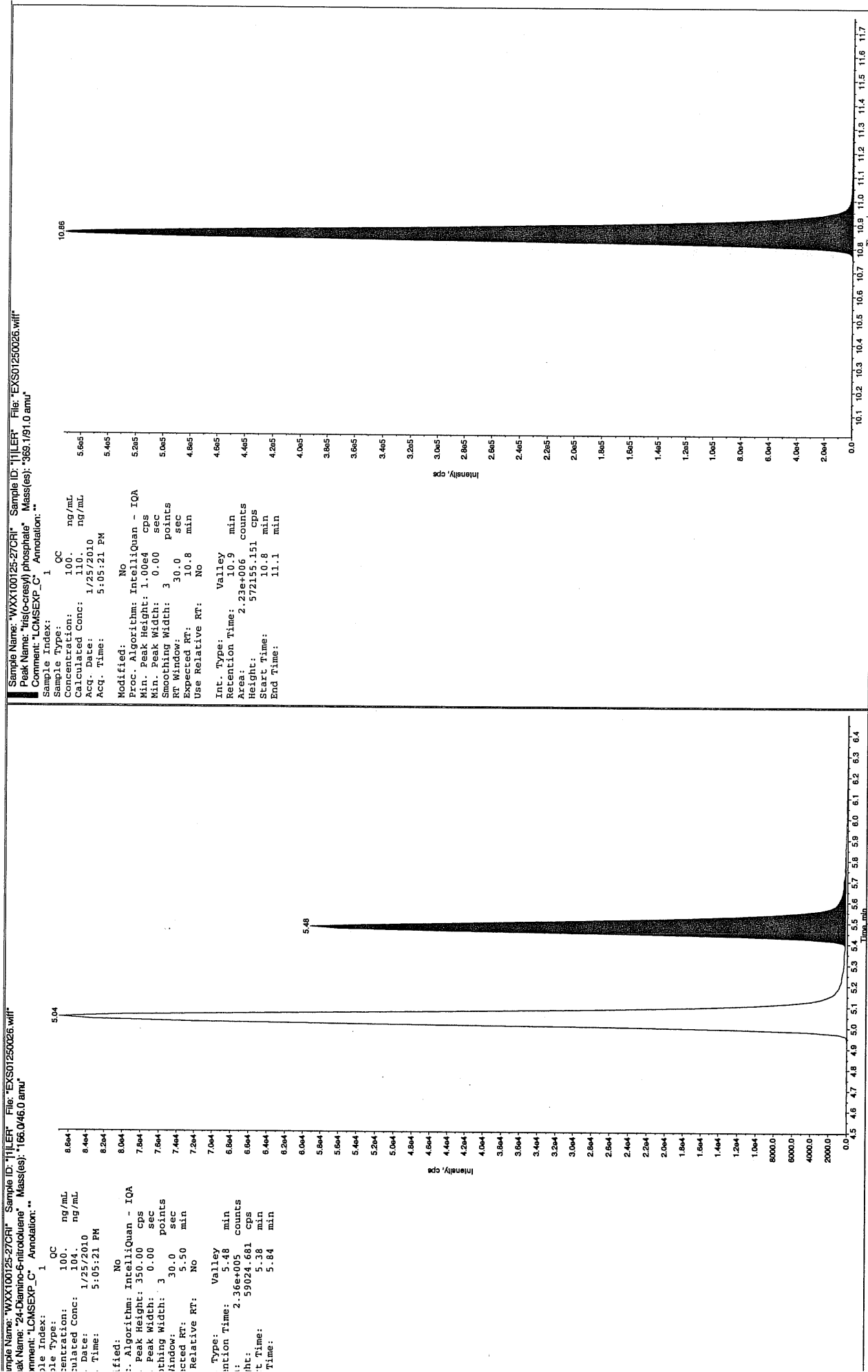
after scan 16710



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250037.wiff

Analysis Date: 25-JAN-10 19:58

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	471	94	
2,6-Diamino-4-nitrotoluene	500	433	87	
3,4-Dinitrotoluene	250	219	88	
3,5-Dinitroaniline	500	494	99	
TATB	500	508	102	
tris(o-cresyl) phosphate	500	486	97	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before 11/27/10

Sample Name: "WXX100125-26CCV" Sample ID: "111LER" File: "EXS01250037.wif"

Peak Name: "1A1B" Mass(es): 257.2204.9 amu

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 500. ng/mL

Calculated Conc: 551. ng/mL

Acq. Date: 1/23/2010

Acq. Time: 7:58:18 PM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2500.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 30.0 sec

Expected RT: 6.97 min

Use Relative RT: No

Type: Valley

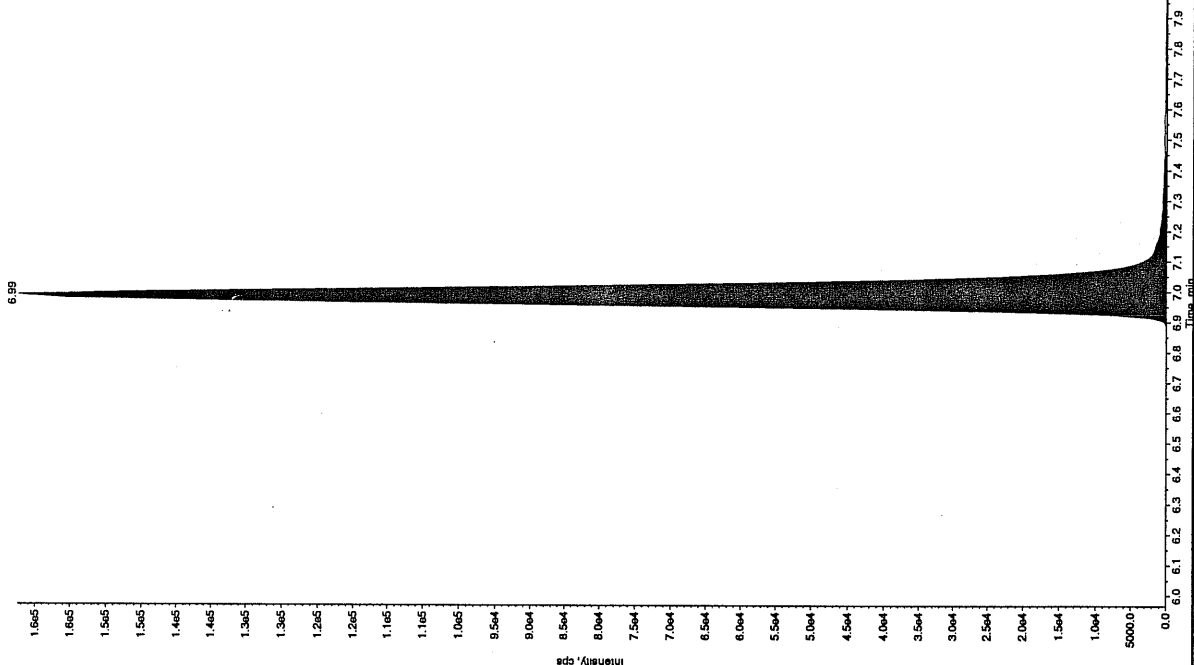
Retention Time: 6.99 min

Area: 7.06e+005 counts

Height: 162492.188 cps

Start Time: 6.87 min

End Time: 7.46 min



Sample Name: "WXX100125-26CCV" Sample ID: "111LER" File: "EXS01250037.wif"

Peak Name: "3S-Dinlironline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 500. ng/mL

Calculated Conc: 551. ng/mL

Acq. Date: 1/23/2010

Acq. Time: 7:58:18 PM

Modified: Yes

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.17 min

Use Relative RT: No

Int. Type: Valley

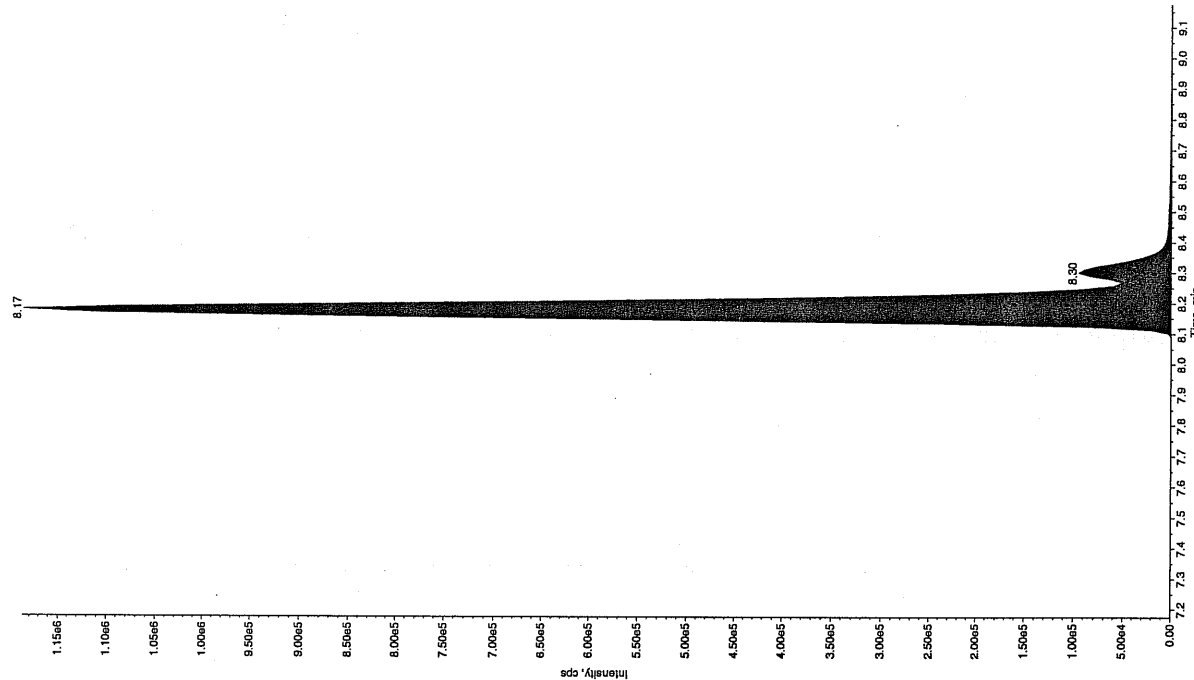
Retention Time: 8.17 min

Area: 5.12e+006 counts

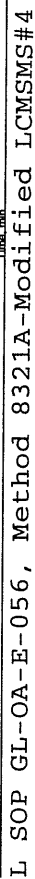
Height: 1187286.499 cps

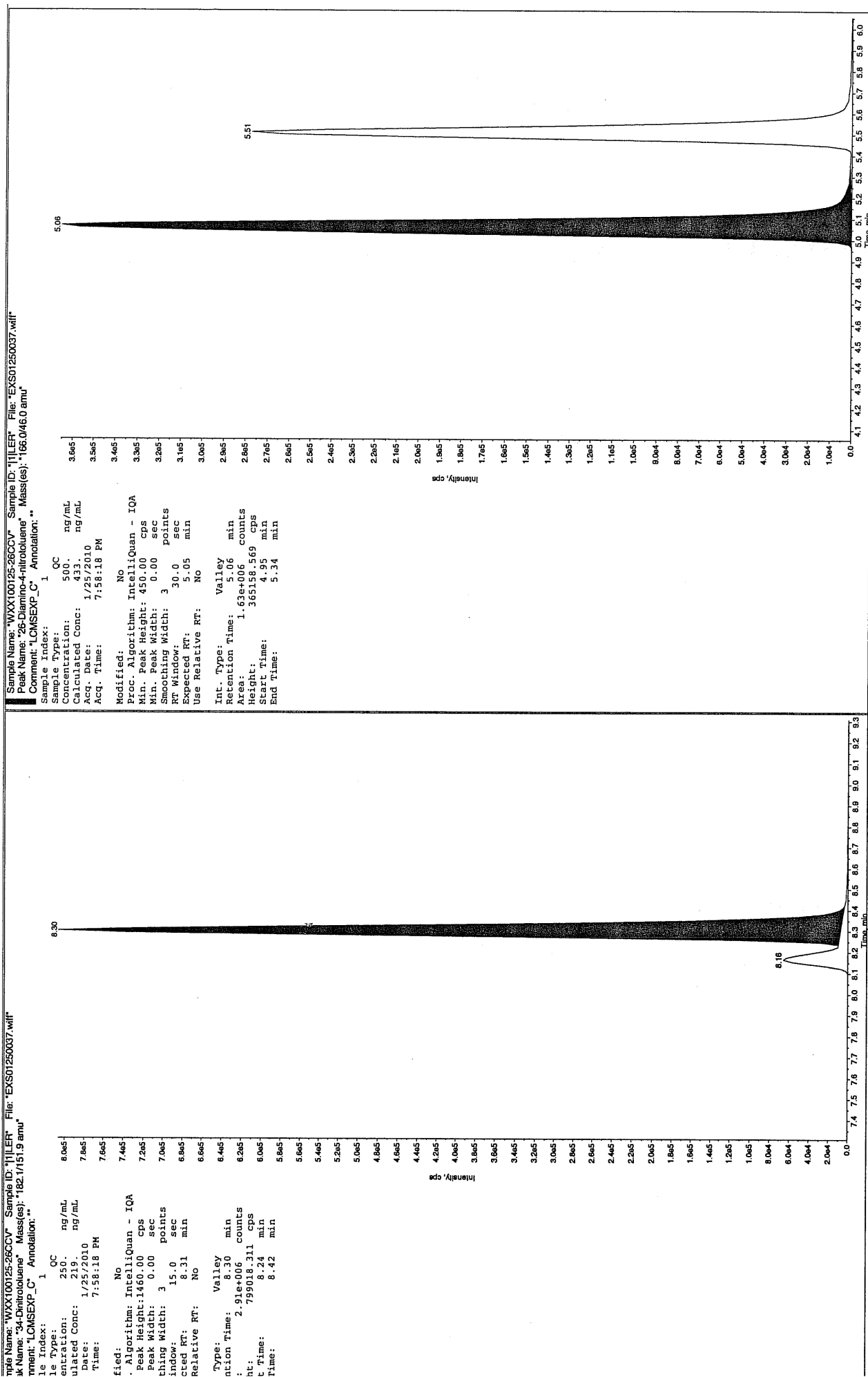
Start Time: 8.07 min

End Time: 8.73 min



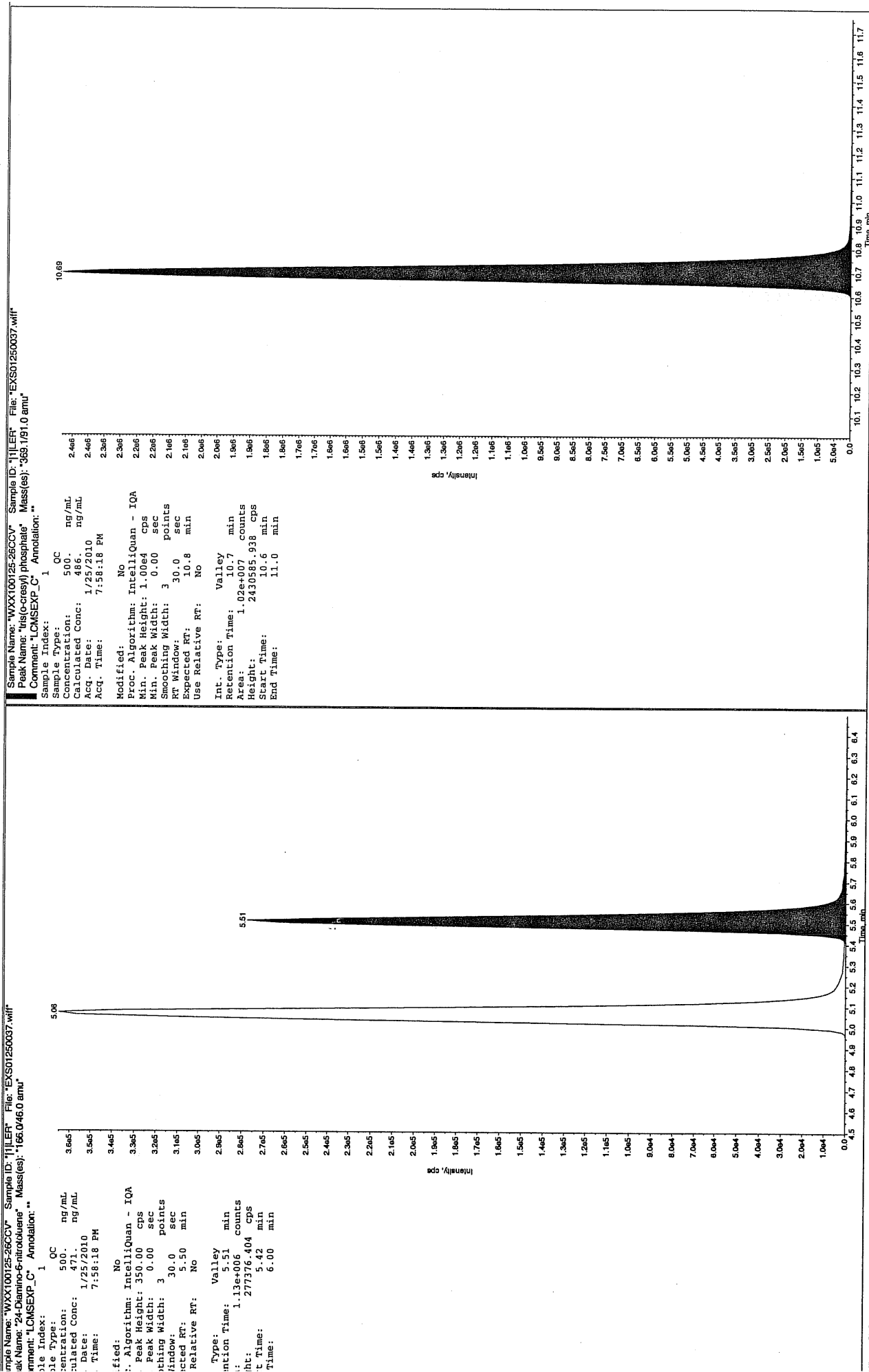
11/27/10





L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250039.wiff

Analysis Date: 25-JAN-10 20:29

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	107	107	
2,6-Diamino-4-nitrotoluene	100	97.3	97	
3,4-Dinitrotoluene	50	46.6	93	
3,5-Dinitroaniline	100	104	104	
TATB	100	103	103	
tris(o-cresyl) phosphate	100	111	111	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

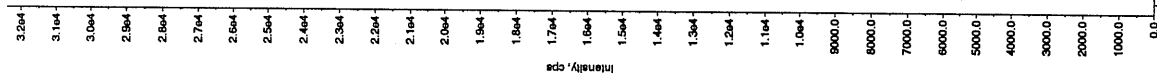
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before Jan 11/27/10

Sample Name: "WXX100125-27QRI" Sample ID: "111LER" File: "EXS01250039.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 103. ng/mL  
 Date: 1/25/2010  
 Time: 8:29:44 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Peak Height: 2500.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: No  
 Type: Valley  
 Retention Time: 6.98 min  
 Area: 1.46e+005 counts  
 Height: 32398.766 cps  
 Start Time: 6.87 min  
 End Time: 7.50 min



Sample Name: "WXX100125-27QRI" Sample ID: "111LER" File: "EXS01250039.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 114. ng/mL  
 Date: 1/25/2010  
 Time: 8:29:44 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.15 min  
 Use Relative RT: No  
 Type: Valley  
 Retention Time: 8.15 min  
 Area: 1.11e+006 counts  
 Height: 258078.857 cps  
 Start Time: 8.02 min  
 End Time: 8.84 min

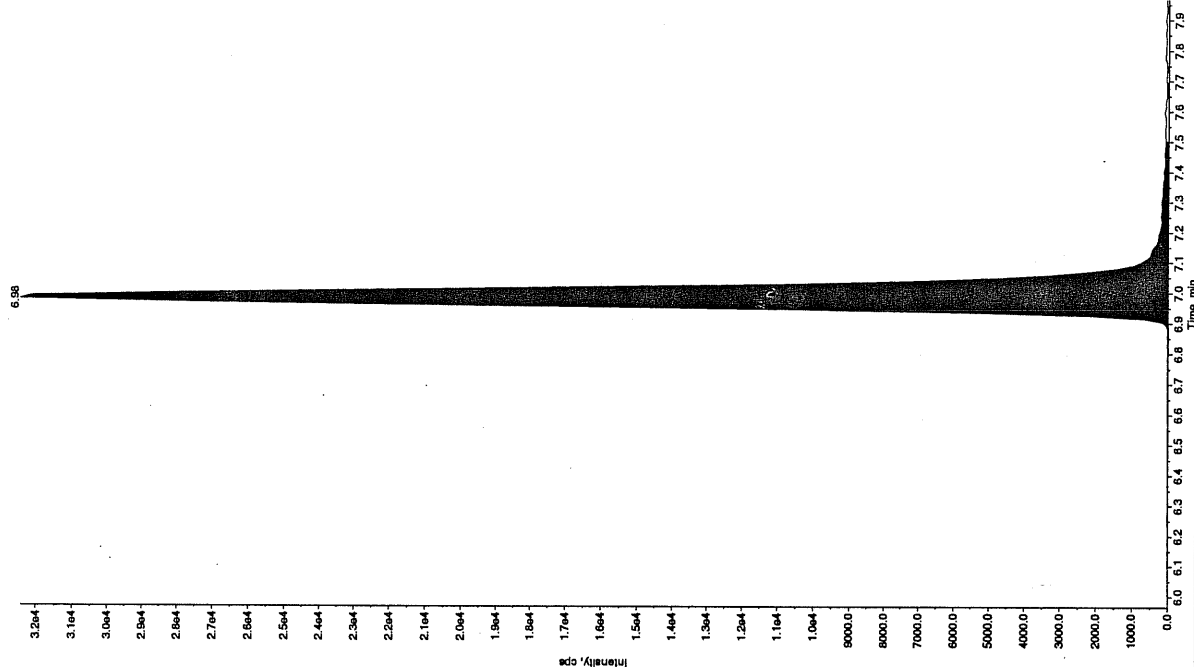


Ann 01/27/10

after 11/27/10

Sample Name: "WXX100125-27C1" Sample ID: "JILR" File: "EXS01250039.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

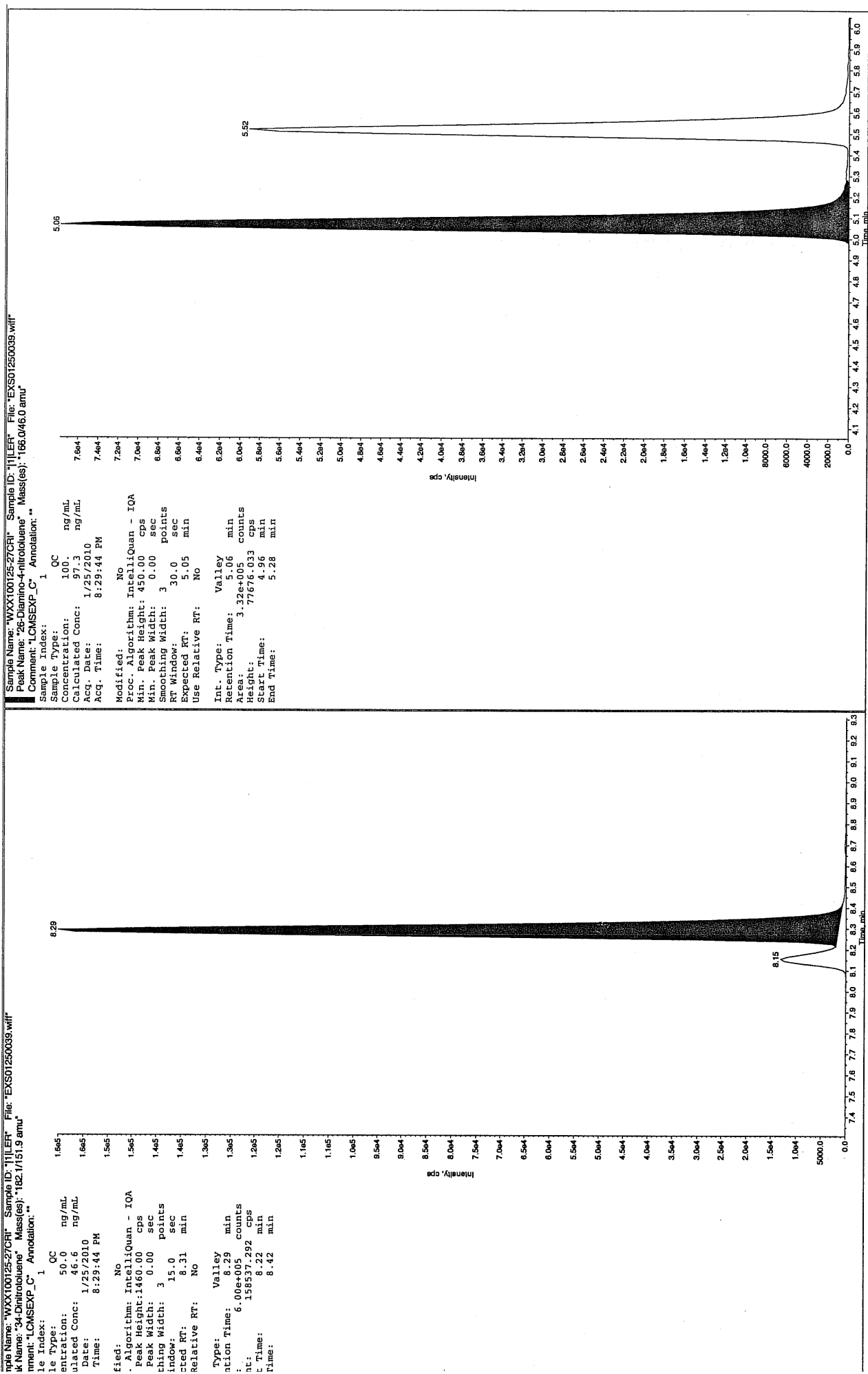
Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 104. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 8:29:44 PM  
 Modified: Yes  
 RT Window: 15.0 sec  
 Expected RT: 8.15 min  
 Use Relative RT: NO  
 Int. Type: Manual  
 Retention Time: 8.16 min  
 Area: 1.01e+006 counts  
 Height: 262430.703 cps  
 Start Time: 8.08 min  
 End Time: 8.26 min



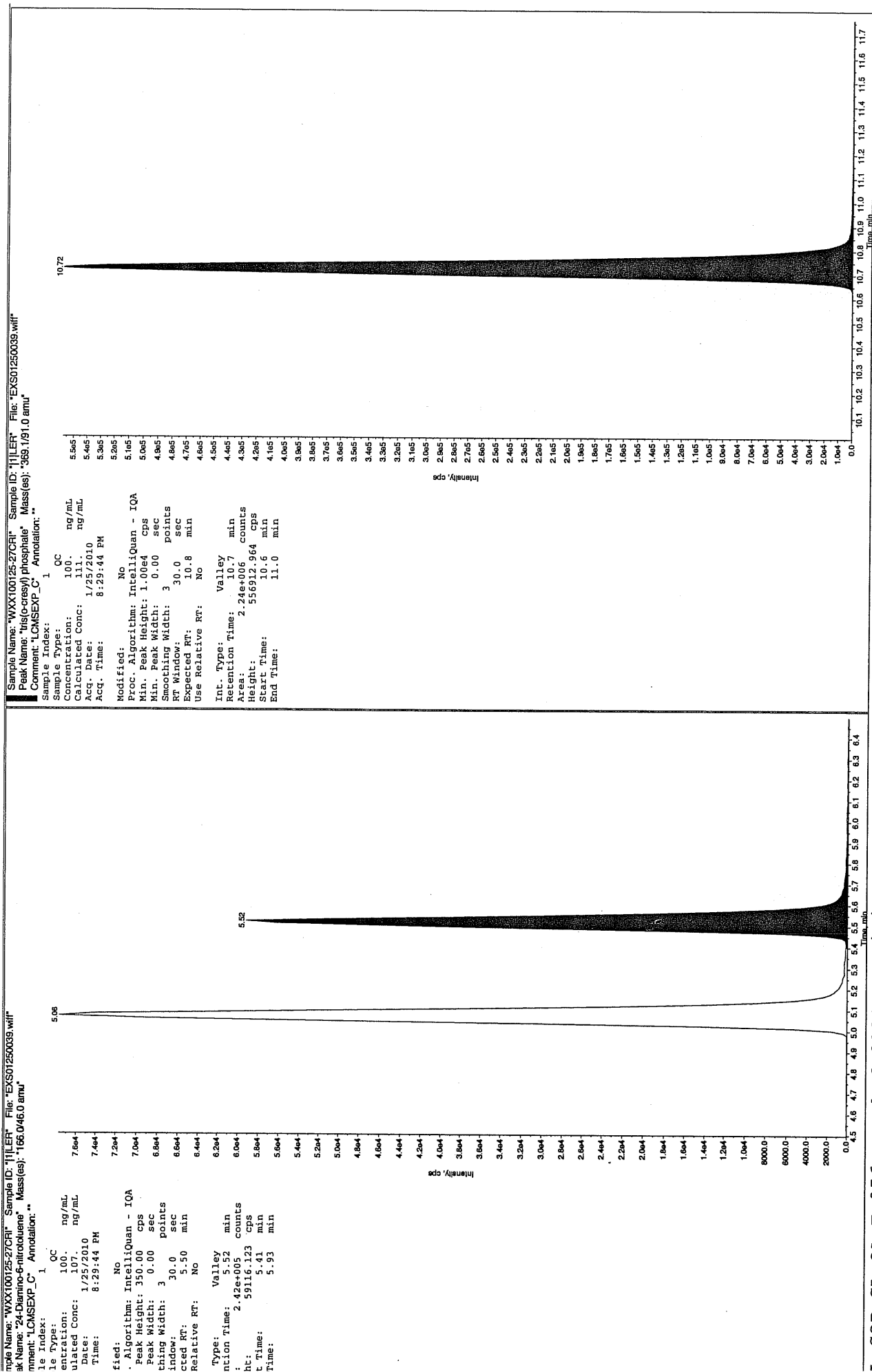
Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 103. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 8:29:44 PM  
 Modified: No  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: NO  
 Int. Type: Valley  
 Retention Time: 6.98 min  
 Area: 1.46e+005 counts  
 Height: 32398.766 cps  
 Start Time: 6.87 min  
 End Time: 7.50 min



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCM SMS#4

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250045.wiff

Analysis Date: 25-JAN-10 22:04

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	519	104	
2,6-Diamino-4-nitrotoluene	500	503	101	
3,4-Dinitrotoluene	250	214	85	
3,5-Dinitroaniline	500	499	100	
TATB	500	482	97	
tris(o-cresyl) phosphate	500	480	96	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

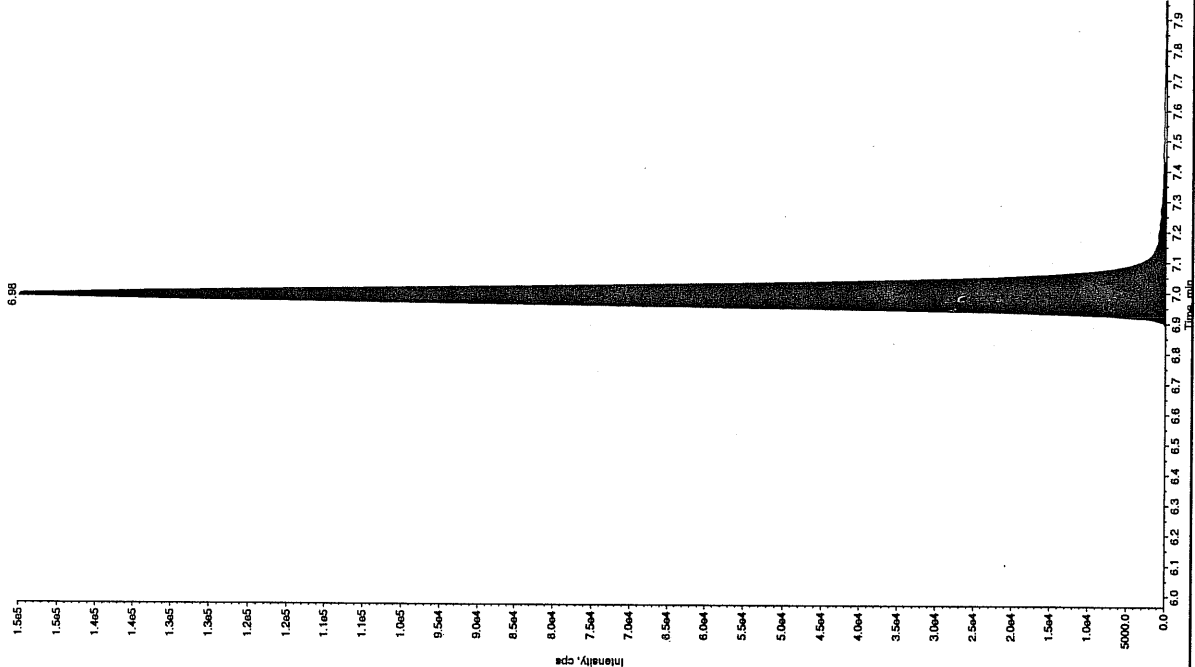
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before 12/7/10

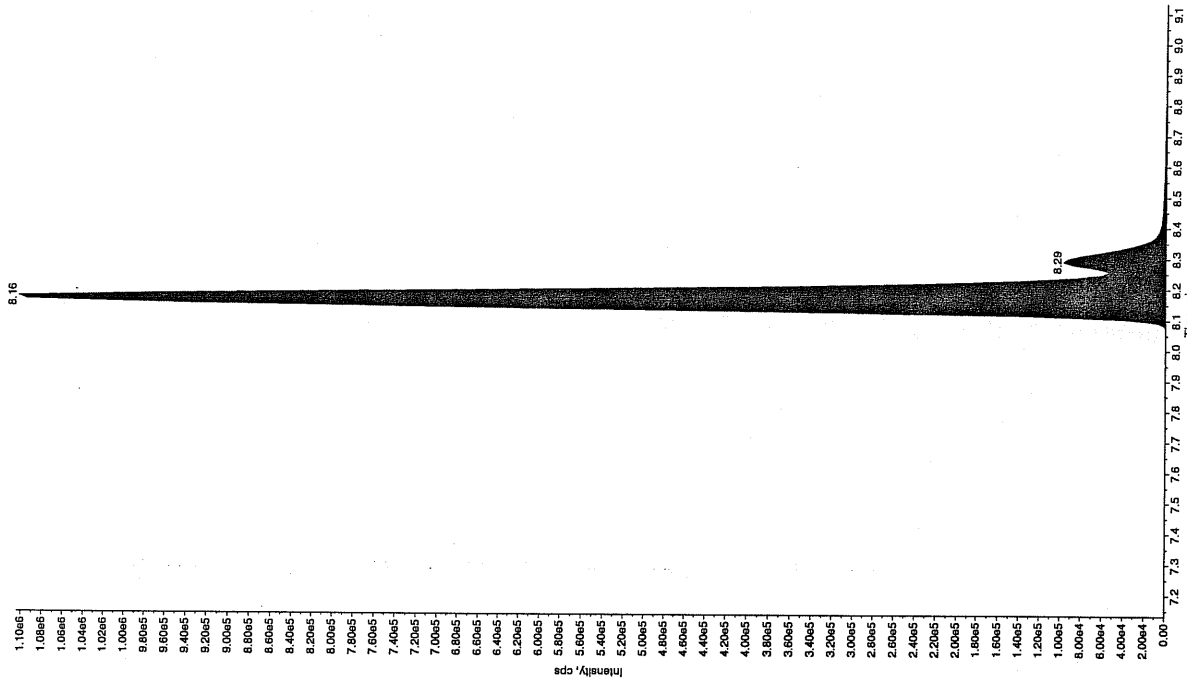
Sample Name: "WXX100125-25045" Sample ID: "111ER" File: "EXS01250045.wif"  
 Peak Name: "TATB" Mass(es): 257.2204.9 and  
 Comment: "LCMSEXP\_C" Annotation: "

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 482. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:04:00 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2500.00 cps  
 Min. Peak Width: 3.00 points  
 Smoothing Width: 30.0 sec  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 6.98 min  
 Area: 6.72e+005 counts  
 Height: 150136.551 cps  
 Start Time: 6.87 min  
 End Time: 7.43 min



Sample Name: "WXX100125-25045" Sample ID: "111ER" File: "EXS01250045.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): 182.046.0 amu  
 Comment: "LCMSEXP\_C" Annotation: "

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 551. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:04:00 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3.00 points  
 RT Window: 15.0 sec  
 Expected RT: 8.13 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.16 min  
 Area: 5.11e+006 counts  
 Height: 1103401.855 cps  
 Start Time: 8.05 min  
 End Time: 8.72 min



After 01/27/10

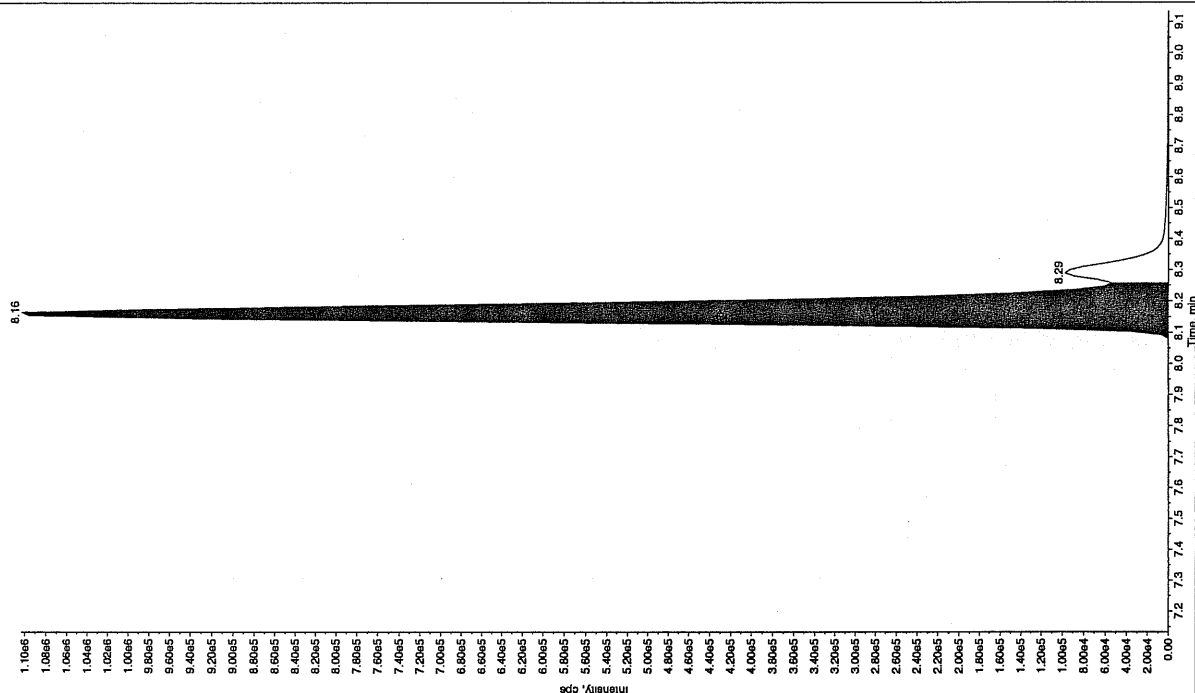
IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



after Jan 127110

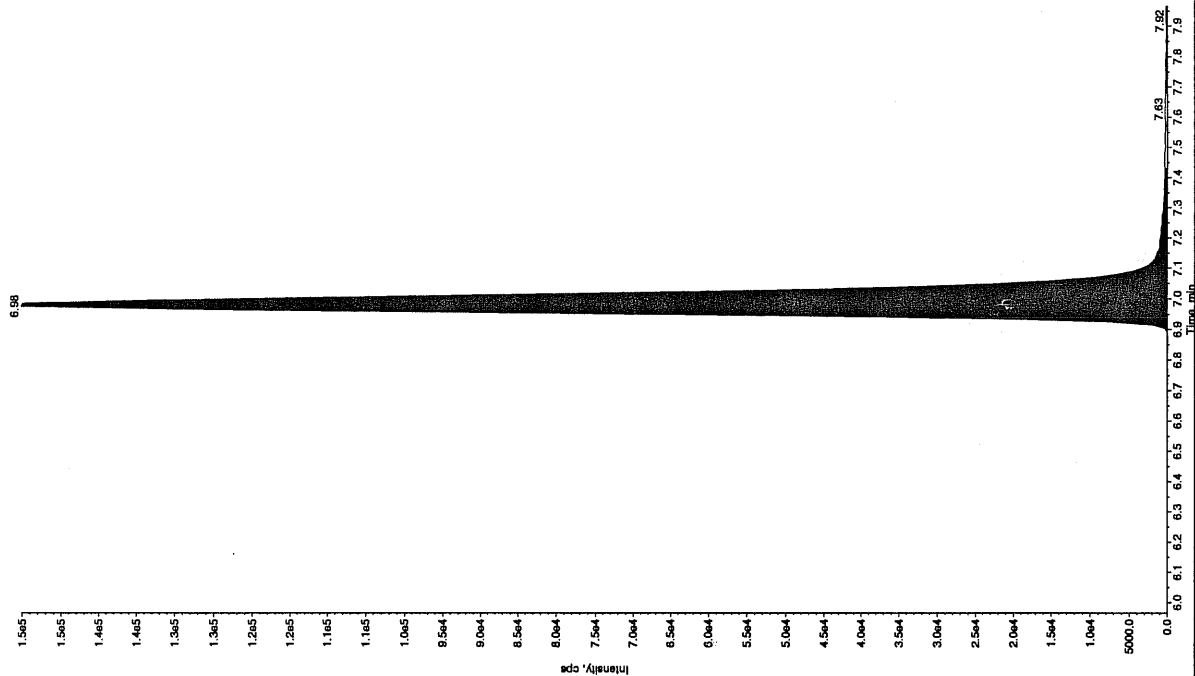
Sample Name: "WXX100125-26CCV" Sample ID: "11LER" File: "EXS01250045.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 499. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:04:00 PM  
 Modified: Yes  
 RT Window: 15.0 sec  
 Expected RT: 8.13 min  
 Use Relative RT: No  
 Int. Type: Manual  
 Retention Time: 8.16 min  
 Area: 4.67e+006 counts  
 Height: 1116889.649 cps  
 Start Time: 8.06 min  
 End Time: 8.26 min

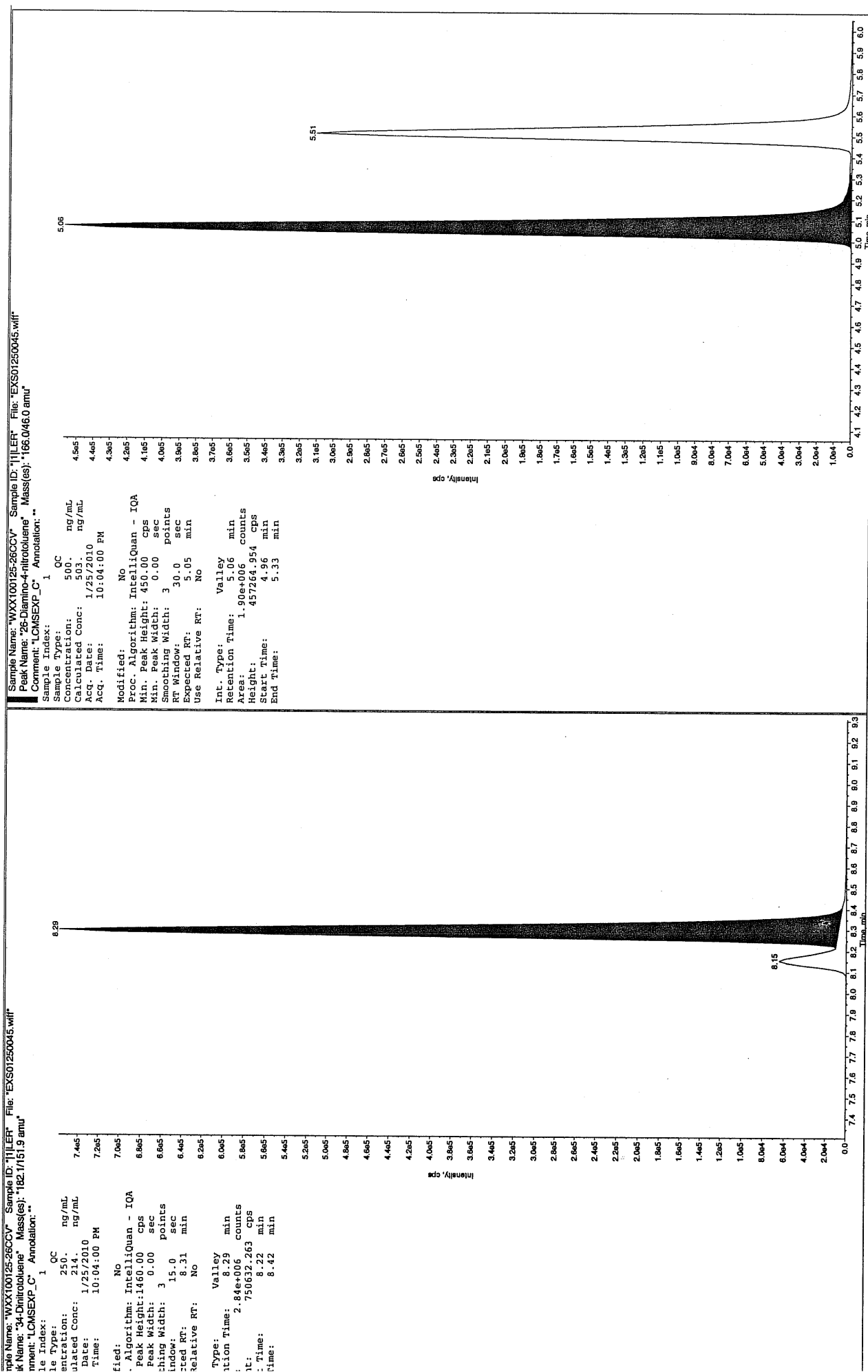


Sample Name: "WXX100125-26CCV" Sample ID: "11LER" File: "EXS01250045.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

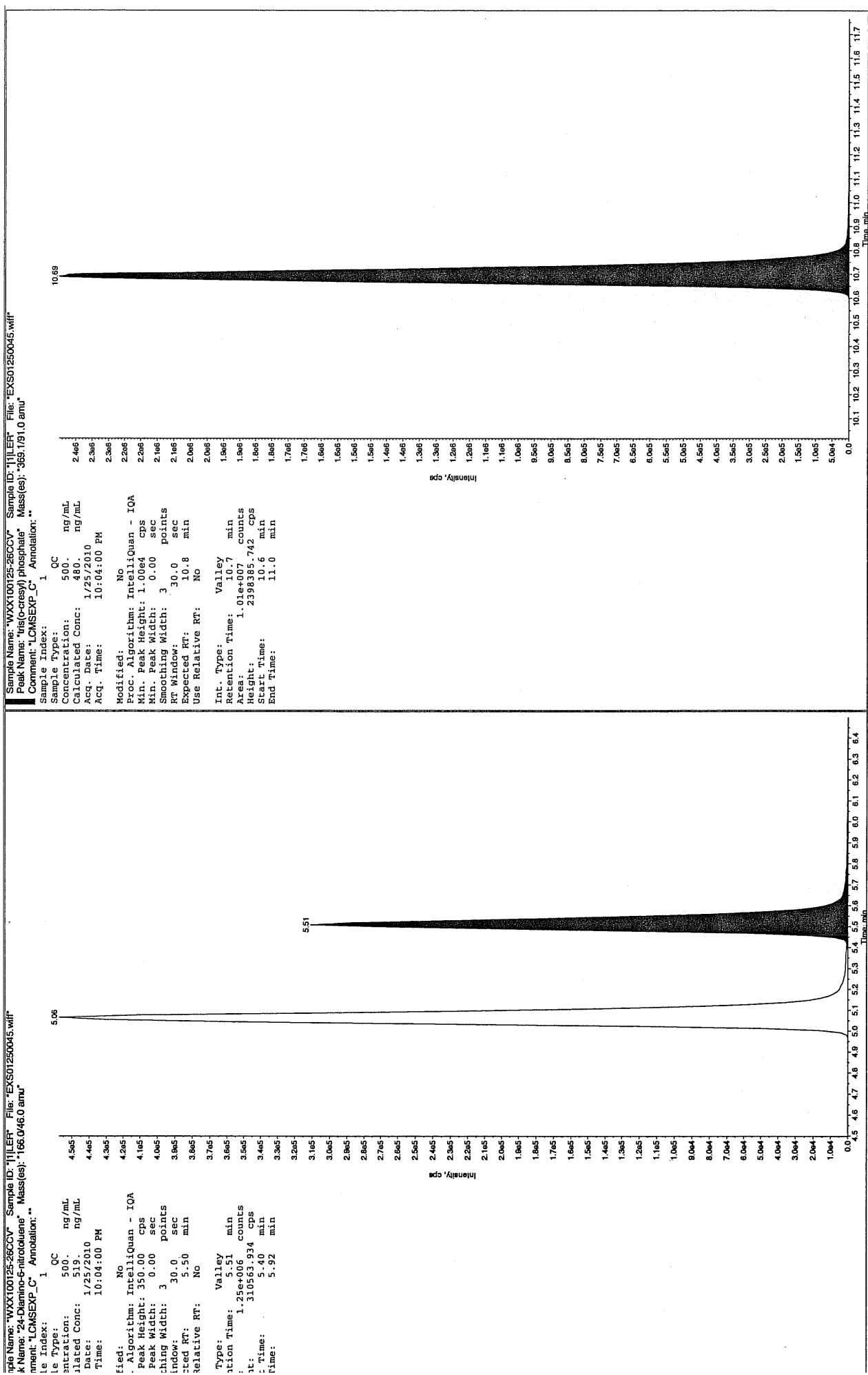
Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 482. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:04:00 PM  
 Modified: No  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 6.98 min  
 Area: 6.72e+005 counts  
 Height: 150136.551 cps  
 Start Time: 6.87 min  
 End Time: 7.43 min



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250047.wiff

Analysis Date: 25-JAN-10 22:35

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	121	121	
2,6-Diamino-4-nitrotoluene	100	110	110	
3,4-Dinitrotoluene	50	48.2	96	
3,5-Dinitroaniline	100	102	102	
TATB	100	101	101	
tris(o-cresyl) phosphate	100	113	113	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Hex 1/27/10

Sample Name: "WXX100125-27C91" Sample ID: "11LER" File: "EXS01250047.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 101. ng/mL

Date: 1/25/2010

Time: 10:35:24 PM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Peak Height: 2500.00 cps

Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 30.0 sec

Expected RT: 6.97 min

Use Relative RT: No

Int. Type: Valley

Retention Time: 6.98 min

Area: 1.42e+005 counts

Height: 32080.544 cps

Start Time: 6.85 min

End Time: 7.58 min

6.98

3264

3164

3064

2964

2864

2764

2664

2564

2464

2364

2264

2164

2064

1964

1864

1764

1664

1564

1464

1364

1264

1164

1064

900.0

800.0

700.0

600.0

500.0

400.0

300.0

200.0

100.0

6.98

3264

3164

3064

2964

2864

2764

2664

2564

2464

2364

2264

2164

2064

1964

1864

1764

1664

1564

1464

1364

1264

1164

1064

900.0

800.0

700.0

600.0

500.0

400.0

300.0

200.0

100.0

Sample Name: "WXX100125-27C91" Sample ID: "11LER" File: "EXS01250047.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 102. ng/mL

Date: 1/25/2010

Time: 10:35:24 PM

Modified: Yes

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.14 min

Use Relative RT: No

Int. Type: Valley

Retention Time: 8.16 min

Area: 9.95e+005 counts

Height: 254754.974 cps

Start Time: 8.07 min

End Time: 8.26 min

8.16

2564

2464

2364

2264

2164

2064

1964

1864

1764

1664

1564

1464

1364

1264

1164

1064

954

854

804

754

704

654

604

554

504

454

404

354

304

254

204

154

104

500.0

8.16

2564

2464

2364

2264

2164

2064

1964

1864

1764

1664

1564

1464

1364

1264

1164

1064

954

854

804

754

704

654

604

554

504

454

404

354

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204

154

104

500.0

8.16

2564

2464

2364

2264

2164

2064

1964

1864

1764

1664

1564

1464

1364

1264

1164

1064

954

854

804

754

704

654

604

554

504

454

404

354

304

254

204

154

104

500.0

8.16

2564

2464

2364

2264

2164

2064

1964

1864

1764

1664

1564

1464

1364

1264

1164

1064

954

854

804

754

704

654

604

554

504

454

404

354

304

254

204

154

104

500.0

8.16

2564

2464

2364

2264

2164

2064

1964

1864

1764

1664

1564

1464

1364

1264

1164

1064

954

854

804

754

704

654

604

554

504

454

404

354

304

254

204

154

104

500.0

8.16

2564

2464

2364

2264

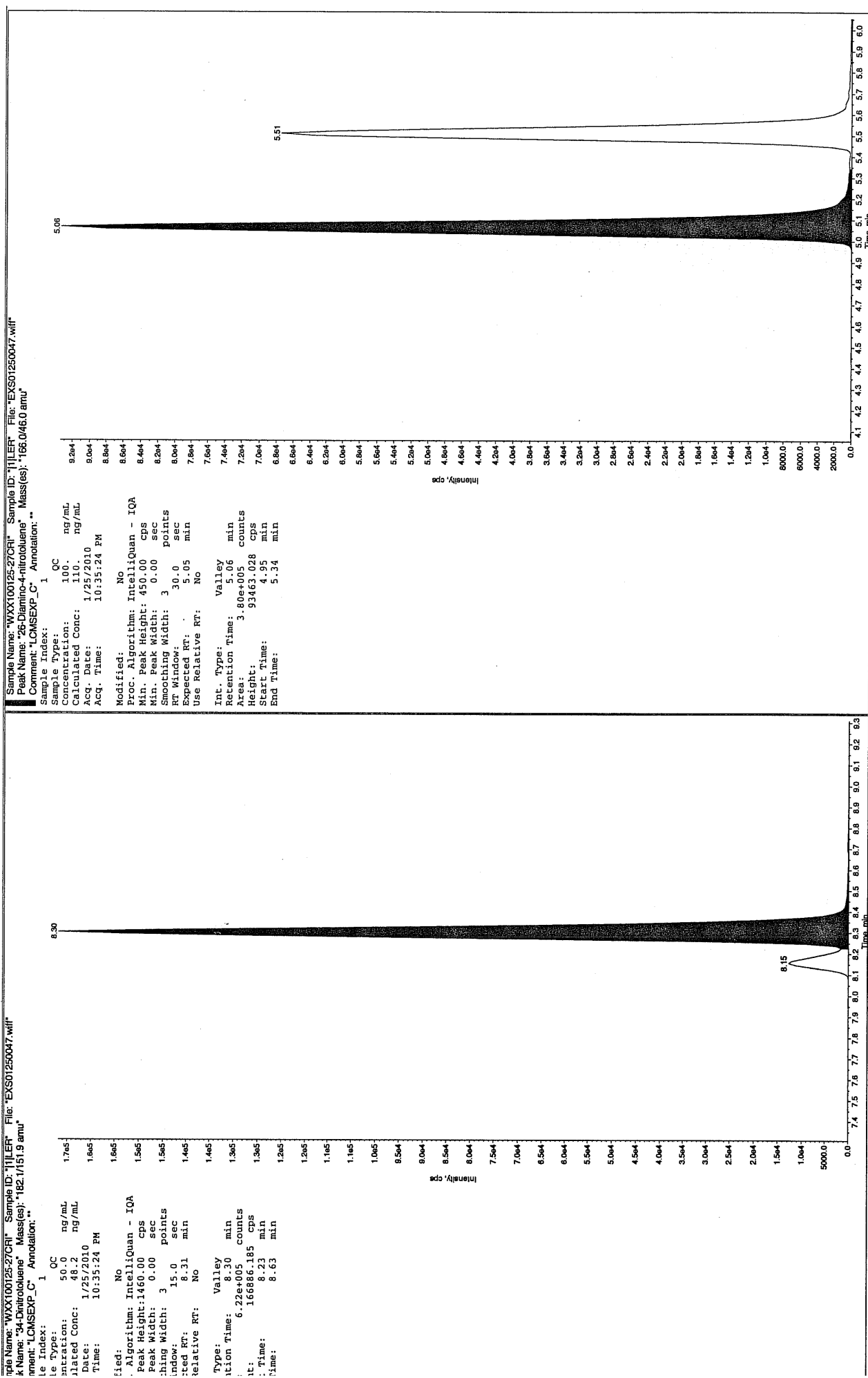
2164

2064

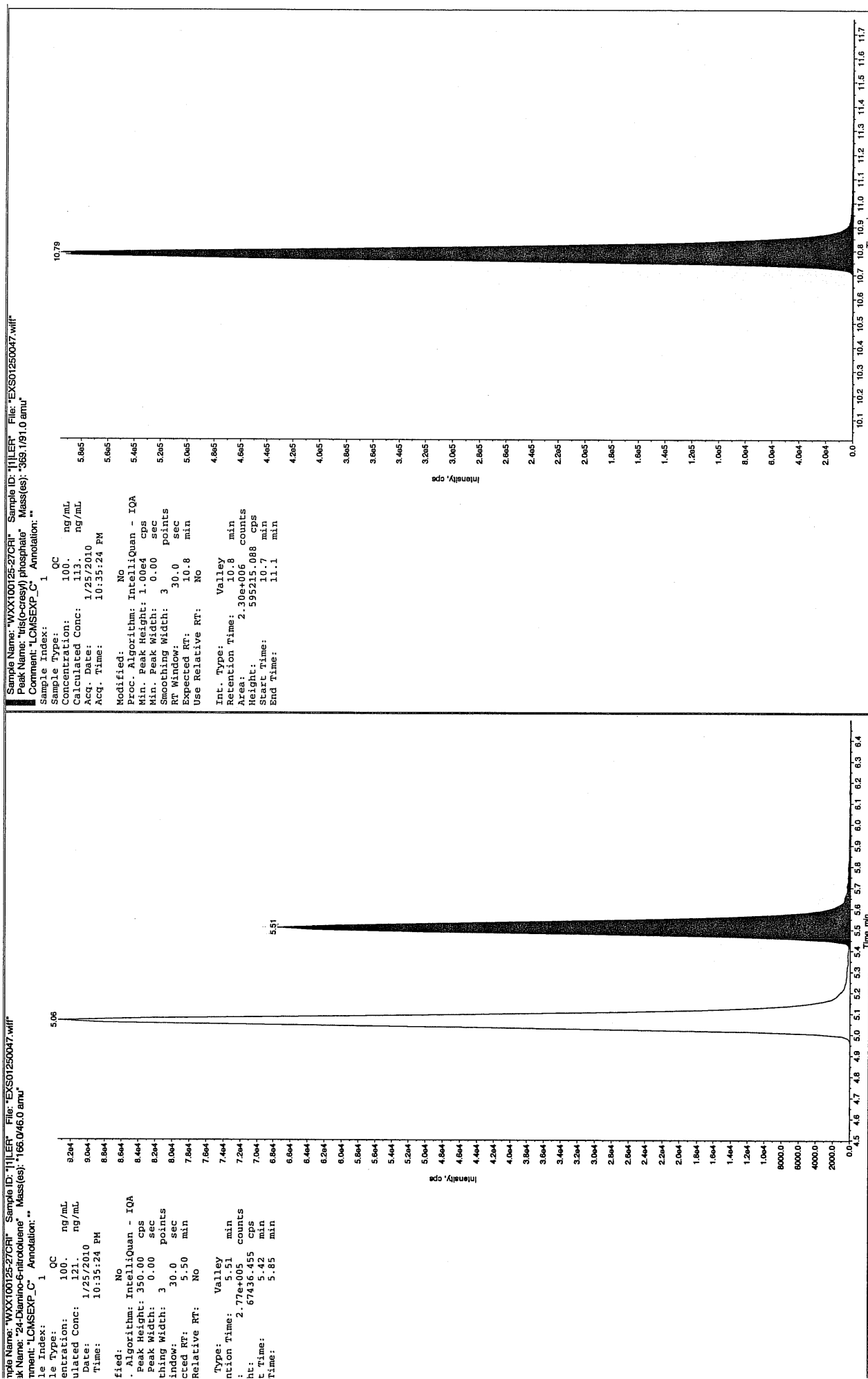
1964

1864

1764



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250058.wiff

Analysis Date: 26-JAN-10 01:28

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	510	102	
2,6-Diamino-4-nitrotoluene	500	472	95	
3,4-Dinitrotoluene	250	227	91	
3,5-Dinitroaniline	500	493	99	
TATB	500	507	101	
tris(o-cresyl) phosphate	500	483	97	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

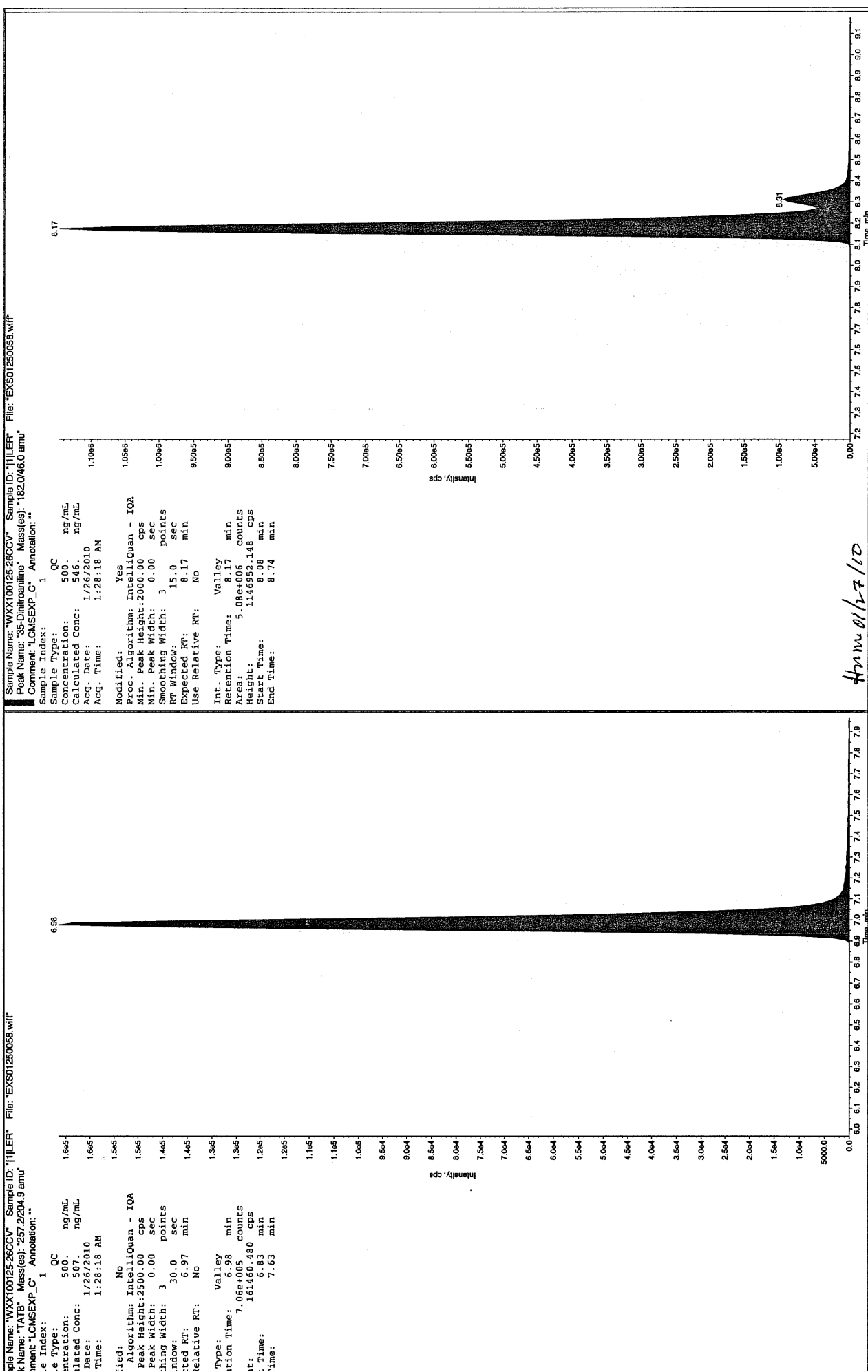
Other Target Analytes 80-120%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits



Before Scan 1127110



Ann 01/27/10

after Jan 112710

Sample Name: "WXX100125-26CCV" Sample ID: "111ER" File: "EXS01250058.will"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 500. ng/mL

Calculated Conc: 507. ng/mL

Acq. Date: 1/26/2010

Acq. Time: 1:28:18 AM

Modified: No

RT Window: 15.0 sec

Expected RT: 8.17 min

Use Relative RT: No

Int. Type: Manual

Retention Time: 8.17 min

Area: 4.62e+006 counts

Height: 1144715.280 cps

Start Time: 8.10 min

End Time: 8.27 min

6.98

16e5

16e5

15e5

15e5

14e5

14e5

13e5

13e5

12e5

12e5

11e5

11e5

10e5

9e5

9e5

8e5

8e5

7e5

7e5

6e5

6e5

5e5

5e5

4e5

4e5

3e5

3e5

2e5

2e5

1e5

1e5

0e5

0e5

Intensity, cps

Time, min

6.0

6.1

6.2

6.3

6.4

6.5

6.6

6.7

6.8

6.9

7.0

7.1

7.2

7.3

7.4

7.5

7.6

7.7

7.8

7.9

8.0

8.1

8.2

8.3

8.4

8.5

8.6

8.7

8.8

8.9

9.0

9.1

9.2

9.3

9.4

9.5

9.6

9.7

9.8

9.9

10.0

10.1

10.2

10.3

10.4

10.5

10.6

10.7

10.8

10.9

11.0

11.1

11.2

11.3

11.4

11.5

11.6

11.7

11.8

11.9

12.0

12.1

12.2

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12.4

12.5

12.6

12.7

12.8

12.9

13.0

13.1

13.2

13.3

13.4

13.5

13.6

13.7

13.8

13.9

14.0

14.1

14.2

14.3

14.4

14.5

14.6

14.7

14.8

14.9

15.0

15.1

15.2

15.3

15.4

15.5

15.6

15.7

15.8

15.9

16.0

16.1

16.2

16.3

16.4

16.5

16.6

16.7

16.8

16.9

17.0

17.1

17.2

17.3

17.4

17.5

17.6

17.7

17.8

17.9

18.0

18.1

18.2

18.3

18.4

18.5

18.6

18.7

18.8

18.9

19.0

19.1

19.2

19.3

19.4

19.5

19.6

19.7

19.8

19.9

20.0

20.1

20.2

20.3

20.4

20.5

20.6

20.7

20.8

20.9

21.0

21.1

21.2

21.3

21.4

21.5

21.6

21.7

21.8

21.9

22.0

22.1

22.2

22.3

22.4

22.5

22.6

22.7

22.8

22.9

23.0

23.1

23.2

23.3

23.4

23.5

23.6

23.7

23.8

23.9

24.0

24.1

24.2

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24.6

24.7

24.8

24.9

25.0

25.1

25.2

25.3

25.4

25.5

25.6

25.7

25.8

25.9

26.0

26.1

26.2

26.3

26.4

26.5

26.6

26.7

26.8

26.9

27.0

27.1

27.2

27.3

27.4

27.5

27.6

27.7

27.8

27.9

28.0

28.1

28.2

28.3

28.4

28.5

28.6

28.7

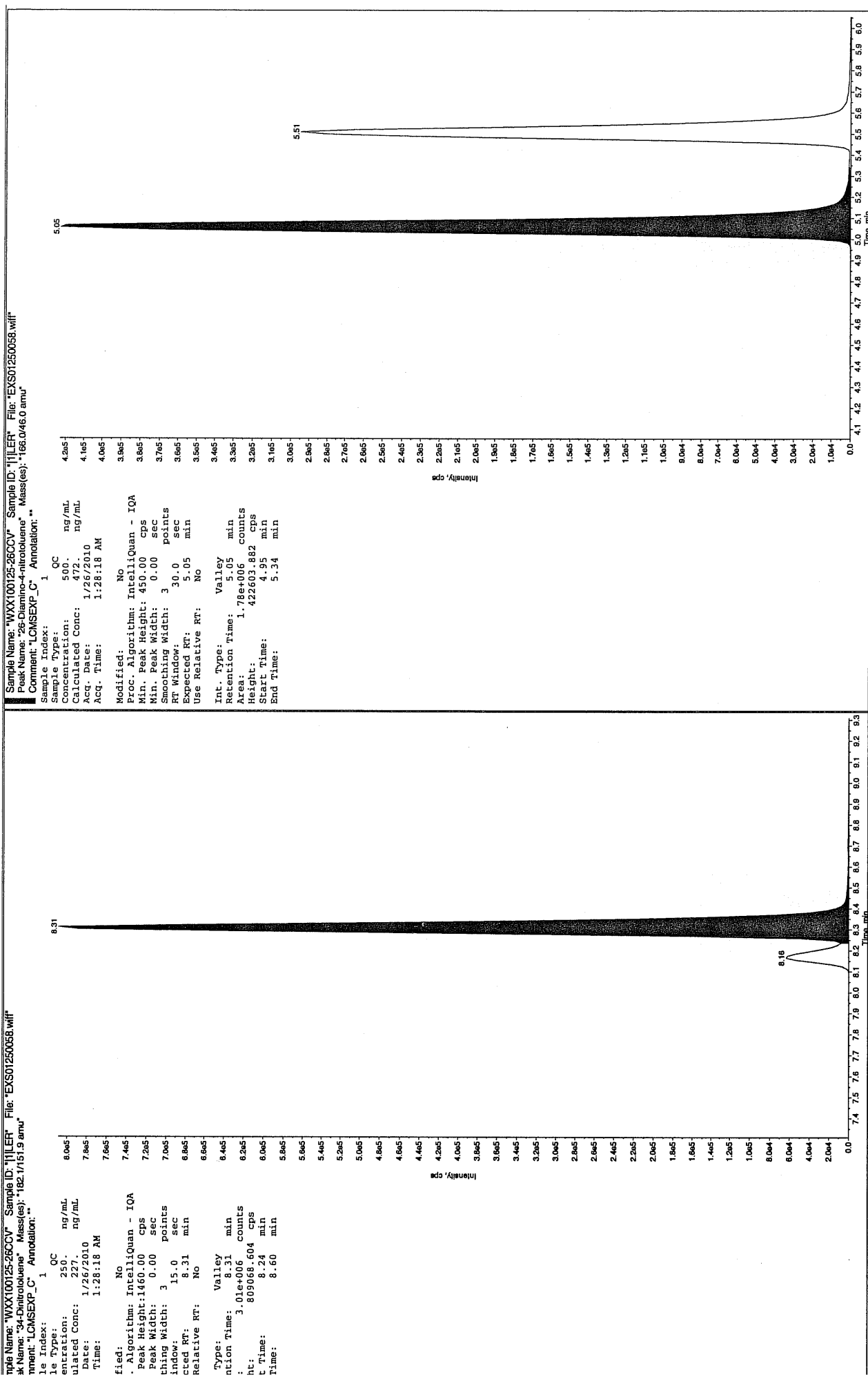
28.8

28.9

29.0

29.1

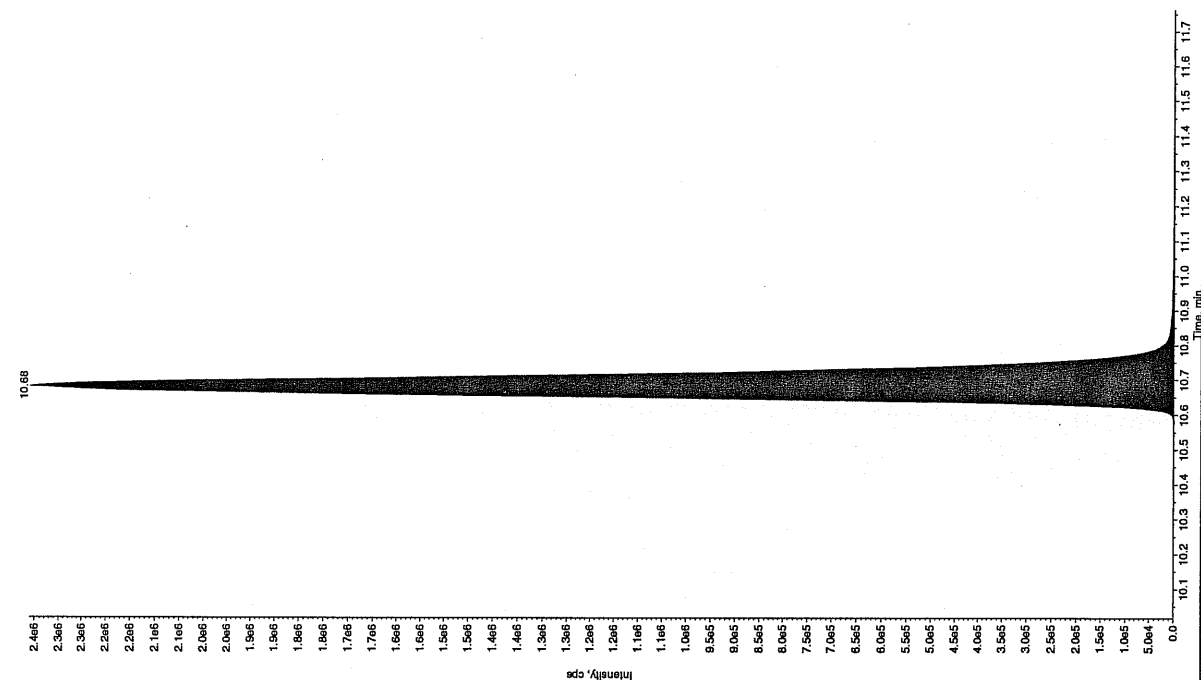
29.2



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

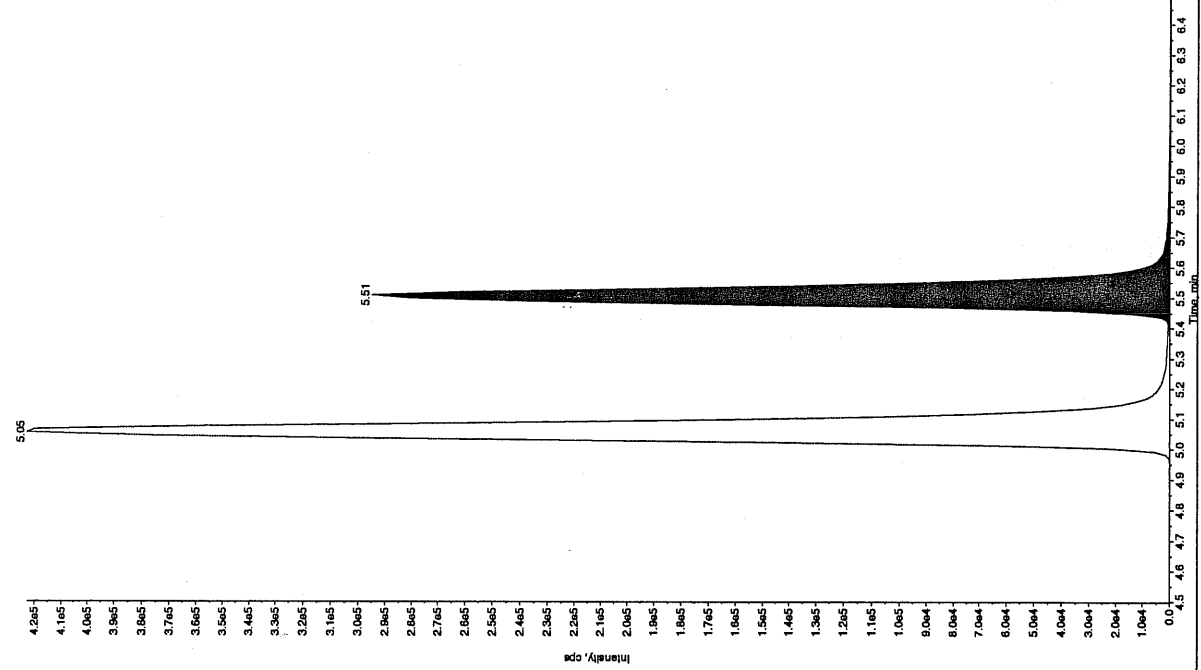
Sample Name: "WXX100125-260CV" Sample ID: "111ER" File: "EXS01250058.wif"  
Peak Name: "tris(cresyl) phosphate" Mass(es): "369.1/91.0 amu"  
Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1 QC  
Sample Type: 500. ng/mL  
Concentration: 483. ng/mL  
Calculated Conc: 1/26/2010  
Acq. Date: 1:28:18 AM  
Acq. Time: 1:28:18 AM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 1.00e4 cps  
Min. Peak Width: 3 0.00 sec  
Smoothing Width: 30.0 points  
RT Window: 30.0 sec  
Expected RT: 10.8 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 10.7 min  
Area: 1.01e+007 counts  
Height: 2359059.570 cps  
Start Time: 10.6 min  
End Time: 11.0 min



Sample Name: "WXX100125-260CV" Sample ID: "111ER" File: "EXS01250058.wif"  
Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.0/46.0 amu"  
Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1 QC  
Sample Type: 500. ng/mL  
Concentration: 510. ng/mL  
Calculated Conc: 1/26/2010  
Acq. Date: 1:28:18 AM  
Acq. Time: 1:28:18 AM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 350.00 cps  
Min. Peak Width: 3 0.00 sec  
Smoothing Width: 30.0 points  
RT Window: 30.0 sec  
Expected RT: 5.50 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 5.51 min  
Area: 1.23e+006 counts  
Height: 294758.667 cps  
Start Time: 5.41 min  
End Time: 6.00 min



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250060.wiff

Analysis Date: 26-JAN-10 01:59

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	111	111	
2,6-Diamino-4-nitrotoluene	100	109	109	
3,4-Dinitrotoluene	50	47.7	95	
3,5-Dinitroaniline	100	103	103	
TATB	100	104	104	
tris(o-cresyl) phosphate	100	112	112	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

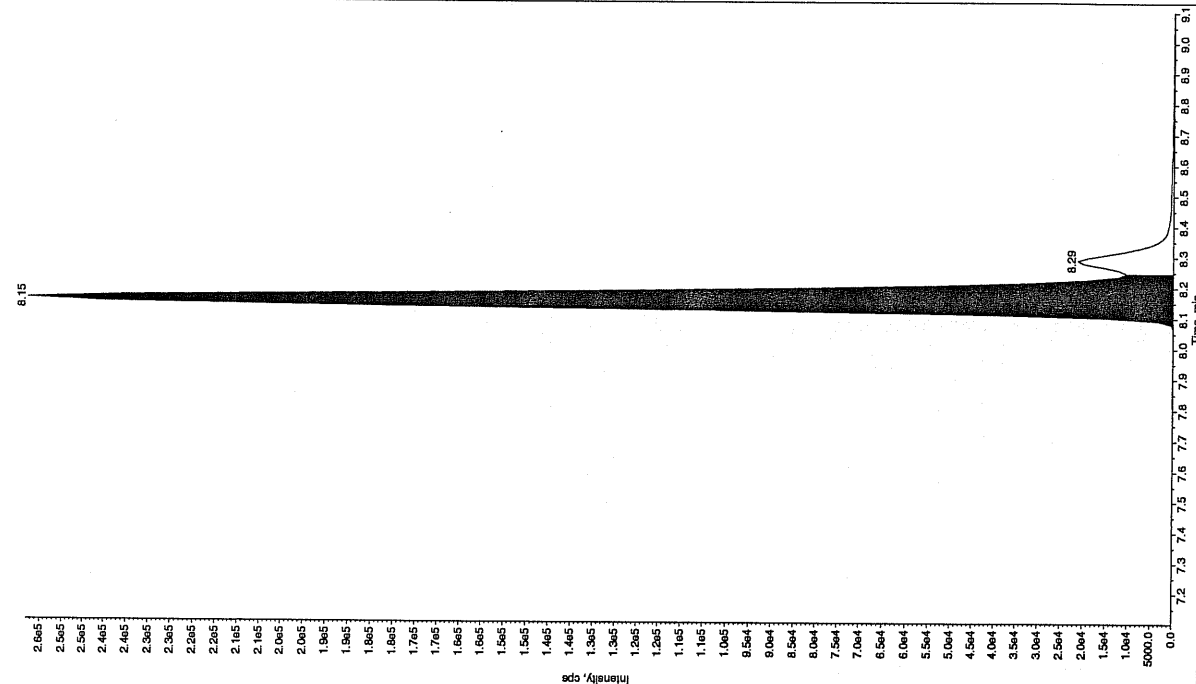
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Ken 1/27/10

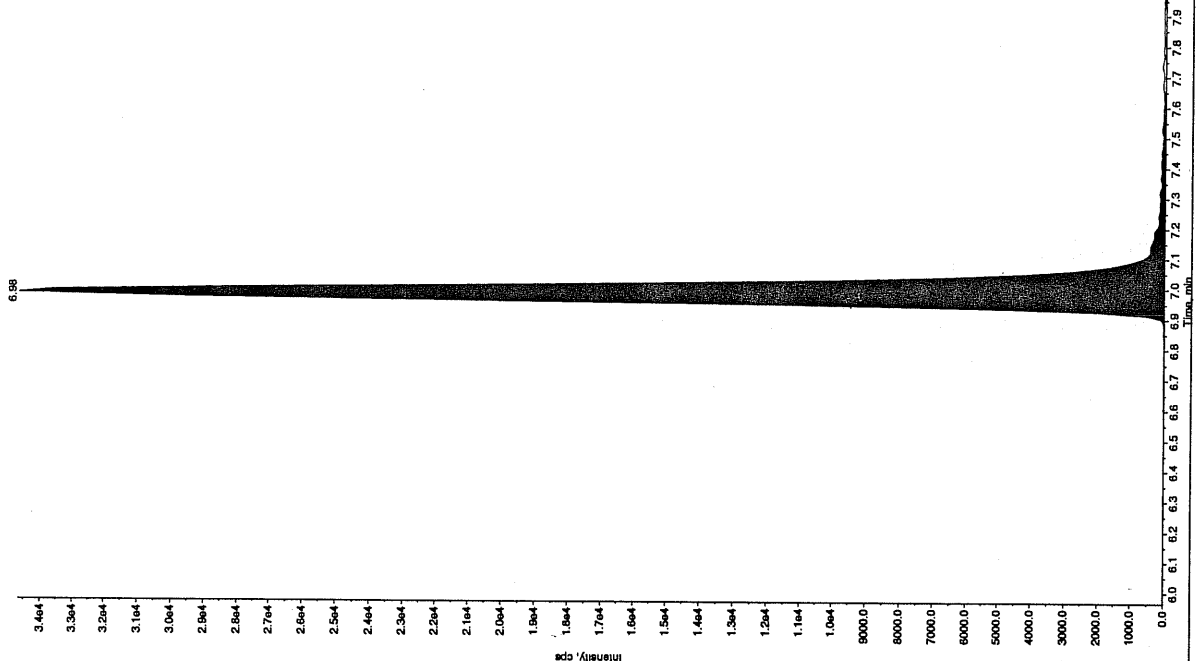
Sample Name: "WXX100125-27CRI" Sample ID: "11JLER" File: "EXS01250060.wif"  
 Peak Name: "36-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: "

Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 103. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 1:59:42 AM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.10 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.15 min  
 Area: 1.01e+006 counts  
 Height: 257909.027 cps  
 Start Time: 8.05 min  
 End Time: 8.25 min



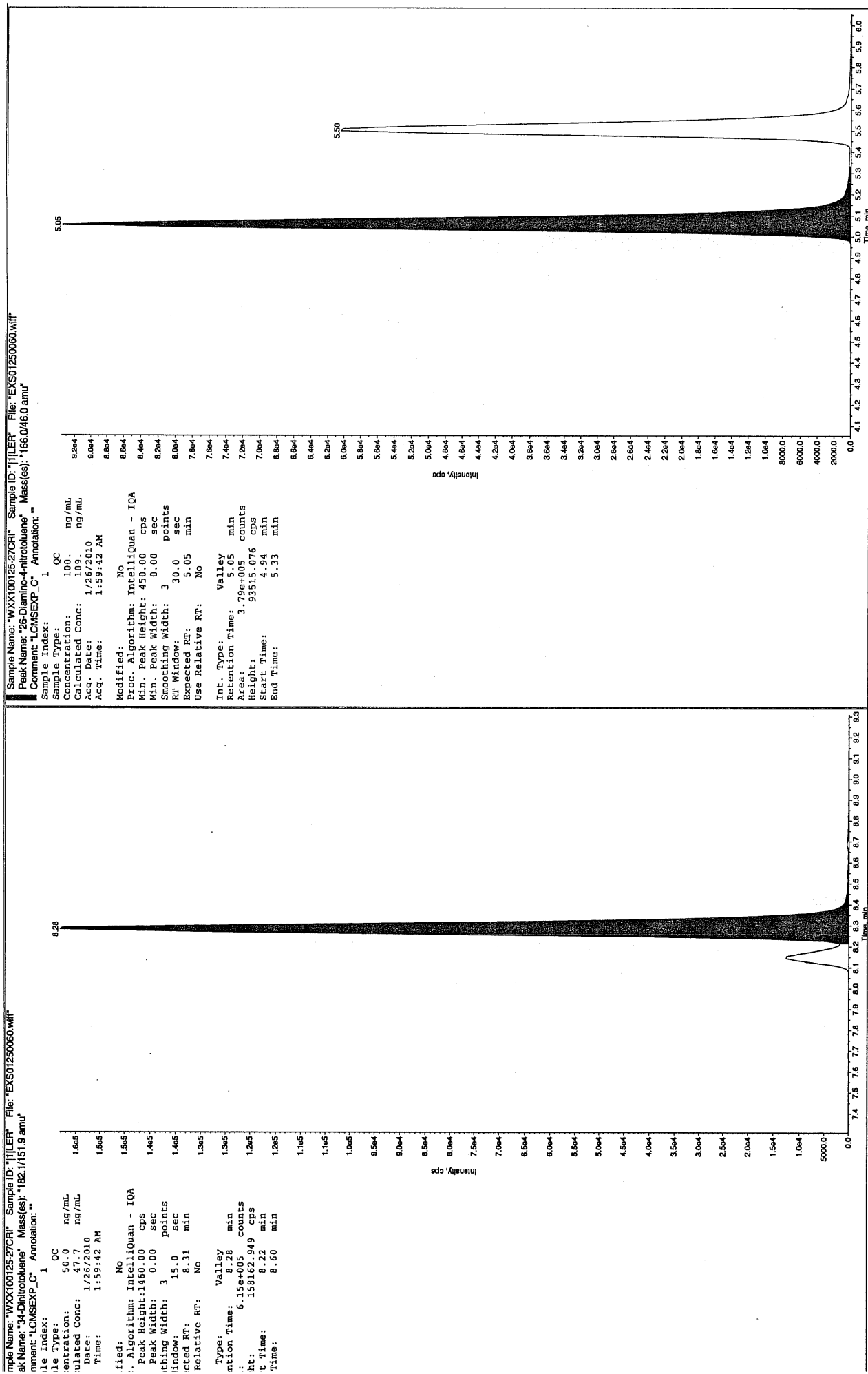
Sample Name: "WXX100125-27CRI" Sample ID: "11JLER" File: "EXS01250060.wif"  
 Peak Name: "TATB" Mass(es): "257.204.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: "

Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 104. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 1:59:42 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2500.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 6.98 min  
 Area: 1.47e+005 counts  
 Height: 34643.734 cps  
 Start Time: 6.82 min  
 End Time: 7.58 min



Ken 1/27/10

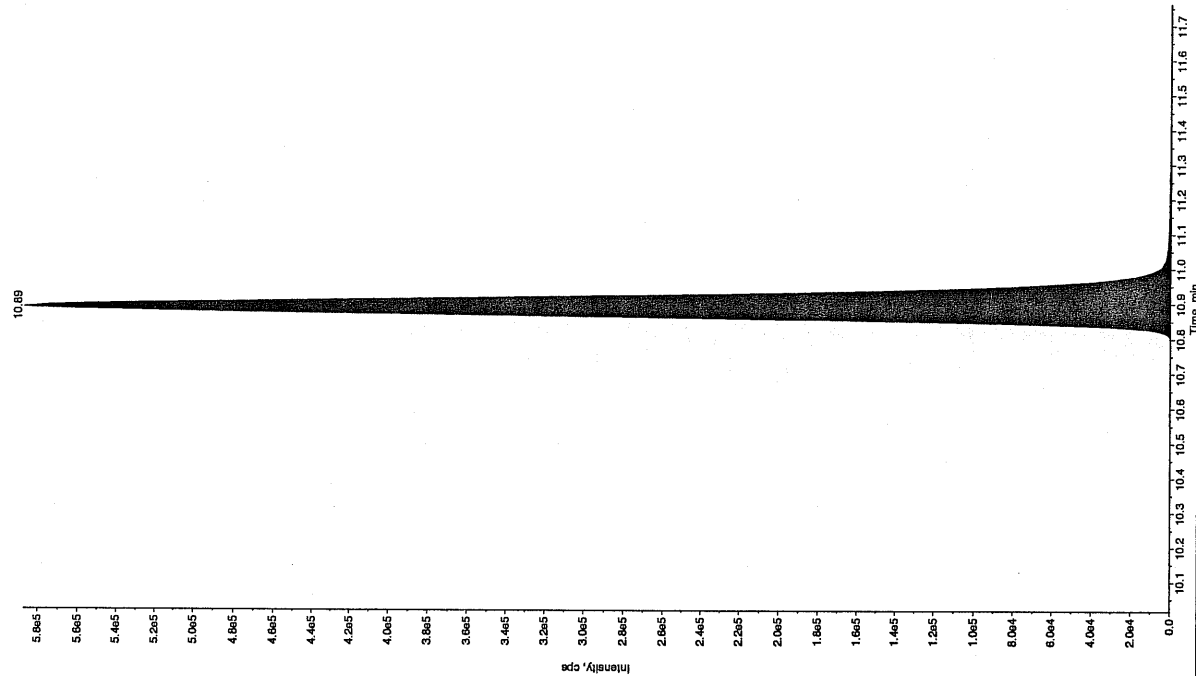
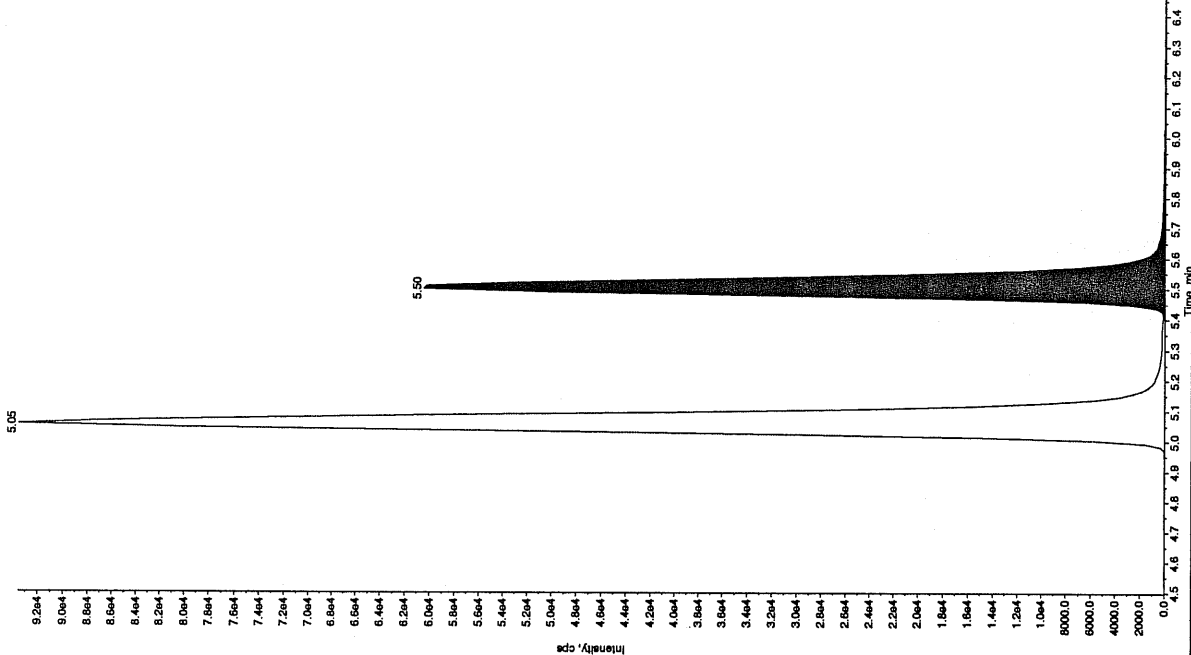
IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100125-27Ch" Sample ID: "11LEP" File: "EXS01250060.wif"  
 Peak Name: "24-Diamino-6-nitroketone" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 111. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 1:59:42 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 350.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.50 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.50 min  
 Area: 2.52e+005 counts  
 Height: 60389.641 cps  
 Start Time: 5.41 min  
 End Time: 5.87 min



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250067.wiff

Analysis Date: 26-JAN-10 03:49

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	523	105	
2,6-Diamino-4-nitrotoluene	500	495	99	
3,4-Dinitrotoluene	250	228	91	
3,5-Dinitroaniline	500	513	103	
TATB	500	525	105	
tris(o-cresyl) phosphate	500	481	96	

Recovery Limits:

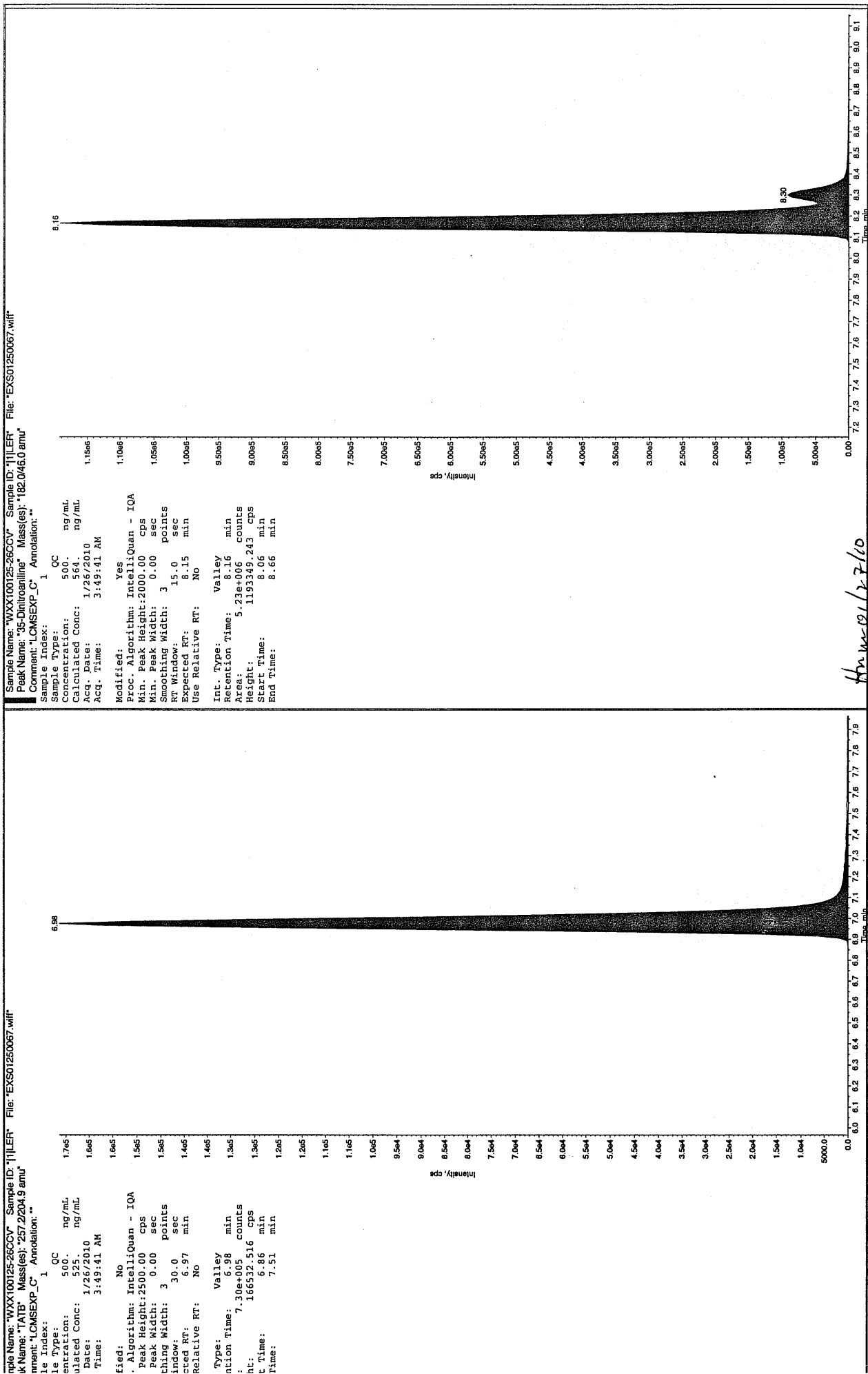
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before 12/10



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

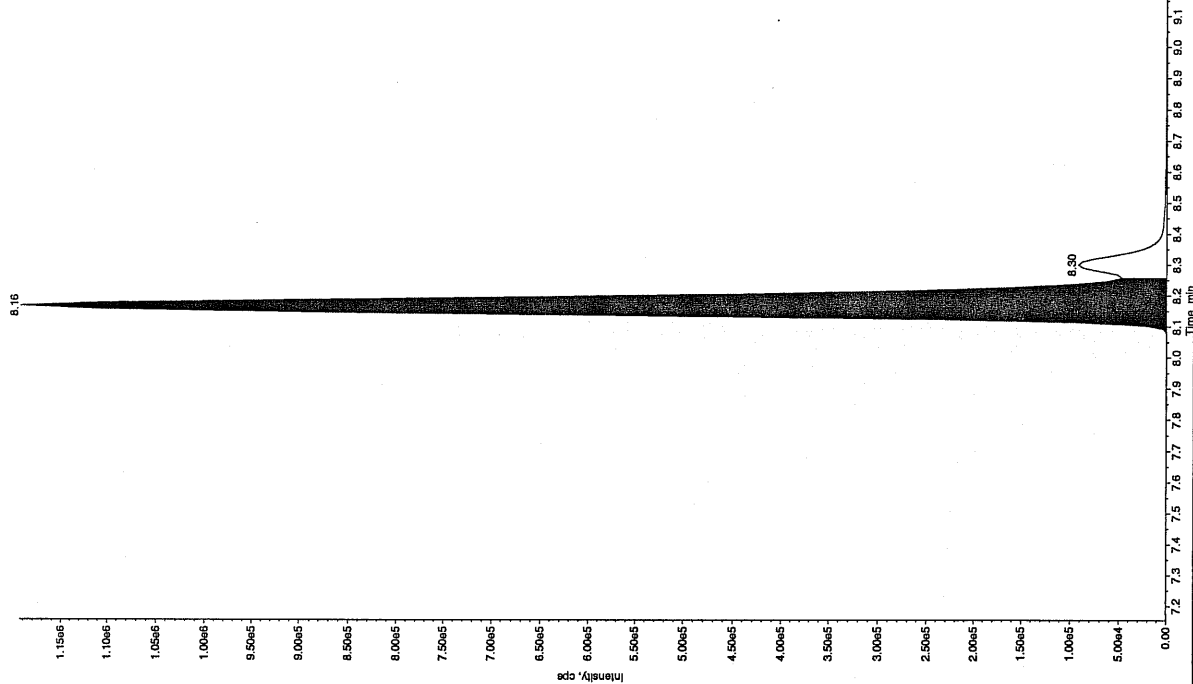
after Jan 11/27/10

Sample Name: "WXX100125-260CV" Sample ID: "111LER" File: "EXS01250067.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 513. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 3:49:41 AM  
 Modified: Yes  
 RT Window: 15.0 sec  
 Expected RT: 8.15 min  
 Use Relative RT: No  
 Int. Type: Manual  
 Retention Time: 8.16 min  
 Area: 4.80e+006 counts  
 Height: 1193431.488 cps  
 Start Time: 8.07 min  
 End Time: 8.26 min

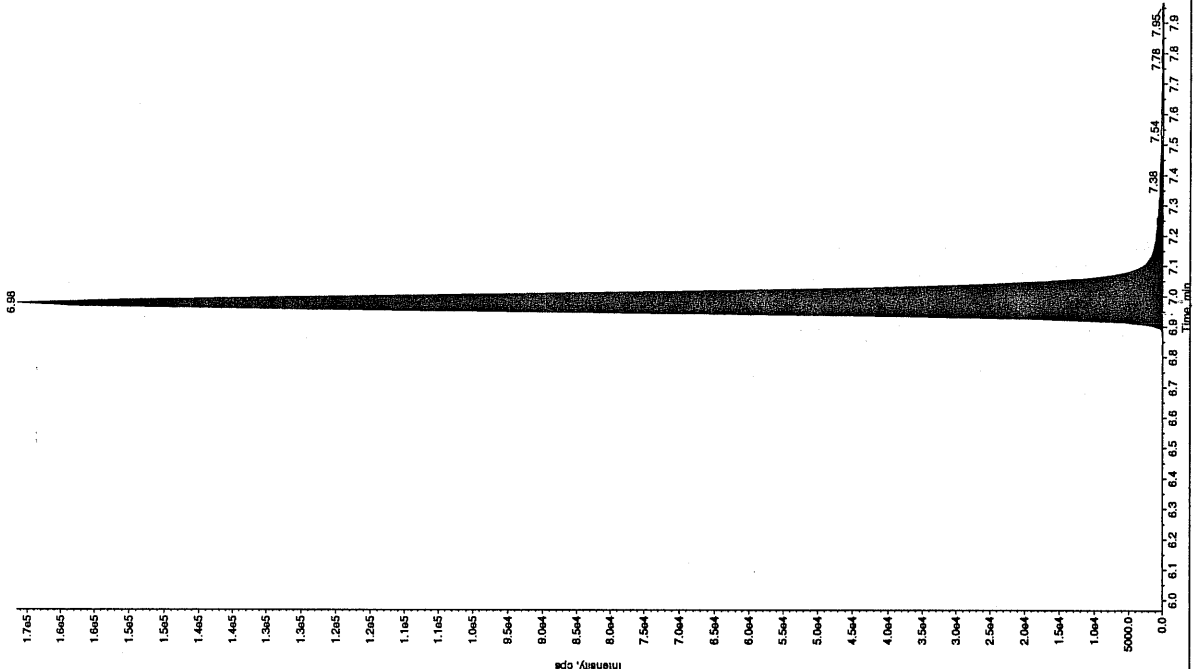


Sample Name: "WXX100125-260CV" Sample ID: "111LER" File: "EXS01250067.wif"

Peak Name: "TATB" Mass(es): "257.2/204.9 amu"

Comment: "LCMSEXP\_C" Annotation: ""

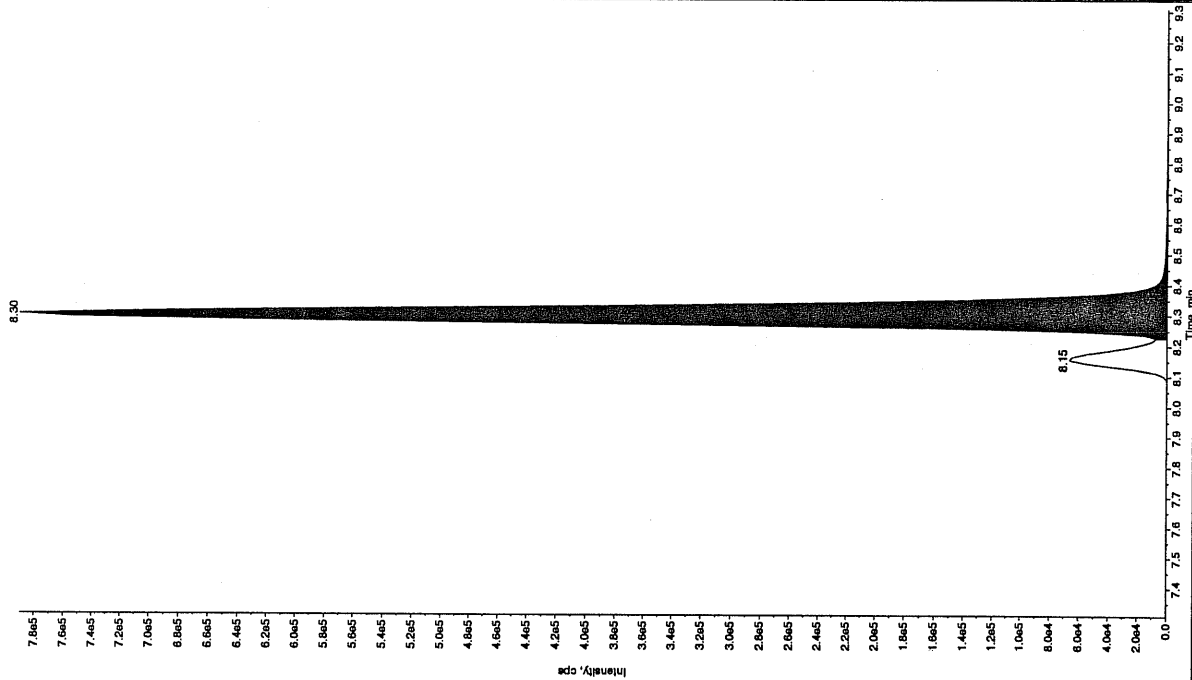
Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 525. ng/mL  
 Date: 1/26/2010  
 Time: 3:49:41 AM  
 Modified: No  
 Algorithm: IntelliQuan - IQA  
 Peak Height: 2500.00 cps  
 Peak Width: 0.00 sec  
 Window Width: 3 points  
 Window: 30.0 sec  
 Expected RT: 6.97 min  
 Relative RT: No  
 Type: Valley  
 Retention Time: 6.98 min  
 Area: 7.30e+005 counts  
 Height: 166532.516 cps  
 Start Time: 6.86 min  
 End Time: 7.51 min



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

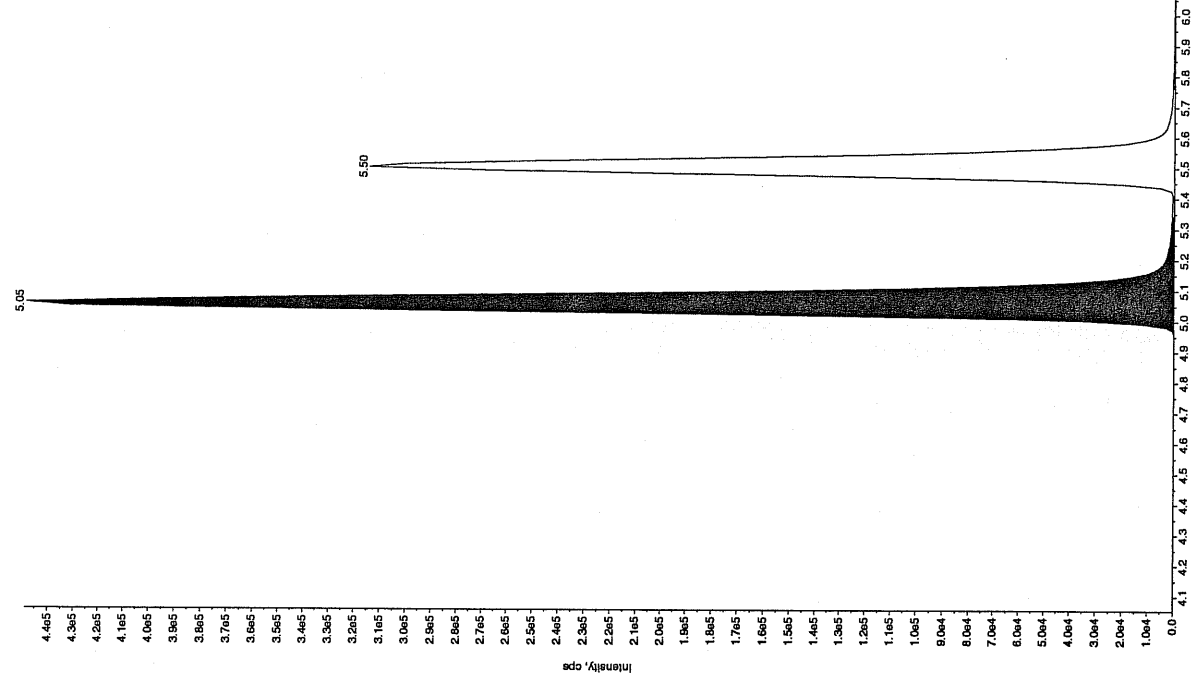
Sample Name: "WXX100125-26C0V" Sample ID: "11LER" File: "EXS01250067.wif"  
Peak Name: "34-Dinitrofluorene" Mass(es): "182.151/9 amu"  
Comment: "LCMSEXP\_C" Annotation: ""

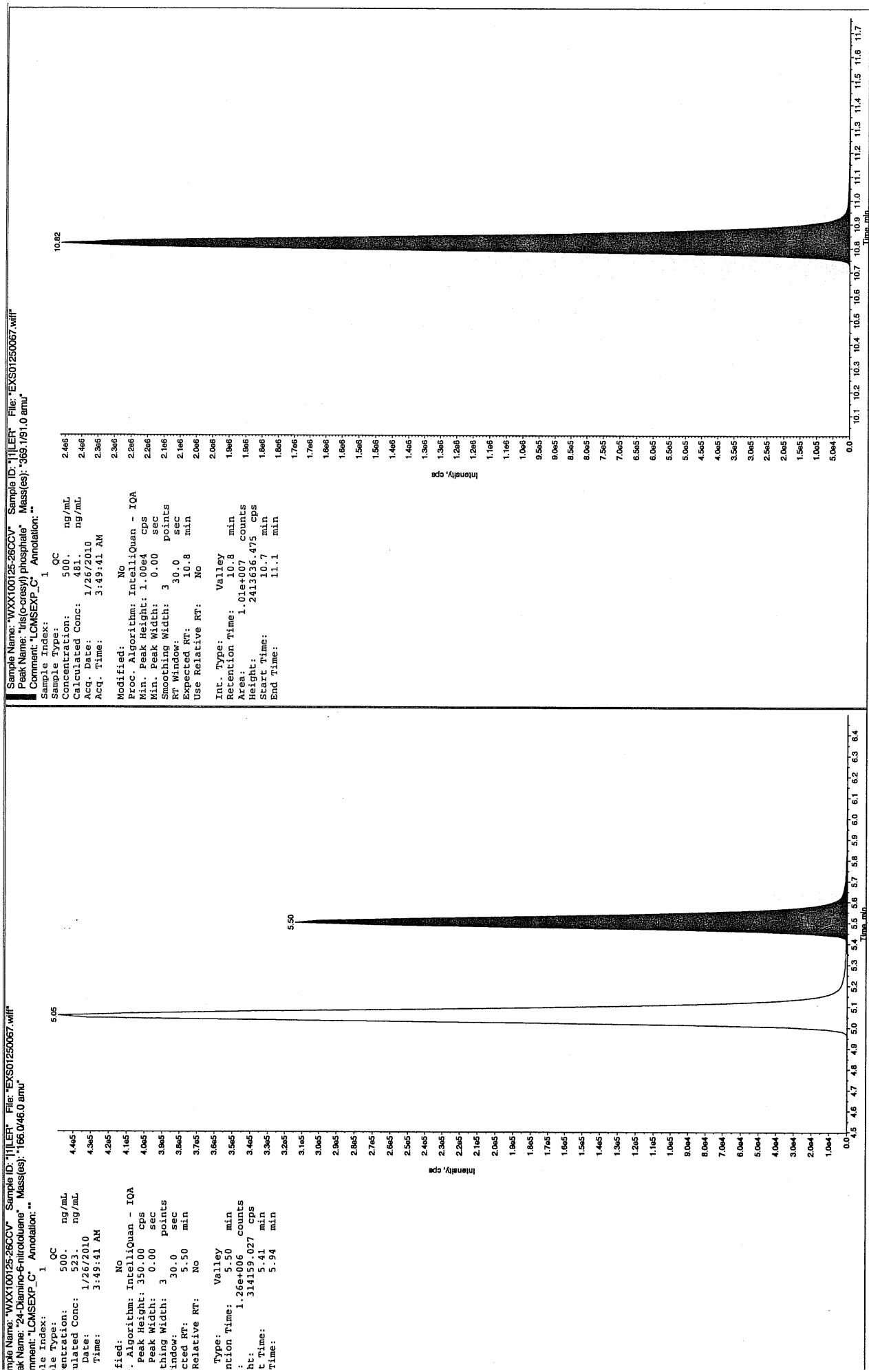
Sample Index: 1  
Sample Type: QC  
Concentration: 250. ng/mL  
Calculated Conc: 228. ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 3:49:41 AM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 1460.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 15.0 sec  
Expected RT: 8.31 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 8.30 min  
Area: 3.03e+006 counts  
Height: 789344.421 cps  
Start Time: 8.23 min  
End Time: 8.61 min



Sample Name: "WXX100125-26C0V" Sample ID: "11LER" File: "EXS01250067.wif"  
Peak Name: "26-Dinitrofluorene" Mass(es): "186.046/0 amu"  
Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
Sample Type: QC  
Concentration: 500. ng/mL  
Calculated Conc: 495. ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 3:49:41 AM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 450.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 30.0 sec  
Expected RT: 5.05 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 5.05 min  
Area: 1.87e+006 counts  
Height: 448419.586 cps  
Start Time: 4.94 min  
End Time: 5.34 min





IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250069.wiff

Analysis Date: 26-JAN-10 04:21

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	112	112	
2,6-Diamino-4-nitrotoluene	100	110	110	
3,4-Dinitrotoluene	50	48.2	96	
3,5-Dinitroaniline	100	108	108	
TATB	100	107	107	
tris(o-cresyl) phosphate	100	111	111	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before Jan 16 2010

Sample Name: "WXX100125-27CRI" Sample ID: "111ER" File: "EXS01250069.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 118. ng/mL

Acq. Date: 1/26/2010

Acq. Time: 4:21:06 AM

Modified: Yes

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.15 min

Use Relative RT: No

Int. Type: Valley

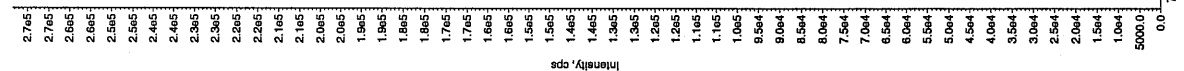
Retention Time: 8.17 min

Area: 1.15e+006 counts

Height: 273393.524 cps

Start Time: 8.06 min

End Time: 8.71 min



Sample Name: "WXX100125-27CRI" Sample ID: "111ER" File: "EXS01250069.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 107. ng/mL

Acq. Date: 1/26/2010

Acq. Time: 4:21:06 AM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2500.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 30.0 sec

Expected RT: 6.97 min

Use Relative RT: No

Int. Type: Valley

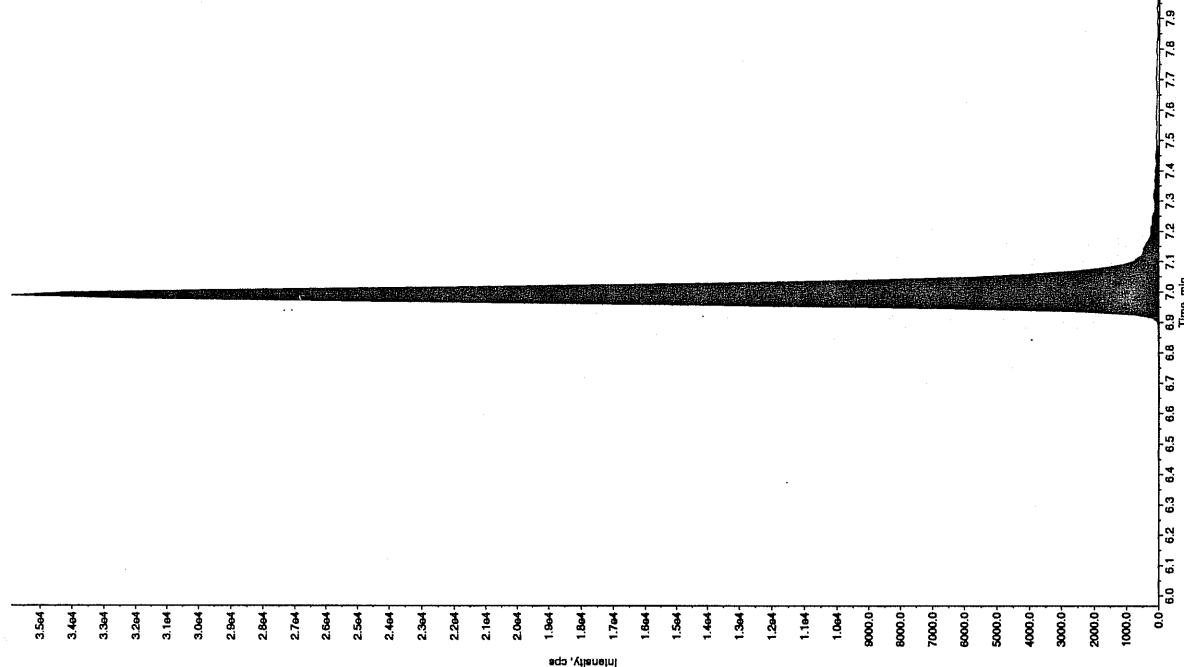
Retention Time: 6.99 min

Area: 1.51e+005 counts

Height: 35872.509 cps

Start Time: 6.88 min

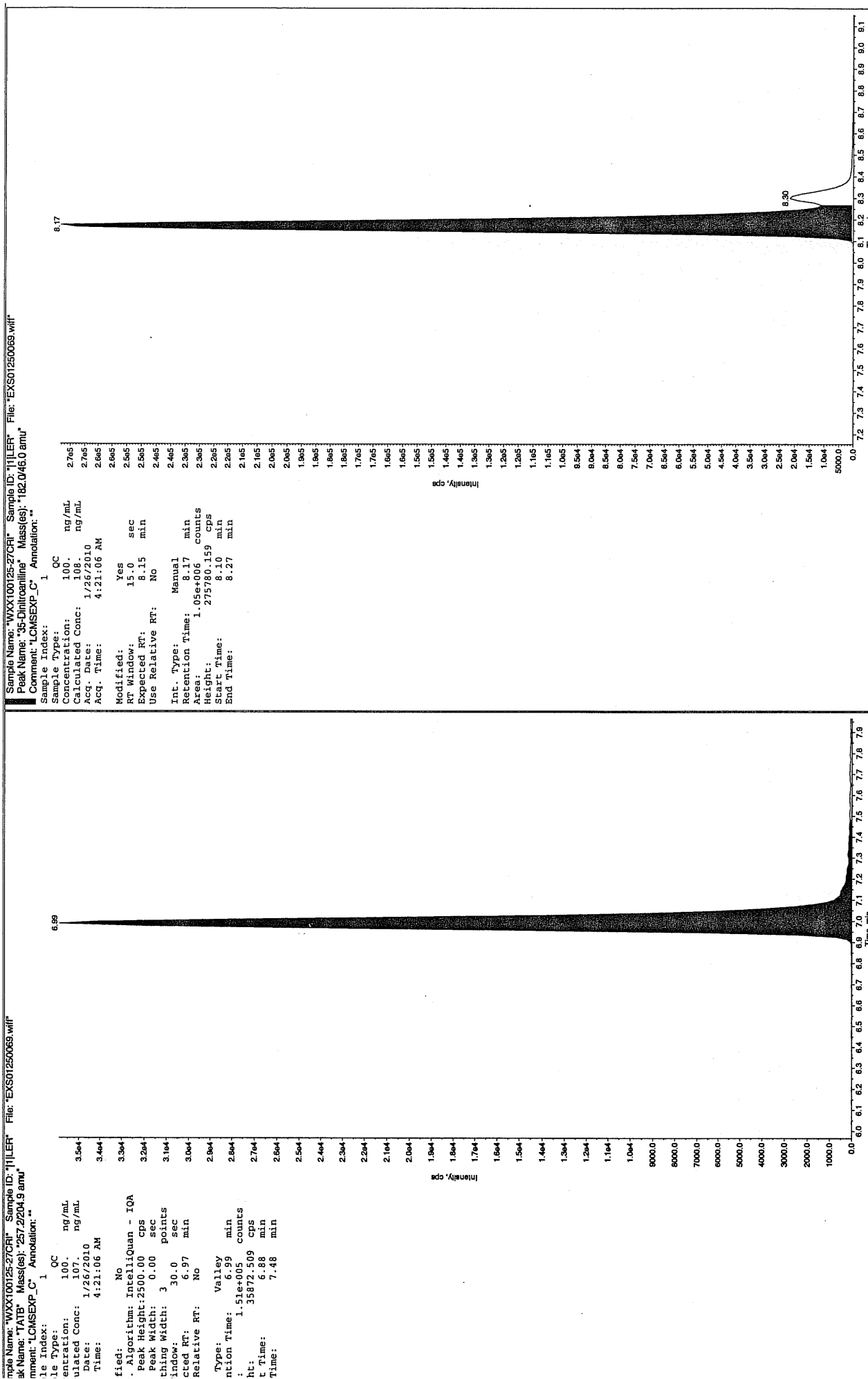
End Time: 7.48 min



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

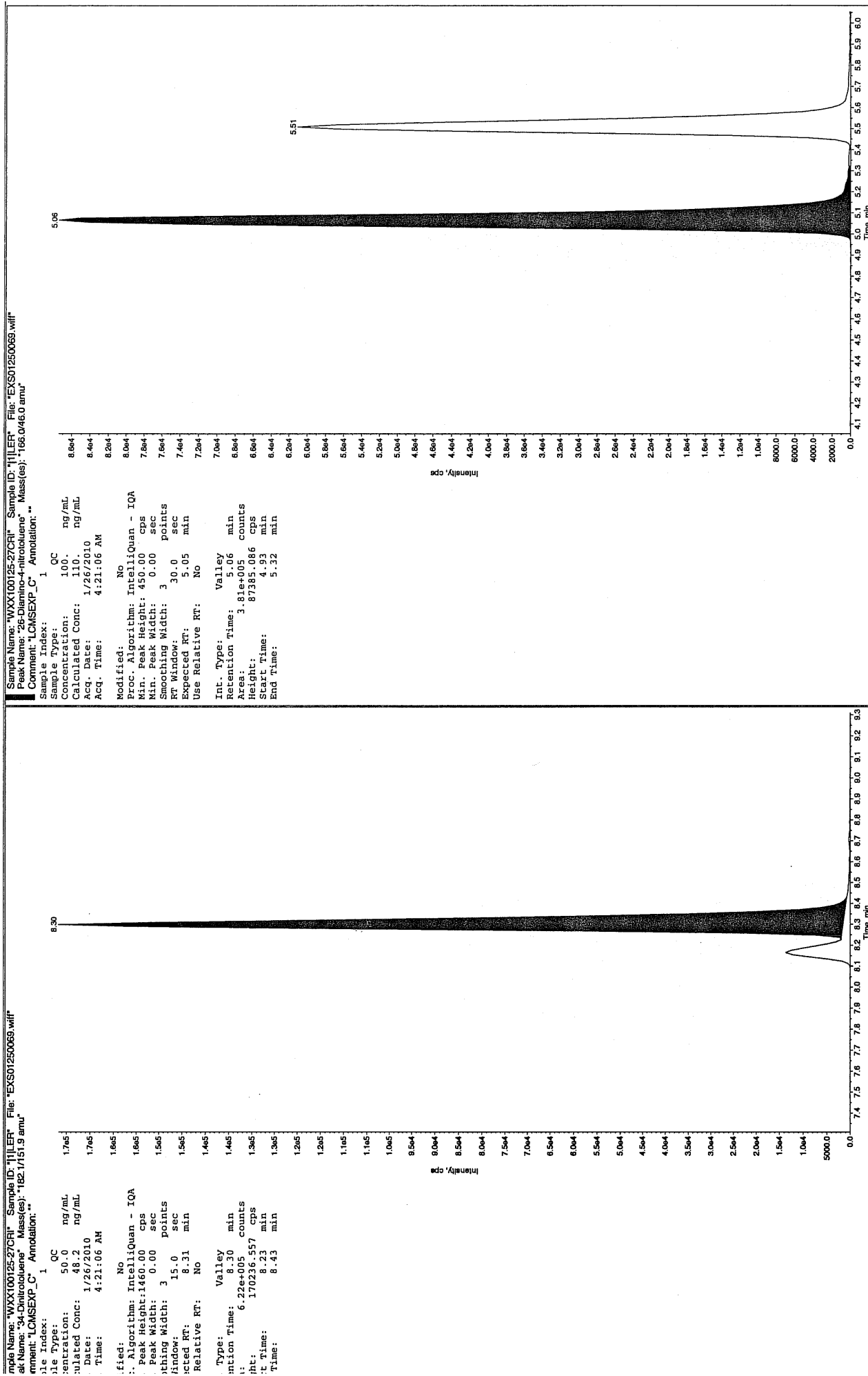
After Jan 16 2010

after Jan 11/27/10



IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





3L SOP GL-OA-E-056, Method 8321A-Modified LCM SMS#4



7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250080.wiff

Analysis Date: 26-JAN-10 07:13

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	506	101	
2,6-Diamino-4-nitrotoluene	500	493	99	
3,4-Dinitrotoluene	250	236	95	
3,5-Dinitroaniline	500	539	108	
TATB	500	538	108	
tris(o-cresyl) phosphate	500	504	101	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

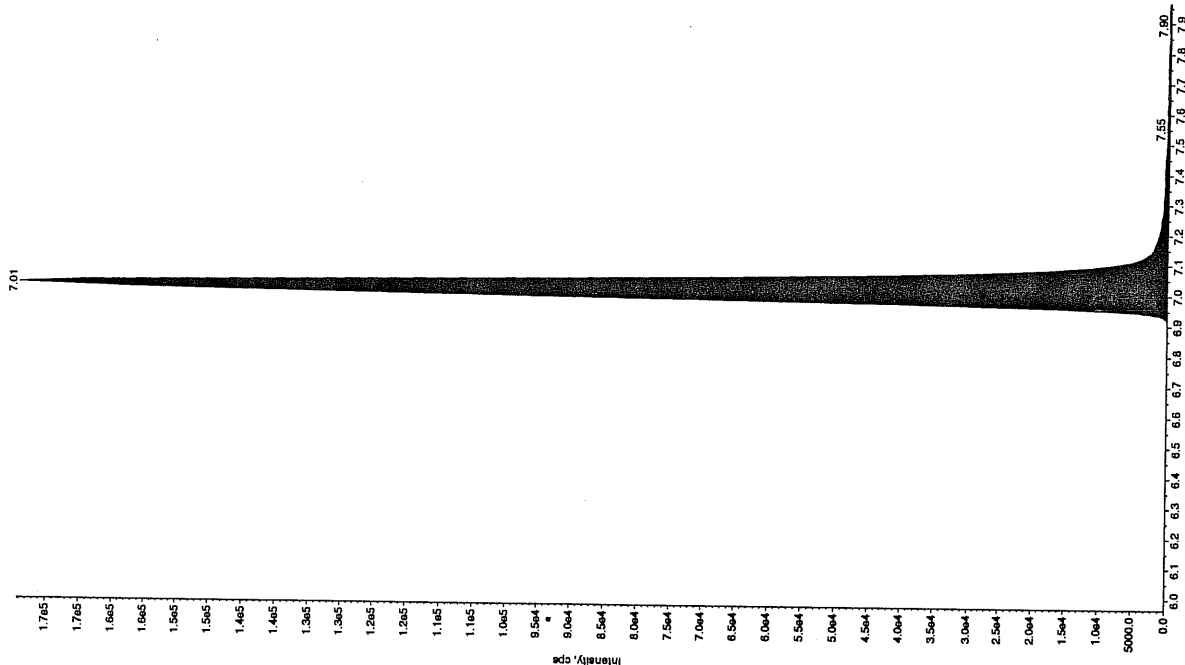
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

OK 1/27/10

Sample Name: "WXX100125-260CV" Sample ID: "111ER" File: "EXS01250080.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.5 and"  
 Comment: "LCMSEXP\_C" Annotation: ""

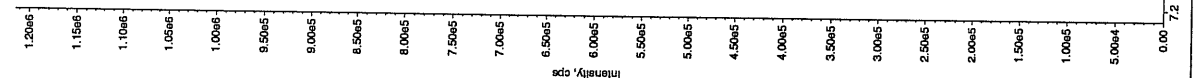
Sample Index: 1 QC  
 Sample Type: 500 ng/mL  
 Concentrated: 538 ng/mL  
 Calculated Conc: 1/26/2010  
 Acq. Date: 7:13:52 AM  
 Acq. Time: 7:13:52 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2500.00 cps  
 Min. Peak Width: 3 0.00 sec  
 Smoothing Width: 30.0 points  
 RT Window: 6.97 min  
 Expected RT: 7.64 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 7.01 min  
 Area: 174269.165 counts  
 Start Time: 6.87 min  
 End Time: 7.64 min



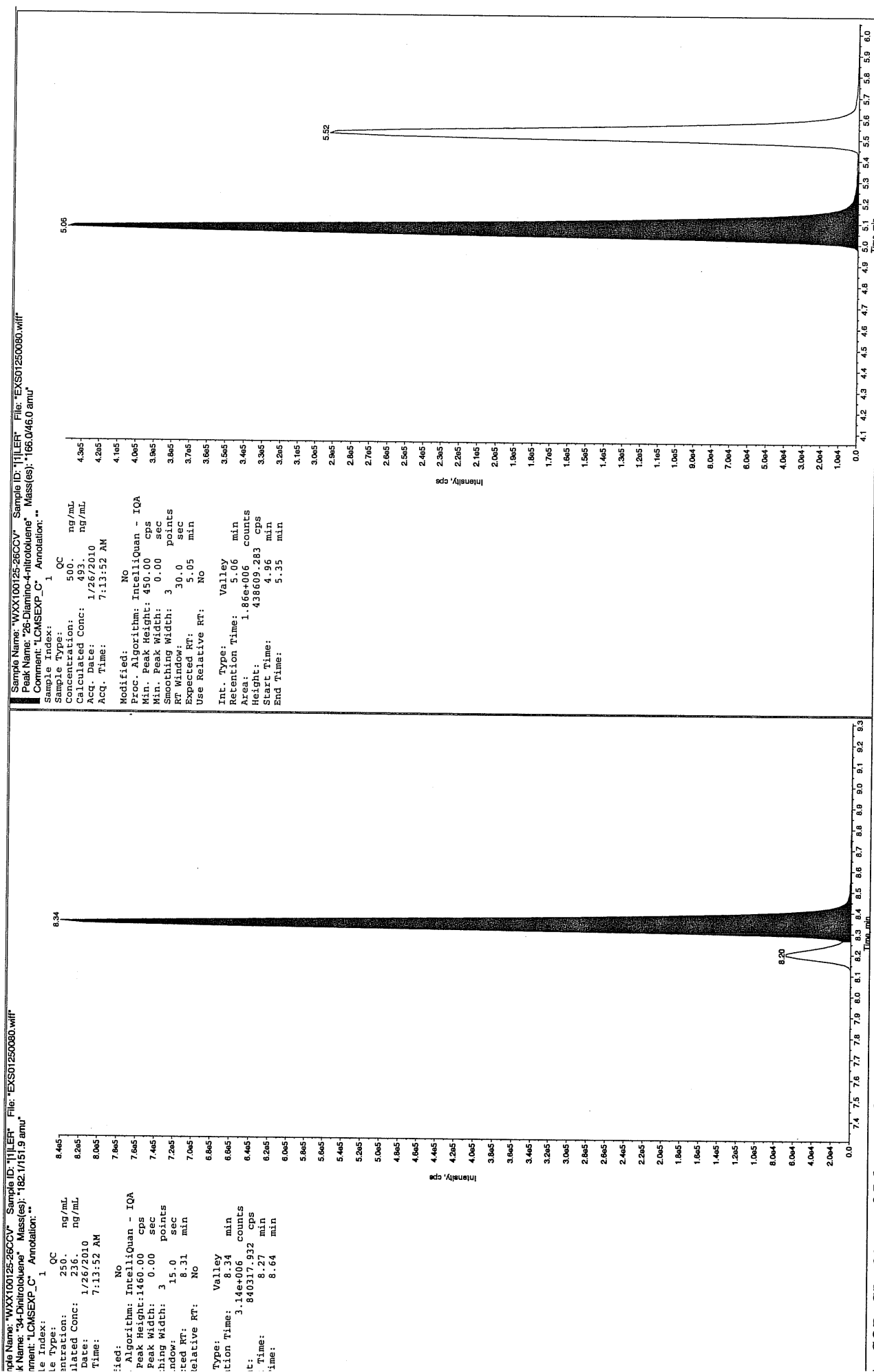
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100125-260CV" Sample ID: "111ER" File: "EXS01250080.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 and"  
 Comment: "LCMSEXP\_C" Annotation: ""

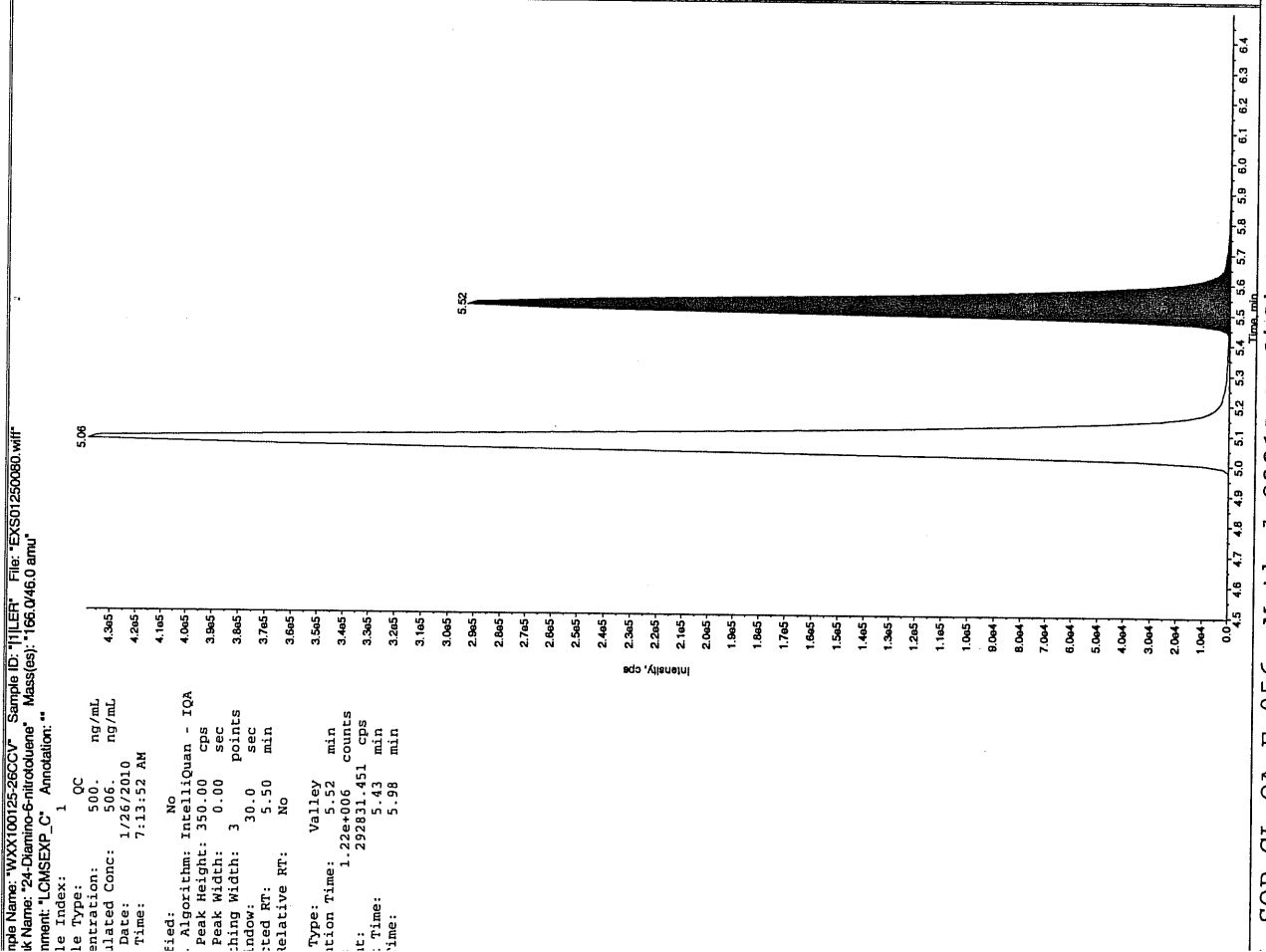
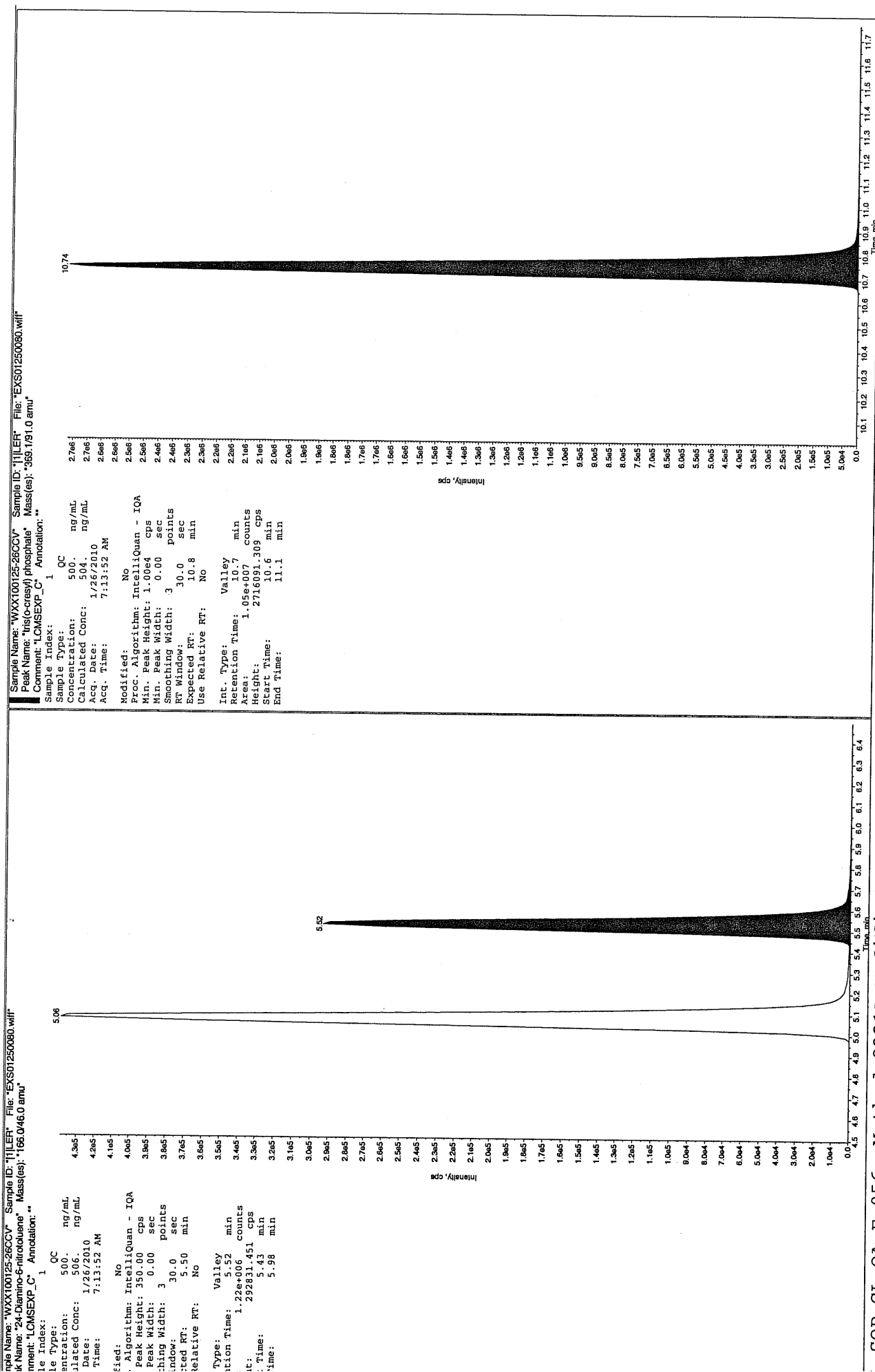
Sample Index: 1 QC  
 Sample Type: 500 ng/mL  
 Concentrated: 539 ng/mL  
 Calculated Conc: 1/26/2010  
 Acq. Date: 7:13:52 AM  
 Acq. Time: 7:13:52 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 3 0.00 sec  
 Smoothing Width: 30.0 points  
 RT Window: 15.0 sec  
 Expected RT: 8.16 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.21 min  
 Area: 5.01e+006 counts  
 Height: 1214258.057 cps  
 Start Time: 8.09 min  
 End Time: 8.30 min



Hum 01/27/10



J SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250082.wiff

Analysis Date: 26-JAN-10 07:45

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	111	111	
2,6-Diamino-4-nitrotoluene	100	110	110	
3,4-Dinitrotoluene	50	48.5	97	
3,5-Dinitroaniline	100	109	109	
TATB	100	110	110	
tris(o-cresyl) phosphate	100	116	116	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before Scan 11/27/10

Sample Name: "WXX100125-27CR1" Sample ID: "JILER" File: "EXS01250082.wif"

Peak Name: "35-Dimethylnitro" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: 100. ng/mL

Concentration: 120. ng/mL

Acq. Date: 1/26/2010

Acq. Time: 7:45:16 AM

Modified: Yes

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.16 min

Use Relative RT: No

Int. Type: Valley

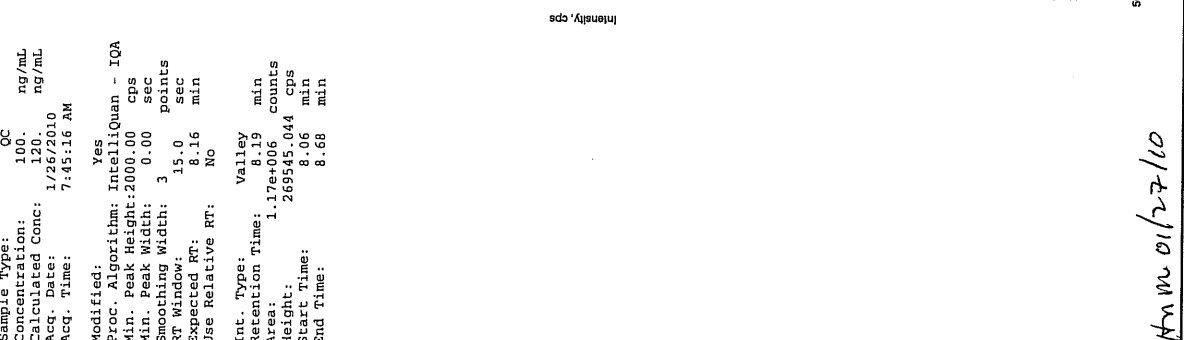
Retention Time: 8.19 min

Area: 1.17e+006 counts

Height: 269545.044 cps

Start Time: 8.06 min

End Time: 8.68 min



Am 01/27/10

Sample Name: "WXX100125-27CR1" Sample ID: "JILER" File: "EXS01250082.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: 100. ng/mL

Concentration: 110. ng/mL

Acq. Date: 1/26/2010

Acq. Time: 7:45:16 AM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2500.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 30.0 sec

Expected RT: 6.97 min

Use Relative RT: No

Int. Type: Valley

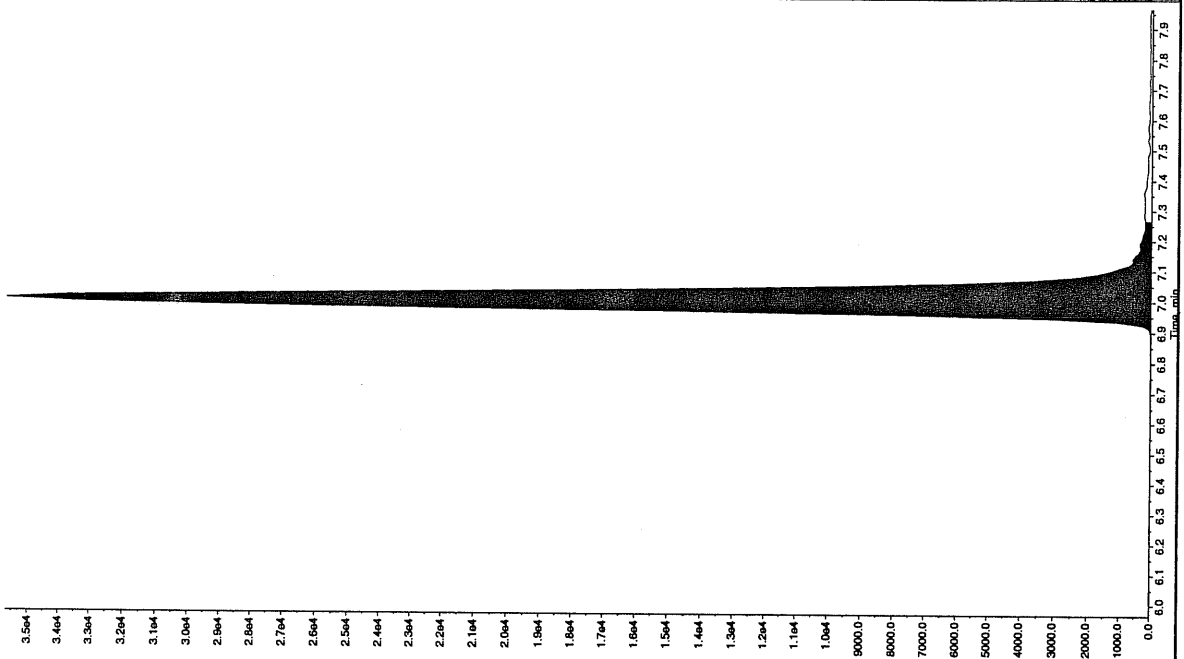
Retention Time: 7.00 min

Area: 1.55e+005 counts

Height: 35641.964 cps

Start Time: 6.86 min

End Time: 7.27 min



L SOP GL-OA-E-056, Method 8321A-Modified LCM SMS#4



after scan 1127110

Sample Name: "WXX100125-27C1" Sample ID: "JILLER" File: "EXS01250082.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 110. ng/mL

Acq. Date: 1/25/2010

Acq. Time: 7:45:16 AM

Modified: No

RT Window: 15.0 sec

Expected RT: 8.16 min

Use Relative RT: No

Int. Type: Manual

Retention Time: 8.18 min

Area: 1.06e+006 counts

Height: 272360.664 cps

Start Time: 8.11 min

End Time: 8.27 min

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 110. ng/mL

Acq. Date: 1/25/2010

Acq. Time: 7:45:16 AM

Modified: No

RT Window: 15.0 sec

Expected RT: 8.16 min

Use Relative RT: No

Int. Type: Manual

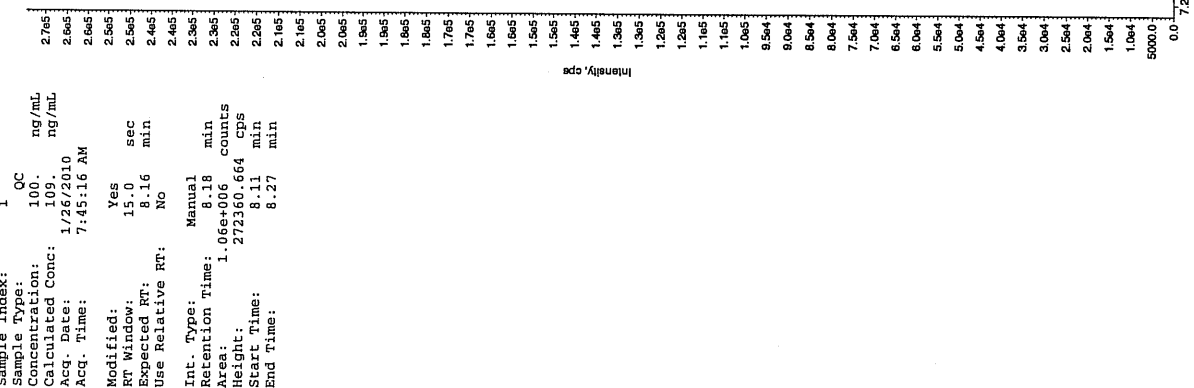
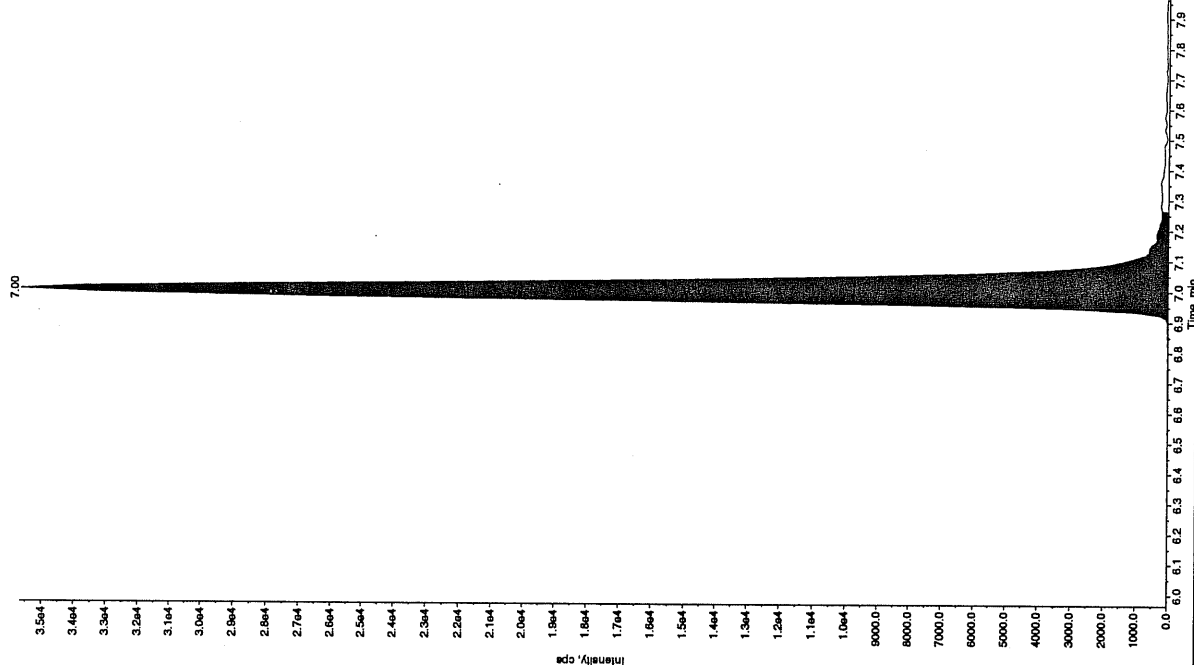
Retention Time: 8.18 min

Area: 1.06e+006 counts

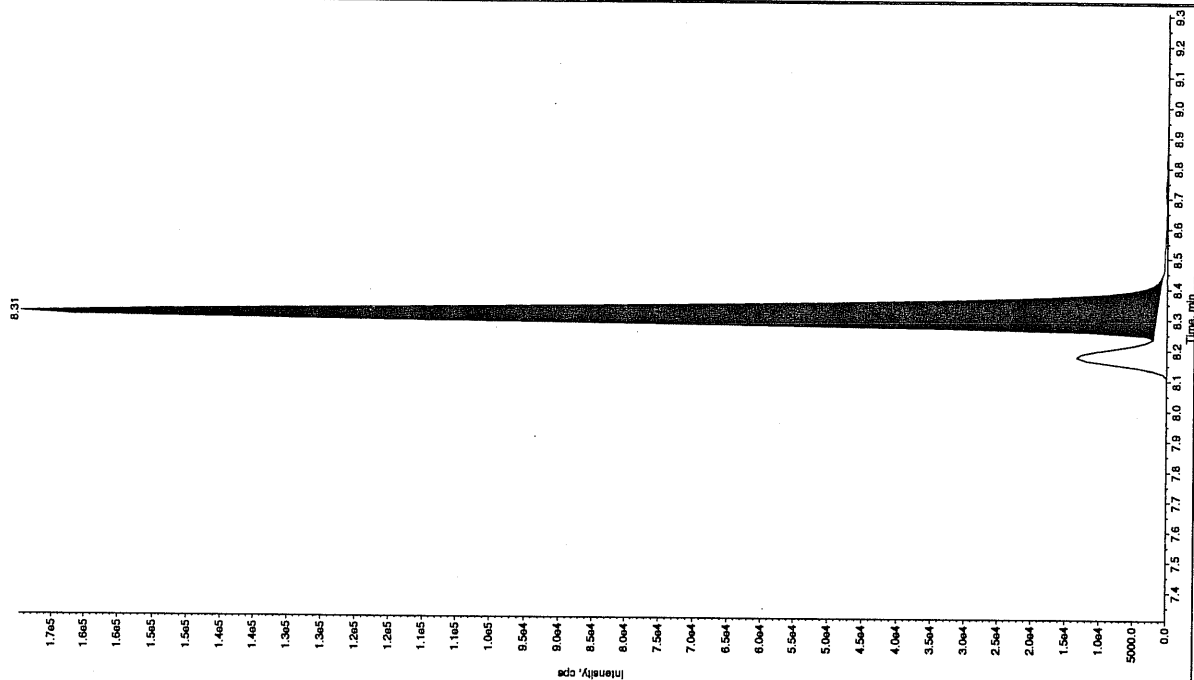
Height: 272360.664 cps

Start Time: 8.11 min

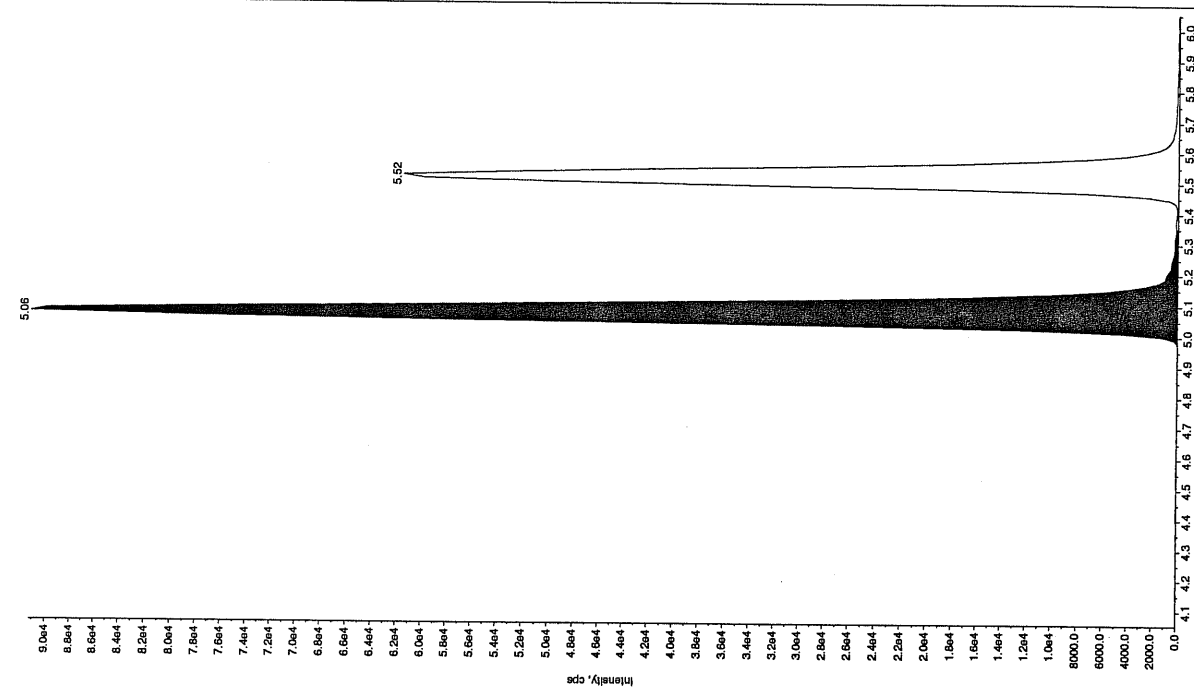
End Time: 8.27 min



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

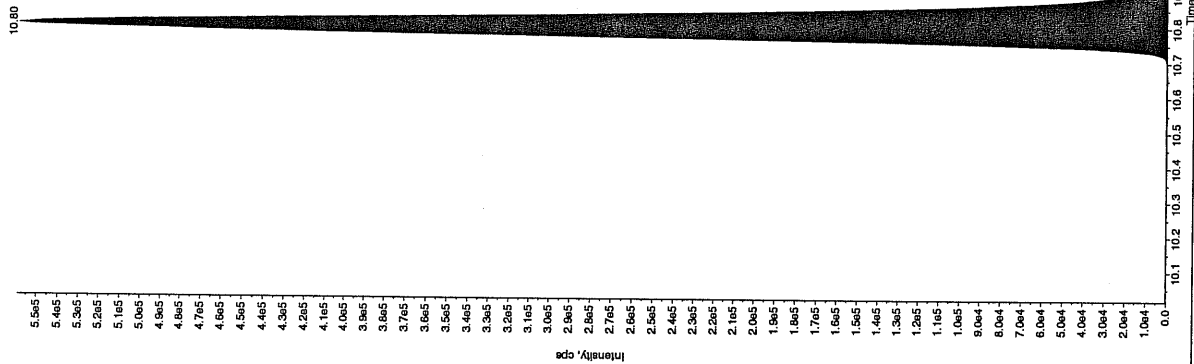


Sample Name: "WXX100125-27Crl" Sample ID: "I1JLER" File: "EXS01250082.wif"  
Peak Name: "26-Diamino-4-nitrofluene" Mass(es): "166.046,0 amu"  
Comment: "1 CMSEYD C<sub>26</sub> Annotation: ""



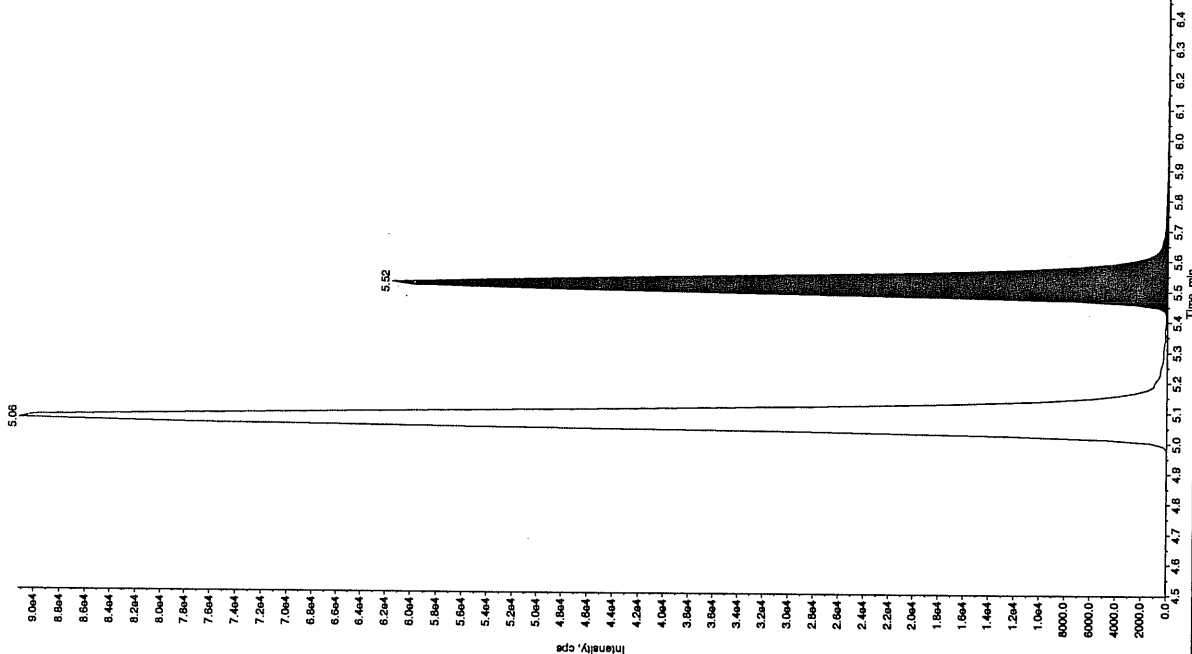
Sample Name: "WXX100125-27CRL" Sample ID: "111LRF" File: "EXS01250082.wif"  
 Peak Name: "tris(cresyl) phosphate" Mass(es): "369.191.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1 QC  
 Sample Type: 100. ng/mL  
 Concentration: 116. ng/mL  
 Calculated Conc: 1/26/2010  
 Acq. Date: 7:45:16 AM  
 Acq. Time: 7:45:16 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1.00e8 cps  
 Min. Peak Width: 3 0.00 sec  
 Smoothing Width: 30.0 points  
 RT Window: 30.0 sec  
 Expected RT: 10.8 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 10.8 min  
 Area: 2.36e+006 counts  
 Height: 558667.847 cps  
 Start Time: 10.7 min  
 End Time: 11.1 min



Sample Name: "WXX100125-27CRL" Sample ID: "111LRF" File: "EXS01250082.wif"  
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1 QC  
 Sample Type: 100. ng/mL  
 Concentration: 111. ng/mL  
 Calculated Conc: 1/26/2010  
 Acq. Date: 7:45:16 AM  
 Acq. Time: 7:45:16 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 350.00 cps  
 Min. Peak Width: 3 0.00 sec  
 Smoothing Width: 30.0 points  
 RT Window: 30.0 sec  
 Expected RT: 5.50 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.52 min  
 Area: 2.52e+005 counts  
 Height: 61508.881 cps  
 Start Time: 5.41 min  
 End Time: 5.85 min



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250093.wiff

Analysis Date: 26-JAN-10 10:37

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	492	98	
2,6-Diamino-4-nitrotoluene	500	457	91	
3,4-Dinitrotoluene	250	226	90	
3,5-Dinitroaniline	500	545	109	
TATB	500	535	107	
tris(o-cresyl) phosphate	500	515	103	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before Jan 11/27/10

Sample Name: "WXX100125-26CCV" Sample ID: "111111" File: "EXS01250093.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 595. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 10:37:59 AM

Modified: Yes

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.14 min

Use Relative RT: No

Int. Type: Valley

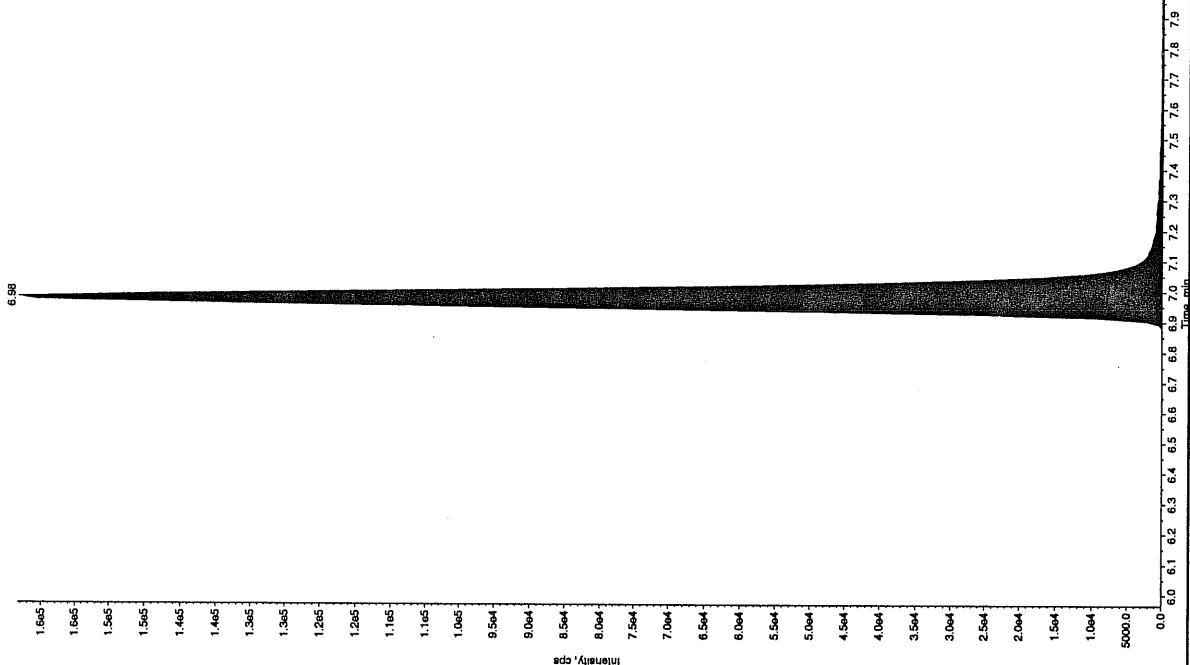
Retention Time: 8.17 min

Area: 5.49e+006 counts

Height: 1212473.633 cps

Start Time: 8.06 min

End Time: 8.72 min



Sample Name: "WXX100125-26CCV" Sample ID: "111111" File: "EXS01250093.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 535. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 10:37:59 AM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2500.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 30.0 sec

Expected RT: 6.97 min

Use Relative RT: No

Int. Type: Valley

Retention Time: 6.98 min

Area: 7.44e+005 counts

Height: 163356.735 cps

Start Time: 6.83 min

End Time: 7.71 min

Ann 01/27/10

L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

after scan 1127110

File: "EXS01250093.wif" Sample ID: "111111" File: "EXS01250093.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu" Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_C" Annotation: "" Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1 Sample Index: 1

Sample Type: QC Sample Type: QC

Concentration: 500. ng/mL Concentration: 500. ng/mL

Calculated Conc: 545. ng/mL Calculated Conc: 545. ng/mL

Acq. Date: 1/26/2010 Acq. Date: 1/26/2010

Acq. Time: 10:37:59 AM Acq. Time: 10:37:59 AM

Modified: Yes Modified: Yes

RT Window: 15.0 sec RT Window: 15.0 sec

Expected RT: 8.14 min Expected RT: 8.14 min

Use Relative RT: No Use Relative RT: No

Int. Type: Manual Int. Type: Manual

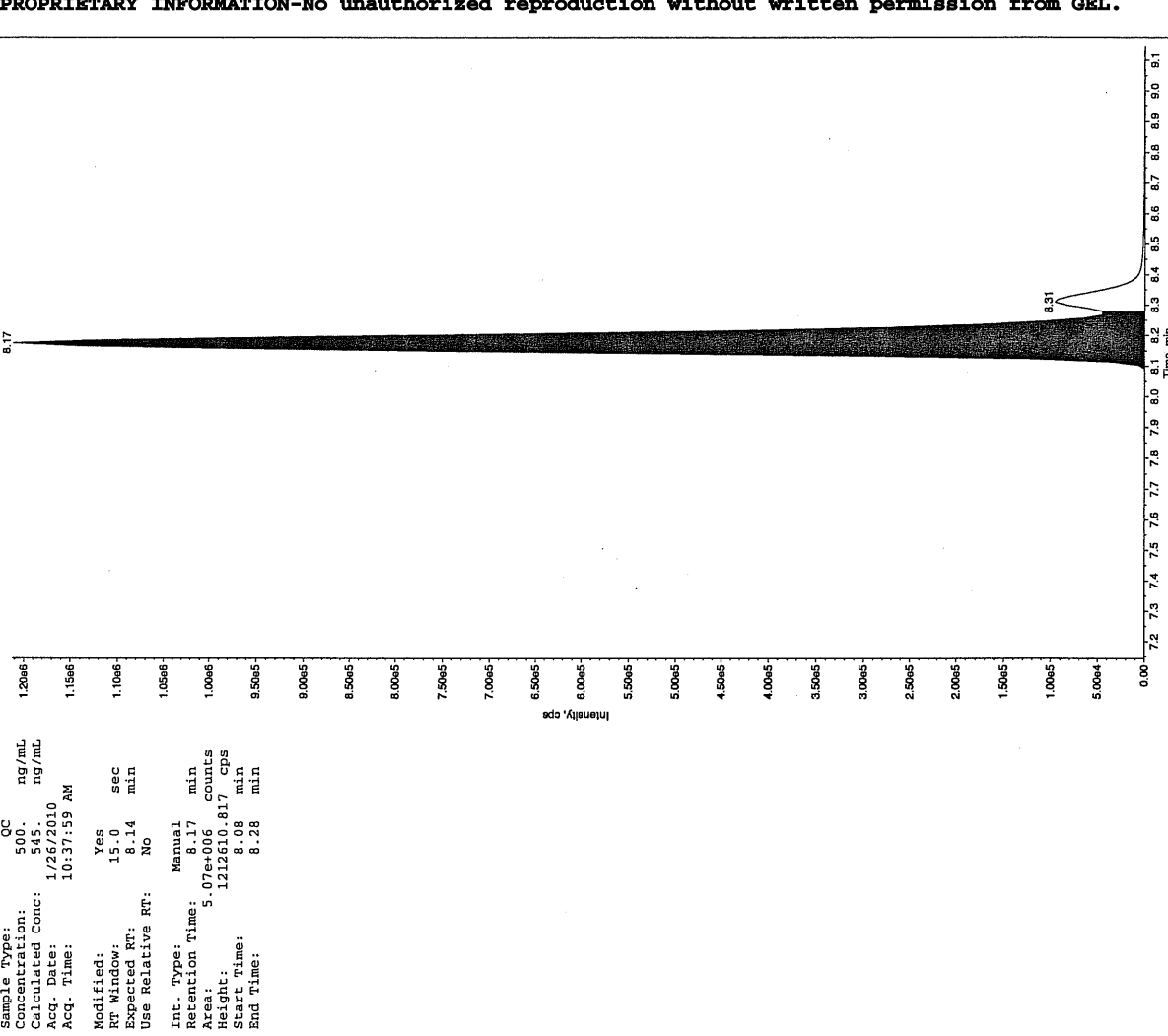
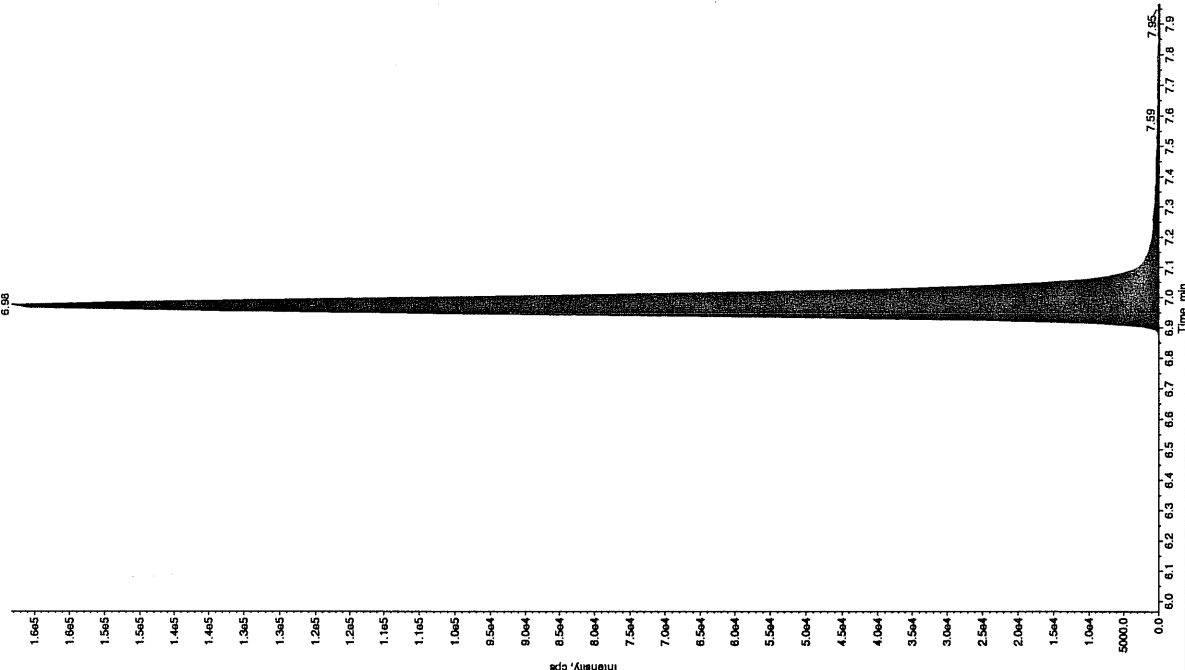
Retention Time: 8.17 min Retention Time: 8.17 min

Area: 5.07e+006 counts Area: 5.07e+006 counts

Height: 1212610.817 cps Height: 1212610.817 cps

Start Time: 8.08 min Start Time: 8.08 min

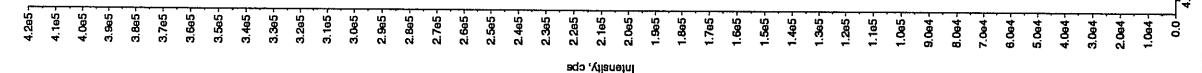
End Time: 8.28 min End Time: 8.28 min



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

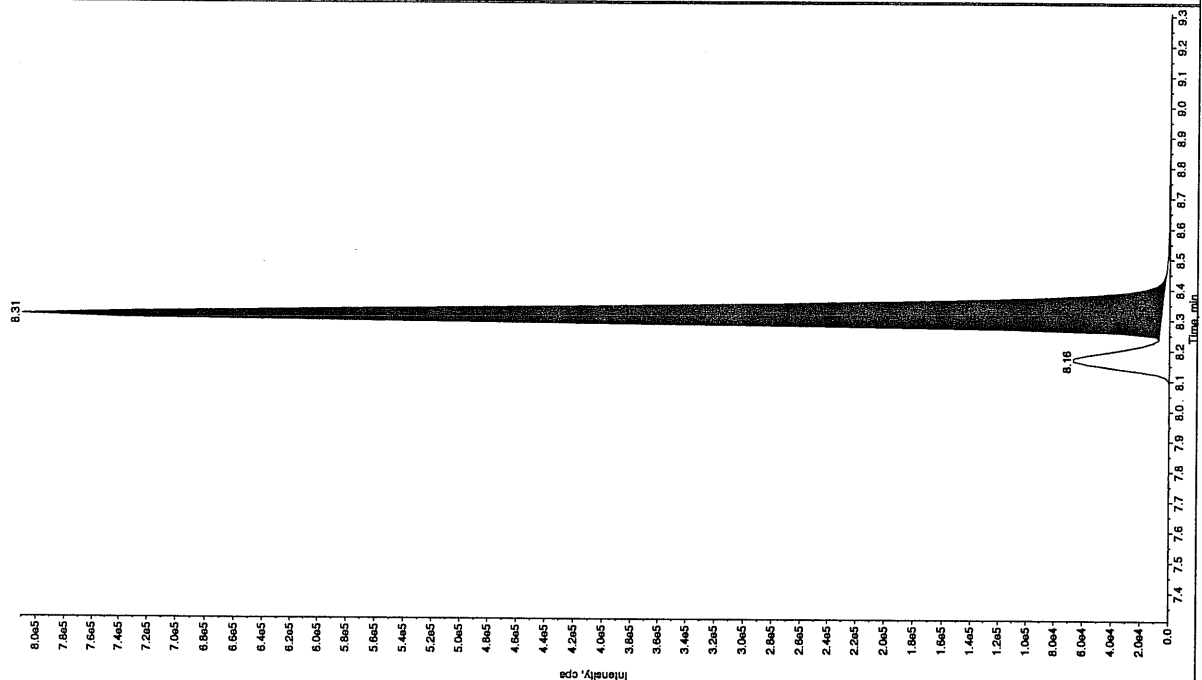
Sample Name: "WXX100125-26CCV" Sample ID: "J1LER" File: "EXS01250093.wif"  
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 457. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 10:37:59 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IOA  
 Min. Peak Height: 450.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.05 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.04 min  
 Area: 1.72e+006 counts  
 Height: 420222.900 cps  
 Start Time: 4.93 min  
 End Time: 5.32 min

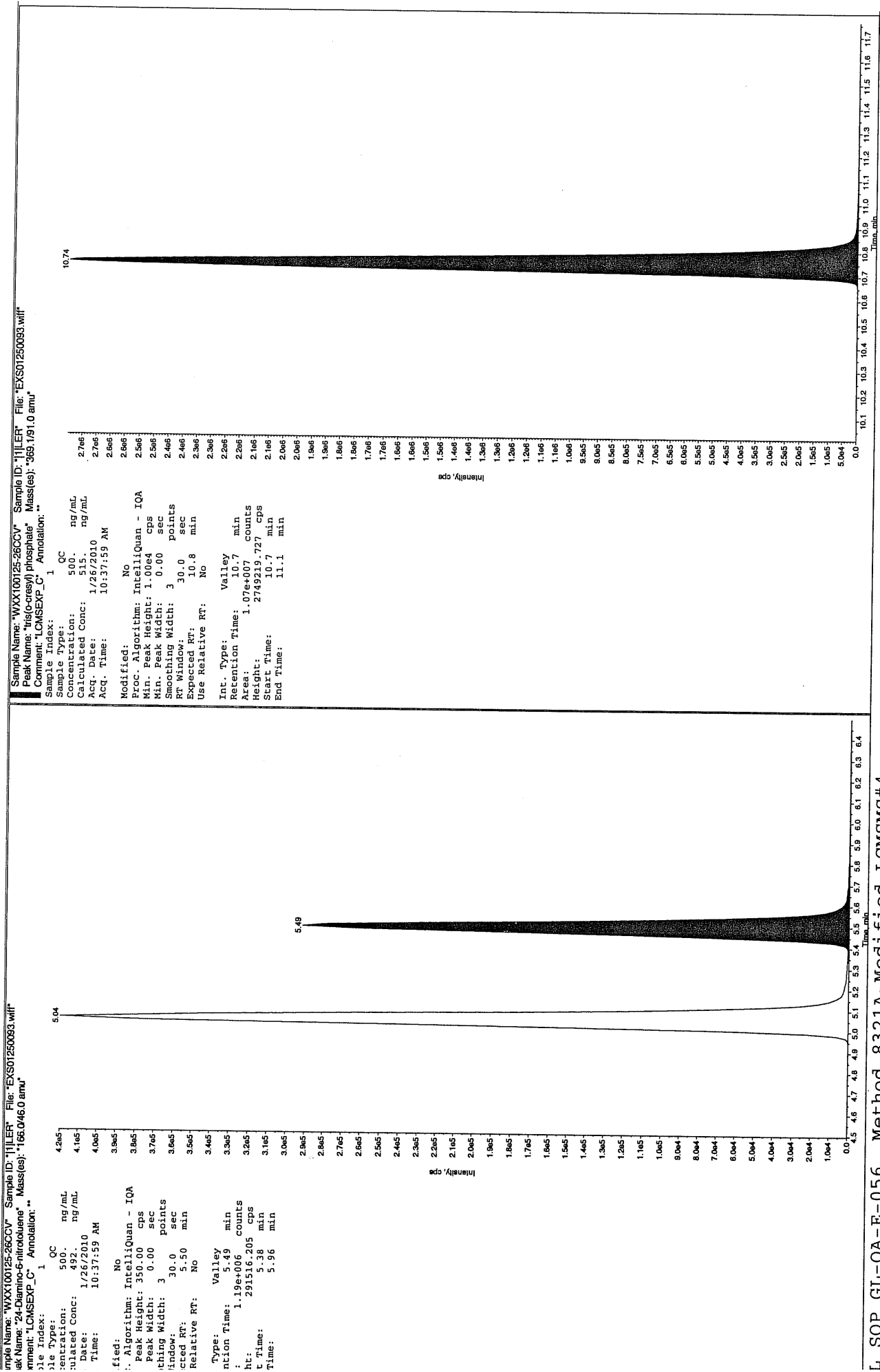


Sample Name: "WXX100125-26CCV" Sample ID: "J1LER" File: "EXS01250093.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1151.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 250. ng/mL  
 Calculated Conc: 226. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 10:37:59 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IOA  
 Min. Peak Height: 1460.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.31 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.31 min  
 Area: 3.00e+006 counts  
 Height: 804356.018 cps  
 Start Time: 8.24 min  
 End Time: 8.45 min



, SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCM SMS#4



**7B**  
**Explosives CRI Standard**

**Lab Name:** GEL Laboratories LLC

**GEL Job No (SDG):** 10-1262

**Lab Code:** GEL

**GEL Sample ID:** WXXCRI

**GEL Data File** EXS01250095.wiff

**Analysis Date:** 26-JAN-10 11:09

**LCMSMS ID:** 1358

**Column ID:** JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	101	101	
2,6-Diamino-4-nitrotoluene	100	107	107	
3,4-Dinitrotoluene	50	50.1	100	
3,5-Dinitroaniline	100	110	110	
TATB	100	109	109	
tris(o-cresyl) phosphate	100	118	118	

**Recovery Limits:**

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

262167110

Sample Name: "WXX100125-27C91" Sample ID: "111ER" File: "EXS01250095.wif"

Peak Name: "1A1B" Mass(es): 257.2204.9 amu

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 109. ng/mL

Acq. Date: 1/26/2010

Acq. Time: 11:09:22 AM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2500.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 30.0 sec

Expected RT: 6.97 min

Use Relative RT: No

Int. Type: Valley

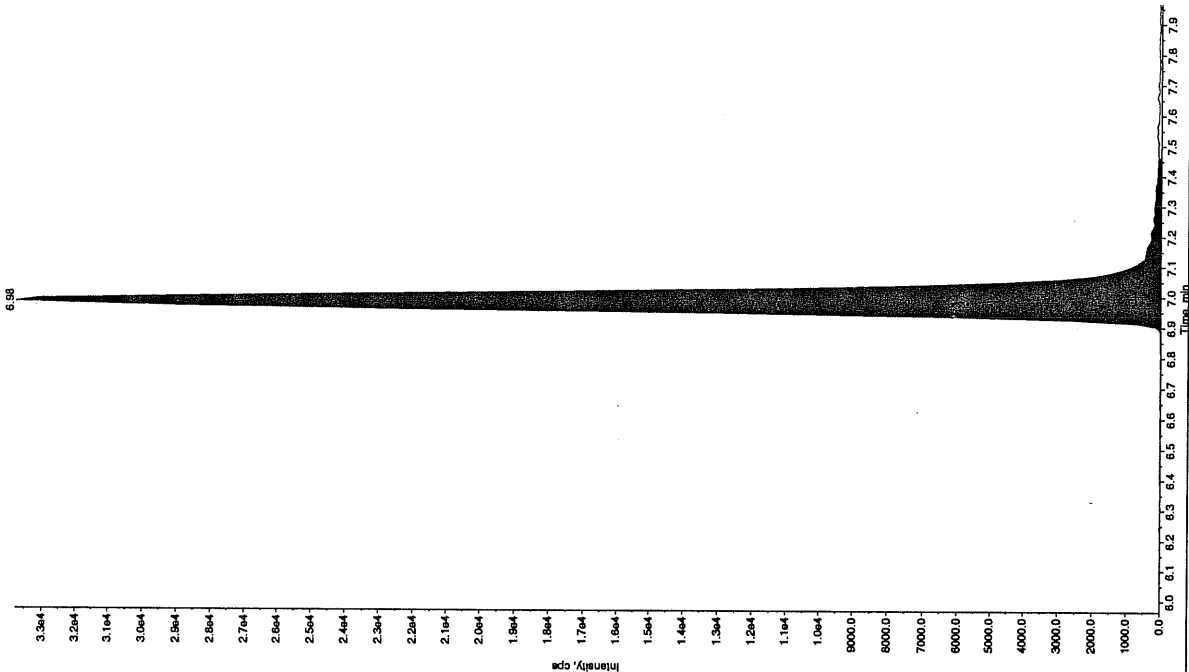
Retention Time: 6.98 min

Area: 1.54e+005 counts

Height: 33757.034 cps

Start Time: 6.81 min

End Time: 7.46 min



Sample Name: "WXX100125-27C91" Sample ID: "111ER" File: "EXS01250095.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 110. ng/mL

Acq. Date: 1/26/2010

Acq. Time: 11:09:22 AM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.16 min

Use Relative RT: No

Int. Type: Valley

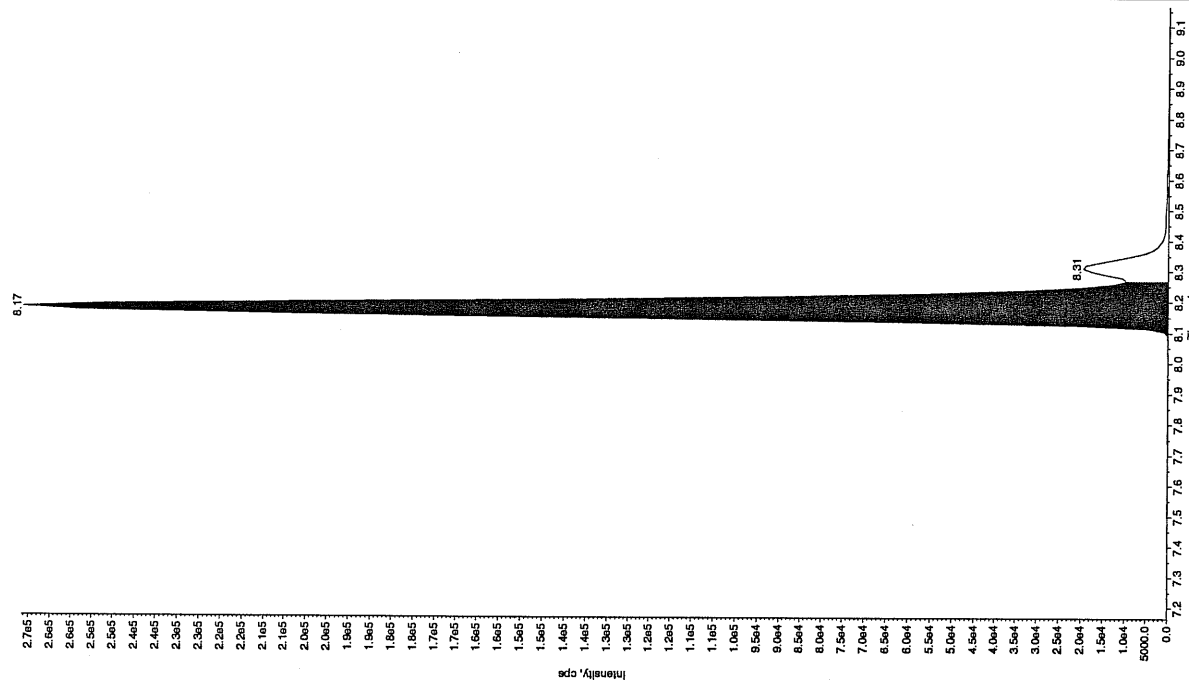
Retention Time: 8.17 min

Area: 1.07e+006 counts

Height: 266332.703 cps

Start Time: 8.01 min

End Time: 8.27 min

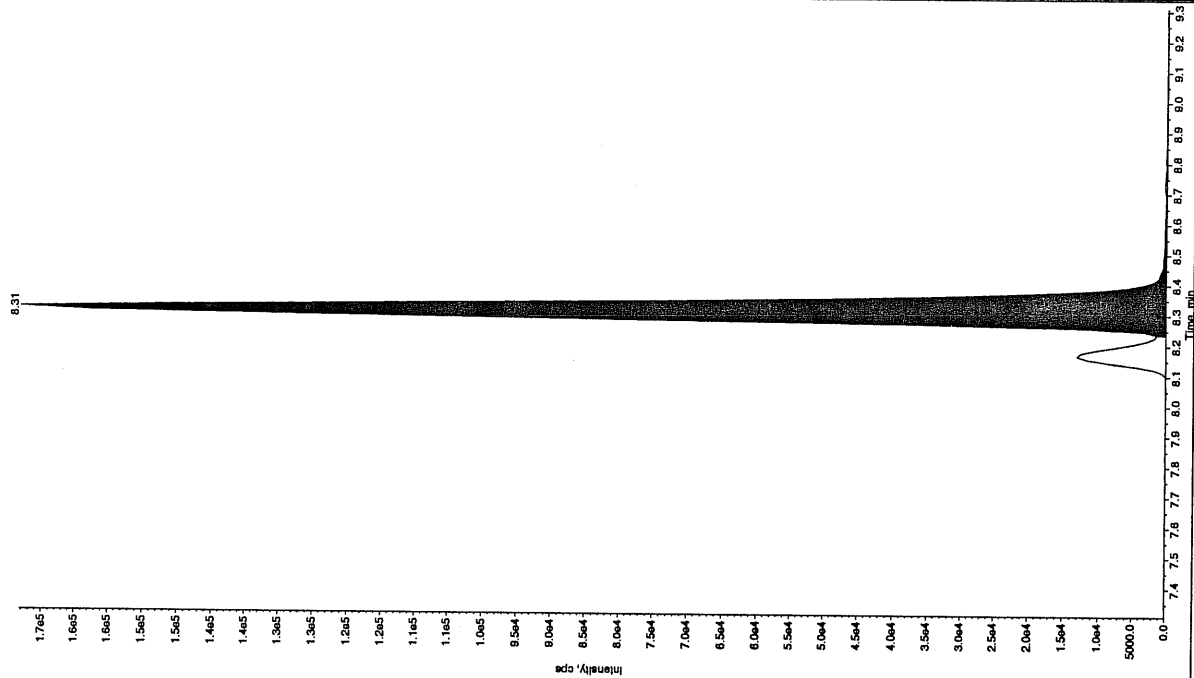


8.17

L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

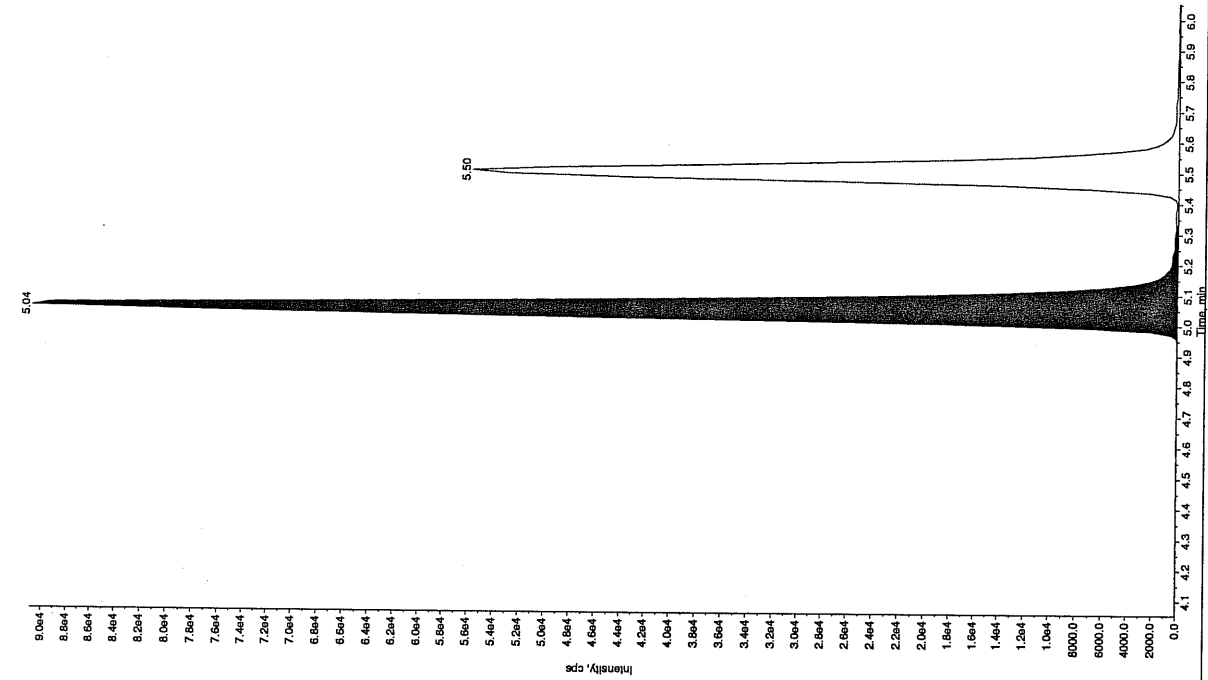
Sample Name: "WXX100125-27C1r" Sample ID: "JILR" File: "EXS01250085.wif"  
 Peak Name: "34-Dinitrofluorene" Mass(es): "162.17/151.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 50.0 ng/mL  
 Calculated Conc: 50.1 ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 11:09:22 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1460.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.31 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.31 min  
 Area: 6.48e+005 counts  
 Height: 168181.503 cps  
 Start Time: 8.24 min  
 End Time: 8.65 min



Sample Name: "WXX100125-27C1r" Sample ID: "JILR" File: "EXS01250085.wif"  
 Peak Name: "26-Diamino-4-nitrofluorene" Mass(es): "166.04/60.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
 Sample Type: QC  
 Concentration: 100. ng/mL  
 Calculated Conc: 107. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 11:09:22 AM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 450.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.05 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.04 min  
 Area: 3.68e+005 counts  
 Height: 90821.419 cps  
 Start Time: 4.94 min  
 End Time: 5.33 min

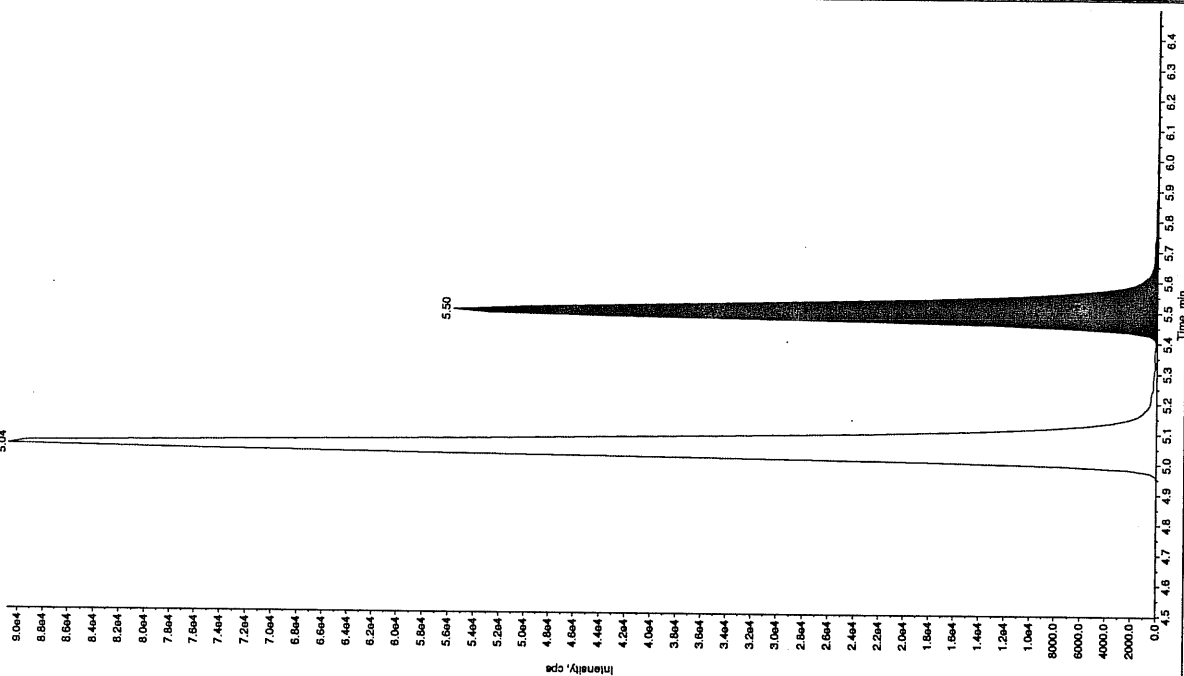


File Name: "WXX100125-27CRL" Sample ID: "JTLER" File: "EXS01250095.wif"  
 Peak Name: "24,4-Dichloro-6-nitrofluorene" Mass(es): "166.046.0 amu"

Sample Index: 1  
 Sample Type: 100. ng/mL  
 Concentration: 101. ng/mL  
 Calculated Conc: 1/26/2010  
 Acq. Date: 11:09:22 AM  
 Acq. Time: 11:09:22 AM

Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 350.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 30.0 points  
 RT Window: 30.0 sec  
 Expected RT: 5.50 min  
 Use Relative RT: No

Int. Type: Valley  
 Retention Time: 5.50 min  
 Area: 2.28e+005 counts  
 Height: 55690.258 cps  
 Start Time: 5.39 min  
 End Time: 5.69 min

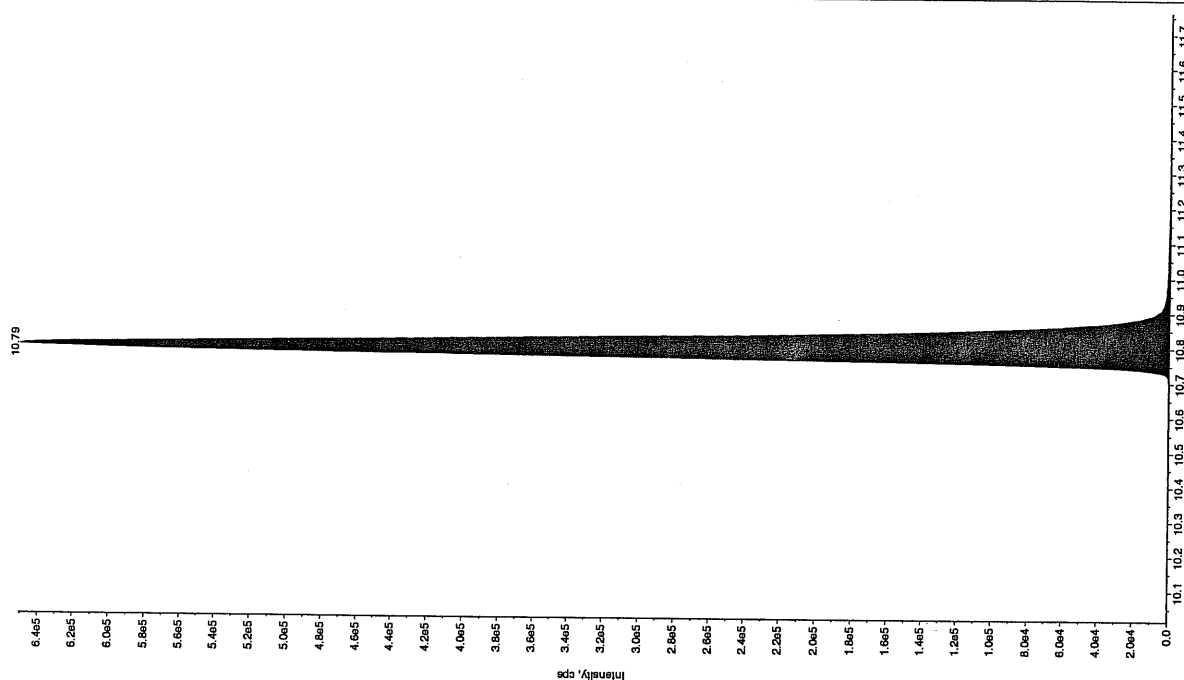


File Name: "WXX100125-27CRL" Sample ID: "JTLER" File: "EXS01250095.wif"  
 Peak Name: "tris(cresyl) phosphate" Mass(es): "369.191.0 amu"

Sample Index: 1  
 Sample Type: 100. ng/mL  
 Concentration: 118. ng/mL  
 Calculated Conc: 1/26/2010  
 Acq. Date: 11:09:22 AM  
 Acq. Time: 11:09:22 AM

Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1.00e4 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 30.0 points  
 RT Window: 30.0 sec  
 Expected RT: 10.8 min  
 Use Relative RT: No

Int. Type: Valley  
 Retention Time: 10.8 min  
 Area: 2.42e+006 counts  
 Height: 650371.826 cps  
 Start Time: 10.7 min  
 End Time: 11.1 min



7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250106.wiff

Analysis Date: 26-JAN-10 14:02

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	460	92	
2,6-Diamino-4-nitrotoluene	500	456	91	
3,4-Dinitrotoluene	250	219	87	
3,5-Dinitroaniline	500	505	101	
TATB	500	519	104	
tris(o-cresyl) phosphate	500	480	96	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

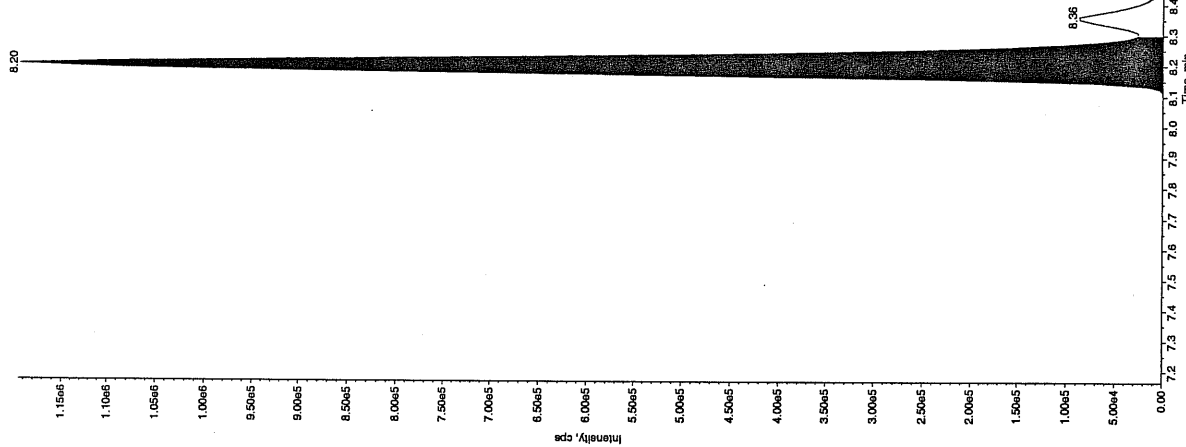
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Jan 1/27/10

Sample Name: "WXX100125-26CCV" Sample ID: "JILLER" File: "EXS01250106.wif"  
 Peak Name: "35-Dinkroniline" Mass(es): "182.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

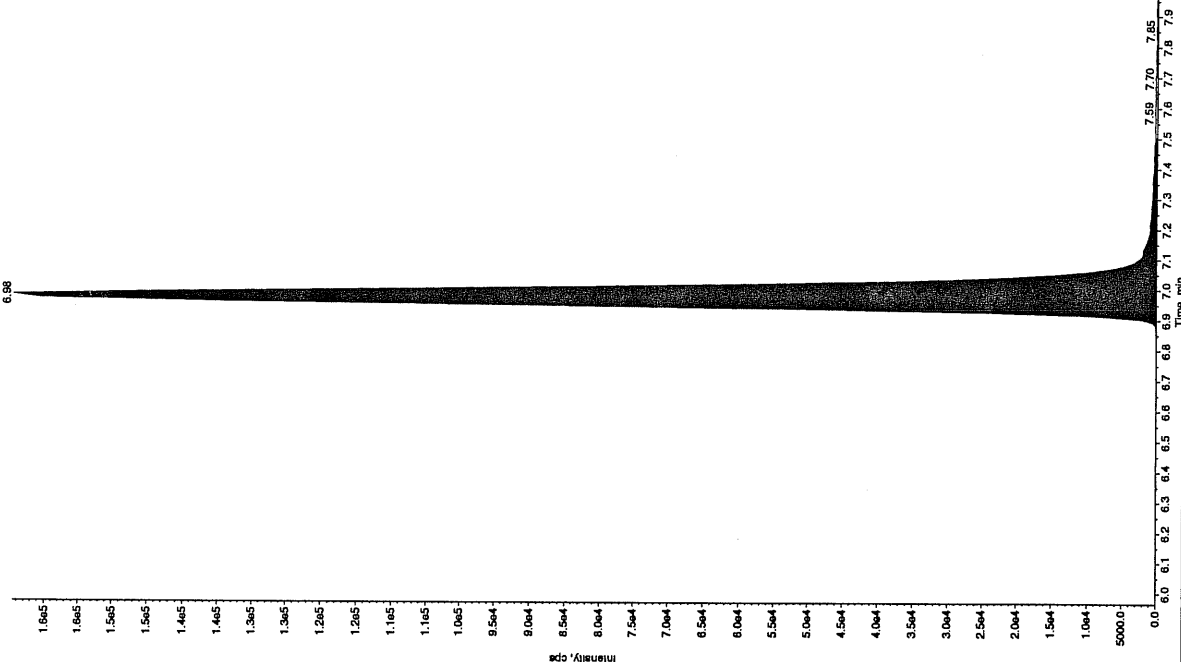
Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 500. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 2:02:14 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3.00 points  
 RT Window: 15.0 sec  
 Expected RT: 8.16 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.20 min  
 Peak Height: 4.72e+06 counts  
 Peak Width: 1194267.700 cps  
 Start Time: 8.10 min  
 End Time: 8.30 min



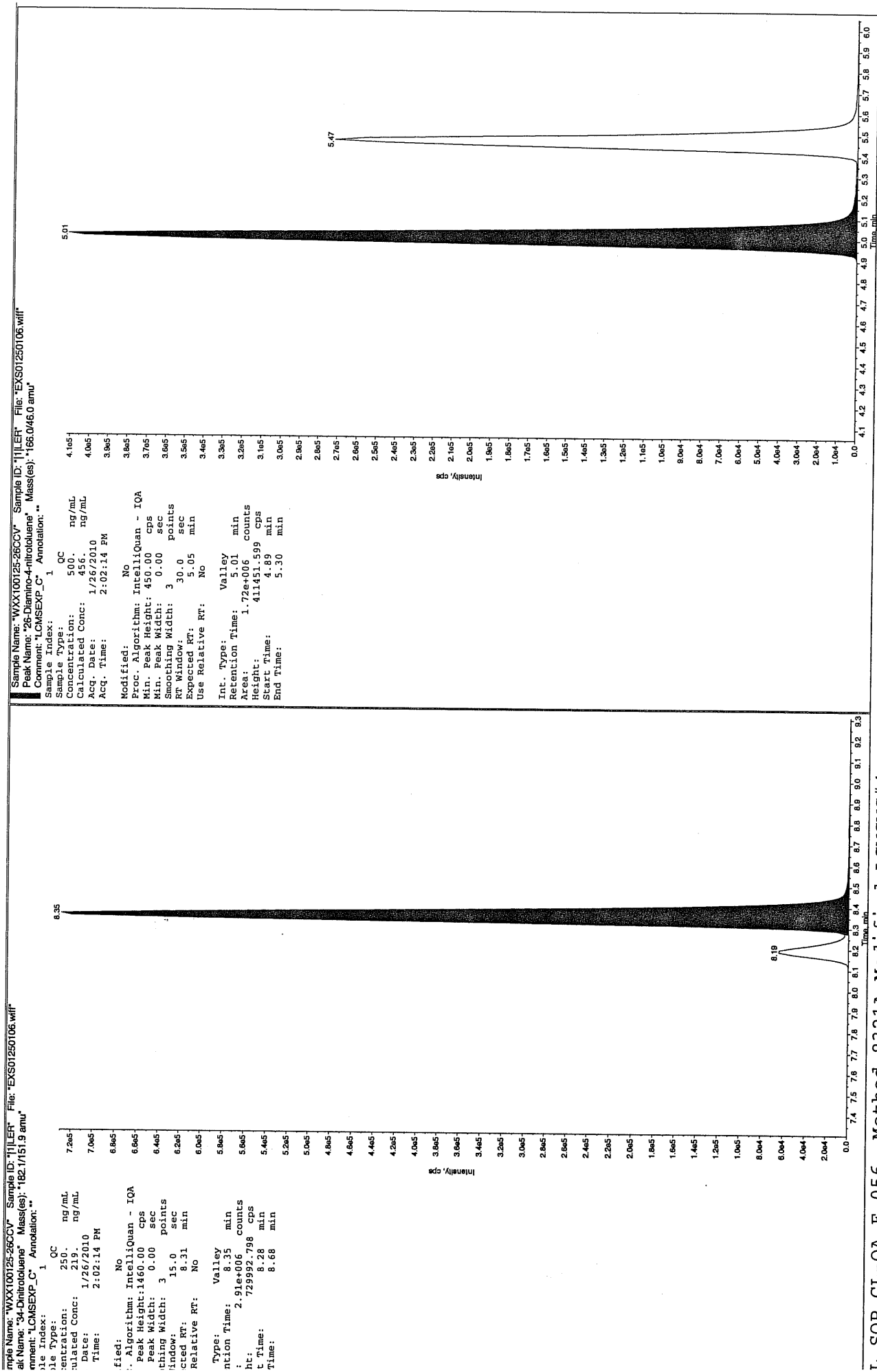
Jan 01/27/10

Sample Name: "WXX100125-26CCV" Sample ID: "JILLER" File: "EXS01250106.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: ""

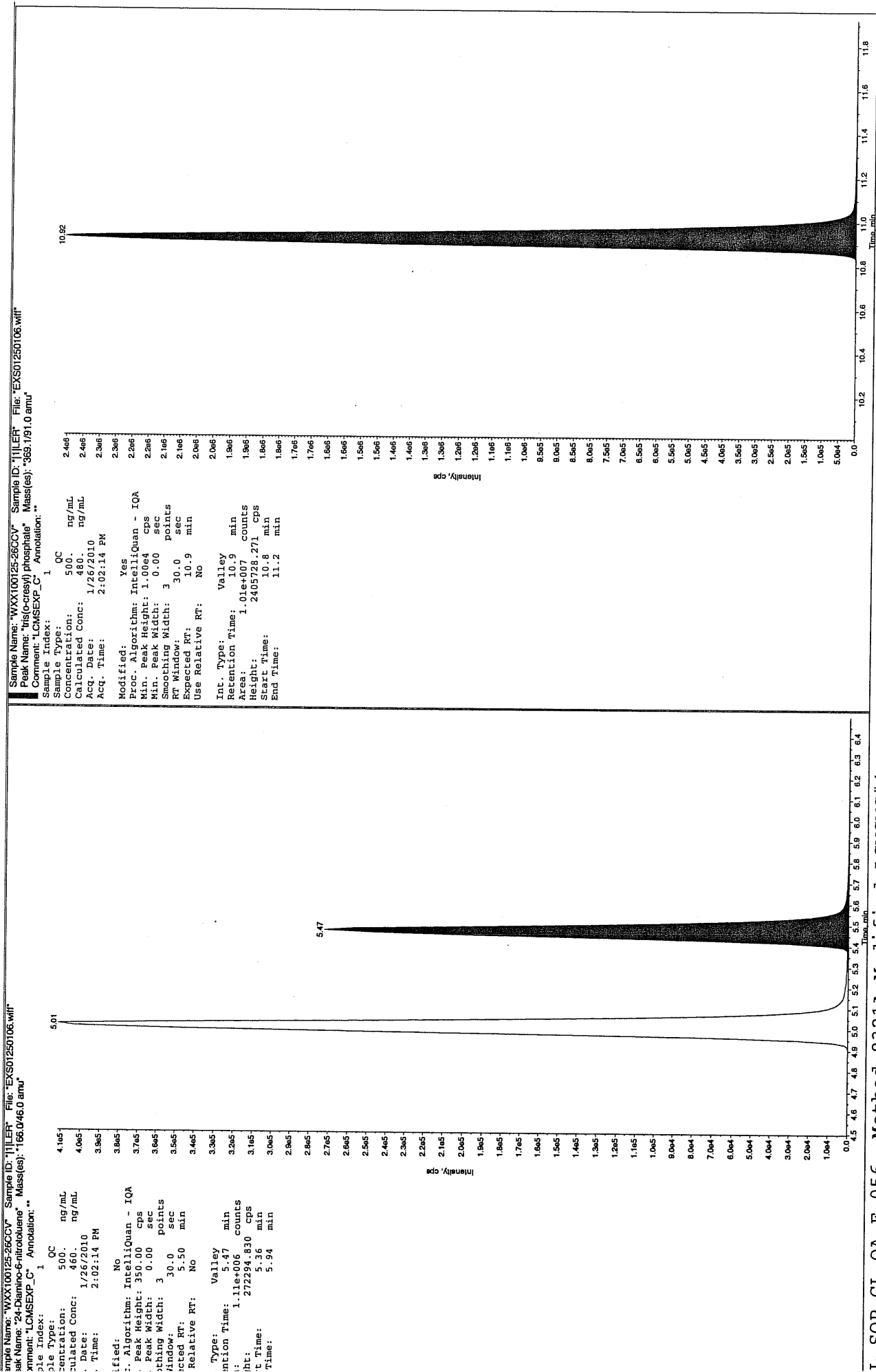
Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 519. ng/mL  
 Acq. Date: 1/26/2010  
 Acq. Time: 2:02:14 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2500.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3.00 points  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 6.98 min  
 Peak Height: 7.22e+005 counts  
 Peak Width: 16441.925 cps  
 Start Time: 6.79 min  
 End Time: 7.50 min



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCM SMS#4



L SOP GL-OA-E-056, Method 8321A-Modified LCMSEXP\_C



7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1262

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250108.wiff

Analysis Date: 26-JAN-10 14:33

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	101	101	
2,6-Diamino-4-nitrotoluene	100	95.8	96	
3,4-Dinitrotoluene	50	46.1	92	
3,5-Dinitroaniline	100	105	105	
TATB	100	105	105	
tris(o-cresyl) phosphate	100	112	112	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

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Sample Name: "WXX100125-27CR1" Sample ID: "111ER" File: "EXS01250108.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

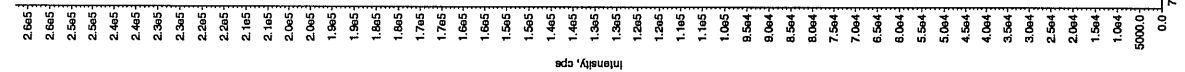
Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC  
Concentration: 100. ng/mL  
Calculated Conc: 105. ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 2:33:39 PM

Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 2000.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 15.0 sec  
Expected RT: 8.16 min  
Use Relative RT: No

Int. Type: Valley  
Retention Time: 8.21 min  
Area: 1.02e+006 counts  
Height: 262705.750 cps  
Start Time: 8.10 min  
End Time: 8.32 min



Sample Name: "WXX100125-27CR1" Sample ID: "111ER" File: "EXS01250108.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

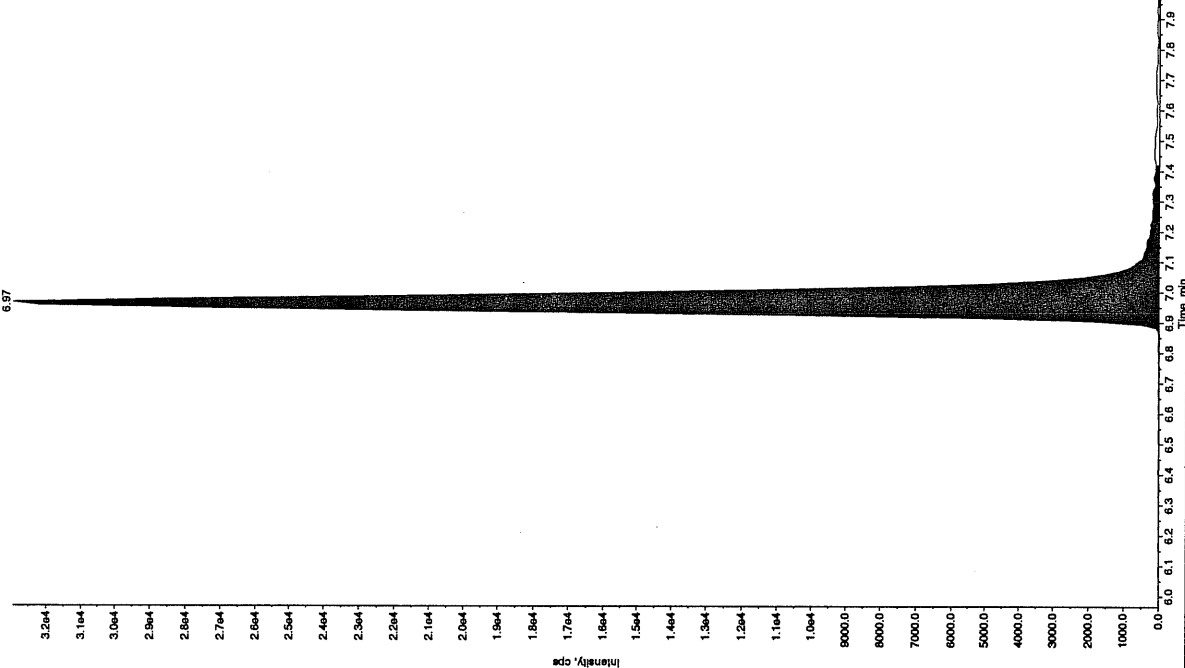
Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1

Sample Type: QC  
Concentration: 100. ng/mL  
Calculated Conc: 105. ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 2:33:39 PM

Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 2500.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 30.0 sec  
Expected RT: 6.97 min  
Use Relative RT: No

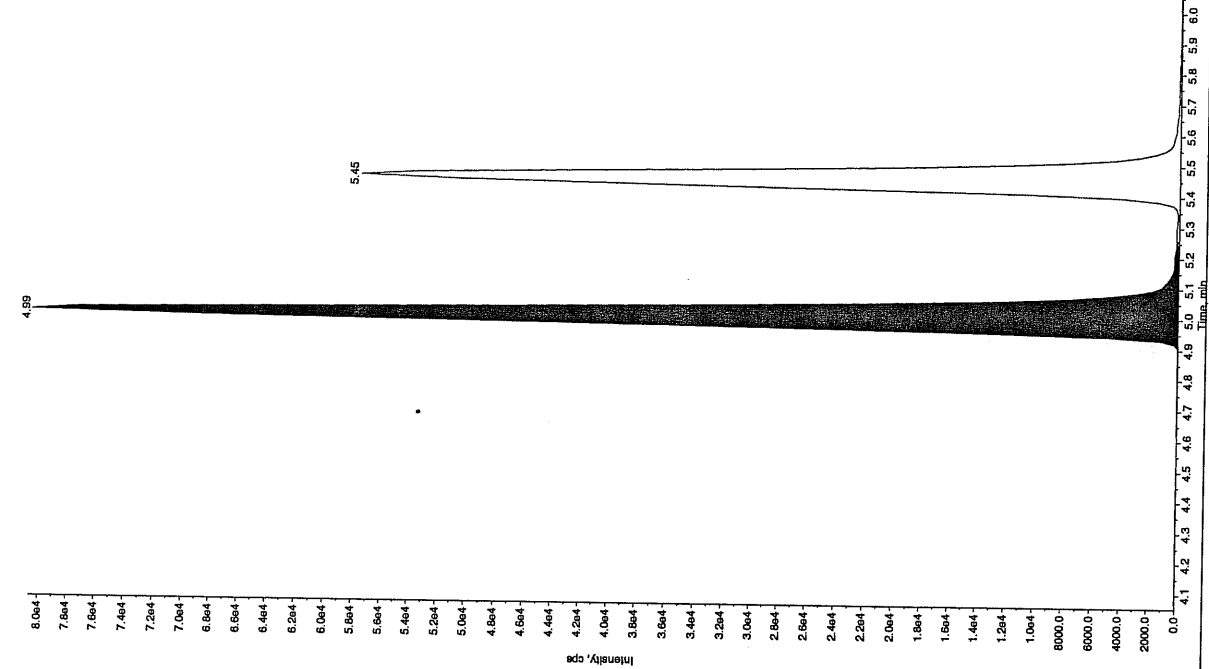
Int. Type: Valley  
Retention Time: 6.97 min  
Area: 1.48e+005 counts  
Height: 32926.094 cps  
Start Time: 6.84 min  
End Time: 7.42 min



Ann-01/27/10

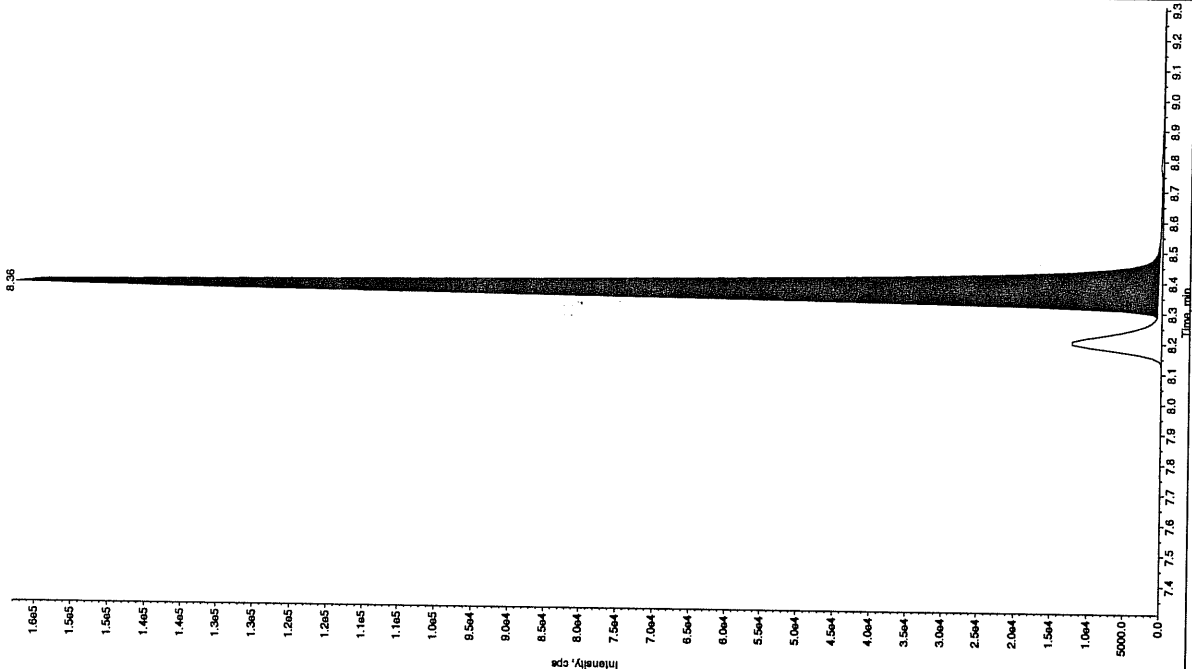
Sample Name: "WXX100125-27CR1" Sample ID: "JILLER" File: "EXS01250108.wif"  
Peak Name: "34-Dinitrofluorene" Mass(es): "182.1/151.9 amu"  
Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
Sample Type: OC  
Concentration: 100. ng/mL  
Calculated Conc: 95.8 ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 2:33:39 PM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 450.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 30.0 sec  
Expected RT: 5.05 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 4.99 min  
Area: 3.26e+005 counts  
Height: 80583.031 cps  
Start Time: 4.89 min  
End Time: 5.26 min



Sample Name: "WXX100125-27CR1" Sample ID: "JILLER" File: "EXS01250108.wif"  
Peak Name: "34-Dinitrofluorene" Mass(es): "182.1/151.9 amu"  
Comment: "LCMSEXP\_C" Annotation: ""

Sample Index: 1  
Sample Type: OC  
Concentration: 50.0 ng/mL  
Calculated Conc: 46.1 ng/mL  
Acq. Date: 1/26/2010  
Acq. Time: 2:33:39 PM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 1460.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 3 points  
RT Window: 15.0 sec  
Expected RT: 8.31 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 8.36 min  
Area: 5.93e+005 counts  
Height: 157505.493 cps  
Start Time: 8.29 min  
End Time: 8.58 min



Sample Name: "WXX100125-27C1"  
Peak Name: "tris(o-cresyl) phosphate"  
Sample ID: "11LER" File: "EXS01250108.wif"  
Mass(es): "369.1/91.0 amu"

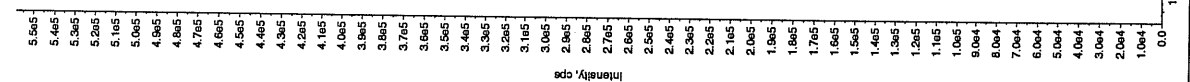
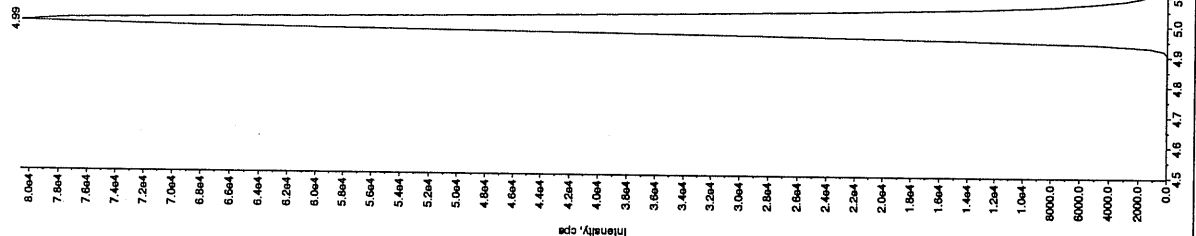
Sample Index:	1	QC
Sample Type:		
Concentration:	100.	ng/mL
Centration Conc:	101.	ng/mL
Date:	1/26/2010	
Time:	2:33:39 PM	
ified:	No	
Algorithm:	IntelliQuan - IOA	
Peak Height:	350.00	cps
Peak Width:	0.00	sec
Coating Width:	30.0	points
Window:	3.0	sec
ected RT:	5.50	min
Relative RT:	No	

```

. Type:          Valley
Retention Time:  5.45      min
a:               2.27e+005 count
Weight:          57598.034 cps
Retention Time:  5.34      min
Retention Time:  5.80      min

```

Int. Type:	Valley
Retention Time:	10.9 min
Area:	2.28e+006 counts
Height:	558240.356 cps
Start Time:	10.8 min
End Time:	11.2 min



L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

# QUALITY CONTROL DATA

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 942334

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017300

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131013a

Date Analyzed: 31-JAN-10 18:29

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

\*Concentration =

Instrument	X	<u>Concentrated Extract Volume</u>	X	Dilution
Value		<u>Sample Amount</u>		Factor

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131013a

Date: 31-Jan-2010

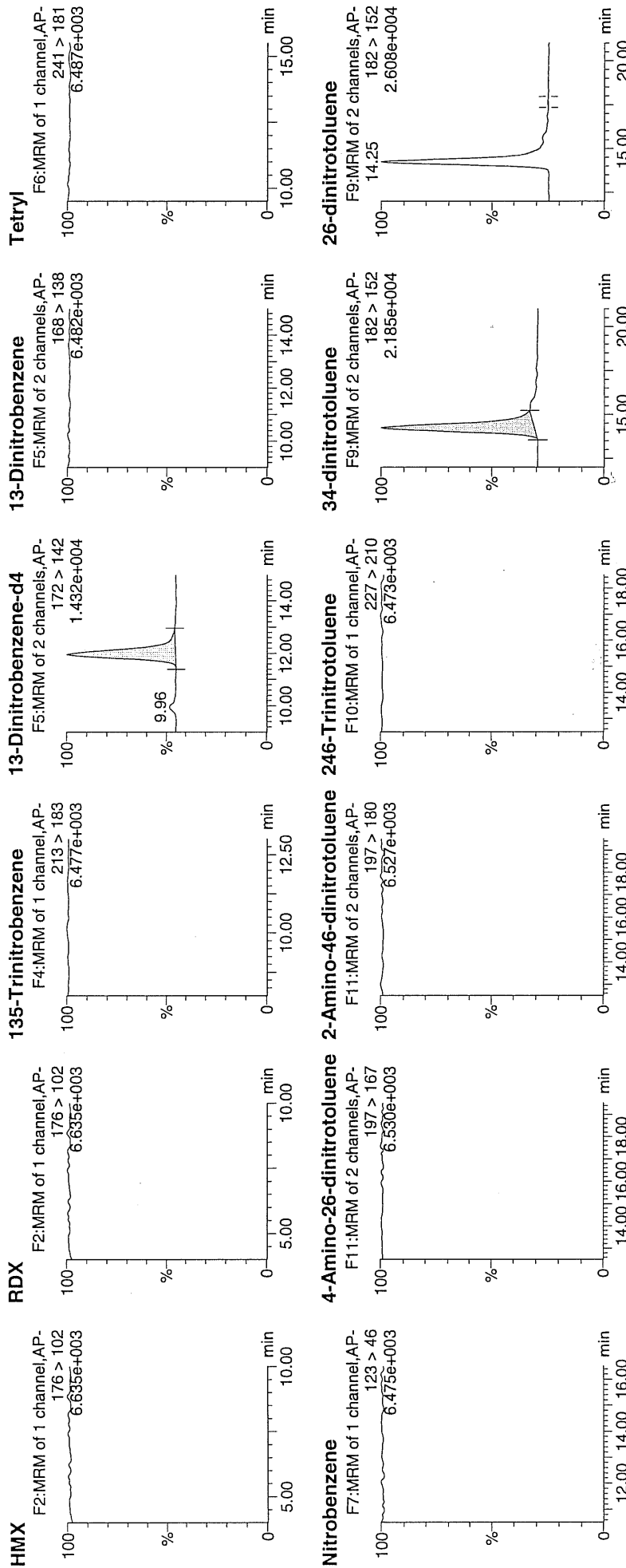
Time: 18:29:57

ID: 1202017300

Vial: 1:4,A

not  
2/1/10

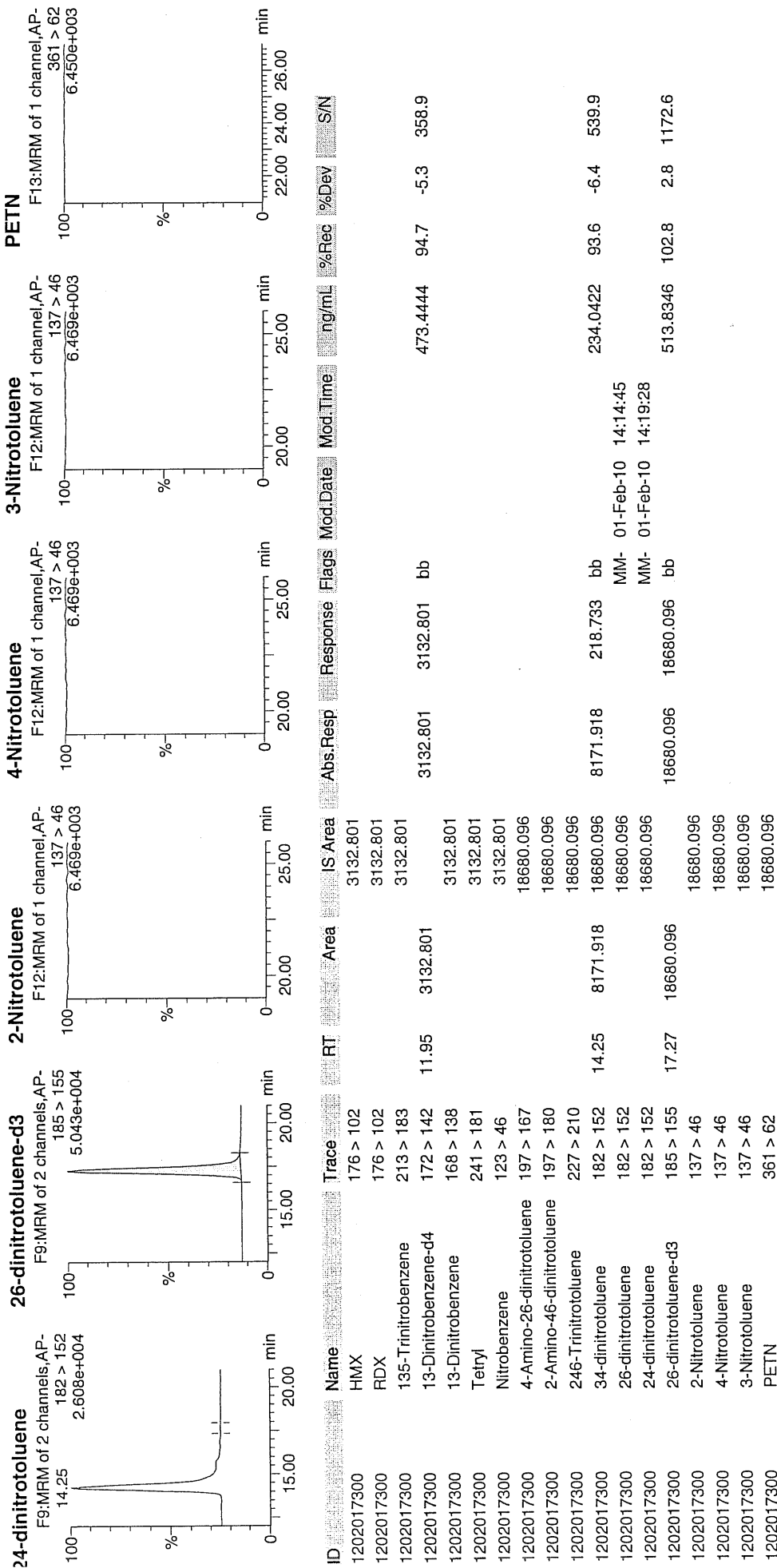
WAW/942335/Solvent  
NB/21



Amu/02/10

**Quantify Sample Report**  
 GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New\_Exp\_PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010





1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 942334

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017300

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250017.wiff

Date Analyzed: 25-JAN-10 14:44

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

See 112710

Sample Name: "1202017300" Sample ID: "942335" File: "EXS01250017.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCX83212S" Annotation: ""

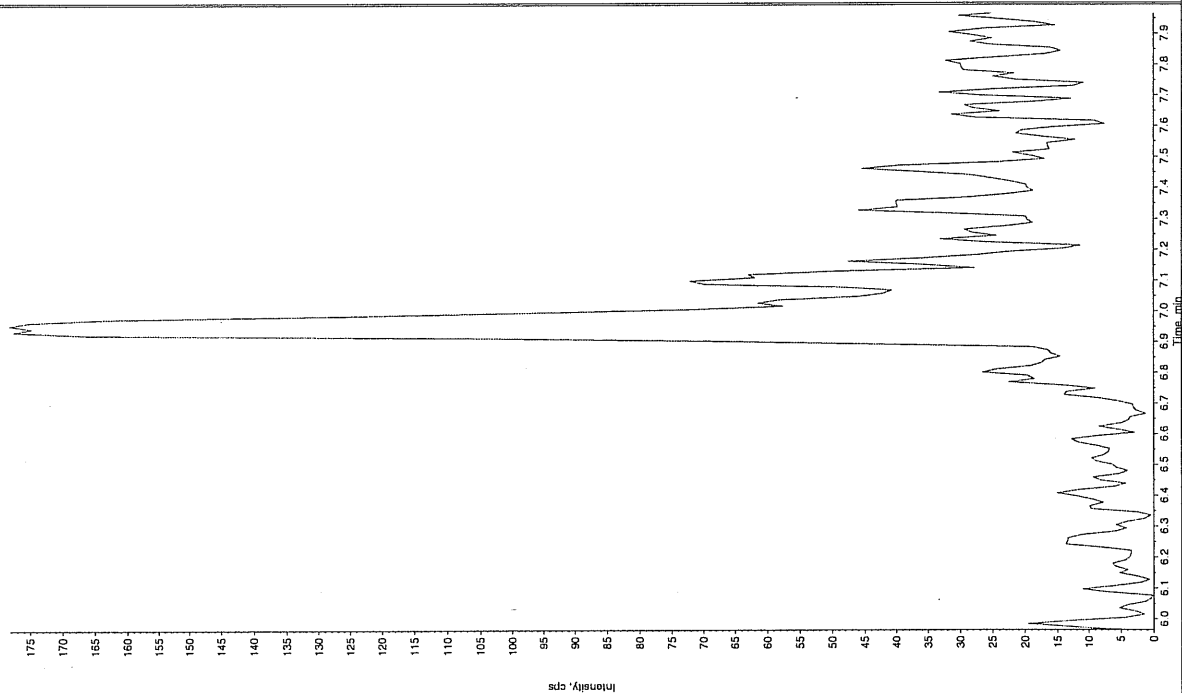
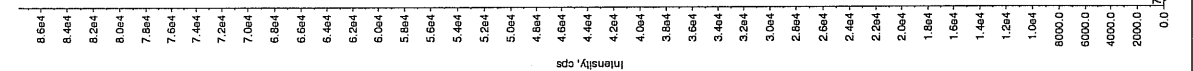
Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 2:44:04 PM  
 Modified: Yes

Sample Name: "1202017300" Sample ID: "942335" File: "EXS01250017.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

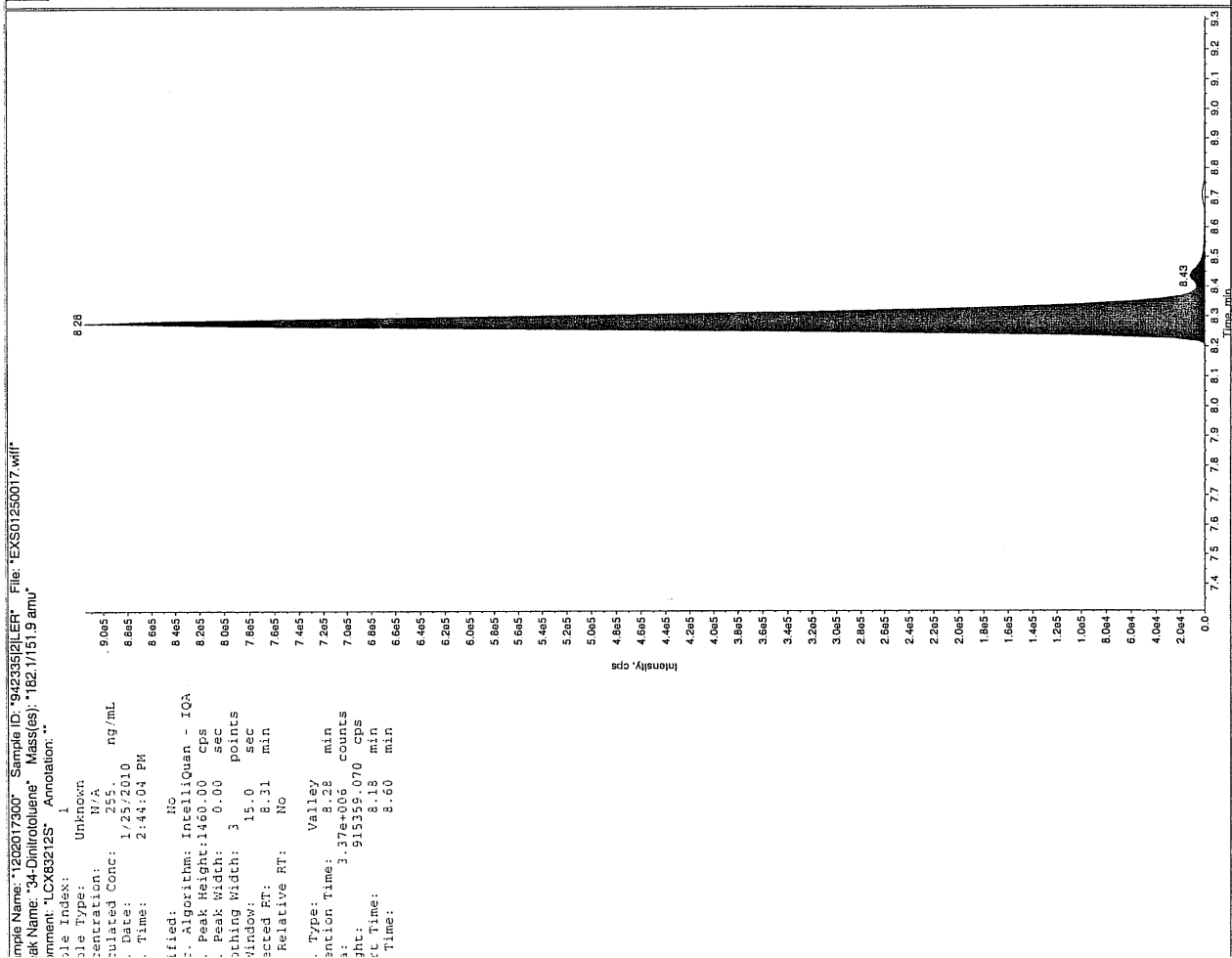
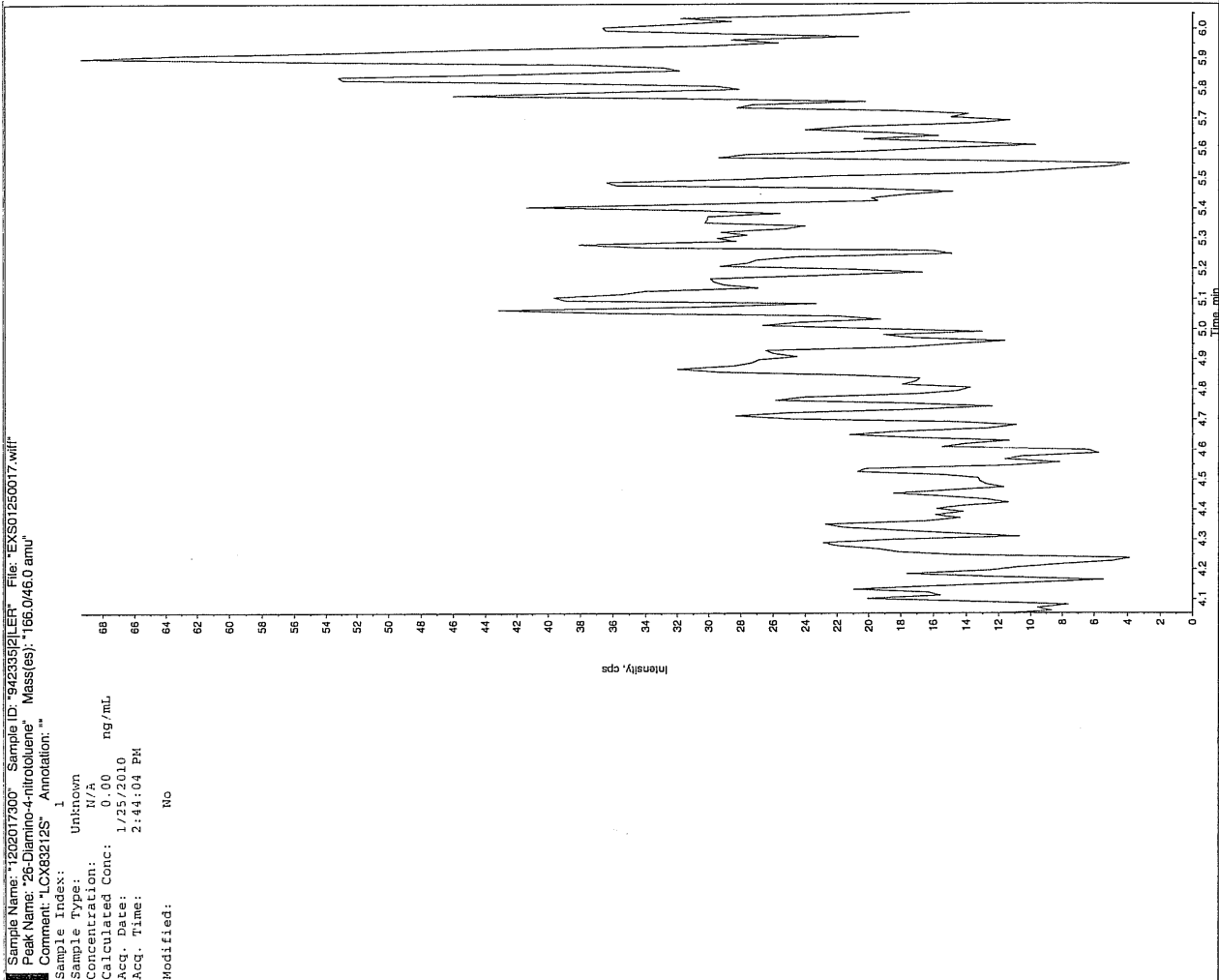
Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 2:44:04 PM  
 Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

See 112710



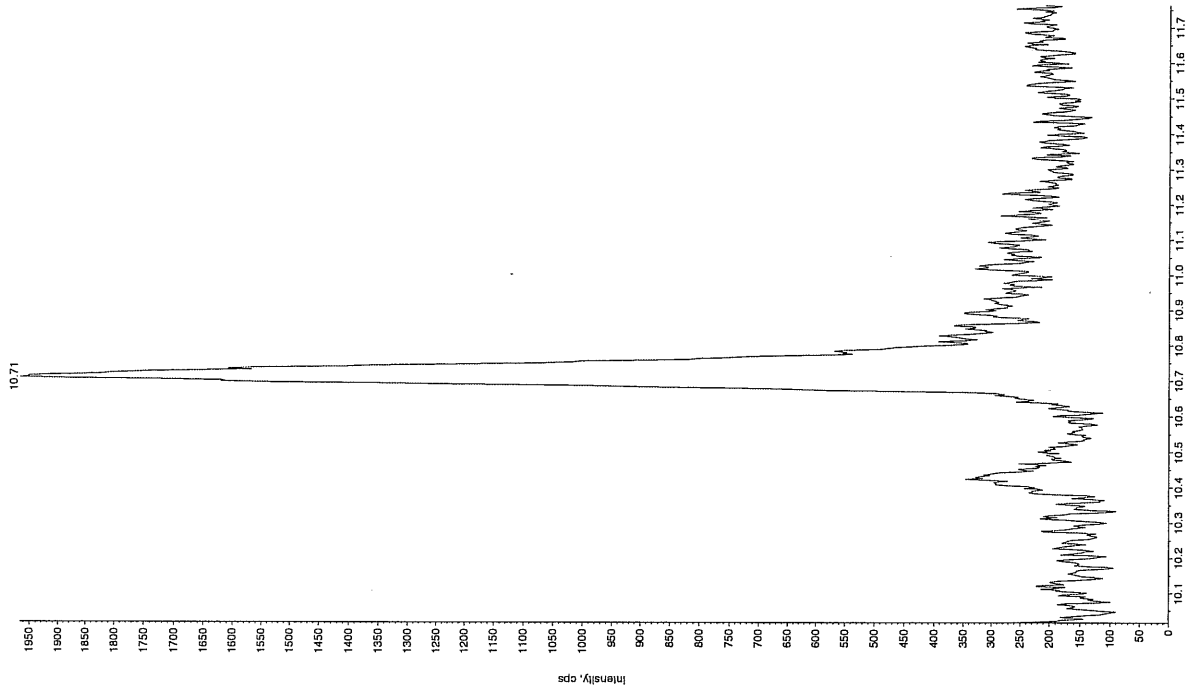
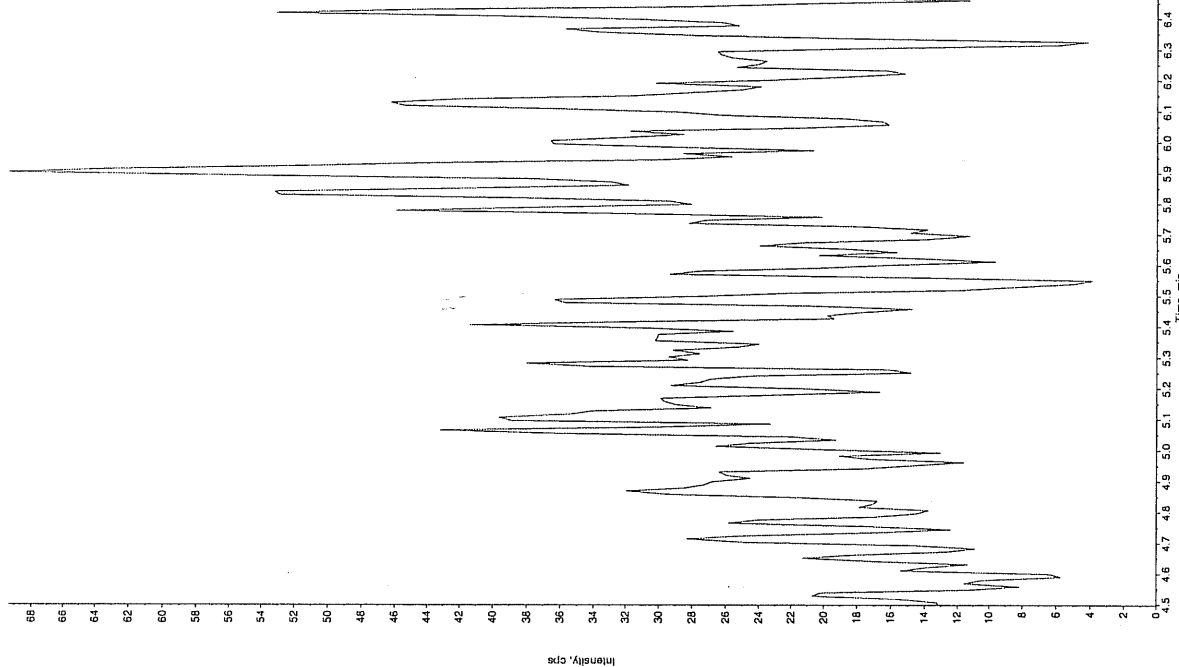
EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202017300" Sample ID: "942335[2]ER" File: "EXS01250017.wif"

Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 2:44:04 PM  
 Modified: No



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 942334

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017301

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131014a

Date Analyzed: 31-JAN-10 18:59

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5030	
121-14-2	2,4-Dinitrotoluene	5150	
121-82-4	RDX	4970	
19406-51-0	4-Amino-2,6-dinitrotoluene	5080	
2691-41-0	HMX	4340	
35572-78-2	2-Amino-4,6-dinitrotoluene	4750	
479-45-8	Tetryl	3150	
606-20-2	2,6-Dinitrotoluene	4740	
78-11-5	PETN	4210	
88-72-2	o-Nitrotoluene	4840	
98-95-3	Nitrobenzene	5170	
99-08-1	m-Nitrotoluene	4460	
99-35-4	1,3,5-Trinitrobenzene	4060	
99-65-0	m-Dinitrobenzene	4570	
99-99-0	p-Nitrotoluene	4830	

\*Concentration =

Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$	X	Dilution Factor
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Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131014a

Date: 31-Jan-2010

Time: 18:59:27

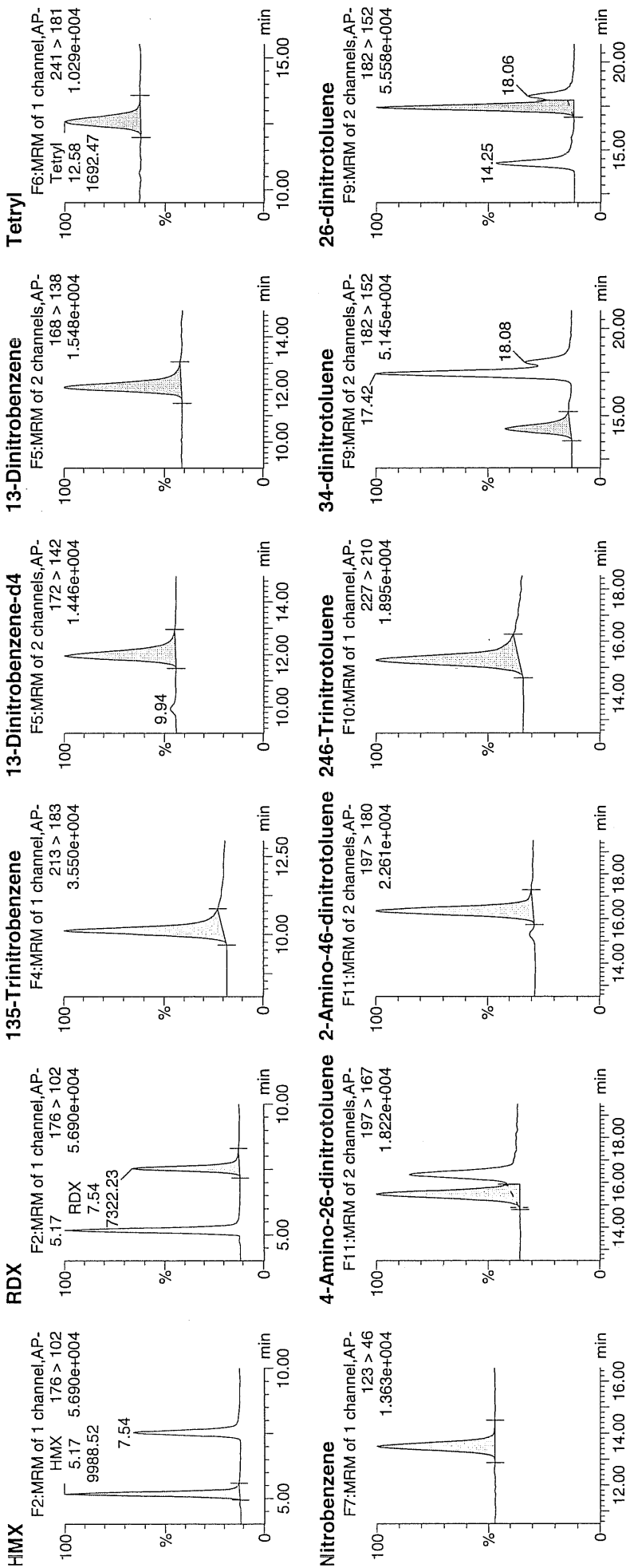
ID: 1202017301

Vial: 1:4,B

1477

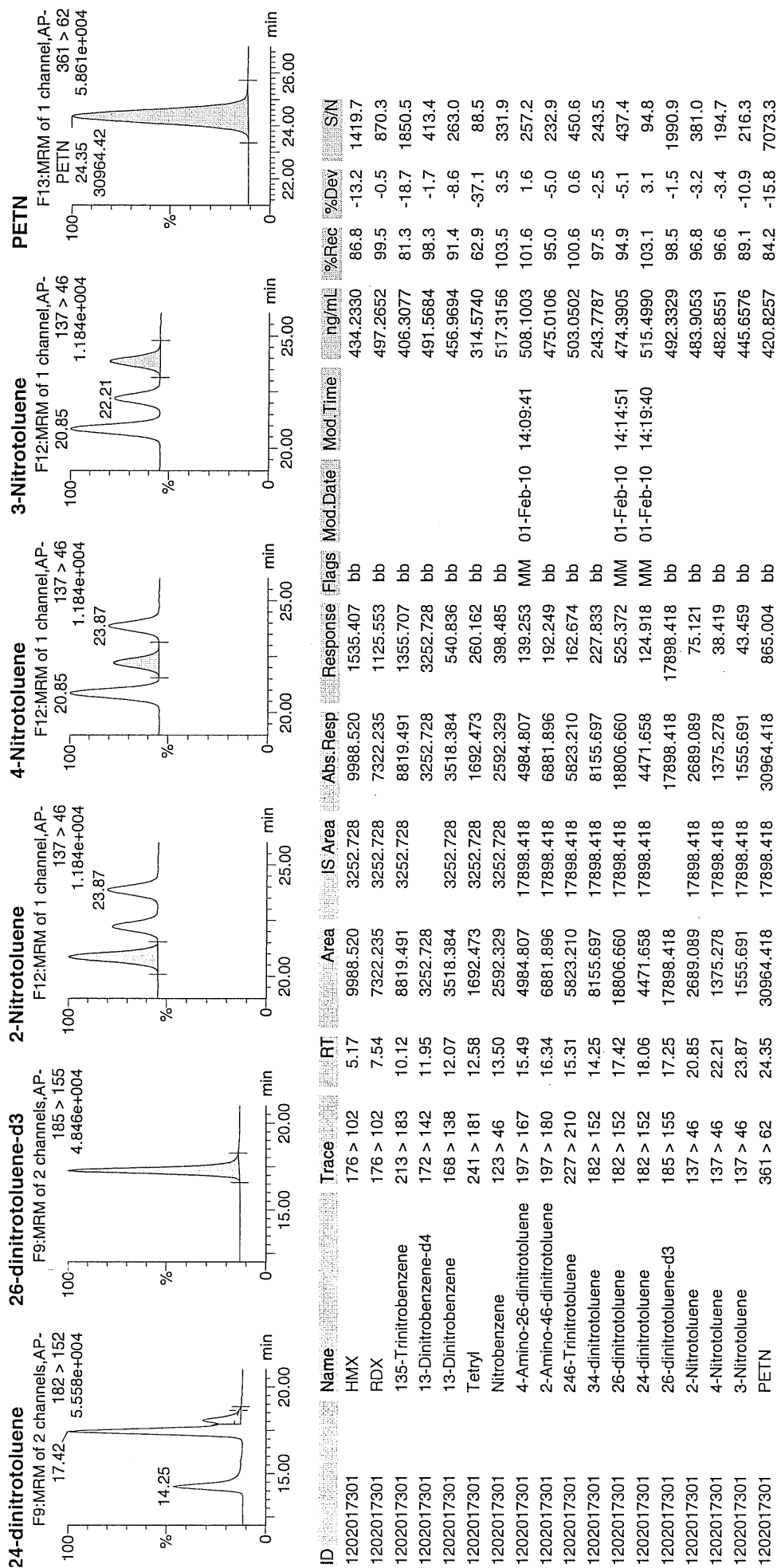
2/1/10

WAV 942335 / Source / LCS / 2 /



Handwritten signature/initials

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 942334

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017301

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250018.wiff

Date Analyzed: 25-JAN-10 14:59

Units: ug/kg

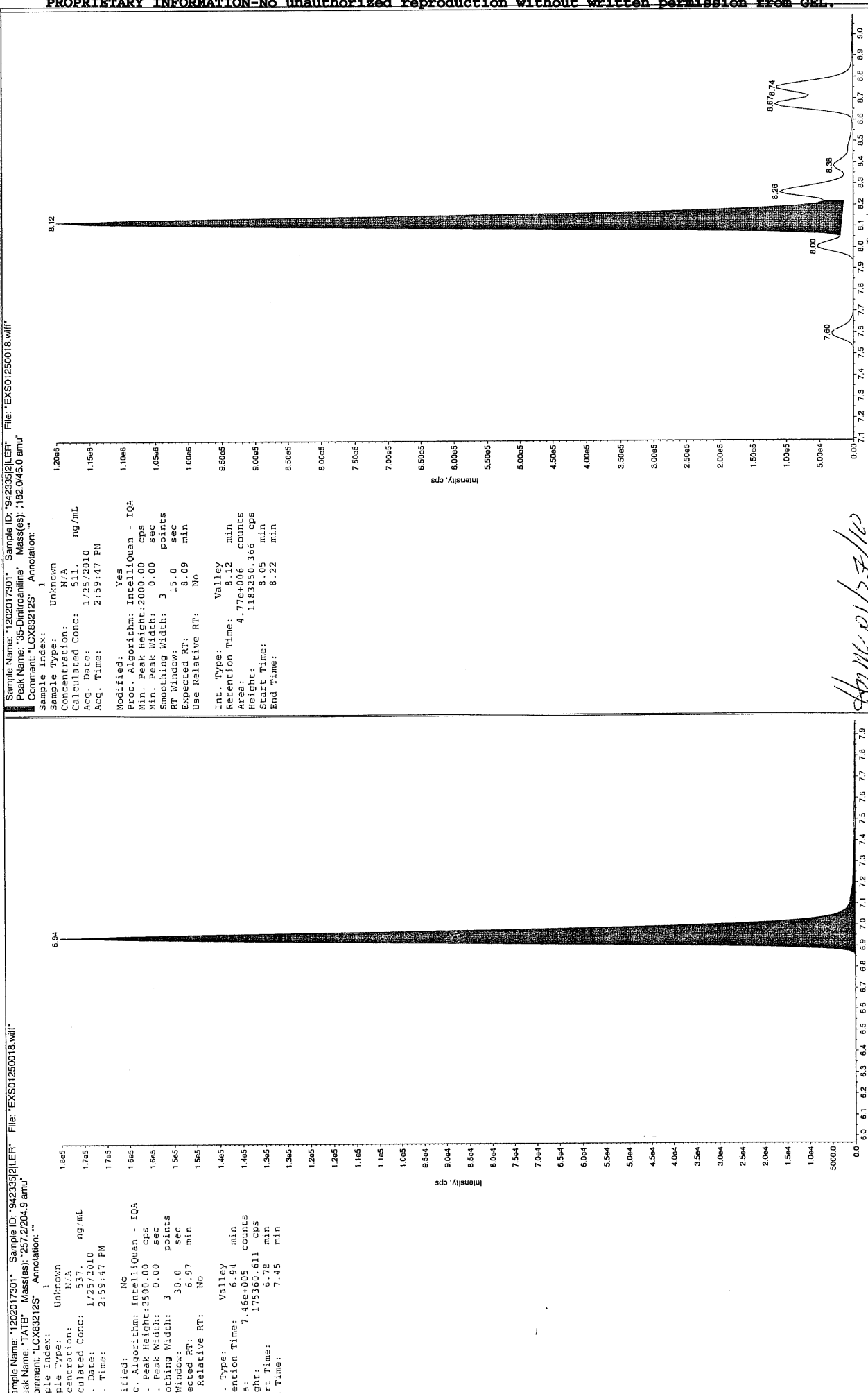
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	5370	
59229-75-3	2,6-Diamino-4-nitrotoluene	4930	
618-87-1	3,5-Dinitroaniline	5260	
6629-29-4	2,4-Diamino-6-nitrotoluene	5410	
78-30-8	tris(o-cresyl) phosphate	5040	

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor



Before Scan 1127110

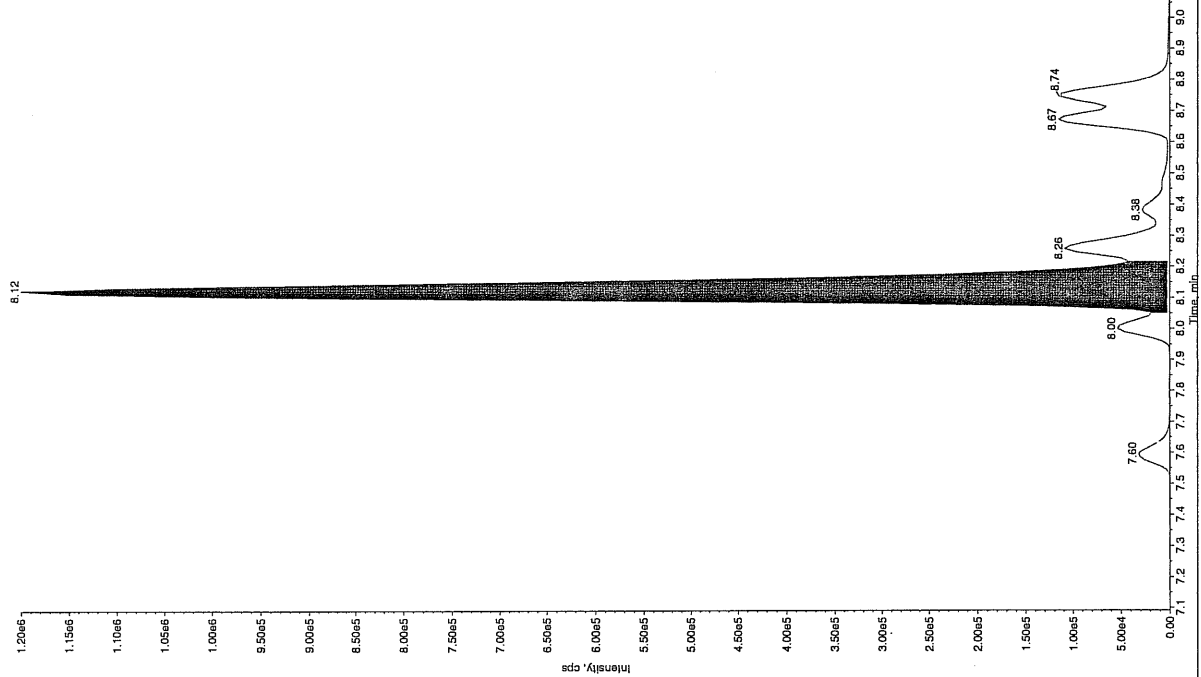


After Scan 1127110

EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202017301" Sample ID: "9423353JLER" File: "EX501250018.wiff"  
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"  
Comment: "LCX83212S" Annotation: ""

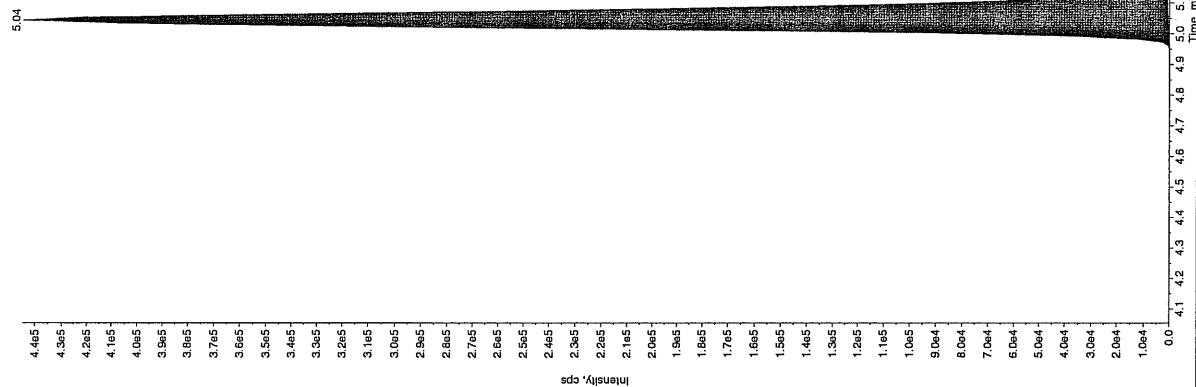
Sample Index:	1	
Sample Type:	Unknown	
Concentration:	526	ng/mL
Calculated Conc:	H/A	
Acq. Date:	1/25/2010	
Acq. Time:	2:59:47 PM	
Modified:	Yes	
RT Window:	15.0	sec
Expected RT:	8.09	min
Use Relative RT:	No	
Int. Type:	Manual	
Retention Time:	8.12	min
Area:	4,906+006	counts
Height:	1200369.891	cps
Start Time:	8.05	min
End Time:	8.22	min



---

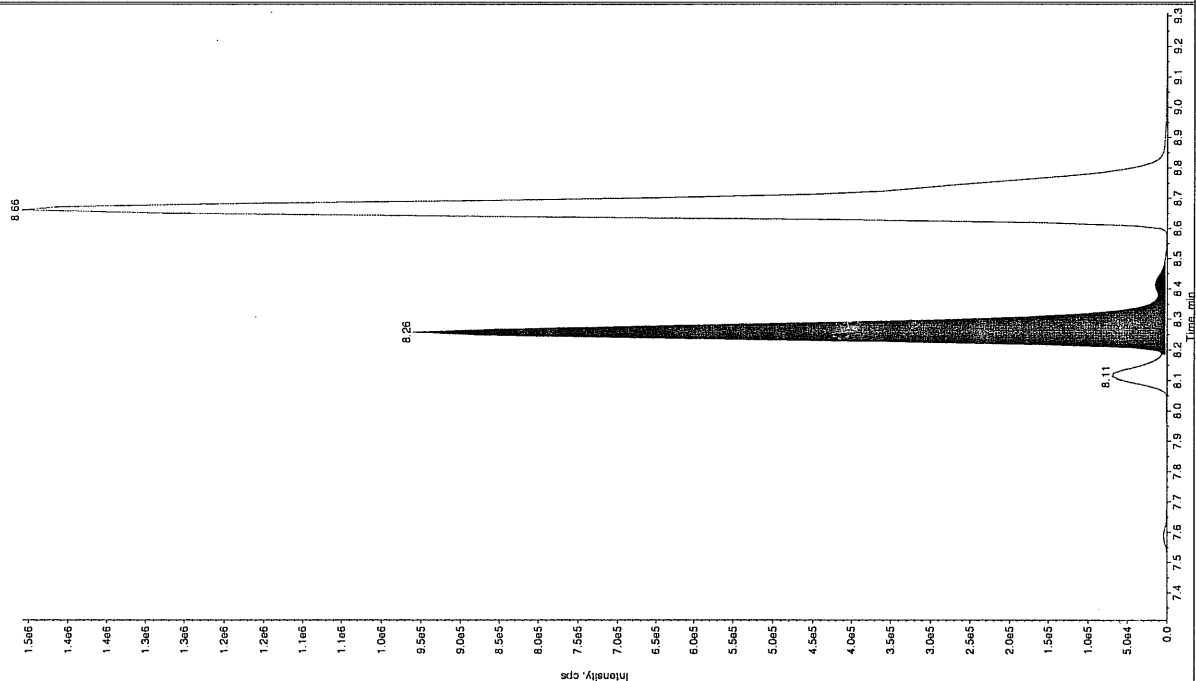
Sample Name: "1202017301" Sample ID: "94233521LER" File: "EXS01250018.wif"  
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"  
Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 493 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 2:59:47 PM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 450.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 30.0 points  
RT Window: 30.0 sec  
Expected RT: 5.05 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 5.04 min  
Area: 1.86e+006 counts  
Height: 444153.076 cps  
Start Time: 4.95 min  
End Time: 5.33 min



Sample Name: "1202017301" Sample ID: "94233521LER" File: "EXS01250018.wif"  
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1451.9 amu"  
Comment: "LCX83212S" Annotation: ""

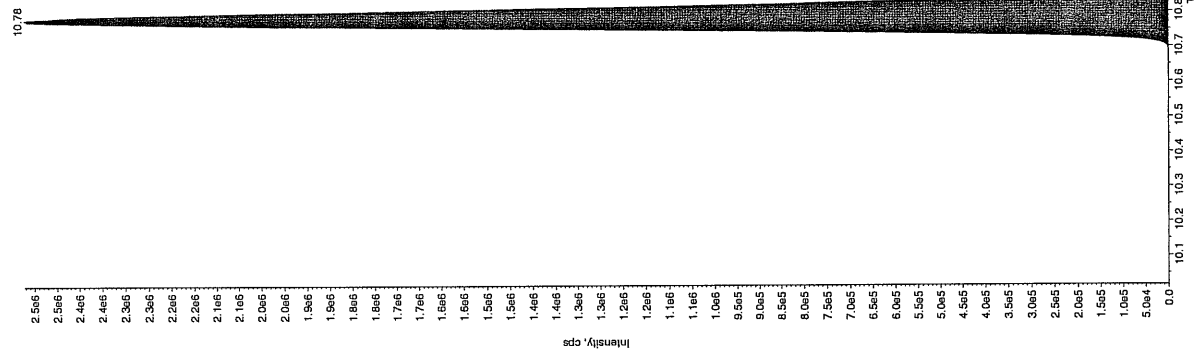
Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 374 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 2:59:47 PM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 1460.00 cps  
Min. Peak Width: 0.00 sec  
Smoothing Width: 30.0 points  
RT Window: 15.0 sec  
Expected RT: 8.31 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 8.26 min  
Area: 3.61e+006 counts  
Height: 957163.025 cps  
Start Time: 8.19 min  
End Time: 8.50 min



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

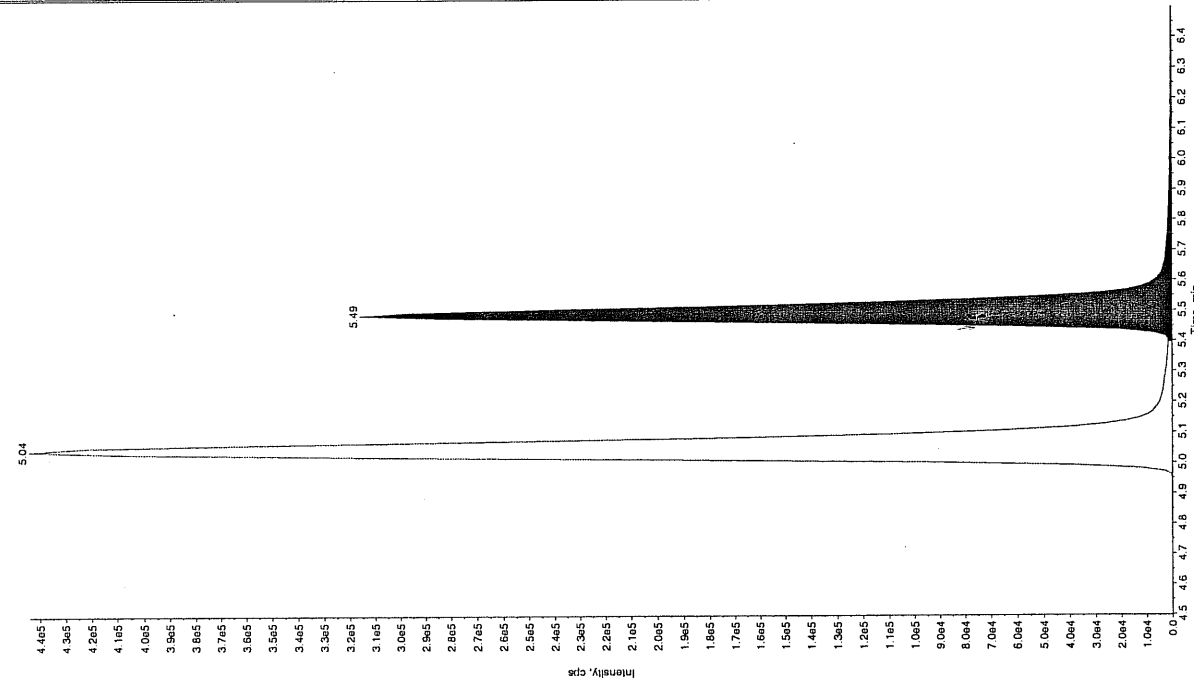
Sample Name: "1202017301" Sample ID: "942335[2]\_ER" File: "EXS01250018.wif"  
 Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 504. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 2:59:47 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1.00e4 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 10.8 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 10.8 min  
 Area: 1.05e+007 counts  
 Height: 2523965.332 cps  
 Start Time: 10.7 min  
 End Time: 11.1 min



Sample Name: "1202017301" Sample ID: "942335[2]\_ER" File: "EXS01250018.wif"  
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.0/46.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 549. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 2:59:47 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 350.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.50 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.49 min  
 Area: 1.31e+006 counts  
 Height: 315391.461 cps  
 Start Time: 5.39 min  
 End Time: 6.15 min



DEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272(244847001MS)

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017302

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131016a

Date Analyzed: 31-JAN-10 19:58

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5060	
121-14-2	2,4-Dinitrotoluene	5010	
121-82-4	RDX	5340	
19406-51-0	4-Amino-2,6-dinitrotoluene	5110	
2691-41-0	HMX	4650	
35572-78-2	2-Amino-4,6-dinitrotoluene	5140	
479-45-8	Tetryl	4520	
606-20-2	2,6-Dinitrotoluene	4880	
78-11-5	PETN	4040	
88-72-2	o-Nitrotoluene	4210	
98-95-3	Nitrobenzene	5240	
99-08-1	m-Nitrotoluene	4430	
99-35-4	1,3,5-Trinitrobenzene	4910	
99-65-0	m-Dinitrobenzene	4930	
99-99-0	p-Nitrotoluene	4350	

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131016a

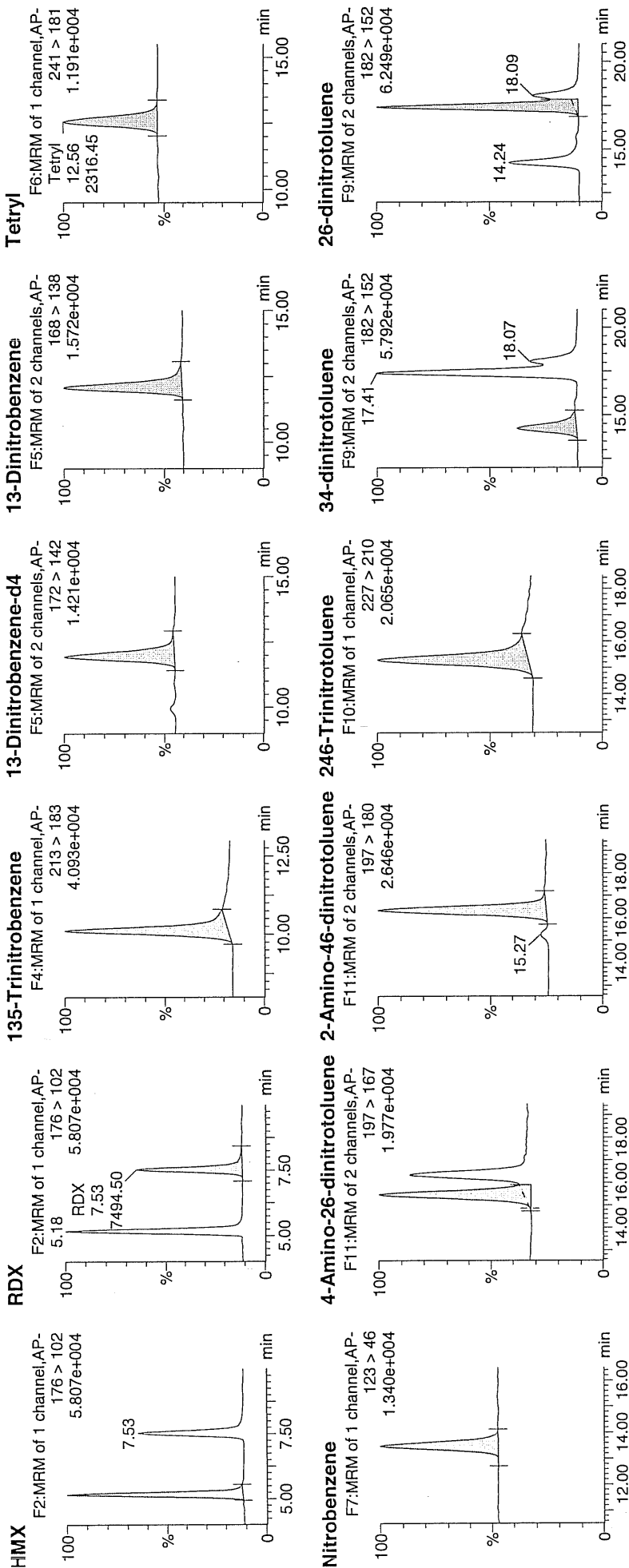
Date: 31-Jan-2010

Time: 19:58:25

ID: 1202017302

Vial: 1:4,D

Handwritten notes: *14th 2/1/10*  
*244847001ms / 21*  
*942335 / 8022*

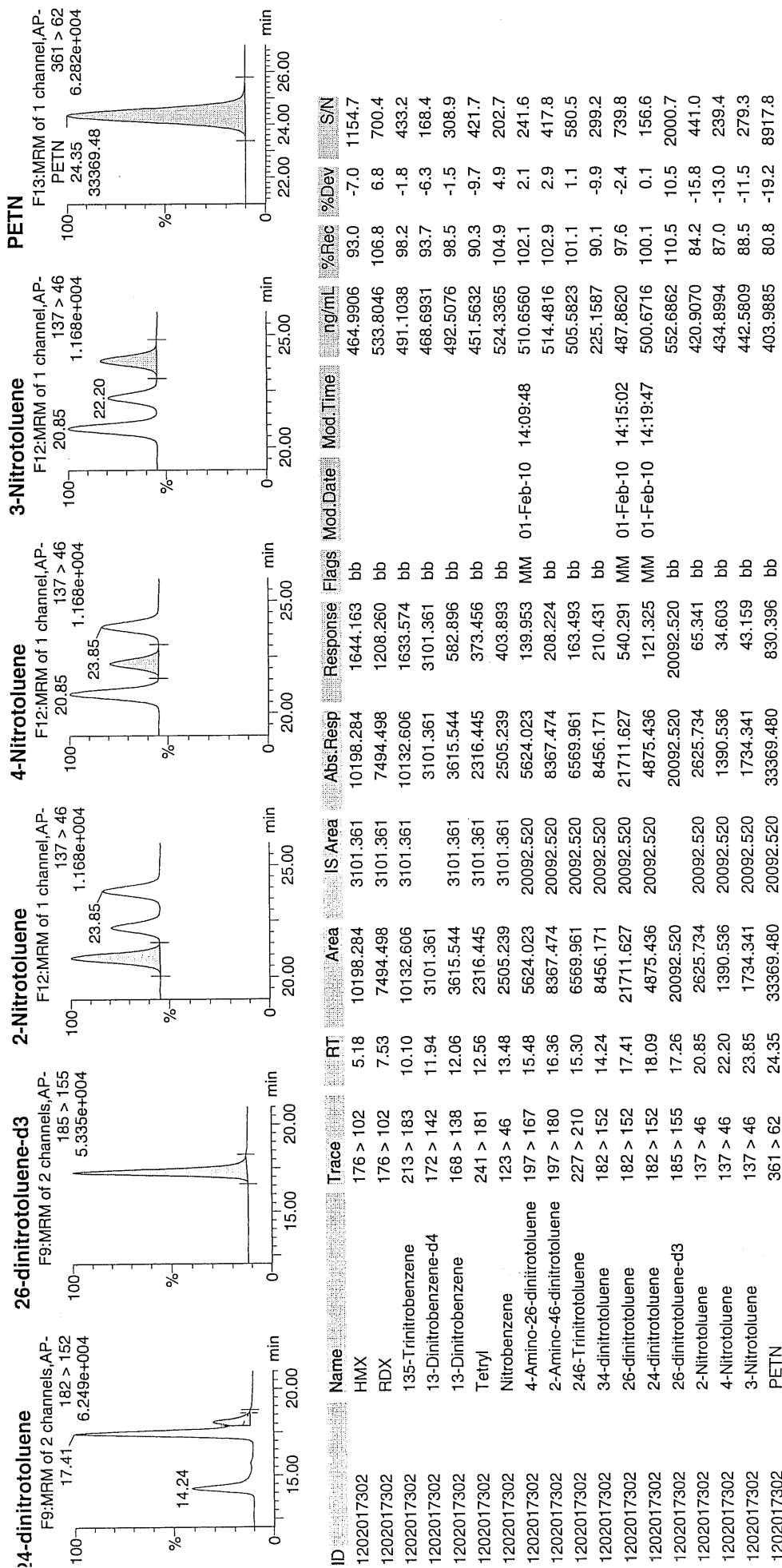


Handwritten signature: *AME 10/2/10*

# Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp\PRO013110expA.qld, Time: Mon Feb 01 14:26:08 2010



1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272(244847001MS)

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017302

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250020.wiff

Date Analyzed: 25-JAN-10 15:31

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	22000	
59229-75-3	2,6-Diamino-4-nitrotoluene	4030	
618-87-1	3,5-Dinitroaniline	5200	
6629-29-4	2,4-Diamino-6-nitrotoluene	3720	
78-30-8	tris(o-cresyl) phosphate	4540	

\*Concentration =

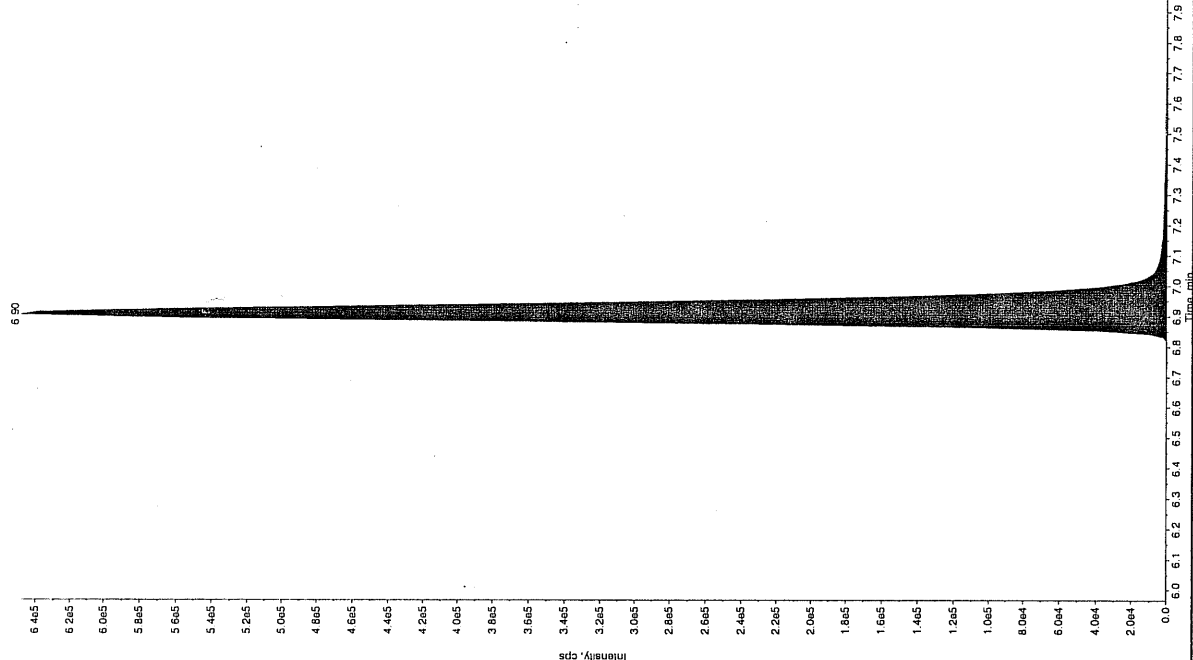
Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor



Before Jan 11/27/10

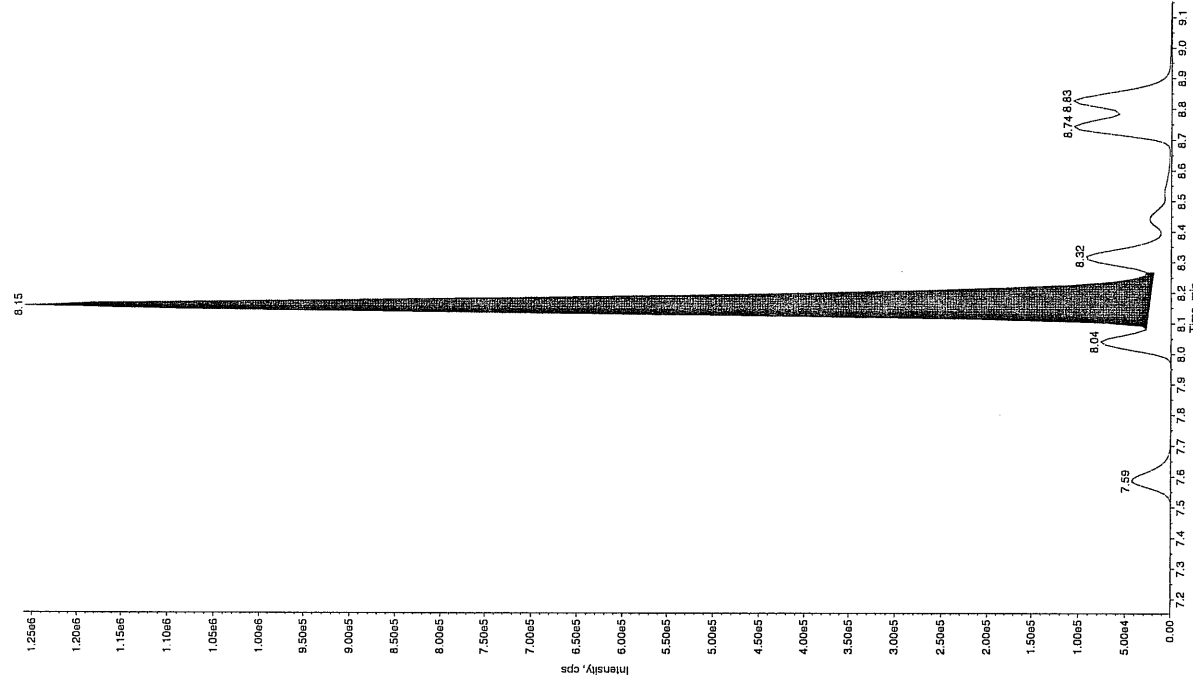
Sample Name: "1202017302" Sample ID: "942335121" File: "EXS01250020.wif"  
 Peak Name: "TATB" Mass(es): "257 2204.9 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 2200 ng/mL  
 Calculated Conc: 1/25/2010  
 Acq. Date: 3:31:11 PM  
 Acq. Time: 3:31:11 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2500.00 cps  
 Min. Peak Width: 30.0 sec  
 Smoothing Width: 30.0 sec  
 RT Window: 6.97 min  
 Expected RT: No  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 6.90 min  
 Peak Height: 2.91e+006 counts  
 Height: 647608.459 cps  
 Start Time: 6.77 min  
 End Time: 7.49 min



Sample Name: "1202017302" Sample ID: "942335121" File: "EXS01250020.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 494 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:31:11 PM  
 Modified: Yes  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 2000.00 cps  
 Min. Peak Width: 30.0 sec  
 Smoothing Width: 30.0 sec  
 RT Window: 8.15 min  
 Expected RT: No  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.15 min  
 Peak Height: 4.62e+006 counts  
 Height: 1234221.924 cps  
 Start Time: 8.08 min  
 End Time: 8.27 min

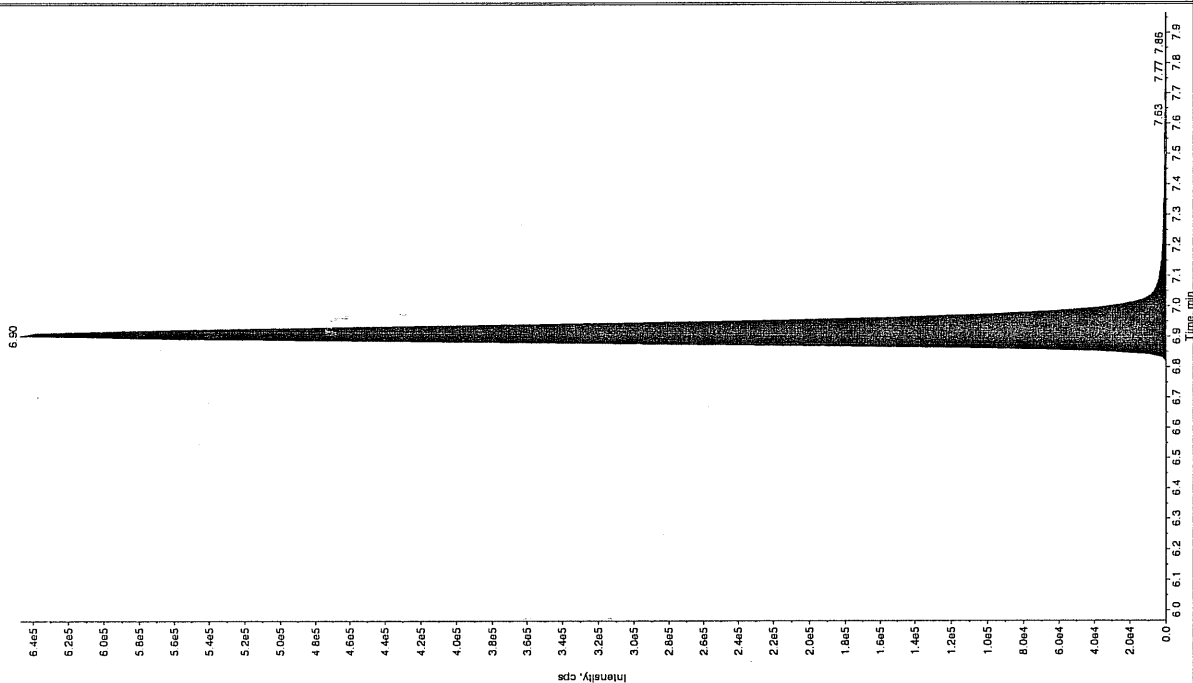


After 01/27/10

after Jan 11/27/10

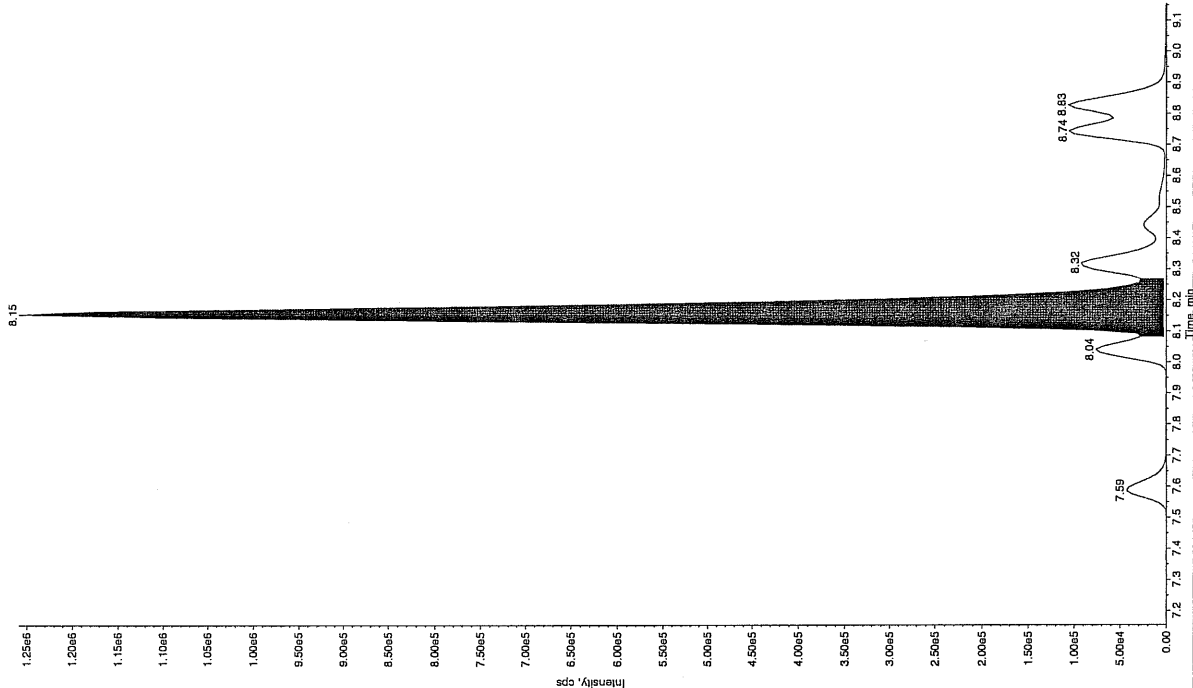
Sample Name: "1202017302" Sample ID: "942335" File: "EX501250020.wif"  
 Peak Name: "TATB" Mass(es): "257.2/204.9 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 2200. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:31:11 PM  
 Modified: No  
 RT Window: 30.0 sec  
 Expected RT: 6.97 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 6.90 min  
 Area: 2.91e+005 counts  
 Height: 647608.459 cps  
 Start Time: 6.77 min  
 End Time: 7.49 min



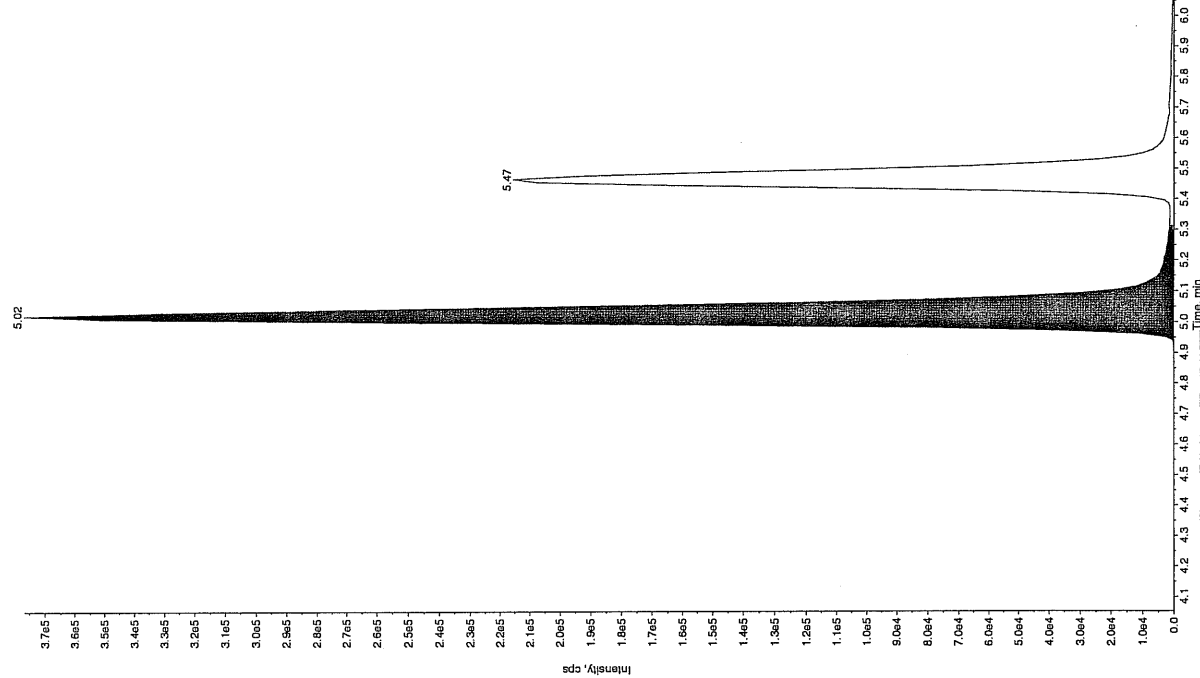
Sample Name: "1202017302" Sample ID: "942335" File: "EX501250020.wif"  
 Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 520. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:31:11 PM  
 Modified: Yes  
 RT Window: 15.0 sec  
 Expected RT: 8.15 min  
 Use Relative RT: No  
 Int. Type: Manual  
 Retention Time: 8.16 min  
 Area: 4.86e+006 counts  
 Height: 1260291.835 cps  
 Start Time: 8.08 min  
 End Time: 8.27 min



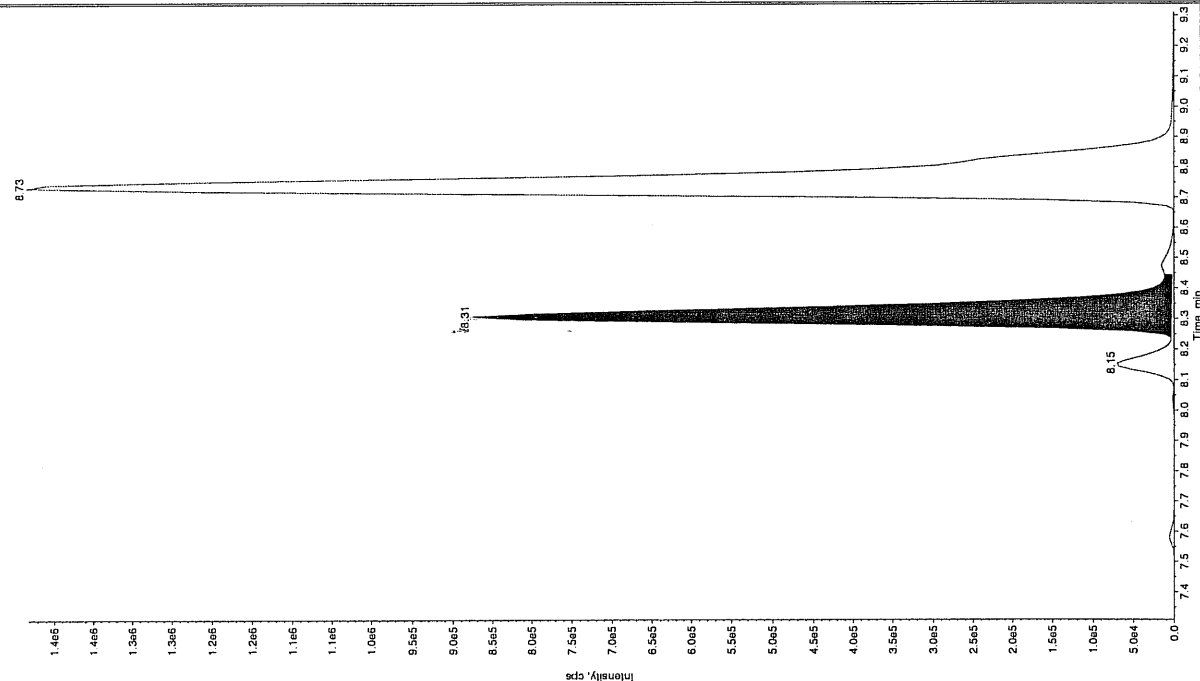
Sample Name: "1202017302" Sample ID: "942335" File: "EX501250020.wif"  
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 403. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:31:11 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 450.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.05 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.02 min  
 Area: 1.52e+006 counts  
 Height: 376457.275 cps  
 Start Time: 4.92 min  
 End Time: 5.31 min



Sample Name: "1202017302" Sample ID: "942335" File: "EX501250020.wif"  
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/51.9 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 257. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:31:11 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1450.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.31 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.31 min  
 Area: 3.39e+006 counts  
 Height: 872830.188 cps  
 Start Time: 8.24 min  
 End Time: 8.44 min



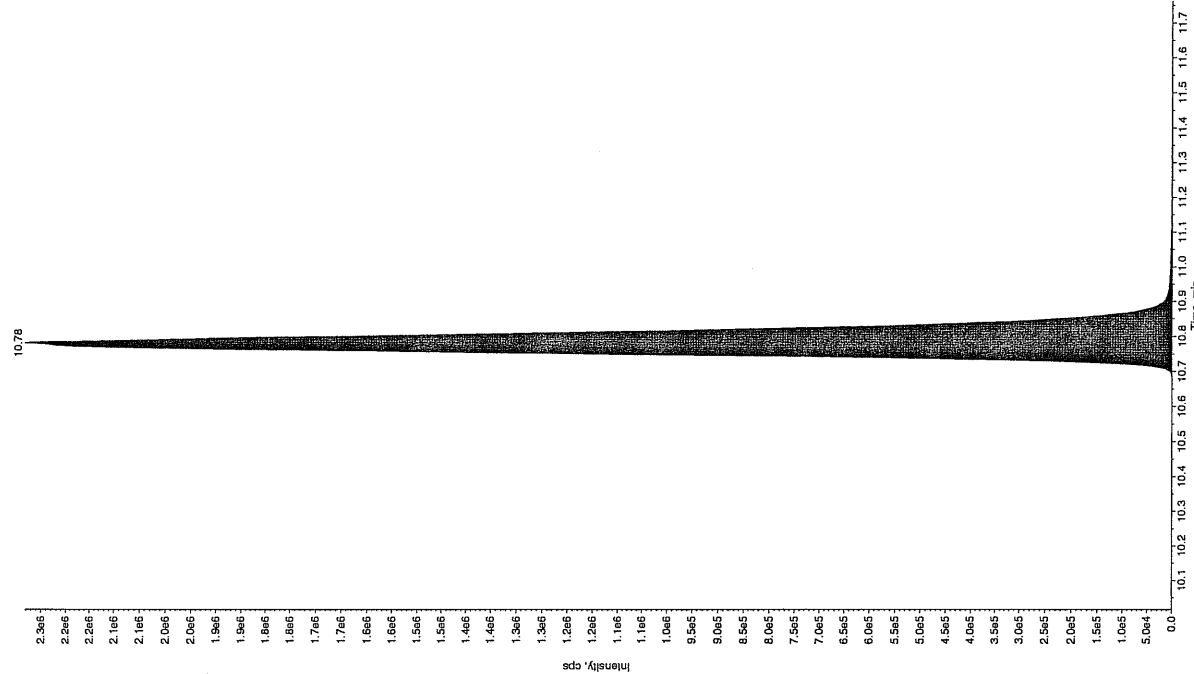
EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202017302" Sample ID: "94233521LER" File: "EXS01250020.wif"

Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.191.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 454. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:31:11 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1.00e4 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 10.8 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 10.8 min  
 Area: 9.56e+006 counts  
 Height: 2282519.287 cps  
 Start Time: 10.7 min  
 End Time: 11.1 min

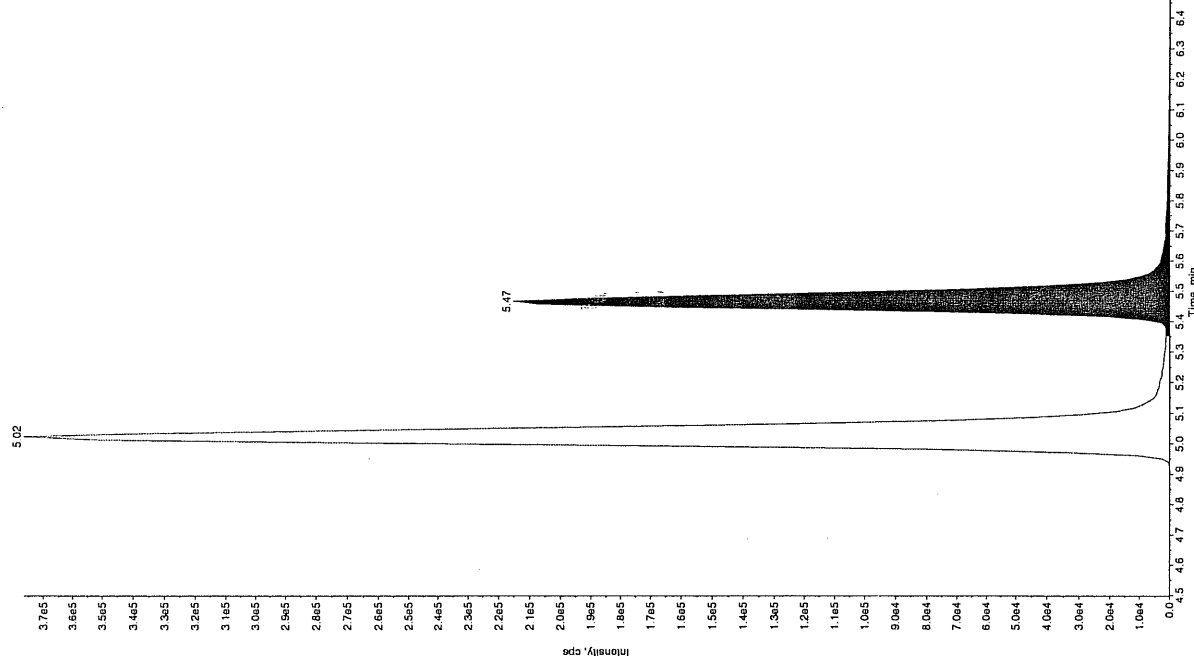


Sample Name: "1202017302" Sample ID: "94233521LER" File: "EXS01250020.wif"

Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 372. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:31:11 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 350.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.50 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.47 min  
 Area: 8.91e+005 counts  
 Height: 215077.438 cps  
 Start Time: 5.35 min  
 End Time: 6.11 min



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272(244847001MSD)

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017303

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131017a

Date Analyzed: 31-JAN-10 20:27

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	6180	
121-14-2	2,4-Dinitrotoluene	5340	
121-82-4	RDX	4630	
19406-51-0	4-Amino-2,6-dinitrotoluene	6090	
2691-41-0	HMX	4440	
35572-78-2	2-Amino-4,6-dinitrotoluene	4790	
479-45-8	Tetryl	4810	
606-20-2	2,6-Dinitrotoluene	5060	
78-11-5	PETN	4060	
88-72-2	o-Nitrotoluene	4900	
98-95-3	Nitrobenzene	4660	
99-08-1	m-Nitrotoluene	4520	
99-35-4	1,3,5-Trinitrobenzene	4700	
99-65-0	m-Dinitrobenzene	4650	
99-99-0	p-Nitrotoluene	4810	

\*Concentration =

Instrument				
Value	X	<u>Concentrated Extract Volume</u>	X	Dilution
		Sample Amount		Factor

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131017a

Date: 31-Jan-2010

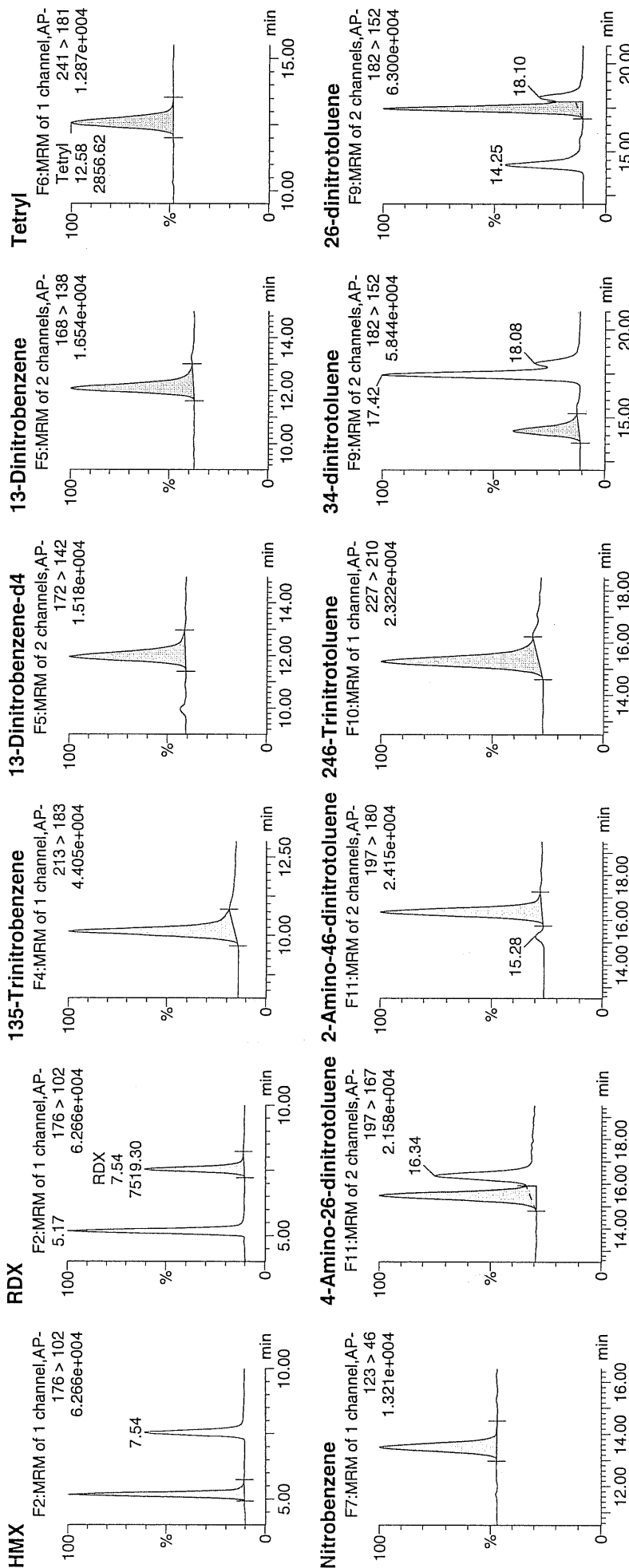
Time: 20:27:55

ID: 1202017303

Vial: 1:4,E

MSD  
2/1/10

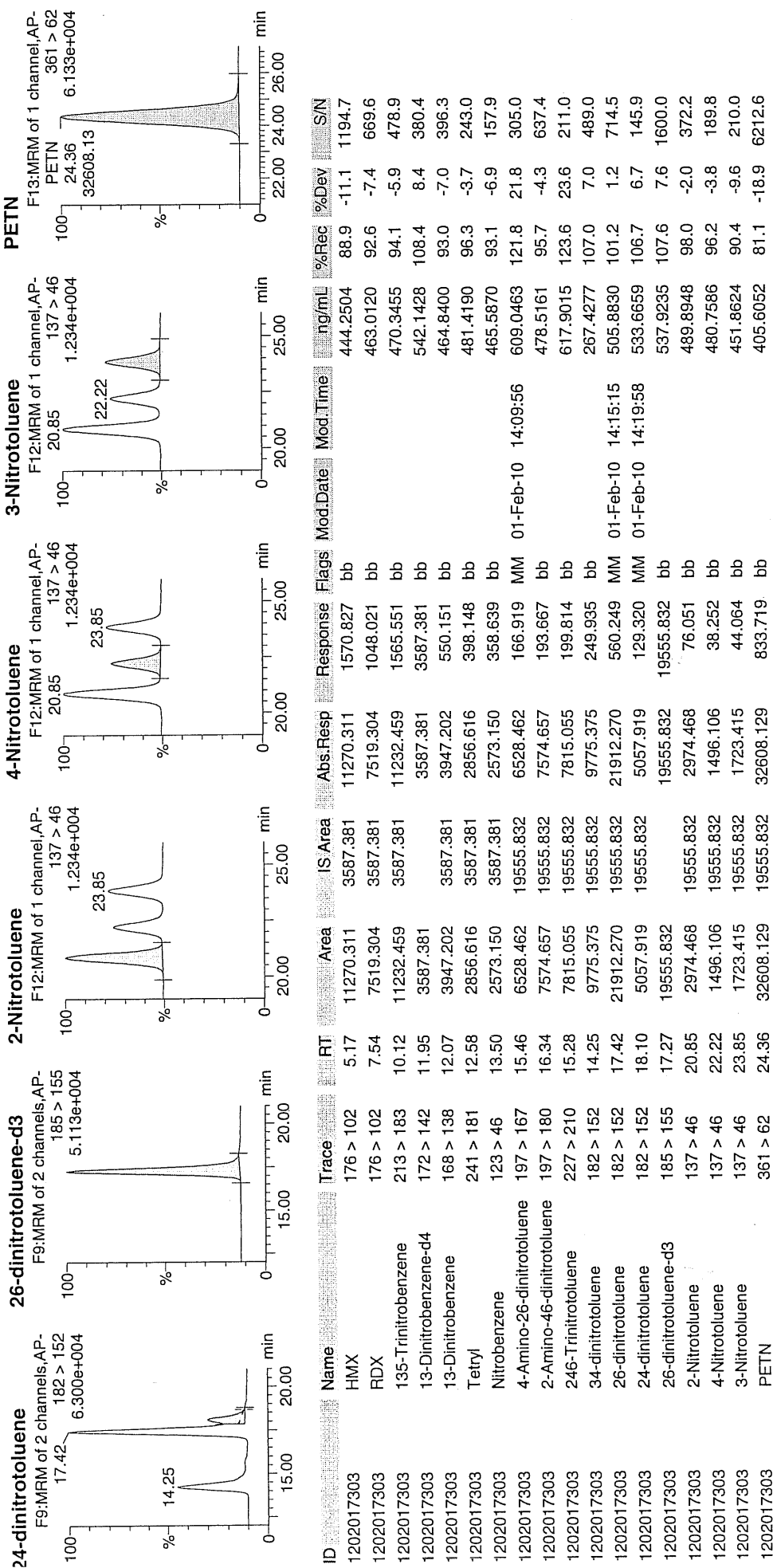
WAV | 942335 | Source | 244847001 MSD | 2



Handwritten signature

Quantify Sample Report  
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New\_Exp\_PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7272(244847001MSD)

Lab Code: GEL

GEL Job No (SDG) 10-1262

Matrix: SOIL

GEL Sample ID: 1202017303

Sample Amount 2

Moisture: 12.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250021.wiff

Date Analyzed: 25-JAN-10 15:46

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	8120	
59229-75-3	2,6-Diamino-4-nitrotoluene	4750	
618-87-1	3,5-Dinitroaniline	4970	
6629-29-4	2,4-Diamino-6-nitrotoluene	4490	
78-30-8	tris(o-cresyl) phosphate	3990	

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor



Before scan 1127110

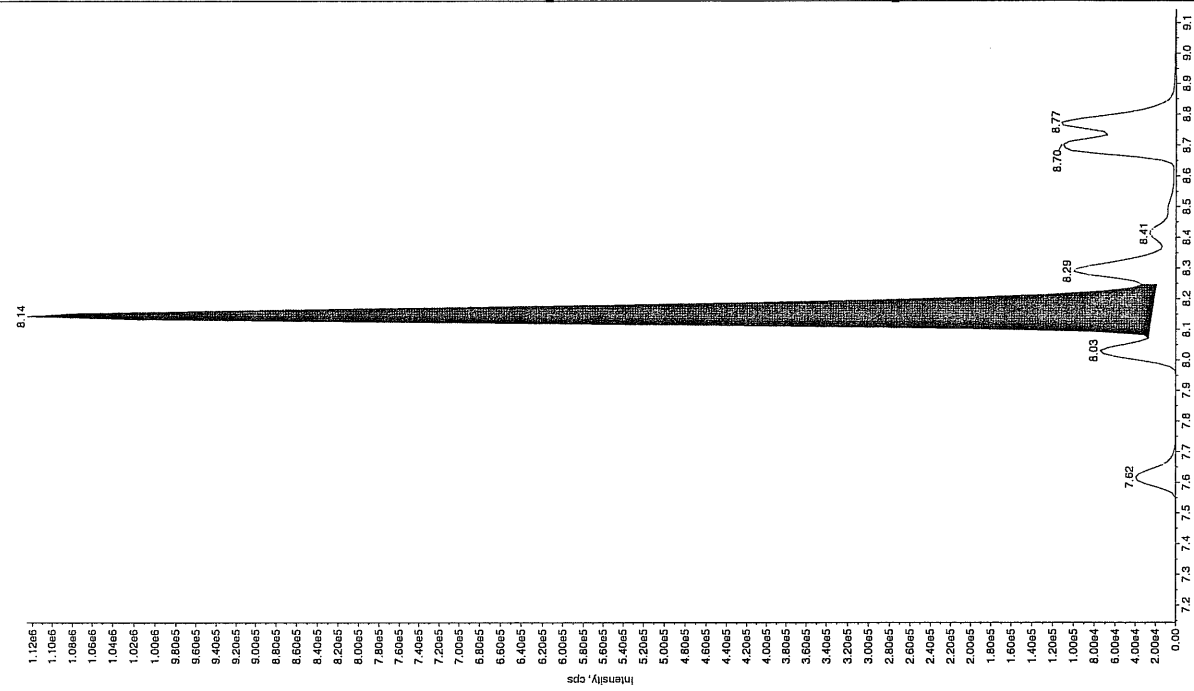
Sample Name: "1202017303" Sample ID: "942335121" File: "EXS01250021.wif"  
Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
Sample Type: Unknown  
Concentration: 812 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 3:46:53 PM  
Modified: No  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 2500.00 cps  
Min. Peak Width: 3.00 sec  
Smoothing Width: 30.0 points  
RT Window: 30.0 sec  
Expected RT: 6.97 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 6.94 min  
Area: 1.12e+006 counts  
Height: 262906.677 cps  
Start Time: 6.79 min  
End Time: 7.52 min



Sample Name: "1202017303" Sample ID: "942335121" File: "EXS01250021.wif"  
Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"  
Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
Sample Type: Unknown  
Concentration: 473 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 3:46:53 PM  
Modified: Yes  
Proc. Algorithm: IntelliQuan - IQA  
Min. Peak Height: 2000.00 cps  
Min. Peak Width: 3.00 sec  
Smoothing Width: 15.0 points  
RT Window: 15.0 sec  
Expected RT: 8.14 min  
Use Relative RT: No  
Int. Type: Valley  
Retention Time: 8.14 min  
Area: 4.44e+006 counts  
Height: 1102246.704 cps  
Start Time: 8.07 min  
End Time: 8.25 min



After scan 1127110

after dex 11/27/10

Sample Name: "1202017303" Sample ID: "942335[2]LER" File: "EXS01250021.wit"

Peak Name: "TATB" Mass(es): "257.2/204.9 amu"

Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 912 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 3:46:53 PM  
Modified: No  
RT Window: 245  
Expected RT: 245  
Use Relative RT: No  
Int. Type: No  
Retention Time: 245  
Area: 1.12e+006 counts  
Height: 262906.677 cps  
Start Time: 6.79 min  
End Time: 7.52 min

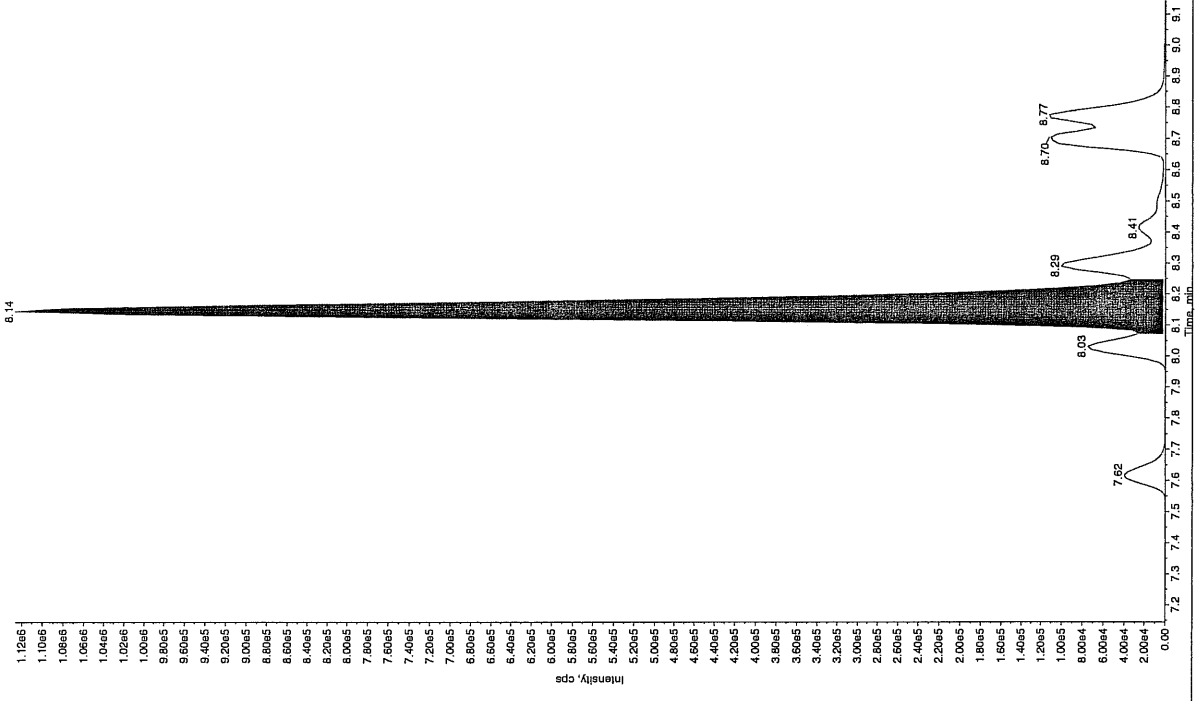


Sample Name: "1202017303" Sample ID: "942335[2]LER" File: "EXS01250021.wit"

Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"

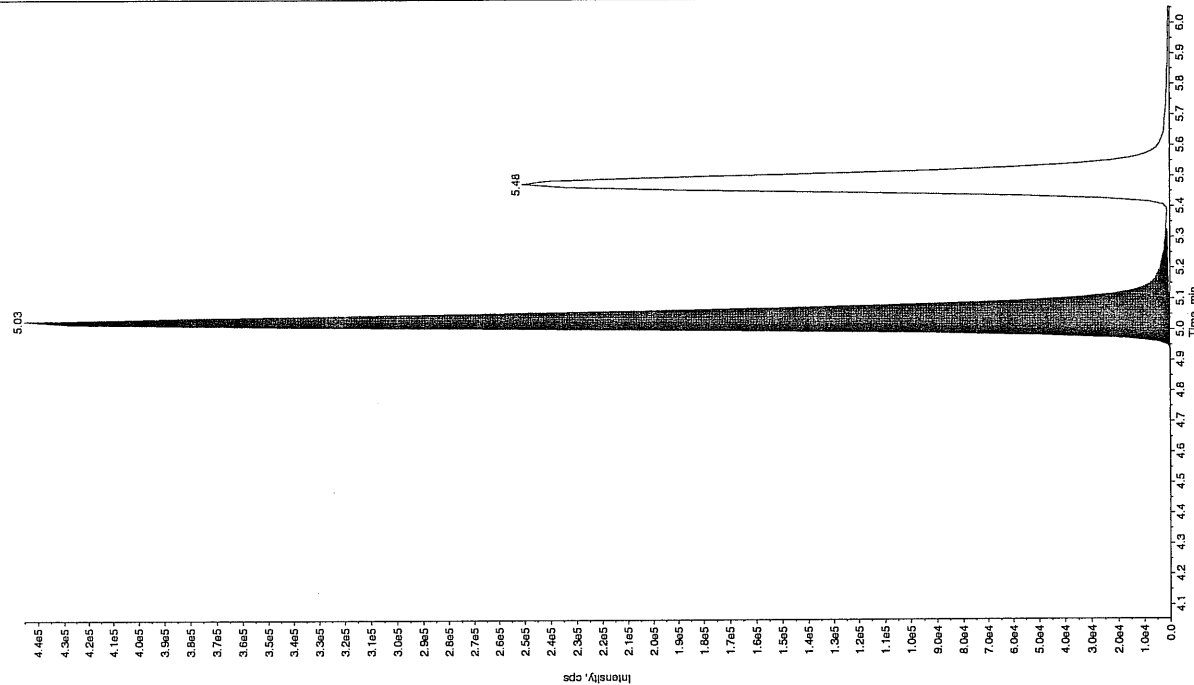
Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
Sample Type: Unknown  
Concentration: N/A  
Calculated Conc: 497 ng/mL  
Acq. Date: 1/25/2010  
Acq. Time: 3:46:53 PM  
Modified: Yes  
RT Window: 15.0 sec  
Expected RT: 8.14 min  
Use Relative RT: No  
Int. Type: Manual  
Retention Time: 8.15 min  
Area: 4.66e+006 counts  
Height: 1126642.596 cps  
Start Time: 8.07 min  
End Time: 8.25 min



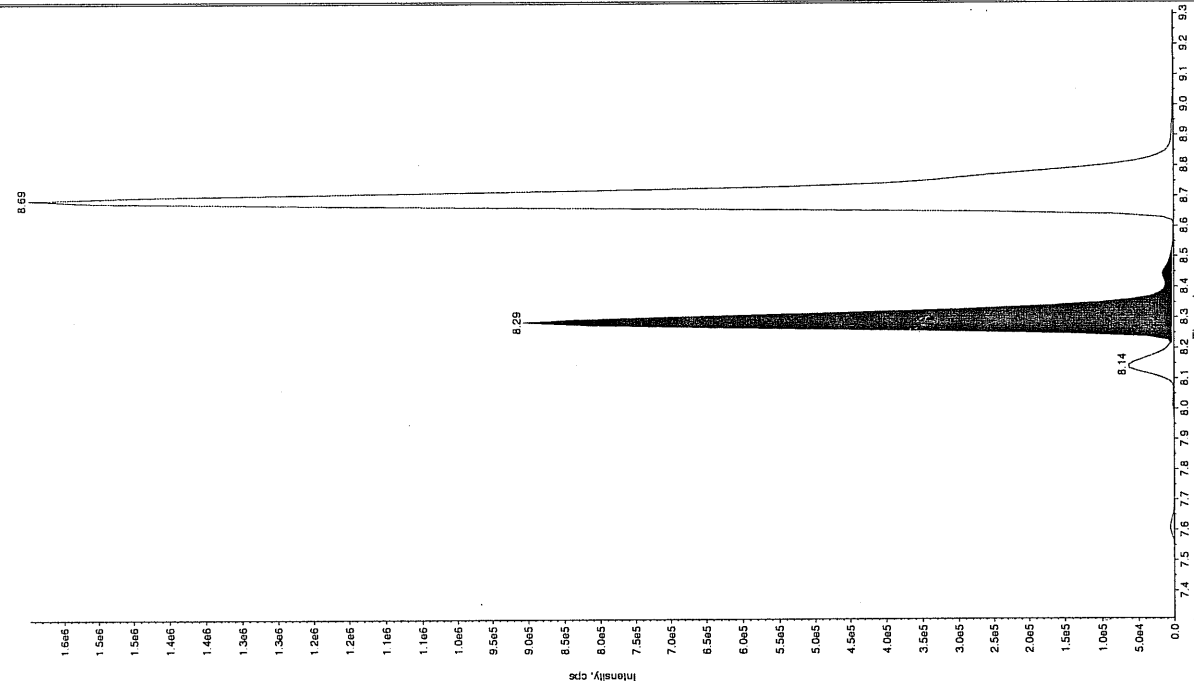
Sample Name: "1202017303" Sample ID: "94233521ER" File: "EXS01250021.wif"  
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 475. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:46:53 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 450.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.05 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.03 min  
 Area: 1.79e+006 counts  
 Height: 444790.466 cps  
 Start Time: 4.93 min  
 End Time: 5.32 min



Sample Name: "1202017303" Sample ID: "94233521ER" File: "EXS01250021.wif"  
 Peak Name: "34-Diaminotoluene" Mass(es): "182.1/151.9 amu"  
 Comment: "LCX83212S" Annotation: ""

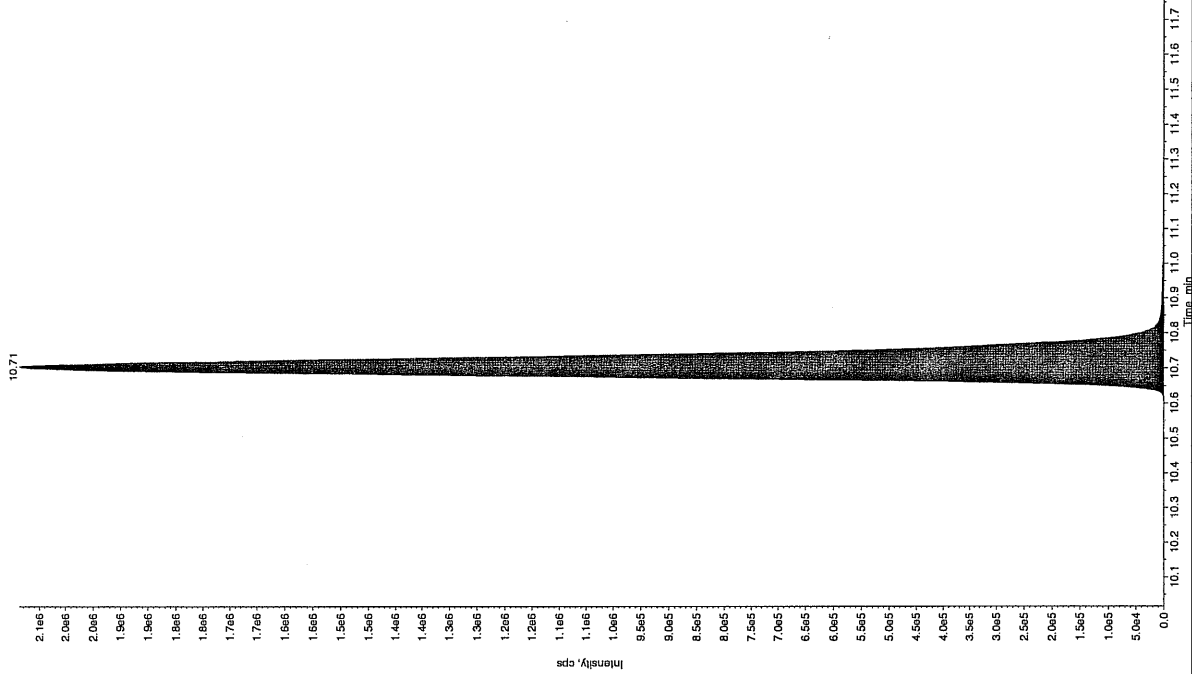
Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 262. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:46:53 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1400.00 cps  
 Min. Peak Width: 3.00 sec  
 Smoothing Width: 15.0 points  
 RT Window: 15.0 sec  
 Expected RT: 8.31 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.29 min  
 Area: 3.46e+006 counts  
 Height: 902934.570 cps  
 Start Time: 8.22 min  
 End Time: 8.53 min



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

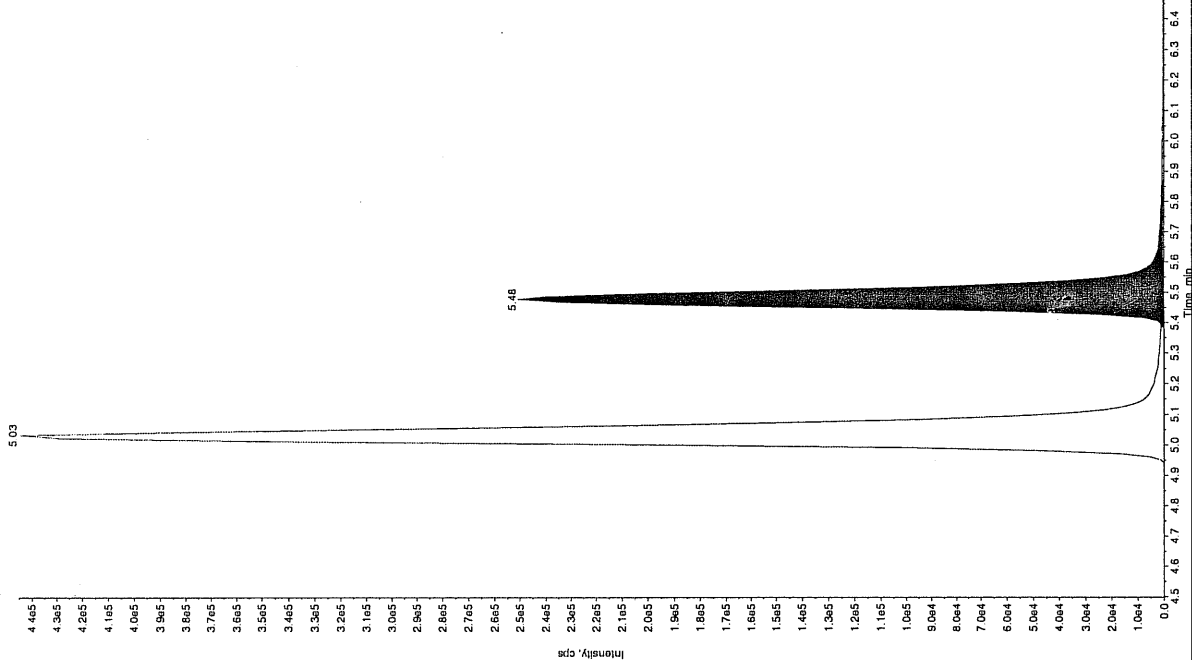
Sample Name: "1202017303" Sample ID: "94233521LER" File: "EXS01250021.wif"  
 Peak Name: "bis(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 399. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:46:53 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 1.00e4 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 10.8 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 10.7 min  
 Area: 8.46e+006 counts  
 Height: 2087528.564 cps  
 Start Time: 10.6 min  
 End Time: 11.0 min



Sample Name: "1202017303" Sample ID: "94233521LER" File: "EXS01250021.wif"  
 Peak Name: "24-Dianino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 449. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 3:46:53 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Min. Peak Height: 350.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.50 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.48 min  
 Area: 1.08e+006 counts  
 Height: 250340.546 cps  
 Start Time: 5.38 min  
 End Time: 5.61 min



EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

# MISCELLANEOUS DATA

Prep Logbook

Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)

Batch ID: 942334      Verified by: \_\_\_\_\_

Analyst: Sirena White      Lab SOP: GL-OA-E-033 REV# 17

Method: SW846 8330 PREP      Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202017300 MB	22-JAN-2010 14:22:11	2	10	5
1202017301 LCS	22-JAN-2010 14:22:11	2	10	5
244847001	22-JAN-2010 14:22:11	2	10	5
1202017302 MS (244847001)	22-JAN-2010 14:22:11	2	10	5
1202017303 MSD (244847001)	22-JAN-2010 14:22:11	2	10	5
244847002	22-JAN-2010 14:22:11	2	10	5
244847003	22-JAN-2010 14:22:11	2	10	5
244847004	22-JAN-2010 14:22:11	2	10	5
244852001	22-JAN-2010 14:22:11	2	10	5
244852002	22-JAN-2010 14:22:11	2	10	5
244852003	22-JAN-2010 14:22:11	2	10	5
244852004	22-JAN-2010 14:22:11	2	10	5
244881001	22-JAN-2010 14:22:11	2	10	5
244881002	22-JAN-2010 14:22:11	2	10	5
244881003	22-JAN-2010 14:22:11	2	10	5
244881004	22-JAN-2010 14:22:11	2	10	5
244905001	22-JAN-2010 14:22:11	2	10	5
244905002	22-JAN-2010 14:22:11	2	10	5
244905003	22-JAN-2010 14:22:11	2	10	5
244905004	22-JAN-2010 14:22:11	2	10	5
244905005	22-JAN-2010 14:22:11	2	10	5
244905006	22-JAN-2010 14:22:11	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202017301	8321 Explosives LCS	IXX091230-03	.1	mL	Final Solvent: ACN
LCS	1202017301	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
MS	1202017302	8321 Explosives LCS	IXX091230-03	.1	mL	
MS	1202017302	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
MSD	1202017303	8321 Explosives LCS	IXX091230-03	.1	mL	
MSD	1202017303	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
SURR	All	3,4-Dinitrotoluene (8330 Sur.) 100ppm	IXP100121-02	.05	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/31/10  
 Extr. Injection Volume: 50ul  
 Sequence Number: 013110expA  
 Initial Calibration Date: 01/31/10

Method: SW846 8321A-Modified  
 Int. Std.: UXX091230-01.4  
 Mobile Phase Lot#: 1261302, 1250738  
 Standard-Samp Reagent Lot#: 1260901, 1246195

Reviewed BY: *shane*  
 Date: *02/02/10*  
 SOP: GL-OA-E-056 Rev.12  
 Alt Check Std. ID: WXX100131-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0131001a	XIBLK01	MAP	1/31/10 12:35			1		USE	B
EXP0131002a	XIBLK01	MAP	1/31/10 13:05			1		USE	B
EXP0131003a	WXXICAL-01	MAP	1/31/10 13:34			1		USE	I
EXP0131004a	WXXICAL-02	MAP	1/31/10 14:04			1		USE	I
EXP0131005a	WXXICAL-03	MAP	1/31/10 14:34			1		USE	I
EXP0131006a	WXXICAL-04	MAP	1/31/10 15:03			1		USE	I
EXP0131007a	WXXICAL-05	MAP	1/31/10 15:33			1		USE	I
EXP0131008a	WXXICAL-06	MAP	1/31/10 16:02			1		USE	I
EXP0131009a	XIBLK02	MAP	1/31/10 16:32			1		USE	B
EXP0131010a	WXXICV	MAP	1/31/10 17:01			1		USE	C
EXP0131011a	XIBLK03	MAP	1/31/10 17:31			1		USE	B
EXP0131012a	WXXCRI	MAP	1/31/10 18:00			1		USE	C
EXP0131013a	1202017300	MAP	1/31/10 18:29	942335	Various	2	LANL	USE	S
EXP0131014a	1202017301	MAP	1/31/10 18:59	942335	Various	2	LANL	USE	S
EXP0131015a	244847001	MAP	1/31/10 19:28	942335	10-1266	2	LANL	USE	S
EXP0131016a	1202017302	MAP	1/31/10 19:58	942335	10-1266	2	LANL	USE	S
EXP0131017a	1202017303	MAP	1/31/10 20:27	942335	10-1266	2	LANL	USE	S
EXP0131018a	244847002	MAP	1/31/10 20:57	942335	10-1266	2	LANL	USE	S
EXP0131019a	244847003	MAP	1/31/10 21:26	942335	10-1266	2	LANL	USE	S
EXP0131020a	244847004	MAP	1/31/10 21:56	942335	10-1266	2	LANL	USE	S
EXP0131021a	244852001	MAP	1/31/10 22:25	942335	10-1263	2	LANL	USE	S
EXP0131022a	244852002	MAP	1/31/10 22:55	942335	10-1263	2	LANL	USE	S
EXP0131023a	WXXCCV	MAP	1/31/10 23:24			1		USE	C
EXP0131024a	XIBLK04	MAP	1/31/10 23:54			1		USE	B
EXP0131025a	WXXCRI	MAP	2/1/10 0:23			1		USE	C
EXP0131026a	244852003	MAP	2/1/10 0:53	942335	10-1263	2	LANL	USE	S
EXP0131027a	244852004	MAP	2/1/10 1:22	942335	10-1263	2	LANL	USE	S
EXP0131028a	244881001	MAP	2/1/10 1:52	942335	10-1264-1	2	LANL	USE	S
EXP0131029a	244881002	MAP	2/1/10 2:21	942335	10-1264-1	2	LANL	USE	S

*10-1262*  
*10-1266*  
*10-1263*  
*02/02/10*

EXP0131030a	244881003	MAP	2/1/10 2:51	942335	10-1264-1	2	LANL	USE	S
EXP0131031a	244881004	MAP	2/1/10 3:20	942335	10-1264-1	2	LANL	USE	S
EXP0131032a	244905001	MAP	2/1/10 3:50	942335	10-1277	2	LANL	USE	S
EXP0131033a	244905002	MAP	2/1/10 4:19	942335	10-1277	2	LANL	USE	S
EXP0131034a	244905003	MAP	2/1/10 4:49	942335	10-1277	2	LANL	USE	S
EXP0131035a	244905004	MAP	2/1/10 5:18	942335	10-1277	2	LANL	USE	S
EXP0131036a	WXXCCV	MAP	2/1/10 5:48			1		USE	C
EXP0131037a	XIBLK05	MAP	2/1/10 6:17			1		USE	B
EXP0131038a	WXXCRI	MAP	2/1/10 6:47			1		USE	C
EXP0131039a	244905005	MAP	2/1/10 7:16	942335	10-1277	2	LANL	USE	S
EXP0131040a	244905006	MAP	2/1/10 7:46	942335	10-1277	2	LANL	USE	S
EXP0131041a	XIBLK06	MAP	2/1/10 8:15			1		USE	B
EXP0131042a	1202021892	MAP	2/1/10 8:45	944240	10-1294	2	LANL	USE	S
EXP0131043a	1202021893	MAP	2/1/10 9:14	944240	10-1294	2	LANL	USE	S
EXP0131044a	245090002	MAP	2/1/10 9:44	944240	10-1294	2	LANL	USE	S
EXP0131045a	1202021894	MAP	2/1/10 10:13	944240	10-1294	2	LANL	USE	S
EXP0131046a	1202021895	MAP	2/1/10 10:43	944240	10-1294	2	LANL	USE	S
EXP0131047a	245090003	MAP	2/1/10 11:12	944240	10-1294	2	LANL	USE	S
EXP0131048a	245090004	MAP	2/1/10 11:41	944240	10-1294	2	LANL	USE	S
EXP0131049a	WXXCCV	MAP	2/1/10 12:29			1		USE	C
EXP0131050a	XIBLK07	MAP	2/1/10 12:58			1		USE	B
EXP0131051a	WXXCRI	MAP	2/1/10 13:28			1		USE	C



GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS4

Date: 01/25/10  
 Extr. Injection Volume: 10uL  
 Sequence Number: 012510exs  
 Initial Calibration Date: 012510  
 Method: 8321A-Modified  
 Int. Std.: N/A  
 Mobile Phase Lot#: 1250738, 1246467  
 Standard-Samp Reagent Lot#: 1246195, 1253092  
 Alt Check Std. ID: WXX100125-26  
 Reviewed By: *Shane*  
 Date: *2/27/10*  
 SOP: GL-OA-E-056 Rev.12

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS01250001.wiff	XIBLK01	LER	1/25/2010 10:28			1		USE	B
EXS01250002.wiff	XIBLK01	LER	1/25/2010 10:46			1		USE	B
EXS01250003.wiff	WXXICAL-19	LER	1/25/2010 11:02			1		USE	I
EXS01250004.wiff	WXXICAL-20	LER	1/25/2010 11:18			1		USE	I
EXS01250005.wiff	WXXICAL-21	LER	1/25/2010 11:33			1		USE	I
EXS01250006.wiff	WXXICAL-22	LER	1/25/2010 11:51			1		USE	I
EXS01250007.wiff	WXXICAL-23	LER	1/25/2010 12:07			1		USE	I
EXS01250008.wiff	WXXICAL-24	LER	1/25/2010 12:22			1		USE	I
EXS01250009.wiff	WXXICAL-25	LER	1/25/2010 12:38			1		USE	I
EXS01250010.wiff	XIBLK02	LER	1/25/2010 12:54			1		USE	I
EXS01250011.wiff	WXXICV	LER	1/25/2010 13:09			1		USE	B
EXS01250012.wiff	XIBLK03	LER	1/25/2010 13:25			1		USE	C
EXS01250013.wiff	WXXCRI	LER	1/25/2010 13:41			1		USE	B
EXS01250014.wiff	1202015503	LER	1/25/2010 13:56	941660	VARIOUS	2	LANL	USE	S
EXS01250015.wiff	1202015504	LER	1/25/2010 14:12	941660	10-1214	2	LANL	USE	S
EXS01250016.wiff	XIBLK04	LER	1/25/2010 14:28			1		USE	B
EXS01250017.wiff	1202017300	LER	1/25/2010 14:44	942335	VARIOUS	2	LANL	USE	S
EXS01250018.wiff	1202017301	LER	1/25/2010 14:59	942335	VARIOUS	2	LANL	USE	S
EXS01250019.wiff	244847001	LER	1/25/2010 15:15	942335	10-1262	2	LANL	USE	S
EXS01250020.wiff	1202017302	LER	1/25/2010 15:31	942335	10-1262	2	LANL	USE	S
EXS01250021.wiff	1202017303	LER	1/25/2010 15:46	942335	10-1262	2	LANL	USE	S
EXS01250022.wiff	244847002	LER	1/25/2010 16:02	942335	10-1262	2	LANL	USE	S
EXS01250023.wiff	244847003	LER	1/25/2010 16:18	942335	10-1262	2	LANL	DUSE-RA	S
EXS01250024.wiff	WXXCCV	LER	1/25/2010 16:33			2	LANL	USE	S
EXS01250025.wiff	XIBLK05	LER	1/25/2010 16:49			1		USE	C
EXS01250026.wiff	WXXCRI	LER	1/25/2010 17:05			1		USE	B
EXS01250027.wiff	244847004	LER	1/25/2010 17:21	942335	10-1262	2	LANL	USE	C
EXS01250028.wiff	244852001	LER	1/25/2010 17:36	942335	10-1263	2	LANL	USE	S
EXS01250029.wiff	244852002	LER	1/25/2010 17:52	942335	10-1263	2	LANL	USE	S
EXS01250030.wiff	244852003	LER	1/25/2010 18:08	942335	10-1263	2	LANL	USE	S

EXS01250031.wiff	244852004	LER	1/25/2010 18:24	942335	10-1263	2	LANL	USE	S
EXS01250032.wiff	244881001	LER	1/25/2010 18:39	942335	10-1264-1	2	LANL	USE	S
EXS01250033.wiff	244881002	LER	1/25/2010 18:55	942335	10-1264-1	2	LANL	USE	S
EXS01250034.wiff	244881003	LER	1/25/2010 19:11	942335	10-1264-1	2	LANL	USE	S
EXS01250035.wiff	244881004	LER	1/25/2010 19:26	942335	10-1264-1	2	LANL	USE	S
EXS01250036.wiff	244905001	LER	1/25/2010 19:42	942335	10-1277	2	LANL	USE	S
EXS01250037.wiff	WXXCCV	LER	1/25/2010 19:58			1		USE	C
EXS01250038.wiff	XIBLK06	LER	1/25/2010 20:14			1		USE	B
EXS01250039.wiff	WXXCRI	LER	1/25/2010 20:29			1		USE	C
EXS01250040.wiff	244905002	LER	1/25/2010 20:45	942335	10-1277	2	LANL	USE	S
EXS01250041.wiff	244905003	LER	1/25/2010 21:01	942335	10-1277	2	LANL	USE	S
EXS01250042.wiff	244905004	LER	1/25/2010 21:16	942335	10-1277	2	LANL	USE	S
EXS01250043.wiff	244905005	LER	1/25/2010 21:32	942335	10-1277	2	LANL	USE	S
EXS01250044.wiff	244905006	LER	1/25/2010 21:48	942335	10-1277	2	LANL	USE	S
EXS01250045.wiff	WXXCCV	LER	1/25/2010 22:04			1		USE	C
EXS01250046.wiff	XIBLK07	LER	1/25/2010 22:19			1		USE	B
EXS01250047.wiff	WXXCRI	LER	1/25/2010 22:35			1		USE	C
EXS01250048.wiff	1202017304	LER	1/25/2010 22:51	942337	VARIOUS	2	LANL	USE	S
EXS01250049.wiff	1202017305	LER	1/25/2010 23:06	942337	VARIOUS	2	LANL	USE	S
EXS01250050.wiff	244909001	LER	1/25/2010 23:22	942337	10-1279	2	LANL	USE	S
EXS01250051.wiff	244909002	LER	1/25/2010 23:38	942337	10-1279	2	LANL	USE	S
EXS01250052.wiff	244909003	LER	1/25/2010 23:54	942337	10-1279	2	LANL	USE	S
EXS01250053.wiff	244909004	LER	1/26/2010 0:09	942337	10-1279	2	LANL	USE	S
EXS01250054.wiff	244910002	LER	1/26/2010 0:25	942337	10-1281	2	LANL	USE	S
EXS01250055.wiff	1202017306	LER	1/26/2010 0:41	942337	10-1281	2	LANL	USE	S
EXS01250056.wiff	1202017307	LER	1/26/2010 0:56	942337	10-1281	2	LANL	USE	S
EXS01250057.wiff	244910003	LER	1/26/2010 1:12	942337	10-1281	2	LANL	USE	S
EXS01250058.wiff	WXXCCV	LER	1/26/2010 1:28			1		USE	C
EXS01250059.wiff	XIBLK08	LER	1/26/2010 1:44			1		USE	B
EXS01250060.wiff	WXXCRI	LER	1/26/2010 1:59			1		USE	C
EXS01250061.wiff	244910004	LER	1/26/2010 2:15	942337	10-1281	2	LANL	USE	S
EXS01250062.wiff	244910005	LER	1/26/2010 2:31	942337	10-1281	2	LANL	USE	S
EXS01250063.wiff	244910006	LER	1/26/2010 2:46	942337	10-1281	2	LANL	USE	S
EXS01250064.wiff	244910007	LER	1/26/2010 3:02	942337	10-1281	2	LANL	USE	S
EXS01250065.wiff	244910008	LER	1/26/2010 3:18	942337	10-1281	2	LANL	USE	S
EXS01250066.wiff	244910009	LER	1/26/2010 3:33	942337	10-1281	2	LANL	USE	S
EXS01250067.wiff	WXXCCV	LER	1/26/2010 3:49			1		USE	C

EXS01250068.wiff	XIBLK09	LER	1/26/2010 4:05		1		USE	B
EXS01250069.wiff	WXXCRI	LER	1/26/2010 4:21		1		USE	C
EXS01250070.wiff	1202015510	LER	1/26/2010 4:36	941664	10-1225	LANL	USE	S
EXS01250071.wiff	1202015511	LER	1/26/2010 4:52	941664	10-1225	LANL	USE	S
EXS01250072.wiff	244626001	LER	1/26/2010 5:08	941664	10-1225	LANL	USE	S
EXS01250073.wiff	1202015512	LER	1/26/2010 5:23	941664	10-1225	LANL	USE	S
EXS01250074.wiff	1202015513	LER	1/26/2010 5:39	941664	10-1225	LANL	USE	S
EXS01250075.wiff	244626002	LER	1/26/2010 5:55	941664	10-1225	LANL	USE	S
EXS01250076.wiff	244626003	LER	1/26/2010 6:11	941664	10-1225	LANL	USE	S
EXS01250077.wiff	244626004	LER	1/26/2010 6:26	941664	10-1225	LANL	USE	S
EXS01250078.wiff	244626005	LER	1/26/2010 6:42	941664	10-1225	LANL	USE	S
EXS01250079.wiff	244626006	LER	1/26/2010 6:58	941664	10-1225	LANL	USE	S
EXS01250080.wiff	WXXCCV	LER	1/26/2010 7:13				USE	C
EXS01250081.wiff	XIBLK10	LER	1/26/2010 7:29				USE	B
EXS01250082.wiff	WXXCRI	LER	1/26/2010 7:45				USE	C
EXS01250083.wiff	244626007	LER	1/26/2010 8:00	941664	10-1225	LANL	USE	S
EXS01250084.wiff	244626008	LER	1/26/2010 8:16	941664	10-1225	LANL	USE	S
EXS01250085.wiff	244626009	LER	1/26/2010 8:32	941664	10-1225	LANL	USE	S
EXS01250086.wiff	244626010	LER	1/26/2010 8:48	941664	10-1225	LANL	USE	S
EXS01250087.wiff	244626011	LER	1/26/2010 9:03	941664	10-1225	LANL	USE	S
EXS01250088.wiff	244626012	LER	1/26/2010 9:19	941664	10-1225	LANL	USE	S
EXS01250089.wiff	244626013	LER	1/26/2010 9:35	941664	10-1225	LANL	USE	S
EXS01250090.wiff	244626014	LER	1/26/2010 9:50	941664	10-1225	LANL	USE	S
EXS01250091.wiff	244626015	LER	1/26/2010 10:06	941664	10-1225	LANL	USE	S
EXS01250092.wiff	244626016	LER	1/26/2010 10:22	941664	10-1225	LANL	USE	S
EXS01250093.wiff	WXXCCV	LER	1/26/2010 10:37				USE	C
EXS01250094.wiff	XIBLK11	LER	1/26/2010 10:53				USE	B
EXS01250095.wiff	WXXCRI	LER	1/26/2010 11:09				USE	C
EXS01250096.wiff	244847002	LER	1/26/2010 11:25	942335	10-1262	LANL	USE	S
EXS01250097.wiff	XIBLK12	LER	1/26/2010 11:40				USE	B
EXS01250098.wiff	1202015498	LER	1/26/2010 11:56	941658	VARIOUS	LANL	USE	S
EXS01250099.wiff	1202015499	LER	1/26/2010 12:12	941658	VARIOUS	LANL	USE	S
EXS01250100.wiff	244597001	LER	1/26/2010 12:27	941658	10-1209	LANL	USE	S
EXS01250101.wiff	244599001	LER	1/26/2010 12:43	941658	10-1210	LANL	USE	S
EXS01250102.wiff	1202015500	LER	1/26/2010 12:59	941658	10-1210	LANL	USE	S
EXS01250103.wiff	1202015501	LER	1/26/2010 13:15	941658	10-1210	LANL	USE	S
EXS01250104.wiff	244599002	LER	1/26/2010 13:30	941658	10-1210	LANL	USE	S

EXS01250105.wiff	244599003	LER	1/26/2010 13:46	941658	10-1210	2	LANL	USE	S
EXS01250106.wiff	WXXCCV	LER	1/26/2010 14:02			1		USE	C
EXS01250107.wiff	XIBLK13	LER	1/26/2010 14:17			1		USE	B
EXS01250108.wiff	WXXCRI	LER	1/26/2010 14:33			1		USE	C
EXS01250109.wiff	244599004	LER	1/26/2010 14:49	941658	10-1210	2	LANL	USE	S
EXS01250110.wiff	244599005	LER	1/26/2010 15:05	941658	10-1210	2	LANL	DUSE-RA	S
EXS01250111.wiff	244599006	LER	1/26/2010 15:20	941658	10-1210	2	LANL	USE	S
EXS01250112.wiff	244599007	LER	1/26/2010 15:36	941658	10-1210	2	LANL	USE	S
EXS01250113.wiff	244599008	LER	1/26/2010 15:52	941658	10-1210	2	LANL	USE	S
EXS01250114.wiff	244599009	LER	1/26/2010 16:07	941658	10-1210	2	LANL	USE	S
EXS01250115.wiff	244599010	LER	1/26/2010 16:23	941658	10-1210	2	LANL	DUSE-RA	S
EXS01250116.wiff	244599011	LER	1/26/2010 16:39	941658	10-1210	2	LANL	USE	S
EXS01250117.wiff	244599012	LER	1/26/2010 16:55	941658	10-1210	2	LANL	USE	S
EXS01250118.wiff	244599013	LER	1/26/2010 17:10	941658	10-1210	2	LANL	USE	S
EXS01250119.wiff	WXXCCV	LER	1/26/2010 17:26			1		DUSE-RA	S
EXS01250120.wiff	XIBLK14	LER	1/26/2010 17:42			1		USE	C
EXS01250121.wiff	WXXCRI	LER	1/26/2010 17:57			1		USE	B
EXS01250122.wiff	1202017308	LER	1/26/2010 18:13	942339	VARIOUS	2	LANL	USE	C
EXS01250123.wiff	1202017309	LER	1/26/2010 18:29	942339	VARIOUS	2	LANL	USE	S
EXS01250124.wiff	244916002	LER	1/26/2010 18:45	942339	10-1284	2	LANL	USE	S
EXS01250125.wiff	244916003	LER	1/26/2010 19:00	942339	10-1284	2	LANL	USE	S
EXS01250126.wiff	244917002	LER	1/26/2010 19:16	942339	10-1285	2	LANL	USE	S
EXS01250127.wiff	244917003	LER	1/26/2010 19:32	942339	10-1285	2	LANL	USE	S
EXS01250128.wiff	244917004	LER	1/26/2010 19:47	942339	10-1285	2	LANL	USE	S
EXS01250129.wiff	244923001	LER	1/26/2010 20:03	942339	10-1287	2	LANL	USE	S
EXS01250130.wiff	1202017310	LER	1/26/2010 20:19	942339	10-1287	2	LANL	USE	S
EXS01250131.wiff	1202017311	LER	1/26/2010 20:34	942339	10-1287	2	LANL	USE	S
EXS01250132.wiff	WXXCCV	LER	1/26/2010 20:50			1		USE	S
EXS01250133.wiff	XIBLK15	LER	1/26/2010 21:06			1		USE	C
EXS01250134.wiff	WXXCRI	LER	1/26/2010 21:22			1		USE	B
EXS01250135.wiff	244923002	LER	1/26/2010 21:37	942339	10-1287	2	LANL	USE	C
EXS01250136.wiff	244923003	LER	1/26/2010 21:53	942339	10-1287	2	LANL	USE	S
EXS01250137.wiff	244923004	LER	1/26/2010 22:09	942339	10-1287	2	LANL	USE	S
EXS01250138.wiff	244923005	LER	1/26/2010 22:24	942339	10-1287	2	LANL	USE	S
EXS01250139.wiff	244923006	LER	1/26/2010 22:40	942339	10-1287	2	LANL	USE	S
EXS01250140.wiff	244923007	LER	1/26/2010 22:56	942339	10-1287	2	LANL	USE	S
EXS01250141.wiff	244923008	LER	1/26/2010 23:12	942339	10-1287	2	LANL	USE	S

EXS01250142.wiff	244923009	LER	1/26/2010 23:27	942339	10-1287	2	LANL	USE	S
EXS01250143.wiff	244923010	LER	1/26/2010 23:43	942339	10-1287	2	LANL	USE	S
EXS01250144.wiff	WXXCCV	LER	1/26/2010 23:59			1		USE	C
EXS01250145.wiff	XIBLK16	LER	1/27/2010 0:14			1		USE	B
EXS01250146.wiff	WXXCRI	LER	1/27/2010 0:30			1		USE	C
EXS01250147.wiff	UXX100108-01.2	LER	1/27/2010 0:46	SCREEN	SOLID	2	O2SI	USE	S
EXS01250148.wiff	244599005	LER	1/27/2010 1:02	941658	10-1210	2	LANL	USE	S
EXS01250149.wiff	244599010	LER	1/27/2010 1:17	941658	10-1210	2	LANL	USE	S
EXS01250150.wiff	WXXCCV	LER	1/27/2010 1:33			1		USE	C
EXS01250151.wiff	XIBLK17	LER	1/27/2010 1:49			1		USE	B
EXS01250152.wiff	WXXCRI	LER	1/27/2010 2:04			1		USE	C

GEL Laboratories LLC  
Form GEL-DER

DER Report No.: 785558

Revision No.:

### DATA EXCEPTION REPORT

<b>Mo.Day Yr.</b> 01-FEB-10	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> LC-MS/MS	<b>Test / Method:</b> SW846 8321A Modified	<b>Matrix Type:</b> Solid	<b>Client Code:</b> LANL
<b>Batch ID:</b> 942335	<b>Sample Numbers:</b> See Below		
<b>Potentially affected work order(s)(SDG):</b> 244847(10-1262),244852(10-1263),244881(10-1264-1),244905(10-1277) <b>Application Issues:</b> Failed Recovery for MS/PS Failed RPD for MS/MSD, or PS/PSD			
<b>Specification and Requirements</b> <b>Exception Description:</b>		<b>DER Disposition:</b>	
1. The Matrix Spike (1202017302) did not meet spike recovery limits for TATB at 440%. The recovery limits are 44-166%.  2. The MS/MSD pair (1202017302/3) did not meet RPD acceptance limits for TATB at 92.2%. The acceptance limits are 0-30%.		1. Since the Laboratory Control Sample met acceptance limits for TATB, the noted exception is attributed to vagaries in the extraction process. The data are reported with the appropriate DER. The discrepancy is noted in the case narrative.  2. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported with the appropriate DER. The discrepancy is noted in the case narrative.	

**Originator's Name:**

Michael Penny

01-FEB-10

**Data Validator/Group Leader:**

Herbert Maier

02-FEB-10

GC  
SEMIVOLATILE  
PCB  
ANALYSIS

**PCB Case Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262**

**Method/Analysis Information**

**Procedure: Analysis of Polychlorinated Biphenyls by ECD**

Analytical Method: SW846 8082  
Prep Method: SW846 3550B  
Analytical Batch Number: 943205  
Prep Batch Number: 943204

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 8082:

<b>Sample ID</b>	<b>Client ID</b>
244847004	RE12-10-7281
1202019498	Method Blank (MB)
1202019499	Laboratory Control Sample (LCS)
1202019500	244881001(RE12-10-8096) Matrix Spike (MS)
1202019501	244881001(RE12-10-8096) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

**Preparation/Analytical Method Verification**

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-040 REV# 14.

Raw data reports are processed and reviewed by the analyst using the Target software package. False positives have been removed from the Target quantitation reports per standard operating procedures (SOP) section 23.0.

**Calibration Information**

Please note that the 'Cal Date' indicated on each quantitation report reflects the date and time of the most recent calibrated analyte(s) in the Target processing method. Since the laboratory may calibrate with multiple solutions on different days using the same processing method, the Target software will update the 'Cal Date' to the last calibration file, date and time. The correct dates and times for all calibration files are located on the Calibration History report in the Standard Data section in the data package.

Due to software limitations, the Calibration Summary Form 6 may not indicate all the calibration files comprising the initial calibration. A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

**Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

The linear equation used in Target and indicated on the initial calibration summary form is not a conventional linear equation (slope intercept formula) and does not match the equation found in SW-846 method 8000B. The x and y axes are inversed in Target, so that the instrument response is treated as the independent variable (x) and the concentration ratio is treated as the dependent variable (y). The equation used in Target to calculate sample results is adjusted to account for the linear equation inversion and reciprocal slope. The adjusted calculation has been independently verified to produce valid results.

**Continuing Calibration Verification (CCV) Requirements**

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.



## **Quality Control (QC) Information**

### **Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

### **Surrogate Recoveries**

All surrogate recoveries were within the established acceptance criteria for this SDG.

### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

### **QC Sample Designation**

A LANL sample of similar matrix associated with another SDG (#10-1264-1) was selected for the matrix spike and matrix spike duplicate analysis. A Form III and QCC raw data are included in the package summarizing the results.

### **Matrix Spike (MS) Recovery Statement**

The MS recoveries were within the established acceptance limits.

### **Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries were within the established acceptance limits.

### **MS/MSD Relative Percent Difference (RPD) Statement**

The RPD between the MS and MSD met the acceptance limits.

## **Technical Information**

### **Holding Time Specifications**

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP. All sample extracts were cleaned using alumina. Additionally, copper was added to all sample extracts to remove sulfur.

### **Sample Dilutions**

Sample 244847004 (RE12-10-7281) was diluted at 1:5 due to oily matrix of the extract.

### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG.

## **Miscellaneous Information**

### **Electronic Package Comment**

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

### **Data Exception (DER) Documentation**

Data exception report (DER) is for documentation of any procedural anomalies that may deviate from referenced SOP or contractual document. A DER was not required for this SDG.

### **Manual Integration**

Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this PCB fraction.

### **Additional Comments**

The additional comments field is used to address special issues associated with each analysis, clarify method/contractual issues pertaining to the analysis, and to list any report documents generated as a result of sample analysis or review. The following additional comments were required:

The higher results from either column have been chosen and reported in the data package for the client samples, MB and LCS.

The data reported on the form I and III may differ slightly from the data reported on the form X. This is due to software limitations in rounding differences between the forms.

Aroclors quantitated on the raw data report by the Target data system do not necessarily represent positive Aroclor identification. In order for positive identification to be made, the Aroclor must match in pattern and retention time; as well as quantitate relatively close between the primary and confirmation columns, as specified in SW846 method 8000. When these conditions are not met, the Aroclor is reported as a non-detect on the data report. These situations will be noted on the raw data as DMP, representing does not match pattern, or DNC does not confirm.

Due to software limitation, the Form VIIs will display the results either in the % difference or % drift depending on the type of the calibration curve. If the curve of all analytes is generated using an average response factor (RF), the Form VII will display results using the %difference calculation (RF). If the curve of one or more analytes is generated using a linear curve, the Form VII will display results using the % drift calculation (by concentration) for all analytes.

### **System Configuration**

The Semi-Volatiles-PCB analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
ECD2A.I_1	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP I	30m x 0.25mm, 0.25um (Rtx-CLPesticide)
ECD2A.I_2	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP II	30m x 0.25mm, 0.20um (Rtx-CLPesticide II)

### **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

**Review Validation**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Jimi Cao

Date: 2/11/10

## Roadmap for LANL 10-1262 PCB

This roadmap was analyzed by jen01212 on 01-21-2010, 15:34.

This roadmap was reviewed by rob01090 on 01-26-2010, 16:21.

This roadmap was packaged by yml on 02-10-2010, 16:50.

This roadmap was validated by jim01140 on 02-11-2010, 07:57.

Front Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/026f2601.d	244847004	sample	20-JAN-2010	12:55	10-1262.sub	RE12-10-7281	5.00000	943205	UPLOAD BOTH, USE HIGHER

Back Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/026f2601.d	244847004	sample	20-JAN-2010	12:55	10-1262.sub	RE12-10-7281	5.00000	943205	UPLOAD BOTH, USE HIGHER

Front QC Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/018f1801-1.d	1202019498	mb	20-JAN-2010	11:26	10-1262.sub	PBLK01	1.00000	943205	<input type="text"/>
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/019f1901-1.d	1202019499	lcs	20-JAN-2010	11:38	10-1262.sub	PBLK01LCS	1.00000	943205	<input type="text"/>

Back QC Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/018b1801-1.d	1202019498	mb	20-JAN-2010	11:26	10-1262.sub	PBLK01	1.00000	943205	<input type="text"/>
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/019b1901-1.d	1202019499	lcs	20-JAN-2010	11:38	10-1262.sub	PBLK01LCS	1.00000	943205	<input type="text"/>

# SAMPLE DATA SUMMARY

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Client ID:** RE12-10-7281  
**Batch ID:** 943205  
**Run Date:** 01/20/2010 12:55  
**Prep Date:** 01/19/2010 20:46  
**Data File:** 026f2601.d  
026b2601.d

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8082  
**Inst:** ECD2A.I  
**Analyst:** JAOC  
**Aliquot:** 30.02 g  
**Column:** 1 CLP1  
2 CLP2

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-040  
**Dilution:** 5  
**Inj. Vol:** 1 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	18.5	ug/kg	6.15	18.5	1
11104-28-2	Aroclor-1221	U	18.5	ug/kg	6.15	18.5	1
11141-16-5	Aroclor-1232	U	18.5	ug/kg	6.15	18.5	1
53469-21-9	Aroclor-1242	U	18.5	ug/kg	6.15	18.5	1
12672-29-6	Aroclor-1248	U	18.5	ug/kg	6.15	18.5	1
11097-69-1	Aroclor-1254	U	18.5	ug/kg	6.15	18.5	1
11096-82-5	Aroclor-1260	U	18.5	ug/kg	6.15	18.5	1

# QUALITY CONTROL SUMMARY

---

**PCB**  
**Surrogate Recovery Report**

Page 1 of 1

**SDG Number: 10-1262****Matrix Type: SOLID****CAP Column (1) : CLP1****CAP Column (2) : CLP2**

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1202019498	MB for batch 943204	66	71	73	78
1202019499	LCS for batch 943204	62	66	67	73
244847004	RE12-10-7281	50 D	48 D	56 D	49 D

**Surrogate****Acceptance Limits**

4CMX = 4cmx

(34%-105%)

DCB = Decachlorobiphenyl

(33%-115%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted



PCB

Page 1 of 1

**Quality Control Summary  
Spike Recovery Report****SDG Number: 10-1262****Sample Type: Laboratory Control Sample****Client ID: LCS for batch 943204****Matrix: SOIL****Lab Sample ID:1202019499****Instrument: ECD2A.I****Analysis Date: 01/20/2010 11:38****Dilution: 1****Analyst: JAOC****Prep Batch ID 943204****Inj. Vol: 1 uL****Batch ID: 943205**

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	LCS Aroclor-1016	33.3	0.0	22.9	69	41-110
11096-82-5	LCS Aroclor-1260	33.3	0.0	25.8	77	48-110

PCB

Page 1 of 2

**Quality Control Summary  
Spike Recovery Report****SDG Number: 10-1264-1****Sample Type: Matrix Spike****Client ID: RE12-10-8096MS****Matrix: R****Lab Sample ID:1202019500****%Moisture: 6.1****Instrument: ECD2A.I****Analysis Date: 01/20/2010 14:02****Dilution: 1****Analyst: JAOC****Prep Batch ID: 943204****Inj. Vol: 1 uL****Batch ID: 943205**

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	MS Aroclor-1016	35.4	0.00 U	23.0	65	23-117
11096-82-5	MS Aroclor-1260	35.4	0.00 U	26.6	75	27-116

PCB

Page 2 of 2

Quality Control Summary  
Spike Recovery Report

SDG Number: 10-1264-1

Sample Type: Matrix Spike Duplicate

Client ID: RE12-10-8096MSD

Matrix: R

Lab Sample ID:1202019501

%Moisture: 6.1

Instrument: ECD2A.I

Analysis Date: 01/20/2010 14:13

Dilution: 1

Analyst: JAOC

Prep Batch II 943204

Inj. Vol: 1 uL

Batch ID: 943205

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD Aroclor-1016	35.4	0.00 U	24.6	70	23-117	7	0-30
11096-82-5	MSD Aroclor-1260	35.4	0.00 U	28.4	80	27-116	7	0-30

## Method Blank Summary

Page 1 of 1

SDG Number:	10-1262	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 943204	Instrument ID:	ECD2A.I_2	Data File:	018b1801-1.d
Lab Sample ID:	1202019498		ECD2A.I_1		018f1801-1.d
Column:	CLP2	Prep Date:	01/19/2010 20:46	Analyzed:	01/20/10 11:26
	CLP1	Level:	LOW		

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 943204	1202019499	019f1901-1.d 019b1901-1.d	01/20/10	1138
02 RE12-10-7281	244847004	026f2601.d 026b2601.d	01/20/10	1255

# SAMPLE DATA

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

**SDG Number:** 10-1262  
**Lab Sample ID:** 244847004

**Client ID:** RE12-10-7281  
**Batch ID:** 943205  
**Run Date:** 01/20/2010 12:55  
**Prep Date:** 01/19/2010 20:46  
**Data File:** 026f2601.d  
026b2601.d

**Date Collected:** 01/11/2010 12:00  
**Date Received:** 01/15/2010 08:50  
**Client:** LANL010  
**Method:** SW846 8082  
**Inst:** ECD2A.I  
**Analyst:** JAOC  
**Aliquot:** 30.02 g  
**Column:** 1 CLP1  
2 CLP2

**Matrix:** R  
**%Moisture:** 9.9  
**Project:** LANL01004  
**SOP Ref:** GL-OA-E-040  
**Dilution:** 5  
**Inj. Vol:** 1 uL  
**Final Volume:** 1 mL  
**Level:** LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	18.5	ug/kg	6.15	18.5	1
11104-28-2	Aroclor-1221	U	18.5	ug/kg	6.15	18.5	1
11141-16-5	Aroclor-1232	U	18.5	ug/kg	6.15	18.5	1
53469-21-9	Aroclor-1242	U	18.5	ug/kg	6.15	18.5	1
12672-29-6	Aroclor-1248	U	18.5	ug/kg	6.15	18.5	1
11097-69-1	Aroclor-1254	U	18.5	ug/kg	6.15	18.5	1
11096-82-5	Aroclor-1260	U	18.5	ug/kg	6.15	18.5	1

Data File: /chem/ecd2a.i/012010.b/026f2601.d  
Report Date: 21-Jan-2010 07:50

Page 1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/026f2601.d

Lab Smp Id: 244847004

Client Smp ID: RE12-10-7281

Inj Date : 20-JAN-2010 12:55

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |244847004|5|

Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-7281|||

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 26

Dil Factor: 5.00000

Integrator: Falcon

Compound Sublist: 10-1262.sub

Target Version: 3.50

Sample Matrix: Soil

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vi \* Ws \* (100 - M)/100) \* CpndVariable

Name	Value	Description
DF	5.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.02000	Weight of sample extracted (g)
M	9.88710	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
-----							
\$ 11 4cmx					CAS #: 877-09-8		
1.771	1.772	-0.001	1350635	20.1490	3.7 80.00- 120.00	100.00	
-----							
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.606	5.607	-0.001	1422448	22.4364	4.1 80.00- 120.00	100.00	
-----							

Data File: /chem/ecod2a.i/012010.b/026f2601.d

Date : 20-JAN-2010 12:55

Client ID: RE12-10-7281

Sample Info: 1244847004151

Volume Injected (uL): 1.0

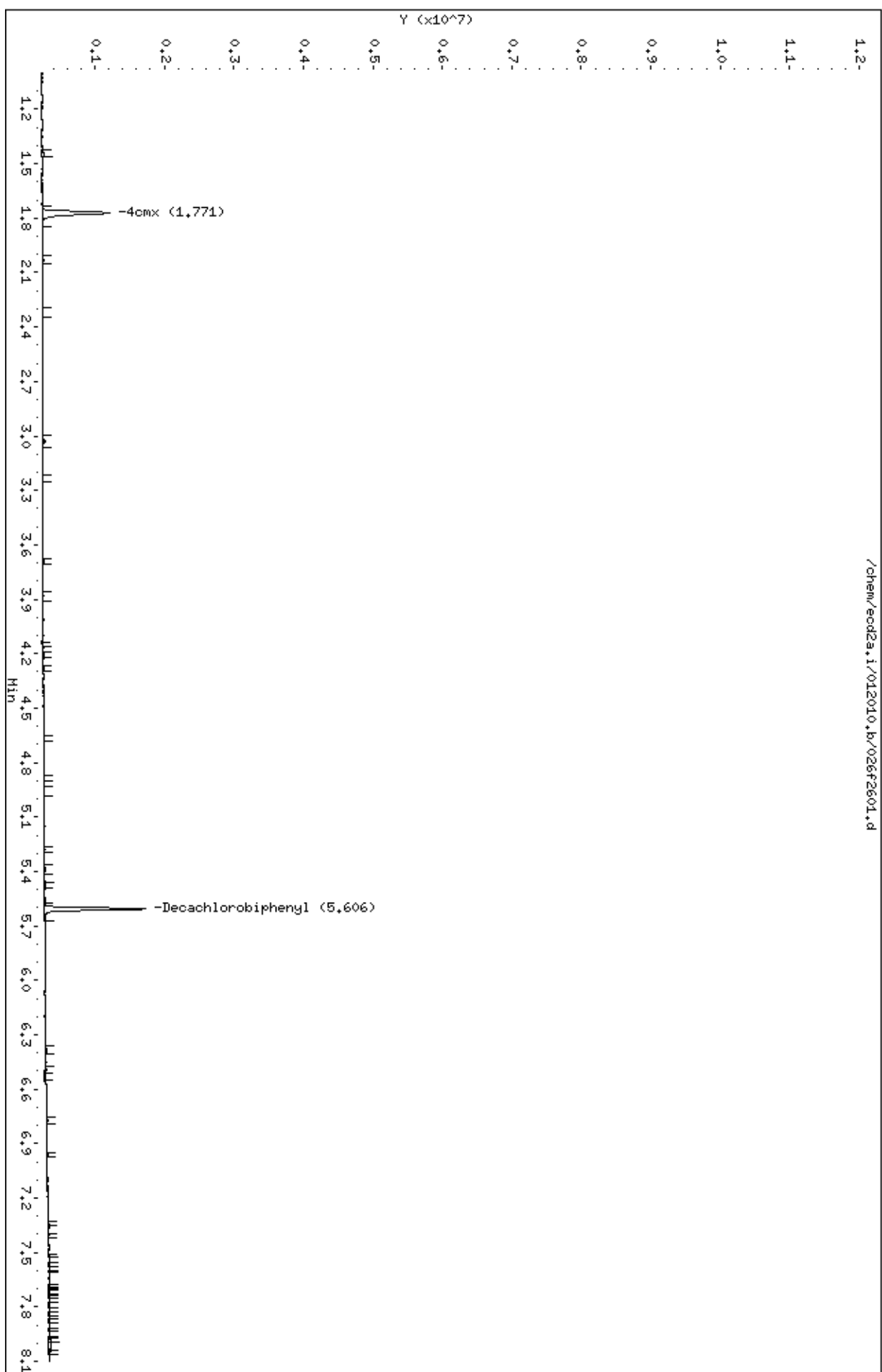
Column phase: CLP1

Instrument: ecod2a.i

Operator: JAOC

Column diameter: 0.25

Page 1





Data File: /chem/ecd2a.i/012010.b/026b2601.d  
Report Date: 21-Jan-2010 07:50

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/026b2601.d  
Lab Smp Id: 244847004 Client Smp ID: RE12-10-7281  
Inj Date : 20-JAN-2010 12:55  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |244847004|5|  
Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-7281|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 26  
Dil Factor: 5.00000  
Integrator: Falcon Compound Sublist: 10-1262.sub  
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vi \* Ws \* (100 - M)/100) \* CpndVariable

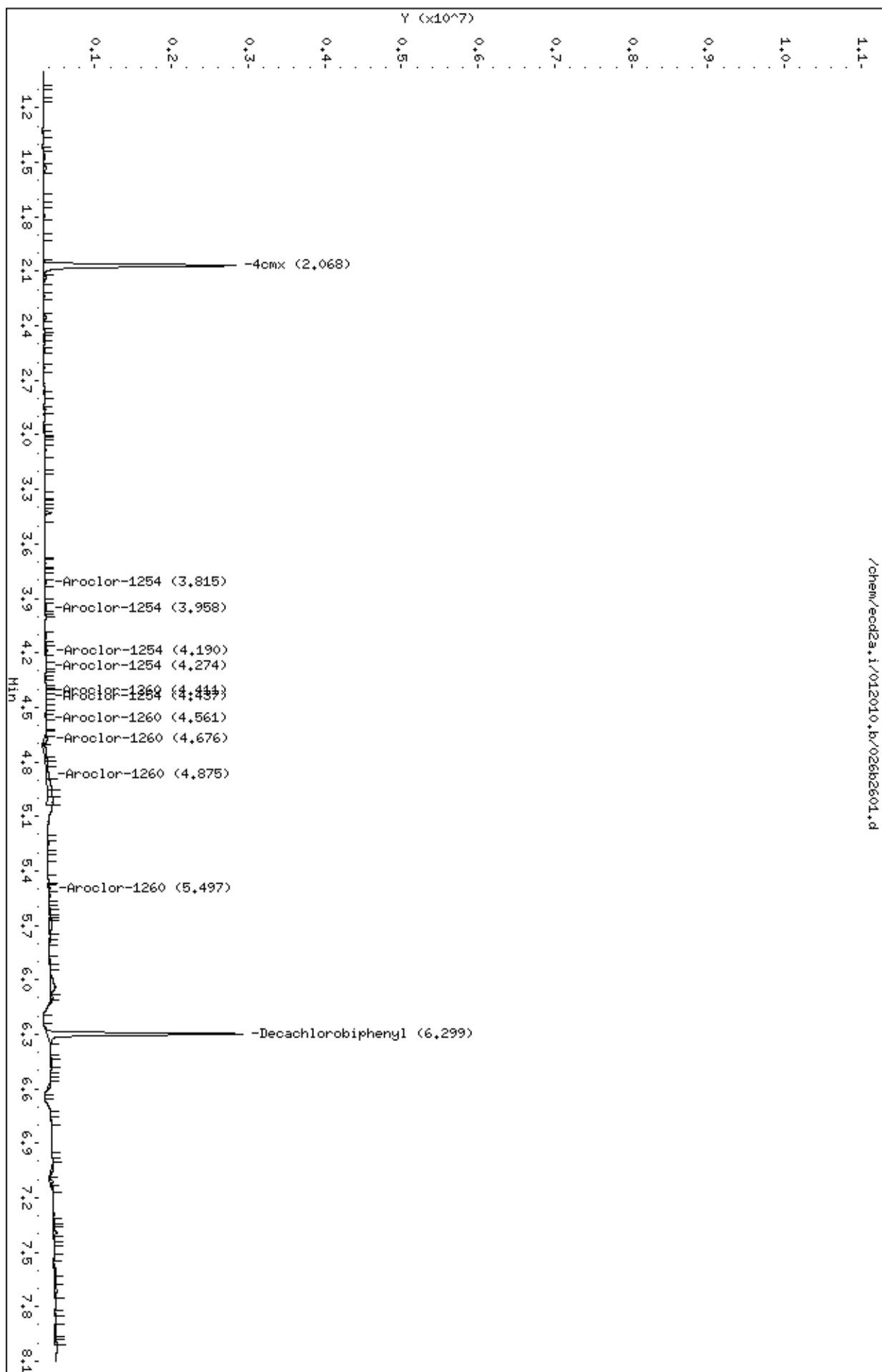
Name	Value	Description
DF	5.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.02000	Weight of sample extracted (g)
M	9.88710	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8	
2.068	2.068	0.000	2699821 19.3457	3.6	80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.299	6.298	0.001	2462821 19.7735	3.6	80.00- 120.00	100.00
-----						

Data File: /chem/ecod2a.i/012010.b/026b2601.d  
Date : 20-JAN-2010 12:55  
Client ID: RE12-10-7281  
Sample Info: 1244847004151  
Volume Injected (uL): 1.0  
Column phase: CLP2

Instrument: ecod2a.i  
Operator: JAOC  
Column diameter: 0.25



# STANDARDS DATA

Report Date: 21-Jan-2010 08:17

### Calibration History

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Start Cal Date: 12-NOV-2009 11:00  
End Cal Date : 20-JAN-2010 10:31

#### Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008f0801.d
07-JAN-2010 08:16	AR1268	/chem/ecd2a.i/010710.b/009f0901.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011f1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023f2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003f0301.d
20-JAN-2010 09:46	AR1660	/chem/ecd2a.i/012010.b/009f0901.d

Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009f0901.d
07-JAN-2010 08:27	AR1268	/chem/ecd2a.i/010710.b/010f1001.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012f1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024f2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004f0401.d
20-JAN-2010 09:57	AR1660	/chem/ecd2a.i/012010.b/010f1001.d

Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010f1001.d
07-JAN-2010 08:38	AR1268	/chem/ecd2a.i/010710.b/011f1101.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013f1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025f2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005f0501.d
20-JAN-2010 10:09	AR1660	/chem/ecd2a.i/012010.b/011f1101.d

Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014f1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026f2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006f0601.d
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012f1201.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010f1001.d
07-JAN-2010 08:49	AR1268	/chem/ecd2a.i/010710.b/012f1201.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011f1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007f0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006f0601.d

Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012f1201.d
07-JAN-2010 09:00	AR1268	/chem/ecd2a.i/010710.b/013f1301.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015f1501.d

12-NOV-2009 14:53	AR1242	/chem/ecd2a.i/111209a.b/027f2701.d
30-NOV-2009 09:27	AR1254	/chem/ecd2a.i/113009a.b/007f0701.d
20-JAN-2010 10:31	AR1660	/chem/ecd2a.i/012010.b/013f1301.d

# Continuing Calibration

Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 19:35	AR1660	/chem/ecd2a.i/012010.b/062f6201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 18:06	AR1660	/chem/ecd2a.i/012010.b/054f5401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 16:37	AR1660	/chem/ecd2a.i/012010.b/046f4601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 14:57	AR1660	/chem/ecd2a.i/012010.b/037f3701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:17	AR1660	/chem/ecd2a.i/012010.b/028f2801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:06	AR1660	/chem/ecd2a.i/012010.b/027f2701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:53	AR1268	/chem/ecd2a.i/012010.b/015f1501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:42	AR1660	/chem/ecd2a.i/012010.b/014f1401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012f1201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:35	AR1262	/chem/ecd2a.i/012010.b/008f0801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:24	AR1221	/chem/ecd2a.i/012010.b/007f0701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:13	AR1232	/chem/ecd2a.i/012010.b/006f0601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:02	AR1248	/chem/ecd2a.i/012010.b/005f0501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:51	AR1242	/chem/ecd2a.i/012010.b/004f0401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:40	AR1254	/chem/ecd2a.i/012010.b/003f0301.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:29	AR1660	/chem/ecd2a.i/012010.b/002f0201.d

Report Date: 21-Jan-2010 08:17

### Calibration History

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Start Cal Date: 12-NOV-2009 11:00  
End Cal Date : 20-JAN-2010 10:31

#### Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008b0801.d
07-JAN-2010 08:16	AR1268	/chem/ecd2a.i/010710.b/009b0901.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011b1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023b2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003b0301.d
20-JAN-2010 09:46	AR1660	/chem/ecd2a.i/012010.b/009b0901.d

Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009b0901.d
07-JAN-2010 08:27	AR1268	/chem/ecd2a.i/010710.b/010b1001.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012b1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024b2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004b0401.d
20-JAN-2010 09:57	AR1660	/chem/ecd2a.i/012010.b/010b1001.d

Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010b1001.d
07-JAN-2010 08:38	AR1268	/chem/ecd2a.i/010710.b/011b1101.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013b1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025b2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005b0501.d
20-JAN-2010 10:09	AR1660	/chem/ecd2a.i/012010.b/011b1101.d

Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014b1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026b2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006b0601.d
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012b1201.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010b1001.d
07-JAN-2010 08:49	AR1268	/chem/ecd2a.i/010710.b/012b1201.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011b1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007b0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006b0601.d

Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012b1201.d
07-JAN-2010 09:00	AR1268	/chem/ecd2a.i/010710.b/013b1301.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015b1501.d

12-NOV-2009 14:53	AR1242	/chem/ecd2a.i/111209a.b/027b2701.d
30-NOV-2009 09:27	AR1254	/chem/ecd2a.i/113009a.b/007b0701.d
20-JAN-2010 10:31	AR1660	/chem/ecd2a.i/012010.b/013b1301.d

# Continuing Calibration

Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 18:06	AR1660	/chem/ecd2a.i/012010.b/054b5401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 19:35	AR1660	/chem/ecd2a.i/012010.b/062b6201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 16:37	AR1660	/chem/ecd2a.i/012010.b/046b4601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 14:57	AR1660	/chem/ecd2a.i/012010.b/037b3701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:17	AR1660	/chem/ecd2a.i/012010.b/028b2801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:06	AR1660	/chem/ecd2a.i/012010.b/027b2701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:53	AR1268	/chem/ecd2a.i/012010.b/015b1501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:42	AR1660	/chem/ecd2a.i/012010.b/014b1401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012b1201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:35	AR1262	/chem/ecd2a.i/012010.b/008b0801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:24	AR1221	/chem/ecd2a.i/012010.b/007b0701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:13	AR1232	/chem/ecd2a.i/012010.b/006b0601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:02	AR1248	/chem/ecd2a.i/012010.b/005b0501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:51	AR1242	/chem/ecd2a.i/012010.b/004b0401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:40	AR1254	/chem/ecd2a.i/012010.b/003b0301.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:29	AR1660	/chem/ecd2a.i/012010.b/002b0201.d

## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
 Quant Method : ESTD Target Version : 3.50  
 Last Update : 21-Jan-2010 07:18 Number of Cpnds : 15  
 Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
-----	-----
Initial:Start Threshold	500.000000
Initial:End Threshold	250.000000
Initial:Area Threshold	10000.000000
Initial:P-P Resolution	1.000000
Initial:Bunch Factor	2.000000
Initial:Negative Peaks	OFF
Initial:Tension	1.100000
8.500:Bunch Factor	2.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.273	2.243-2.303	2.258e+03
	2.597	2.567-2.627	4.629e+03
	2.687	2.657-2.717	1.900e+03
	2.822	2.792-2.852	9.835e+02
	2.974	2.944-3.004	1.450e+03
2 Aroclor-1221	1.437	1.407-1.467	4.641e+02
	1.897	1.867-1.927	6.570e+02
	1.996	1.966-2.026	3.467e+02
3 Aroclor-1232	2.026	1.996-2.056	1.165e+03
	2.274	2.244-2.304	9.314e+02
	2.688	2.658-2.718	8.004e+02
	2.730	2.700-2.760	5.102e+02
4 Aroclor-1242	2.974	2.944-3.004	5.840e+02
	2.273	2.243-2.303	1.733e+03
	2.687	2.657-2.717	1.484e+03
	2.730	2.700-2.760	9.058e+02
	2.822	2.792-2.852	7.269e+02
5 Aroclor-1248	2.974	2.944-3.004	1.120e+03
	2.822	2.792-2.852	1.527e+03
	2.974	2.944-3.004	2.027e+03
	3.033	3.003-3.063	1.571e+03
	3.268	3.238-3.298	2.218e+03
	3.422	3.392-3.452	1.913e+03



## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Compound		RT	RT Window	RF
6	Aroclor-1254	3.240	3.210-3.270	2.080e+03
		3.422	3.392-3.452	2.772e+03
		3.692	3.662-3.722	3.742e+03
		3.885	3.855-3.915	2.783e+03
		4.013	3.983-4.043	2.760e+03
7	Aroclor-1260	4.013	3.983-4.043	4.303e+03
		4.285	4.255-4.315	2.791e+03
		4.451	4.421-4.481	2.867e+03
		4.662	4.632-4.692	6.579e+03
		4.852	4.822-4.882	3.193e+03
8	Aroclor-1262	3.822	3.792-3.852	2.273e+03
		4.014	3.984-4.044	3.072e+03
		4.285	4.255-4.316	4.004e+03
		4.450	4.420-4.481	3.573e+03
		4.852	4.822-4.882	2.501e+03
9	Aroclor-1268	4.882	4.852-4.912	9.782e+03
		4.908	4.878-4.938	9.839e+03
		5.041	5.011-5.071	7.469e+03
		5.279	5.249-5.309	3.239e+03
		5.476	5.446-5.506	2.294e+04
M	10 Aroclor-Total	1.000	0.980-1.020	
\$	11 4cmx	1.772	1.742-1.802	6.703e+04
\$	12 Decachlorobiphenyl	5.607	5.577-5.637	6.340e+04
	13 4,4'-DDT	4.229	4.209-4.249	5.006e+04
	14 4,4'-DDD	4.036	4.016-4.056	7.298e+04
	15 4,4'-DDE	3.632	3.612-3.652	7.426e+04

## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Quant Method : ESTD Target Version : 3.50  
Last Update : 21-Jan-2010 07:43 Number of Cpnds : 15  
Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
Initial:Start Threshold	1000.000000
Initial:End Threshold	500.000000
Initial:Area Threshold	500.000000
Initial:P-P Resolution	0.000000
Initial:Bunch Factor	3.000000
Initial:Negative Peaks	OFF
Initial:Tension	4.000000
4.200:Tension	1.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.744	2.714-2.774	4.489e+03
	3.178	3.148-3.208	3.434e+03
	3.329	3.299-3.359	2.017e+03
	3.357	3.327-3.387	2.106e+03
	3.516	3.486-3.546	2.794e+03
2 Aroclor-1221	2.290	2.260-2.320	1.263e+03
	2.395	2.365-2.425	7.739e+02
	2.439	2.409-2.469	3.051e+03
3 Aroclor-1232	2.441	2.411-2.471	2.061e+03
	2.744	2.714-2.774	1.960e+03
	3.178	3.148-3.208	1.498e+03
	3.250	3.220-3.280	9.309e+02
4 Aroclor-1242	3.516	3.486-3.546	1.107e+03
	2.744	2.714-2.774	3.445e+03
	3.178	3.148-3.208	2.681e+03
	3.251	3.221-3.281	1.637e+03
	3.329	3.299-3.359	1.508e+03
5 Aroclor-1248	3.516	3.486-3.546	2.145e+03
	3.329	3.299-3.359	3.282e+03
	3.516	3.486-3.546	4.187e+03
	3.603	3.573-3.633	4.451e+03
	3.792	3.762-3.822	4.697e+03
	3.821	3.791-3.851	5.389e+03

## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Compound		RT	RT Window	RF
6	Aroclor-1254	3.815	3.785-3.845	4.985e+03
		3.957	3.927-3.987	5.799e+03
		4.193	4.163-4.223	4.023e+03
		4.274	4.244-4.304	7.731e+03
		4.438	4.408-4.468	5.608e+03
7	Aroclor-1260	4.411	4.381-4.441	5.785e+03
		4.564	4.534-4.594	7.263e+03
		4.674	4.644-4.704	5.004e+03
		4.872	4.842-4.902	5.795e+03
		5.498	5.468-5.528	9.394e+03
8	Aroclor-1262	4.412	4.383-4.442	4.703e+03
		4.563	4.533-4.593	5.853e+03
		4.872	4.843-4.902	8.946e+03
		5.072	5.043-5.103	7.772e+03
		5.251	5.221-5.281	1.672e+04
9	Aroclor-1268	5.496	5.466-5.526	2.078e+04
		5.528	5.498-5.558	2.083e+04
		5.700	5.670-5.730	1.556e+04
		5.900	5.870-5.930	6.423e+03
		6.124	6.094-6.154	4.919e+04
M	10 Aroclor-Total	1.000	0.980-1.020	
\$	11 4cmx	2.068	2.038-2.098	1.396e+05
\$	12 Decachlorobiphenyl	6.298	6.268-6.328	1.246e+05
	13 4,4'-DDT	4.814	4.794-4.834	8.705e+04
	14 4,4'-DDD	4.600	4.580-4.620	1.499e+05
	15 4,4'-DDE	4.195	4.175-4.215	1.504e+05

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
End Cal Date : 20-JAN-2010 10:31  
Quant Method : ESTD  
Origin : Disabled  
Target Version : 3.50  
Integrator : Falcon  
Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Cal Date : 21-Jan-2010 07:18 jen01212  
Curve Type : Average

## Calibration File Names:

Level 1: /chem/ecd2a.i/120209.b/008f0801.d  
Level 2: /chem/ecd2a.i/120209.b/009f0901.d  
Level 3: /chem/ecd2a.i/120209.b/010f1001.d  
Level 4: /chem/ecd2a.i/113009a.b/014f1401.d  
Level 5: /chem/ecd2a.i/120209.b/012f1201.d

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
1 Aroclor-1016(1)	2582	2384	2270	2158	1895	2258	11.359
(2)	4964	4712	4611	4536	4322	4629	5.094
(3)	2119	1992	1883	1834	1673	1900	8.824
(4)	1123	1028	978	934	855	983	10.212
(5)	1592	1492	1430	1418	1320	1450	6.903
2 Aroclor-1221(1)	+++++	+++++	+++++	464	+++++	464	0.000
(2)	+++++	+++++	+++++	657	+++++	657	0.000
(3)	+++++	+++++	+++++	347	+++++	347	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	1165	+++++	1165	0.000
(2)	+++++	+++++	+++++	931	+++++	931	0.000
(3)	+++++	+++++	+++++	800	+++++	800	0.000
(4)	+++++	+++++	+++++	510	+++++	510	0.000
(5)	+++++	+++++	+++++	584	+++++	584	0.000
4 Aroclor-1242(1)	1990	1799	1692	1619	1566	1733	9.686
(2)	1678	1536	1439	1387	1381	1484	8.410
(3)	1015	931	874	843	866	906	7.639
(4)	817	761	714	669	673	727	8.615
(5)	1272	1143	1059	1036	1087	1120	8.434
5 Aroclor-1248(1)	1738	1529	1527	1515	1325	1527	9.560
(2)	2238	2070	1990	2006	1832	2027	7.247
(3)	1706	1611	1571	1551	1415	1571	6.718
(4)	2322	2198	2161	2230	2178	2218	2.874
(5)	2083	1922	1902	1885	1770	1913	5.861
6 Aroclor-1254(1)	2304	2118	2048	2007	1924	2080	6.888
(2)	2981	2797	2739	2702	2642	2772	4.677
(3)	3870	3712	3711	3744	3675	3742	2.011
(4)	2886	2776	2725	2760	2767	2783	2.186
(5)	2994	2820	2741	2711	2533	2760	6.080

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
 End Cal Date : 20-JAN-2010 10:31  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : Falcon  
 Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
 Cal Date : 21-Jan-2010 07:18 jen01212  
 Curve Type : Average

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260(1)	4564	4184	4324	4273	4168	4303	3.706
(2)	3136	2679	2808	2745	2587	2791	7.510
(3)	3148	2736	2898	2878	2673	2867	6.405
(4)	6841	6399	6600	6582	6474	6579	2.551
(5)	3315	3117	3229	3192	3115	3193	2.623
8 Aroclor-1262(1)	2530	2266	2239	2239	2092	2273	6.993
(2)	3295	3066	3031	3051	2917	3072	4.482
(3)	4237	3997	3977	3997	3815	4004	3.763
(4)	3754	3532	3556	3594	3430	3573	3.295
(5)	2578	2453	2481	2538	2454	2501	2.217
9 Aroclor-1268(1)	9960	9712	9638	9856	9743	9782	1.295
(2)	10427	9736	9819	9812	9401	9839	3.768
(3)	7803	7453	7371	7450	7266	7469	2.702
(4)	3410	3296	3214	3182	3091	3239	3.727
(5)	23130	22747	22846	23230	22770	22944	0.963
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 4,4'-DDT	+++++	+++++	+++++	50063	+++++	50063	0.000
14 4,4'-DDD	+++++	+++++	+++++	72978	+++++	72978	0.000
15 4,4'-DDE	+++++	+++++	+++++	74262	+++++	74262	0.000
=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx	71691	67209	66904	66042	63316	67033	4.509
\$ 12 Decachlorobiphenyl	69072	64043	62394	61590	59897	63399	5.529

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
 End Cal Date : 20-JAN-2010 10:31  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : Falcon  
 Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Cal Date : 21-Jan-2010 07:43 jen01212  
 Curve Type : Average

## Calibration File Names:

Level 1: /chem/ecd2a.i/120209.b/008b0801.d  
 Level 2: /chem/ecd2a.i/120209.b/009b0901.d  
 Level 3: /chem/ecd2a.i/120209.b/010b1001.d  
 Level 4: /chem/ecd2a.i/113009a.b/014b1401.d  
 Level 5: /chem/ecd2a.i/120209.b/012b1201.d

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
1 Aroclor-1016(1)	4662	4548	4537	4546	4153	4489	4.347
(2)	3382	3406	3459	3527	3397	3434	1.731
(3)	2031	1985	2035	2051	1984	2017	1.523
(4)	2110	2098	2116	2131	2073	2106	1.046
(5)	2721	2745	2805	2886	2815	2794	2.320
2 Aroclor-1221(1)	+++++	+++++	+++++	1263	+++++	1263	0.000
(2)	+++++	+++++	+++++	774	+++++	774	0.000
(3)	+++++	+++++	+++++	3051	+++++	3051	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	2061	+++++	2061	0.000
(2)	+++++	+++++	+++++	1960	+++++	1960	0.000
(3)	+++++	+++++	+++++	1498	+++++	1498	0.000
(4)	+++++	+++++	+++++	931	+++++	931	0.000
(5)	+++++	+++++	+++++	1107	+++++	1107	0.000
4 Aroclor-1242(1)	3674	3489	3409	3384	3271	3445	4.346
(2)	2815	2677	2634	2637	2644	2681	2.863
(3)	1696	1624	1594	1606	1663	1637	2.599
(4)	1601	1513	1471	1467	1487	1508	3.655
(5)	2235	2100	2068	2141	2180	2145	3.068
5 Aroclor-1248(1)	3439	3315	3263	3296	3099	3282	3.723
(2)	4291	4205	4192	4250	3996	4187	2.717
(3)	4601	4495	4377	4484	4299	4451	2.609
(4)	4665	4612	4696	4831	4682	4697	1.733
(5)	5471	5399	5390	5477	5208	5389	2.022
6 Aroclor-1254(1)	5121	4955	4998	5025	4828	4985	2.145
(2)	5885	5693	5812	5852	5753	5799	1.330
(3)	4010	3906	3992	4126	4082	4023	2.109
(4)	7559	7611	7766	7925	7797	7731	1.909
(5)	5659	5569	5439	5821	5553	5608	2.538

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
 End Cal Date : 20-JAN-2010 10:31  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : Falcon  
 Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Cal Date : 21-Jan-2010 07:43 jen01212  
 Curve Type : Average

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260(1)	5608	5607	5911	6004	5797	5785	3.079
(2)	6845	7033	7506	7660	7272	7263	4.586
(3)	4810	4804	5158	5233	5016	5004	3.919
(4)	5752	5570	5927	6012	5715	5795	3.029
(5)	8958	8757	9595	9936	9726	9394	5.425
8 Aroclor-1262(1)	4855	4536	4634	4812	4677	4703	2.776
(2)	5760	5648	5834	6083	5942	5853	2.859
(3)	8687	8674	9001	9349	9021	8946	3.121
(4)	7559	7507	7790	8124	7880	7772	3.221
(5)	15890	16154	16824	17584	17141	16719	4.167
9 Aroclor-1268(1)	19681	20538	20944	21652	21077	20778	3.522
(2)	20049	20780	21168	21526	20631	20831	2.683
(3)	14816	15313	15674	16201	15813	15563	3.374
(4)	6082	6303	6421	6627	6683	6423	3.811
(5)	47383	48640	49735	50972	49227	49192	2.697
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 4,4'-DDT	+++++	+++++	+++++	87046	+++++	87046	0.000
14 4,4'-DDD	+++++	+++++	+++++	149858	+++++	149858	0.000
15 4,4'-DDE	+++++	+++++	+++++	150414	+++++	150414	0.000
=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx	134308	136410	140413	144013	142640	139557	2.945
\$ 12 Decachlorobiphenyl	121777	119955	124484	128763	127780	124552	3.031

FORM 7  
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A  
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1262  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1042  
 Lab File ID: 014F1401 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Aroclor-1016	2257.882	2198.691	0.01	-2.6	15.0
(2)	4628.914	4649.732	0.01	0.4	15.0
(3)	1900.304	1876.324	0.01	-1.3	15.0
(4)	983.497	959.236	0.01	-2.5	15.0
(5)	1450.304	1426.869	0.01	-1.6	15.0
Aroclor-1260	4302.665	4447.698	0.01	3.4	15.0
(2)	2791.028	2849.302	0.01	2.1	15.0
(3)	2866.828	2992.152	0.01	4.4	15.0
(4)	6579.193	6851.364	0.01	4.1	15.0
(5)	3193.316	3286.091	0.01	2.9	15.0
=====	=====	=====	=====	=====	=====
4cmx	67032.526	69128.000	0.01	3.1	15.0
Decachlorobiphenyl	63399.298	63600.520	0.01	0.3	15.0
=====	=====	=====	=====	=====	=====

FORM VII PEST



FORM 7  
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A  
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1262  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1042  
 Lab File ID: 014B1401 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Aroclor-1016	4489.288	4641.615	0.01	3.4	15.0
(2)	3434.131	3641.300	0.01	6.0	15.0
(3)	2017.371	2107.405	0.01	4.5	15.0
(4)	2105.569	2219.093	0.01	5.4	15.0
(5)	2794.468	2980.439	0.01	6.6	15.0
Aroclor-1260	5785.200	6300.864	0.01	8.9	15.0
(2)	7263.142	7996.785	0.01	10.1	15.0
(3)	5004.167	5508.886	0.01	10.1	15.0
(4)	5795.185	6286.593	0.01	8.5	15.0
(5)	9394.449	10332.067	0.01	10.0	15.0
=====	=====	=====	=====	=====	=====
4cmx	139556.85	151115.54	0.01	8.3	15.0
Decachlorobiphenyl	124551.80	133386.68	0.01	7.1	15.0
=====	=====	=====	=====	=====	=====

FORM VII PEST

FORM 7  
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A  
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1262  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1317  
 Lab File ID: 028F2801 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Aroclor-1016	2257.882	2129.526	0.01	-5.7	15.0
(2)	4628.914	4530.205	0.01	-2.1	15.0
(3)	1900.304	1818.396	0.01	-4.3	15.0
(4)	983.497	935.634	0.01	-4.9	15.0
(5)	1450.304	1396.003	0.01	-3.7	15.0
Aroclor-1260	4302.665	4308.956	0.01	0.1	15.0
(2)	2791.028	2708.943	0.01	-2.9	15.0
(3)	2866.828	2790.743	0.01	-2.6	15.0
(4)	6579.193	6631.352	0.01	0.8	15.0
(5)	3193.316	3227.168	0.01	1.1	15.0
=====	=====	=====	=====	=====	=====
4cmx	67032.526	67395.450	0.01	0.5	15.0
Decachlorobiphenyl	63399.298	61616.980	0.01	-2.8	15.0
=====	=====	=====	=====	=====	=====

FORM VII PEST

FORM 7  
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A  
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1262  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1317  
 Lab File ID: 028B2801 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Aroclor-1016	4489.288	4494.509	0.01	0.1	15.0
(2)	3434.131	3522.680	0.01	2.6	15.0
(3)	2017.371	2024.957	0.01	0.4	15.0
(4)	2105.569	2127.507	0.01	1.0	15.0
(5)	2794.468	2863.002	0.01	2.4	15.0
Aroclor-1260	5785.200	5974.213	0.01	3.3	15.0
(2)	7263.142	7576.802	0.01	4.3	15.0
(3)	5004.167	5176.517	0.01	3.4	15.0
(4)	5795.185	5899.725	0.01	1.8	15.0
(5)	9394.449	9862.945	0.01	5.0	15.0
=====	=====	=====	=====	=====	=====
4cmx	139556.85	147480.22	0.01	5.7	15.0
Decachlorobiphenyl	124551.80	124634.29	0.01	0.1	15.0
=====	=====	=====	=====	=====	=====

FORM VII PEST

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/003f0301.d

Lab Smp Id: WAR091102-54

Client Smp ID: AR125401

Inj Date : 20-JAN-2010 08:40

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091102-54

Misc Info : |PCB\_CVS|1254||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d

Als bottle: 3

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1254.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

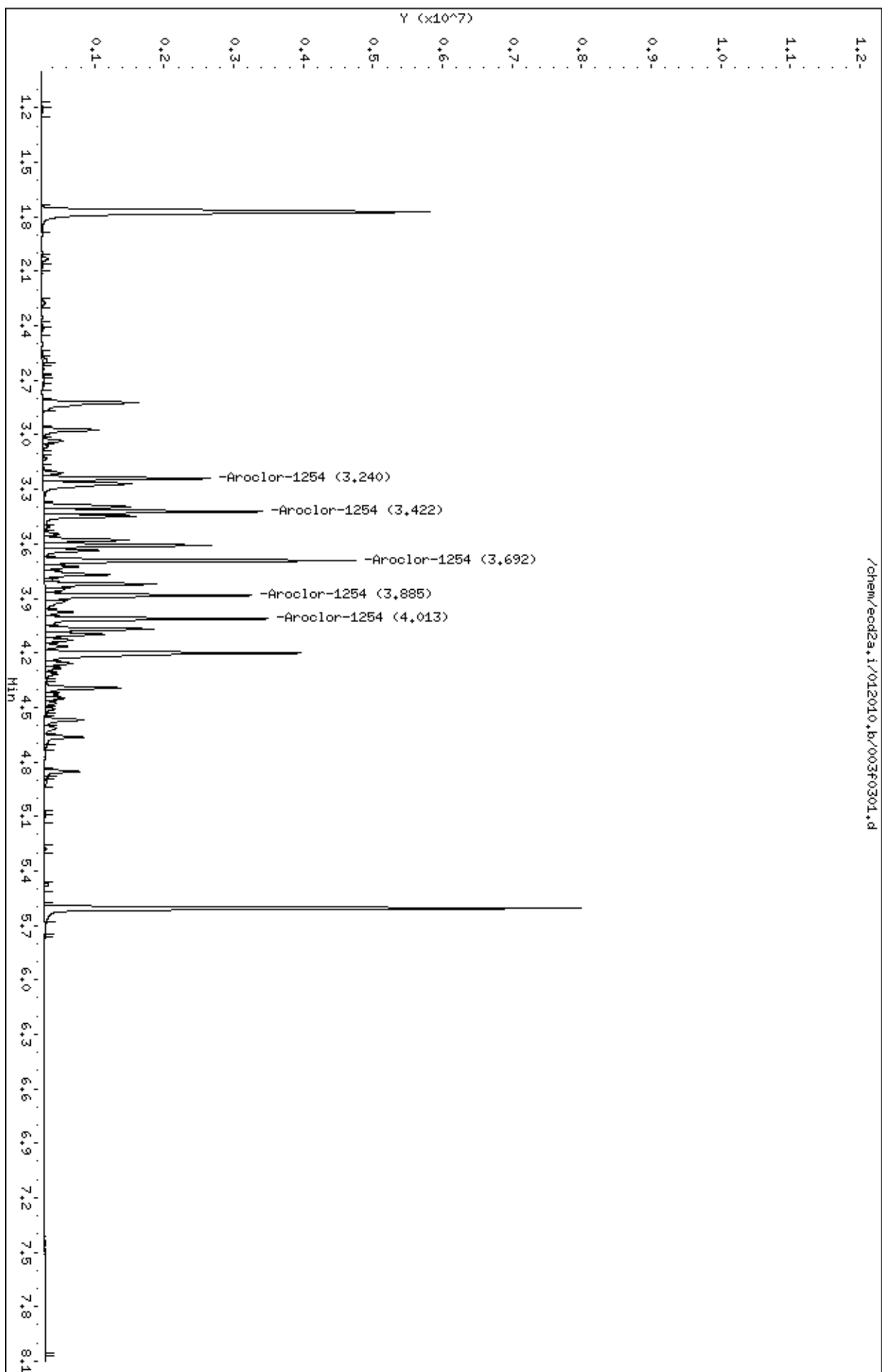
CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

6 Aroclor-1254			CAS #: 11097-69-1			
3.240	3.240	0.000	2166314 1000.00	1040 80.00-	120.00	100.00
3.422	3.422	0.000	2884126 1000.00	1040 113.14-	153.14	133.14
3.692	3.692	0.000	3941427 1000.00	1050 161.94-	201.94	181.94
3.885	3.885	0.000	2880533 1000.00	1040 112.97-	152.97	132.97
4.013	4.013	0.000	2975958 1000.00	1080 117.37-	157.37	137.37

Average of Peak Amounts = 1.05e+03

Data File: /chem/ecod2a.i/012010.b/003f0301.d  
Date : 20-JAN-2010 08:40  
Client ID: AR125401  
Sample Info: IMR091102-54  
Column phase: CLP1  
Instrument: ecod2a.i  
Operator: JAOC  
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/003b0301.d  
Lab Smp Id: WAR091102-54 Client Smp ID: AR125401  
Inj Date : 20-JAN-2010 08:40  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR091102-54  
Misc Info : |PCB\_CVS|1254||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 3 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1254.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

6 Aroclor-1254			CAS #: 11097-69-1			
3.815	3.815	0.000	5433134	1000.00	1090 80.00- 120.00	100.00
3.957	3.957	0.000	6190489	1000.00	1070 59.28- 99.28	113.94
4.193	4.193	0.000	4416585	1000.00	1100 0.00- 32.39	81.29
4.274	4.274	0.000	8479694	1000.00	1100 14.94- 54.94	156.07
4.438	4.438	0.000	6121213	1000.00	1090 0.00- 36.25	112.66

Average of Peak Amounts = 1.09e+03

Data File: /chem/ecod2a.i/012010.b/003b0301.d

Date : 20-JAN-2010 08:40

Client ID: AR125401

Sample Info: IWR091102-54

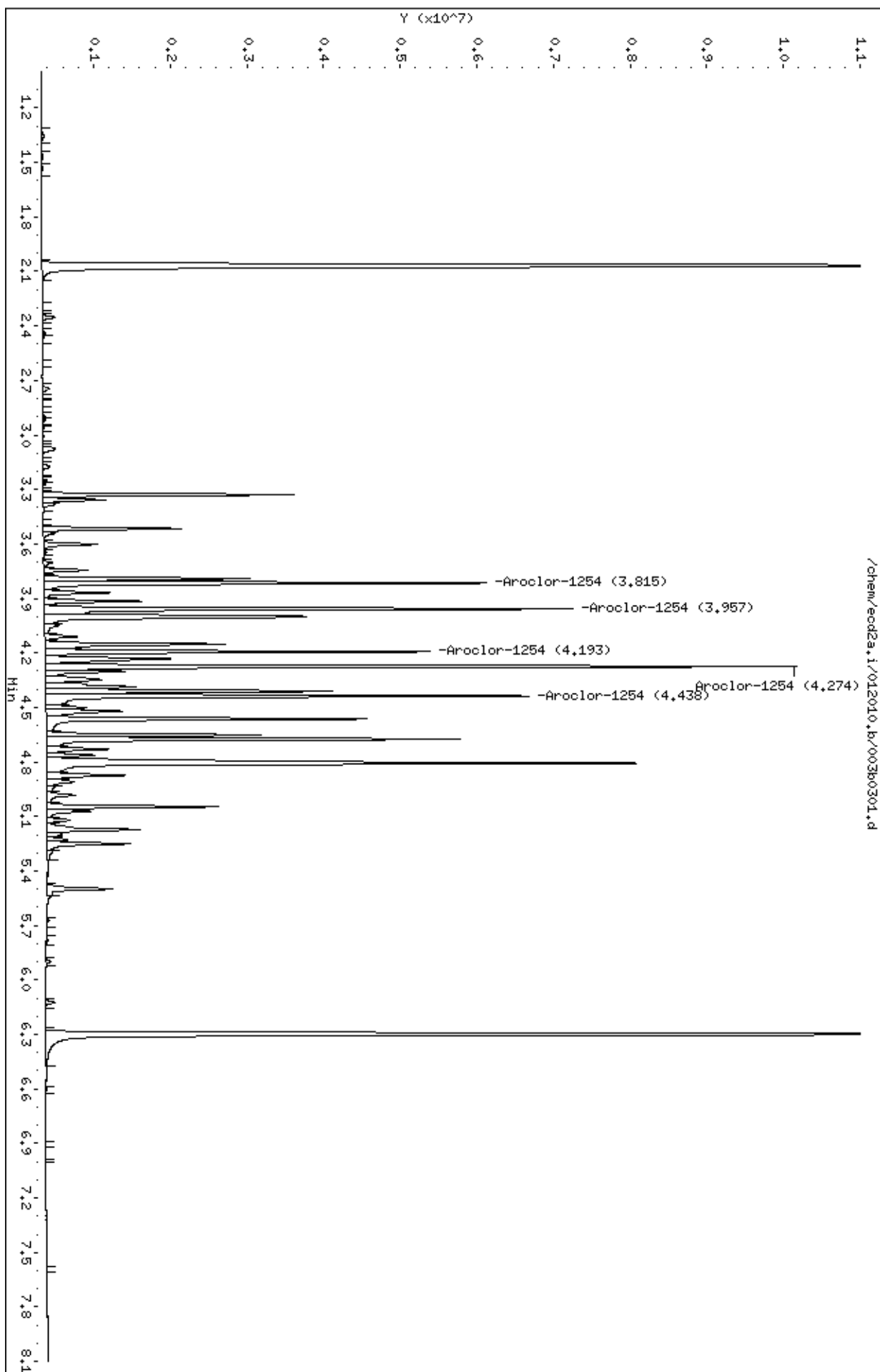
Column phase: CLP2

Instrument: ecod2a.i

Operator: JAOC

Column diameter: 0.25

Page 1



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/004f0401.d  
Lab Smp Id: WAR100104-42 Client Smp ID: AR124201  
Inj Date : 20-JAN-2010 08:51  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-42  
Misc Info : |PCB\_CVS|1242||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 4 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1242.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

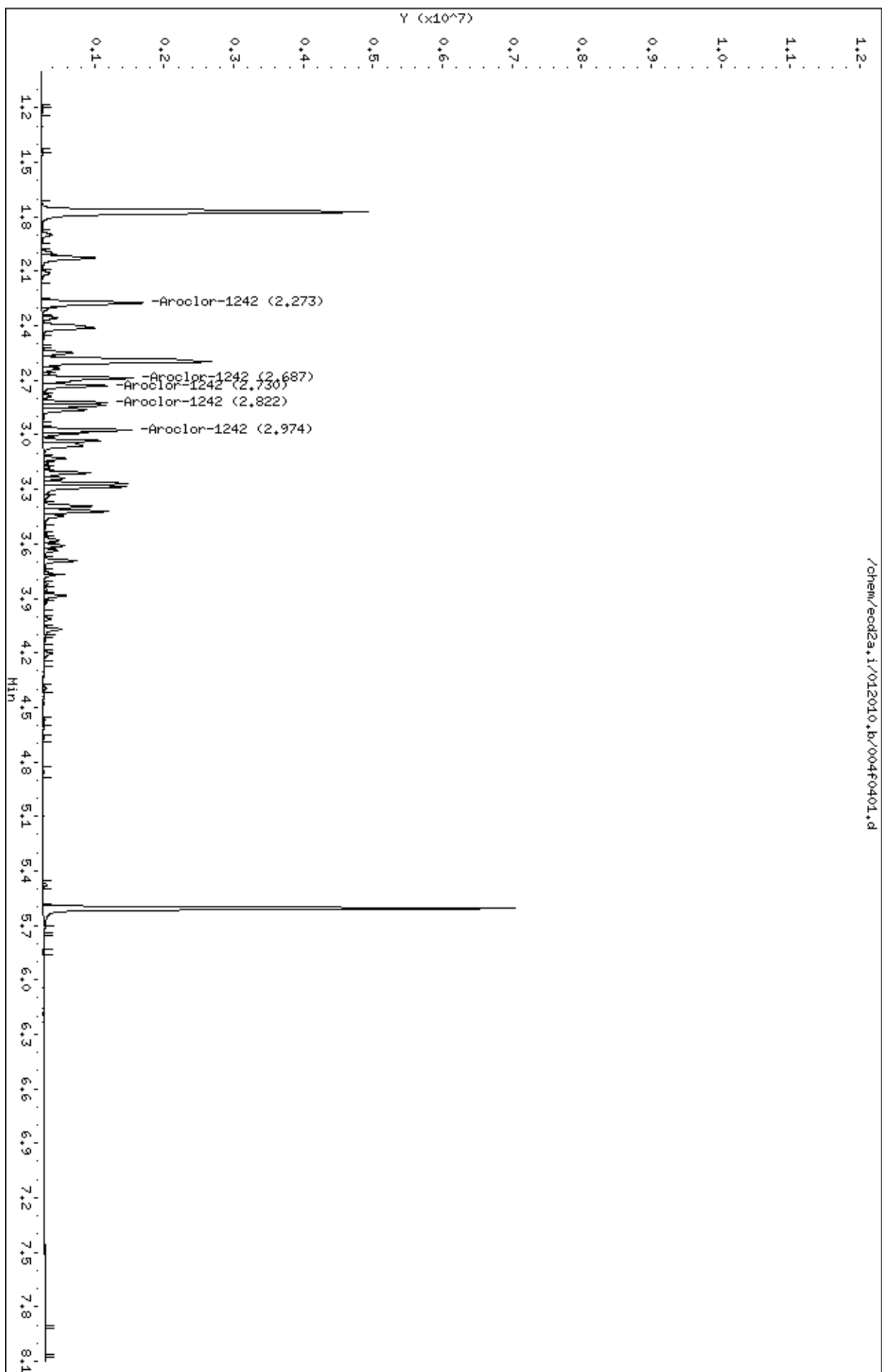
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

4 Aroclor-1242			CAS #: 53469-21-9			
2.273	2.273	0.000	1875234	1000.00	1080 80.00- 120.00	100.00
2.687	2.687	0.000	1571531	1000.00	1060 63.80- 103.80	83.80
2.730	2.730	0.000	972681	1000.00	1070 31.87- 71.87	51.87
2.822	2.822	0.000	814351	1000.00	1120 23.43- 63.43	43.43
2.974	2.974	0.000	1240605	1000.00	1110 46.16- 86.16	66.16

Average of Peak Amounts = 1.09e+03



Data File: /chem/eod2a.i/012010.b/004f0401.d  
Date : 20-JAN-2010 08:51  
Client ID: AR124201  
Sample Info: ILMR091217-42  
Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25  
Column phase: CLP1



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/004b0401.d  
Lab Smp Id: WAR100104-42 Client Smp ID: AR124201  
Inj Date : 20-JAN-2010 08:51  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-42  
Misc Info : |PCB\_CVS|1242||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 4 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1242.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

4 Aroclor-1242			CAS #: 53469-21-9			
2.744	2.744	0.000	3912542	1000.00	1140 80.00- 120.00	100.00
3.178	3.178	0.000	2995536	1000.00	1120 56.56- 96.56	76.56
3.251	3.251	0.000	1793113	1000.00	1100 25.83- 65.83	45.83
3.329	3.329	0.000	1717280	1000.00	1140 23.89- 63.89	43.89
3.516	3.516	0.000	2490008	1000.00	1160 43.64- 83.64	63.64

Average of Peak Amounts = 1.13e+03

Data File: /chem/eecd2a.i/012010.b/004b0401.d

Date : 20-JAN-2010 08:51

Client ID: AR124201

Sample Info: 1MAR091217-42

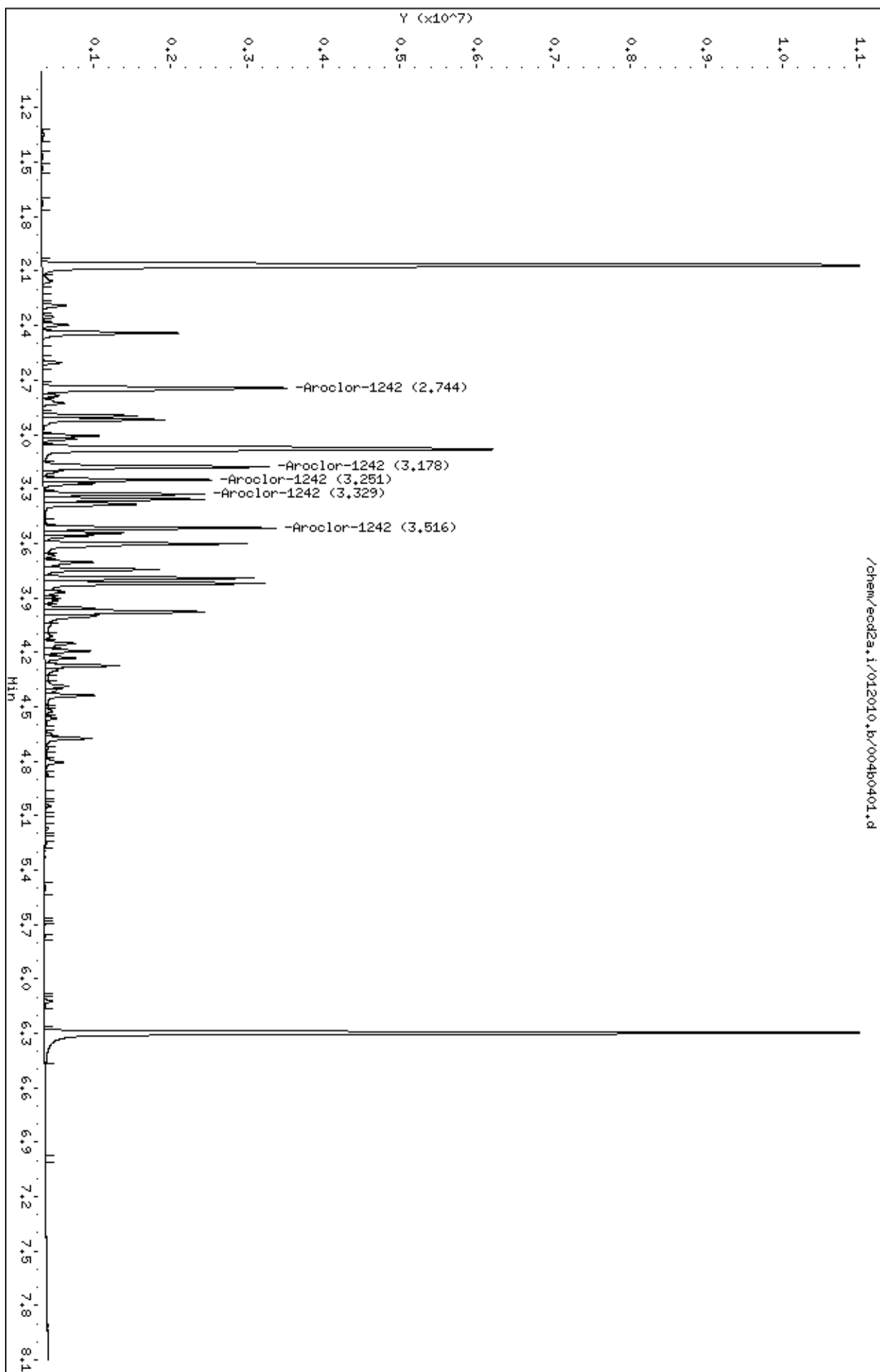
Column phase: CLP2

Instrument: eecd2a.i

Operator: JAOC

Column diameter: 0.25

Page 1



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/005f0501.d  
Lab Smp Id: WAR100104-48 Client Smp ID: AR124801  
Inj Date : 20-JAN-2010 09:02  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-48  
Misc Info : |PCB\_CVS|1248||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 5 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1248.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

5 Aroclor-1248			CAS #: 12672-29-6			
2.822	2.822	0.000	1538789 1000.00	1010 80.00-	120.00	100.00
2.974	2.974	0.000	2050172 1000.00	1010 113.23-	153.23	133.23
3.033	3.033	0.000	1529787 1000.00	974 79.42-	119.42	99.42
3.268	3.268	0.000	2102388 1000.00	948 116.63-	156.63	136.63
3.422	3.422	0.000	1847950 1000.00	966 100.09-	140.09	120.09

Average of Peak Amounts = 981

Data File: /chem/ecod2a.i/012010.b/005f0501.d

Date : 20-JAN-2010 09:02

Client ID: AR124801

Sample Info: IWR091217-48

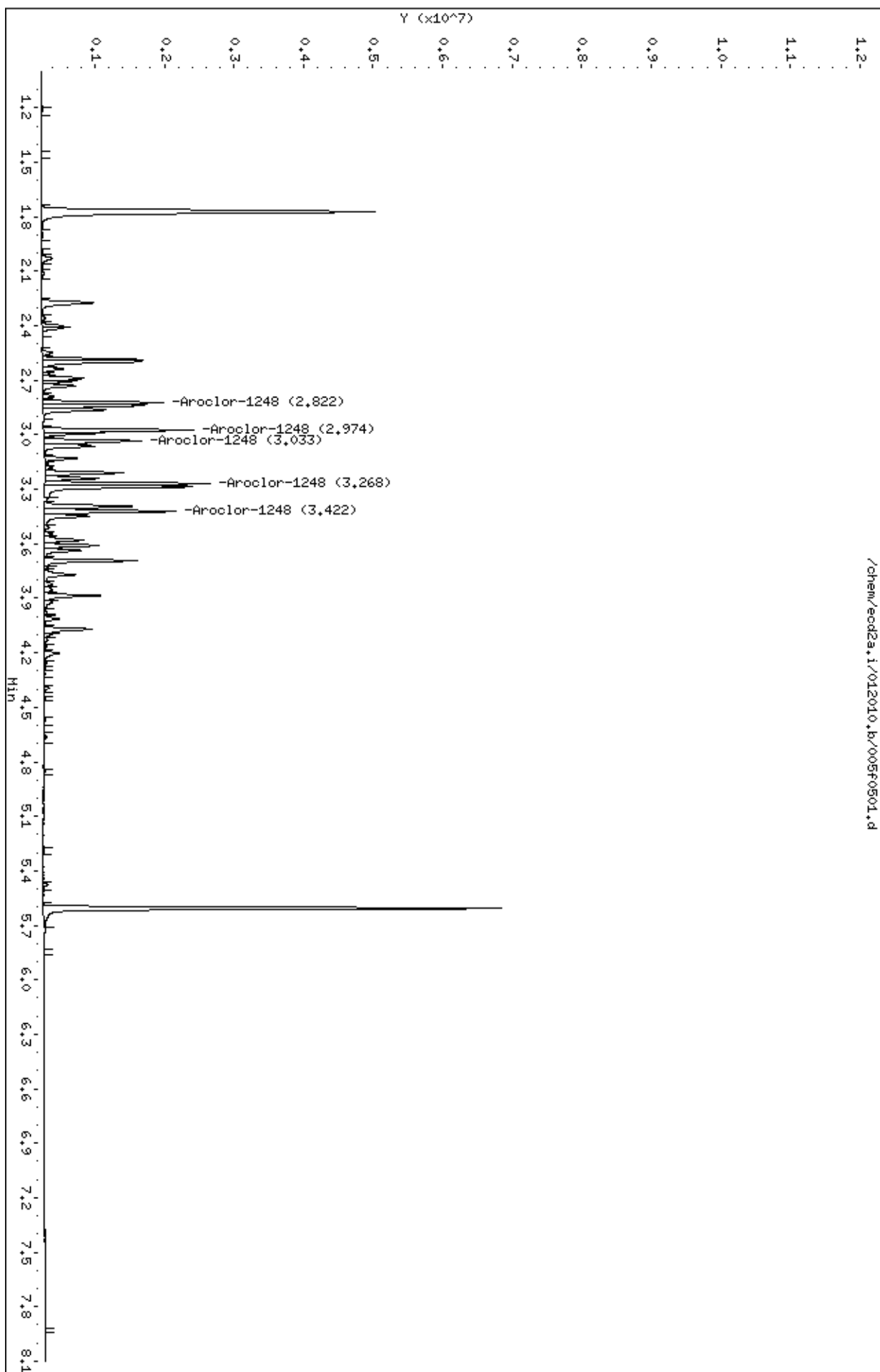
Column phase: CLP1

Instrument: ecod2a.i

Operator: JAOC

Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/005b0501.d  
Lab Smp Id: WAR100104-48 Client Smp ID: AR124801  
Inj Date : 20-JAN-2010 09:02  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-48  
Misc Info : |PCB\_CVS|1248||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 5 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1248.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

5 Aroclor-1248			CAS #: 12672-29-6			
3.329	3.329	0.000	3288926 1000.00	1000	80.00- 120.00	100.00
3.516	3.516	0.000	4228638 1000.00	1010	108.57- 148.57	128.57
3.603	3.603	0.000	4521541 1000.00	1020	117.48- 157.48	137.48
3.792	3.792	0.000	4591096 1000.00	977	119.59- 159.59	139.59
3.821	3.821	0.000	5464642 1000.00	1010	146.15- 186.15	166.15

Average of Peak Amounts = 1e+03

Data File: /chem/eecd2a.i/012010.b/005b0501.d

Date : 20-JAN-2010 09:02

Client ID: AR124801

Sample Info: IWR091217-48

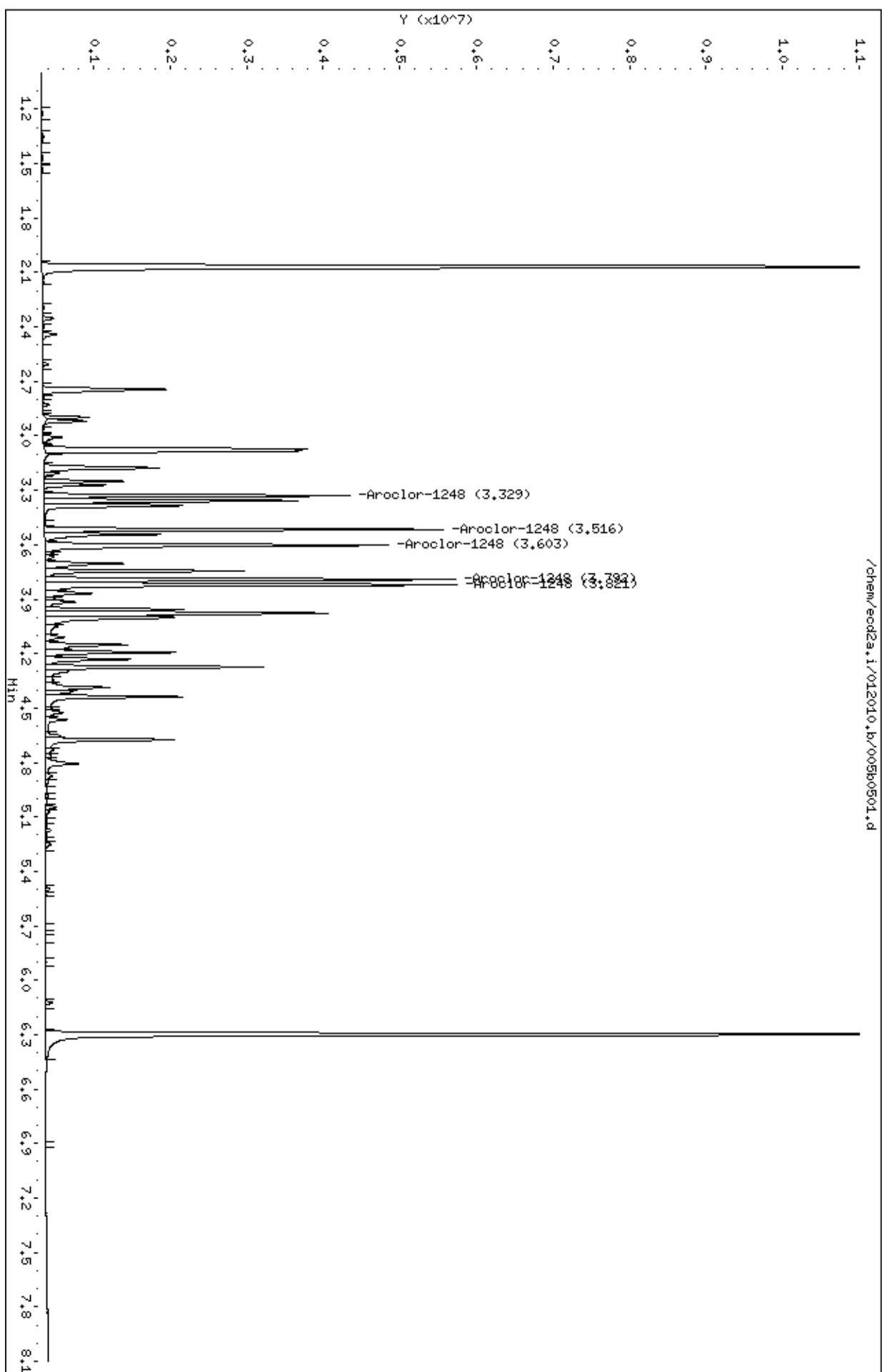
Column phase: CLP2

Instrument: eecd2a.i

Operator: JAOC

Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/006f0601.d  
Lab Smp Id: WAR100104-32 Client Smp ID: AR123201  
Inj Date : 20-JAN-2010 09:13  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-32  
Misc Info : |PCB\_CVS|1232||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 6 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1232.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

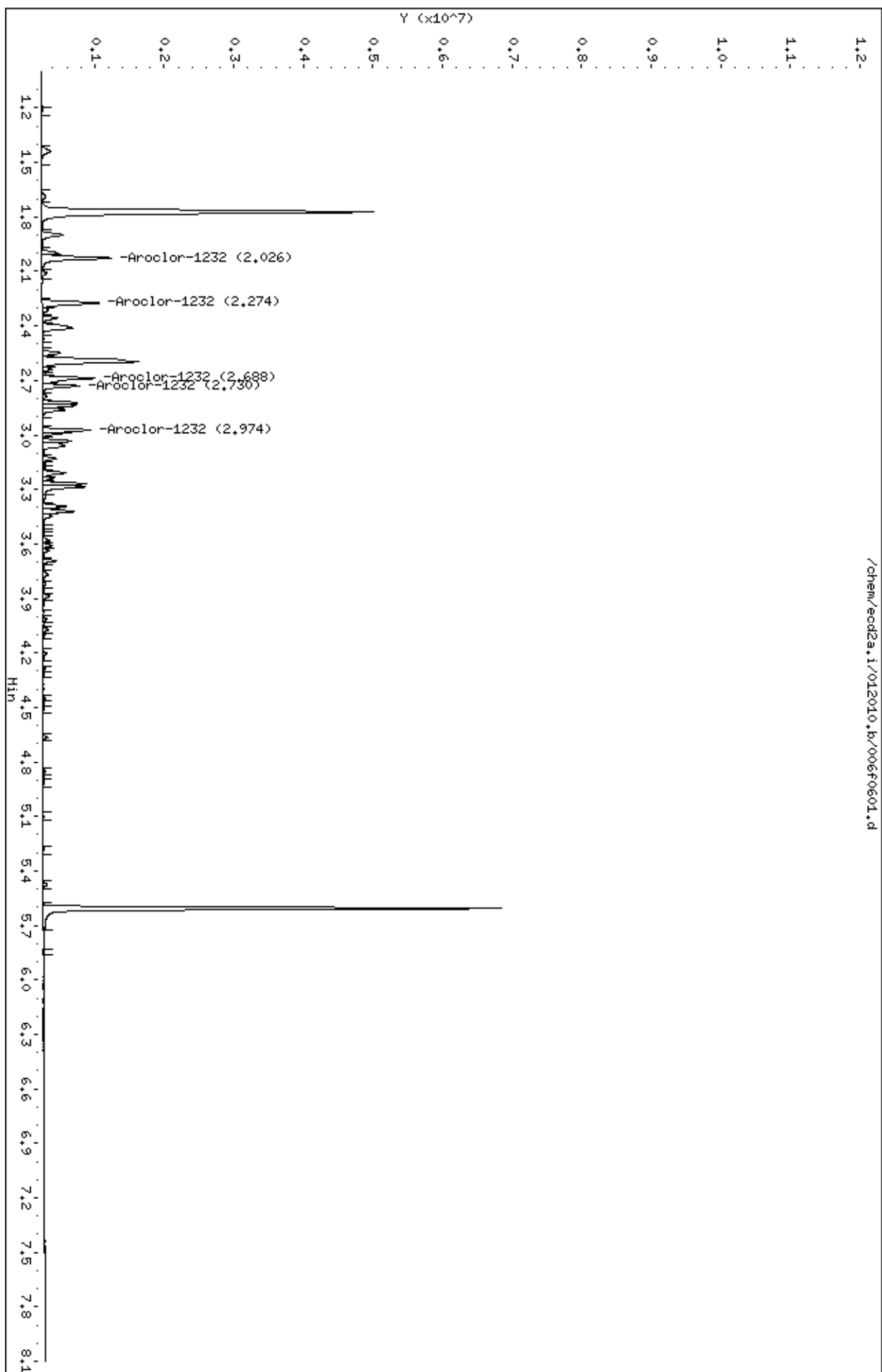
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

3 Aroclor-1232			CAS #: 11141-16-5			
2.026	2.026	0.000	1311036	1000.00	1120 80.00- 120.00	100.00
2.274	2.274	0.000	1064011	1000.00	1140 61.16- 101.16	81.16
2.688	2.688	0.000	900043	1000.00	1120 48.65- 88.65	68.65
2.730	2.730	0.000	578738	1000.00	1130 24.14- 64.14	44.14
2.974	2.974	0.000	683865	1000.00	1170 32.16- 72.16	52.16

Average of Peak Amounts = 1.14e+03



Data File: /chem/eod2a.i/012010.b/006f0601.d  
Date : 20-JAN-2010 09:13  
Client ID: AR123201  
Sample Info: IMR100104-32  
Column phase: CLP1  
Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/006b0601.d  
Lab Smp Id: WAR100104-32 Client Smp ID: AR123201  
Inj Date : 20-JAN-2010 09:13  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-32  
Misc Info : |PCB\_CVS|1232||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 6 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1232.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

3 Aroclor-1232			CAS #: 11141-16-5			
2.441	2.441	0.000	2327135	1000.00	1130 80.00- 120.00	100.00
2.744	2.744	0.000	2232621	1000.00	1140 75.94- 115.94	95.94
3.178	3.178	0.000	1588238	1000.00	1060 48.25- 88.25	68.25
3.250	3.250	0.000	968593	1000.00	1040 21.62- 61.62	41.62
3.516	3.516	0.000	1253282	1000.00	1130 33.86- 73.86	53.86

Average of Peak Amounts = 1.1e+03

Data File: /chem/ecod2a.i/012010.b/006b0601.d

Date : 20-JAN-2010 09:13

Client ID: AR123201

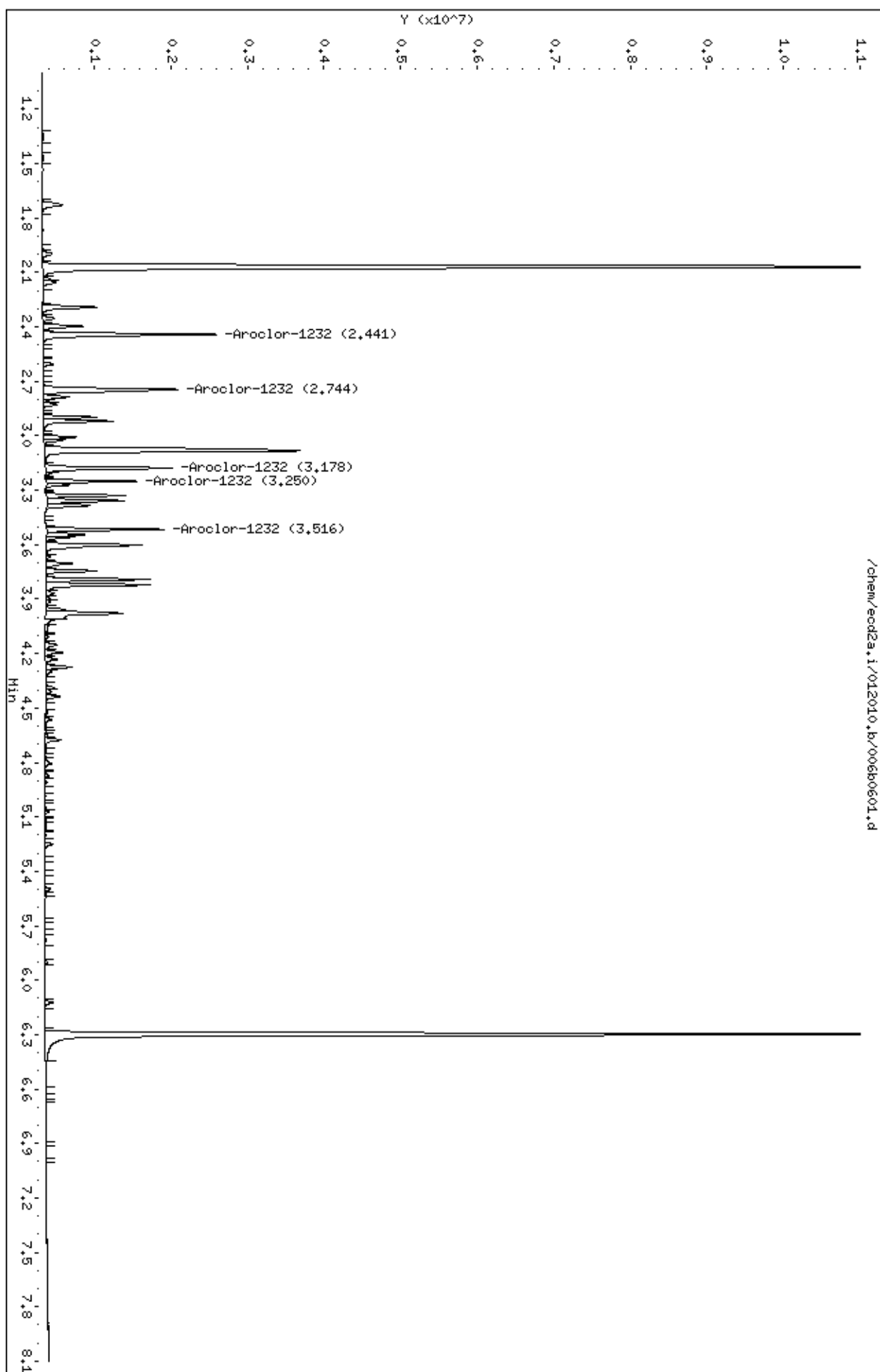
Sample Info: IMR100104-32

Column phase: CLP2

Instrument: ecod2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/007f0701.d  
Lab Smp Id: WAR100104-21 Client Smp ID: AR122101  
Inj Date : 20-JAN-2010 09:24  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-21  
Misc Info : |PCB\_CVS|1221||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 7 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1221.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

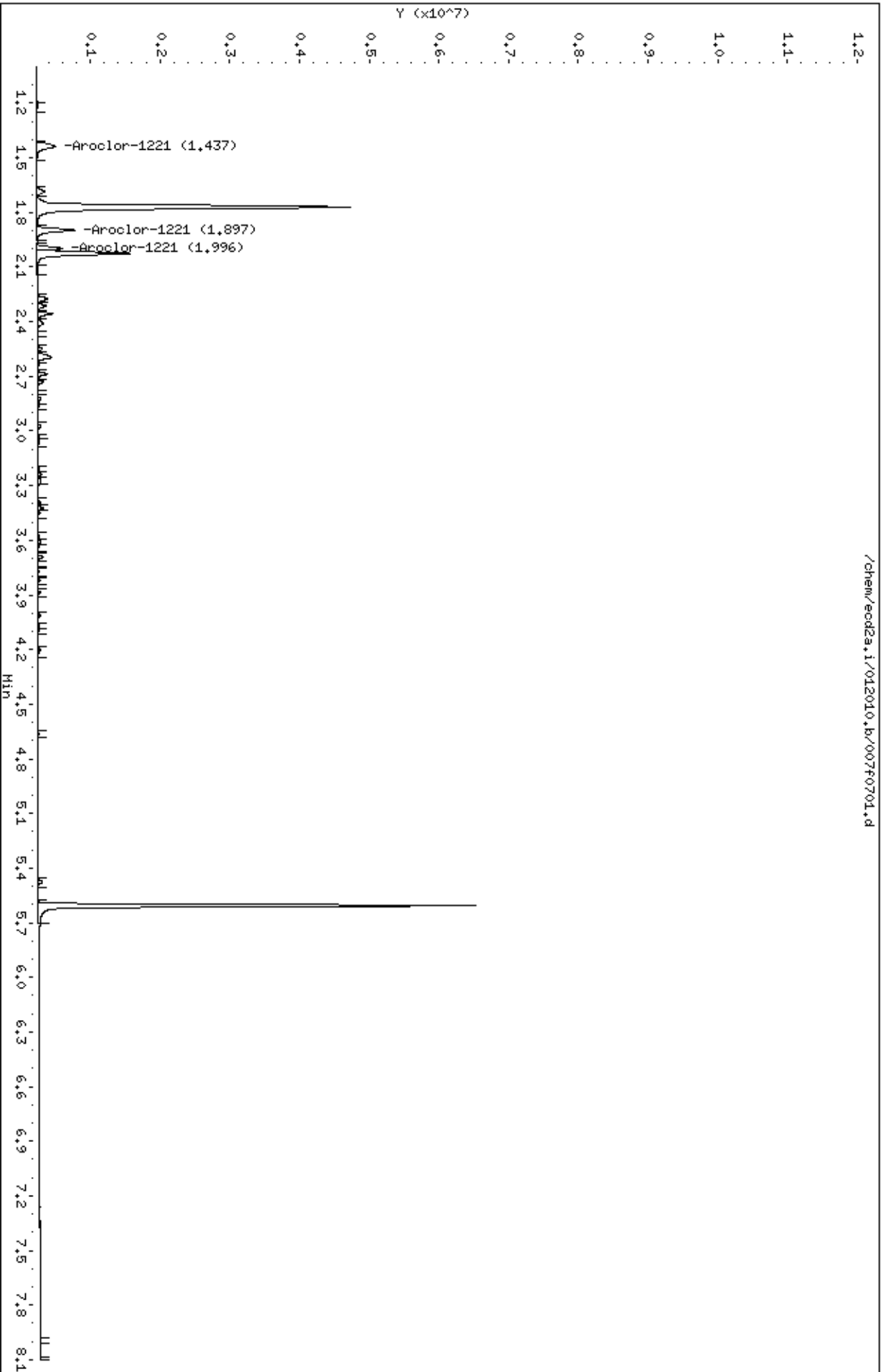
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

2 Aroclor-1221			CAS #: 11104-28-2			
1.437	1.437	0.000	536762 1000.00	1160	80.00- 120.00	100.00
1.897	1.897	0.000	717743 1000.00	1090	113.72- 153.72	133.72
1.996	1.996	0.000	378073 1000.00	1090	50.44- 90.44	70.44
Average of Peak Amounts =			1.11e+03			

Data File: /chem/ecod2a.i/012010.b/007f0701.d  
 Date : 20-JAN-2010 09:24  
 Client ID: AR122101  
 Sample Info: IMR100104-21

Column phase: CLP1

Instrument: ecod2a.i  
 Operator: JAOC  
 Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/007b0701.d  
Lab Smp Id: WAR100104-21 Client Smp ID: AR122101  
Inj Date : 20-JAN-2010 09:24  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-21  
Misc Info : |PCB\_CVS|1221||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 7 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1221.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

2	Aroclor-1221				CAS #: 11104-28-2	
2.290	2.290	0.000	1315448	1000.00	1040 80.00- 120.00	100.00
2.395	2.395	0.000	799084	1000.00	1030 40.75- 80.75	60.75
2.439	2.439	0.000	3203175	1000.00	1050 223.50- 263.50	243.50
Average of Peak Amounts =			1.04e+03			

Data File: /chem/ecod2a.i/012010.b/007b0701.d

Date : 20-JAN-2010 09:24

Client ID: AR122101

Sample Info: 1MAR100104-21

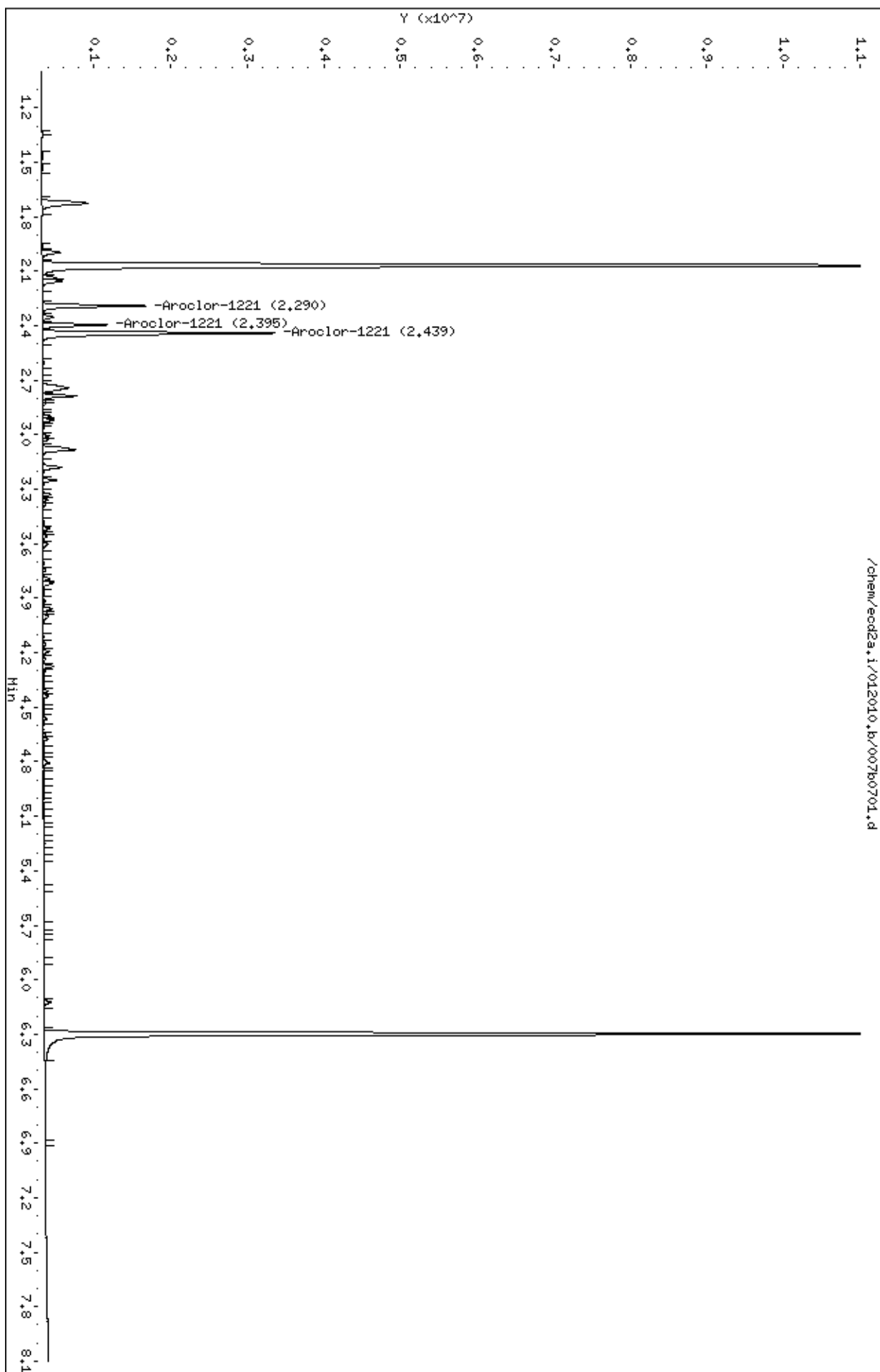
Column phase: CLP2

Instrument: ecod2a.i

Operator: JAOC

Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/014f1401.d  
Lab Smp Id: WAR100104-60 01 Client Smp ID: AR166001  
Inj Date : 20-JAN-2010 10:42  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-60 01  
Misc Info : |PCB\_CVS|1660||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 14 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1660.sub  
Target Version: 3.50 Sample Matrix: None

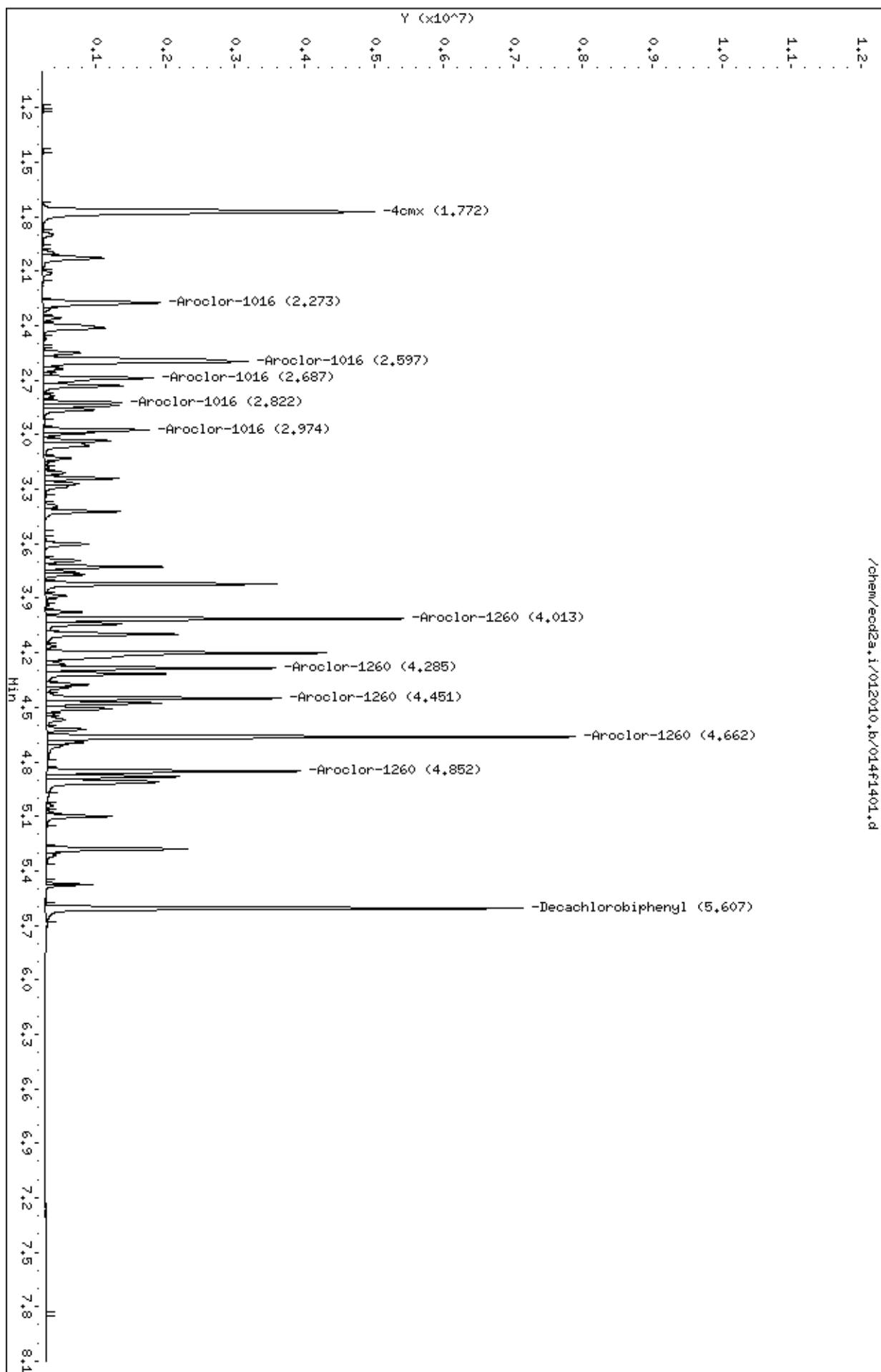
AMOUNTS

			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		( ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
1.772	1.772	0.000	6912800	100.000	103	80.00- 120.00	100.00
-----							
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.607	5.607	0.000	6360052	100.000	100	80.00- 120.00	100.00
-----							
1 Aroclor-1016					CAS #: 12674-11-2		
2.273	2.273	0.000	2198690	1000.00	974	80.00- 120.00	100.00
2.597	2.597	0.000	4649732	1000.00	1000	195.96- 235.96	211.48
2.687	2.687	0.000	1876323	1000.00	987	66.90- 106.90	85.34
2.822	2.822	0.000	959235	1000.00	975	24.29- 64.29	43.63
2.974	2.974	0.000	1426869	1000.00	984	46.26- 86.26	64.90
Average of Peak Amounts =					985		
-----							
7 Aroclor-1260					CAS #: 11096-82-5		
4.013	4.013	0.000	4447698	1000.00	1030	80.00- 120.00	100.00
4.285	4.285	0.000	2849302	1000.00	1020	42.54- 82.54	64.06
4.451	4.451	0.000	2992152	1000.00	1040	44.25- 84.25	67.27
4.662	4.662	0.000	6851364	1000.00	1040	135.08- 175.08	154.04
4.852	4.852	0.000	3286090	1000.00	1030	54.83- 94.83	73.88
Average of Peak Amounts =					1.03e+03		



Data File: /chem/eod2a.i/012010.b/014f1401.d  
Date : 20-JAN-2010 10:42  
Client ID: AR166001  
Sample Info: IMR100104-60 01  
Column phase: CLP1

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

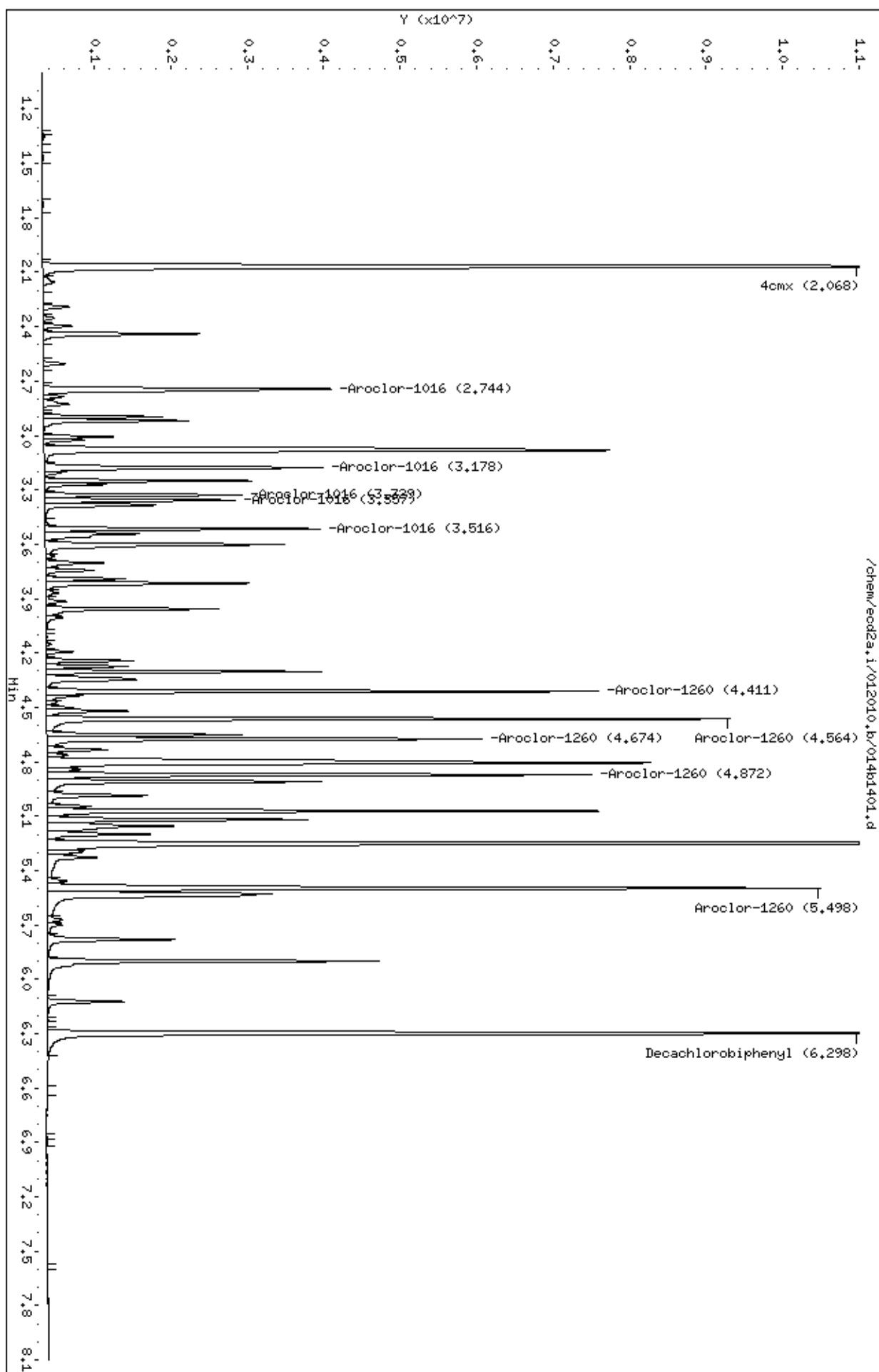
Data file : /chem/ecd2a.i/012010.b/014b1401.d  
Lab Smp Id: WAR100104-60 01 Client Smp ID: AR166001  
Inj Date : 20-JAN-2010 10:42  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-60 01  
Misc Info : |PCB\_CVS|1660||CVS|  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 14 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1660.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	( ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
2.068	2.068	0.000	15111554	100.000	108	80.00- 120.00	100.00
-----							
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.298	6.298	0.000	13338668	100.000	107	80.00- 120.00	100.00
-----							
1 Aroclor-1016					CAS #: 12674-11-2		
2.744	2.744	0.000	4641615	1000.00	1030	80.00- 120.00	100.00
3.178	3.178	0.000	3641300	1000.00	1060	59.59- 99.59	78.45
3.329	3.329	0.000	2107404	1000.00	1040	25.93- 65.93	45.40
3.357	3.357	0.000	2219093	1000.00	1050	27.78- 67.78	47.81
3.516	3.516	0.000	2980438	1000.00	1070	45.06- 85.06	64.21
Average of Peak Amounts =					1.05e+03		
-----							
7 Aroclor-1260					CAS #: 11096-82-5		
4.411	4.411	0.000	6300863	1000.00	1090	80.00- 120.00	100.00
4.564	4.564	0.000	7996784	1000.00	1100	108.00- 148.00	126.92
4.674	4.674	0.000	5508885	1000.00	1100	67.45- 107.45	87.43
4.872	4.872	0.000	6286593	1000.00	1080	79.37- 119.37	99.77
5.498	5.498	0.000	10332066	1000.00	1100	145.12- 185.12	163.98
Average of Peak Amounts =					1.1e+03		

Data File: /chem/ecod2a.i/012010.b/014b1401.d  
 Date : 20-JAN-2010 10:42  
 Client ID: AR166001  
 Sample Info: IMR100104-60 01  
 Column phase: CLP2

Instrument: ecod2a.i  
 Operator: JAOC  
 Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/028f2801.d  
Lab Smp Id: WAR100104-60 02 Client Smp ID: AR166002  
Inj Date : 20-JAN-2010 13:17  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-60 02  
Misc Info : |1660  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 28 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1660.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	( ug/L)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8			
1.772	1.772	0.000	6739545	100.000	100	80.00-	120.00	100.00
-----								
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.607	5.607	0.000	6161698	100.000	97.2	80.00-	120.00	100.00
-----								
1 Aroclor-1016					CAS #: 12674-11-2			
2.275	2.273	0.002	2129526	1000.00	943	80.00-	120.00	100.00
2.597	2.597	0.000	4530205	1000.00	979	195.96-	235.96	212.73
2.688	2.687	0.001	1818396	1000.00	957	66.90-	106.90	85.39
2.823	2.822	0.001	935634	1000.00	951	24.29-	64.29	43.94
2.975	2.974	0.001	1396003	1000.00	962	46.26-	86.26	65.55
Average of Peak Amounts =					959			
-----								
7 Aroclor-1260					CAS #: 11096-82-5			
4.014	4.013	0.001	4308956	1000.00	1000	80.00-	120.00	100.00
4.285	4.285	0.000	2708943	1000.00	970	42.54-	82.54	62.87
4.450	4.451	-0.001	2790743	1000.00	973	44.25-	84.25	64.77
4.663	4.662	0.001	6631352	1000.00	1010	135.08-	175.08	153.90
4.853	4.852	0.001	3227168	1000.00	1010	54.83-	94.83	74.89
Average of Peak Amounts =					993			

Data File: /chem/eod2a.i/012010.b/028f2801.d

Date : 20-JAN-2010 13:17

Client ID: AR166002

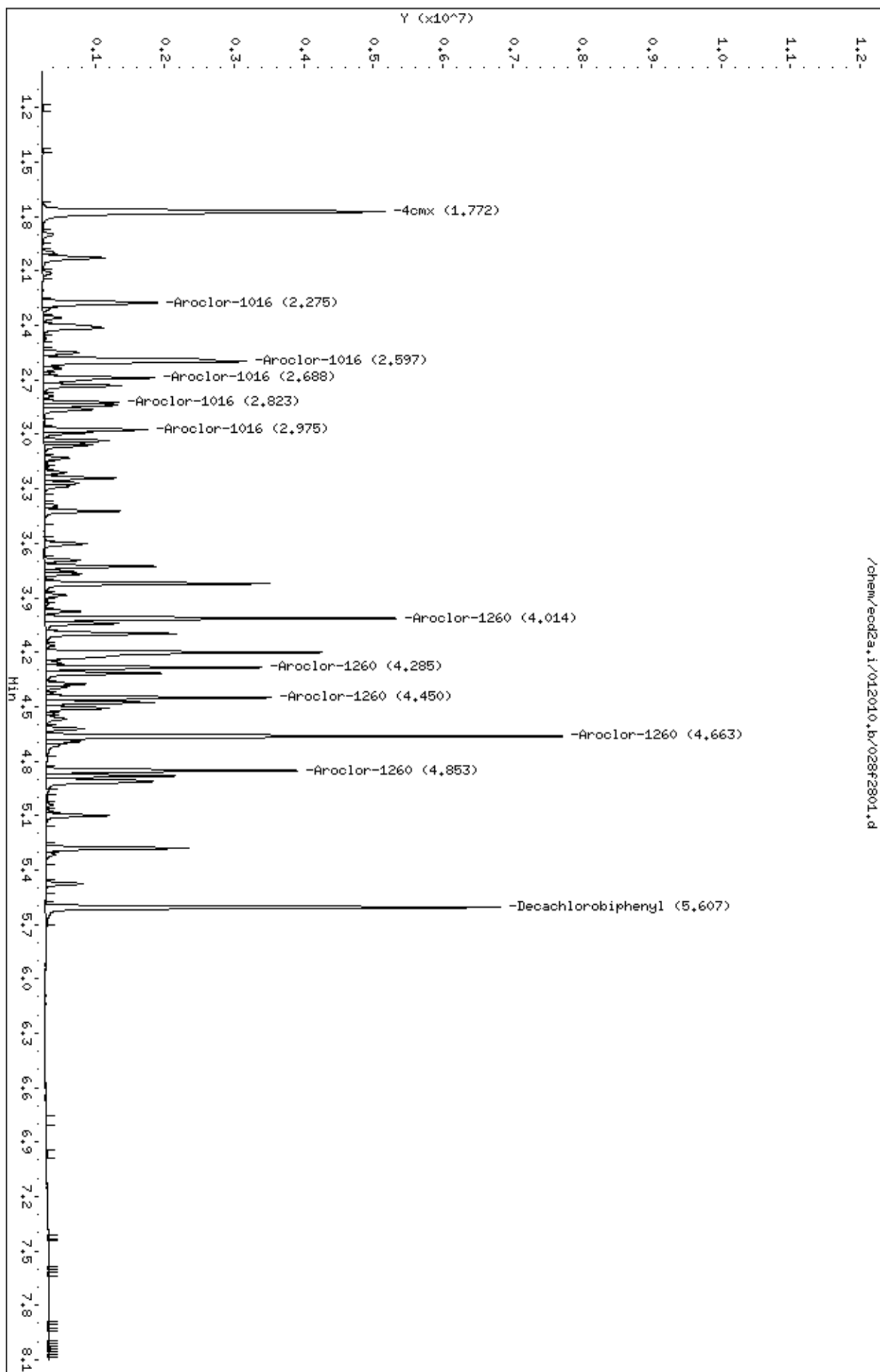
Sample Info: IMR100104-60 02

Column phase: CLP1

Instrument: eod2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

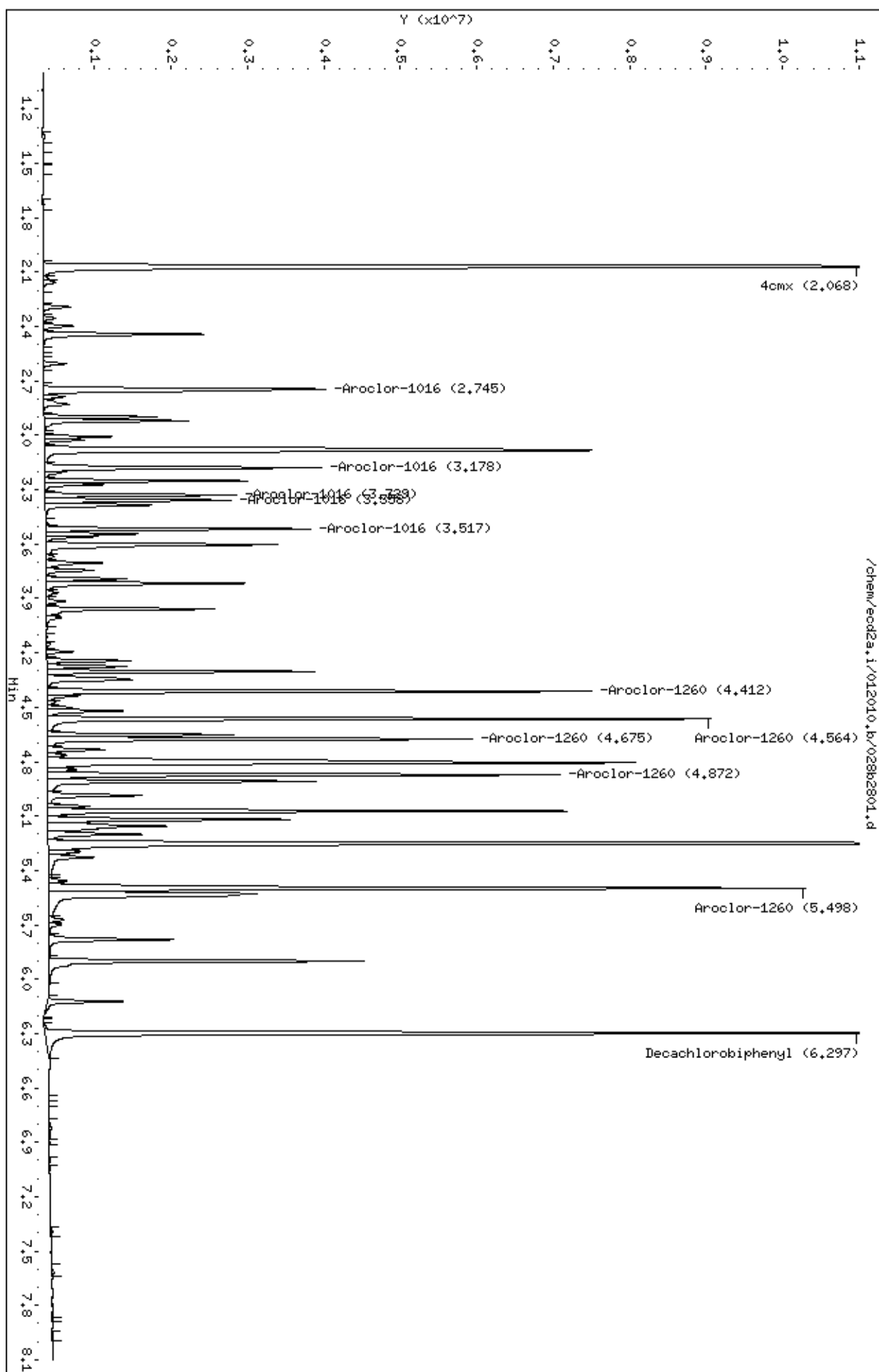
Data file : /chem/ecd2a.i/012010.b/028b2801.d  
Lab Smp Id: WAR100104-60 02 Client Smp ID: AR166002  
Inj Date : 20-JAN-2010 13:17  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |WAR100104-60 02  
Misc Info : |16660  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 28 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1660.sub  
Target Version: 3.50 Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	( ug/L)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8			
2.068	2.068	0.000	14748022	100.000	106	80.00-	120.00	100.00
-----								
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
6.297	6.298	-0.001	12463429	100.000	100	80.00-	120.00	100.00
-----								
1 Aroclor-1016					CAS #: 12674-11-2			
2.745	2.744	0.001	4494509	1000.00	1000	80.00-	120.00	100.00
3.178	3.178	0.000	3522680	1000.00	1020	59.59-	99.59	78.38
3.329	3.329	0.000	2024957	1000.00	1000	25.93-	65.93	45.05
3.358	3.357	0.001	2127507	1000.00	1010	27.78-	67.78	47.34
3.517	3.516	0.001	2863002	1000.00	1020	45.06-	85.06	63.70
Average of Peak Amounts =					1.01e+03			
-----								
7 Aroclor-1260					CAS #: 11096-82-5			
4.412	4.411	0.001	5974213	1000.00	1030	80.00-	120.00	100.00
4.564	4.564	0.000	7576802	1000.00	1040	108.00-	148.00	126.83
4.675	4.674	0.001	5176517	1000.00	1030	67.45-	107.45	86.65
4.872	4.872	0.000	5899725	1000.00	1020	79.37-	119.37	98.75
5.498	5.498	0.000	9862945	1000.00	1050	145.12-	185.12	165.09
Average of Peak Amounts =					1.04e+03			

Data File: /chem/ecod2a.i/012010.b/028b2801.d  
Date : 20-JAN-2010 13:17  
Client ID: AR166002  
Sample Info: IMR100104-60 02  
Column phase: CLP2

Instrument: ecod2a.i  
Operator: JAOC  
Column diameter: 0.25



8D  
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1262

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 01/20/10 01/20/10

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
S1 : 1.77			DCB: 5.61			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #	
=====	=====	=====	=====	=====	=====	
01 PIBLK01	WAR091130-99	01/20/10	0817	1.77	5.60	
02 ZZZZZ	ZZZZZ	01/20/10	0829	1.77	5.61	
03 AR125401	WAR091102-54	01/20/10	0840			
04 AR124201	WAR100104-42	01/20/10	0851			
05 AR124801	WAR100104-48	01/20/10	0902			
06 AR123201	WAR100104-32	01/20/10	0913			
07 AR122101	WAR100104-21	01/20/10	0924			
08 AR126201	WAR100104-62	01/20/10	0935			
09 AR166001	WAR100120-01	01/20/10	0946	1.77	5.61	
10 AR166002	WAR100120-02	01/20/10	0957	1.77	5.61	
11 AR166003	WAR100120-03	01/20/10	1009	1.77	5.61	
12 AR166004	WAR100120-04	01/20/10	1020	1.77	5.61	
13 AR166005	IAR100104-01	01/20/10	1031	1.77	5.61	
14 AR166001	WAR100104-60	01/20/10	1042	1.77	5.61	
15 AR126801	WAR091106-68	01/20/10	1053			
16 DDTANALOGSTD	WAR091219-DD	01/20/10	1104			
17 PIBLK02	WAR091130-99	01/20/10	1115	1.77	5.61	
18 PBLK01	1202019498	01/20/10	1126	1.77	5.61	
19 PBLK01LCS	1202019499	01/20/10	1138	1.77	5.61	
20 ZZZZZ	ZZZZZ	01/20/10	1149	1.77	5.61	
21 ZZZZZ	ZZZZZ	01/20/10	1200	1.77	5.61	
22 ZZZZZ	ZZZZZ	01/20/10	1211	1.77	5.61	
23 ZZZZZ	ZZZZZ	01/20/10	1222	1.77	5.61	
24 ZZZZZ	ZZZZZ	01/20/10	1233	1.77	5.61	
25 ZZZZZ	ZZZZZ	01/20/10	1244	1.77	5.61	
26 RE12-10-7281	244847004	01/20/10	1255	1.77	5.61	
27 ZZZZZ	ZZZZZ	01/20/10	1306	1.77	5.61	
28 AR166002	WAR100104-60	01/20/10	1317	1.77	5.61	
29 PIBLK03	WAR091130-99	01/20/10	1328	1.77	5.61	
30 ZZZZZ	ZZZZZ	01/20/10	1340	1.77	5.61	
31 ZZZZZ	ZZZZZ	01/20/10	1351	1.77	5.61	
32 ZZZZZ	ZZZZZ	01/20/10	1402	1.77	5.61	

QC LIMITS

S1 = 4cmx (+/- 0.03 MINUTES)

DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC limits.



8D  
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1262

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 01/20/10 01/20/10

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
S1 : 2.07			DCB: 6.30			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #	
=====	=====	=====	=====	=====	=====	
01 PIBLK01	WAR091130-99	01/20/10	0817	2.06	6.29	
02 ZZZZZ	ZZZZZ	01/20/10	0829	2.07	6.30	
03 AR125401	WAR091102-54	01/20/10	0840			
04 AR124201	WAR100104-42	01/20/10	0851			
05 AR124801	WAR100104-48	01/20/10	0902			
06 AR123201	WAR100104-32	01/20/10	0913			
07 AR122101	WAR100104-21	01/20/10	0924			
08 AR126201	WAR100104-62	01/20/10	0935			
09 AR166001	WAR100120-01	01/20/10	0946	2.07	6.30	
10 AR166002	WAR100120-02	01/20/10	0957	2.07	6.30	
11 AR166003	WAR100120-03	01/20/10	1009	2.07	6.30	
12 AR166004	WAR100120-04	01/20/10	1020	2.07	6.30	
13 AR166005	IAR100104-01	01/20/10	1031	2.07	6.30	
14 AR166001	WAR100104-60	01/20/10	1042	2.07	6.30	
15 AR126801	WAR091106-68	01/20/10	1053			
16 DDTANALOGSTD	WAR091219-DD	01/20/10	1104			
17 PIBLK02	WAR091130-99	01/20/10	1115	2.07	6.30	
18 PBLK01	1202019498	01/20/10	1126	2.07	6.30	
19 PBLK01LCS	1202019499	01/20/10	1138	2.07	6.30	
20 ZZZZZ	ZZZZZ	01/20/10	1149	2.07	6.30	
21 ZZZZZ	ZZZZZ	01/20/10	1200	2.07	6.30	
22 ZZZZZ	ZZZZZ	01/20/10	1211	2.07	6.30	
23 ZZZZZ	ZZZZZ	01/20/10	1222	2.07	6.30	
24 ZZZZZ	ZZZZZ	01/20/10	1233	2.07	6.30	
25 ZZZZZ	ZZZZZ	01/20/10	1244	2.07	6.30	
26 RE12-10-7281	244847004	01/20/10	1255	2.07	6.30	
27 ZZZZZ	ZZZZZ	01/20/10	1306	2.07	6.30	
28 AR166002	WAR100104-60	01/20/10	1317	2.07	6.30	
29 PIBLK03	WAR091130-99	01/20/10	1328	2.07	6.30	
30 ZZZZZ	ZZZZZ	01/20/10	1340	2.07	6.30	
31 ZZZZZ	ZZZZZ	01/20/10	1351	2.07	6.30	
32 ZZZZZ	ZZZZZ	01/20/10	1402	2.07	6.30	

QC LIMITS

S1 = 4cmx (+/- 0.03 MINUTES)

DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC limits.

## Identification Summary

Page 1 of 1

SDG Number: 10-1262

Client ID: LCS for batch 943204

Lab Sample ID: 1202019499

Data File: 019f1901.d

Data File: 019b1901.d

Inst: ECD2A.I\_1

Inst: ECD2A.I\_2

Column: CLP1

Column: CLP2

Analyzed: 20-JAN-10 11:38

Analyzed: 20-JAN-10 11:38

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							2.6
Column 1	1	2.27	2.24 – 2.3	21.9		ug/kg	
	2	2.6	2.57 – 2.63	21.8		ug/kg	
	3	2.69	2.66 – 2.72	21.5		ug/kg	
	4	2.82	2.79 – 2.85	21.5		ug/kg	
	5	2.97	2.94 – 3	27.6		ug/kg	
					22.8		
Column 2	1	2.74	2.71 – 2.77	22.1		ug/kg	
	2	3.18	3.15 – 3.21	22.5		ug/kg	
	3	3.33	3.3 – 3.36	22		ug/kg	
	4	3.36	3.33 – 3.39	22.1		ug/kg	
	5	3.52	3.49 – 3.55	22.5		ug/kg	
					22.3		
Aroclor-1260							2.59
Column 1	1	4.01	3.98 – 4.04	24.7		ug/kg	
	2	4.29	4.25 – 4.31	24.6		ug/kg	
	3	4.45	4.42 – 4.48	24.9		ug/kg	
	4	4.66	4.63 – 4.69	25.6		ug/kg	
	5	4.85	4.82 – 4.88	26.1		ug/kg	
					25.2		
Column 2	1	4.41	4.38 – 4.44	25.3		ug/kg	
	2	4.56	4.53 – 4.59	25.8		ug/kg	
	3	4.68	4.64 – 4.7	25.5		ug/kg	
	4	4.87	4.84 – 4.9	25.5		ug/kg	
	5	5.5	5.47 – 5.53	27		ug/kg	
					25.8		

# QUALITY CONTROL DATA

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

<b>SDG Number:</b>	<b>10-1262</b>	<b>Matrix:</b>	<b>SOIL</b>
<b>Lab Sample ID:</b>	<b>1202019498</b>		
<b>Client Sample:</b>	<b>QC for batch 943204</b>	<b>Client:</b>	<b>LANL010</b>
<b>Client ID:</b>	<b>MB for batch 943204</b>	<b>Method:</b>	<b>SW846 8082</b>
<b>Batch ID:</b>	<b>943205</b>	<b>Inst:</b>	<b>ECD2A.I</b>
<b>Run Date:</b>	<b>01/20/2010 11:26</b>	<b>Analyst:</b>	<b>JAOC</b>
<b>Prep Date:</b>	<b>01/19/2010 20:46</b>	<b>Aliquot:</b>	<b>30 g</b>
<b>Data File:</b>	<b>018f1801-1.d</b>	<b>Column:</b>	<b>1 CLP1</b>
	<b>018b1801-1.d</b>		<b>2 CLP2</b>
		<b>Project:</b>	<b>QC</b>
		<b>SOP Ref:</b>	<b>GL-OA-E-040</b>
		<b>Dilution:</b>	<b>1</b>
		<b>Inj. Vol:</b>	<b>1 uL</b>
		<b>Final Volume:</b>	<b>1 mL</b>
		<b>Level:</b>	<b>LOW</b>

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.33	ug/kg	1.11	3.33	1
11104-28-2	Aroclor-1221	U	3.33	ug/kg	1.11	3.33	1
11141-16-5	Aroclor-1232	U	3.33	ug/kg	1.11	3.33	1
53469-21-9	Aroclor-1242	U	3.33	ug/kg	1.11	3.33	1
12672-29-6	Aroclor-1248	U	3.33	ug/kg	1.11	3.33	1
11097-69-1	Aroclor-1254	U	3.33	ug/kg	1.11	3.33	1
11096-82-5	Aroclor-1260	U	3.33	ug/kg	1.11	3.33	1

Data File: /chem/ecd2a.i/012010.b/018f1801-1.d  
Report Date: 21-Jan-2010 14:05

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/018f1801-1.d  
Lab Smp Id: 1202019498 Client Smp ID: PBLK01  
Inj Date : 20-JAN-2010 11:26  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019498|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MB|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 18 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1262.sub  
Target Version: 3.50 Sample Matrix: Soil  
Processing Host: hpc1p1

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vi \* Ws \* (100 - M)/100) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

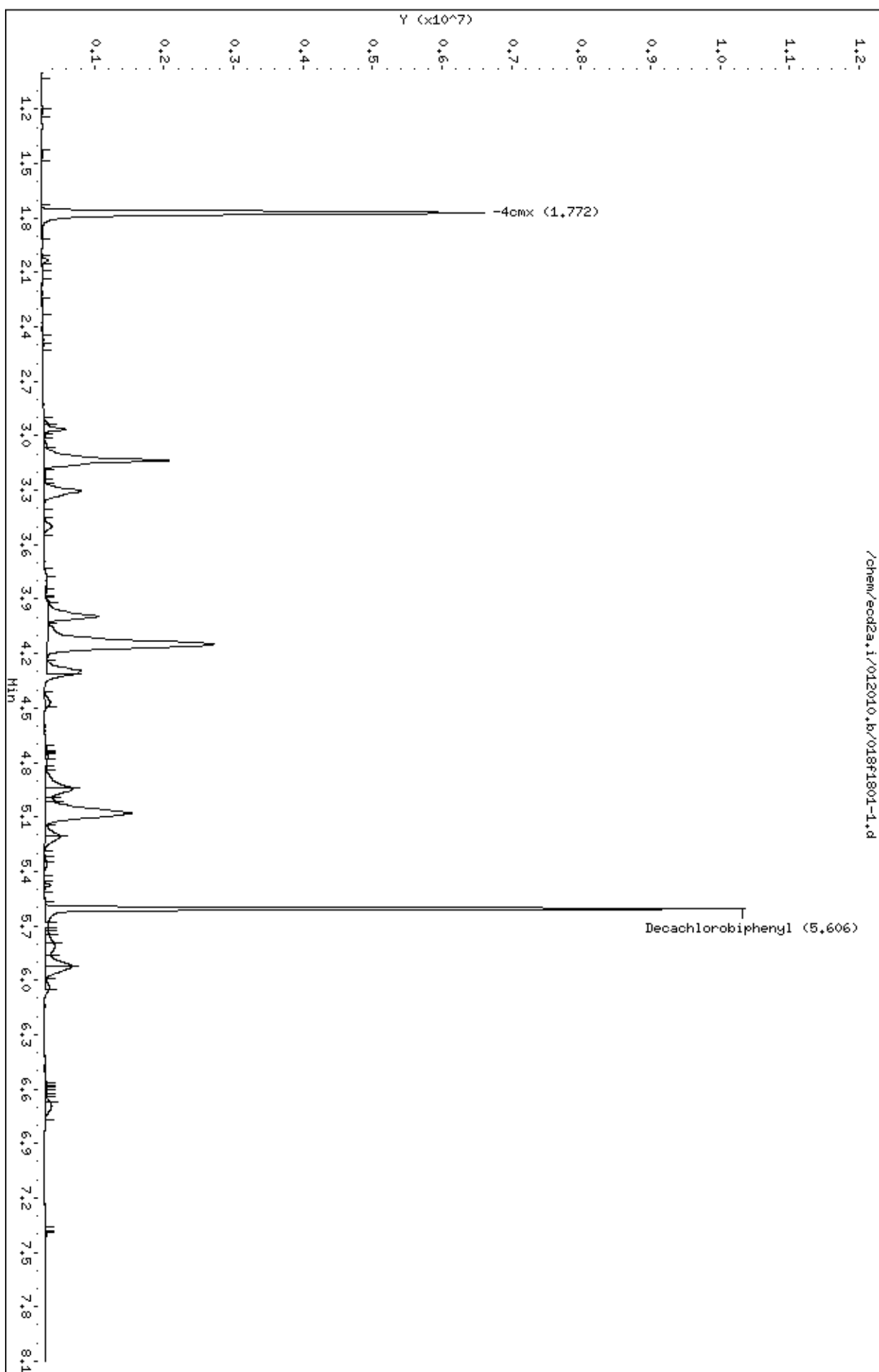
Cpnd Variable Local Compound Variable

		CONCENTRATIONS							
		ON-COL	FINAL						
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO			
==	=====	=====	=====	=====	=====	=====		=====	
\$ 11 4cmx					CAS #: 877-09-8				
1.772	1.772	0.000	8889881	132.620	4.4 80.00- 120.00	100.00			
-----									
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3				
5.606	5.607	-0.001	9206422	145.213	4.8 80.00- 120.00	100.00			
-----									

Data File: /chem/eod2a.i/012010.b/018f1801-1.d  
Date : 20-JAN-2010 11:26  
Client ID: PBLK01  
Sample Info: 1120201949811  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25

Page 1



Data File: /chem/ecd2a.i/012010.b/018b1801-1.d  
Report Date: 21-Jan-2010 14:04

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/018b1801-1.d  
Lab Smp Id: 1202019498 Client Smp ID: PBLK01  
Inj Date : 20-JAN-2010 11:26  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019498|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MB|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 18 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1262.sub  
Target Version: 3.50 Sample Matrix: Soil  
Processing Host: hpclp1

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

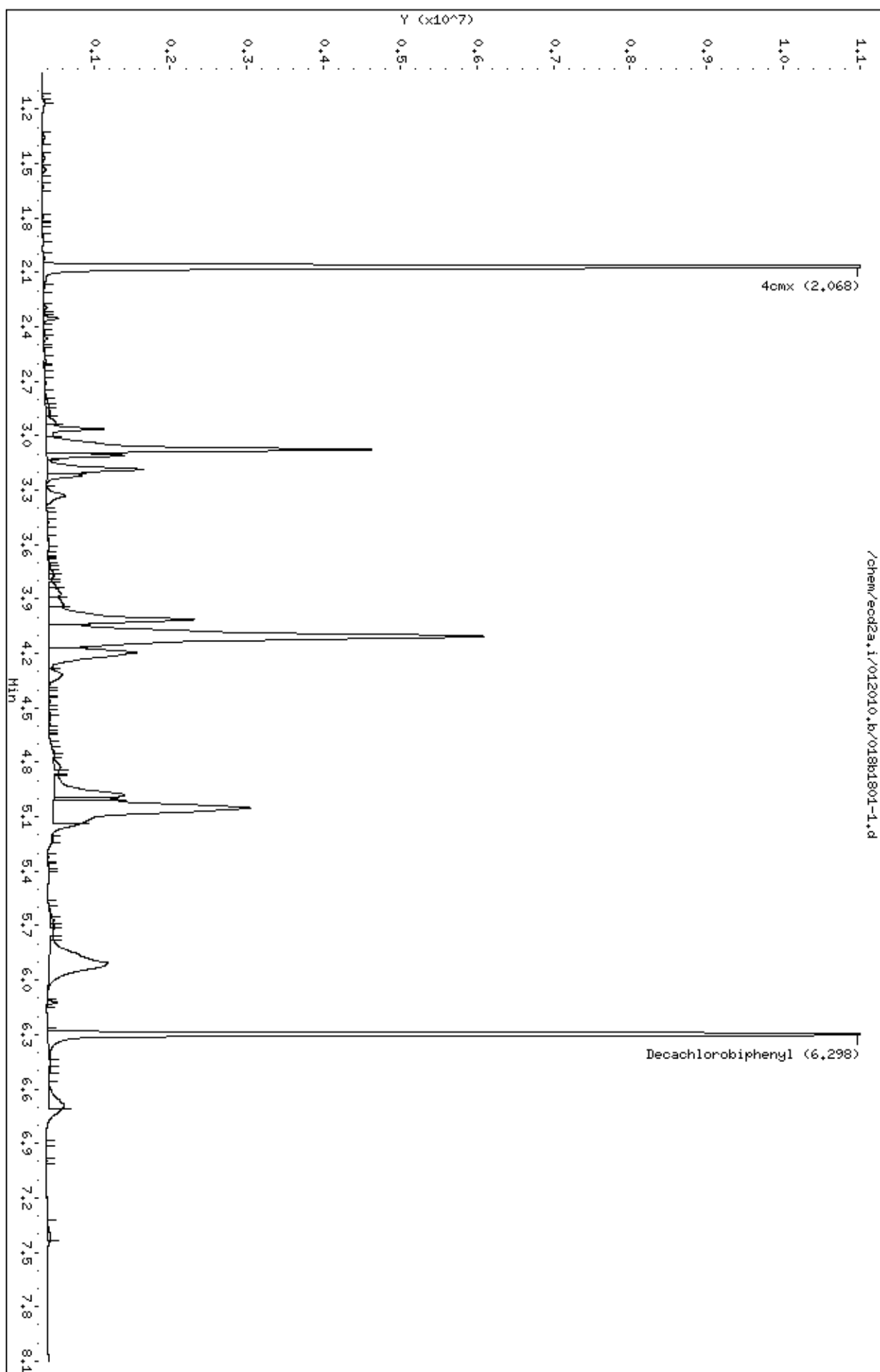
Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
		ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8	
2.068	2.068	0.000	19726832 141.353	4.7	80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.298	6.298	0.000	19435554 156.044	5.2	80.00- 120.00	100.00
-----						

Data File: /chem/eod2a.i/012010.b/018b1801-1.d  
Date : 20-JAN-2010 11:26  
Client ID: PBLK01  
Sample Info: 1120201949811  
Volume Injected (uL): 1.0  
Column phase: CLP2

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25





**PCB**  
**Certificate of Analysis**  
**Sample Summary**

<b>SDG Number:</b>	<b>10-1262</b>	<b>Matrix:</b>	<b>SOIL</b>
<b>Lab Sample ID:</b>	<b>1202019499</b>		
<b>Client Sample:</b>	<b>QC for batch 943204</b>	<b>Client:</b>	<b>LANL010</b>
<b>Client ID:</b>	<b>LCS for batch 943204</b>	<b>Method:</b>	<b>SW846 8082</b>
<b>Batch ID:</b>	<b>943205</b>	<b>Inst:</b>	<b>ECD2A.I</b>
<b>Run Date:</b>	<b>01/20/2010 11:38</b>	<b>Analyst:</b>	<b>JAOC</b>
<b>Prep Date:</b>	<b>01/19/2010 20:46</b>	<b>Aliquot:</b>	<b>30 g</b>
<b>Data File:</b>	<b>019f1901-1.d</b>	<b>Column:</b>	<b>1 CLP1</b>
	<b>019b1901-1.d</b>		<b>2 CLP2</b>

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		22.9	ug/kg	1.11	3.33	1
11104-28-2	Aroclor-1221	U	3.33	ug/kg	1.11	3.33	1
11141-16-5	Aroclor-1232	U	3.33	ug/kg	1.11	3.33	1
53469-21-9	Aroclor-1242	U	3.33	ug/kg	1.11	3.33	1
12672-29-6	Aroclor-1248	U	3.33	ug/kg	1.11	3.33	1
11097-69-1	Aroclor-1254	U	3.33	ug/kg	1.11	3.33	1
11096-82-5	Aroclor-1260		25.8	ug/kg	1.11	3.33	2

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/019f1901-1.d  
Lab Smp Id: 1202019499 Client Smp ID: PBLK01LCS  
Inj Date : 20-JAN-2010 11:38  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019499|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|LCS|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 19 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1262.sub  
Target Version: 3.50 Sample Matrix: Soil  
Processing Host: hpc1p1

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vi \* Ws \* (100 - M)/100) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

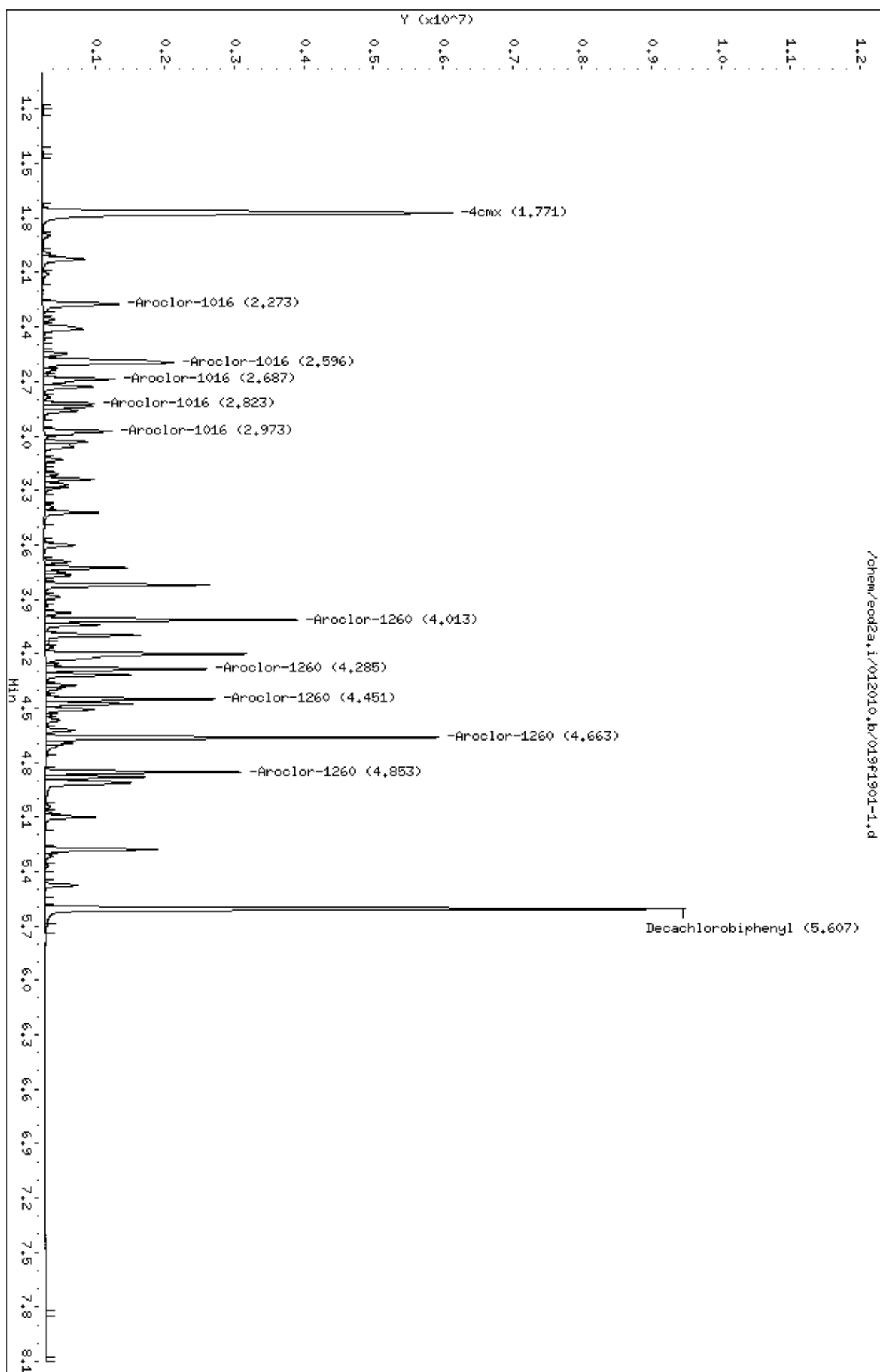
Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
\$ 11 4cmx CAS #: 877-09-8							
1.771	1.772	-0.001	8323513	124.171	4.1 80.00- 120.00	100.00	
-----							
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3							
5.607	5.607	0.000	8506547	134.174	4.5 80.00- 120.00	100.00	
-----							
1 Aroclor-1016 CAS #: 12674-11-2							
2.273	2.273	0.000	1484964	657.680	21.9 80.00- 120.00	100.00	
2.596	2.597	-0.001	3022099	652.874	21.8 195.96- 235.96	203.51	
2.687	2.687	0.000	1224094	644.157	21.5 66.90- 106.90	82.43	
2.823	2.822	0.001	633892	644.529	21.5 24.29- 64.29	42.69	

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		(ug/Kg)	TARGET	RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====	
1 Aroclor-1016 (continued)									
2.973	2.974	-0.001	1199691	827.200	27.6	46.26-	86.26	80.79	
Average of Peak Concentrations =					22.8				
-----									
7 Aroclor-1260					CAS #:	11096-82-5			
4.013	4.013	0.000	3185673	740.395	24.7	80.00-	120.00	100.00	
4.285	4.285	0.000	2059062	737.743	24.6	42.54-	82.54	64.64	
4.451	4.451	0.000	2142407	747.309	24.9	44.25-	84.25	67.25	
4.663	4.662	0.001	5057896	768.771	25.6	135.08-	175.08	158.77	
4.853	4.852	0.001	2502252	783.591	26.1	54.83-	94.83	78.55	
Average of Peak Concentrations =					25.2				
-----									

Data File: /chem/eod2a.i/012010.b/019f1901-1.d  
Date : 20-JAN-2010 11:38  
Client ID: PBLK01LCS  
Sample Info: 11202019499141  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25



Data File: /chem/ecd2a.i/012010.b/019b1901-1.d  
Report Date: 21-Jan-2010 14:04

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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/019b1901-1.d  
Lab Smp Id: 1202019499 Client Smp ID: PBLK01LCS  
Inj Date : 20-JAN-2010 11:38  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019499|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|LCS|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 19 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1262.sub  
Target Version: 3.50 Sample Matrix: Soil  
Processing Host: hpclp1

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

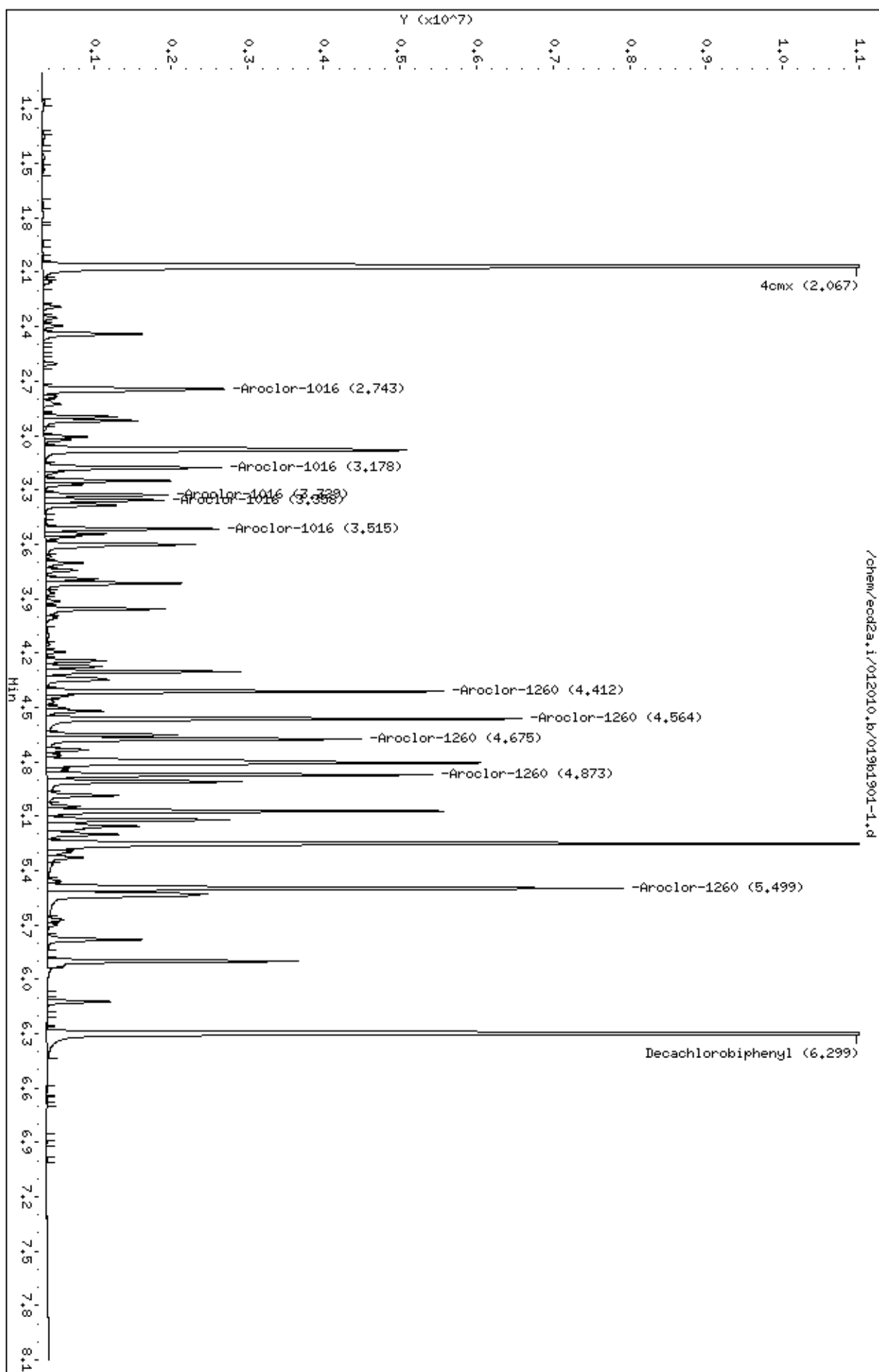
Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====
-----							
\$ 11 4cmx					CAS #: 877-09-8		
2.067	2.068	-0.001	18404875	131.881	4.4 80.00- 120.00	100.00	
-----							
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.299	6.298	0.001	18114339	145.436	4.8 80.00- 120.00	100.00	
-----							
1 Aroclor-1016					CAS #: 12674-11-2		
2.743	2.744	-0.001	2976782	663.086	22.1 80.00- 120.00	100.00	
3.178	3.178	0.000	2316918	674.674	22.5 59.59- 99.59	77.83	
3.329	3.329	0.000	1334489	661.499	22.0 25.93- 65.93	44.83	
3.358	3.357	0.001	1399179	664.514	22.2 27.78- 67.78	47.00	

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET	RANGE	RATIO	
==	=====	=====		=====	=====	=====	=====	=====	
1 Aroclor-1016 (continued)									
3.515	3.516	-0.001		1885708	674.800	22.5	45.06-	85.06	63.35
Average of Peak Concentrations =						22.2			
-----									
7 Aroclor-1260					CAS #: 11096-82-5				
4.412	4.411	0.001		4398795	760.353	25.3	80.00-	120.00	100.00
4.564	4.564	0.000		5630047	775.153	25.8	108.00-	148.00	127.99
4.675	4.674	0.001		3835500	766.461	25.5	67.45-	107.45	87.19
4.873	4.872	0.001		4431145	764.625	25.5	79.37-	119.37	100.74
5.499	5.498	0.001		7613487	810.424	27.0	145.12-	185.12	173.08
Average of Peak Concentrations =						25.8			
-----									

Data File: /chem/eod2a.i/012010.b/019b1901-1.d  
Date : 20-JAN-2010 11:38  
Client ID: PBLK01LCS  
Sample Info: 1120201949911  
Volume Injected (uL): 1.0  
Column phase: CLP2

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25



# MISCELLANEOUS DATA



DATE: 01/21/2010

METHOD: ECD2-F-8082-111209A.m

OPERATOR:JAOC

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

HARDWARE CONFIGURATION &amp; METHOD SUMMARY: No. 1 on pg. 1

SOLVENT LOT:DA699

ALUMINA LOT:1240553-A

COPPER LOT:236547-A

## Calibration &amp; QC Information

Initial Calibration Dates: See Calibration History and Standards Log

Initial Calibration Std ID's: See Calibration History and Standards Log

GEL SOP GL-OA-E-040

EPA Method: 8082 Polychlorinated Biphenyls PCBs by Gas Chromatography

Sequence Number:012010.B

Injection Volume: 1.0 uL

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR091130-99 IB	JAOC	20-JAN-2010 08:17		012010	1.0		CLEAN
002f0201.d	WAR100104-60 01	JAOC	20-JAN-2010 08:29		012010	1.0		DUSE
003f0301.d	WAR091102-54	JAOC	20-JAN-2010 08:40		012010	1.0		PASSES BOTH COLUMNS
004f0401.d	WAR091217-42	JAOC	20-JAN-2010 08:51		012010	1.0		PASSES BOTH COLUMNS
005f0501.d	WAR091217-48	JAOC	20-JAN-2010 09:02		012010	1.0		PASSES BOTH COLUMNS
006f0601.d	WAR100104-32	JAOC	20-JAN-2010 09:13		012010	1.0		PATTERN ONLY
007f0701.d	WAR100104-21	JAOC	20-JAN-2010 09:24		012010	1.0		PATTERN ONLY
008f0801.d	WAR100104-62	JAOC	20-JAN-2010 09:35		012010	1.0		PASSES BOTH COLUMNS
009f0901.d	WAR100120-01 60	JAOC	20-JAN-2010 09:46		012010	1.0		1660 LEVEL 1
010f1001.d	WAR100120-02 60	JAOC	20-JAN-2010 09:57		012010	1.0		1660 LEVEL 2
011f1101.d	WAR100120-03 60	JAOC	20-JAN-2010 10:09		012010	1.0		1660 LEVEL 3
012f1201.d	WAR100120-04 60	JAOC	20-JAN-2010 10:20		012010	1.0		1660 LEVEL 4
013f1301.d	IAR100104-01 60	JAOC	20-JAN-2010 10:31		012010	1.0		1660 LEVEL 5
014f1401.d	WAR100104-60 01	JAOC	20-JAN-2010 10:42		012010	1.0		PASSES BOTH COLUMNS
015f1501.d	WAR091106-68	JAOC	20-JAN-2010 10:53		012010	1.0		PASSES BOTH COLUMNS

Instrument Batch: /chem/ecd2a.i/012010.b

Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
016f1601.d	WAR091219-DDT	JAOC	20-JAN-2010 11:04		012010	1.0		DDT

017f1701.d	WAR091130-99 02	JAOC	20-JAN-2010 11:15		012010		1.0	CLEAN
018f1801.d	1202019498	JAOC	20-JAN-2010 11:26	943205	10-1256		1.0 QC A	UPLOAD BOTH, USE HIGHER
019f1901.d	1202019499	JAOC	20-JAN-2010 11:38	943205	10-1256		1.0 QC A	UPLOAD BOTH, USE HIGHER
020f2001.d	244837001	JAOC	20-JAN-2010 11:49	943205	10-1256		1.0 LANL	UPLOAD BOTH, USE HIGHER
021f2101.d	244837002	JAOC	20-JAN-2010 12:00	943205	10-1256		1.0 LANL	UPLOAD BOTH, USE HIGHER
022f2201.d	244837003	JAOC	20-JAN-2010 12:11	943205	10-1256		1.0 LANL	UPLOAD BOTH, USE HIGHER
023f2301.d	244837004	JAOC	20-JAN-2010 12:22	943205	10-1256		1.0 LANL	UPLOAD BOTH, USE HIGHER
024f2401.d	244837005	JAOC	20-JAN-2010 12:33	943205	10-1256		1.0 LANL	UPLOAD BOTH, USE HIGHER
025f2501.d	244837006	JAOC	20-JAN-2010 12:44	943205	10-1256		1.0 LANL	UPLOAD BOTH, USE HIGHER
026f2601.d	244847004	JAOC	20-JAN-2010 12:55	943205	10-1262		5.0 LANL	UPLOAD BOTH, USE HIGHER
027f2701.d	244852001	JAOC	20-JAN-2010 13:06	943205	10-1263		1.0 LANL	UPLOAD BOTH, USE HIGHER
028f2801.d	WAR100104-60 02	JAOC	20-JAN-2010 13:17		012010		1.0 CCV	PASSES BOTH COLUMNS
029f2901.d	WAR091130-99 03	JAOC	20-JAN-2010 13:28		012010		1.0 IB	CLEAN
030f3001.d	244852002	JAOC	20-JAN-2010 13:40	943205	10-1263		1.0 LANL	UPLOAD BOTH, USE HIGHER
031f3101.d	244881001	JAOC	20-JAN-2010 13:51	943205	10-1264-1		1.0 LANL	UPLOAD BOTH, USE HIGHER
032f3201.d	1202019500	JAOC	20-JAN-2010 14:02	943205	10-1264-1		1.0 QC A	UPLOAD BOTH, USE HIGHER
033f3301.d	1202019501	JAOC	20-JAN-2010 14:13	943205	10-1264-1		1.0 QC A	UPLOAD BOTH, USE HIGHER
034f3401.d	244881002	JAOC	20-JAN-2010 14:24	943205	10-1264-1		10.0 LANL	UPLOAD BOTH, USE HIGHER
035f3501.d	244881003	JAOC	20-JAN-2010 14:35	943205	10-1264-1		1.0 LANL	UPLOAD BOTH, USE HIGHER

Instrument Batch: /chem/ecd2a.i/012010.b

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Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	244881004	JAOC	20-JAN-2010 14:46	943205	10-1264-1		1.0 LANL	UPLOAD BOTH, USE HIGHER
037f3701.d	WAR100104-60 03	JAOC	20-JAN-2010 14:57		012010		1.0	PASSES BOTH COLUMNS
038f3801.d	WAR091130-99 04	JAOC	20-JAN-2010 15:09		012010		1.0	CLEAN
039f3901.d	1202018783	JAOC	20-JAN-2010 15:20	942921	244874		1.0 QC A	UPLOAD BOTH, USE HIGHER
040f4001.d	1202018784	JAOC	20-JAN-2010 15:31	942921	244874		1.0 QC A	UPLOAD BOTH, USE HIGHER
041f4101.d	244937001	JAOC	20-JAN-2010 15:42	942921	244937		1.0 WSRB	UPLOAD BOTH, USE HIGHER

042f4201.d	1202018785	JAOC	20-JAN-2010 15:53	942921	244937		1.0 MS		UPLOAD BOTH, USE HIGHER
043f4301.d	1202018786	JAOC	20-JAN-2010 16:04	942921	244937		1.0 MSD		UPLOAD BOTH, USE HIGHER
044f4401.d	244937002	JAOC	20-JAN-2010 16:15	942921	244937		1.0 WSRB		UPLOAD BOTH, USE HIGHER
045f4501.d	244874002	JAOC	20-JAN-2010 16:26	942921	244874		1.0 GEEL		SENT FOR RE, LOW SURROGATES
046f4601.d	WAR100104-60 04	JAOC	20-JAN-2010 16:37		012010		1.0		PASSES BOTH COLUMNS
047f4701.d	WAR091130-99 05	JAOC	20-JAN-2010 16:48		012010		1.0		CLEAN
048f4801.d	1202017036	JAOC	20-JAN-2010 17:00	942243	2010MDLVECD21254-S		1.0 QC A		UPLOAD BOTH, USE BOTH
049f4901.d	1202017037	JAOC	20-JAN-2010 17:11	942243	2010MDLVECD21254-S		1.0 QC A		UPLOAD BOTH, USE BOTH
050f5001.d	244388001	JAOC	20-JAN-2010 17:22	942243	2010MDLVECD21254-S		1.0 QCQA		UPLOAD BOTH, USE BOTH
051f5101.d	244388002	JAOC	20-JAN-2010 17:33	942243	2010MDLVECD21254-S		1.0 QCQA		UPLOAD BOTH, USE BOTH
052f5201.d	244388003	JAOC	20-JAN-2010 17:44	942243	2010MDLVECD21254-S		1.0 QCQA		UPLOAD BOTH, USE BOTH
053f5301.d	244388004	JAOC	20-JAN-2010 17:55	942243	2010MDLVECD21254-S		1.0 QCQA		UPLOAD BOTH, USE BOTH
054f5401.d	WAR100104-60 05	JAOC	20-JAN-2010 18:06		012010		1.0		PASSES BOTH COLUMNS
055f5501.d	WAR091130-99 06	JAOC	20-JAN-2010 18:18		012010		1.0		CLEAN

Instrument Batch: /chem/ecd2a.i/012010.b

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Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch		SDG	Dilution	Client		Comments
056f5601.d	1202016956	JAOC	20-JAN-2010 18:29	942219	2010MDLVECD21254-L		1.0	QC A		UPLOAD BOTH, USE BOTH
057f5701.d	1202016957	JAOC	20-JAN-2010 18:40	942219	2010MDLVECD21254-L		1.0	QC A		UPLOAD BOTH, USE BOTH
058f5801.d	243868001	JAOC	20-JAN-2010 18:51	942219	2010MDLVECD21254-L		1.0	QCQA		UPLOAD BOTH, USE BOTH
059f5901.d	243868002	JAOC	20-JAN-2010 19:02	942219	2010MDLVECD21254-L		1.0	QCQA		UPLOAD BOTH, USE BOTH
060f6001.d	243868003	JAOC	20-JAN-2010 19:13	942219	2010MDLVECD21254-L		1.0	QCQA		UPLOAD BOTH, USE BOTH
061f6101.d	243868004	JAOC	20-JAN-2010 19:24	942219	2010MDLVECD21254-L		1.0	QCQA		UPLOAD BOTH, USE BOTH
062f6201.d	WAR100104-60 06	JAOC	20-JAN-2010 19:35		012010		1.0			PASSES BOTH COLUMNS
063f6301.d	WAR091130-99 07	JAOC	20-JAN-2010 19:47		012010		1.0			CLEAN

Data File: /chem/ecd2a.i/012010.b/032b3201.d  
Report Date: 21-Jan-2010 14:07

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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/032b3201.d  
Lab Smp Id: 1202019500 Client Smp ID: RE12-10-8096MS  
Inj Date : 20-JAN-2010 14:02  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019500|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MS|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 32 QC Sample: MS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.sub  
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.12000	Weight of sample extracted (g)
M	6.13020	% Moisture

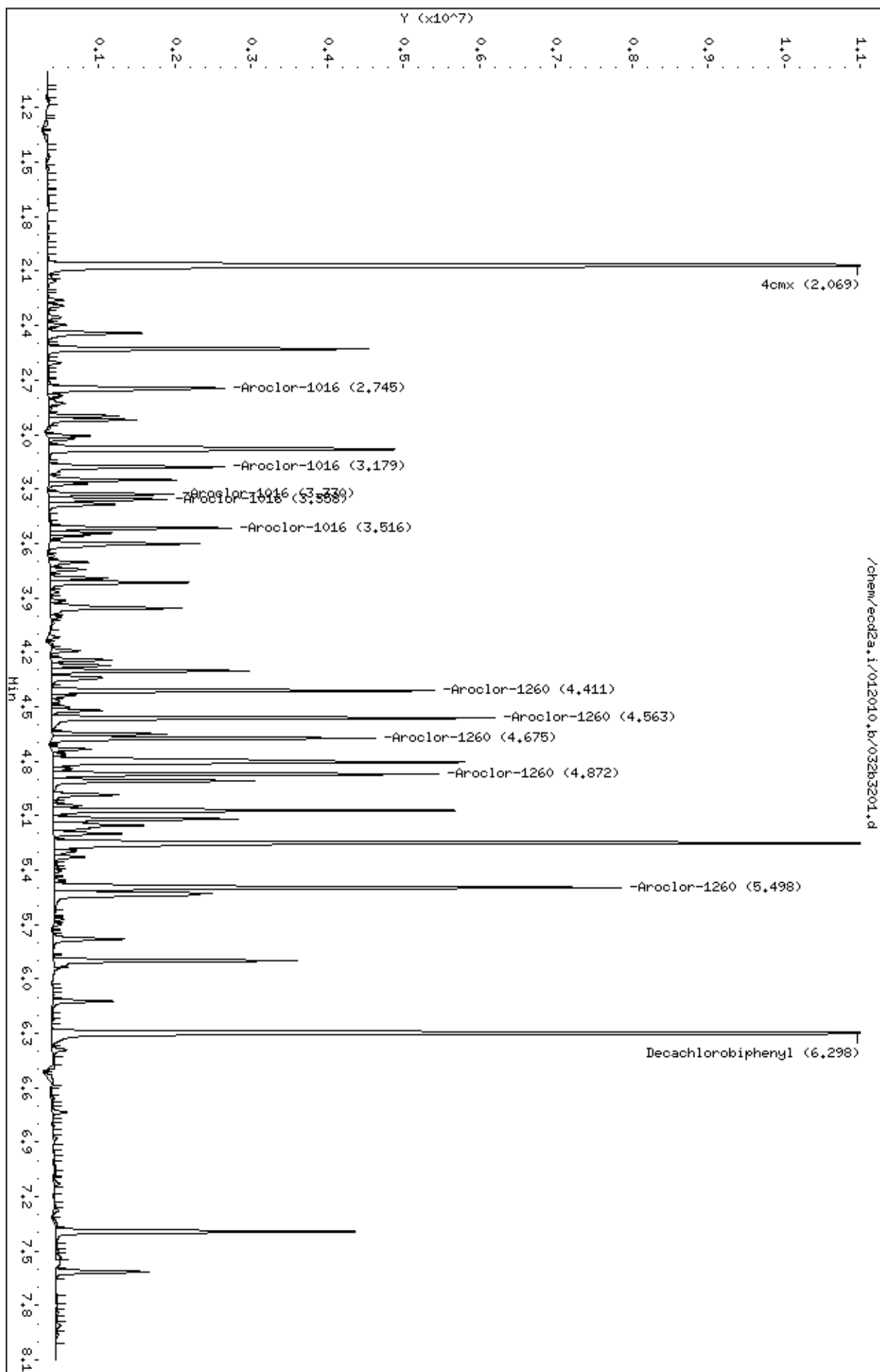
Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====
-----							
\$ 11	4cmx				CAS #: 877-09-8		
2.069	2.068	0.001	16875005	120.918	4.3 80.00-	120.00	100.00
-----							
\$ 12	Decachlorobiphenyl				CAS #: 2051-24-3		
6.298	6.298	0.000	16680678	133.926	4.7 80.00-	120.00	100.00
-----							
1	Aroclor-1016				CAS #: 12674-11-2		
2.745	2.744	0.001	2809573	625.839	22.1 80.00-	120.00	100.00
3.179	3.178	0.001	2338019	680.818	24.1 59.59-	99.59	83.22
3.330	3.329	0.001	1329972	659.260	23.3 25.93-	65.93	47.34
3.358	3.357	0.001	1341249	637.001	22.5 27.78-	67.78	47.74
3.516	3.516	0.000	1925404	689.006	24.4 45.06-	85.06	68.53
Average of Peak Concentrations =				23.3			
-----							

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.411	4.411	0.000	4342275	750.583	26.5 80.00- 120.00	100.00
4.563	4.564	-0.001	5137682	707.364	25.0 108.00- 148.00	118.32
4.675	4.674	0.001	3826884	764.740	27.0 67.45- 107.45	88.13
4.872	4.872	0.000	4360257	752.393	26.6 79.37- 119.37	100.41
5.498	5.498	0.000	7391456	786.790	27.8 145.12- 185.12	170.22
Average of Peak Concentrations =				26.6		

Data File: /chem/eod2a.i/012010.b/032b3201.d  
Date : 20-JAN-2010 14:02  
Client ID: RE12-10-8096HS  
Sample Info: 11202019500141  
Volume Injected (uL): 1.0  
Column phase: CLP2

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25



Data File: /chem/ecd2a.i/012010.b/032f3201.d  
Report Date: 21-Jan-2010 14:07

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/032f3201.d  
Lab Smp Id: 1202019500 Client Smp ID: RE12-10-8096MS  
Inj Date : 20-JAN-2010 14:02  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019500|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MS|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 32 QC Sample: MS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.sub  
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.12000	Weight of sample extracted (g)
M	6.13020	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
-----							
\$ 11 4cmx				CAS #: 877-09-8			
1.774	1.772	0.002	7575084 113.006	4.0	80.00- 120.00	100.00	
-----							
\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3			
5.606	5.607	-0.001	8269512 130.435	4.6	80.00- 120.00	100.00	
-----							
1 Aroclor-1016				CAS #: 12674-11-2			
2.274	2.273	0.001	1412065 625.394	22.1	80.00- 120.00	100.00(M)	
2.597	2.597	0.000	2996929 647.437	22.9	195.96- 235.96	212.24	
2.688	2.687	0.001	1193463 628.038	22.2	66.90- 106.90	84.52	
2.823	2.822	0.001	651891 662.830	23.4	24.29- 64.29	46.17	
2.974	2.974	0.000	1009395 695.988	24.6	46.26- 86.26	88.06	
Average of Peak Concentrations =				23.0			
-----							

CONCENTRATIONS

ON-COL      FINAL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.013	4.013	0.000	3082489	716.414	25.3 80.00- 120.00	100.00(M)
4.284	4.285	-0.001	2093906	750.227	26.5 42.54- 82.54	67.93
4.450	4.451	-0.001	2169201	756.655	26.8 44.25- 84.25	70.37
4.663	4.662	0.001	4797545	729.200	25.8 135.08- 175.08	155.64
4.852	4.852	0.000	2561759	802.225	28.4 54.83- 94.83	83.11
Average of Peak Concentrations =			26.6			

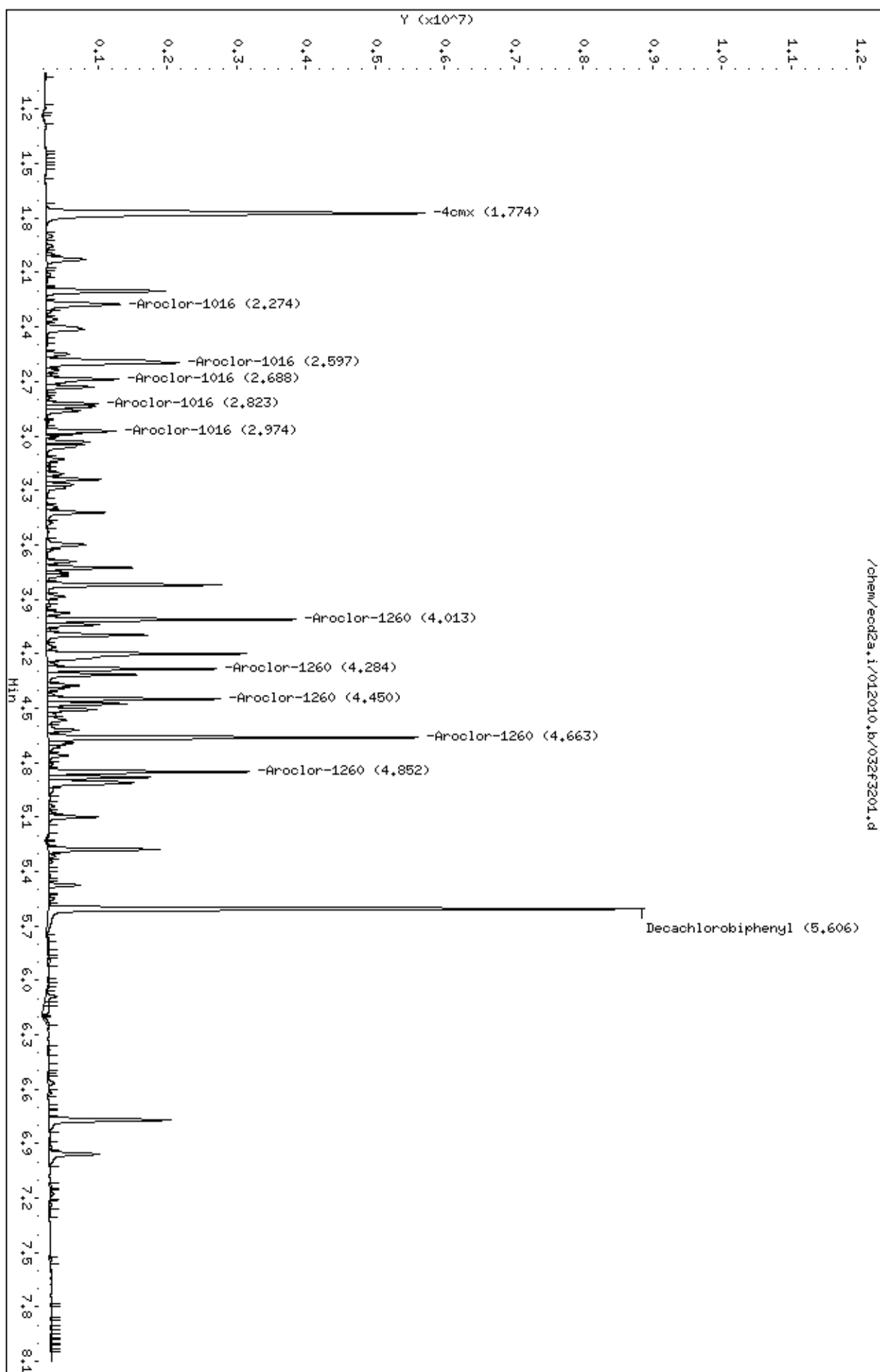
QC Flag Legend

M - Compound response manually integrated.



Data File: /chem/eod2a.i/012010.b/032f3201.d  
Date : 20-JAN-2010 14:02  
Client ID: RE12-10-8096HS  
Sample Info: 11202019500141  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25



Data File: /chem/ecd2a.i/012010.b/033b3301.d  
Report Date: 21-Jan-2010 14:07

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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/033b3301.d  
Lab Smp Id: 1202019501 Client Smp ID: RE12-10-8096MSD  
Inj Date : 20-JAN-2010 14:13  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019501|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MSD|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 33 QC Sample: MSD  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.sub  
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula:  $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.13000	Weight of sample extracted (g)
M	6.13020	% Moisture

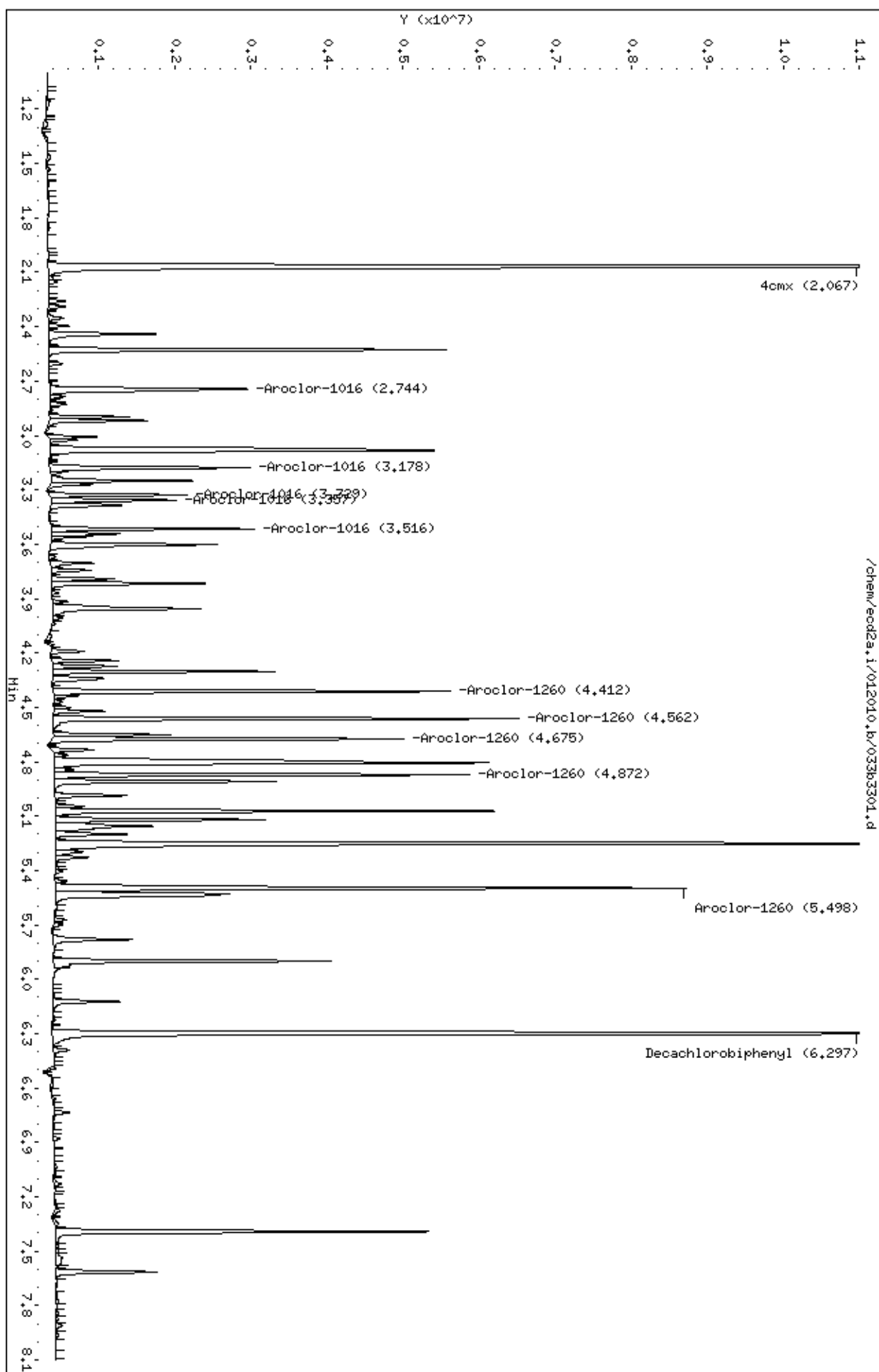
Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====
-----							
\$ 11	4cmx				CAS #: 877-09-8		
2.067	2.068	-0.001	18861357	135.152	4.8 80.00- 120.00	100.00	
-----							
\$ 12	Decachlorobiphenyl				CAS #: 2051-24-3		
6.297	6.298	-0.001	18483051	148.396	5.2 80.00- 120.00	100.00	
-----							
1	Aroclor-1016				CAS #: 12674-11-2		
2.744	2.744	0.000	3109352	692.616	24.5 80.00- 120.00	100.00	
3.178	3.178	0.000	2440738	710.729	25.1 59.59- 99.59	78.50	
3.329	3.329	0.000	1467291	727.328	25.7 25.93- 65.93	47.19	
3.357	3.357	0.000	1423045	675.848	23.9 27.78- 67.78	45.77	
3.516	3.516	0.000	2122858	759.665	26.8 45.06- 85.06	68.27	
Average of Peak Concentrations =				25.2			
-----							

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.412	4.411	0.001	4546420	785.871	27.8 80.00- 120.00	100.00
4.562	4.564	-0.002	5382617	741.087	26.2 108.00- 148.00	118.39
4.675	4.674	0.001	4201288	839.558	29.7 67.45- 107.45	92.41
4.872	4.872	0.000	4655702	803.374	28.4 79.37- 119.37	102.40
5.498	5.498	0.000	8226860	875.715	31.0 145.12- 185.12	180.95
Average of Peak Concentrations =				28.6		

Data File: /chem/eecd2a.i/012010.b/033b3301.d  
Date : 20-JAN-2010 14:13  
Client ID: RE12-10-8096HSD  
Sample Info: 1120201950111  
Volume Injected (uL): 1.0  
Column phase: CLP2

Instrument: eecd2a.i  
Operator: JAOC  
Column diameter: 0.25



Data File: /chem/ecd2a.i/012010.b/033f3301.d  
Report Date: 21-Jan-2010 14:07

Page 1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/033f3301.d  
Lab Smp Id: 1202019501 Client Smp ID: RE12-10-8096MSD  
Inj Date : 20-JAN-2010 14:13  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019501|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MSD|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 33 QC Sample: MSD  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.sub  
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt \* DF \* Uf \* Vt/(Vi \* Ws \* (100 - M)/100) \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.13000	Weight of sample extracted (g)
M	6.13020	% Moisture

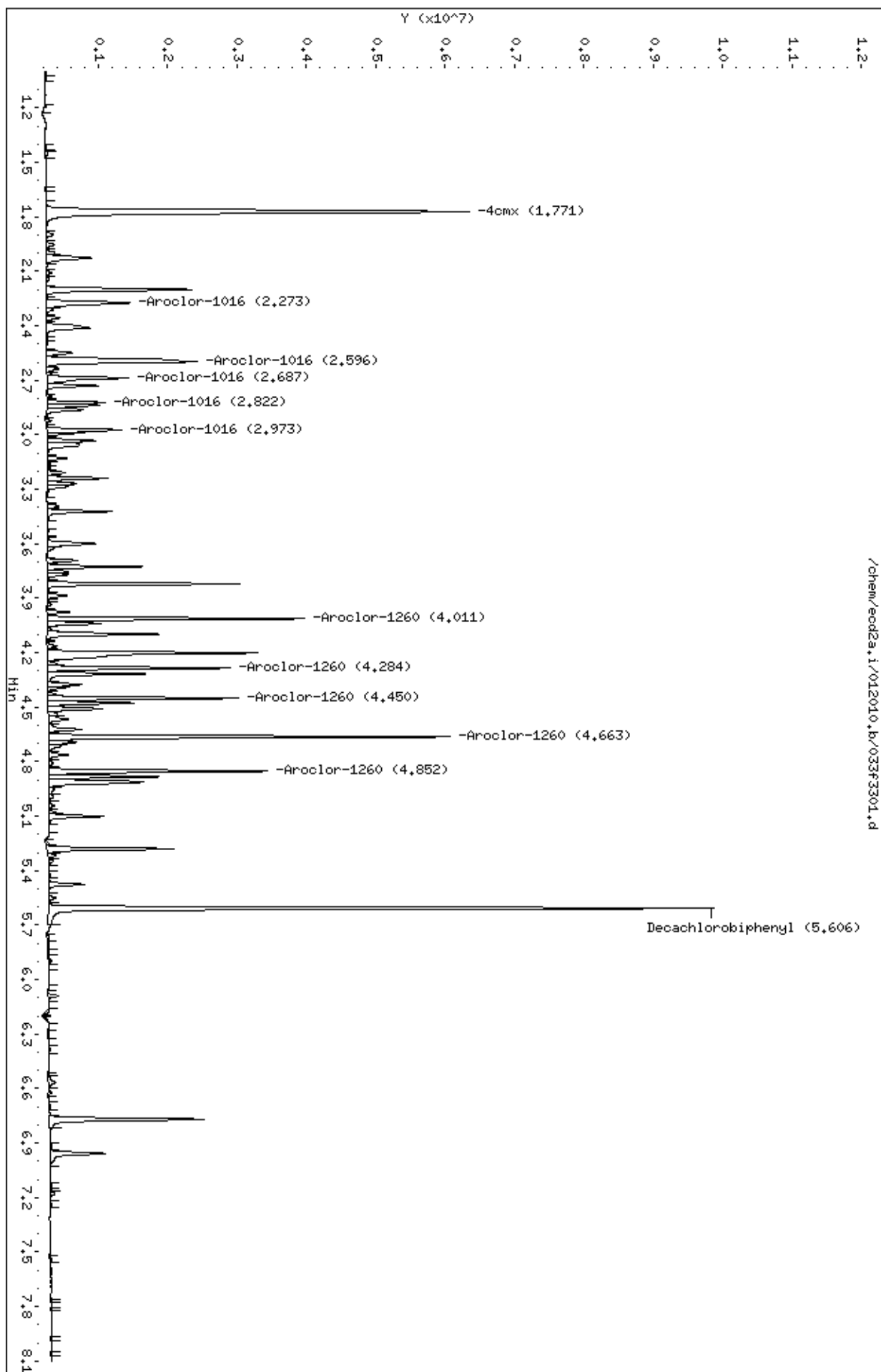
Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
-----							
\$ 11 4cmx				CAS #: 877-09-8			
1.771	1.772	-0.001	8482573 126.544	4.5	80.00- 120.00	100.00	
-----							
\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3			
5.606	5.607	-0.001	9045758 142.679	5.0	80.00- 120.00	100.00	
-----							
1 Aroclor-1016			CAS #: 12674-11-2				
2.273	2.273	0.000	1556273 689.262	24.4	80.00- 120.00	100.00	
2.596	2.597	-0.001	3275969 707.719	25.0	195.96- 235.96	210.50	
2.687	2.687	0.000	1279738 673.439	23.8	66.90- 106.90	82.23	
2.822	2.822	0.000	679604 691.008	24.4	24.29- 64.29	43.67	
2.973	2.974	-0.001	1047333 722.147	25.5	46.26- 86.26	67.30	
Average of Peak Concentrations =				24.6			
-----							

CONCENTRATIONS							
		ON-COL		FINAL			
RT	EXP RT	DLT RT	RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====		=====	=====	=====	=====
7 Aroclor-1260				CAS #: 11096-82-5			
4.011	4.013	-0.002		3205725 745.056	26.3	80.00- 120.00	100.00
4.284	4.285	-0.001		2222689 796.369	28.2	42.54- 82.54	69.34
4.450	4.451	-0.001		2320016 809.262	28.6	44.25- 84.25	72.37
4.663	4.662	0.001		5142132 781.575	27.6	135.08- 175.08	160.40
4.852	4.852	0.000		2829123 885.952	31.3	54.83- 94.83	88.25
Average of Peak Concentrations =				28.4			

Data File: /chem/eod2a.i/012010.b/033f3301.d  
Date : 20-JAN-2010 14:13  
Client ID: RE12-10-8096HSD  
Sample Info: 1120201950111  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: eod2a.i  
Operator: JAOC  
Column diameter: 0.25



Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 943204      Verified by: \_\_\_\_\_

Analyst: Andrew Schwemlin      Lab SOP: GL-OA-E-010 REV# 18

Method: SW846 3550B      Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Clean Up	Prior to Clean up (mL)	Amount Cleaned (mL)	After Clean up (mL)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202019498 MB	19-JAN-2010 20:46:16	30	H2SO4/KM12		2	9	1	0.03333
1202019499 LCS	19-JAN-2010 20:46:16	30	H2SO4/KM12		2	9	1	0.03333
244837001	19-JAN-2010 20:46:16	30.07	H2SO4/KM12		2	9	1	0.03326
244837002	19-JAN-2010 20:46:16	30.03	H2SO4/KM12		2	9	1	0.0333
244837003	19-JAN-2010 20:46:16	30.19	H2SO4/KM12		2	9	1	0.03312
244837004	19-JAN-2010 20:46:16	30.02	H2SO4/KM12		2	9	1	0.03331
244837005	19-JAN-2010 20:46:16	30.08	H2SO4/KM12		2	9	1	0.03324
244837006	19-JAN-2010 20:46:16	30.02	H2SO4/KM12		2	9	1	0.03331
244847004	19-JAN-2010 20:46:16	30.02	H2SO4/KM12		2	9	1	0.03331
244852001	19-JAN-2010 20:46:16	30.09	H2SO4/KM12		2	9	1	0.03323
244852002	19-JAN-2010 20:46:16	30.09	H2SO4/KM12		2	9	1	0.03323
244881001	19-JAN-2010 20:46:16	30.03	H2SO4/KM12		2	9	1	0.0333
1202019500 MS (244881001)	19-JAN-2010 20:46:16	30.12	H2SO4/KM12		2	9	1	0.0332
1202019501 MSD (244881001)	19-JAN-2010 20:46:16	30.13	H2SO4/KM12		2	9	1	0.03319
244881002	19-JAN-2010 20:46:16	30.02	H2SO4/KM12		2	9	1	0.03331
244881003	19-JAN-2010 20:46:16	30.03	H2SO4/KM12		2	9	1	0.0333
244881004	19-JAN-2010 20:46:16	30.08	H2SO4/KM12		2	9	1	0.03324
Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:		
LCS	1202019499	PCB Laboratory Control	WE100105-07	1	mL	Clean up Date: 01/19/10		
MS	1202019500	PCB Laboratory Control	WE100105-07	1	mL	Clean up Initials: AJS		
MSD	1202019501	PCB Laboratory Control	WE100105-07	1	mL	Verified By: AV		
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L	UE091229-15	1	mL	Final Solvent: Hexane		
REGNT	All	1:1 sulfuric acid	1133264a	5	mL	Clean Up SOP: GL-OA-E-037		
REGNT	All	Hexane	1256896-B2	150	mL			
REGNT	All	Acetone	1256900	150	mL			
REGNT	All	5% Potassium Permanganate	B1202457-F	5	mL			
SOURC	All	SODIUM SULFATE	1256907	30	g			



# Metals Analysis

# Case Narrative

**Metals Fractional Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262**

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202018099	Method Blank (MB) <b>ICP</b>
1202018100	Laboratory Control Sample (LCS)
1202018103	244881001(RE12-10-8096L) Serial Dilution (SD)
1202018101	244881001(RE12-10-8096D) Sample Duplicate (DUP)
1202018102	244881001(RE12-10-8096S) Matrix Spike (MS)
1202018104	244881001(RE12-10-8096SD) Matrix Spike Duplicate (MSD)
1202018068	Method Blank (MB) <b>ICP-MS</b>
1202037284	Method Blank (MB) <b>ICP-MS</b>
1202018069	Laboratory Control Sample (LCS)
1202037289	Laboratory Control Sample (LCS)
1202037286	244847001(RE12-10-7272L) Serial Dilution (SD)
1202018072	244881001(RE12-10-8096L) Serial Dilution (SD)
1202037285	244847001(RE12-10-7272D) Sample Duplicate (DUP)
1202018070	244881001(RE12-10-8096D) Sample Duplicate (DUP)
1202037287	244847001(RE12-10-7272S) Matrix Spike (MS)
1202018071	244881001(RE12-10-8096S) Matrix Spike (MS)

1202037288	244847001(RE12-10-7272SD) Matrix Spike Duplicate (MSD)
1202018073	244881001(RE12-10-8096SD) Matrix Spike Duplicate (MSD)
1202019773	Method Blank (MB) CVAA
1202019774	Laboratory Control Sample (LCS)
1202019777	244847001(RE12-10-7272L) Serial Dilution (SD)
1202019775	244847001(RE12-10-7272D) Sample Duplicate (DUP)
1202019776	244847001(RE12-10-7272S) Matrix Spike (MS)
1202019778	244847001(RE12-10-7272SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

#### **Method/Analysis Information**

<b>Analytical Batch:</b>	942648, 942638, 950661 and 943317
<b>Prep Batch :</b>	942644, 942632, 950660 and 943316
<b>Standard Operating Procedures:</b>	GL-MA-E-013 REV# 20, GL-MA-E-009 REV# 19, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23
<b>Analytical Method:</b>	SW846 3050B/6010B, SW846 3050B/6020 and SW846 7471A
<b>Prep Method :</b>	SW846 3050B and SW846 7471A Prep

#### **Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

#### **System Configuration**

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal

standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

### **Calibration Information**

#### **Instrument Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

#### **CRDL Requirements**

All CRDL standard(s) met the referenced advisory control limits with the exception of antimony, which recovered outside of the advisory limits of 70-130%.

#### **ICSA/ICSAB Statement**

All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

#### **Continuing Calibration Blank (CCB) Requirements**

All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

#### **Continuing Calibration Verification (CCV) Requirements**

All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The method blank analyzed with this SDG did not contain analytes of interest above the CRDL, with the exception of iron. The samples in this SDG contained iron at concentrations more than ten times the amount present in the method blank (MB), therefore the data was not adversely affected.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**Quality Control (QC) Sample Statement**

The following samples were selected as the quality control (QC) samples for this SDG: 244881001 and 244847001.

**Matrix Spike (MS) Recovery Statement**

The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exception of magnesium, manganese and potassium, as indicated by the “N” qualifiers.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The percent recovery (%R) obtained from the MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MSD met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exception of magnesium, manganese and potassium, as indicated by the “N” qualifiers.

**MS/MSD Relative Percent Difference (RPD) Statement**

The relative percent difference (RPD) obtained from the designated matrix spike duplicate (MSD) is evaluated based on acceptance criteria of 20%. The RPD between qualifying elements results in the MS and MSD were within the acceptance limits of 20%.

**Duplicate Relative Percent Difference (RPD) Statement**

The relative percent difference (RPD) obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is 5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the contract required detection limit (RL), a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements.

**Serial Dilution % Difference Statement**

The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL/MDL for CVAA, 50X the IDL/MDL for ICP, and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the acceptance criteria of less than 10% difference (%D).

**Technical Information****Holding Time Specifications**

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

**Sample Dilutions**

Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG were diluted the standard 2x for solids on the ICPMS.

**Preparation Information**

The samples in this SDG were prepared exactly according to the cited SOP.

**Miscellaneous Information****Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following DER was generated for this SDG: 787486. A copy is included in the Miscellaneous Data section of this package.

**Additional Comments**

Additional comments were not required for this SDG.

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

**Review Validation:**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

**The following data validator verified the information presented in this case narrative:**

Reviewer: Kristen Larson Date: 2/11/10

# Sample Data Summary



**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847001

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7272

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 87

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	1600000	ug/Kg		7640	22500	22500	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-36-0	Antimony	636	ug/Kg	J	371	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-38-2	Arsenic	0.738	mg/kg	J	0.224	1.12	1.12	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-39-3	Barium	18900	ug/Kg		112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-41-7	Beryllium	0.317	mg/kg		0.0224	0.112	0.112	2	MS	BAJ	02/08/10 07:33	100207-4	942638
7440-43-9	Cadmium	562	ug/Kg	U	112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-70-2	Calcium	400000	ug/Kg		8990	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-47-3	Chromium	13700	ug/Kg		169	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-48-4	Cobalt	760	ug/Kg		169	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-50-8	Copper	2300	ug/Kg		337	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-89-6	Iron	7240000	ug/Kg		8990	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-92-1	Lead	5300	ug/Kg		281	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-95-4	Magnesium	312000	ug/Kg		9550	33700	33700	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-96-5	Manganese	205000	ug/Kg		225	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648
7439-97-6	Mercury	13.6	ug/kg	U	4.64	13.6	13.6	1	AV	JXL1	02/02/10 10:45	020210S1-6	943317
7440-02-0	Nickel	1.54	mg/kg		0.112	0.448	0.448	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-09-7	Potassium	314000	ug/Kg		7190	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7782-49-2	Selenium	1.12	mg/kg	U	0.56	1.12	1.12	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-22-4	Silver	282	ug/Kg	J	112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-23-5	Sodium	55100	ug/Kg		7870	28100	28100	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-28-0	Thallium	0.224	mg/kg	U	0.0672	0.224	0.224	2	MS	BAJ	02/08/10 03:46	100207-3	942638
7440-61-1	Uranium	1.84	mg/kg		0.0145	0.044	0.044	2	MS	SKJ	02/09/10 21:18	100209-2	950661
7440-62-2	Vanadium	4470	ug/Kg		112	562	562	1	P	HSC	02/02/10 01:28	020110-1	942648
7440-66-6	Zinc	34500	ug/Kg		371	1120	1120	1	P	HSC	02/02/10 01:28	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.511	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.509	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.503	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.52	g	50	mL	02/09/10	AXG2

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847002

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7273

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 87

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2470000	ug/Kg		7660	22500	22500	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-36-0	Antimony	1160	ug/Kg		372	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-38-2	Arsenic	1.36	mg/kg		0.224	1.12	1.12	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-39-3	Barium	28300	ug/Kg		113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-41-7	Beryllium	0.424	mg/kg		0.0224	0.112	0.112	2	MS	BAJ	02/08/10 07:37	100207-4	942638
7440-43-9	Cadmium	563	ug/Kg	U	113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-70-2	Calcium	620000	ug/Kg		9010	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-47-3	Chromium	40600	ug/Kg		169	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-48-4	Cobalt	1280	ug/Kg		169	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-50-8	Copper	3330	ug/Kg		338	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-89-6	Iron	9690000	ug/Kg		9010	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-92-1	Lead	7120	ug/Kg		282	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-95-4	Magnesium	608000	ug/Kg		9580	33800	33800	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-96-5	Manganese	238000	ug/Kg		225	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648
7439-97-6	Mercury	13.5	ug/kg	U	4.58	13.5	13.5	1	AV	JXL1	02/02/10 11:01	020210S1-6	943317
7440-02-0	Nickel	4.62	mg/kg		0.112	0.449	0.449	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-09-7	Potassium	484000	ug/Kg		7210	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7782-49-2	Selenium	1.12	mg/kg	U	0.561	1.12	1.12	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-22-4	Silver	215	ug/Kg	J	113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-23-5	Sodium	100000	ug/Kg		7890	28200	28200	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-28-0	Thallium	0.224	mg/kg	U	0.0673	0.224	0.224	2	MS	BAJ	02/08/10 03:53	100207-3	942638
7440-61-1	Uranium	1.23	mg/kg		0.015	0.0454	0.0454	2	MS	SKJ	02/09/10 21:34	100209-2	950661
7440-62-2	Vanadium	8600	ug/Kg		113	563	563	1	P	HSC	02/02/10 01:35	020110-1	942648
7440-66-6	Zinc	43800	ug/Kg		372	1130	1130	1	P	HSC	02/02/10 01:35	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.514	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.512	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.514	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.508	g	50	mL	02/09/10	AXG2

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847003

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7274

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 84

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2010000	ug/Kg		7790	22900	22900	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-36-0	Antimony	1150	ug/Kg	U	378	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-38-2	Arsenic	0.833	mg/kg	J	0.227	1.13	1.13	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-39-3	Barium	28400	ug/Kg		115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-41-7	Beryllium	0.310	mg/kg		0.0227	0.113	0.113	2	MS	BAJ	02/08/10 07:41	100207-4	942638
7440-43-9	Cadmium	573	ug/Kg	U	115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-70-2	Calcium	985000	ug/Kg		9160	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-47-3	Chromium	3510	ug/Kg		172	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-48-4	Cobalt	786	ug/Kg		172	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-50-8	Copper	3820	ug/Kg		344	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-89-6	Iron	5550000	ug/Kg		9160	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-92-1	Lead	6750	ug/Kg		286	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-95-4	Magnesium	408000	ug/Kg		9730	34400	34400	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-96-5	Manganese	174000	ug/Kg		229	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648
7439-97-6	Mercury	12.8	ug/kg	U	4.35	12.8	12.8	1	AV	JXL1	02/02/10 11:03	020210S1-6	943317
7440-02-0	Nickel	1.47	mg/kg		0.113	0.454	0.454	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-09-7	Potassium	357000	ug/Kg		7330	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7782-49-2	Selenium	1.13	mg/kg	U	0.567	1.13	1.13	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-22-4	Silver	573	ug/Kg	U	115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-23-5	Sodium	51700	ug/Kg		8020	28600	28600	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-28-0	Thallium	0.227	mg/kg	U	0.0681	0.227	0.227	2	MS	BAJ	02/08/10 03:59	100207-3	942638
7440-61-1	Uranium	3.23	mg/kg		0.0152	0.0461	0.0461	2	MS	SKJ	02/09/10 21:36	100209-2	950661
7440-62-2	Vanadium	4520	ug/Kg		115	573	573	1	P	HSC	02/02/10 01:42	020110-1	942648
7440-66-6	Zinc	28200	ug/Kg		378	1150	1150	1	P	HSC	02/02/10 01:42	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.522	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.517	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.555	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.514	g	50	mL	02/09/10	AXG2

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244847004

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7281

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 90.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	13200000	ug/Kg		7430	21800	21800	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-36-0	Antimony	1090	ug/Kg	U	360	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-38-2	Arsenic	2.25	mg/kg		0.22	1.1	1.1	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-39-3	Barium	197000	ug/Kg		109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-41-7	Beryllium	1.14	mg/kg		0.022	0.11	0.11	2	MS	BAJ	02/08/10 07:44	100207-4	942638
7440-43-9	Cadmium	546	ug/Kg	U	109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-70-2	Calcium	3180000	ug/Kg		8740	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-47-3	Chromium	12200	ug/Kg		164	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-48-4	Cobalt	5910	ug/Kg		164	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-50-8	Copper	8260	ug/Kg		328	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-89-6	Iron	14600000	ug/Kg		8740	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-92-1	Lead	12400	ug/Kg		273	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-95-4	Magnesium	2340000	ug/Kg		9280	32800	32800	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-96-5	Manganese	333000	ug/Kg		218	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648
7439-97-6	Mercury	19.1	ug/kg		4.26	12.5	12.5	1	AV	JXL1	02/02/10 11:05	020210S1-6	943317
7440-02-0	Nickel	9.24	mg/kg		0.11	0.439	0.439	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-09-7	Potassium	1860000	ug/Kg		6990	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7782-49-2	Selenium	1.1	mg/kg	U	0.549	1.1	1.1	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-22-4	Silver	181	ug/Kg	J	109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-23-5	Sodium	181000	ug/Kg		7650	27300	27300	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-28-0	Thallium	0.284	mg/kg		0.0659	0.22	0.22	2	MS	BAJ	02/08/10 04:05	100207-3	942638
7440-61-1	Uranium	1.36	mg/kg		0.0144	0.0435	0.0435	2	MS	SKJ	02/09/10 21:39	100209-2	950661
7440-62-2	Vanadium	24900	ug/Kg		109	546	546	1	P	HSC	02/02/10 01:49	020110-1	942648
7440-66-6	Zinc	25700	ug/Kg		360	1090	1090	1	P	HSC	02/02/10 01:49	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.505	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.508	g	50	mL	01/21/10	AXG2
943317	943316	SW846 7471A Prep	0.532	g	30	mL	02/01/10	TXB3
950661	950660	SW846 3050B	0.51	g	50	mL	02/09/10	AXG2

# **Quality Control Summary**

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICV01										
	Aluminum	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Antimony	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Barium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Cadmium	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Calcium	4980	ug/L	5000	ug/L	99.5	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Chromium	481	ug/L	500	ug/L	96.3	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Cobalt	495	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Copper	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Iron	4980	ug/L	5000	ug/L	99.5	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Lead	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Magnesium	5360	ug/L	5000	ug/L	107.2	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Manganese	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Potassium	2450	ug/L	2500	ug/L	98.1	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Silver	256	ug/L	250	ug/L	102.6	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Sodium	2350	ug/L	2500	ug/L	93.9	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Vanadium	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Zinc	500	ug/L	500	ug/L	100	90.0 – 110.0	P	01–FEB–10 07:22	020110–1
	Mercury	5.13	ug/L	5	ug/L	102.6	90.0 – 110.0	AV	02–FEB–10 09:55	020210S1–6
	Arsenic	48.5	ug/L	50	ug/L	97	90.0 – 110.0	MS	08–FEB–10 01:44	100207–3
	Nickel	51.8	ug/L	50	ug/L	103.7	90.0 – 110.0	MS	08–FEB–10 01:44	100207–3
	Selenium	49.3	ug/L	50	ug/L	98.7	90.0 – 110.0	MS	08–FEB–10 01:44	100207–3
	Thallium	53.2	ug/L	50	ug/L	106.3	90.0 – 110.0	MS	08–FEB–10 01:44	100207–3
	Beryllium	51.7	ug/L	50	ug/L	103.4	90.0 – 110.0	MS	08–FEB–10 06:19	100207–4
	Uranium	49.9	ug/L	50	ug/L	99.7	90.0 – 110.0	MS	09–FEB–10 20:58	100209–2
CCV01										
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	01–FEB–10 08:25	020110–1
	Antimony	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	01–FEB–10 08:25	020110–1
	Barium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	01–FEB–10 08:25	020110–1
	Cadmium	485	ug/L	500	ug/L	97.1	90.0 – 110.0	P	01–FEB–10 08:25	020110–1
	Calcium	5020	ug/L	5000	ug/L	100.4	90.0 – 110.0	P	01–FEB–10 08:25	020110–1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Chromium	484	ug/L	500	ug/L	96.9	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Cobalt	483	ug/L	500	ug/L	96.7	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Copper	474	ug/L	500	ug/L	94.7	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Iron	5130	ug/L	5000	ug/L	102.5	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Lead	485	ug/L	500	ug/L	97	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Magnesium	5210	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Manganese	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Potassium	4880	ug/L	5000	ug/L	97.6	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Silver	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Sodium	9950	ug/L	10000	ug/L	99.5	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Vanadium	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Zinc	477	ug/L	500	ug/L	95.5	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Mercury	5.08	ug/L	5	ug/L	101.6	80.0 – 120.0	AV	02-FEB-10 10:01	020210S1-6
	Arsenic	46.6	ug/L	50	ug/L	93.2	90.0 – 110.0	MS	08-FEB-10 02:14	100207-3
	Nickel	49.4	ug/L	50	ug/L	98.7	90.0 – 110.0	MS	08-FEB-10 02:14	100207-3
	Selenium	47.8	ug/L	50	ug/L	95.5	90.0 – 110.0	MS	08-FEB-10 02:14	100207-3
	Thallium	51.5	ug/L	50	ug/L	103.1	90.0 – 110.0	MS	08-FEB-10 02:14	100207-3
	Beryllium	48.9	ug/L	50	ug/L	97.8	90.0 – 110.0	MS	08-FEB-10 06:37	100207-4
	Uranium	54.3	ug/L	50	ug/L	108.5	90.0 – 110.0	MS	09-FEB-10 21:09	100209-2
CCV02	Aluminum	4970	ug/L	5000	ug/L	99.4	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Antimony	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Barium	484	ug/L	500	ug/L	96.7	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Cadmium	483	ug/L	500	ug/L	96.6	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Calcium	4990	ug/L	5000	ug/L	99.8	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Chromium	482	ug/L	500	ug/L	96.5	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Cobalt	481	ug/L	500	ug/L	96.3	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Copper	475	ug/L	500	ug/L	95	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Iron	4950	ug/L	5000	ug/L	99	90.0 – 110.0	P	01-FEB-10 08:53	020110-1
	Lead	482	ug/L	500	ug/L	96.4	90.0 – 110.0	P	01-FEB-10 08:53	020110-1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Magnesium	5120	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	01–FEB–10 08:53	020110–1
	Manganese	485	ug/L	500	ug/L	96.9	90.0 – 110.0	P	01–FEB–10 08:53	020110–1
	Potassium	4870	ug/L	5000	ug/L	97.4	90.0 – 110.0	P	01–FEB–10 08:53	020110–1
	Silver	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	01–FEB–10 08:53	020110–1
	Sodium	9510	ug/L	10000	ug/L	95.1	90.0 – 110.0	P	01–FEB–10 08:53	020110–1
	Vanadium	488	ug/L	500	ug/L	97.6	90.0 – 110.0	P	01–FEB–10 08:53	020110–1
	Zinc	477	ug/L	500	ug/L	95.4	90.0 – 110.0	P	01–FEB–10 08:53	020110–1
	Mercury	5.07	ug/L	5	ug/L	101.4	80.0 – 120.0	AV	02–FEB–10 10:25	020210S1–6
	Arsenic	48.3	ug/L	50	ug/L	96.7	90.0 – 110.0	MS	08–FEB–10 02:33	100207–3
	Nickel	51.3	ug/L	50	ug/L	102.6	90.0 – 110.0	MS	08–FEB–10 02:33	100207–3
	Selenium	49.8	ug/L	50	ug/L	99.6	90.0 – 110.0	MS	08–FEB–10 02:33	100207–3
	Thallium	53.7	ug/L	50	ug/L	107.3	90.0 – 110.0	MS	08–FEB–10 02:33	100207–3
	Beryllium	50.7	ug/L	50	ug/L	101.3	90.0 – 110.0	MS	08–FEB–10 06:48	100207–4
	Uranium	49.3	ug/L	50	ug/L	98.5	90.0 – 110.0	MS	09–FEB–10 21:30	100209–2
CCV03										
	Aluminum	5220	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Antimony	494	ug/L	500	ug/L	98.7	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Barium	487	ug/L	500	ug/L	97.5	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Cadmium	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Calcium	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Chromium	487	ug/L	500	ug/L	97.3	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Copper	480	ug/L	500	ug/L	96.1	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Iron	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Lead	483	ug/L	500	ug/L	96.6	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Magnesium	5240	ug/L	5000	ug/L	104.8	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Manganese	485	ug/L	500	ug/L	97	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Potassium	5110	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Silver	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Sodium	9810	ug/L	10000	ug/L	98.1	90.0 – 110.0	P	01–FEB–10 10:18	020110–1



**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Vanadium	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Zinc	480	ug/L	500	ug/L	96	90.0 – 110.0	P	01–FEB–10 10:18	020110–1
	Mercury	5.32	ug/L	5	ug/L	106.3	80.0 – 120.0	AV	02–FEB–10 10:49	020210S1–6
	Arsenic	47.8	ug/L	50	ug/L	95.5	90.0 – 110.0	MS	08–FEB–10 03:28	100207–3
	Nickel	51.1	ug/L	50	ug/L	102.2	90.0 – 110.0	MS	08–FEB–10 03:28	100207–3
	Selenium	48.8	ug/L	50	ug/L	97.6	90.0 – 110.0	MS	08–FEB–10 03:28	100207–3
	Thallium	53.2	ug/L	50	ug/L	106.3	90.0 – 110.0	MS	08–FEB–10 03:28	100207–3
	Beryllium	49	ug/L	50	ug/L	97.9	90.0 – 110.0	MS	08–FEB–10 07:22	100207–4
	Uranium	48.7	ug/L	50	ug/L	97.5	90.0 – 110.0	MS	09–FEB–10 21:48	100209–2
CCV04	Aluminum	4970	ug/L	5000	ug/L	99.4	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Antimony	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Barium	486	ug/L	500	ug/L	97.1	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Cadmium	480	ug/L	500	ug/L	96.1	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Calcium	4920	ug/L	5000	ug/L	98.4	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Chromium	483	ug/L	500	ug/L	96.5	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Cobalt	476	ug/L	500	ug/L	95.2	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Copper	485	ug/L	500	ug/L	97	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Iron	4870	ug/L	5000	ug/L	97.5	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Lead	483	ug/L	500	ug/L	96.7	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Magnesium	4980	ug/L	5000	ug/L	99.5	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Manganese	484	ug/L	500	ug/L	96.9	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Potassium	4780	ug/L	5000	ug/L	95.6	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Silver	485	ug/L	500	ug/L	97	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Sodium	9600	ug/L	10000	ug/L	96	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Vanadium	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Zinc	476	ug/L	500	ug/L	95.2	90.0 – 110.0	P	01–FEB–10 11:44	020110–1
	Mercury	5.21	ug/L	5	ug/L	104.3	80.0 – 120.0	AV	02–FEB–10 11:15	020210S1–6
	Arsenic	48.2	ug/L	50	ug/L	96.3	90.0 – 110.0	MS	08–FEB–10 04:24	100207–3
	Nickel	52	ug/L	50	ug/L	104	90.0 – 110.0	MS	08–FEB–10 04:24	100207–3

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Selenium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	08-FEB-10 04:24	100207-3
	Thallium	54.1	ug/L	50	ug/L	108.2	90.0 – 110.0	MS	08-FEB-10 04:24	100207-3
	Beryllium	50.8	ug/L	50	ug/L	101.6	90.0 – 110.0	MS	08-FEB-10 07:55	100207-4
CCV05	Aluminum	4840	ug/L	5000	ug/L	96.8	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Antimony	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Barium	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Cadmium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Calcium	4930	ug/L	5000	ug/L	98.5	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Chromium	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Copper	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Iron	5090	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Lead	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Magnesium	5180	ug/L	5000	ug/L	103.6	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Manganese	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Potassium	4810	ug/L	5000	ug/L	96.3	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Silver	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Sodium	10300	ug/L	10000	ug/L	102.7	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Vanadium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Zinc	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 12:46	020110-1
	Arsenic	48.1	ug/L	50	ug/L	96.3	90.0 – 110.0	MS	08-FEB-10 05:19	100207-3
	Nickel	51.9	ug/L	50	ug/L	103.9	90.0 – 110.0	MS	08-FEB-10 05:19	100207-3
	Selenium	50.1	ug/L	50	ug/L	100.1	90.0 – 110.0	MS	08-FEB-10 05:19	100207-3
	Thallium	52.9	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	08-FEB-10 05:19	100207-3
	Beryllium	49.8	ug/L	50	ug/L	99.6	90.0 – 110.0	MS	08-FEB-10 08:29	100207-4
CCV06	Aluminum	5060	ug/L	5000	ug/L	101.2	90.0 – 110.0	P	01-FEB-10 14:11	020110-1
	Antimony	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	01-FEB-10 14:11	020110-1
	Barium	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	01-FEB-10 14:11	020110-1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Cadmium	485	ug/L	500	ug/L	97	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Calcium	5240	ug/L	5000	ug/L	104.7	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Chromium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Cobalt	475	ug/L	500	ug/L	95.1	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Copper	478	ug/L	500	ug/L	95.7	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Iron	5370	ug/L	5000	ug/L	107.4	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Lead	483	ug/L	500	ug/L	96.5	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Magnesium	5450	ug/L	5000	ug/L	109.1	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Manganese	485	ug/L	500	ug/L	96.9	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Potassium	5120	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Silver	483	ug/L	500	ug/L	96.5	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Sodium	10700	ug/L	10000	ug/L	107.1	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Vanadium	490	ug/L	500	ug/L	98	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
	Zinc	475	ug/L	500	ug/L	95.1	90.0 – 110.0	P	01–FEB–10 14:11	020110–1
CCV07	Aluminum	4860	ug/L	5000	ug/L	97.1	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Antimony	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Barium	488	ug/L	500	ug/L	97.6	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Cadmium	487	ug/L	500	ug/L	97.3	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Calcium	5030	ug/L	5000	ug/L	100.5	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Chromium	488	ug/L	500	ug/L	97.7	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Copper	484	ug/L	500	ug/L	96.9	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Iron	5200	ug/L	5000	ug/L	104	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Lead	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Magnesium	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Manganese	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Potassium	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Silver	485	ug/L	500	ug/L	97	90.0 – 110.0	P	01–FEB–10 15:23	020110–1
	Sodium	10300	ug/L	10000	ug/L	103.1	90.0 – 110.0	P	01–FEB–10 15:23	020110–1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CCV08	Vanadium	493	ug/L	500	ug/L	98.5	90.0 – 110.0	P	01-FEB-10 15:23	020110-1
	Zinc	476	ug/L	500	ug/L	95.3	90.0 – 110.0	P	01-FEB-10 15:23	020110-1
	Aluminum	4930	ug/L	5000	ug/L	98.5	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Antimony	528	ug/L	500	ug/L	105.6	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Barium	514	ug/L	500	ug/L	102.8	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Cadmium	518	ug/L	500	ug/L	103.6	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Calcium	5080	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Chromium	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Cobalt	511	ug/L	500	ug/L	102.3	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Copper	515	ug/L	500	ug/L	102.9	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Iron	5260	ug/L	5000	ug/L	105.2	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Lead	520	ug/L	500	ug/L	104	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Magnesium	5280	ug/L	5000	ug/L	105.6	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Manganese	516	ug/L	500	ug/L	103.1	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Potassium	4870	ug/L	5000	ug/L	97.5	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Silver	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Sodium	10300	ug/L	10000	ug/L	102.7	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Vanadium	515	ug/L	500	ug/L	103.1	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
	Zinc	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	01-FEB-10 16:35	020110-1
CCV09	Aluminum	4780	ug/L	5000	ug/L	95.6	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Antimony	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Barium	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Cadmium	495	ug/L	500	ug/L	99	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Calcium	4890	ug/L	5000	ug/L	97.7	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Chromium	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Cobalt	488	ug/L	500	ug/L	97.6	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Copper	492	ug/L	500	ug/L	98.5	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Iron	4990	ug/L	5000	ug/L	99.8	90.0 – 110.0	P	01-FEB-10 17:04	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Lead	496	ug/L	500	ug/L	99.3	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Magnesium	5090	ug/L	5000	ug/L	101.9	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Manganese	493	ug/L	500	ug/L	98.7	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Potassium	4690	ug/L	5000	ug/L	93.8	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Silver	490	ug/L	500	ug/L	98	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Sodium	9840	ug/L	10000	ug/L	98.4	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Vanadium	495	ug/L	500	ug/L	99.1	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Zinc	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
CCV10	Aluminum	4940	ug/L	5000	ug/L	98.8	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Antimony	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Barium	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Cadmium	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Calcium	5010	ug/L	5000	ug/L	100.2	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Chromium	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Cobalt	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Copper	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Iron	5220	ug/L	5000	ug/L	104.5	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Lead	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Magnesium	5340	ug/L	5000	ug/L	106.7	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Manganese	491	ug/L	500	ug/L	98.1	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Potassium	4840	ug/L	5000	ug/L	96.9	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Silver	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Sodium	10200	ug/L	10000	ug/L	102.1	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Vanadium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Zinc	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
CCV11	Aluminum	5020	ug/L	5000	ug/L	100.4	90.0 – 110.0	P	01-FEB-10 19:41	020110-1
	Antimony	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	01-FEB-10 19:41	020110-1
	Barium	476	ug/L	500	ug/L	95.2	90.0 – 110.0	P	01-FEB-10 19:41	020110-1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Cadmium	484	ug/L	500	ug/L	96.7	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Calcium	5170	ug/L	5000	ug/L	103.4	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Chromium	477	ug/L	500	ug/L	95.3	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Cobalt	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Copper	475	ug/L	500	ug/L	94.9	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Iron	5350	ug/L	5000	ug/L	107.1	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Lead	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Magnesium	5450	ug/L	5000	ug/L	109	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Manganese	479	ug/L	500	ug/L	95.9	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Potassium	5000	ug/L	5000	ug/L	100	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Silver	475	ug/L	500	ug/L	95	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Sodium	10400	ug/L	10000	ug/L	103.7	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Vanadium	478	ug/L	500	ug/L	95.6	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
	Zinc	476	ug/L	500	ug/L	95.3	90.0 – 110.0	P	01–FEB–10 19:41	020110–1
CCV12	Aluminum	4990	ug/L	5000	ug/L	99.9	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Antimony	513	ug/L	500	ug/L	102.7	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Barium	495	ug/L	500	ug/L	99	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Cadmium	499	ug/L	500	ug/L	99.9	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Calcium	5010	ug/L	5000	ug/L	100.3	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Chromium	497	ug/L	500	ug/L	99.5	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Cobalt	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Copper	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Iron	5210	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Lead	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Magnesium	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Manganese	496	ug/L	500	ug/L	99.3	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Potassium	4840	ug/L	5000	ug/L	96.8	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Silver	497	ug/L	500	ug/L	99.3	90.0 – 110.0	P	01–FEB–10 20:50	020110–1
	Sodium	10300	ug/L	10000	ug/L	102.7	90.0 – 110.0	P	01–FEB–10 20:50	020110–1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Vanadium	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
	Zinc	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
CCV13										
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Antimony	504	ug/L	500	ug/L	100.7	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Barium	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Cadmium	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Calcium	5040	ug/L	5000	ug/L	100.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Chromium	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Cobalt	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Copper	492	ug/L	500	ug/L	98.5	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Iron	5250	ug/L	5000	ug/L	104.9	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Lead	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Magnesium	5280	ug/L	5000	ug/L	105.5	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Manganese	495	ug/L	500	ug/L	99.1	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Potassium	4850	ug/L	5000	ug/L	97.1	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Silver	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Sodium	10300	ug/L	10000	ug/L	103	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Vanadium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Zinc	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
CCV14										
	Aluminum	4930	ug/L	5000	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Antimony	502	ug/L	500	ug/L	100.3	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Barium	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Cadmium	491	ug/L	500	ug/L	98.1	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Calcium	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Chromium	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Cobalt	487	ug/L	500	ug/L	97.3	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Copper	485	ug/L	500	ug/L	97	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Iron	5260	ug/L	5000	ug/L	105.3	90.0 – 110.0	P	01-FEB-10 23:02	020110-1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Lead	494	ug/L	500	ug/L	98.7	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
	Magnesium	5290	ug/L	5000	ug/L	105.9	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
	Manganese	488	ug/L	500	ug/L	97.7	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
	Potassium	4920	ug/L	5000	ug/L	98.4	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
	Silver	487	ug/L	500	ug/L	97.3	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
	Sodium	10500	ug/L	10000	ug/L	105.1	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
	Vanadium	490	ug/L	500	ug/L	98	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
	Zinc	483	ug/L	500	ug/L	96.7	90.0 – 110.0	P	01–FEB–10 23:02	020110–1
CCV15	Aluminum	4890	ug/L	5000	ug/L	97.9	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Antimony	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Barium	495	ug/L	500	ug/L	99	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Cadmium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Calcium	4990	ug/L	5000	ug/L	99.8	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Chromium	495	ug/L	500	ug/L	98.9	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Cobalt	495	ug/L	500	ug/L	99.1	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Copper	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Iron	5070	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Lead	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Magnesium	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Manganese	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Potassium	4890	ug/L	5000	ug/L	97.9	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Silver	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Sodium	10200	ug/L	10000	ug/L	101.6	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Vanadium	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
	Zinc	491	ug/L	500	ug/L	98.3	90.0 – 110.0	P	02–FEB–10 00:05	020110–1
CCV16	Aluminum	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	02–FEB–10 01:14	020110–1
	Antimony	516	ug/L	500	ug/L	103.3	90.0 – 110.0	P	02–FEB–10 01:14	020110–1
	Barium	499	ug/L	500	ug/L	99.9	90.0 – 110.0	P	02–FEB–10 01:14	020110–1



**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Cadmium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Calcium	5330	ug/L	5000	ug/L	106.7	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Chromium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Cobalt	500	ug/L	500	ug/L	100	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Copper	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Iron	5440	ug/L	5000	ug/L	108.9	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Lead	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Magnesium	5520	ug/L	5000	ug/L	110.5	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Manganese	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Potassium	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Silver	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Sodium	10800	ug/L	10000	ug/L	108.4	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Vanadium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
	Zinc	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	02-FEB-10 01:14	020110-1
CCV17	Aluminum	5220	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Antimony	538	ug/L	500	ug/L	107.6	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Barium	520	ug/L	500	ug/L	104.1	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Cadmium	526	ug/L	500	ug/L	105.2	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Calcium	5280	ug/L	5000	ug/L	105.5	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Chromium	519	ug/L	500	ug/L	103.8	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Cobalt	520	ug/L	500	ug/L	103.9	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Copper	520	ug/L	500	ug/L	104	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Iron	5170	ug/L	5000	ug/L	103.5	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Lead	523	ug/L	500	ug/L	104.6	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Magnesium	5460	ug/L	5000	ug/L	109.2	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Manganese	524	ug/L	500	ug/L	104.9	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Potassium	5200	ug/L	5000	ug/L	104	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Silver	519	ug/L	500	ug/L	103.8	90.0 – 110.0	P	02-FEB-10 02:25	020110-1
	Sodium	10300	ug/L	10000	ug/L	102.6	90.0 – 110.0	P	02-FEB-10 02:25	020110-1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CCV18	Vanadium	522	ug/L	500	ug/L	104.4	90.0 – 110.0	P	02–FEB–10 02:25	020110–1
	Zinc	518	ug/L	500	ug/L	103.6	90.0 – 110.0	P	02–FEB–10 02:25	020110–1
	Aluminum	5190	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Antimony	533	ug/L	500	ug/L	106.6	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Barium	515	ug/L	500	ug/L	103	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Cadmium	520	ug/L	500	ug/L	104	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Calcium	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Chromium	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Cobalt	516	ug/L	500	ug/L	103.1	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Copper	514	ug/L	500	ug/L	102.8	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Iron	5170	ug/L	5000	ug/L	103.5	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Lead	521	ug/L	500	ug/L	104.1	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Magnesium	5480	ug/L	5000	ug/L	109.5	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Manganese	519	ug/L	500	ug/L	103.7	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Potassium	5210	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Silver	514	ug/L	500	ug/L	102.9	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Sodium	10300	ug/L	10000	ug/L	103.3	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Vanadium	517	ug/L	500	ug/L	103.4	90.0 – 110.0	P	02–FEB–10 03:35	020110–1
	Zinc	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	02–FEB–10 03:35	020110–1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CRDL01										
	Mercury	.166	ug/L	.2	ug/L	82.9	70.0 – 130.0	AV	02-FEB-10 09:59	020210S1-6
	Nickel	2.27	ug/L	2	ug/L	113.6	70.0 – 130.0	MS	08-FEB-10 01:56	100207-3
	Thallium	1.29	ug/L	1	ug/L	129.1	70.0 – 130.0	MS	08-FEB-10 01:56	100207-3
	Arsenic	5.5	ug/L	5	ug/L	110	70.0 – 130.0	MS	08-FEB-10 01:56	100207-3
	Selenium	5.65	ug/L	5	ug/L	113	70.0 – 130.0	MS	08-FEB-10 01:56	100207-3
	Beryllium	.501	ug/L	.5	ug/L	100.2	70.0 – 130.0	MS	08-FEB-10 06:26	100207-4
	Uranium	.207	ug/L	.2	ug/L	103.5	70.0 – 130.0	MS	09-FEB-10 21:03	100209-2
PQL01										
	Aluminum	210	ug/L	200	ug/L	104.8	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Iron	107	ug/L	100	ug/L	107.1	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Lead	12	ug/L	10	ug/L	119.7	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Magnesium	387	ug/L	300	ug/L	129.1	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Manganese	10.7	ug/L	10	ug/L	107.3	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Potassium	141	ug/L	150	ug/L	94.3	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Silver	4.98	ug/L	5	ug/L	99.7	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Sodium	299	ug/L	300	ug/L	99.7	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Antimony	13.4	ug/L	10	ug/L	134.2	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Barium	5.21	ug/L	5	ug/L	104.2	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Cadmium	5.04	ug/L	5	ug/L	100.7	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Chromium	5.34	ug/L	5	ug/L	106.8	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Cobalt	5.09	ug/L	5	ug/L	101.8	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Copper	10.4	ug/L	10	ug/L	104.3	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Vanadium	5.38	ug/L	5	ug/L	107.6	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Zinc	10.4	ug/L	10	ug/L	103.7	70.0 – 130.0	P	01-FEB-10 07:35	020110-1
	Calcium	212	ug/L	200	ug/L	106.1	70.0 – 130.0	P	01-FEB-10 07:35	020110-1

**Metals**  
**–3a–**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
<b>ICB01</b>										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 07:28	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 07:28	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Mercury	-0.13	+/-2	J	0.068	0.2	SOL	AV	02-FEB-10 09:57	020210S1-6
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 01:50	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 01:50	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 01:50	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 01:50	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 06:23	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:00	100209-2
<b>CCB01</b>										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 08:32	020110-1
	Antimony	4.88	+/-10	J	3.3	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 08:32	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 08:32	020110-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 08:32	020110-1
	Lead	3.53	+/-10	J	2.5	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 08:32	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 08:32	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 08:32	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	02-FEB-10 10:03	020210S1-6
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 02:20	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 02:20	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 02:20	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 02:20	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 06:41	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:11	100209-2
<b>CCB02</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 09:00	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Lead	2.92	+/-10	J	2.5	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Magnesium	91.63	+/-300	J	85.0	300	SOL	P	01-FEB-10 09:00	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 09:00	020110-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Mercury	-0.112	+/-2	J	0.068	0.2	SOL	AV	02-FEB-10 10:27	020210S1-6
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 02:39	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 02:39	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 02:39	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 02:39	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 06:52	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:32	100209-2
<b>CCB03</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 10:26	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Magnesium	126.34	+/-300	J	85.0	300	SOL	P	01-FEB-10 10:26	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Vanadium	1.11	+/-5	J	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Mercury	-0.09	+/-2	J	0.068	0.2	SOL	AV	02-FEB-10 10:51	020210S1-6

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 03:34	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 03:34	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 03:34	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 03:34	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 07:26	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:50	100209-2
CCB04	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 11:51	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 11:51	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Sodium	78.72	+/-250	J	70.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Mercury	-0.143	+/-2	J	0.068	0.2	SOL	AV	02-FEB-10 11:17	020210S1-6
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 04:30	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 04:30	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 04:30	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 04:30	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 07:59	100207-4

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB05	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 12:53	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Magnesium	90.46	+/-300	J	85.0	300	SOL	P	01-FEB-10 12:53	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 05:25	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 05:25	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 05:25	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 05:25	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 08:33	100207-4
CCB06	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 14:18	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 14:18	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 14:18	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 14:18	020110-1



**Metals**  
**–3a–**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10–1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01–FEB–10 14:18	020110–1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01–FEB–10 14:18	020110–1
	Magnesium	156.35	+/-300	J	85.0	300	SOL	P	01–FEB–10 14:18	020110–1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01–FEB–10 14:18	020110–1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01–FEB–10 14:18	020110–1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01–FEB–10 14:18	020110–1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01–FEB–10 14:18	020110–1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01–FEB–10 14:18	020110–1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01–FEB–10 14:18	020110–1
<b>CCB07</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01–FEB–10 15:30	020110–1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01–FEB–10 15:30	020110–1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01–FEB–10 15:30	020110–1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01–FEB–10 15:30	020110–1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01–FEB–10 15:30	020110–1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01–FEB–10 15:30	020110–1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01–FEB–10 15:30	020110–1
	Copper	4.74	+/-10	J	3.0	10.0	SOL	P	01–FEB–10 15:30	020110–1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01–FEB–10 15:30	020110–1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01–FEB–10 15:30	020110–1
	Magnesium	114.11	+/-300	J	85.0	300	SOL	P	01–FEB–10 15:30	020110–1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01–FEB–10 15:30	020110–1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01–FEB–10 15:30	020110–1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01–FEB–10 15:30	020110–1
	Sodium	77.2	+/-250	J	70.0	250	SOL	P	01–FEB–10 15:30	020110–1
	Vanadium	1.1	+/-5	J	1.0	5.0	SOL	P	01–FEB–10 15:30	020110–1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01–FEB–10 15:30	020110–1
<b>CCB08</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01–FEB–10 16:42	020110–1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01–FEB–10 16:42	020110–1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01–FEB–10 16:42	020110–1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Copper	4.35	+/-10	J	3.0	10.0	SOL	P	01-FEB-10 16:42	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Lead	2.61	+/-10	J	2.5	10.0	SOL	P	01-FEB-10 16:42	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 16:42	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 16:42	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 16:42	020110-1
CCB09	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 17:11	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Copper	3.12	+/-10	J	3.0	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 17:11	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB10	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 18:33	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Copper	5.22	+/-10	J	3.0	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 18:33	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 18:33	020110-1
CCB11	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 19:48	020110-1
	Antimony	4.11	+/-10	J	3.3	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Magnesium	103.92	+/-300	J	85.0	300	SOL	P	01-FEB-10 19:48	020110-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 19:48	020110-1
<b>CCB12</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 20:57	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 20:57	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 20:57	020110-1
<b>CCB13</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 22:06	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 22:06	020110-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Magnesium	130.04	+/-300	J	85.0	300	SOL	P	01-FEB-10 22:06	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 22:06	020110-1
CCB14	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 23:09	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Magnesium	92.11	+/-300	J	85.0	300	SOL	P	01-FEB-10 23:09	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 23:09	020110-1
CCB15	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02-FEB-10 00:12	020110-1

**Metals**  
**–3a–**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10–1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	02–FEB–10 00:12	020110–1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02–FEB–10 00:12	020110–1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02–FEB–10 00:12	020110–1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02–FEB–10 00:12	020110–1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02–FEB–10 00:12	020110–1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02–FEB–10 00:12	020110–1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02–FEB–10 00:12	020110–1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02–FEB–10 00:12	020110–1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02–FEB–10 00:12	020110–1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	02–FEB–10 00:12	020110–1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02–FEB–10 00:12	020110–1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02–FEB–10 00:12	020110–1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02–FEB–10 00:12	020110–1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	02–FEB–10 00:12	020110–1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02–FEB–10 00:12	020110–1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02–FEB–10 00:12	020110–1
CCB16	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02–FEB–10 01:21	020110–1
	Antimony	3.93	+/-10	J	3.3	10.0	SOL	P	02–FEB–10 01:21	020110–1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02–FEB–10 01:21	020110–1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02–FEB–10 01:21	020110–1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02–FEB–10 01:21	020110–1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02–FEB–10 01:21	020110–1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02–FEB–10 01:21	020110–1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02–FEB–10 01:21	020110–1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02–FEB–10 01:21	020110–1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02–FEB–10 01:21	020110–1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	02–FEB–10 01:21	020110–1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02–FEB–10 01:21	020110–1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02–FEB–10 01:21	020110–1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02–FEB–10 01:21	020110–1

Metals  
-3a-  
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB17	Sodium	70.0	+/-250	U	70.0	250	SOL	P	02-FEB-10 01:21	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 01:21	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 01:21	020110-1
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02-FEB-10 02:32	020110-1
	Antimony	3.97	+/-10	J	3.3	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 02:32	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 02:32	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Magnesium	200.23	+/-300	J	85.0	300	SOL	P	02-FEB-10 02:32	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02-FEB-10 02:32	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Sodium	100.58	+/-250	J	70.0	250	SOL	P	02-FEB-10 02:32	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 02:32	020110-1
CCB18	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02-FEB-10 03:42	020110-1
	Antimony	4.15	+/-10	J	3.3	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 03:42	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 03:42	020110-1

Metals  
-3a-  
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Magnesium	95.57	+/-300	J	85.0	300	SOL	P	02-FEB-10 03:42	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02-FEB-10 03:42	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Sodium	120.04	+/-250	J	70.0	250	SOL	P	02-FEB-10 03:42	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 03:42	020110-1



**METALS**  
**-3b-**  
**PREPARATION BLANK SUMMARY**

**SDG NO.** 10-1262  
**Contract:** LANL01004  
**Matrix:** SOIL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Acceptance Window</u>	<u>Conc Qual</u>	<u>M</u>	<u>MDL</u>	<u>RDL</u>
1202018068	Arsenic	0.193	mg/kg	+/-0.963	U	MS	0.193	0.963
	Beryllium	0.0193	mg/kg	+/-0.0963	U	MS	0.0193	0.0963
	Nickel	0.0963	mg/kg	+/-0.385	U	MS	0.0963	0.385
	Selenium	0.482	mg/kg	+/-0.963	U	MS	0.482	0.963
	Thallium	0.0578	mg/kg	+/-0.193	U	MS	0.0578	0.193
1202018099	Aluminum	6640	ug/Kg	+/-19500	U	P	6640	19500
	Antimony	339	ug/Kg	+/-977	J	P	322	977
	Barium	97.7	ug/Kg	+/-488	U	P	97.7	488
	Cadmium	97.7	ug/Kg	+/-488	U	P	97.7	488
	Calcium	7810	ug/Kg	+/-24400	U	P	7810	24400
	Chromium	146	ug/Kg	+/-488	U	P	146	488
	Cobalt	146	ug/Kg	+/-488	U	P	146	488
	Copper	293	ug/Kg	+/-977	U	P	293	977
	Iron	33400	ug/Kg	+/-24400		P	7810	24400
	Lead	244	ug/Kg	+/-977	U	P	244	977
	Magnesium	9610	ug/Kg	+/-29300	J	P	8300	29300
	Manganese	300	ug/Kg	+/-977	J	P	195	977
	Potassium	6250	ug/Kg	+/-24400	U	P	6250	24400
	Silver	-113	ug/Kg	+/-488	J	P	97.7	488
	Sodium	8430	ug/Kg	+/-24400	J	P	6840	24400
	Vanadium	97.7	ug/Kg	+/-488	U	P	97.7	488
	Zinc	322	ug/Kg	+/-977	U	P	322	977
1202019773	Mercury	-5.32	ug/kg	+/-10	J	AV	3.4	10
1202037284	Uranium	0.0126	mg/kg	+/-0.0383	U	MS	0.0126	0.0383

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1262

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Aluminum	506000	ug/L	500000	ug/L	101	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Antimony	7.16	ug/L					01-FEB-10 07:42	020110-1
	Barium	-0.15	ug/L					01-FEB-10 07:42	020110-1
	Cadmium	-2.3	ug/L					01-FEB-10 07:42	020110-1
	Calcium	475000	ug/L	500000	ug/L	94.9	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Chromium	0.95	ug/L					01-FEB-10 07:42	020110-1
	Cobalt	-1.68	ug/L					01-FEB-10 07:42	020110-1
	Copper	2.21	ug/L					01-FEB-10 07:42	020110-1
	Iron	188000	ug/L	200000	ug/L	94.1	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Lead	-4.5	ug/L					01-FEB-10 07:42	020110-1
	Magnesium	492000	ug/L	500000	ug/L	98.4	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Manganese	-1.75	ug/L					01-FEB-10 07:42	020110-1
	Potassium	-204.0	ug/L					01-FEB-10 07:42	020110-1
	Silver	1.06	ug/L					01-FEB-10 07:42	020110-1
	Sodium	-2.95	ug/L					01-FEB-10 07:42	020110-1
	Vanadium	-2.64	ug/L					01-FEB-10 07:42	020110-1
	Zinc	7.68	ug/L					01-FEB-10 07:42	020110-1
<b>ICSAB01</b>									
	Aluminum	508000	ug/L	500000	ug/L	102	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Antimony	523	ug/L	500	ug/L	105	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Barium	469	ug/L	500	ug/L	93.8	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Cadmium	460	ug/L	500	ug/L	91.9	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Calcium	475000	ug/L	500000	ug/L	94.9	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Chromium	465	ug/L	500	ug/L	93	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Cobalt	436	ug/L	500	ug/L	87.2	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Copper	539	ug/L	500	ug/L	108	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Iron	187000	ug/L	200000	ug/L	93.6	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Lead	448	ug/L	500	ug/L	89.5	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Magnesium	492000	ug/L	500000	ug/L	98.4	80.0 – 120.0	01-FEB-10 07:48	020110-1

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:**

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Manganese	469	ug/L	500	ug/L	93.7	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Potassium	5160	ug/L	5000	ug/L	103	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Silver	265	ug/L	250	ug/L	106	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Sodium	5290	ug/L	5000	ug/L	106	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Vanadium	494	ug/L	500	ug/L	98.7	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Zinc	482	ug/L	500	ug/L	96.4	80.0 – 120.0	01-FEB-10 07:48	020110-1

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:** O2Si

**Instrument:** ICPMS4

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Uranium	-0.025	ug/L					09-FEB-10 21:05	100209-2
ICSAB01	Uranium	19.2	ug/L	20	ug/L	95.9	80.0 - 120.0	09-FEB-10 21:07	100209-2

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:** O2Si

**Instrument:** ICPMS5

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Arsenic	0.304	ug/L					08-FEB-10 02:02	100207-3
	Nickel	3.36	ug/L					08-FEB-10 02:02	100207-3
	Selenium	-1.31	ug/L					08-FEB-10 02:02	100207-3
	Thallium	0.013	ug/L					08-FEB-10 02:02	100207-3
<b>ICSAB01</b>									
	Arsenic	20.5	ug/L	20	ug/L	103	80.0 - 120.0	08-FEB-10 02:08	100207-3
	Nickel	22.8	ug/L	23.31	ug/L	97.6	80.0 - 120.0	08-FEB-10 02:08	100207-3
	Selenium	18.6	ug/L	20	ug/L	93.1	80.0 - 120.0	08-FEB-10 02:08	100207-3
	Thallium	22.3	ug/L	20	ug/L	111	80.0 - 120.0	08-FEB-10 02:08	100207-3

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:** O2Si

**Instrument:** ICPMS5

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Beryllium	0.096	ug/L					08-FEB-10 06:30	100207-4
ICSAB01	Beryllium	17.6	ug/L	20	ug/L	87.9	80.0 – 120.0	08-FEB-10 06:34	100207-4

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1262

Client ID: RE12-10-8096S

Contract: LANL01004

Level: Low

Matrix: SOIL

% Solids: 93.9

Sample ID: 244881001

Spike ID: 1202018071

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Arsenic	mg/kg	75-125	7.93		0.68	J	8.44	85.9		MS
Beryllium	mg/kg	75-125	5.13		0.527		5.27	87.3		MS
Nickel	mg/kg	75-125	6.64		1.97		5.27	88.6		MS
Selenium	mg/kg	75-125	1.76		0.529	U	2.11	83.5		MS
Thallium	mg/kg	75-125	10.4		0.0635	U	10.5	98.1		MS

## METALS

-5a-

## Matrix Spike Duplicate Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-8096SD

**Contract:** LANL01004 **Level:** Low

**Matrix:** SOIL **% Solids:** 93.9

**Sample ID:** 244881001 **Spike ID:** 1202018073

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Arsenic	mg/kg	75-125	7.99		0.68	J	8.47	86.2		MS
Beryllium	mg/kg	75-125	5.2		0.527		5.29	88.2		MS
Nickel	mg/kg	75-125	6.81		1.97		5.29	91.5		MS
Selenium	mg/kg	75-125	1.83		0.529	U	2.12	86.3		MS
Thallium	mg/kg	75-125	10.3		0.0635	U	10.6	96.5		MS



## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1262 Client ID: RE12-10-8096S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.9

Sample ID: 244881001 Spike ID: 1202018102

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Aluminum	ug/Kg		4750000		2280000		515000	479	N/A	P
Antimony	ug/Kg	75-125	50900		343	U	51500	98.3		P
Barium	ug/Kg	75-125	77800		23700		51500	105		P
Cadmium	ug/Kg	75-125	50800		104	U	51500	98.7		P
Calcium	ug/Kg	75-125	1270000		761000		515000	98.9		P
Chromium	ug/Kg	75-125	57700		5740		51500	101		P
Cobalt	ug/Kg	75-125	50500		893		51500	96.3		P
Copper	ug/Kg	75-125	56200		2490		51500	104		P
Iron	ug/Kg		9150000		7990000		515000	225	N/A	P
Lead	ug/Kg	75-125	55400		4750		51500	98.4		P
Magnesium	ug/Kg	75-125	1220000		476000		515000	144	N	P
Manganese	ug/Kg	75-125	276000		203000		51500	141	N	P
Potassium	ug/Kg	75-125	1170000		462000		515000	138	N	P
Silver	ug/Kg	75-125	51700		118	J	51500	100		P
Sodium	ug/Kg	75-125	597000		51400		515000	106		P
Vanadium	ug/Kg	75-125	57300		6110		51500	99.5		P
Zinc	ug/Kg	75-125	90100		35900		51500	105		P

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-1262 Client ID: RE12-10-8096SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.9

Sample ID: 244881001 Spike ID: 1202018104

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Aluminum	ug/Kg		5410000		2280000		529000	592	N/A	P
Antimony	ug/Kg	75-125	51500		343	U	52900	96.9		P
Barium	ug/Kg	75-125	80900		23700		52900	108		P
Cadmium	ug/Kg	75-125	52600		104	U	52900	99.4		P
Calcium	ug/Kg	75-125	1270000		761000		529000	96		P
Chromium	ug/Kg	75-125	59300		5740		52900	101		P
Cobalt	ug/Kg	75-125	52500		893		52900	97.6		P
Copper	ug/Kg	75-125	58400		2490		52900	106		P
Iron	ug/Kg		9500000		7990000		529000	285	N/A	P
Lead	ug/Kg	75-125	57600		4750		52900	99.9		P
Magnesium	ug/Kg	75-125	1230000		476000		529000	141	N	P
Manganese	ug/Kg	75-125	285000		203000		52900	156	N	P
Potassium	ug/Kg	75-125	1180000		462000		529000	136	N	P
Silver	ug/Kg	75-125	53400		118	J	52900	101		P
Sodium	ug/Kg	75-125	575000		51400		529000	98.9		P
Vanadium	ug/Kg	75-125	59200		6110		52900	100		P
Zinc	ug/Kg	75-125	94600		35900		52900	111		P

## METALS

-5a-

## Matrix Spike Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-7272S**Contract:** LANL01004 **Level:** Low**Matrix:** SOIL **% Solids:** 87**Sample ID:** 244847001 **Spike ID:** 1202019776

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/kg	75-125	139		4.64	U	127	109		AV

## METALS

-5a-

## Matrix Spike Duplicate Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-7272SD**Contract:** LANL01004 **Level:** Low**Matrix:** SOIL **% Solids:** 87**Sample ID:** 244847001 **Spike ID:** 1202019778

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/kg	75-125	140		4.64	U	128	110		AV

## METALS

-5a-

## Matrix Spike Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-7272S**Contract:** LANL01004 **Level:** Low**Matrix:** SOIL **% Solids:** 87**Sample ID:** 244847001 **Spike ID:** 1202037287

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Uranium	mg/kg	75-125	7.02		1.84		5.47	94.7		MS

## METALS

-5a-

## Matrix Spike Duplicate Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-7272SD**Contract:** LANL01004 **Level:** Low**Matrix:** SOIL **% Solids:** 87**Sample ID:** 244847001 **Spike ID:** 1202037288

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Uranium	mg/kg	75-125	7.23		1.84		5.52	97.7		MS

**Metals**  
**–6–**  
**Duplicate Sample Summary**

**SDG No.:** 10–1262**Contract:** LANL01004**Lab Code:** GEL**Matrix:** SOLID**Level:** Low**Client ID:** RE12–10–8096D**Sample ID:** 244881001**Duplicate ID:** 1202018070**Percent Solids for Dup:** 93.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1.06	0.68 J		0.706 J		3.67		MS
Beryllium	mg/kg	+/- .106	0.527		0.473		10.7		MS
Nickel	mg/kg	+/- .425	1.97		1.8		8.73		MS
Selenium	mg/kg		0.529 U		0.532 U				MS
Thallium	mg/kg		0.0635 U		0.0638 U				MS

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**Metals**  
**–6–**  
**Duplicate Sample Summary**

**SDG No.:** 10–1262

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** SOLID

**Level:** Low

**Client ID:** RE12–10–8096SD

**Sample ID:** 1202018071

**Duplicate ID:** 1202018073

**Percent Solids for Dup:** 93.9

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-20	7.93		7.99		.684		MS
Beryllium	mg/kg	+/-20	5.13		5.2		1.3		MS
Nickel	mg/kg	+/-20	6.64		6.81		2.59		MS
Selenium	mg/kg	+/-20	1.76		1.83		3.75		MS
Thallium	mg/kg	+/-20	10.4		10.3		1.25		MS

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**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-8096D

Sample ID: 244881001

Duplicate ID: 1202018101

Percent Solids for Dup: 93.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20%	2280000		2450000		7.29		P
Antimony	ug/Kg		343 U		347 U				P
Barium	ug/Kg	+/-20%	23700		28200		17.2		P
Cadmium	ug/Kg		104 U		105 U				P
Calcium	ug/Kg	+/-20%	761000		788000		3.48		P
Chromium	ug/Kg	+/-20%	5740		5810		1.27		P
Cobalt	ug/Kg	+/-525	893		1250		33.3		P
Copper	ug/Kg	+/-1050	2490		2590		4.09		P
Iron	ug/Kg	+/-20%	7990000		8840000		10.1		P
Lead	ug/Kg	+/-1050	4750		5400		13		P
Magnesium	ug/Kg	+/-20%	476000		551000		14.4		P
Manganese	ug/Kg	+/-20%	203000		246000		19		P
Potassium	ug/Kg	+/-20%	462000		506000		9.11		P
Silver	ug/Kg	+/-525	118 J		193 J		48.2		P
Sodium	ug/Kg	+/-26300	51400		54600		6.06		P
Vanadium	ug/Kg	+/-20%	6110		6390		4.5		P
Zinc	ug/Kg	+/-20%	35900		40500		12.2		P

**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-1262

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-8096SD

Sample ID: 1202018102

Duplicate ID: 1202018104

Percent Solids for Dup: 93.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20	4750000		5410000		13.1		P
Antimony	ug/Kg	+/-20	50900		51500		1.27		P
Barium	ug/Kg	+/-20	77800		80900		3.88		P
Cadmium	ug/Kg	+/-20	50800		52600		3.47		P
Calcium	ug/Kg	+/-20	1270000		1270000		.109		P
Chromium	ug/Kg	+/-20	57700		59300		2.73		P
Cobalt	ug/Kg	+/-20	50500		52500		4		P
Copper	ug/Kg	+/-20	56200		58400		3.84		P
Iron	ug/Kg	+/-20	9150000		9500000		3.78		P
Lead	ug/Kg	+/-20	55400		57600		3.87		P
Magnesium	ug/Kg	+/-20	1220000		1230000		.506		P
Manganese	ug/Kg	+/-20	276000		285000		3.46		P
Potassium	ug/Kg	+/-20	1170000		1180000		.73		P
Silver	ug/Kg	+/-20	51700		53400		3.2		P
Sodium	ug/Kg	+/-20	597000		575000		3.78		P
Vanadium	ug/Kg	+/-20	57300		59200		3.22		P
Zinc	ug/Kg	+/-20	90100		94600		4.87		P

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**Metals**  
**-6-**  
**Duplicate Sample Summary**

**SDG No.:** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** SOLID

**Level:** Low

**Client ID:** RE12-10-7272D

**Sample ID:** 244847001

**Duplicate ID:** 1202019775

**Percent Solids for Dup:** 87

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg		4.64	U	4.07	U			AV

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**Metals**  
**-6-**  
**Duplicate Sample Summary**

**SDG No.:** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** SOLID

**Level:** Low

**Client ID:** RE12-10-7272SD

**Sample ID:** 1202019776

**Duplicate ID:** 1202019778

**Percent Solids for Dup:** 87

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-20	139		140		.945		AV

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**Metals**  
**–6–**  
**Duplicate Sample Summary**

**SDG No.:** 10–1262

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** SOLID

**Level:** Low

**Client ID:** RE12–10–7272D

**Sample ID:** 244847001

**Duplicate ID:** 1202037285

**Percent Solids for Dup:** 87

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Uranium	mg/kg	+/-20%	1.84		2.05		10.7		MS

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**Metals**  
**-6-**  
**Duplicate Sample Summary**

**SDG No.:** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** SOLID

**Level:** Low

**Client ID:** RE12-10-7272SD

**Sample ID:** 1202037287

**Duplicate ID:** 1202037288

**Percent Solids for Dup:** 87

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Uranium	mg/kg	+/-20	7.02		7.23		2.97		MS

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## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202018069								
	Arsenic	mg/kg	104	104		99.6	83-120	MS
	Beryllium	mg/kg	77.6	81		104	81.2-126.8	MS
	Nickel	mg/kg	134	147		110	83.3-121.4	MS
	Selenium	mg/kg	286	300		105	80.2-125.9	MS
	Thallium	mg/kg	121	135		111	78-123.2	MS

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202018100								
	Aluminum	ug/Kg	10500000	7920000		75.4	56-144	P
	Antimony	ug/Kg	173000	153000		88.4	71-130	P
	Barium	ug/Kg	198000	185000		93.2	80-120	P
	Cadmium	ug/Kg	60700	66000		109	81-120	P
	Calcium	ug/Kg	9870000	10300000		104	83-117	P
	Chromium	ug/Kg	236000	269000		114	80-120	P
	Cobalt	ug/Kg	91200	100000		110	81-120	P
	Copper	ug/Kg	174000	202000		116	81-118	P
	Iron	ug/Kg	18000000	17000000		94.4	51-149	P
	Lead	ug/Kg	86000	78000		90.7	79-121	P
	Magnesium	ug/Kg	4000000	3770000		94.3	79-122	P
	Manganese	ug/Kg	558000	548000		98.3	81-119	P
	Potassium	ug/Kg	4300000	3880000		90.1	74-127	P
	Silver	ug/Kg	30100	31400		104	66-134	P
	Sodium	ug/Kg	1020000	1170000		114	74-127	P
	Vanadium	ug/Kg	115000	120000		105	79-121	P
	Zinc	ug/Kg	594000	621000		104	80-121	P



## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

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<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202019774	Mercury	ug/kg	5150	5040		97.9	71.6-128.3	AV

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## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

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<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202037289	Uranium	mg/kg	2.13	1.38		65	61.9-130.7	MS

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## METALS

-9-

## Serial Dilution Sample Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-8096L**Contract:** LANL01004**Matrix:** SOLID **Level:** Low**Sample ID:** 244881001 **Serial Dilution ID:** 1202018072

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Arsenic	3.21	J	5	U	100			MS
Beryllium	2.49		2.62		5.02			MS
Nickel	9.29		9.9	J	6.57			MS
Selenium	2.5	U	12.5	U				MS
Thallium	.3	U	1.5	U				MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1262

Client ID: RE12-10-8096L

Contract: LANL01004

Matrix: SOLID

Level: Low

Sample ID: 244881001

Serial Dilution ID: 1202018103

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Aluminum	21900		20400		6.85		10	P
Antimony	3.3	U	18.3	J				P
Barium	228		218		4.39		10	P
Cadmium	1	U	5	U				P
Calcium	7310		7050		3.56		10	P
Chromium	55.1		55.5		.726			P
Cobalt	8.59		7.5	U	100			P
Copper	23.9		24.9	J	4.18			P
Iron	76800		76000		1.04		10	P
Lead	45.6		49.4	J	8.22			P
Magnesium	4580		5000		9.17		10	P
Manganese	1950		1910		2.31		10	P
Potassium	4440		4180		5.97		10	P
Silver	1.13	J	5	U	100			P
Sodium	494		875	J	77.1			P
Vanadium	58.7		57		2.9		10	P
Zinc	345		331		4.06		10	P

## METALS

-9-

## Serial Dilution Sample Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-7272L**Contract:** LANL01004**Matrix:** SOLID **Level:** Low**Sample ID:** 244847001 **Serial Dilution ID:** 1202019777

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Mercury	.068	U	.34	U				AV

## METALS

-9-

## Serial Dilution Sample Summary

**SDG NO.** 10-1262 **Client ID:** RE12-10-7272L**Contract:** LANL01004**Matrix:** SOLID **Level:** Low**Sample ID:** 244847001 **Serial Dilution ID:** 1202037286

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Uranium	8.36		8.5		1.67		10	MS

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

**SDG No:** 10-1262**Method Type:** P**Contract:** LANL01004**Lab Code:** GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number</b>	942644						
1202018099	MB for batch 942644	MB	S	21-JAN-10	.512g	50mL	
1202018100	LCS for batch 942644	LCS	S	21-JAN-10	.501g	50mL	
1202018102	RE12-10-8096S	MS	S	21-JAN-10	.517g	50mL	
1202018104	RE12-10-8096SD	MSD	S	21-JAN-10	.503g	50mL	
1202018101	RE12-10-8096D	DUP	S	21-JAN-10	.507g	50mL	
244847001	RE12-10-7272	SAMPLE	S	21-JAN-10	.509g	50mL	
244847002	RE12-10-7273	SAMPLE	S	21-JAN-10	.512g	50mL	
244847003	RE12-10-7274	SAMPLE	S	21-JAN-10	.517g	50mL	
244847004	RE12-10-7281	SAMPLE	S	21-JAN-10	.508g	50mL	

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SW846

**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

SDG No: 10-1262

Method Type: MS

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number 942632</b>							
1202018068	MB for batch 942632	MB	S	21-JAN-10	.519g	50mL	
1202018069	LCS for batch 942632	LCS	S	21-JAN-10	.518g	50mL	
1202018071	RE12-10-8096S	MS	S	21-JAN-10	.505g	50mL	
1202018073	RE12-10-8096SD	MSD	S	21-JAN-10	.503g	50mL	
1202018070	RE12-10-8096D	DUP	S	21-JAN-10	.501g	50mL	
244847001	RE12-10-7272	SAMPLE	S	21-JAN-10	.511g	50mL	
244847002	RE12-10-7273	SAMPLE	S	21-JAN-10	.514g	50mL	
244847003	RE12-10-7274	SAMPLE	S	21-JAN-10	.522g	50mL	
244847004	RE12-10-7281	SAMPLE	S	21-JAN-10	.505g	50mL	
<b>Batch Number 950660</b>							
1202037284	MB for batch 950660	MB	S	09-FEB-10	.522g	50mL	
1202037289	LCS for batch 950660	LCS	S	09-FEB-10	.52g	50mL	
1202037287	RE12-10-7272S	MS	S	09-FEB-10	.523g	50mL	
1202037288	RE12-10-7272SD	MSD	S	09-FEB-10	.518g	50mL	
1202037285	RE12-10-7272D	DUP	S	09-FEB-10	.5g	50mL	
244847001	RE12-10-7272	SAMPLE	S	09-FEB-10	.52g	50mL	
244847002	RE12-10-7273	SAMPLE	S	09-FEB-10	.508g	50mL	
244847003	RE12-10-7274	SAMPLE	S	09-FEB-10	.514g	50mL	
244847004	RE12-10-7281	SAMPLE	S	09-FEB-10	.51g	50mL	

SW846



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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

**SDG No:** 10-1262**Method Type:** AV**Contract:** LANL01004**Lab Code:** GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number</b>	943316						
1202019773	MB for batch 943316	MB	S	01-FEB-10	.6g	30mL	
1202019774	LCS for batch 943316	LCS	S	01-FEB-10	.204g	30mL	
1202019776	RE12-10-7272S	MS	S	01-FEB-10	.542g	30mL	
1202019778	RE12-10-7272SD	MSD	S	01-FEB-10	.538g	30mL	
1202019775	RE12-10-7272D	DUP	S	01-FEB-10	.574g	30mL	
244847001	RE12-10-7272	SAMPLE	S	01-FEB-10	.503g	30mL	
244847002	RE12-10-7273	SAMPLE	S	01-FEB-10	.514g	30mL	
244847003	RE12-10-7274	SAMPLE	S	01-FEB-10	.555g	30mL	
244847004	RE12-10-7281	SAMPLE	S	01-FEB-10	.532g	30mL	

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**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS5**Start Date:** 08-FEB-10**Client Sdg:** 10-1262**Method:** MS**Data File:** 100207-3**End Date:** 08-FEB-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	01:25			X													X		X			X			
S10	1	01:31			X													X		X			X			
S100	1	01:38			X													X		X			X			
ICV01	1	01:44			X													X		X			X			
ICB01	1	01:50			X													X		X			X			
CRDL01	1	01:56			X													X		X			X			
ICSA01	1	02:02			X													X		X			X			
ICSAB01	1	02:08			X													X		X			X			
CCV01	1	02:14			X													X		X			X			
CCB01	1	02:20			X													X		X			X			
LR01	1	02:26			X													X		X			X			
CCV02	1	02:33			X													X		X			X			
CCB02	1	02:39			X													X		X			X			
1202018068	2	02:45			X													X		X			X			
1202018069	40	02:51			X													X		X			X			
ZZZZZZ	2	02:57																								
ZZZZZZ	2	03:03																								
ZZZZZZ	2	03:09																								
ZZZZZZ	2	03:16																								
ZZZZZZ	2	03:22																								
CCV03	1	03:28			X													X		X			X			
CCB03	1	03:34			X													X		X			X			
ZZZZZZ	2	03:40																								
244847001	2	03:46			X													X		X			X			
244847002	2	03:53			X													X		X			X			
244847003	2	03:59			X													X		X			X			
244847004	2	04:05			X													X		X			X			
ZZZZZZ	2	04:11																								
ZZZZZZ	2	04:17																								
CCV04	1	04:24			X													X		X			X			
CCB04	1	04:30			X													X		X			X			
ZZZZZZ	2	04:36																								
ZZZZZZ	2	04:42																								
ZZZZZZ	2	04:48																								
1202018070	2	04:54			X													X		X			X			
1202018071	2	05:01			X													X		X			X			
1202018073	2	05:07			X													X		X			X			
1202018072	10	05:13			X													X		X			X			
CCV05	1	05:19			X													X		X			X			
CCB05	1	05:25			X													X		X			X			

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS5**Start Date:** 08-FEB-10**End Date:** 08-FEB-10**Client Sdg:** 10-1262**Method:** MS**Data File:** 100207-4

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	06:08					X																			
S10	1	06:12					X																			
S100	1	06:15					X																			
ICV01	1	06:19					X																			
ICB01	1	06:23					X																			
CRDL01	1	06:26					X																			
ICSA01	1	06:30					X																			
ICSAB01	1	06:34					X																			
CCV01	1	06:37					X																			
CCB01	1	06:41					X																			
LR01	1	06:45					X																			
CCV02	1	06:48					X																			
CCB02	1	06:52					X																			
1202018068	2	06:56					X																			
1202018069	40	07:00					X																			
ZZZZZZ	2	07:03																								
ZZZZZZ	2	07:07																								
ZZZZZZ	2	07:11																								
ZZZZZZ	2	07:14																								
ZZZZZZ	2	07:18																								
CCV03	1	07:22					X																			
CCB03	1	07:26					X																			
ZZZZZZ	2	07:29																								
244847001	2	07:33					X																			
244847002	2	07:37					X																			
244847003	2	07:41					X																			
244847004	2	07:44					X																			
ZZZZZZ	2	07:48																								
ZZZZZZ	2	07:52																								
CCV04	1	07:55					X																			
CCB04	1	07:59					X																			
ZZZZZZ	2	08:03																								
ZZZZZZ	2	08:07																								
ZZZZZZ	2	08:10																								
1202018070	2	08:14					X																			
1202018071	2	08:18					X																			
1202018073	2	08:22					X																			
1202018072	10	08:25					X																			
CCV05	1	08:29					X																			
CCB05	1	08:33					X																			

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** OPTIMA3**Start Date:** 01-FEB-10**End Date:** 02-FEB-10**Client Sdg:** 10-1262**Method** P**Data File:** 020110-1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	06:49	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S0.1	1	06:56		X		X		X		X	X	X		X		X			X		X				X	X
S0.5	1	07:02	X	X		X		X	X	X	X	X		X	X	X			X		X				X	X
SCAL	1	07:09	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S10	1	07:16	X						X				X		X							X				
ICV01	1	07:22	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICB01	1	07:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
PQL01	1	07:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSA01	1	07:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSAB01	1	07:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR01	1	07:54	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR02	1	08:01	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	08:08																								
ZZZZZZ	1	08:15																								
CCV01	1	08:25	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB01	1	08:32	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR03	1	08:39	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR04	1	08:46	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV02	1	08:53	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB02	1	09:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	09:10																								
ZZZZZZ	1	09:17																								
ZZZZZZ	1	09:24																								
ZZZZZZ	1	09:31																								
ZZZZZZ	1	09:38																								
ZZZZZZ	1	09:44																								
ZZZZZZ	1	09:51																								
ZZZZZZ	1	09:58																								
ZZZZZZ	1	10:05																								
ZZZZZZ	1	10:11																								
CCV03	1	10:18	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB03	1	10:26	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	10:41																								
ZZZZZZ	1	10:48																								
ZZZZZZ	1	10:55																								
ZZZZZZ	1	11:02																								
ZZZZZZ	1	11:09																								
ZZZZZZ	5	11:16																								
ZZZZZZ	1	11:23																								
ZZZZZZ	1	11:30																								

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**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	100	16:28																								
CCV08	1	16:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB08	1	16:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV09	1	17:04	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB09	1	17:11	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	17:18																								
ZZZZZZ	1	17:24																								
ZZZZZZ	1	17:31																								
ZZZZZZ	50	17:38																								
ZZZZZZ	1	17:45																								
ZZZZZZ	1	17:52																								
ZZZZZZ	1	17:59																								
ZZZZZZ	1	18:05																								
ZZZZZZ	5	18:12																								
ZZZZZZ	50	18:19																								
CCV10	1	18:26	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB10	1	18:33	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	100	18:40																								
ZZZZZZ	100	18:47																								
ZZZZZZ	100	18:53																								
ZZZZZZ	100	19:00																								
ZZZZZZ	100	19:07																								
ZZZZZZ	100	19:14																								
ZZZZZZ	50	19:21																								
ZZZZZZ	50	19:28																								
ZZZZZZ	50	19:35																								
CCV11	1	19:41	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB11	1	19:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	100	19:55																								
ZZZZZZ	50	20:02																								
ZZZZZZ	50	20:09																								
ZZZZZZ	1	20:15																								
ZZZZZZ	1	20:22																								
ZZZZZZ	100	20:29																								
ZZZZZZ	1	20:36																								
ZZZZZZ	1	20:43																								
CCV12	1	20:50	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB12	1	20:57	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	21:04																								
ZZZZZZ	1	21:11																								

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**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	1	01:56																								
ZZZZZZ	1	02:03																								
ZZZZZZ	1	02:11																								
ZZZZZZ	1	02:18																								
CCV17	1	02:25	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB17	1	02:32	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	02:38																								
1202018101	1	02:46	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202018102	1	02:53	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202018104	1	03:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202018103	5	03:07	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	03:14																								
ZZZZZZ	1	03:21																								
ZZZZZZ	1	03:28																								
CCV18	1	03:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB18	1	03:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X



**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** MER536**Start Date:** 02-FEB-10**End Date:** 02-FEB-10**Client Sdg:** 10-1262**Method:** AV**Data File:** 020210S1-6

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:43															X									
S0.2	1	09:45															X									
S0.5	1	09:47															X									
S2.0	1	09:49															X									
S5.0	1	09:51															X									
S10	1	09:53															X									
ICV01	1	09:55															X									
ICB01	1	09:57															X									
CRDL01	1	09:59															X									
CCV01	1	10:01															X									
CCB01	1	10:03															X									
I202019773	1	10:05															X									
I202019774	10	10:07															X									
ZZZZZZ	1	10:09																								
ZZZZZZ	1	10:11																								
ZZZZZZ	1	10:13																								
ZZZZZZ	1	10:15																								
ZZZZZZ	1	10:17																								
ZZZZZZ	1	10:19																								
ZZZZZZ	1	10:21																								
ZZZZZZ	1	10:23																								
CCV02	1	10:25															X									
CCB02	1	10:27															X									
ZZZZZZ	1	10:29																								
ZZZZZZ	1	10:31																								
ZZZZZZ	1	10:33																								
ZZZZZZ	1	10:35																								
ZZZZZZ	1	10:37																								
ZZZZZZ	1	10:39																								
ZZZZZZ	1	10:41																								
ZZZZZZ	1	10:43																								
244847001	1	10:45															X									
I202019775	1	10:47															X									
CCV03	1	10:49															X									
CCB03	1	10:51															X									
I202019776	1	10:55															X									
I202019778	1	10:57															X									
I202019777	5	10:59															X									
244847002	1	11:01															X									
244847003	1	11:03															X									

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time																		
244847004	1	11:05											X							
ZZZZZZ	1	11:07																		
ZZZZZZ	10	11:09																		
ZZZZZZ	1	11:11																		
ZZZZZZ	1	11:13																		
CCV04	1	11:15											X							
CCB04	1	11:17											X							

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS4**Start Date:** 09-FEB-10**Client Sdg:** 10-1262**Method:** MS**Data File:** 100209-2**End Date:** 09-FEB-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	20:52																						X		
S10	1	20:54																						X		
S100	1	20:56																						X		
ICV01	1	20:58																						X		
ICB01	1	21:00																						X		
CRDL01	1	21:03																						X		
ICSA01	1	21:05																						X		
ICSAB01	1	21:07																						X		
CCV01	1	21:09																						X		
CCB01	1	21:11																						X		
1202037284	2	21:14																						X		
1202037289	40	21:16																						X		
244847001	2	21:18																						X		
1202037285	2	21:21																						X		
1202037287	2	21:23																						X		
1202037288	2	21:25																						X		
1202037286	10	21:27																						X		
CCV02	1	21:30																						X		
CCB02	1	21:32																						X		
244847002	2	21:34																						X		
244847003	2	21:36																						X		
244847004	2	21:39																						X		
ZZZZZZ	2	21:41																								
ZZZZZZ	2	21:43																								
ZZZZZZ	2	21:46																								
CCV03	1	21:48																						X		
CCB03	1	21:50																						X		

# Standards

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METALS  
-10-  
Instrument Detection Limits

SDG NO. 10-1262

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

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ICP/MS	<u>Analyte</u>	<u>Wavelength (nm)</u>	<u>MDL</u>	<u>RDL</u>
			<u>ug/L</u>	<u>ug/L</u>
SOLID	Aluminum		15.0	50
	Antimony		0.5	3
	Arsenic		1.0	5
	Barium		0.5	2
	Beryllium		0.1	.5
	Cadmium		0.1	1
	Calcium		33.0	100
	Chromium		1.0	3
	Cobalt		0.3	1
	Copper		0.33	1
	Iron		25.0	100
	Lead		0.5	2
	Magnesium		7.5	25
	Manganese		1.0	5
	Nickel		0.5	2
	Potassium		80.0	300
	Selenium		2.5	5
	Silver		0.2	1
	Sodium		80.0	250
	Thallium		0.3	1
	Uranium		0.066	.2
	Vanadium		2.0	10
	Zinc		2.0	10

METALS  
-10-  
Instrument Detection Limits

**SDG NO.** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**MDL Effective Date:** 15-JUN-09

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	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u> <u>ug/L</u>	<u>RDL</u> <u>ug/L</u>
MERCURY				
SOLID	Mercury		0.068	.2

**METALS**  
**-10-**  
**Instrument Detection Limits**

**SDG NO.** 10-1262

**Contract:** LANL01004

**Lab Code:** GEL

**MDL Effective Date:** 01-JUL-09

ICP	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u>	<u>RDL</u>
			<u>ug/L</u>	<u>ug/L</u>
SOLID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.3	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	80.0	250
	Chromium	267.716	1.5	5
	Cobalt	228.616	1.5	5
	Copper	324.752	3.0	10
	Iron	238.204	80.0	250
	Lead	220.353	2.5	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	64.0	250
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	70.0	250
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

**METALS**  
**–11–**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Aluminum	Antimony	Arsenic	Barium	Beryllium
<b>Parmname</b>	<b>Wavelength</b>					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.02697	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	-0.48147	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.21356	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.05186	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.18741	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000



**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Boron	Cadmium	Chromium	Cobalt	Copper
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	2.85580	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.44491	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-29.9151	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.57616
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.60374	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	198.62
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	4.37985	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.36147	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	2.23785	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.36818	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.35273

**METALS**  
**–11–**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Iron	Lead	Magnesium	Manganese	Molybdenum
<b>Parmname</b>	<b>Wavelength</b>					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	48.4946
Antimony	206.836	-0.02515	0.00000	0.00000	0.00000	-20.5057
Arsenic	188.979	-0.23424	0.00000	0.00000	0.00000	2.41902
Barium	233.527	-0.03042	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.16240	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.10329	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	-0.01944	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.01444	0.00000	0.00000	0.00000	-2.33100
Copper	324.752	-0.05293	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.09554	0.00000	0.00000	0.00000	-2.48774
Magnesium	279.077	1.04597	0.00000	0.00000	0.00000	-10.4683
Manganese	257.61	-0.09877	0.00000	0.04089	0.00000	0.00000
Molybdenum	202.031	-0.07763	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.80543	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.39429	1.18725
Selenium	196.026	-3.27508	0.00000	0.00000	0.00000	-3.07287
Silica	251.611	0.00000	0.00000	0.00000	0.00000	27.2377
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	12.3082
Silver	328.068	-0.32385	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-4.77918	0.00000
Tin	189.927	-0.01682	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.08168	0.00000	0.00000
Uranium	409.014	0.11400	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.14564	0.00000	-0.01931	0.00000	-14.1293
Zinc	213.857	0.09701	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Nickel	Phosphorous	Potassium	Selenium	Silica
<b>Parmname</b>	<b>Wavelength</b>					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	-0.84443	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-0.63547	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	6.37026	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Silicon	Silver	Strontium	Sulfur	Thallium
<b>Parmname</b>	<b>Wavelength</b>					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**–11–**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		<b>Tin</b>	<b>Titanium</b>	<b>Uranium</b>	<b>Vanadium</b>	<b>Zinc</b>
<b>Parmname</b>	<b>Wavelength</b>					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	-15.4932	3.30431	0.00000	-2.81282	0.00000
Arsenic	188.979	0.00000	-8.66313	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	-2.20293	0.00000
Beryllium	313.107	0.00000	-2.27027	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	-0.19473	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.39645	-1.41250	0.00000
Cobalt	228.616	0.00000	2.09497	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.55360	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	-9.37529	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.81635	-4.04400	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	-8.29801	0.00000	1.88584	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.43915	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	1.05947	-1.91382	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1262

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS5

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1262

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA3

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	20	500000	ug/L	01-NOV-09
Antimony	20	10000	ug/L	01-NOV-09
Arsenic	20	10000	ug/L	01-NOV-09
Barium	20	15000	ug/L	01-NOV-09
Beryllium	20	3000	ug/L	01-NOV-09
Cadmium	20	10000	ug/L	01-NOV-09
Calcium	20	500000	ug/L	01-NOV-09
Chromium	20	25000	ug/L	01-NOV-09
Cobalt	20	10000	ug/L	01-NOV-09
Copper	20	20000	ug/L	01-NOV-09
Iron	20	500000	ug/L	01-NOV-09
Lead	20	25000	ug/L	01-NOV-09
Magnesium	20	500000	ug/L	01-NOV-09
Manganese	20	10000	ug/L	01-NOV-09
Nickel	20	10000	ug/L	01-NOV-09
Potassium	20	300000	ug/L	01-NOV-09
Selenium	20	10000	ug/L	01-NOV-09
Silver	20	1000	ug/L	01-NOV-09
Sodium	20	500000	ug/L	01-NOV-09
Thallium	20	10000	ug/L	01-NOV-09
Uranium	20	15000	ug/L	01-NOV-09
Vanadium	20	10000	ug/L	01-NOV-09
Zinc	20	15000	ug/L	01-NOV-09

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1262

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS4

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09



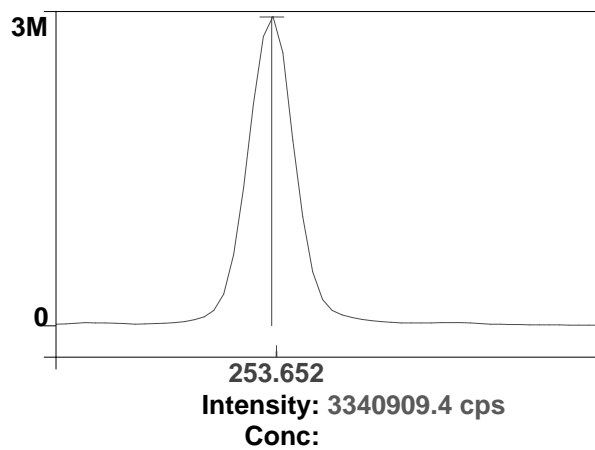
# Raw Data

Method: Hg\_ReAlign  
Result: 021010

Sample ID: Hg\_ReAlign

Hg 253.652

Rep: 1



1

-2.0	15.0	10950.7
-1.5	15.0	13356.1
-1.0	15.0	18207.6
-0.5	15.0	21698.6
0.0	15.0	22605.7
0.5	15.0	20975.3
1.0	15.0	17444.4
1.5	15.0	11061.7
2.0	15.0	6169.3
2.5	15.0	4491.1
3.0	15.0	2833.9
3.5	15.0	1906.5
4.0	15.0	1346.0
4.5	15.0	994.3
5.0	15.0	892.7
5.5	15.0	962.2
6.0	15.0	1130.4
6.5	15.0	1498.4
7.0	15.0	1651.0

2/1/2010 05:58:43 aligned for analyte Mn 257.610

X viewing position set to 0.0 mm having Peak intensity 22605.7 for Radial viewing

# Analysis Begun

Start Time: 2/1/2010 06:49:48

Plasma On Time: 2/1/2010 05:43:14

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\020110.sif

Batch ID:

Results Data Set: 020110

Results Library: C:\pe\Optima3\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 8

Sample ID: S0

Date Collected: 2/1/2010 06:49:48

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

# Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	4121.5	4121.5	0.000 %		06:52:01
1	Y RADIAL	4829.5	4829.5	0.000 %		06:51:41
1	Al 396.153Radial†	-161.7	-161.9	[0.00] ug/L		06:51:41
1	Ca 317.933Radial†	10.8	10.8	[0.00] ug/L		06:52:01
1	Fe 238.204 Radial†	12.2	12.2	[0.00] ug/L		06:52:01
1	K 766.490 Radial†	2566.6	2569.1	[0.00] ug/L		06:51:41
1	Mg 279.077 IEC†	-0.6	-0.6	[0.00] ug/L		06:52:01
1	Na 589.592 Radial†	-1699.0	-1700.7	[0.00] ug/L		06:51:41
1	Sr 421.552†	46.0	46.0	[0.00] ug/L		06:51:41
1	Sc 361.383	894016.3	894016.3	0.0000 %		06:52:58
1	Y 371.029	735292.5	735292.5	0.0000 %		06:52:58
1	Ag 328.068†	563.6	561.5	[0.00] ug/L		06:52:58
1	As 188.979†	-26.4	-26.3	[0.00] ug/L		06:53:18
1	B 249.677†	-761.3	-758.6	[0.00] ug/L		06:53:18
1	Ba 233.527†	-11.8	-11.8	[0.00] ug/L		06:53:18
1	Be 313.107†	-4449.3	-4433.4	[0.00] ug/L		06:52:58
1	Cd 226.502†	-195.6	-194.9	[0.00] ug/L		06:53:18
1	Co 228.616†	-73.1	-72.8	[0.00] ug/L		06:53:18
1	Cr 267.716†	65.4	65.2	[0.00] ug/L		06:52:58
1	Cu 324.752†	6876.8	6852.3	[0.00] ug/L		06:52:58
1	Mn 257.610†	533.5	531.6	[0.00] ug/L		06:53:18
1	Mo 202.031†	6.3	6.2	[0.00] ug/L		06:53:18
1	Ni 231.604†	83.0	82.7	[0.00] ug/L		06:53:18
1	P 214.914†	219.2	218.4	[0.00] ug/L		06:53:18

1	Pb 220.353†	-72.2	-71.9	[0.00]	ug/L	06:53:18
1	S 181.975 Axial†	43.8	43.7	[0.00]	ug/L	06:53:18
1	Sb 206.836†	39.1	39.0	[0.00]	ug/L	06:53:18
1	Se 196.026†	-28.3	-28.2	[0.00]	ug/L	06:53:18
1	Si 251.611†	537.0	535.1	[0.00]	ug/L	06:53:18
1	Sn 189.927†	8.3	8.3	[0.00]	ug/L	06:53:18
1	Ti 334.940†	-1827.5	-1821.0	[0.00]	ug/L	06:52:58
1	Tl 190.801†	-49.8	-49.6	[0.00]	ug/L	06:53:18
1	U 409.014†	-5120.4	-5102.1	[0.00]	ug/L	06:52:58
1	V 292.402†	-1768.4	-1762.1	[0.00]	ug/L	06:52:58
1	Zn 213.857†	703.9	701.4	[0.00]	ug/L	06:53:18
1	SiO2†	571.2	569.1	[0.00]	ug/L	06:54:14
2	Sc Radial	4130.1	4130.1	0.000	%	06:52:26
2	Y RADIAL	4825.8	4825.8	0.000	%	06:52:06
2	Al 396.153Radial†	-198.2	-198.0	[0.00]	ug/L	06:52:06
2	Ca 317.933Radial†	16.1	16.1	[0.00]	ug/L	06:52:26
2	Fe 238.204 Radial†	8.8	8.8	[0.00]	ug/L	06:52:26
2	K 766.490 Radial†	2672.8	2669.8	[0.00]	ug/L	06:52:06
2	Mg 279.077 IEC†	1.4	1.4	[0.00]	ug/L	06:52:26
2	Na 589.592 Radial†	-1651.2	-1649.4	[0.00]	ug/L	06:52:06
2	Sr 421.552†	27.0	26.9	[0.00]	ug/L	06:52:06
2	Sc 361.383	888912.0	888912.0	0.0000	%	06:53:23
2	Y 371.029	733255.9	733255.9	0.0000	%	06:53:23
2	Ag 328.068†	594.3	595.6	[0.00]	ug/L	06:53:23
2	As 188.979†	-22.4	-22.5	[0.00]	ug/L	06:53:43
2	B 249.677†	-763.7	-765.4	[0.00]	ug/L	06:53:43
2	Ba 233.527†	-12.6	-12.6	[0.00]	ug/L	06:53:43
2	Be 313.107†	-4389.8	-4399.3	[0.00]	ug/L	06:53:23
2	Cd 226.502†	-209.5	-210.0	[0.00]	ug/L	06:53:43
2	Co 228.616†	-103.3	-103.5	[0.00]	ug/L	06:53:43
2	Cr 267.716†	44.7	44.8	[0.00]	ug/L	06:53:23
2	Cu 324.752†	6954.3	6969.2	[0.00]	ug/L	06:53:23
2	Mn 257.610†	543.8	545.0	[0.00]	ug/L	06:53:43
2	Mo 202.031†	5.2	5.2	[0.00]	ug/L	06:53:43
2	Ni 231.604†	91.9	92.1	[0.00]	ug/L	06:53:43
2	P 214.914†	224.3	224.8	[0.00]	ug/L	06:53:43
2	Pb 220.353†	-76.8	-76.9	[0.00]	ug/L	06:53:43
2	S 181.975 Axial†	51.8	51.9	[0.00]	ug/L	06:53:43
2	Sb 206.836†	37.1	37.2	[0.00]	ug/L	06:53:43
2	Se 196.026†	-30.3	-30.3	[0.00]	ug/L	06:53:43
2	Si 251.611†	543.2	544.3	[0.00]	ug/L	06:53:43
2	Sn 189.927†	9.6	9.6	[0.00]	ug/L	06:53:43
2	Ti 334.940†	-1777.3	-1781.1	[0.00]	ug/L	06:53:23
2	Tl 190.801†	-39.8	-39.9	[0.00]	ug/L	06:53:43
2	U 409.014†	-5031.9	-5042.8	[0.00]	ug/L	06:53:23
2	V 292.402†	-1771.2	-1775.0	[0.00]	ug/L	06:53:23
2	Zn 213.857†	727.3	728.8	[0.00]	ug/L	06:53:43
2	SiO2†	574.5	575.8	[0.00]	ug/L	06:54:19
3	Sc Radial	4124.9	4124.9	0.000	%	06:52:51
3	Y RADIAL	4868.9	4868.9	0.000	%	06:52:31
3	Al 396.153Radial†	-210.4	-210.5	[0.00]	ug/L	06:52:31
3	Ca 317.933Radial†	13.1	13.1	[0.00]	ug/L	06:52:51
3	Fe 238.204 Radial†	9.4	9.4	[0.00]	ug/L	06:52:51
3	K 766.490 Radial†	2633.7	2634.1	[0.00]	ug/L	06:52:31
3	Mg 279.077 IEC†	-0.9	-0.9	[0.00]	ug/L	06:52:51
3	Na 589.592 Radial†	-1606.5	-1606.8	[0.00]	ug/L	06:52:31
3	Sr 421.552†	36.4	36.4	[0.00]	ug/L	06:52:31
3	Sc 361.383	889548.9	889548.9	0.0000	%	06:53:48
3	Y 371.029	734192.1	734192.1	0.0000	%	06:53:48
3	Ag 328.068†	715.4	716.4	[0.00]	ug/L	06:53:48
3	As 188.979†	-37.4	-37.4	[0.00]	ug/L	06:54:08
3	B 249.677†	-758.2	-759.3	[0.00]	ug/L	06:54:08
3	Ba 233.527†	-21.5	-21.5	[0.00]	ug/L	06:54:08
3	Be 313.107†	-4370.2	-4376.5	[0.00]	ug/L	06:53:48
3	Cd 226.502†	-207.2	-207.5	[0.00]	ug/L	06:54:08
3	Co 228.616†	-79.0	-79.1	[0.00]	ug/L	06:54:08
3	Cr 267.716†	75.3	75.5	[0.00]	ug/L	06:53:48
3	Cu 324.752†	6829.2	6839.0	[0.00]	ug/L	06:53:48
3	Mn 257.610†	518.0	518.8	[0.00]	ug/L	06:54:08
3	Mo 202.031†	4.2	4.2	[0.00]	ug/L	06:54:08
3	Ni 231.604†	80.5	80.7	[0.00]	ug/L	06:54:08

3	P 214.914†	226.3	226.6	[0.00] ug/L	06:54:08
3	Pb 220.353†	-89.9	-90.1	[0.00] ug/L	06:54:08
3	S 181.975 Axial†	51.0	51.1	[0.00] ug/L	06:54:08
3	Sb 206.836†	39.0	39.1	[0.00] ug/L	06:54:08
3	Se 196.026†	-19.3	-19.4	[0.00] ug/L	06:54:08
3	Si 251.611†	527.0	527.8	[0.00] ug/L	06:54:08
3	Sn 189.927†	10.4	10.4	[0.00] ug/L	06:54:08
3	Ti 334.940†	-1808.4	-1811.0	[0.00] ug/L	06:53:48
3	Tl 190.801†	-43.8	-43.9	[0.00] ug/L	06:54:08
3	U 409.014†	-5187.0	-5194.4	[0.00] ug/L	06:53:48
3	V 292.402†	-1717.0	-1719.4	[0.00] ug/L	06:53:48
3	Zn 213.857†	696.1	697.1	[0.00] ug/L	06:54:08
3	SiO2†	541.1	541.8	[0.00] ug/L	06:54:24

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Mean Data: S0

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
Sc 361.383	890825.7	2781.41	0.31%	0.0000	%
Sc Radial	4125.5	4.36	0.11%	0.000	%
Y 371.029	734246.9	1019.38	0.14%	0.0000	%
Y RADIAL	4841.4	23.88	0.49%	0.000	%
Ag 328.068†	624.5	81.40	13.03%	[0.00]	ug/L
Al 396.153Radial†	-190.1	25.23	13.27%	[0.00]	ug/L
As 188.979†	-28.7	7.75	26.96%	[0.00]	ug/L
B 249.677†	-761.1	3.71	0.49%	[0.00]	ug/L
Ba 233.527†	-15.3	5.38	35.20%	[0.00]	ug/L
Be 313.107†	-4403.1	28.67	0.65%	[0.00]	ug/L
Ca 317.933Radial†	13.3	2.67	20.00%	[0.00]	ug/L
Cd 226.502†	-204.1	8.07	3.95%	[0.00]	ug/L
Co 228.616†	-85.1	16.21	19.04%	[0.00]	ug/L
Cr 267.716†	61.8	15.58	25.20%	[0.00]	ug/L
Cu 324.752†	6886.8	71.68	1.04%	[0.00]	ug/L
Fe 238.204 Radial†	10.1	1.81	17.88%	[0.00]	ug/L
K 766.490 Radial†	2624.3	51.05	1.95%	[0.00]	ug/L
Mg 279.077 IEC†	-0.0	1.23	>999.9%	[0.00]	ug/L
Mn 257.610†	531.8	13.10	2.46%	[0.00]	ug/L
Mo 202.031†	5.2	0.99	19.05%	[0.00]	ug/L
Na 589.592 Radial†	-1652.3	47.02	2.85%	[0.00]	ug/L
Ni 231.604†	85.2	6.09	7.16%	[0.00]	ug/L
P 214.914†	223.3	4.32	1.93%	[0.00]	ug/L
Pb 220.353†	-79.6	9.38	11.78%	[0.00]	ug/L
S 181.975 Axial†	48.9	4.54	9.28%	[0.00]	ug/L
Sb 206.836†	38.4	1.09	2.84%	[0.00]	ug/L
Se 196.026†	-26.0	5.82	22.40%	[0.00]	ug/L
Si 251.611†	535.7	8.30	1.55%	[0.00]	ug/L
Sn 189.927†	9.4	1.08	11.46%	[0.00]	ug/L
Sr 421.552†	36.4	9.54	26.19%	[0.00]	ug/L
Ti 334.940†	-1804.4	20.78	1.15%	[0.00]	ug/L
Tl 190.801†	-44.5	4.91	11.03%	[0.00]	ug/L
U 409.014†	-5113.1	76.43	1.49%	[0.00]	ug/L
V 292.402†	-1752.2	29.09	1.66%	[0.00]	ug/L
Zn 213.857†	709.1	17.20	2.43%	[0.00]	ug/L
SiO2†	562.2	17.98	3.20%	[0.00]	ug/L

Sequence No.: 2  
 Sample ID: S0.1  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 2  
 Date Collected: 2/1/2010 06:56:34  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	4182.2	4182.2	101 %	06:58:31
1	Y RADIAL	4693.6	4693.6	96.95 %	06:58:31
1	K 766.490 Radial†	7847.3	5116.7	[1000] ug/L	06:58:26
1	Sr 421.552†	14891.6	14653.5	[100] ug/L	06:58:31
1	Sc 361.383	883810.0	883810.0	99.212 %	06:58:58
1	Y 371.029	726199.0	726199.0	98.904 %	06:58:58
1	Ag 328.068†	22943.9	22501.5	[100] ug/L	06:58:58
1	As 188.979†	229.8	260.3	[100] ug/L	06:59:18
1	B 249.677†	3752.8	4543.7	[100] ug/L	06:58:58
1	Ba 233.527†	13593.2	13716.4	[100] ug/L	06:58:58
1	Be 313.107†	287034.7	293716.2	[100] ug/L	06:58:58
1	Cd 226.502†	9251.0	9528.5	[100] ug/L	06:59:18
1	Co 228.616†	5300.6	5427.8	[100] ug/L	06:59:18
1	Cr 267.716†	9640.2	9654.9	[100] ug/L	06:58:58
1	Cu 324.752†	41869.9	35315.4	[100] ug/L	06:58:58
1	Mn 257.610†	100487.5	100753.4	[100] ug/L	06:58:58
1	Mo 202.031†	1478.0	1484.6	[100] ug/L	06:59:18
1	Ni 231.604†	4541.8	4492.7	[100] ug/L	06:59:18
1	P 214.914†	1156.0	941.9	[500] ug/L	06:59:18
1	Pb 220.353†	864.7	951.2	[100] ug/L	06:59:18
1	S 181.975 Axial†	202.4	155.1	[200] ug/L	06:59:18
1	Sb 206.836†	352.7	317.1	[100] ug/L	06:59:18
1	Se 196.026†	151.2	178.3	[100] ug/L	06:59:18
1	Si 251.611†	16849.6	16447.6	[500] ug/L	06:58:58
1	Sn 189.927†	614.2	609.7	[100] ug/L	06:59:18
1	Ti 334.940†	64694.2	67012.2	[100] ug/L	06:58:58
1	Tl 190.801†	322.1	369.1	[100] ug/L	06:59:18
1	U 409.014†	-1801.9	3296.9	[100] ug/L	06:58:58
1	V 292.402†	12853.2	14707.4	[100] ug/L	06:58:58
1	Zn 213.857†	12331.5	11720.2	[100] ug/L	06:58:58
1	SiO2†	17098.5	16672.0	[1069.5] ug/L	07:00:14
2	Sc Radial	4160.3	4160.3	101 %	06:58:41
2	Y RADIAL	4684.5	4684.5	96.76 %	06:58:41
2	K 766.490 Radial†	7770.4	5081.1	[1000] ug/L	06:58:36
2	Sr 421.552†	14865.3	14704.5	[100] ug/L	06:58:41
2	Sc 361.383	884769.3	884769.3	99.320 %	06:59:24
2	Y 371.029	726094.9	726094.9	98.890 %	06:59:24
2	Ag 328.068†	22917.0	22449.4	[100] ug/L	06:59:24
2	As 188.979†	217.1	247.4	[100] ug/L	06:59:44
2	B 249.677†	3734.5	4521.1	[100] ug/L	06:59:24
2	Ba 233.527†	13604.3	13712.7	[100] ug/L	06:59:24
2	Be 313.107†	286532.5	292896.9	[100] ug/L	06:59:24
2	Cd 226.502†	9269.6	9537.2	[100] ug/L	06:59:44
2	Co 228.616†	5284.4	5405.7	[100] ug/L	06:59:44
2	Cr 267.716†	9584.1	9587.9	[100] ug/L	06:59:24
2	Cu 324.752†	41885.5	35285.4	[100] ug/L	06:59:24
2	Mn 257.610†	100587.2	100743.9	[100] ug/L	06:59:24
2	Mo 202.031†	1497.8	1502.9	[100] ug/L	06:59:44
2	Ni 231.604†	4538.7	4484.6	[100] ug/L	06:59:44
2	P 214.914†	1171.5	956.2	[500] ug/L	06:59:44
2	Pb 220.353†	850.6	936.1	[100] ug/L	06:59:44
2	S 181.975 Axial†	212.7	165.3	[200] ug/L	06:59:44
2	Sb 206.836†	350.9	314.8	[100] ug/L	06:59:44
2	Se 196.026†	148.1	175.0	[100] ug/L	06:59:44
2	Si 251.611†	16849.7	16429.3	[500] ug/L	06:59:24
2	Sn 189.927†	620.2	615.0	[100] ug/L	06:59:44
2	Ti 334.940†	64724.8	66972.2	[100] ug/L	06:59:24
2	Tl 190.801†	308.9	355.5	[100] ug/L	06:59:44
2	U 409.014†	-1729.1	3372.1	[100] ug/L	06:59:24

2	V 292.402†	12818.2	14658.1	[100]	ug/L	06:59:24
2	Zn 213.857†	12328.4	11703.7	[100]	ug/L	06:59:24
2	SiO2†	17022.0	16576.3	[1069.5]	ug/L	07:00:20
3	Sc Radial	4193.6	4193.6	102	%	06:58:51
3	Y RADIAL	4758.4	4758.4	98.29	%	06:58:51
3	K 766.490 Radial†	7759.2	5008.9	[1000]	ug/L	06:58:46
3	Sr 421.552†	14976.1	14696.5	[100]	ug/L	06:58:51
3	Sc 361.383	886938.7	886938.7	99.564	%	06:59:49
3	Y 371.029	727133.3	727133.3	99.031	%	06:59:49
3	Ag 328.068†	23120.3	22597.1	[100]	ug/L	06:59:49
3	As 188.979†	215.1	244.8	[100]	ug/L	07:00:09
3	B 249.677†	3788.5	4566.2	[100]	ug/L	06:59:49
3	Ba 233.527†	13610.3	13685.3	[100]	ug/L	06:59:49
3	Be 313.107†	286917.6	292578.1	[100]	ug/L	06:59:49
3	Cd 226.502†	9263.1	9507.9	[100]	ug/L	07:00:09
3	Co 228.616†	5276.3	5384.6	[100]	ug/L	07:00:09
3	Cr 267.716†	9649.4	9629.9	[100]	ug/L	06:59:49
3	Cu 324.752†	41983.0	35280.1	[100]	ug/L	06:59:49
3	Mn 257.610†	100693.3	100602.8	[100]	ug/L	06:59:49
3	Mo 202.031†	1488.5	1489.8	[100]	ug/L	07:00:09
3	Ni 231.604†	4511.6	4446.2	[100]	ug/L	07:00:09
3	P 214.914†	1158.9	940.7	[500]	ug/L	07:00:09
3	Pb 220.353†	859.3	942.7	[100]	ug/L	07:00:09
3	S 181.975 Axial†	212.5	164.6	[200]	ug/L	07:00:09
3	Sb 206.836†	349.1	312.2	[100]	ug/L	07:00:09
3	Se 196.026†	158.9	185.6	[100]	ug/L	07:00:09
3	Si 251.611†	16941.2	16479.7	[500]	ug/L	06:59:49
3	Sn 189.927†	614.8	608.1	[100]	ug/L	07:00:09
3	Ti 334.940†	64903.7	66992.5	[100]	ug/L	06:59:49
3	Tl 190.801†	315.7	361.6	[100]	ug/L	07:00:09
3	U 409.014†	-1622.8	3483.2	[100]	ug/L	06:59:49
3	V 292.402†	12779.0	14587.2	[100]	ug/L	06:59:49
3	Zn 213.857†	12364.6	11709.7	[100]	ug/L	06:59:49
3	SiO2†	16843.4	16355.0	[1069.5]	ug/L	07:00:25

## Mean Data: S0.1

Analyte	Mean Corrected		Calib		
	Intensity	Std.Dev.	RSD	Conc.	Units
Sc 361.383	885172.7	1602.91	0.18%	99.365	%
Sc Radial	4178.7	16.91	0.40%	101	%
Y 371.029	726475.7	571.83	0.08%	98.942	%
Y RADIAL	4712.2	40.31	0.86%	97.33	%
Ag 328.068†	22516.0	74.92	0.33%	[100]	ug/L
As 188.979†	250.8	8.33	3.32%	[100]	ug/L
B 249.677†	4543.7	22.53	0.50%	[100]	ug/L
Ba 233.527†	13704.8	17.01	0.12%	[100]	ug/L
Be 313.107†	293063.8	587.12	0.20%	[100]	ug/L
Cd 226.502†	9524.5	15.06	0.16%	[100]	ug/L
Co 228.616†	5406.1	21.62	0.40%	[100]	ug/L
Cr 267.716†	9624.2	33.83	0.35%	[100]	ug/L
Cu 324.752†	35293.7	19.04	0.05%	[100]	ug/L
K 766.490 Radial†	5068.9	54.92	1.08%	[1000]	ug/L
Mn 257.610†	100700.0	84.31	0.08%	[100]	ug/L
Mo 202.031†	1492.4	9.43	0.63%	[100]	ug/L
Ni 231.604†	4474.5	24.84	0.56%	[100]	ug/L
P 214.914†	946.3	8.64	0.91%	[500]	ug/L
Pb 220.353†	943.3	7.59	0.80%	[100]	ug/L
S 181.975 Axial†	161.7	5.67	3.51%	[200]	ug/L
Sb 206.836†	314.7	2.44	0.78%	[100]	ug/L
Se 196.026†	179.6	5.39	3.00%	[100]	ug/L
Si 251.611†	16452.2	25.50	0.16%	[500]	ug/L
Sn 189.927†	610.9	3.62	0.59%	[100]	ug/L
Sr 421.552†	14684.8	27.45	0.19%	[100]	ug/L
Ti 334.940†	66992.3	19.97	0.03%	[100]	ug/L
Tl 190.801†	362.1	6.84	1.89%	[100]	ug/L
U 409.014†	3384.1	93.70	2.77%	[100]	ug/L
V 292.402†	14650.9	60.41	0.41%	[100]	ug/L
Zn 213.857†	11711.2	8.40	0.07%	[100]	ug/L
SiO2†	16534.4	162.57	0.98%	[1069.5]	ug/L

Sequence No.: 3

Sample ID: S0.5

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 2/1/2010 07:02:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	4334.7	4334.7	105 %	07:04:27
1	Y RADIAL	4822.7	4822.7	99.61 %	07:04:27
1	Al 396.153Radial†	5965.3	5867.5	[5000] ug/L	07:04:27
1	Ca 317.933Radial†	2801.5	2652.9	[5000] ug/L	07:04:47
1	K 766.490 Radial†	29150.9	25119.6	[5000] ug/L	07:04:27
1	Mg 279.077 IEC†	124.9	118.9	[5000] ug/L	07:04:47
1	Sr 421.552†	78200.0	74389.2	[500] ug/L	07:04:27
1	Sc 361.383	903192.1	903192.1	101.39 %	07:05:46
1	Y 371.029	730028.1	730028.1	99.425 %	07:05:46
1	Ag 328.068†	111244.4	109096.7	[500] ug/L	07:05:46
1	As 188.979†	1237.4	1249.2	[500] ug/L	07:06:06
1	B 249.677†	22220.3	22677.2	[500] ug/L	07:05:46
1	Ba 233.527†	66590.1	65693.7	[500] ug/L	07:05:46
1	Be 313.107†	1454957.1	1439439.1	[500] ug/L	07:05:46
1	Cd 226.502†	46400.2	45969.0	[500] ug/L	07:06:06
1	Co 228.616†	26245.0	25970.8	[500] ug/L	07:06:06
1	Cr 267.716†	47322.8	46613.0	[500] ug/L	07:05:46
1	Cu 324.752†	182170.6	172789.6	[500] ug/L	07:05:46
1	Mn 257.610†	488465.4	481245.6	[500] ug/L	07:05:46
1	Mo 202.031†	7379.0	7272.8	[500] ug/L	07:06:06
1	Ni 231.604†	21920.2	21534.9	[500] ug/L	07:06:06
1	P 214.914†	4931.9	4641.1	[2500] ug/L	07:06:06
1	Pb 220.353†	4507.7	4525.6	[500] ug/L	07:06:06
1	S 181.975 Axial†	842.6	782.2	[1000] ug/L	07:06:06
1	Sb 206.836†	1634.0	1573.2	[500] ug/L	07:06:06
1	Se 196.026†	846.0	860.3	[500] ug/L	07:06:06
1	Si 251.611†	81967.5	80309.5	[2500] ug/L	07:05:46
1	Sn 189.927†	3026.5	2975.6	[500] ug/L	07:06:06
1	Ti 334.940†	328761.3	326064.4	[500] ug/L	07:05:46
1	Tl 190.801†	1697.6	1718.8	[500] ug/L	07:06:06
1	U 409.014†	10709.7	15676.2	[500] ug/L	07:05:46
1	V 292.402†	71122.1	71900.5	[500] ug/L	07:05:46
1	Zn 213.857†	58250.7	56744.0	[500] ug/L	07:05:46
1	SiO2†	82584.0	80891.1	[5347.5] ug/L	07:07:06
2	Sc Radial	4220.7	4220.7	102 %	07:04:52
2	Y RADIAL	4732.6	4732.6	97.75 %	07:04:52
2	Al 396.153Radial†	5872.4	5930.1	[5000] ug/L	07:04:52
2	Ca 317.933Radial†	2775.3	2699.3	[5000] ug/L	07:05:12
2	K 766.490 Radial†	28794.4	25520.5	[5000] ug/L	07:04:52
2	Mg 279.077 IEC†	124.8	122.0	[5000] ug/L	07:05:12
2	Sr 421.552†	76618.8	74853.8	[500] ug/L	07:04:52
2	Sc 361.383	902688.9	902688.9	101.33 %	07:06:13
2	Y 371.029	728805.7	728805.7	99.259 %	07:06:13
2	Ag 328.068†	111133.5	109048.4	[500] ug/L	07:06:13
2	As 188.979†	1255.9	1268.2	[500] ug/L	07:06:34
2	B 249.677†	22306.7	22774.7	[500] ug/L	07:06:13
2	Ba 233.527†	66955.9	66091.3	[500] ug/L	07:06:13
2	Be 313.107†	1454911.9	1440194.5	[500] ug/L	07:06:13
2	Cd 226.502†	46440.6	46034.4	[500] ug/L	07:06:34
2	Co 228.616†	26295.3	26034.9	[500] ug/L	07:06:34
2	Cr 267.716†	47454.0	46768.5	[500] ug/L	07:06:13
2	Cu 324.752†	181595.7	172322.3	[500] ug/L	07:06:13
2	Mn 257.610†	490072.3	483100.0	[500] ug/L	07:06:13
2	Mo 202.031†	7390.5	7288.1	[500] ug/L	07:06:34
2	Ni 231.604†	21932.4	21559.0	[500] ug/L	07:06:34
2	P 214.914†	4941.0	4652.8	[2500] ug/L	07:06:34
2	Pb 220.353†	4530.3	4550.4	[500] ug/L	07:06:34
2	S 181.975 Axial†	850.8	790.7	[1000] ug/L	07:06:34
2	Sb 206.836†	1626.3	1566.5	[500] ug/L	07:06:34



2	Se 196.026†	874.4	888.9	[500]	ug/L	07:06:34
2	Si 251.611†	82091.5	80476.9	[2500]	ug/L	07:06:13
2	Sn 189.927†	3039.3	2989.9	[500]	ug/L	07:06:34
2	Ti 334.940†	329225.7	326703.4	[500]	ug/L	07:06:13
2	Tl 190.801†	1695.8	1718.0	[500]	ug/L	07:06:34
2	U 409.014†	10772.1	15743.6	[500]	ug/L	07:06:13
2	V 292.402†	71266.5	72082.1	[500]	ug/L	07:06:13
2	Zn 213.857†	58337.4	56861.7	[500]	ug/L	07:06:13
2	SiO2†	81654.0	80018.7	[5347.5]	ug/L	07:07:11
3	Sc Radial	4266.0	4266.0	103	%	07:05:17
3	Y RADIAL	4761.0	4761.0	98.34	%	07:05:17
3	Al 396.153Radial†	5925.6	5920.5	[5000]	ug/L	07:05:17
3	Ca 317.933Radial†	2795.5	2690.1	[5000]	ug/L	07:05:37
3	K 766.490 Radial†	28913.9	25337.1	[5000]	ug/L	07:05:17
3	Mg 279.077 IEC†	130.7	126.5	[5000]	ug/L	07:05:37
3	Sr 421.552†	76974.2	74402.0	[500]	ug/L	07:05:17
3	Sc 361.383	905981.2	905981.2	101.70	%	07:06:41
3	Y 371.029	730908.5	730908.5	99.545	%	07:06:41
3	Ag 328.068†	111474.6	108985.3	[500]	ug/L	07:06:41
3	As 188.979†	1240.8	1248.8	[500]	ug/L	07:07:01
3	B 249.677†	22398.2	22784.6	[500]	ug/L	07:06:41
3	Ba 233.527†	66877.2	65773.7	[500]	ug/L	07:06:41
3	Be 313.107†	1453470.2	1433559.2	[500]	ug/L	07:06:41
3	Cd 226.502†	46050.6	45484.3	[500]	ug/L	07:07:01
3	Co 228.616†	26071.6	25720.6	[500]	ug/L	07:07:01
3	Cr 267.716†	47318.8	46465.4	[500]	ug/L	07:06:41
3	Cu 324.752†	182660.7	172718.3	[500]	ug/L	07:06:41
3	Mn 257.610†	489731.4	481007.2	[500]	ug/L	07:06:41
3	Mo 202.031†	7335.3	7207.3	[500]	ug/L	07:07:01
3	Ni 231.604†	21786.5	21336.9	[500]	ug/L	07:07:01
3	P 214.914†	4898.2	4593.0	[2500]	ug/L	07:07:01
3	Pb 220.353†	4489.2	4493.8	[500]	ug/L	07:07:01
3	S 181.975 Axial†	846.8	783.8	[1000]	ug/L	07:07:01
3	Sb 206.836†	1617.1	1551.6	[500]	ug/L	07:07:01
3	Se 196.026†	855.9	867.5	[500]	ug/L	07:07:01
3	Si 251.611†	82277.3	80365.2	[2500]	ug/L	07:06:41
3	Sn 189.927†	2993.0	2933.5	[500]	ug/L	07:07:01
3	Ti 334.940†	329678.4	325967.8	[500]	ug/L	07:06:41
3	Tl 190.801†	1685.0	1701.2	[500]	ug/L	07:07:01
3	U 409.014†	10853.0	15784.5	[500]	ug/L	07:06:41
3	V 292.402†	71204.0	71765.1	[500]	ug/L	07:06:41
3	Zn 213.857†	58274.7	56590.8	[500]	ug/L	07:06:41
3	SiO2†	81651.5	79723.4	[5347.5]	ug/L	07:07:17

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Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	903954.1	1773.52	0.20%	101.47 %
Sc Radial	4273.8	57.40	1.34%	104 %
Y 371.029	729914.1	1056.04	0.14%	99.410 %
Y RADIAL	4772.1	46.06	0.97%	98.57 %
Ag 328.068†	109043.5	55.88	0.05%	[500] ug/L
Al 396.153Radial†	5906.0	33.70	0.57%	[5000] ug/L
As 188.979†	1255.4	11.04	0.88%	[500] ug/L
B 249.677†	22745.5	59.37	0.26%	[500] ug/L
Ba 233.527†	65852.9	210.30	0.32%	[500] ug/L
Be 313.107†	1437730.9	3632.52	0.25%	[500] ug/L
Ca 317.933Radial†	2680.8	24.57	0.92%	[5000] ug/L
Cd 226.502†	45829.2	300.47	0.66%	[500] ug/L
Co 228.616†	25908.8	166.04	0.64%	[500] ug/L
Cr 267.716†	46615.7	151.58	0.33%	[500] ug/L
Cu 324.752†	172610.0	251.72	0.15%	[500] ug/L
K 766.490 Radial†	25325.7	200.70	0.79%	[5000] ug/L
Mg 279.077 IEC†	122.5	3.80	3.10%	[5000] ug/L
Mn 257.610†	481784.3	1145.66	0.24%	[500] ug/L
Mo 202.031†	7256.1	42.91	0.59%	[500] ug/L
Ni 231.604†	21476.9	121.87	0.57%	[500] ug/L
P 214.914†	4629.0	31.72	0.69%	[2500] ug/L
Pb 220.353†	4523.2	28.37	0.63%	[500] ug/L
S 181.975 Axial†	785.6	4.55	0.58%	[1000] ug/L

Sb 206.836†	1563.8	11.03	0.71%	[500]	ug/L
Se 196.026†	872.3	14.85	1.70%	[500]	ug/L
Si 251.611†	80383.9	85.26	0.11%	[2500]	ug/L
Sn 189.927†	2966.3	29.35	0.99%	[500]	ug/L
Sr 421.552†	74548.3	264.66	0.36%	[500]	ug/L
Ti 334.940†	326245.2	399.73	0.12%	[500]	ug/L
Tl 190.801†	1712.7	9.91	0.58%	[500]	ug/L
U 409.014†	15734.8	54.69	0.35%	[500]	ug/L
V 292.402†	71915.9	159.09	0.22%	[500]	ug/L
Zn 213.857†	56732.2	135.82	0.24%	[500]	ug/L
SiO2†	80211.0	607.15	0.76%	[5347.5]	ug/L

Sequence No.: 4

Sample ID: SCAL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 2/1/2010 07:09:28

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	4067.6	4067.6	98.6 %	07:11:41
1	Y RADIAL	4639.8	4639.8	95.84 %	07:11:21
1	Al 396.153Radial†	11936.1	12296.2	[10000] ug/L	07:11:21
1	Ca 317.933Radial†	5478.3	5543.0	[10000] ug/L	07:11:21
1	Fe 238.204 Radial†	871.5	873.8	[10000] ug/L	07:11:41
1	K 766.490 Radial†	54365.8	52516.0	[10000] ug/L	07:11:21
1	Mg 279.077 IEC†	246.5	250.0	[10000] ug/L	07:11:41
1	Na 589.592 Radial†	28997.9	31063.3	[10000] ug/L	07:11:21
1	Sr 421.552†	148685.2	150767.0	[1000] ug/L	07:11:21
1	Sc 361.383	860217.0	860217.0	96.564 %	07:12:44
1	Y 371.029	714425.1	714425.1	97.300 %	07:12:44
1	Ag 328.068†	224794.6	232168.9	[1000] ug/L	07:12:44
1	As 188.979†	2515.7	2634.0	[1000] ug/L	07:13:04
1	B 249.677†	46269.1	48676.5	[1000] ug/L	07:12:44
1	Ba 233.527†	133717.6	138490.9	[1000] ug/L	07:12:44
1	Be 313.107†	2895485.2	3002916.9	[1000] ug/L	07:12:39
1	Cd 226.502†	94970.6	98554.0	[1000] ug/L	07:12:44
1	Co 228.616†	53087.3	55061.5	[1000] ug/L	07:12:44
1	Cr 267.716†	95155.3	98479.3	[1000] ug/L	07:12:44
1	Cu 324.752†	358914.0	364798.2	[1000] ug/L	07:12:44
1	Mn 257.610†	968048.7	1001962.5	[1000] ug/L	07:12:39
1	Mo 202.031†	14676.7	15193.7	[1000] ug/L	07:13:04
1	Ni 231.604†	44072.6	45555.6	[1000] ug/L	07:12:44
1	P 214.914†	9619.9	9739.0	[5000] ug/L	07:13:04
1	Pb 220.353†	9017.8	9418.3	[1000] ug/L	07:13:04
1	S 181.975 Axial†	1649.5	1659.3	[2000] ug/L	07:13:04
1	Sb 206.836†	3252.6	3329.9	[1000] ug/L	07:13:04
1	Se 196.026†	1731.6	1819.1	[1000] ug/L	07:13:04
1	Si 251.611†	165205.0	170547.6	[5000] ug/L	07:12:44
1	Sn 189.927†	6060.2	6266.4	[1000] ug/L	07:13:04
1	Ti 334.940†	650722.5	675681.2	[1000] ug/L	07:12:44
1	Tl 190.801†	3412.2	3578.1	[1000] ug/L	07:13:04
1	U 409.014†	28530.3	34658.6	[1000] ug/L	07:12:44
1	V 292.402†	145607.4	152540.7	[1000] ug/L	07:12:44
1	Zn 213.857†	116074.8	119496.0	[1000] ug/L	07:12:44
1	SiO2†	164839.1	170142.3	[10695] ug/L	07:14:13
2	Sc Radial	4052.1	4052.1	98.2 %	07:12:06
2	Y RADIAL	4727.6	4727.6	97.65 %	07:11:46
2	Al 396.153Radial†	12099.0	12508.3	[10000] ug/L	07:11:46
2	Ca 317.933Radial†	5566.6	5654.2	[10000] ug/L	07:11:46
2	Fe 238.204 Radial†	863.1	868.6	[10000] ug/L	07:12:06
2	K 766.490 Radial†	54997.4	53369.9	[10000] ug/L	07:11:46
2	Mg 279.077 IEC†	246.6	251.1	[10000] ug/L	07:12:06
2	Na 589.592 Radial†	29278.5	31461.4	[10000] ug/L	07:11:46
2	Sr 421.552†	150433.1	153123.1	[1000] ug/L	07:11:46
2	Sc 361.383	859244.7	859244.7	96.455 %	07:13:16
2	Y 371.029	710644.9	710644.9	96.786 %	07:13:16
2	Ag 328.068†	223469.8	231058.8	[1000] ug/L	07:13:16
2	As 188.979†	2487.0	2607.1	[1000] ug/L	07:13:36
2	B 249.677†	46062.9	48517.0	[1000] ug/L	07:13:16
2	Ba 233.527†	133445.4	138365.4	[1000] ug/L	07:13:16
2	Be 313.107†	2879006.3	2989225.4	[1000] ug/L	07:13:10
2	Cd 226.502†	94725.3	98411.0	[1000] ug/L	07:13:16
2	Co 228.616†	52924.4	54954.8	[1000] ug/L	07:13:16
2	Cr 267.716†	94837.2	98261.1	[1000] ug/L	07:13:16
2	Cu 324.752†	356858.6	363087.9	[1000] ug/L	07:13:16
2	Mn 257.610†	965804.9	1000770.7	[1000] ug/L	07:13:10
2	Mo 202.031†	14545.0	15074.3	[1000] ug/L	07:13:36
2	Ni 231.604†	43935.5	45465.1	[1000] ug/L	07:13:16

2	P 214.914†	9528.1	9655.0	[5000]	ug/L	07:13:36
2	Pb 220.353†	8921.6	9329.1	[1000]	ug/L	07:13:36
2	S 181.975 Axial†	1626.5	1637.4	[2000]	ug/L	07:13:36
2	Sb 206.836†	3208.0	3287.5	[1000]	ug/L	07:13:36
2	Se 196.026†	1718.3	1807.4	[1000]	ug/L	07:13:36
2	Si 251.611†	164506.7	170017.3	[5000]	ug/L	07:13:16
2	Sn 189.927†	5980.2	6190.6	[1000]	ug/L	07:13:36
2	Ti 334.940†	648219.5	673848.8	[1000]	ug/L	07:13:16
2	Tl 190.801†	3375.1	3543.6	[1000]	ug/L	07:13:36
2	U 409.014†	28413.3	34570.7	[1000]	ug/L	07:13:16
2	V 292.402†	144896.1	151973.8	[1000]	ug/L	07:13:16
2	Zn 213.857†	115587.8	119127.1	[1000]	ug/L	07:13:16
2	SiO2†	162693.2	168110.6	[10695]	ug/L	07:14:18
3	Sc Radial	4042.0	4042.0	98.0	%	07:12:32
3	Y RADIAL	4680.3	4680.3	96.67	%	07:12:11
3	Al 396.153Radial†	12023.2	12461.8	[10000]	ug/L	07:12:11
3	Ca 317.933Radial†	5505.6	5606.0	[10000]	ug/L	07:12:11
3	Fe 238.204 Radial†	865.6	873.3	[10000]	ug/L	07:12:32
3	K 766.490 Radial†	54684.2	53190.1	[10000]	ug/L	07:12:11
3	Mg 279.077 IEC†	243.6	248.7	[10000]	ug/L	07:12:32
3	Na 589.592 Radial†	28977.7	31228.9	[10000]	ug/L	07:12:11
3	Sr 421.552†	149331.3	152381.3	[1000]	ug/L	07:12:11
3	Sc 361.383	850734.3	850734.3	95.500	%	07:13:47
3	Y 371.029	702601.7	702601.7	95.690	%	07:13:47
3	Ag 328.068†	220695.7	230471.6	[1000]	ug/L	07:13:47
3	As 188.979†	2496.1	2642.5	[1000]	ug/L	07:14:08
3	B 249.677†	45221.5	48113.7	[1000]	ug/L	07:13:47
3	Ba 233.527†	131216.4	137415.3	[1000]	ug/L	07:13:47
3	Be 313.107†	2889101.4	3029655.2	[1000]	ug/L	07:13:42
3	Cd 226.502†	92917.1	97500.0	[1000]	ug/L	07:13:47
3	Co 228.616†	52020.0	54556.6	[1000]	ug/L	07:13:47
3	Cr 267.716†	93296.3	97631.1	[1000]	ug/L	07:13:47
3	Cu 324.752†	351933.6	361631.9	[1000]	ug/L	07:13:47
3	Mn 257.610†	966766.5	1011794.2	[1000]	ug/L	07:13:42
3	Mo 202.031†	14594.5	15277.0	[1000]	ug/L	07:14:08
3	Ni 231.604†	43114.9	45061.5	[1000]	ug/L	07:13:47
3	P 214.914†	9552.8	9779.7	[5000]	ug/L	07:14:08
3	Pb 220.353†	8917.0	9416.8	[1000]	ug/L	07:14:08
3	S 181.975 Axial†	1636.8	1665.0	[2000]	ug/L	07:14:08
3	Sb 206.836†	3205.0	3317.6	[1000]	ug/L	07:14:08
3	Se 196.026†	1723.5	1830.6	[1000]	ug/L	07:14:08
3	Si 251.611†	161788.6	168877.2	[5000]	ug/L	07:13:47
3	Sn 189.927†	6033.8	6308.7	[1000]	ug/L	07:14:08
3	Ti 334.940†	638924.1	670838.2	[1000]	ug/L	07:13:47
3	Tl 190.801†	3394.8	3599.2	[1000]	ug/L	07:14:08
3	U 409.014†	27702.6	34121.2	[1000]	ug/L	07:13:47
3	V 292.402†	142912.7	151399.8	[1000]	ug/L	07:13:47
3	Zn 213.857†	113650.5	118297.3	[1000]	ug/L	07:13:47
3	SiO2†	163294.0	170427.1	[10695]	ug/L	07:14:24

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Mean Data: SCAL

Analyte	Mean Corrected		RSD	Calib	
	Intensity	Std.Dev.		Conc.	Units
Sc 361.383	856732.0	5216.86	0.61%	96.173	%
Sc Radial	4053.9	12.89	0.32%	98.3	%
Y 371.029	709223.9	6038.45	0.85%	96.592	%
Y RADIAL	4682.6	43.94	0.94%	96.72	%
Ag 328.068†	231233.1	861.95	0.37%	[1000]	ug/L
Al 396.153Radial†	12422.1	111.47	0.90%	[10000]	ug/L
As 188.979†	2627.9	18.48	0.70%	[1000]	ug/L
B 249.677†	48435.7	290.11	0.60%	[1000]	ug/L
Ba 233.527†	138090.6	588.13	0.43%	[1000]	ug/L
Be 313.107†	3007265.8	20562.73	0.68%	[1000]	ug/L
Ca 317.933Radial†	5601.1	55.76	1.00%	[10000]	ug/L
Cd 226.502†	98155.0	571.71	0.58%	[1000]	ug/L
Co 228.616†	54857.6	266.10	0.49%	[1000]	ug/L
Cr 267.716†	98123.8	440.42	0.45%	[1000]	ug/L
Cu 324.752†	363172.6	1584.87	0.44%	[1000]	ug/L
Fe 238.204 Radial†	871.9	2.86	0.33%	[10000]	ug/L
K 766.490 Radial†	53025.4	450.17	0.85%	[10000]	ug/L

Mg 279.077 IEC†	249.9	1.20	0.48%	[10000]	ug/L
Mn 257.610†	1004842.5	6049.82	0.60%	[1000]	ug/L
Mo 202.031†	15181.7	101.87	0.67%	[1000]	ug/L
Na 589.592 Radial†	31251.2	199.99	0.64%	[10000]	ug/L
Ni 231.604†	45360.8	263.07	0.58%	[1000]	ug/L
P 214.914†	9724.6	63.58	0.65%	[5000]	ug/L
Pb 220.353†	9388.1	51.06	0.54%	[1000]	ug/L
S 181.975 Axial†	1653.9	14.56	0.88%	[2000]	ug/L
Sb 206.836†	3311.7	21.84	0.66%	[1000]	ug/L
Se 196.026†	1819.1	11.61	0.64%	[1000]	ug/L
Si 251.611†	169814.1	853.55	0.50%	[5000]	ug/L
Sn 189.927†	6255.2	59.83	0.96%	[1000]	ug/L
Sr 421.552†	152090.5	1204.70	0.79%	[1000]	ug/L
Ti 334.940†	673456.1	2445.27	0.36%	[1000]	ug/L
Tl 190.801†	3573.6	28.08	0.79%	[1000]	ug/L
U 409.014†	34450.2	288.25	0.84%	[1000]	ug/L
V 292.402†	151971.4	570.46	0.38%	[1000]	ug/L
Zn 213.857†	118973.4	613.94	0.52%	[1000]	ug/L
SiO2†	169560.0	1263.23	0.75%	[10695]	ug/L

Sequence No.: 5

Autosampler Location: 5

Sample ID: S10

Date Collected: 2/1/2010 07:16:34

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

## Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	4147.6	4147.6	101 %		07:18:48
1	Y RADIAL	4606.9	4606.9	95.16 %		07:18:48
1	Al 396.153Radial†	61537.3	61399.0	[50000] ug/L		07:18:28
1	Ca 317.933Radial†	27469.9	27309.9	[50000] ug/L		07:18:28
1	Fe 238.204 Radial†	1737.5	1718.1	[20000] ug/L		07:18:48
1	Mg 279.077 IEC†	1189.6	1183.3	[50000] ug/L		07:18:48
1	Na 589.592 Radial†	65560.3	66862.7	[20000] ug/L		07:18:28
1	Sc 361.383	869098.2	869098.2	97.561 %		07:19:45
1	Y 371.029	699611.1	699611.1	95.283 %		07:19:45
2	Sc Radial	4212.4	4212.4	102 %		07:19:13
2	Y RADIAL	4675.4	4675.4	96.57 %		07:19:13
2	Al 396.153Radial†	60504.4	59446.1	[50000] ug/L		07:18:53
2	Ca 317.933Radial†	27160.3	26586.5	[50000] ug/L		07:18:53
2	Fe 238.204 Radial†	1754.6	1708.3	[20000] ug/L		07:19:13
2	Mg 279.077 IEC†	1206.6	1181.8	[50000] ug/L		07:19:13
2	Na 589.592 Radial†	64106.4	64435.9	[20000] ug/L		07:18:53
2	Sc 361.383	873224.5	873224.5	98.024 %		07:19:51
2	Y 371.029	702255.1	702255.1	95.643 %		07:19:51
3	Sc Radial	4185.0	4185.0	101 %		07:19:38
3	Y RADIAL	4664.1	4664.1	96.34 %		07:19:38
3	Al 396.153Radial†	61364.1	60681.3	[50000] ug/L		07:19:18
3	Ca 317.933Radial†	27424.7	27021.3	[50000] ug/L		07:19:18
3	Fe 238.204 Radial†	1754.6	1719.5	[20000] ug/L		07:19:38
3	Mg 279.077 IEC†	1202.9	1185.9	[50000] ug/L		07:19:38
3	Na 589.592 Radial†	64476.1	65211.2	[20000] ug/L		07:19:18
3	Sc 361.383	875695.6	875695.6	98.302 %		07:19:56
3	Y 371.029	704060.8	704060.8	95.889 %		07:19:56

## Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	872672.8	3333.10	0.38%	97.962 %
Sc Radial	4181.7	32.52	0.78%	101 %
Y 371.029	701975.7	2237.95	0.32%	95.605 %
Y RADIAL	4648.8	36.69	0.79%	96.02 %
Al 396.153Radial†	60508.8	987.85	1.63%	[50000] ug/L
Ca 317.933Radial†	26972.6	364.16	1.35%	[50000] ug/L
Fe 238.204 Radial†	1715.3	6.14	0.36%	[20000] ug/L
Mg 279.077 IEC†	1183.7	2.07	0.17%	[50000] ug/L
Na 589.592 Radial†	65503.3	1239.50	1.89%	[20000] ug/L

## Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	228.6	0.00000	0.999737	
Al 396.153Radial	3	Lin Thru 0	0.0	1.211	0.00000	0.999984	
As 188.979	3	Lin Thru 0	0.0	2.604	0.00000	0.999834	
B 249.677	3	Lin Thru 0	0.0	47.83	0.00000	0.999689	
Ba 233.527	3	Lin Thru 0	0.0	136.8	0.00000	0.999827	
Be 313.107	3	Lin Thru 0	0.0	2981	0.00000	0.999844	
Ca 317.933Radial	3	Lin Thru 0	0.0	0.5402	0.00000	0.999973	
Cd 226.502	3	Lin Thru 0	0.0	96.84	0.00000	0.999642	
Co 228.616	3	Lin Thru 0	0.0	54.25	0.00000	0.999751	
Cr 267.716	3	Lin Thru 0	0.0	97.14	0.00000	0.999798	
Cu 324.752	3	Lin Thru 0	0.0	359.5	0.00000	0.999801	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.0861	0.00000	0.999978	
K 766.490 Radial	3	Lin Thru 0	0.0	5.254	0.00000	0.999833	

Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0237	0.00000	0.999938
Mn 257.610	3	Lin Thru 0	0.0	996.7	0.00000	0.999863
Mo 202.031	3	Lin Thru 0	0.0	15.05	0.00000	0.999843
Na 589.592 Radia	2	Lin Thru 0	0.0	3.245	0.00000	0.999829
Ni 231.604	3	Lin Thru 0	0.0	44.88	0.00000	0.999772
P 214.914	3	Lin Thru 0	0.0	1.926	0.00000	0.999812
Pb 220.353	3	Lin Thru 0	0.0	9.321	0.00000	0.999893
S 181.975 Axial	3	Lin Thru 0	0.0	0.8186	0.00000	0.999796
Sb 206.836	3	Lin Thru 0	0.0	3.274	0.00000	0.999743
Se 196.026	3	Lin Thru 0	0.0	1.804	0.00000	0.999864
Si 251.611	3	Lin Thru 0	0.0	33.60	0.00000	0.999768
Sn 189.927	3	Lin Thru 0	0.0	6.190	0.00000	0.999784
Sr 421.552	3	Lin Thru 0	0.0	151.5	0.00000	0.999965
Ti 334.940	3	Lin Thru 0	0.0	669.3	0.00000	0.999922
Tl 190.801	3	Lin Thru 0	0.0	3.545	0.00000	0.999859
U 409.014	3	Lin Thru 0	0.0	33.85	0.00000	0.999385
V 292.402	3	Lin Thru 0	0.0	150.3	0.00000	0.999765
Zn 213.857	3	Lin Thru 0	0.0	117.9	0.00000	0.999826
SiO2	3	Lin Thru 0	0.0	15.68	0.00000	0.999764

Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 2/1/2010 07:22:08

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4239.2	4239.2	103 %		07:24:01
1	Y RADIAL	4763.8	4763.8	98.40 %		07:24:01
1	Al 396.153Radial†	6185.1	6209.3	5101.2 ug/L	5101.2 ppb	07:24:01
1	Ca 317.933Radial†	2785.4	2697.4	4993.2 ug/L	4993.2 ppb	07:24:21
1	Fe 238.204 Radial†	448.9	426.8	4974.5 ug/L	4974.5 ppb	07:24:21
1	K 766.490 Radial†	16026.5	12972.4	2465.8 ug/L	2465.8 ppb	07:24:01
1	Mg 279.077 IEC†	131.8	128.3	5407.8 ug/L	5407.8 ppb	07:24:21
1	Na 589.592 Radial†	6166.0	7652.8	2358.2 ug/L	2358.2 ppb	07:24:01
1	Sr 421.552†	80213.8	78026.0	515.14 ug/L	515.14 ppb	07:24:01
1	Sc 361.383	902268.8	902268.8	101.28 %		07:25:19
1	Y 371.029	731990.5	731990.5	99.693 %		07:25:19
1	Ag 328.068†	59208.3	57832.9	256.17 ug/L	256.17 ppb	07:25:19
1	As 188.979†	1206.5	1219.9	472.71 ug/L	472.71 ppb	07:25:39
1	B 249.677†	24094.3	24549.8	511.08 ug/L	511.08 ppb	07:25:19
1	Ba 233.527†	69728.6	68859.6	504.56 ug/L	504.56 ppb	07:25:19
1	Be 313.107†	769474.7	764118.8	257.50 ug/L	257.50 ppb	07:25:19
1	Cd 226.502†	48380.2	47970.7	495.24 ug/L	495.24 ppb	07:25:19
1	Co 228.616†	27146.1	26887.0	495.78 ug/L	495.78 ppb	07:25:39
1	Cr 267.716†	47403.1	46740.0	481.78 ug/L	481.78 ppb	07:25:19
1	Cu 324.752†	189523.1	180232.6	501.29 ug/L	501.29 ppb	07:25:19
1	Mn 257.610†	513126.6	506087.1	508.05 ug/L	508.05 ppb	07:25:19
1	Mo 202.031†	8074.9	7967.2	529.94 ug/L	529.94 ppb	07:25:39
1	Ni 231.604†	22387.8	22018.7	490.33 ug/L	490.33 ppb	07:25:39
1	P 214.914†	5061.5	4774.0	2381.4 ug/L	2381.4 ppb	07:25:39
1	Pb 220.353†	4611.0	4632.1	498.72 ug/L	498.72 ppb	07:25:39
1	S 181.975 Axial†	2080.4	2005.1	2448.5 ug/L	2448.5 ppb	07:25:39
1	Sb 206.836†	1666.6	1607.0	510.10 ug/L	510.10 ppb	07:25:39
1	Se 196.026†	4613.5	4581.0	2557.6 ug/L	2557.6 ppb	07:25:39
1	Si 251.611†	162651.0	160052.5	4757.6 ug/L	4757.6 ppb	07:25:19
1	Sn 189.927†	3328.5	3276.8	530.21 ug/L	530.21 ppb	07:25:39
1	Ti 334.940†	334931.1	332487.7	496.63 ug/L	496.63 ppb	07:25:19
1	Tl 190.801†	1833.4	1854.6	526.66 ug/L	526.66 ppb	07:25:39
1	U 409.014†	12028.1	16988.6	500.18 ug/L	500.18 ppb	07:25:19
1	V 292.402†	74502.9	75310.2	508.14 ug/L	508.14 ppb	07:25:19
1	Zn 213.857†	60914.4	59432.7	499.96 ug/L	499.96 ppb	07:25:19
1	SiO2†	161908.2	159292.6	10144 ug/L	10144 ppb	07:26:36
2	Sc Radial	4299.3	4299.3	104 %		07:24:26
2	Y RADIAL	4787.9	4787.9	98.90 %		07:24:26
2	Al 396.153Radial†	6242.7	6180.5	5077.3 ug/L	5077.3 ppb	07:24:26
2	Ca 317.933Radial†	2789.4	2663.3	4930.1 ug/L	4930.1 ppb	07:24:46
2	Fe 238.204 Radial†	451.9	423.5	4936.3 ug/L	4936.3 ppb	07:24:46
2	K 766.490 Radial†	16095.8	12820.8	2437.0 ug/L	2437.0 ppb	07:24:26
2	Mg 279.077 IEC†	129.5	124.3	5238.2 ug/L	5238.2 ppb	07:24:46
2	Na 589.592 Radial†	6209.9	7611.1	2345.4 ug/L	2345.4 ppb	07:24:26
2	Sr 421.552†	80767.7	77465.9	511.44 ug/L	511.44 ppb	07:24:26
2	Sc 361.383	900788.3	900788.3	101.12 %		07:25:45
2	Y 371.029	731838.1	731838.1	99.672 %		07:25:45
2	Ag 328.068†	59227.3	57947.7	256.65 ug/L	256.65 ppb	07:25:45
2	As 188.979†	1206.5	1221.9	473.47 ug/L	473.47 ppb	07:26:05
2	B 249.677†	23990.6	24486.4	509.76 ug/L	509.76 ppb	07:25:45
2	Ba 233.527†	69427.1	68674.6	503.20 ug/L	503.20 ppb	07:25:45
2	Be 313.107†	768547.9	764450.9	257.61 ug/L	257.61 ppb	07:25:45
2	Cd 226.502†	48226.2	47897.0	494.49 ug/L	494.49 ppb	07:25:45
2	Co 228.616†	27115.4	26900.6	496.04 ug/L	496.04 ppb	07:26:05
2	Cr 267.716†	47342.1	46756.6	481.94 ug/L	481.94 ppb	07:25:45
2	Cu 324.752†	189087.4	180109.3	500.94 ug/L	500.94 ppb	07:25:45
2	Mn 257.610†	511128.5	504943.7	506.90 ug/L	506.90 ppb	07:25:45
2	Mo 202.031†	8087.0	7992.3	531.60 ug/L	531.60 ppb	07:26:05
2	Ni 231.604†	22457.9	22124.4	492.69 ug/L	492.69 ppb	07:26:05



2	P 214.914†	5058.8	4779.6	2384.5 ug/L	2384.5 ppb	07:26:05
2	Pb 220.353†	4566.4	4595.5	494.79 ug/L	494.79 ppb	07:26:05
2	S 181.975 Axial†	2084.9	2012.9	2458.1 ug/L	2458.1 ppb	07:26:05
2	Sb 206.836†	1673.8	1616.9	513.19 ug/L	513.19 ppb	07:26:05
2	Se 196.026†	4611.2	4586.2	2560.3 ug/L	2560.3 ppb	07:26:05
2	Si 251.611†	161826.5	159501.0	4741.2 ug/L	4741.2 ppb	07:25:45
2	Sn 189.927†	3345.8	3299.3	533.84 ug/L	533.84 ppb	07:26:05
2	Ti 334.940†	333937.0	332048.1	495.98 ug/L	495.98 ppb	07:25:45
2	Tl 190.801†	1829.2	1853.4	526.32 ug/L	526.32 ppb	07:26:05
2	U 409.014†	11943.6	16924.6	498.29 ug/L	498.29 ppb	07:25:45
2	V 292.402†	74154.7	75086.7	506.68 ug/L	506.68 ppb	07:25:45
2	Zn 213.857†	60744.7	59363.7	499.36 ug/L	499.36 ppb	07:25:45
2	SiO2†	162391.6	160033.3	10191 ug/L	10191 ppb	07:26:42
3	Sc Radial	4224.1	4224.1	102 %		07:24:51
3	Y RADIAL	4714.9	4714.9	97.39 %		07:24:51
3	Al 396.153Radial†	6113.1	6160.5	5061.0 ug/L	5061.0 ppb	07:24:51
3	Ca 317.933Radial†	2783.1	2704.8	5007.0 ug/L	5007.0 ppb	07:25:11
3	Fe 238.204 Radial†	451.3	430.7	5019.6 ug/L	5019.6 ppb	07:25:11
3	K 766.490 Radial†	15911.0	12915.3	2455.0 ug/L	2455.0 ppb	07:24:51
3	Mg 279.077 IEC†	131.9	128.9	5430.3 ug/L	5430.3 ppb	07:25:11
3	Na 589.592 Radial†	6087.5	7597.6	2341.2 ug/L	2341.2 ppb	07:24:51
3	Sr 421.552†	79755.8	77857.4	514.03 ug/L	514.03 ppb	07:24:51
3	Sc 361.383	909939.7	909939.7	102.15 %		07:26:11
3	Y 371.029	738228.6	738228.6	100.54 %		07:26:11
3	Ag 328.068†	59777.0	57896.8	256.46 ug/L	256.46 ppb	07:26:11
3	As 188.979†	1203.7	1207.2	467.84 ug/L	467.84 ppb	07:26:31
3	B 249.677†	24396.6	24645.3	513.08 ug/L	513.08 ppb	07:26:11
3	Ba 233.527†	70317.2	68855.4	504.53 ug/L	504.53 ppb	07:26:11
3	Be 313.107†	777506.6	765577.5	257.99 ug/L	257.99 ppb	07:26:11
3	Cd 226.502†	48636.3	47818.8	493.67 ug/L	493.67 ppb	07:26:11
3	Co 228.616†	27184.9	26699.0	492.31 ug/L	492.31 ppb	07:26:31
3	Cr 267.716†	47673.7	46610.5	480.44 ug/L	480.44 ppb	07:26:11
3	Cu 324.752†	191928.8	181010.3	503.45 ug/L	503.45 ppb	07:26:11
3	Mn 257.610†	517249.9	505852.9	507.82 ug/L	507.82 ppb	07:26:11
3	Mo 202.031†	8124.4	7948.5	528.70 ug/L	528.70 ppb	07:26:31
3	Ni 231.604†	22446.7	21890.0	487.47 ug/L	487.47 ppb	07:26:31
3	P 214.914†	5055.2	4725.8	2355.9 ug/L	2355.9 ppb	07:26:31
3	Pb 220.353†	4605.4	4588.3	494.00 ug/L	494.00 ppb	07:26:31
3	S 181.975 Axial†	2080.5	1987.9	2427.5 ug/L	2427.5 ppb	07:26:31
3	Sb 206.836†	1680.9	1607.2	510.08 ug/L	510.08 ppb	07:26:31
3	Se 196.026†	4623.6	4552.5	2541.9 ug/L	2541.9 ppb	07:26:31
3	Si 251.611†	164136.3	160152.7	4760.6 ug/L	4760.6 ppb	07:26:11
3	Sn 189.927†	3339.2	3259.6	527.43 ug/L	527.43 ppb	07:26:31
3	Ti 334.940†	337909.7	332616.0	496.82 ug/L	496.82 ppb	07:26:11
3	Tl 190.801†	1835.9	1841.8	523.06 ug/L	523.06 ppb	07:26:31
3	U 409.014†	12198.0	17054.9	502.13 ug/L	502.13 ppb	07:26:11
3	V 292.402†	75087.0	75261.9	507.80 ug/L	507.80 ppb	07:26:11
3	Zn 213.857†	61481.6	59481.0	500.38 ug/L	500.38 ppb	07:26:11
3	SiO2†	163257.9	159266.3	10142 ug/L	10142 ppb	07:26:47

## Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	904332.3	101.52 %	0.551			0.54%
Sc Radial	4254.2	103 %	1.0			0.94%
Y 371.029	734019.1	99.969 %	0.4966			0.50%
Y RADIAL	4755.6	98.23 %	0.768			0.78%
Ag 328.068†	57892.5	256.43 ug/L	0.245	256.43 ppb	0.245	0.10%
QC value within limits for Ag 328.068 Recovery = 102.57%						
Al 396.153Radial†	6183.4	5079.8 ug/L	20.24	5079.8 ppb	20.24	0.40%
QC value within limits for Al 396.153Radial Recovery = 101.60%						
As 188.979†	1216.3	471.34 ug/L	3.052	471.34 ppb	3.052	0.65%
QC value within limits for As 188.979 Recovery = 94.27%						
B 249.677†	24560.5	511.30 ug/L	1.671	511.30 ppb	1.671	0.33%
QC value within limits for B 249.677 Recovery = 102.26%						
Ba 233.527†	68796.5	504.10 ug/L	0.775	504.10 ppb	0.775	0.15%
QC value within limits for Ba 233.527 Recovery = 100.82%						
Be 313.107†	764715.8	257.70 ug/L	0.257	257.70 ppb	0.257	0.10%
QC value within limits for Be 313.107 Recovery = 103.08%						
Ca 317.933Radial†	2688.5	4976.8 ug/L	41.02	4976.8 ppb	41.02	0.82%

QC value within limits for Ca 317.933 Radial Recovery = 99.54%							
Cd 226.502†	47895.5	494.47 ug/L	0.788	494.47 ppb	0.788	0.16%	
QC value within limits for Cd 226.502 Recovery = 98.89%							
Co 228.616†	26828.9	494.71 ug/L	2.080	494.71 ppb	2.080	0.42%	
QC value within limits for Co 228.616 Recovery = 98.94%							
Cr 267.716†	46702.4	481.39 ug/L	0.823	481.39 ppb	0.823	0.17%	
QC value within limits for Cr 267.716 Recovery = 96.28%							
Cu 324.752†	180450.7	501.89 ug/L	1.360	501.89 ppb	1.360	0.27%	
QC value within limits for Cu 324.752 Recovery = 100.38%							
Fe 238.204 Radial†	427.0	4976.8 ug/L	41.71	4976.8 ppb	41.71	0.84%	
QC value within limits for Fe 238.204 Radial Recovery = 99.54%							
K 766.490 Radial†	12902.8	2452.6 ug/L	14.56	2452.6 ppb	14.56	0.59%	
QC value within limits for K 766.490 Radial Recovery = 98.10%							
Mg 279.077 IEC†	127.2	5358.8 ug/L	105.02	5358.8 ppb	105.02	1.96%	
QC value within limits for Mg 279.077 IEC Recovery = 107.18%							
Mn 257.610†	505627.9	507.59 ug/L	0.605	507.59 ppb	0.605	0.12%	
QC value within limits for Mn 257.610 Recovery = 101.52%							
Mo 202.031†	7969.3	530.08 ug/L	1.458	530.08 ppb	1.458	0.28%	
QC value within limits for Mo 202.031 Recovery = 106.02%							
Na 589.592 Radial†	7620.5	2348.3 ug/L	8.87	2348.3 ppb	8.87	0.38%	
QC value within limits for Na 589.592 Radial Recovery = 93.93%							
Ni 231.604†	22011.0	490.16 ug/L	2.614	490.16 ppb	2.614	0.53%	
QC value within limits for Ni 231.604 Recovery = 98.03%							
P 214.914†	4759.8	2373.9 ug/L	15.71	2373.9 ppb	15.71	0.66%	
QC value within limits for P 214.914 Recovery = 94.96%							
Pb 220.353†	4605.3	495.84 ug/L	2.525	495.84 ppb	2.525	0.51%	
QC value within limits for Pb 220.353 Recovery = 99.17%							
S 181.975 Axial†	2002.0	2444.7 ug/L	15.62	2444.7 ppb	15.62	0.64%	
QC value within limits for S 181.975 Axial Recovery = 97.79%							
Sb 206.836†	1610.4	511.12 ug/L	1.792	511.12 ppb	1.792	0.35%	
QC value within limits for Sb 206.836 Recovery = 102.22%							
Se 196.026†	4573.2	2553.3 ug/L	9.92	2553.3 ppb	9.92	0.39%	
QC value within limits for Se 196.026 Recovery = 102.13%							
Si 251.611†	159902.1	4753.1 ug/L	10.46	4753.1 ppb	10.46	0.22%	
QC value within limits for Si 251.611 Recovery = 95.06%							
Sn 189.927†	3278.6	530.49 ug/L	3.212	530.49 ppb	3.212	0.61%	
QC value within limits for Sn 189.927 Recovery = 106.10%							
Sr 421.552†	77783.1	513.54 ug/L	1.897	513.54 ppb	1.897	0.37%	
QC value within limits for Sr 421.552 Recovery = 102.71%							
Ti 334.940†	332383.9	496.47 ug/L	0.441	496.47 ppb	0.441	0.09%	
QC value within limits for Ti 334.940 Recovery = 99.29%							
Tl 190.801†	1849.9	525.35 ug/L	1.987	525.35 ppb	1.987	0.38%	
QC value within limits for Tl 190.801 Recovery = 105.07%							
U 409.014†	16989.4	500.20 ug/L	1.921	500.20 ppb	1.921	0.38%	
QC value within limits for U 409.014 Recovery = 100.04%							
V 292.402†	75219.6	507.54 ug/L	0.766	507.54 ppb	0.766	0.15%	
QC value within limits for V 292.402 Recovery = 101.51%							
Zn 213.857†	59425.8	499.90 ug/L	0.511	499.90 ppb	0.511	0.10%	
QC value within limits for Zn 213.857 Recovery = 99.98%							
SiO2†	159530.7	10159 ug/L	27.7	10159 ppb	27.7	0.27%	
QC value within limits for SiO2 Recovery = 94.99%							
All analyte(s) passed QC.							

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 2/1/2010 07:28:58

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4117.5	4117.5	99.8 %		07:31:12
1	Y RADIAL	4870.1	4870.1	100.6 %		07:30:52
1	Al 396.153Radial†	-213.4	-23.8	-19.631 ug/L	-19.631 ppb	07:30:52
1	Ca 317.933Radial†	16.6	3.3	6.1595 ug/L	6.1595 ppb	07:31:12
1	Fe 238.204 Radial†	11.3	1.2	13.968 ug/L	13.968 ppb	07:31:12
1	K 766.490 Radial†	2774.1	155.2	29.547 ug/L	29.547 ppb	07:30:52
1	Mg 279.077 IEC†	0.9	0.9	38.047 ug/L	38.047 ppb	07:31:12
1	Na 589.592 Radial†	-1741.2	-92.3	-28.447 ug/L	-28.447 ppb	07:30:52
1	Sr 421.552†	31.0	-5.4	-0.0354 ug/L	-0.0354 ppb	07:30:52
1	Sc 361.383	886439.1	886439.1	99.508 %		07:32:09
1	Y 371.029	729838.0	729838.0	99.400 %		07:32:09
1	Ag 328.068†	574.7	-46.9	-0.2016 ug/L	-0.2016 ppb	07:32:09
1	As 188.979†	-25.0	3.6	1.3864 ug/L	1.3864 ppb	07:32:29
1	B 249.677†	-230.9	529.1	11.059 ug/L	11.059 ppb	07:32:09
1	Ba 233.527†	-26.3	-11.1	-0.0816 ug/L	-0.0816 ppb	07:32:29
1	Be 313.107†	-4351.9	29.7	0.0103 ug/L	0.0103 ppb	07:32:09
1	Cd 226.502†	-208.9	-5.8	-0.0613 ug/L	-0.0613 ppb	07:32:29
1	Co 228.616†	-79.9	4.8	0.0893 ug/L	0.0893 ppb	07:32:29
1	Cr 267.716†	59.8	-1.8	-0.0179 ug/L	-0.0179 ppb	07:32:09
1	Cu 324.752†	6981.5	129.2	0.3608 ug/L	0.3608 ppb	07:32:09
1	Mn 257.610†	721.2	192.9	0.1934 ug/L	0.1934 ppb	07:32:09
1	Mo 202.031†	10.2	5.0	0.3324 ug/L	0.3324 ppb	07:32:29
1	Ni 231.604†	80.2	-4.6	-0.1021 ug/L	-0.1021 ppb	07:32:29
1	P 214.914†	232.2	10.1	5.1500 ug/L	5.1500 ppb	07:32:29
1	Pb 220.353†	-78.7	0.5	0.0495 ug/L	0.0495 ppb	07:32:29
1	S 181.975 Axial†	49.5	0.8	1.0370 ug/L	1.0370 ppb	07:32:29
1	Sb 206.836†	50.7	12.6	3.8625 ug/L	3.8625 ppb	07:32:29
1	Se 196.026†	-26.3	-0.5	-0.2036 ug/L	-0.2036 ppb	07:32:29
1	Si 251.611†	523.0	-10.1	-0.3054 ug/L	-0.3054 ppb	07:32:29
1	Sn 189.927†	15.5	6.1	0.9886 ug/L	0.9886 ppb	07:32:29
1	Ti 334.940†	-1681.0	115.1	0.1701 ug/L	0.1701 ppb	07:32:09
1	Tl 190.801†	-40.4	3.9	1.0992 ug/L	1.0992 ppb	07:32:29
1	U 409.014†	-5123.7	-35.9	-1.0625 ug/L	-1.0625 ppb	07:32:09
1	V 292.402†	-1800.1	-56.9	-0.3770 ug/L	-0.3770 ppb	07:32:09
1	Zn 213.857†	725.5	20.0	0.1684 ug/L	0.1684 ppb	07:32:29
1	SiO2†	566.8	7.4	0.4603 ug/L	0.4603 ppb	07:33:25
2	Sc Radial	4143.7	4143.7	100 %		07:31:37
2	Y RADIAL	4910.4	4910.4	101.4 %		07:31:17
2	Al 396.153Radial†	-198.1	-7.1	-5.8996 ug/L	-5.8996 ppb	07:31:17
2	Ca 317.933Radial†	17.0	3.6	6.7108 ug/L	6.7108 ppb	07:31:37
2	Fe 238.204 Radial†	14.1	3.9	45.776 ug/L	45.776 ppb	07:31:37
2	K 766.490 Radial†	2619.6	-16.2	-3.0786 ug/L	-3.0786 ppb	07:31:17
2	Mg 279.077 IEC†	2.5	2.6	107.82 ug/L	107.82 ppb	07:31:37
2	Na 589.592 Radial†	-1695.5	-35.8	-11.028 ug/L	-11.028 ppb	07:31:17
2	Sr 421.552†	33.0	-3.6	-0.0236 ug/L	-0.0236 ppb	07:31:17
2	Sc 361.383	887663.3	887663.3	99.645 %		07:32:34
2	Y 371.029	732390.2	732390.2	99.747 %		07:32:34
2	Ag 328.068†	574.4	-48.1	-0.1967 ug/L	-0.1967 ppb	07:32:34
2	As 188.979†	-36.3	-7.7	-2.9322 ug/L	-2.9322 ppb	07:32:55
2	B 249.677†	-300.3	459.7	9.6040 ug/L	9.6040 ppb	07:32:34
2	Ba 233.527†	-19.8	-4.5	-0.0314 ug/L	-0.0314 ppb	07:32:55
2	Be 313.107†	-4354.4	33.2	0.0112 ug/L	0.0112 ppb	07:32:34
2	Cd 226.502†	-199.0	4.4	0.0415 ug/L	0.0415 ppb	07:32:55
2	Co 228.616†	-75.5	9.4	0.1733 ug/L	0.1733 ppb	07:32:55
2	Cr 267.716†	78.6	17.0	0.1753 ug/L	0.1753 ppb	07:32:34
2	Cu 324.752†	6956.9	94.8	0.2649 ug/L	0.2649 ppb	07:32:34
2	Mn 257.610†	744.0	214.8	0.2157 ug/L	0.2157 ppb	07:32:34
2	Mo 202.031†	7.6	2.4	0.1625 ug/L	0.1625 ppb	07:32:55
2	Ni 231.604†	86.1	1.2	0.0271 ug/L	0.0271 ppb	07:32:55

2	P 214.914†	225.3	2.8	1.3734 ug/L	1.3734 ppb	07:32:55
2	Pb 220.353†	-67.3	12.1	1.2904 ug/L	1.2904 ppb	07:32:55
2	S 181.975 Axial†	47.3	-1.4	-1.7527 ug/L	-1.7527 ppb	07:32:55
2	Sb 206.836†	48.8	10.6	3.2272 ug/L	3.2272 ppb	07:32:55
2	Se 196.026†	-35.0	-9.1	-4.9197 ug/L	-4.9197 ppb	07:32:55
2	Si 251.611†	539.8	6.0	0.1761 ug/L	0.1761 ppb	07:32:55
2	Sn 189.927†	6.2	-3.2	-0.5161 ug/L	-0.5161 ppb	07:32:55
2	Ti 334.940†	-1776.9	21.1	0.0226 ug/L	0.0226 ppb	07:32:34
2	Tl 190.801†	-35.7	8.7	2.4494 ug/L	2.4494 ppb	07:32:55
2	U 409.014†	-5014.4	80.8	2.3822 ug/L	2.3822 ppb	07:32:34
2	V 292.402†	-1716.1	30.0	0.2016 ug/L	0.2016 ppb	07:32:34
2	Zn 213.857†	710.8	4.3	0.0311 ug/L	0.0311 ppb	07:32:55
2	SiO2†	601.0	40.9	2.6068 ug/L	2.6068 ppb	07:33:30
3	Sc Radial	4120.5	4120.5	99.9 %		07:32:02
3	Y RADIAL	4885.5	4885.5	100.9 %		07:31:42
3	Al 396.153Radial†	-214.3	-24.4	-20.160 ug/L	-20.160 ppb	07:31:42
3	Ca 317.933Radial†	17.7	4.4	8.1803 ug/L	8.1803 ppb	07:32:02
3	Fe 238.204 Radial†	11.0	0.9	10.564 ug/L	10.564 ppb	07:32:02
3	K 766.490 Radial†	2707.5	86.6	16.478 ug/L	16.478 ppb	07:31:42
3	Mg 279.077 IEC†	-0.8	-0.8	-32.545 ug/L	-32.545 ppb	07:32:02
3	Na 589.592 Radial†	-1687.5	-37.3	-11.492 ug/L	-11.492 ppb	07:31:42
3	Sr 421.552†	2.7	-33.8	-0.2229 ug/L	-0.2229 ppb	07:31:42
3	Sc 361.383	885940.1	885940.1	99.452 %		07:33:00
3	Y 371.029	730246.2	730246.2	99.455 %		07:33:00
3	Ag 328.068†	505.4	-116.3	-0.5068 ug/L	-0.5068 ppb	07:33:00
3	As 188.979†	-28.3	0.3	0.1284 ug/L	0.1284 ppb	07:33:20
3	B 249.677†	-388.7	370.2	7.7387 ug/L	7.7387 ppb	07:33:00
3	Ba 233.527†	-15.6	-0.4	-0.0027 ug/L	-0.0027 ppb	07:33:20
3	Be 313.107†	-4401.1	-22.3	-0.0074 ug/L	-0.0074 ppb	07:33:00
3	Cd 226.502†	-207.1	-4.1	-0.0429 ug/L	-0.0429 ppb	07:33:20
3	Co 228.616†	-82.9	1.7	0.0315 ug/L	0.0315 ppb	07:33:20
3	Cr 267.716†	87.0	25.6	0.2633 ug/L	0.2633 ppb	07:33:00
3	Cu 324.752†	6927.3	78.7	0.2184 ug/L	0.2184 ppb	07:33:00
3	Mn 257.610†	737.7	209.9	0.2130 ug/L	0.2130 ppb	07:33:00
3	Mo 202.031†	2.8	-2.4	-0.1574 ug/L	-0.1574 ppb	07:33:20
3	Ni 231.604†	104.8	20.2	0.4500 ug/L	0.4500 ppb	07:33:20
3	P 214.914†	209.4	-12.7	-6.6317 ug/L	-6.6317 ppb	07:33:20
3	Pb 220.353†	-77.5	1.7	0.1743 ug/L	0.1743 ppb	07:33:20
3	S 181.975 Axial†	50.7	2.1	2.6172 ug/L	2.6172 ppb	07:33:20
3	Sb 206.836†	41.5	3.3	1.0223 ug/L	1.0223 ppb	07:33:20
3	Se 196.026†	-35.8	-10.1	-5.5503 ug/L	-5.5503 ppb	07:33:20
3	Si 251.611†	545.0	12.2	0.3663 ug/L	0.3663 ppb	07:33:20
3	Sn 189.927†	10.3	1.0	0.1584 ug/L	0.1584 ppb	07:33:20
3	Ti 334.940†	-1763.9	30.7	0.0487 ug/L	0.0487 ppb	07:33:00
3	Tl 190.801†	-25.2	19.1	5.4021 ug/L	5.4021 ppb	07:33:20
3	U 409.014†	-5022.2	63.2	1.8649 ug/L	1.8649 ppb	07:33:00
3	V 292.402†	-1738.4	4.2	0.0270 ug/L	0.0270 ppb	07:33:00
3	Zn 213.857†	718.2	13.1	0.1068 ug/L	0.1068 ppb	07:33:20
3	SiO2†	612.1	53.2	3.3996 ug/L	3.3996 ppb	07:33:35

## Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	886680.8	99.535 %	0.0995			0.10%
Sc Radial	4127.2	100 %	0.3			0.35%
Y 371.029	730824.8	99.534 %	0.1867			0.19%
Y RADIAL	4888.7	101.0 %	0.42			0.42%
Ag 328.068†	-70.4	-0.3017 ug/L	0.17767	-0.3017 ppb	0.17767	58.89%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-18.4	-15.230 ug/L	8.0849	-15.230 ppb	8.0849	53.08%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.2	-0.4724 ug/L	2.22111	-0.4724 ppb	2.22111	470.13%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	453.0	9.4673 ug/L	1.66442	9.4673 ppb	1.66442	17.58%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-5.4	-0.0386 ug/L	0.03994	-0.0386 ppb	0.03994	103.58%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	13.5	0.0047 ug/L	0.01049	0.0047 ppb	0.01049	222.37%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	3.8	7.0169 ug/L	1.04459	7.0169 ppb	1.04459	14.89%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	-1.8	-0.0209 ug/L	0.05482	-0.0209 ppb	0.05482	262.18%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	5.3	0.0980 ug/L	0.07128	0.0980 ppb	0.07128	72.71%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	13.6	0.1402 ug/L	0.14385	0.1402 ppb	0.14385	102.57%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	100.9	0.2813 ug/L	0.07261	0.2813 ppb	0.07261	25.81%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	2.0	23.436 ug/L	19.4214	23.436 ppb	19.4214	82.87%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	75.2	14.315 ug/L	16.4199	14.315 ppb	16.4199	114.70%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.9	37.775 ug/L	70.1845	37.775 ppb	70.1845	185.80%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	205.9	0.2074 ug/L	0.01216	0.2074 ppb	0.01216	5.86%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	1.7	0.1125 ug/L	0.24869	0.1125 ppb	0.24869	221.05%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-55.1	-16.989 ug/L	9.9256	-16.989 ppb	9.9256	58.42%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	5.6	0.1250 ug/L	0.28877	0.1250 ppb	0.28877	231.00%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	0.1	-0.0361 ug/L	6.01599	-0.0361 ppb	6.01599	>999.9%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	4.8	0.5047 ug/L	0.68328	0.5047 ppb	0.68328	135.37%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	0.5	0.6338 ug/L	2.21269	0.6338 ppb	2.21269	349.11%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	8.8	2.7040 ug/L	1.49064	2.7040 ppb	1.49064	55.13%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-6.6	-3.5579 ug/L	2.92196	-3.5579 ppb	2.92196	82.13%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	2.7	0.0790 ug/L	0.34623	0.0790 ppb	0.34623	438.12%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.3	0.2103 ug/L	0.75366	0.2103 ppb	0.75366	358.40%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-14.2	-0.0940 ug/L	0.11181	-0.0940 ppb	0.11181	118.97%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	55.6	0.0805 ug/L	0.07872	0.0805 ppb	0.07872	97.83%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	10.6	2.9836 ug/L	2.20065	2.9836 ppb	2.20065	73.76%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	36.0	1.0616 ug/L	1.85755	1.0616 ppb	1.85755	174.98%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-7.6	-0.0495 ug/L	0.29681	-0.0495 ppb	0.29681	599.83%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	12.4	0.1021 ug/L	0.06876	0.1021 ppb	0.06876	67.35%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	33.8	2.1556 ug/L	1.52074	2.1556 ppb	1.52074	70.55%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 2/1/2010 07:35:46

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4328.1	4328.1	105 %		07:37:39
1	Y RADIAL	4882.4	4882.4	100.8 %		07:37:39
1	Al 396.153Radial†	70.4	257.2	211.95 ug/L	211.95 ppb	07:37:39
1	Ca 317.933Radial†	137.3	117.6	217.61 ug/L	217.61 ppb	07:37:59
1	Fe 238.204 Radial†	20.6	9.6	111.16 ug/L	111.16 ppb	07:37:59
1	K 766.490 Radial†	3472.1	685.2	130.22 ug/L	130.22 ppb	07:37:39
1	Mg 279.077 IEC†	8.0	7.7	325.22 ug/L	325.22 ppb	07:37:59
1	Na 589.592 Radial†	-712.9	972.7	299.75 ug/L	299.75 ppb	07:37:39
1	Sr 421.552†	790.5	717.1	4.7329 ug/L	4.7329 ppb	07:37:39
1	Sc 361.383	889809.8	889809.8	99.886 %		07:38:56
1	Y 371.029	732038.2	732038.2	99.699 %		07:38:56
1	Ag 328.068†	1832.3	1209.9	5.3045 ug/L	5.3045 ppb	07:38:56
1	As 188.979†	47.1	75.9	29.203 ug/L	29.203 ppb	07:39:16
1	B 249.677†	1940.6	2703.9	56.502 ug/L	56.502 ppb	07:38:56
1	Ba 233.527†	686.2	702.3	5.1488 ug/L	5.1488 ppb	07:39:16
1	Be 313.107†	10762.2	15177.5	5.1040 ug/L	5.1040 ppb	07:38:56
1	Cd 226.502†	288.6	493.0	5.0931 ug/L	5.0931 ppb	07:39:16
1	Co 228.616†	191.5	276.9	5.1127 ug/L	5.1127 ppb	07:39:16
1	Cr 267.716†	600.1	539.0	5.5373 ug/L	5.5373 ppb	07:38:56
1	Cu 324.752†	10663.6	3789.0	10.515 ug/L	10.515 ppb	07:38:56
1	Mn 257.610†	11284.4	10765.5	10.799 ug/L	10.799 ppb	07:38:56
1	Mo 202.031†	142.8	137.8	9.1679 ug/L	9.1679 ppb	07:39:16
1	Ni 231.604†	307.5	222.6	4.9578 ug/L	4.9578 ppb	07:39:16
1	P 214.914†	505.4	282.7	144.77 ug/L	144.77 ppb	07:39:16
1	Pb 220.353†	32.5	112.2	12.093 ug/L	12.093 ppb	07:39:16
1	S 181.975 Axial†	132.6	83.9	102.43 ug/L	102.43 ppb	07:39:16
1	Sb 206.836†	88.4	50.1	15.666 ug/L	15.666 ppb	07:39:16
1	Se 196.026†	25.0	51.0	28.656 ug/L	28.656 ppb	07:39:16
1	Si 251.611†	3951.5	3420.3	101.69 ug/L	101.69 ppb	07:38:56
1	Sn 189.927†	79.8	70.5	11.421 ug/L	11.421 ppb	07:39:16
1	Ti 334.940†	1649.3	3455.6	5.1401 ug/L	5.1401 ppb	07:38:56
1	Tl 190.801†	16.6	61.1	17.291 ug/L	17.291 ppb	07:39:16
1	U 409.014†	-3278.1	1831.3	54.068 ug/L	54.068 ppb	07:38:56
1	V 292.402†	-917.9	833.3	5.7590 ug/L	5.7590 ppb	07:38:56
1	Zn 213.857†	1937.4	1230.5	10.383 ug/L	10.383 ppb	07:39:16
1	SiO2†	3980.4	3422.7	218.01 ug/L	218.01 ppb	07:40:13
2	Sc Radial	4281.1	4281.1	104 %		07:38:04
2	Y RADIAL	4822.6	4822.6	99.61 %		07:38:04
2	Al 396.153Radial†	50.3	238.6	196.49 ug/L	196.49 ppb	07:38:04
2	Ca 317.933Radial†	130.9	112.8	208.78 ug/L	208.78 ppb	07:38:24
2	Fe 238.204 Radial†	20.6	9.7	113.37 ug/L	113.37 ppb	07:38:24
2	K 766.490 Radial†	3553.3	799.8	152.04 ug/L	152.04 ppb	07:38:04
2	Mg 279.077 IEC†	12.4	12.0	507.58 ug/L	507.58 ppb	07:38:24
2	Na 589.592 Radial†	-741.8	937.4	288.87 ug/L	288.87 ppb	07:38:04
2	Sr 421.552†	824.4	758.0	5.0030 ug/L	5.0030 ppb	07:38:04
2	Sc 361.383	881278.7	881278.7	98.928 %		07:39:22
2	Y 371.029	726823.0	726823.0	98.989 %		07:39:22
2	Ag 328.068†	1676.4	1070.0	4.6934 ug/L	4.6934 ppb	07:39:22
2	As 188.979†	54.4	83.7	32.195 ug/L	32.195 ppb	07:39:42
2	B 249.677†	1940.6	2722.7	56.895 ug/L	56.895 ppb	07:39:22
2	Ba 233.527†	699.1	722.0	5.2919 ug/L	5.2919 ppb	07:39:42
2	Be 313.107†	10551.9	15069.3	5.0678 ug/L	5.0678 ppb	07:39:22
2	Cd 226.502†	276.0	483.1	4.9901 ug/L	4.9901 ppb	07:39:42
2	Co 228.616†	185.9	273.1	5.0446 ug/L	5.0446 ppb	07:39:42
2	Cr 267.716†	567.2	511.5	5.2550 ug/L	5.2550 ppb	07:39:22
2	Cu 324.752†	10472.0	3698.6	10.265 ug/L	10.265 ppb	07:39:22
2	Mn 257.610†	11081.3	10669.6	10.696 ug/L	10.696 ppb	07:39:22
2	Mo 202.031†	152.1	148.5	9.8834 ug/L	9.8834 ppb	07:39:42
2	Ni 231.604†	325.4	243.8	5.4296 ug/L	5.4296 ppb	07:39:42

2	P 214.914†	524.7	307.1	157.46 ug/L	157.46 ppb	07:39:42
2	Pb 220.353†	38.8	118.8	12.804 ug/L	12.804 ppb	07:39:42
2	S 181.975 Axial†	127.7	80.2	97.937 ug/L	97.937 ppb	07:39:42
2	Sb 206.836†	72.0	34.4	10.889 ug/L	10.889 ppb	07:39:42
2	Se 196.026†	30.8	57.1	32.092 ug/L	32.092 ppb	07:39:42
2	Si 251.611†	3965.1	3472.3	103.24 ug/L	103.24 ppb	07:39:22
2	Sn 189.927†	81.1	72.6	11.760 ug/L	11.760 ppb	07:39:42
2	Ti 334.940†	1680.6	3503.1	5.1960 ug/L	5.1960 ppb	07:39:22
2	Tl 190.801†	34.6	79.4	22.473 ug/L	22.473 ppb	07:39:42
2	U 409.014†	-3312.8	1764.4	52.093 ug/L	52.093 ppb	07:39:22
2	V 292.402†	-969.2	772.5	5.3643 ug/L	5.3643 ppb	07:39:22
2	Zn 213.857†	1909.8	1221.4	10.303 ug/L	10.303 ppb	07:39:42
2	SiO2†	3915.6	3395.8	216.28 ug/L	216.28 ppb	07:40:18
3	Sc Radial	4295.7	4295.7	104 %		07:38:30
3	Y RADIAL	4792.8	4792.8	99.00 %		07:38:30
3	Al 396.153Radial†	80.3	267.3	220.18 ug/L	220.18 ppb	07:38:30
3	Ca 317.933Radial†	132.1	113.6	210.24 ug/L	210.24 ppb	07:38:50
3	Fe 238.204 Radial†	19.2	8.3	96.697 ug/L	96.697 ppb	07:38:50
3	K 766.490 Radial†	3509.9	746.5	141.88 ug/L	141.88 ppb	07:38:30
3	Mg 279.077 IEC†	8.1	7.8	328.68 ug/L	328.68 ppb	07:38:50
3	Na 589.592 Radial†	-676.6	1002.5	308.91 ug/L	308.91 ppb	07:38:30
3	Sr 421.552†	829.4	760.1	5.0169 ug/L	5.0169 ppb	07:38:30
3	Sc 361.383	886926.6	886926.6	99.562 %		07:39:47
3	Y 371.029	731155.1	731155.1	99.579 %		07:39:47
3	Ag 328.068†	1748.0	1131.2	4.9533 ug/L	4.9533 ppb	07:39:47
3	As 188.979†	52.6	81.6	31.368 ug/L	31.368 ppb	07:40:07
3	B 249.677†	2056.1	2826.2	59.061 ug/L	59.061 ppb	07:39:47
3	Ba 233.527†	688.8	707.1	5.1821 ug/L	5.1821 ppb	07:40:07
3	Be 313.107†	10601.5	15051.2	5.0616 ug/L	5.0616 ppb	07:39:47
3	Cd 226.502†	280.8	486.2	5.0241 ug/L	5.0241 ppb	07:40:07
3	Co 228.616†	190.8	276.7	5.1130 ug/L	5.1130 ppb	07:40:07
3	Cr 267.716†	569.0	509.7	5.2344 ug/L	5.2344 ppb	07:39:47
3	Cu 324.752†	10632.5	3792.4	10.524 ug/L	10.524 ppb	07:39:47
3	Mn 257.610†	11144.2	10661.4	10.693 ug/L	10.693 ppb	07:39:47
3	Mo 202.031†	156.7	152.2	10.123 ug/L	10.123 ppb	07:40:07
3	Ni 231.604†	316.4	232.6	5.1795 ug/L	5.1795 ppb	07:40:07
3	P 214.914†	521.0	300.0	153.76 ug/L	153.76 ppb	07:40:07
3	Pb 220.353†	22.4	102.1	11.016 ug/L	11.016 ppb	07:40:07
3	S 181.975 Axial†	122.8	74.5	90.964 ug/L	90.964 ppb	07:40:07
3	Sb 206.836†	81.7	43.7	13.715 ug/L	13.715 ppb	07:40:07
3	Se 196.026†	36.2	62.3	34.905 ug/L	34.905 ppb	07:40:07
3	Si 251.611†	3941.0	3422.6	101.75 ug/L	101.75 ppb	07:39:47
3	Sn 189.927†	75.2	66.1	10.704 ug/L	10.704 ppb	07:40:07
3	Ti 334.940†	1654.8	3466.5	5.1557 ug/L	5.1557 ppb	07:39:47
3	Tl 190.801†	26.6	71.2	20.153 ug/L	20.153 ppb	07:40:07
3	U 409.014†	-3306.8	1791.7	52.903 ug/L	52.903 ppb	07:39:47
3	V 292.402†	-1029.2	718.5	5.0090 ug/L	5.0090 ppb	07:39:47
3	Zn 213.857†	1936.9	1236.3	10.432 ug/L	10.432 ppb	07:40:07
3	SiO2†	3941.0	3396.1	216.29 ug/L	216.29 ppb	07:40:23

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	886005.0	99.459 %	0.4871			0.49%
Sc Radial	4301.7	104 %	0.6			0.56%
Y 371.029	730005.4	99.422 %	0.3801			0.38%
Y RADIAL	4832.6	99.82 %	0.943			0.94%
Ag 328.068†	1137.0	4.9837 ug/L	0.30668	4.9837 ppb	0.30668	6.15%
QC value within limits for Ag 328.068 Recovery = 99.67%						
Al 396.153Radial†	254.4	209.54 ug/L	12.027	209.54 ppb	12.027	5.74%
QC value within limits for Al 396.153Radial Recovery = 104.77%						
As 188.979†	80.4	30.922 ug/L	1.5446	30.922 ppb	1.5446	5.00%
QC value within limits for As 188.979 Recovery = 103.07%						
B 249.677†	2750.9	57.486 ug/L	1.3780	57.486 ppb	1.3780	2.40%
QC value within limits for B 249.677 Recovery = 114.97%						
Ba 233.527†	710.5	5.2076 ug/L	0.07485	5.2076 ppb	0.07485	1.44%
QC value within limits for Ba 233.527 Recovery = 104.15%						
Be 313.107†	15099.3	5.0778 ug/L	0.02287	5.0778 ppb	0.02287	0.45%
QC value within limits for Be 313.107 Recovery = 101.56%						
Ca 317.933Radial†	114.6	212.21 ug/L	4.737	212.21 ppb	4.737	2.23%

QC value within limits for Ca 317.933 Radial Recovery = 106.10%							
Cd 226.502†	487.4	5.0358 ug/L	0.05248	5.0358 ppb	0.05248	1.04%	
QC value within limits for Cd 226.502 Recovery = 100.72%							
Co 228.616†	275.6	5.0901 ug/L	0.03940	5.0901 ppb	0.03940	0.77%	
QC value within limits for Co 228.616 Recovery = 101.80%							
Cr 267.716†	520.1	5.3422 ug/L	0.16928	5.3422 ppb	0.16928	3.17%	
QC value within limits for Cr 267.716 Recovery = 106.84%							
Cu 324.752†	3760.0	10.434 ug/L	0.1472	10.434 ppb	0.1472	1.41%	
QC value within limits for Cu 324.752 Recovery = 104.34%							
Fe 238.204 Radial†	9.2	107.07 ug/L	9.054	107.07 ppb	9.054	8.46%	
QC value within limits for Fe 238.204 Radial Recovery = 107.07%							
K 766.490 Radial†	743.8	141.38 ug/L	10.920	141.38 ppb	10.920	7.72%	
QC value within limits for K 766.490 Radial Recovery = 94.25%							
Mg 279.077 IEC†	9.2	387.16 ug/L	104.299	387.16 ppb	104.299	26.94%	
QC value within limits for Mg 279.077 IEC Recovery = 129.05%							
Mn 257.610†	10698.8	10.729 ug/L	0.0605	10.729 ppb	0.0605	0.56%	
QC value within limits for Mn 257.610 Recovery = 107.29%							
Mo 202.031†	146.2	9.7247 ug/L	0.49686	9.7247 ppb	0.49686	5.11%	
QC value within limits for Mo 202.031 Recovery = 97.25%							
Na 589.592 Radial†	970.9	299.18 ug/L	10.032	299.18 ppb	10.032	3.35%	
QC value within limits for Na 589.592 Radial Recovery = 99.73%							
Ni 231.604†	233.0	5.1890 ug/L	0.23603	5.1890 ppb	0.23603	4.55%	
QC value within limits for Ni 231.604 Recovery = 103.78%							
P 214.914†	296.6	152.00 ug/L	6.525	152.00 ppb	6.525	4.29%	
QC value within limits for P 214.914 Recovery = 101.33%							
Pb 220.353†	111.0	11.971 ug/L	0.9005	11.971 ppb	0.9005	7.52%	
QC value within limits for Pb 220.353 Recovery = 119.71%							
S 181.975 Axial†	79.5	97.109 ug/L	5.7754	97.109 ppb	5.7754	5.95%	
QC value within limits for S 181.975 Axial Recovery = 97.11%							
Sb 206.836†	42.7	13.423 ug/L	2.4021	13.423 ppb	2.4021	17.90%	
QC value greater than the upper limit for Sb 206.836 Recovery = 134.23%							
Se 196.026†	56.8	31.884 ug/L	3.1296	31.884 ppb	3.1296	9.82%	
QC value within limits for Se 196.026 Recovery = 106.28%							
Si 251.611†	3438.4	102.23 ug/L	0.874	102.23 ppb	0.874	0.85%	
QC value within limits for Si 251.611 Recovery = 102.23%							
Sn 189.927†	69.7	11.295 ug/L	0.5388	11.295 ppb	0.5388	4.77%	
QC value within limits for Sn 189.927 Recovery = 112.95%							
Sr 421.552†	745.0	4.9176 ug/L	0.16014	4.9176 ppb	0.16014	3.26%	
QC value within limits for Sr 421.552 Recovery = 98.35%							
Ti 334.940†	3475.1	5.1639 ug/L	0.02888	5.1639 ppb	0.02888	0.56%	
QC value within limits for Ti 334.940 Recovery = 103.28%							
Tl 190.801†	70.6	19.972 ug/L	2.5955	19.972 ppb	2.5955	13.00%	
QC value within limits for Tl 190.801 Recovery = 99.86%							
U 409.014†	1795.8	53.021 ug/L	0.9928	53.021 ppb	0.9928	1.87%	
QC value within limits for U 409.014 Recovery = 106.04%							
V 292.402†	774.7	5.3774 ug/L	0.37518	5.3774 ppb	0.37518	6.98%	
QC value within limits for V 292.402 Recovery = 107.55%							
Zn 213.857†	1229.4	10.373 ug/L	0.0650	10.373 ppb	0.0650	0.63%	
QC value within limits for Zn 213.857 Recovery = 103.73%							
SiO2†	3404.9	216.86 ug/L	0.998	216.86 ppb	0.998	0.46%	
QC value within limits for SiO2 Recovery = 101.81%							
QC Failed. Continue with analysis.							



Sequence No.: 9

Sample ID: ICSEA

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 13

Date Collected: 2/1/2010 07:42:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICSEA

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	3853.3	3853.3	93.4 %		07:44:32
1	Y RADIAL	4287.2	4287.2	88.55 %		07:44:32
1	Al 396.153Radial†	574220.9	614973.5	507770 ug/L	507770 ppb	07:44:27
1	Ca 317.933Radial†	240944.8	257951.5	477510 ug/L	477510 ppb	07:44:27
1	Fe 238.204 Radial†	15056.7	16110.2	187220 ug/L	187220 ppb	07:44:32
1	K 766.490 Radial†	2209.4	-258.8	-208.96 ug/L	-208.96 ppb	07:44:27
1	Mg 279.077 IEC†	10888.3	11657.5	491030 ug/L	491030 ppb	07:44:32
1	Na 589.592 Radial†	-1550.1	-7.3	-2.2447 ug/L	-2.2447 ppb	07:44:32
1	Sr 421.552†	570.8	574.6	0.2286 ug/L	0.2286 ppb	07:44:32
1	Sc 361.383	766844.6	766844.6	86.082 %		07:44:59
1	Y 371.029	617439.5	617439.5	84.092 %		07:44:59
1	Ag 328.068†	-9923.8	-12152.8	1.0062 ug/L	1.0062 ppb	07:44:59
1	As 188.979†	-97.1	-84.0	11.448 ug/L	11.448 ppb	07:45:20
1	B 249.677†	216.8	1012.9	-9.2281 ug/L	-9.2281 ppb	07:44:59
1	Ba 233.527†	-704.0	-802.5	-0.1361 ug/L	-0.1361 ppb	07:45:20
1	Be 313.107†	-4593.3	-932.9	-0.3641 ug/L	-0.3641 ppb	07:44:59
1	Cd 226.502†	1260.1	1668.0	-2.1064 ug/L	-2.1064 ppb	07:45:20
1	Co 228.616†	-19.1	63.0	-1.5484 ug/L	-1.5484 ppb	07:45:20
1	Cr 267.716†	-144.6	-229.8	1.2817 ug/L	1.2817 ppb	07:45:20
1	Cu 324.752†	3515.6	-2802.8	2.0955 ug/L	2.0955 ppb	07:44:59
1	Mn 257.610†	310.8	-170.7	-1.7654 ug/L	-1.7654 ppb	07:44:59
1	Mo 202.031†	-279.7	-330.1	-1.7232 ug/L	-1.7232 ppb	07:45:20
1	Ni 231.604†	199.9	147.0	3.2759 ug/L	3.2759 ppb	07:45:20
1	P 214.914†	201.1	10.3	-17.911 ug/L	-17.911 ppb	07:45:20
1	Pb 220.353†	-896.7	-962.1	-3.6673 ug/L	-3.6673 ppb	07:45:20
1	S 181.975 Axial†	83.0	47.6	-37.059 ug/L	-37.059 ppb	07:45:20
1	Sb 206.836†	95.0	71.9	11.578 ug/L	11.578 ppb	07:45:20
1	Se 196.026†	-1012.1	-1149.8	13.958 ug/L	13.958 ppb	07:45:20
1	Si 251.611†	482.0	24.2	0.9893 ug/L	0.9893 ppb	07:45:20
1	Sn 189.927†	-357.5	-424.7	7.1019 ug/L	7.1019 ppb	07:45:20
1	Ti 334.940†	-14522.7	-15066.3	1.3981 ug/L	1.3981 ppb	07:44:59
1	Tl 190.801†	-103.7	-76.0	-21.650 ug/L	-21.650 ppb	07:45:20
1	U 409.014†	-3444.3	1111.9	11.505 ug/L	11.505 ppb	07:44:59
1	V 292.402†	464.8	2292.1	-2.7532 ug/L	-2.7532 ppb	07:45:20
1	Zn 213.857†	3259.0	3076.7	7.9325 ug/L	7.9325 ppb	07:45:20
1	SiO2†	461.2	-26.5	-1.0897 ug/L	-1.0897 ppb	07:46:16
2	Sc Radial	3829.3	3829.3	92.8 %		07:44:43
2	Y RADIAL	4298.4	4298.4	88.78 %		07:44:43
2	Al 396.153Radial†	569564.3	613803.5	506810 ug/L	506810 ppb	07:44:37
2	Ca 317.933Radial†	237983.1	256375.0	474590 ug/L	474590 ppb	07:44:37
2	Fe 238.204 Radial†	15045.4	16198.9	188250 ug/L	188250 ppb	07:44:43
2	K 766.490 Radial†	2235.5	-215.9	-199.83 ug/L	-199.83 ppb	07:44:37
2	Mg 279.077 IEC†	10875.0	11716.1	493500 ug/L	493500 ppb	07:44:43
2	Na 589.592 Radial†	-1533.6	0.0	0.0066 ug/L	0.0066 ppb	07:44:43
2	Sr 421.552†	543.1	548.7	0.0789 ug/L	0.0789 ppb	07:44:43
2	Sc 361.383	772400.6	772400.6	86.706 %		07:45:25
2	Y 371.029	620923.4	620923.4	84.566 %		07:45:25
2	Ag 328.068†	-10137.6	-12316.4	0.6611 ug/L	0.6611 ppb	07:45:25
2	As 188.979†	-105.6	-93.1	8.2069 ug/L	8.2069 ppb	07:45:45
2	B 249.677†	284.6	1089.3	-7.7974 ug/L	-7.7974 ppb	07:45:25
2	Ba 233.527†	-716.5	-811.1	-0.1653 ug/L	-0.1653 ppb	07:45:45
2	Be 313.107†	-4698.3	-1015.6	-0.3924 ug/L	-0.3924 ppb	07:45:25
2	Cd 226.502†	1262.7	1660.4	-2.2890 ug/L	-2.2890 ppb	07:45:45
2	Co 228.616†	-36.1	43.5	-1.9241 ug/L	-1.9241 ppb	07:45:45
2	Cr 267.716†	-159.0	-245.2	1.1409 ug/L	1.1409 ppb	07:45:45
2	Cu 324.752†	3568.1	-2771.6	2.2327 ug/L	2.2327 ppb	07:45:25
2	Mn 257.610†	293.2	-193.6	-1.7874 ug/L	-1.7874 ppb	07:45:25
2	Mo 202.031†	-296.3	-347.0	-2.8000 ug/L	-2.8000 ppb	07:45:45
2	Ni 231.604†	243.6	195.8	4.3622 ug/L	4.3622 ppb	07:45:45

2	P 214.914†	204.0	12.0	-18.204 ug/L	-18.204 ppb	07:45:45
2	Pb 220.353†	-935.6	-999.4	-8.0375 ug/L	-8.0375 ppb	07:45:45
2	S 181.975 Axial†	83.3	47.2	-37.319 ug/L	-37.319 ppb	07:45:45
2	Sb 206.836†	61.9	33.0	-0.3271 ug/L	-0.3271 ppb	07:45:45
2	Se 196.026†	-1043.0	-1177.0	2.2233 ug/L	2.2233 ppb	07:45:45
2	Si 251.611†	449.8	-17.0	-0.2219 ug/L	-0.2219 ppb	07:45:45
2	Sn 189.927†	-383.5	-451.7	2.3091 ug/L	2.3091 ppb	07:45:45
2	Ti 334.940†	-14776.5	-15237.7	0.5458 ug/L	0.5458 ppb	07:45:25
2	Tl 190.801†	-80.2	-48.0	-13.776 ug/L	-13.776 ppb	07:45:45
2	U 409.014†	-3252.3	1362.2	18.782 ug/L	18.782 ppb	07:45:25
2	V 292.402†	569.9	2409.5	-2.0765 ug/L	-2.0765 ppb	07:45:45
2	Zn 213.857†	3261.6	3052.5	7.6201 ug/L	7.6201 ppb	07:45:45
2	SiO2†	444.8	-49.2	-2.5111 ug/L	-2.5111 ppb	07:46:21
3	Sc Radial	3848.6	3848.6	93.3 %		07:44:53
3	Y RADIAL	4331.3	4331.3	89.46 %		07:44:53
3	Al 396.153Radial†	568951.0	610073.0	503730 ug/L	503730 ppb	07:44:48
3	Ca 317.933Radial†	237689.6	254776.3	471630 ug/L	471630 ppb	07:44:48
3	Fe 238.204 Radial†	15172.1	16253.5	188880 ug/L	188880 ppb	07:44:53
3	K 766.490 Radial†	2226.6	-237.5	-202.94 ug/L	-202.94 ppb	07:44:48
3	Mg 279.077 IEC†	10881.6	11664.5	491320 ug/L	491320 ppb	07:44:53
3	Na 589.592 Radial†	-1561.4	-21.5	-6.6106 ug/L	-6.6106 ppb	07:44:53
3	Sr 421.552†	581.3	586.7	0.3520 ug/L	0.3520 ppb	07:44:53
3	Sc 361.383	768526.8	768526.8	86.271 %		07:45:50
3	Y 371.029	617575.3	617575.3	84.110 %		07:45:50
3	Ag 328.068†	-9966.4	-12176.9	1.5149 ug/L	1.5149 ppb	07:45:50
3	As 188.979†	-104.4	-92.2	8.6748 ug/L	8.6748 ppb	07:46:11
3	B 249.677†	228.6	1026.1	-9.2237 ug/L	-9.2237 ppb	07:45:50
3	Ba 233.527†	-713.0	-811.2	-0.1489 ug/L	-0.1489 ppb	07:46:11
3	Be 313.107†	-4719.1	-1067.1	-0.4093 ug/L	-0.4093 ppb	07:45:50
3	Cd 226.502†	1243.1	1645.0	-2.5143 ug/L	-2.5143 ppb	07:46:11
3	Co 228.616†	-19.3	62.8	-1.5772 ug/L	-1.5772 ppb	07:46:11
3	Cr 267.716†	-219.0	-315.7	0.4268 ug/L	0.4268 ppb	07:46:11
3	Cu 324.752†	3557.6	-2763.1	2.2909 ug/L	2.2909 ppb	07:45:50
3	Mn 257.610†	245.4	-247.3	-1.6897 ug/L	-1.6897 ppb	07:45:50
3	Mo 202.031†	-284.4	-334.8	-1.9794 ug/L	-1.9794 ppb	07:46:11
3	Ni 231.604†	210.1	158.3	3.5275 ug/L	3.5275 ppb	07:46:11
3	P 214.914†	219.8	31.5	-9.3604 ug/L	-9.3604 ppb	07:46:11
3	Pb 220.353†	-874.4	-933.9	-1.7833 ug/L	-1.7833 ppb	07:46:11
3	S 181.975 Axial†	62.7	23.8	-65.373 ug/L	-65.373 ppb	07:46:11
3	Sb 206.836†	91.1	67.2	10.230 ug/L	10.230 ppb	07:46:11
3	Se 196.026†	-1031.3	-1169.4	8.3357 ug/L	8.3357 ppb	07:46:11
3	Si 251.611†	411.1	-59.2	-1.4897 ug/L	-1.4897 ppb	07:46:11
3	Sn 189.927†	-379.8	-449.6	2.2137 ug/L	2.2137 ppb	07:46:11
3	Ti 334.940†	-14587.6	-15104.7	0.5261 ug/L	0.5261 ppb	07:45:50
3	Tl 190.801†	-91.7	-61.9	-17.677 ug/L	-17.677 ppb	07:46:11
3	U 409.014†	-3278.1	1313.4	17.269 ug/L	17.269 ppb	07:45:50
3	V 292.402†	452.1	2276.2	-3.0890 ug/L	-3.0890 ppb	07:46:11
3	Zn 213.857†	3237.8	3043.9	7.4908 ug/L	7.4908 ppb	07:46:11
3	SiO2†	439.5	-52.8	-2.7629 ug/L	-2.7629 ppb	07:46:26

## Mean Data: ICSCA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	769257.3	86.353 %	0.3198			0.37%
Sc Radial	3843.8	93.2 %	0.31			0.33%
Y 371.029	618646.1	84.256 %	0.2688			0.32%
Y RADIAL	4305.6	88.93 %	0.474			0.53%
Ag 328.068†	-12215.4	1.0607 ug/L	0.42949	1.0607 ppb	0.42949	40.49%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	612950.0	506100 ug/L	2113.2	506100 ppb	2113.2	0.42%
QC value within limits for Al 396.153Radial Recovery = 101.22%						
As 188.979†	-89.8	9.4433 ug/L	1.75201	9.4433 ppb	1.75201	18.55%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	1042.8	-8.7497 ug/L	0.82473	-8.7497 ppb	0.82473	9.43%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-808.3	-0.1501 ug/L	0.01466	-0.1501 ppb	0.01466	9.76%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-1005.2	-0.3886 ug/L	0.02281	-0.3886 ppb	0.02281	5.87%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	256367.6	474570 ug/L	2939.0	474570 ppb	2939.0	0.62%

QC value within limits for Ca 317.933 Radial Recovery = 94.91%

Cd 226.502†	1657.8	-2.3032 ug/L	0.20435	-2.3032 ppb	0.20435	8.87%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	56.4	-1.6833 ug/L	0.20909	-1.6833 ppb	0.20909	12.42%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-263.6	0.9498 ug/L	0.45835	0.9498 ppb	0.45835	48.26%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-2779.2	2.2064 ug/L	0.10037	2.2064 ppb	0.10037	4.55%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	16187.5	188120 ug/L	840.8	188120 ppb	840.8	0.45%
QC value within limits for Fe 238.204 Radial Recovery = 94.06%						
K 766.490 Radial†	-237.4	-203.91 ug/L	4.645	-203.91 ppb	4.645	2.28%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	11679.4	491950 ug/L	1347.8	491950 ppb	1347.8	0.27%
QC value within limits for Mg 279.077 IEC Recovery = 98.39%						
Mn 257.610†	-203.9	-1.7475 ug/L	0.05126	-1.7475 ppb	0.05126	2.93%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-337.3	-2.1676 ug/L	0.56253	-2.1676 ppb	0.56253	25.95%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-9.6	-2.9495 ug/L	3.36446	-2.9495 ppb	3.36446	114.07%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	167.1	3.7218 ug/L	0.56867	3.7218 ppb	0.56867	15.28%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	17.9	-15.158 ug/L	5.0232	-15.158 ppb	5.0232	33.14%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	-965.1	-4.4960 ug/L	3.20837	-4.4960 ppb	3.20837	71.36%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	39.5	-46.584 ug/L	16.2724	-46.584 ppb	16.2724	34.93%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	57.4	7.1604 ug/L	6.51934	7.1604 ppb	6.51934	91.05%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-1165.4	8.1725 ug/L	5.86926	8.1725 ppb	5.86926	71.82%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-17.4	-0.2408 ug/L	1.23957	-0.2408 ppb	1.23957	514.83%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-442.0	3.8749 ug/L	2.79510	3.8749 ppb	2.79510	72.13%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	570.0	0.2198 ug/L	0.13676	0.2198 ppb	0.13676	62.22%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-15136.2	0.8233 ug/L	0.49784	0.8233 ppb	0.49784	60.47%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-62.0	-17.701 ug/L	3.9375	-17.701 ppb	3.9375	22.24%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	1262.5	15.852 ug/L	3.8398	15.852 ppb	3.8398	24.22%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	2325.9	-2.6395 ug/L	0.51570	-2.6395 ppb	0.51570	19.54%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	3057.7	7.6811 ug/L	0.22708	7.6811 ppb	0.22708	2.96%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-42.8	-2.1213 ug/L	0.90215	-2.1213 ppb	0.90215	42.53%
QC value within limits for SiO2 Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 14

Date Collected: 2/1/2010 07:48:38

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	3852.1	3852.1	93.4 %		07:50:50
1	Y RADIAL	4315.0	4315.0	89.13 %		07:50:50
1	Al 396.153Radial†	577511.4	618698.0	510830 ug/L	510830 ppb	07:50:30
1	Ca 317.933Radial†	240794.8	257875.0	477360 ug/L	477360 ppb	07:50:30
1	Fe 238.204 Radial†	15074.7	16134.7	187520 ug/L	187520 ppb	07:50:50
1	K 766.490 Radial†	28692.3	28104.8	5187.1 ug/L	5187.1 ppb	07:50:30
1	Mg 279.077 IEC†	10920.4	11695.7	492650 ug/L	492650 ppb	07:50:50
1	Na 589.592 Radial†	14692.6	17387.9	5358.1 ug/L	5358.1 ppb	07:50:30
1	Sr 421.552†	71766.2	76824.3	503.68 ug/L	503.68 ppb	07:50:30
1	Sc 361.383	785454.3	785454.3	88.171 %		07:51:48
1	Y 371.029	630650.7	630650.7	85.891 %		07:51:48
1	Ag 328.068†	42897.6	48027.9	265.96 ug/L	265.96 ppb	07:51:48
1	As 188.979†	1097.4	1273.3	535.96 ug/L	535.96 ppb	07:51:53
1	B 249.677†	21400.4	25032.4	491.68 ug/L	491.68 ppb	07:51:48
1	Ba 233.527†	56114.5	63657.8	472.10 ug/L	472.10 ppb	07:51:53
1	Be 313.107†	619847.6	707405.4	238.42 ug/L	238.42 ppb	07:51:48
1	Cd 226.502†	40976.7	46678.0	463.02 ug/L	463.02 ppb	07:51:53
1	Co 228.616†	21032.3	23939.0	438.67 ug/L	438.67 ppb	07:51:53
1	Cr 267.716†	39707.7	44972.8	467.13 ug/L	467.13 ppb	07:51:53
1	Cu 324.752†	173865.2	190303.0	538.95 ug/L	538.95 ppb	07:51:48
1	Mn 257.610†	413319.0	468235.4	468.17 ug/L	468.17 ppb	07:51:48
1	Mo 202.031†	6075.3	6885.1	477.82 ug/L	477.82 ppb	07:51:53
1	Ni 231.604†	17797.3	20099.7	447.61 ug/L	447.61 ppb	07:51:53
1	P 214.914†	4389.1	4754.6	2343.7 ug/L	2343.7 ppb	07:51:53
1	Pb 220.353†	2800.0	3255.3	450.32 ug/L	450.32 ppb	07:51:53
1	S 181.975 Axial†	1906.9	2113.8	2486.5 ug/L	2486.5 ppb	07:51:53
1	Sb 206.836†	1554.0	1724.0	533.42 ug/L	533.42 ppb	07:51:53
1	Se 196.026†	2926.5	3345.1	2508.1 ug/L	2508.1 ppb	07:51:53
1	Si 251.611†	150592.9	170259.7	5062.3 ug/L	5062.3 ppb	07:51:48
1	Sn 189.927†	2217.4	2505.4	480.44 ug/L	480.44 ppb	07:51:53
1	Ti 334.940†	277971.7	317067.0	497.13 ug/L	497.13 ppb	07:51:48
1	Tl 190.801†	1328.1	1550.8	440.80 ug/L	440.80 ppb	07:51:53
1	U 409.014†	11089.2	17689.9	500.12 ug/L	500.12 ppb	07:51:48
1	V 292.402†	65239.2	75743.4	492.91 ug/L	492.91 ppb	07:51:48
1	Zn 213.857†	53360.7	59810.2	485.69 ug/L	485.69 ppb	07:51:53
1	SiO2†	150246.1	169839.9	10818 ug/L	10818 ppb	07:52:20
2	Sc Radial	3887.5	3887.5	94.2 %		07:51:16
2	Y RADIAL	4354.8	4354.8	89.95 %		07:51:16
2	Al 396.153Radial†	575431.9	610850.1	504350 ug/L	504350 ppb	07:50:56
2	Ca 317.933Radial†	239671.2	254330.6	470800 ug/L	470800 ppb	07:50:56
2	Fe 238.204 Radial†	15137.3	16053.9	186580 ug/L	186580 ppb	07:51:16
2	K 766.490 Radial†	28590.2	27716.1	5115.4 ug/L	5115.4 ppb	07:50:56
2	Mg 279.077 IEC†	10966.8	11638.2	490220 ug/L	490220 ppb	07:51:16
2	Na 589.592 Radial†	14466.6	17004.6	5240.0 ug/L	5240.0 ppb	07:50:56
2	Sr 421.552†	71333.0	75663.5	496.06 ug/L	496.06 ppb	07:50:56
2	Sc 361.383	793999.8	793999.8	89.131 %		07:51:59
2	Y 371.029	637016.5	637016.5	86.758 %		07:51:59
2	Ag 328.068†	43228.1	47875.1	265.07 ug/L	265.07 ppb	07:51:59
2	As 188.979†	1019.4	1172.5	497.04 ug/L	497.04 ppb	07:52:04
2	B 249.677†	21641.6	25041.9	492.06 ug/L	492.06 ppb	07:51:59
2	Ba 233.527†	55497.8	62280.9	462.01 ug/L	462.01 ppb	07:52:04
2	Be 313.107†	626788.6	707626.7	238.49 ug/L	238.49 ppb	07:51:59
2	Cd 226.502†	40422.4	45555.9	451.52 ug/L	451.52 ppb	07:52:04
2	Co 228.616†	20783.6	23403.3	428.78 ug/L	428.78 ppb	07:52:04
2	Cr 267.716†	39413.4	44157.9	458.72 ug/L	458.72 ppb	07:52:04
2	Cu 324.752†	175916.8	190482.4	539.39 ug/L	539.39 ppb	07:51:59
2	Mn 257.610†	417773.0	468187.4	468.13 ug/L	468.13 ppb	07:51:59
2	Mo 202.031†	5986.0	6710.7	466.07 ug/L	466.07 ppb	07:52:04
2	Ni 231.604†	17633.1	19698.2	438.67 ug/L	438.67 ppb	07:52:04

2	P 214.914†	4344.5	4651.1	2288.9 ug/L	2288.9 ppb	07:52:04
2	Pb 220.353†	2813.3	3236.0	446.80 ug/L	446.80 ppb	07:52:04
2	S 181.975 Axial†	1933.5	2120.4	2495.8 ug/L	2495.8 ppb	07:52:04
2	Sb 206.836†	1488.5	1631.6	505.02 ug/L	505.02 ppb	07:52:04
2	Se 196.026†	2872.7	3249.0	2451.2 ug/L	2451.2 ppb	07:52:04
2	Si 251.611†	152190.5	170213.9	5061.1 ug/L	5061.1 ppb	07:51:59
2	Sn 189.927†	2211.9	2472.3	474.08 ug/L	474.08 ppb	07:52:04
2	Ti 334.940†	281151.6	317241.5	496.71 ug/L	496.71 ppb	07:51:59
2	Tl 190.801†	1267.0	1466.0	416.93 ug/L	416.93 ppb	07:52:04
2	U 409.014†	11511.7	18028.6	510.25 ug/L	510.25 ppb	07:51:59
2	V 292.402†	66065.8	75874.6	493.73 ug/L	493.73 ppb	07:51:59
2	Zn 213.857†	52632.9	58342.2	473.38 ug/L	473.38 ppb	07:52:04
2	SiO2†	150682.2	168495.2	10733 ug/L	10733 ppb	07:52:26
3	Sc Radial	3850.9	3850.9	93.3 %		07:51:41
3	Y RADIAL	4332.8	4332.8	89.49 %		07:51:41
3	Al 396.153Radial†	575439.7	616660.4	509140 ug/L	509140 ppb	07:51:21
3	Ca 317.933Radial†	239897.4	256989.5	475720 ug/L	475720 ppb	07:51:21
3	Fe 238.204 Radial†	15062.0	16125.8	187410 ug/L	187410 ppb	07:51:41
3	K 766.490 Radial†	28648.9	28067.3	5180.6 ug/L	5180.6 ppb	07:51:21
3	Mg 279.077 IEC†	10910.7	11688.7	492350 ug/L	492350 ppb	07:51:41
3	Na 589.592 Radial†	14390.7	17069.0	5259.8 ug/L	5259.8 ppb	07:51:21
3	Sr 421.552†	71306.1	76354.0	500.58 ug/L	500.58 ppb	07:51:21
3	Sc 361.383	776467.5	776467.5	87.163 %		07:52:10
3	Y 371.029	622200.4	622200.4	84.740 %		07:52:10
3	Ag 328.068†	42266.9	47867.5	265.26 ug/L	265.26 ppb	07:52:10
3	As 188.979†	1019.6	1198.5	507.20 ug/L	507.20 ppb	07:52:15
3	B 249.677†	21218.0	25104.1	493.19 ug/L	493.19 ppb	07:52:10
3	Ba 233.527†	55563.5	63762.1	472.86 ug/L	472.86 ppb	07:52:15
3	Be 313.107†	613165.9	707876.2	238.58 ug/L	238.58 ppb	07:52:10
3	Cd 226.502†	40603.4	46787.6	464.16 ug/L	464.16 ppb	07:52:15
3	Co 228.616†	20855.7	24012.4	440.02 ug/L	440.02 ppb	07:52:15
3	Cr 267.716†	39397.3	45138.0	468.83 ug/L	468.83 ppb	07:52:15
3	Cu 324.752†	171506.3	189879.0	537.76 ug/L	537.76 ppb	07:52:10
3	Mn 257.610†	409833.8	469662.4	469.60 ug/L	469.60 ppb	07:52:10
3	Mo 202.031†	5996.8	6874.7	477.10 ug/L	477.10 ppb	07:52:15
3	Ni 231.604†	17680.5	20199.4	449.82 ug/L	449.82 ppb	07:52:15
3	P 214.914†	4390.3	4813.6	2374.3 ug/L	2374.3 ppb	07:52:15
3	Pb 220.353†	2732.0	3214.0	445.51 ug/L	445.51 ppb	07:52:15
3	S 181.975 Axial†	1908.2	2140.3	2519.2 ug/L	2519.2 ppb	07:52:15
3	Sb 206.836†	1525.9	1712.2	530.06 ug/L	530.06 ppb	07:52:15
3	Se 196.026†	2898.8	3351.7	2511.2 ug/L	2511.2 ppb	07:52:15
3	Si 251.611†	148926.2	170324.4	5064.2 ug/L	5064.2 ppb	07:52:10
3	Sn 189.927†	2264.2	2588.2	493.57 ug/L	493.57 ppb	07:52:15
3	Ti 334.940†	275404.9	317770.9	497.98 ug/L	497.98 ppb	07:52:10
3	Tl 190.801†	1307.7	1544.8	439.12 ug/L	439.12 ppb	07:52:15
3	U 409.014†	10922.9	17644.7	498.80 ug/L	498.80 ppb	07:52:10
3	V 292.402†	64679.2	75957.3	494.33 ug/L	494.33 ppb	07:52:10
3	Zn 213.857†	52836.0	59908.6	486.52 ug/L	486.52 ppb	07:52:15
3	SiO2†	150701.6	172334.7	10977 ug/L	10977 ppb	07:52:31

## Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	785307.2	88.155 %	0.9842			1.12%
Sc Radial	3863.5	93.6 %	0.50			0.54%
Y 371.029	629955.9	85.796 %	1.0123			1.18%
Y RADIAL	4334.2	89.52 %	0.412			0.46%
Ag 328.068†	47923.5	265.43 ug/L	0.469	265.43 ppb	0.469	0.18%
QC value within limits for Ag 328.068 Recovery = 106.17%						
Al 396.153Radial†	615402.8	508100 ug/L	3362.1	508100 ppb	3362.1	0.66%
QC value within limits for Al 396.153Radial Recovery = 101.62%						
As 188.979†	1214.7	513.40 ug/L	20.187	513.40 ppb	20.187	3.93%
QC value within limits for As 188.979 Recovery = 102.68%						
B 249.677†	25059.5	492.31 ug/L	0.787	492.31 ppb	0.787	0.16%
QC value within limits for B 249.677 Recovery = 98.46%						
Ba 233.527†	63233.6	468.99 ug/L	6.058	468.99 ppb	6.058	1.29%
QC value within limits for Ba 233.527 Recovery = 93.80%						
Be 313.107†	707636.1	238.50 ug/L	0.080	238.50 ppb	0.080	0.03%
QC value within limits for Be 313.107 Recovery = 95.40%						
Ca 317.933Radial†	256398.4	474630 ug/L	3414.7	474630 ppb	3414.7	0.72%

QC value within limits for Ca 317.933 Radial Recovery = 94.93%							
Cd 226.502†	46340.5	459.57 ug/L	6.989	459.57 ppb	6.989	1.52%	
QC value within limits for Cd 226.502 Recovery = 91.91%							
Co 228.616†	23784.9	435.83 ug/L	6.138	435.83 ppb	6.138	1.41%	
QC value within limits for Co 228.616 Recovery = 87.17%							
Cr 267.716†	44756.2	464.89 ug/L	5.414	464.89 ppb	5.414	1.16%	
QC value within limits for Cr 267.716 Recovery = 92.98%							
Cu 324.752†	190221.5	538.70 ug/L	0.842	538.70 ppb	0.842	0.16%	
QC value within limits for Cu 324.752 Recovery = 107.74%							
Fe 238.204 Radial†	16104.8	187170 ug/L	515.1	187170 ppb	515.1	0.28%	
QC value within limits for Fe 238.204 Radial Recovery = 93.58%							
K 766.490 Radial†	27962.8	5161.1 ug/L	39.66	5161.1 ppb	39.66	0.77%	
QC value within limits for K 766.490 Radial Recovery = 103.22%							
Mg 279.077 IEC†	11674.2	491740 ug/L	1321.4	491740 ppb	1321.4	0.27%	
QC value within limits for Mg 279.077 IEC Recovery = 98.35%							
Mn 257.610†	468695.1	468.63 ug/L	0.840	468.63 ppb	0.840	0.18%	
QC value within limits for Mn 257.610 Recovery = 93.73%							
Mo 202.031†	6823.5	473.66 ug/L	6.583	473.66 ppb	6.583	1.39%	
QC value within limits for Mo 202.031 Recovery = 94.73%							
Na 589.592 Radial†	17153.8	5286.0 ug/L	63.25	5286.0 ppb	63.25	1.20%	
QC value within limits for Na 589.592 Radial Recovery = 105.72%							
Ni 231.604†	19999.1	445.36 ug/L	5.907	445.36 ppb	5.907	1.33%	
QC value within limits for Ni 231.604 Recovery = 89.07%							
P 214.914†	4739.8	2335.6 ug/L	43.27	2335.6 ppb	43.27	1.85%	
QC value within limits for P 214.914 Recovery = 93.43%							
Pb 220.353†	3235.1	447.54 ug/L	2.489	447.54 ppb	2.489	0.56%	
QC value within limits for Pb 220.353 Recovery = 89.51%							
S 181.975 Axial†	2124.9	2500.5 ug/L	16.85	2500.5 ppb	16.85	0.67%	
QC value within limits for S 181.975 Axial Recovery = 100.02%							
Sb 206.836†	1689.3	522.83 ug/L	15.517	522.83 ppb	15.517	2.97%	
QC value within limits for Sb 206.836 Recovery = 104.57%							
Se 196.026†	3315.2	2490.2 ug/L	33.78	2490.2 ppb	33.78	1.36%	
QC value within limits for Se 196.026 Recovery = 99.61%							
Si 251.611†	170266.0	5062.5 ug/L	1.59	5062.5 ppb	1.59	0.03%	
QC value within limits for Si 251.611 Recovery = 101.25%							
Sn 189.927†	2521.9	482.70 ug/L	9.940	482.70 ppb	9.940	2.06%	
QC value within limits for Sn 189.927 Recovery = 96.54%							
Sr 421.552†	76280.6	500.11 ug/L	3.830	500.11 ppb	3.830	0.77%	
QC value within limits for Sr 421.552 Recovery = 100.02%							
Ti 334.940†	317359.8	497.27 ug/L	0.652	497.27 ppb	0.652	0.13%	
QC value within limits for Ti 334.940 Recovery = 99.45%							
Tl 190.801†	1520.5	432.28 ug/L	13.324	432.28 ppb	13.324	3.08%	
QC value within limits for Tl 190.801 Recovery = 86.46%							
U 409.014†	17787.7	503.06 ug/L	6.267	503.06 ppb	6.267	1.25%	
QC value within limits for U 409.014 Recovery = 100.61%							
V 292.402†	75858.4	493.65 ug/L	0.712	493.65 ppb	0.712	0.14%	
QC value within limits for V 292.402 Recovery = 98.73%							
Zn 213.857†	59353.7	481.86 ug/L	7.358	481.86 ppb	7.358	1.53%	
QC value within limits for Zn 213.857 Recovery = 96.37%							
SiO2†	170223.2	10843 ug/L	124.1	10843 ppb	124.1	1.14%	
QC value within limits for SiO2 Recovery = 101.38%							
All analyte(s) passed QC.							

Sequence No.: 11

Sample ID: LR1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 15

Date Collected: 2/1/2010 07:54:41

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	3669.3	3669.3	88.9 %		07:56:54
1	Y RADIAL	4126.6	4126.6	85.24 %		07:56:54
1	Al 396.153Radial†	562801.2	632958.2	522620 ug/L	522620 ppb	07:56:34
1	Ca 317.933Radial†	234941.9	264136.3	488950 ug/L	488950 ppb	07:56:34
1	Fe 238.204 Radial†	34688.1	38990.4	453110 ug/L	453110 ppb	07:56:54
1	K 766.490 Radial†	2316.9	-19.4	-372.90 ug/L	-372.90 ppb	07:56:34
1	Mg 279.077 IEC†	10640.0	11962.8	503620 ug/L	503620 ppb	07:56:54
1	Na 589.592 Radial†	1520658.2	1711357.2	527360 ug/L	527360 ppb	07:56:34
1	Sr 421.552†	786.5	847.9	1.9470 ug/L	1.9470 ppb	07:56:54
1	Sc 361.383	761936.5	761936.5	85.531 %		07:57:52
1	Y 371.029	613490.1	613490.1	83.554 %		07:57:52
1	Ag 328.068†	-24179.8	-28894.5	2.8488 ug/L	2.8488 ppb	07:57:52
1	As 188.979†	-222.3	-231.2	17.294 ug/L	17.294 ppb	07:58:12
1	B 249.677†	1047.0	1985.2	-32.092 ug/L	-32.092 ppb	07:57:52
1	Ba 233.527†	-1944.4	-2258.1	-2.6584 ug/L	-2.6584 ppb	07:58:12
1	Be 313.107†	-10117.8	-7426.3	-2.5308 ug/L	-2.5308 ppb	07:57:52
1	Cd 226.502†	3280.0	4039.0	-2.4824 ug/L	-2.4824 ppb	07:58:12
1	Co 228.616†	181.4	297.2	-1.1359 ug/L	-1.1359 ppb	07:58:12
1	Cr 267.716†	-120.0	-202.1	1.4499 ug/L	1.4499 ppb	07:58:12
1	Cu 324.752†	133.0	-6731.3	-2.1605 ug/L	-2.1605 ppb	07:57:52
1	Mn 257.610†	-25018.6	-29782.5	-5.7408 ug/L	-5.7408 ppb	07:57:52
1	Mo 202.031†	-543.5	-640.6	-1.5818 ug/L	-1.5818 ppb	07:58:12
1	Ni 231.604†	299.5	265.0	5.9025 ug/L	5.9025 ppb	07:58:12
1	P 214.914†	611.5	491.7	23.601 ug/L	23.601 ppb	07:58:12
1	Pb 220.353†	-726.2	-769.4	-5.0527 ug/L	-5.0527 ppb	07:58:12
1	S 181.975 Axial†	95.4	62.7	-21.394 ug/L	-21.394 ppb	07:58:12
1	Sb 206.836†	77.9	52.6	11.405 ug/L	11.405 ppb	07:58:12
1	Se 196.026†	-2442.2	-2829.4	-36.864 ug/L	-36.864 ppb	07:58:12
1	Si 251.611†	-582.0	-1216.2	-35.677 ug/L	-35.677 ppb	07:58:12
1	Sn 189.927†	-413.6	-493.0	2.2797 ug/L	2.2797 ppb	07:58:12
1	Ti 334.940†	-11424.3	-11552.5	1.2605 ug/L	1.2605 ppb	07:57:52
1	Tl 190.801†	-129.4	-106.8	-30.504 ug/L	-30.504 ppb	07:58:12
1	U 409.014†	383788.9	453823.7	13354 ug/L	13354 ppb	07:57:52
1	V 292.402†	2012.8	4105.5	-3.8711 ug/L	-3.8711 ppb	07:58:12
1	Zn 213.857†	5982.7	6285.6	9.3621 ug/L	9.3621 ppb	07:58:12
1	SiO2†	-608.4	-1273.6	-80.055 ug/L	-80.055 ppb	07:59:09
2	Sc Radial	3843.1	3843.1	93.2 %		07:57:20
2	Y RADIAL	4355.4	4355.4	89.96 %		07:57:20
2	Al 396.153Radial†	567574.6	609478.6	503240 ug/L	503240 ppb	07:57:00
2	Ca 317.933Radial†	236996.6	254401.3	470930 ug/L	470930 ppb	07:57:00
2	Fe 238.204 Radial†	34821.3	37370.4	434290 ug/L	434290 ppb	07:57:20
2	K 766.490 Radial†	2248.9	-210.1	-395.41 ug/L	-395.41 ppb	07:57:00
2	Mg 279.077 IEC†	10696.4	11482.6	483400 ug/L	483400 ppb	07:57:20
2	Na 589.592 Radial†	1532477.2	1646758.9	507450 ug/L	507450 ppb	07:57:00
2	Sr 421.552†	798.1	820.3	1.9000 ug/L	1.9000 ppb	07:57:20
2	Sc 361.383	761916.5	761916.5	85.529 %		07:58:18
2	Y 371.029	614167.4	614167.4	83.646 %		07:58:18
2	Ag 328.068†	-24042.0	-28734.3	-2.3205 ug/L	-2.3205 ppb	07:58:18
2	As 188.979†	-234.0	-244.9	7.6388 ug/L	7.6388 ppb	07:58:38
2	B 249.677†	926.6	1844.5	-31.980 ug/L	-31.980 ppb	07:58:18
2	Ba 233.527†	-1952.0	-2266.9	-3.2943 ug/L	-3.2943 ppb	07:58:38
2	Be 313.107†	-10052.3	-7350.0	-2.5055 ug/L	-2.5055 ppb	07:58:18
2	Cd 226.502†	3254.5	4009.2	-0.8396 ug/L	-0.8396 ppb	07:58:38
2	Co 228.616†	242.7	368.9	0.4512 ug/L	0.4512 ppb	07:58:38
2	Cr 267.716†	-94.2	-172.0	1.3846 ug/L	1.3846 ppb	07:58:38
2	Cu 324.752†	37.3	-6843.2	-3.4828 ug/L	-3.4828 ppb	07:58:18
2	Mn 257.610†	-25217.2	-30015.5	-7.0065 ug/L	-7.0065 ppb	07:58:18
2	Mo 202.031†	-575.2	-677.7	-5.7262 ug/L	-5.7262 ppb	07:58:38
2	Ni 231.604†	313.8	281.7	6.2727 ug/L	6.2727 ppb	07:58:38

2	P 214.914†	603.0	481.7	28.869 ug/L	28.869 ppb	07:58:38
2	Pb 220.353†	-645.4	-674.9	2.3912 ug/L	2.3912 ppb	07:58:38
2	S 181.975 Axial†	99.1	67.0	-12.445 ug/L	-12.445 ppb	07:58:38
2	Sb 206.836†	104.4	83.7	20.914 ug/L	20.914 ppb	07:58:38
2	Se 196.026†	-2453.2	-2842.3	-107.53 ug/L	-107.53 ppb	07:58:38
2	Si 251.611†	-584.0	-1218.6	-35.717 ug/L	-35.717 ppb	07:58:38
2	Sn 189.927†	-403.4	-481.0	1.1609 ug/L	1.1609 ppb	07:58:38
2	Ti 334.940†	-11493.4	-11633.6	0.3635 ug/L	0.3635 ppb	07:58:18
2	Tl 190.801†	-99.9	-72.3	-20.780 ug/L	-20.780 ppb	07:58:38
2	U 409.014†	384539.0	454712.5	13382 ug/L	13382 ppb	07:58:18
2	V 292.402†	2103.2	4211.2	-0.8011 ug/L	-0.8011 ppb	07:58:38
2	Zn 213.857†	5989.5	6293.8	11.256 ug/L	11.256 ppb	07:58:38
2	SiO2†	-596.2	-1259.4	-79.081 ug/L	-79.081 ppb	07:59:14
3	Sc Radial	3788.3	3788.3	91.8 %		07:57:45
3	Y RADIAL	4267.6	4267.6	88.15 %		07:57:45
3	Al 396.153Radial†	564386.2	614816.9	507650 ug/L	507650 ppb	07:57:25
3	Ca 317.933Radial†	236255.9	257273.7	476250 ug/L	476250 ppb	07:57:25
3	Fe 238.204 Radial†	34352.0	37399.8	434630 ug/L	434630 ppb	07:57:45
3	K 766.490 Radial†	2149.2	-283.8	-414.39 ug/L	-414.39 ppb	07:57:25
3	Mg 279.077 IEC†	10540.4	11478.7	483240 ug/L	483240 ppb	07:57:45
3	Na 589.592 Radial†	1534948.6	1673239.3	515610 ug/L	515610 ppb	07:57:25
3	Sr 421.552†	762.9	794.4	1.6887 ug/L	1.6887 ppb	07:57:45
3	Sc 361.383	754492.3	754492.3	84.696 %		07:58:44
3	Y 371.029	608099.8	608099.8	82.820 %		07:58:44
3	Ag 328.068†	-23979.5	-28937.0	-3.1769 ug/L	-3.1769 ppb	07:58:44
3	As 188.979†	-219.7	-230.6	13.209 ug/L	13.209 ppb	07:59:04
3	B 249.677†	1101.5	2061.7	-27.492 ug/L	-27.492 ppb	07:58:44
3	Ba 233.527†	-2025.0	-2375.6	-4.0766 ug/L	-4.0766 ppb	07:59:04
3	Be 313.107†	-10038.2	-7449.0	-2.5321 ug/L	-2.5321 ppb	07:58:44
3	Cd 226.502†	3237.9	4027.1	-0.6876 ug/L	-0.6876 ppb	07:59:04
3	Co 228.616†	195.8	316.3	-0.5267 ug/L	-0.5267 ppb	07:59:04
3	Cr 267.716†	-124.7	-209.1	1.0046 ug/L	1.0046 ppb	07:59:04
3	Cu 324.752†	-28.9	-6920.9	-3.6886 ug/L	-3.6886 ppb	07:58:44
3	Mn 257.610†	-24654.6	-29641.4	-6.5907 ug/L	-6.5907 ppb	07:58:44
3	Mo 202.031†	-556.4	-662.2	-4.6028 ug/L	-4.6028 ppb	07:59:04
3	Ni 231.604†	301.9	271.2	6.0403 ug/L	6.0403 ppb	07:59:04
3	P 214.914†	601.3	486.7	32.274 ug/L	32.274 ppb	07:59:04
3	Pb 220.353†	-646.5	-683.6	2.4689 ug/L	2.4689 ppb	07:59:04
3	S 181.975 Axial†	100.3	69.5	-10.180 ug/L	-10.180 ppb	07:59:04
3	Sb 206.836†	79.4	55.3	12.139 ug/L	12.139 ppb	07:59:04
3	Se 196.026†	-2452.0	-2869.0	-120.93 ug/L	-120.93 ppb	07:59:04
3	Si 251.611†	-540.2	-1173.6	-34.390 ug/L	-34.390 ppb	07:59:04
3	Sn 189.927†	-404.5	-487.1	1.0001 ug/L	1.0001 ppb	07:59:04
3	Ti 334.940†	-9728.9	-9682.5	3.9994 ug/L	3.9994 ppb	07:58:44
3	Tl 190.801†	-101.3	-75.1	-21.540 ug/L	-21.540 ppb	07:59:04
3	U 409.014†	381191.7	455184.4	13396 ug/L	13396 ppb	07:58:44
3	V 292.402†	2193.6	4342.1	0.0549 ug/L	0.0549 ppb	07:59:04
3	Zn 213.857†	5965.7	6334.5	11.570 ug/L	11.570 ppb	07:59:04
3	SiO2†	-718.6	-1410.7	-88.763 ug/L	-88.763 ppb	07:59:19

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	759448.5	85.252 %	0.4818			0.57%
Sc Radial	3766.9	91.3 %	2.15			2.36%
Y 371.029	611919.1	83.340 %	0.4528			0.54%
Y RADIAL	4249.9	87.78 %	2.384			2.72%
Ag 328.068†	-28855.2	-0.8828 ug/L	3.25997	-0.8828 ppb	3.25997	369.26%
Al 396.153Radial†	619084.6	511170 ug/L	10162.3	511170 ppb	10162.3	1.99%
QC value within limits for Al 396.153Radial Recovery = 102.23%						
As 188.979†	-235.6	12.714 ug/L	4.8468	12.714 ppb	4.8468	38.12%
B 249.677†	1963.8	-30.521 ug/L	2.6240	-30.521 ppb	2.6240	8.60%
Ba 233.527†	-2300.2	-3.3431 ug/L	0.71038	-3.3431 ppb	0.71038	21.25%
Be 313.107†	-7408.5	-2.5228 ug/L	0.01499	-2.5228 ppb	0.01499	0.59%
Ca 317.933Radial†	258603.8	478710 ug/L	9259.2	478710 ppb	9259.2	1.93%
QC value within limits for Ca 317.933Radial Recovery = 95.74%						
Cd 226.502†	4025.1	-1.3366 ug/L	0.99525	-1.3366 ppb	0.99525	74.46%
Co 228.616†	327.4	-0.4038 ug/L	0.80064	-0.4038 ppb	0.80064	198.27%
Cr 267.716†	-194.4	1.2797 ug/L	0.24047	1.2797 ppb	0.24047	18.79%
Cu 324.752†	-6831.8	-3.1106 ug/L	0.82924	-3.1106 ppb	0.82924	26.66%



Fe 238.204 Radial†	37920.2	440680 ug/L	10772.1	440680 ppb	10772.1	2.44%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 88.14%						
K 766.490 Radial†	-171.1	-394.23 ug/L	20.771	-394.23 ppb	20.771	5.27%
Mg 279.077 IEC†	11641.4	490090 ug/L	11720.1	490090 ppb	11720.1	2.39%
QC value within limits for Mg 279.077 IEC Recovery = 98.02%						
Mn 257.610†	-29813.1	-6.4460 ug/L	0.64515	-6.4460 ppb	0.64515	10.01%
Mo 202.031†	-660.2	-3.9703 ug/L	2.14342	-3.9703 ppb	2.14342	53.99%
Na 589.592 Radial†	1677118.5	516810 ug/L	10006.7	516810 ppb	10006.7	1.94%
QC value within limits for Na 589.592 Radial Recovery = 103.36%						
Ni 231.604†	272.7	6.0718 ug/L	0.18709	6.0718 ppb	0.18709	3.08%
P 214.914†	486.7	28.248 ug/L	4.3698	28.248 ppb	4.3698	15.47%
Pb 220.353†	-709.3	-0.0642 ug/L	4.32033	-0.0642 ppb	4.32033	>999.9%
S 181.975 Axial†	66.4	-14.673 ug/L	5.9299	-14.673 ppb	5.9299	40.41%
Sb 206.836†	63.9	14.819 ug/L	5.2911	14.819 ppb	5.2911	35.70%
Se 196.026†	-2846.9	-88.444 ug/L	45.1696	-88.444 ppb	45.1696	51.07%
Si 251.611†	-1202.8	-35.261 ug/L	0.7548	-35.261 ppb	0.7548	2.14%
Sn 189.927†	-487.0	1.4802 ug/L	0.69698	1.4802 ppb	0.69698	47.09%
Sr 421.552†	820.9	1.8452 ug/L	0.13758	1.8452 ppb	0.13758	7.46%
Ti 334.940†	-10956.2	1.8745 ug/L	1.89410	1.8745 ppb	1.89410	101.05%
Tl 190.801†	-84.8	-24.275 ug/L	5.4083	-24.275 ppb	5.4083	22.28%
U 409.014†	454573.5	13377 ug/L	21.6	13377 ppb	21.6	0.16%
QC value less than the lower limit for U 409.014 Recovery = 89.18%						
V 292.402†	4219.6	-1.5391 ug/L	2.06443	-1.5391 ppb	2.06443	134.13%
Zn 213.857†	6304.6	10.729 ug/L	1.1945	10.729 ppb	1.1945	11.13%
SiO2†	-1314.6	-82.633 ug/L	5.3307	-82.633 ppb	5.3307	6.45%

QC Failed. Continue with analysis.

Sequence No.: 12

Sample ID: LR2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 16

Date Collected: 2/1/2010 08:01:29

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4014.3	4014.3	97.3 %		08:03:47
1	Y RADIAL	4558.5	4558.5	94.16 %		08:03:27
1	Al 396.153Radial†	359.8	559.8	9.5325 ug/L	9.5325 ppb	08:03:27
1	Ca 317.933Radial†	25.7	13.1	24.253 ug/L	24.253 ppb	08:03:47
1	Fe 238.204 Radial†	-12.5	-22.9	-0.5626 ug/L	-0.5626 ppb	08:03:47
1	K 766.490 Radial†	1531275.7	1571076.4	299030 ug/L	299030 ppb	08:03:22
1	Mg 279.077 IEC†	-2.9	-3.0	-26.818 ug/L	-26.818 ppb	08:03:47
1	Na 589.592 Radial†	-1240.5	377.4	116.30 ug/L	116.30 ppb	08:03:27
1	Sr 421.552†	1443823.4	1483789.0	9796.9 ug/L	9796.9 ppb	08:03:22
1	Sc 361.383	858361.3	858361.3	96.356 %		08:05:05
1	Y 371.029	689000.0	689000.0	93.838 %		08:05:05
1	Ag 328.068†	-7360.9	-8263.8	2.7759 ug/L	2.7759 ppb	08:05:10
1	As 188.979†	23449.1	24364.7	9418.8 ug/L	9418.8 ppb	08:05:10
1	B 249.677†	216026.3	224957.8	4678.2 ug/L	4678.2 ppb	08:05:05
1	Ba 233.527†	1793913.8	1861777.5	13629 ug/L	13629 ppb	08:05:05
1	Be 313.107†	7868597.7	8170602.5	2763.3 ug/L	2763.3 ppb	08:04:58
1	Cd 226.502†	868322.7	901368.0	9313.5 ug/L	9313.5 ppb	08:05:05
1	Co 228.616†	464772.3	482435.8	8891.0 ug/L	8891.0 ppb	08:05:10
1	Cr 267.716†	2149318.6	2230547.1	22976 ug/L	22976 ppb	08:05:05
1	Cu 324.752†	6736940.0	6984854.0	19428 ug/L	19428 ppb	08:04:58
1	Mn 257.610†	8732566.5	9062313.0	9092.6 ug/L	9092.6 ppb	08:04:58
1	Mo 202.031†	135350.6	140464.6	9335.2 ug/L	9335.2 ppb	08:05:10
1	Ni 231.604†	403588.7	418767.9	9325.8 ug/L	9325.8 ppb	08:05:05
1	P 214.914†	31667.6	32642.0	13182 ug/L	13182 ppb	08:05:10
1	Pb 220.353†	209670.3	217680.0	23367 ug/L	23367 ppb	08:05:10
1	S 181.975 Axial†	39512.3	40957.8	50034 ug/L	50034 ppb	08:05:10
1	Sb 206.836†	31743.4	32905.6	10399 ug/L	10399 ppb	08:05:10
1	Se 196.026†	16938.6	17605.3	9786.3 ug/L	9786.3 ppb	08:05:10
1	Si 251.611†	1491065.0	1546923.5	45931 ug/L	45931 ppb	08:05:05
1	Sn 189.927†	58917.1	61136.0	9876.5 ug/L	9876.5 ppb	08:05:10
1	Ti 334.940†	6226002.1	6463282.8	9648.9 ug/L	9648.9 ppb	08:04:58
1	Tl 190.801†	31425.4	32658.4	9280.1 ug/L	9280.1 ppb	08:05:10
1	U 409.014†	-3794.7	1174.9	-16.651 ug/L	-16.651 ppb	08:05:10
1	V 292.402†	1396671.4	1451247.7	9768.1 ug/L	9768.1 ppb	08:05:05
1	Zn 213.857†	1531870.8	1589099.3	13397 ug/L	13397 ppb	08:05:05
1	SiO2†	1503318.3	1559613.7	99201 ug/L	99201 ppb	08:05:56
2	Sc Radial	4030.3	4030.3	97.7 %		08:04:18
2	Y RADIAL	4570.0	4570.0	94.39 %		08:03:58
2	Al 396.153Radial†	367.1	565.9	9.2780 ug/L	9.2780 ppb	08:03:58
2	Ca 317.933Radial†	32.9	20.3	37.669 ug/L	37.669 ppb	08:04:18
2	Fe 238.204 Radial†	-13.1	-23.5	-2.9495 ug/L	-2.9495 ppb	08:04:18
2	K 766.490 Radial†	1498402.8	1531160.0	291440 ug/L	291440 ppb	08:03:53
2	Mg 279.077 IEC†	-3.2	-3.2	-36.182 ug/L	-36.182 ppb	08:04:18
2	Na 589.592 Radial†	-1279.0	343.0	105.71 ug/L	105.71 ppb	08:03:58
2	Sr 421.552†	1412164.6	1445473.3	9543.9 ug/L	9543.9 ppb	08:03:53
2	Sc 361.383	863833.4	863833.4	96.970 %		08:05:25
2	Y 371.029	692829.4	692829.4	94.359 %		08:05:25
2	Ag 328.068†	-7423.7	-8280.2	2.7172 ug/L	2.7172 ppb	08:05:30
2	As 188.979†	24149.3	24932.6	9636.8 ug/L	9636.8 ppb	08:05:30
2	B 249.677†	218470.9	226058.6	4700.8 ug/L	4700.8 ppb	08:05:25
2	Ba 233.527†	1805185.6	1861607.8	13628 ug/L	13628 ppb	08:05:25
2	Be 313.107†	7937989.5	8190432.3	2770.0 ug/L	2770.0 ppb	08:05:18
2	Cd 226.502†	874791.0	902329.8	9323.4 ug/L	9323.4 ppb	08:05:25
2	Co 228.616†	474843.5	489766.1	9026.3 ug/L	9026.3 ppb	08:05:30
2	Cr 267.716†	2163749.1	2231298.3	22984 ug/L	22984 ppb	08:05:25
2	Cu 324.752†	6789832.5	6995108.7	19456 ug/L	19456 ppb	08:05:18
2	Mn 257.610†	8809007.4	9083732.3	9114.1 ug/L	9114.1 ppb	08:05:18
2	Mo 202.031†	137798.9	142099.5	9443.8 ug/L	9443.8 ppb	08:05:30
2	Ni 231.604†	406601.8	419221.8	9335.8 ug/L	9335.8 ppb	08:05:25

2	P 214.914†	32565.7	33360.0	13551 ug/L	13551 ppb	08:05:30
2	Pb 220.353†	213846.0	220607.7	23681 ug/L	23681 ppb	08:05:30
2	S 181.975 Axial†	40714.3	41937.6	51231 ug/L	51231 ppb	08:05:30
2	Sb 206.836†	32599.4	33579.7	10609 ug/L	10609 ppb	08:05:30
2	Se 196.026†	17370.1	17938.8	9971.5 ug/L	9971.5 ppb	08:05:30
2	Si 251.611†	1508646.3	1555251.5	46177 ug/L	46177 ppb	08:05:25
2	Sn 189.927†	60229.7	62102.3	10033 ug/L	10033 ppb	08:05:30
2	Ti 334.940†	6277439.9	6475396.5	9667.0 ug/L	9667.0 ppb	08:05:18
2	Tl 190.801†	32204.9	33255.7	9448.3 ug/L	9448.3 ppb	08:05:30
2	U 409.014†	-3740.6	1255.6	-14.283 ug/L	-14.283 ppb	08:05:30
2	V 292.402†	1406197.7	1451889.6	9773.9 ug/L	9773.9 ppb	08:05:25
2	Zn 213.857†	1544094.1	1591633.6	13418 ug/L	13418 ppb	08:05:25
2	SiO2†	1492544.9	1538620.4	97860 ug/L	97860 ppb	08:06:02
3	Sc Radial	4001.5	4001.5	97.0 %		08:04:48
3	Y RADIAL	4684.0	4684.0	96.75 %		08:04:28
3	Al 396.153Radial†	399.4	601.9	49.546 ug/L	49.546 ppb	08:04:28
3	Ca 317.933Radial†	34.4	22.1	40.911 ug/L	40.911 ppb	08:04:48
3	Fe 238.204 Radial†	-10.7	-21.1	18.267 ug/L	18.267 ppb	08:04:48
3	K 766.490 Radial†	1529699.4	1574496.0	299690 ug/L	299690 ppb	08:04:23
3	Mg 279.077 IEC†	-1.8	-1.8	19.159 ug/L	19.159 ppb	08:04:48
3	Na 589.592 Radial†	-1259.8	353.4	108.89 ug/L	108.89 ppb	08:04:28
3	Sr 421.552†	1441542.8	1486194.4	9812.8 ug/L	9812.8 ppb	08:04:23
3	Sc 361.383	864270.2	864270.2	97.019 %		08:05:44
3	Y 371.029	692615.7	692615.7	94.330 %		08:05:44
3	Ag 328.068†	-7387.0	-8238.4	2.8643 ug/L	2.8643 ppb	08:05:50
3	As 188.979†	23394.6	24142.2	9334.2 ug/L	9334.2 ppb	08:05:50
3	B 249.677†	218984.7	226474.3	4710.1 ug/L	4710.1 ppb	08:05:44
3	Ba 233.527†	1809123.7	1864725.9	13651 ug/L	13651 ppb	08:05:44
3	Be 313.107†	7991190.5	8241130.1	2787.1 ug/L	2787.1 ppb	08:05:38
3	Cd 226.502†	875084.5	902176.4	9321.8 ug/L	9321.8 ppb	08:05:44
3	Co 228.616†	463863.5	478201.3	8812.5 ug/L	8812.5 ppb	08:05:50
3	Cr 267.716†	2162753.0	2229143.8	22962 ug/L	22962 ppb	08:05:44
3	Cu 324.752†	6834822.1	7037941.4	19575 ug/L	19575 ppb	08:05:38
3	Mn 257.610†	8872965.3	9145063.4	9175.6 ug/L	9175.6 ppb	08:05:38
3	Mo 202.031†	134685.5	138818.7	9225.8 ug/L	9225.8 ppb	08:05:50
3	Ni 231.604†	406771.1	419184.3	9335.1 ug/L	9335.1 ppb	08:05:44
3	P 214.914†	31727.3	32478.9	13067 ug/L	13067 ppb	08:05:50
3	Pb 220.353†	208980.6	215481.3	23130 ug/L	23130 ppb	08:05:50
3	S 181.975 Axial†	39298.1	40456.7	49422 ug/L	49422 ppb	08:05:50
3	Sb 206.836†	31676.7	32611.5	10305 ug/L	10305 ppb	08:05:50
3	Se 196.026†	16839.4	17382.7	9662.7 ug/L	9662.7 ppb	08:05:50
3	Si 251.611†	1511058.6	1556951.5	46231 ug/L	46231 ppb	08:05:44
3	Sn 189.927†	58716.9	60511.6	9775.6 ug/L	9775.6 ppb	08:05:50
3	Ti 334.940†	6318743.9	6514697.5	9725.8 ug/L	9725.8 ppb	08:05:38
3	Tl 190.801†	31320.3	32327.1	9188.0 ug/L	9188.0 ppb	08:05:50
3	U 409.014†	-3903.4	1089.8	-19.136 ug/L	-19.136 ppb	08:05:50
3	V 292.402†	1405162.5	1450089.6	9758.8 ug/L	9758.8 ppb	08:05:44
3	Zn 213.857†	1544325.1	1591066.8	13413 ug/L	13413 ppb	08:05:44
3	SiO2†	1501540.7	1547114.7	98407 ug/L	98407 ppb	08:06:08

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	862155.0	96.782 %	0.3696			0.38%
Sc Radial	4015.4	97.3 %	0.35			0.36%
Y 371.029	691481.7	94.176 %	0.2931			0.31%
Y RADIAL	4604.2	95.10 %	1.433			1.51%
Ag 328.068†	-8260.8	2.7858 ug/L	0.07406	2.7858 ppb	0.07406	2.66%
Al 396.153Radial†	575.9	22.786 ug/L	23.1757	22.786 ppb	23.1757	101.71%
As 188.979†	24479.8	9463.3 ug/L	156.10	9463.3 ppb	156.10	1.65%
QC value within limits for As 188.979 Recovery = 94.63%						
B 249.677†	225830.2	4696.3 ug/L	16.42	4696.3 ppb	16.42	0.35%
QC value within limits for B 249.677 Recovery = 93.93%						
Ba 233.527†	1862703.8	13636 ug/L	12.8	13636 ppb	12.8	0.09%
QC value within limits for Ba 233.527 Recovery = 90.91%						
Be 313.107†	8200721.7	2773.4 ug/L	12.29	2773.4 ppb	12.29	0.44%
QC value within limits for Be 313.107 Recovery = 92.45%						
Ca 317.933Radial†	18.5	34.278 ug/L	8.8317	34.278 ppb	8.8317	25.77%
Cd 226.502†	901958.1	9319.6 ug/L	5.34	9319.6 ppb	5.34	0.06%
QC value within limits for Cd 226.502 Recovery = 93.20%						

Co 228.616†	483467.7	8910.0 ug/L	108.15	8910.0 ppb	108.15	1.21%
QC value less than the lower limit for Co 228.616 Recovery = 89.10%						
Cr 267.716†	2230329.7	22974 ug/L	11.3	22974 ppb	11.3	0.05%
QC value within limits for Cr 267.716 Recovery = 91.90%						
Cu 324.752†	7005968.0	19486 ug/L	78.3	19486 ppb	78.3	0.40%
QC value within limits for Cu 324.752 Recovery = 97.43%						
Fe 238.204 Radial†	-22.5	4.9181 ug/L	11.62148	4.9181 ppb	11.62148	236.30%
K 766.490 Radial†	1558910.8	296720 ug/L	4586.3	296720 ppb	4586.3	1.55%
QC value within limits for K 766.490 Radial Recovery = 98.91%						
Mg 279.077 IEC†	-2.7	-14.614 ug/L	29.6204	-14.614 ppb	29.6204	202.69%
Mn 257.610†	9097036.2	9127.4 ug/L	43.09	9127.4 ppb	43.09	0.47%
QC value within limits for Mn 257.610 Recovery = 91.27%						
Mo 202.031†	140460.9	9334.9 ug/L	109.02	9334.9 ppb	109.02	1.17%
QC value within limits for Mo 202.031 Recovery = 93.35%						
Na 589.592 Radial†	357.9	110.30 ug/L	5.433	110.30 ppb	5.433	4.93%
Ni 231.604†	419058.0	9332.3 ug/L	5.60	9332.3 ppb	5.60	0.06%
QC value within limits for Ni 231.604 Recovery = 93.32%						
P 214.914†	32827.0	13267 ug/L	252.6	13267 ppb	252.6	1.90%
QC value less than the lower limit for P 214.914 Recovery = 88.45%						
Pb 220.353†	217923.0	23393 ug/L	276.2	23393 ppb	276.2	1.18%
QC value within limits for Pb 220.353 Recovery = 93.57%						
S 181.975 Axial†	41117.4	50229 ug/L	920.2	50229 ppb	920.2	1.83%
QC value within limits for S 181.975 Axial Recovery = 100.46%						
Sb 206.836†	33032.3	10438 ug/L	155.9	10438 ppb	155.9	1.49%
QC value within limits for Sb 206.836 Recovery = 104.38%						
Se 196.026†	17642.3	9806.8 ug/L	155.42	9806.8 ppb	155.42	1.58%
QC value within limits for Se 196.026 Recovery = 98.07%						
Si 251.611†	1553042.2	46113 ug/L	160.0	46113 ppb	160.0	0.35%
QC value within limits for Si 251.611 Recovery = 92.23%						
Sn 189.927†	61250.0	9894.9 ug/L	129.47	9894.9 ppb	129.47	1.31%
QC value within limits for Sn 189.927 Recovery = 98.95%						
Sr 421.552†	1471818.9	9717.9 ug/L	150.85	9717.9 ppb	150.85	1.55%
QC value within limits for Sr 421.552 Recovery = 97.18%						
Ti 334.940†	6484458.9	9680.6 ug/L	40.16	9680.6 ppb	40.16	0.41%
QC value within limits for Ti 334.940 Recovery = 96.81%						
Tl 190.801†	32747.1	9305.5 ug/L	131.96	9305.5 ppb	131.96	1.42%
QC value within limits for Tl 190.801 Recovery = 93.05%						
U 409.014†	1173.4	-16.690 ug/L	2.4264	-16.690 ppb	2.4264	14.54%
V 292.402†	1451075.6	9767.0 ug/L	7.63	9767.0 ppb	7.63	0.08%
QC value within limits for V 292.402 Recovery = 97.67%						
Zn 213.857†	1590599.9	13409 ug/L	11.2	13409 ppb	11.2	0.08%
QC value less than the lower limit for Zn 213.857 Recovery = 89.39%						
SiO2†	1548449.6	98490 ug/L	674.6	98490 ppb	674.6	0.68%
QC value within limits for SiO2 Recovery = 92.05%						
QC Failed. Continue with analysis.						

=====  
Analysis Begun

Start Time: 2/1/2010 08:25:10

Plasma On Time: 2/1/2010 05:43:14

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\020110.sif

Batch ID:

Results Data Set: 020110

Results Library: C:\pe\Optima3\Results\Results.mdb

=====  
Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/29/2010 17:34:26

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 2/1/2010 08:25:11

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

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Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4311.4	4311.4	105 %		08:27:04
1	Y RADIAL	4820.6	4820.6	99.57 %		08:27:04
1	Al 396.153Radial†	6020.1	5950.6	4889.7 ug/L	4889.7 ppb	08:27:04

1	Ca 317.933Radial†	2799.7	2665.6	4934.4 ug/L	4934.4 ppb	08:27:24
1	Fe 238.204 Radial†	459.4	429.4	5005.1 ug/L	5005.1 ppb	08:27:24
1	K 766.490 Radial†	29494.4	25598.4	4866.3 ug/L	4866.3 ppb	08:27:04
1	Mg 279.077 IEC†	125.3	120.0	5054.8 ug/L	5054.8 ppb	08:27:24
1	Na 589.592 Radial†	31969.1	32243.0	9935.7 ug/L	9935.7 ppb	08:27:04
1	Sr 421.552†	78221.0	74811.9	493.92 ug/L	493.92 ppb	08:27:04
1	Sc 361.383	894409.5	894409.5	100.40 %		08:28:21
1	Y 371.029	722744.5	722744.5	98.433 %		08:28:21
1	Ag 328.068†	111621.5	110549.8	486.76 ug/L	486.76 ppb	08:28:26
1	As 188.979†	1258.2	1281.9	496.49 ug/L	496.49 ppb	08:28:46
1	B 249.677†	23242.5	23910.5	497.72 ug/L	497.72 ppb	08:28:26
1	Ba 233.527†	67119.8	66866.2	489.96 ug/L	489.96 ppb	08:28:26
1	Be 313.107†	1444984.4	1443597.5	485.44 ug/L	485.44 ppb	08:28:21
1	Cd 226.502†	47588.4	47601.9	491.43 ug/L	491.43 ppb	08:28:26
1	Co 228.616†	26583.4	26562.1	489.71 ug/L	489.71 ppb	08:28:26
1	Cr 267.716†	47738.9	47485.8	489.44 ug/L	489.44 ppb	08:28:26
1	Cu 324.752†	180264.7	172655.5	480.22 ug/L	480.22 ppb	08:28:26
1	Mn 257.610†	491503.9	489002.7	490.92 ug/L	490.92 ppb	08:28:21
1	Mo 202.031†	7359.9	7325.2	487.28 ug/L	487.28 ppb	08:28:46
1	Ni 231.604†	22241.5	22067.2	491.42 ug/L	491.42 ppb	08:28:26
1	P 214.914†	4887.0	4644.2	2317.7 ug/L	2317.7 ppb	08:28:46
1	Pb 220.353†	4502.0	4563.6	491.22 ug/L	491.22 ppb	08:28:46
1	S 181.975 Axial†	843.7	791.5	965.95 ug/L	965.95 ppb	08:28:46
1	Sb 206.836†	1624.4	1579.5	500.21 ug/L	500.21 ppb	08:28:46
1	Se 196.026†	847.6	870.2	500.65 ug/L	500.65 ppb	08:28:46
1	Si 251.611†	82379.1	81513.3	2420.3 ug/L	2420.3 ppb	08:28:26
1	Sn 189.927†	3049.8	3028.1	490.03 ug/L	490.03 ppb	08:28:46
1	Ti 334.940†	322546.6	323058.6	482.56 ug/L	482.56 ppb	08:28:26
1	Tl 190.801†	1702.9	1740.5	494.32 ug/L	494.32 ppb	08:28:46
1	U 409.014†	11725.0	16791.1	494.33 ug/L	494.33 ppb	08:28:26
1	V 292.402†	71827.8	73292.1	494.10 ug/L	494.10 ppb	08:28:26
1	Zn 213.857†	58414.7	57471.5	483.34 ug/L	483.34 ppb	08:28:26
1	SiO2†	82162.7	81271.2	5169.4 ug/L	5169.4 ppb	08:29:54
2	Sc Radial	4297.4	4297.4	104 %		08:27:29
2	Y RADIAL	4813.8	4813.8	99.43 %		08:27:29
2	Al 396.153Radial†	5952.8	5904.8	4852.2 ug/L	4852.2 ppb	08:27:29
2	Ca 317.933Radial†	2805.5	2679.9	4960.8 ug/L	4960.8 ppb	08:27:49
2	Fe 238.204 Radial†	464.0	435.3	5073.2 ug/L	5073.2 ppb	08:27:49
2	K 766.490 Radial†	29262.2	25467.1	4841.3 ug/L	4841.3 ppb	08:27:29
2	Mg 279.077 IEC†	128.7	123.6	5207.5 ug/L	5207.5 ppb	08:27:49
2	Na 589.592 Radial†	31624.2	32011.2	9864.3 ug/L	9864.3 ppb	08:27:29
2	Sr 421.552†	77507.1	74369.7	491.00 ug/L	491.00 ppb	08:27:29
2	Sc 361.383	905273.7	905273.7	101.62 %		08:28:52
2	Y 371.029	732078.4	732078.4	99.705 %		08:28:52
2	Ag 328.068†	111297.5	108896.7	479.53 ug/L	479.53 ppb	08:28:57
2	As 188.979†	1259.8	1268.4	491.29 ug/L	491.29 ppb	08:29:17
2	B 249.677†	23112.4	23504.6	489.25 ug/L	489.25 ppb	08:28:57
2	Ba 233.527†	66881.3	65829.2	482.37 ug/L	482.37 ppb	08:28:57
2	Be 313.107†	1457415.2	1438558.2	483.73 ug/L	483.73 ppb	08:28:52
2	Cd 226.502†	47439.9	46886.9	484.03 ug/L	484.03 ppb	08:28:57
2	Co 228.616†	26445.0	26108.1	481.34 ug/L	481.34 ppb	08:28:57
2	Cr 267.716†	47742.9	46919.1	483.60 ug/L	483.60 ppb	08:28:57
2	Cu 324.752†	179270.7	169522.8	471.51 ug/L	471.51 ppb	08:28:57
2	Mn 257.610†	494480.5	486056.9	487.97 ug/L	487.97 ppb	08:28:52
2	Mo 202.031†	7345.3	7222.8	480.48 ug/L	480.48 ppb	08:29:17
2	Ni 231.604†	22119.6	21681.4	482.82 ug/L	482.82 ppb	08:28:57
2	P 214.914†	4872.0	4571.0	2281.4 ug/L	2281.4 ppb	08:29:17
2	Pb 220.353†	4484.9	4493.0	483.62 ug/L	483.62 ppb	08:29:17
2	S 181.975 Axial†	839.2	776.9	948.18 ug/L	948.18 ppb	08:29:17
2	Sb 206.836†	1628.5	1564.1	495.32 ug/L	495.32 ppb	08:29:17
2	Se 196.026†	845.6	858.0	494.11 ug/L	494.11 ppb	08:29:17
2	Si 251.611†	81947.2	80103.6	2378.5 ug/L	2378.5 ppb	08:28:57
2	Sn 189.927†	3062.9	3004.6	486.23 ug/L	486.23 ppb	08:29:17
2	Ti 334.940†	321443.9	318118.1	475.17 ug/L	475.17 ppb	08:28:57
2	Tl 190.801†	1703.0	1720.2	488.58 ug/L	488.58 ppb	08:29:17
2	U 409.014†	11693.2	16619.7	489.27 ug/L	489.27 ppb	08:28:57
2	V 292.402†	71663.7	72272.1	487.21 ug/L	487.21 ppb	08:28:57
2	Zn 213.857†	58248.6	56609.9	476.09 ug/L	476.09 ppb	08:28:57
2	SiO2†	82592.4	80712.0	5133.9 ug/L	5133.9 ppb	08:29:59
3	Sc Radial	4162.4	4162.4	101 %		08:27:54
3	Y RADIAL	4664.2	4664.2	96.34 %		08:27:54

3	Al 396.153Radial†	5862.7	6000.8	4931.5 ug/L	4931.5 ppb	08:27:54
3	Ca 317.933Radial†	2824.8	2786.5	5158.2 ug/L	5158.2 ppb	08:28:14
3	Fe 238.204 Radial†	469.0	454.7	5298.7 ug/L	5298.7 ppb	08:28:14
3	K 766.490 Radial†	28800.3	25920.8	4927.5 ug/L	4927.5 ppb	08:27:54
3	Mg 279.077 IEC†	128.8	127.7	5379.3 ug/L	5379.3 ppb	08:28:14
3	Na 589.592 Radial†	31214.0	32589.6	10043 ug/L	10043 ppb	08:27:54
3	Sr 421.552†	76193.3	75481.6	498.34 ug/L	498.34 ppb	08:27:54
3	Sc 361.383	907242.2	907242.2	101.84 %		08:29:23
3	Y 371.029	733735.8	733735.8	99.930 %		08:29:23
3	Ag 328.068†	110823.0	108193.2	476.51 ug/L	476.51 ppb	08:29:28
3	As 188.979†	1273.8	1279.5	495.57 ug/L	495.57 ppb	08:29:48
3	B 249.677†	23123.3	23465.9	488.41 ug/L	488.41 ppb	08:29:28
3	Ba 233.527†	66666.9	65475.8	479.79 ug/L	479.79 ppb	08:29:28
3	Be 313.107†	1457687.6	1435713.9	482.77 ug/L	482.77 ppb	08:29:23
3	Cd 226.502†	47232.4	46581.8	480.86 ug/L	480.86 ppb	08:29:28
3	Co 228.616†	26380.9	25988.7	479.14 ug/L	479.14 ppb	08:29:28
3	Cr 267.716†	47479.3	46558.3	479.89 ug/L	479.89 ppb	08:29:28
3	Cu 324.752†	178650.1	168530.6	468.76 ug/L	468.76 ppb	08:29:28
3	Mn 257.610†	495186.5	485694.4	487.62 ug/L	487.62 ppb	08:29:23
3	Mo 202.031†	7344.4	7206.3	479.40 ug/L	479.40 ppb	08:29:48
3	Ni 231.604†	22118.8	21633.4	481.76 ug/L	481.76 ppb	08:29:28
3	P 214.914†	4853.9	4542.8	2267.1 ug/L	2267.1 ppb	08:29:48
3	Pb 220.353†	4458.1	4457.1	479.76 ug/L	479.76 ppb	08:29:48
3	S 181.975 Axial†	837.7	773.6	944.12 ug/L	944.12 ppb	08:29:48
3	Sb 206.836†	1642.5	1574.4	498.39 ug/L	498.39 ppb	08:29:48
3	Se 196.026†	844.4	855.1	493.24 ug/L	493.24 ppb	08:29:48
3	Si 251.611†	81702.1	79687.9	2366.1 ug/L	2366.1 ppb	08:29:28
3	Sn 189.927†	3051.3	2986.6	483.36 ug/L	483.36 ppb	08:29:48
3	Ti 334.940†	320090.4	316102.7	472.18 ug/L	472.18 ppb	08:29:28
3	Tl 190.801†	1689.7	1703.6	483.86 ug/L	483.86 ppb	08:29:48
3	U 409.014†	11594.2	16497.5	485.64 ug/L	485.64 ppb	08:29:28
3	V 292.402†	71474.3	71933.2	484.91 ug/L	484.91 ppb	08:29:28
3	Zn 213.857†	58003.8	56245.1	472.98 ug/L	472.98 ppb	08:29:28
3	SiO2†	81695.2	79654.7	5066.5 ug/L	5066.5 ppb	08:30:04

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	902308.5	101.29 %	0.776			0.77%
Sc Radial	4257.1	103 %	2.0			1.93%
Y 371.029	729519.6	99.356 %	0.8070			0.81%
Y RADIAL	4766.2	98.45 %	1.827			1.86%
Ag 328.068†	109213.2	480.93 ug/L	5.266	480.93 ppb	5.266	1.10%
QC value within limits for Ag 328.068 Recovery = 96.19%						
Al 396.153Radial†	5952.1	4891.1 ug/L	39.70	4891.1 ppb	39.70	0.81%
QC value within limits for Al 396.153Radial Recovery = 97.82%						
As 188.979†	1276.6	494.45 ug/L	2.775	494.45 ppb	2.775	0.56%
QC value within limits for As 188.979 Recovery = 98.89%						
B 249.677†	23627.0	491.79 ug/L	5.151	491.79 ppb	5.151	1.05%
QC value within limits for B 249.677 Recovery = 98.36%						
Ba 233.527†	66057.1	484.04 ug/L	5.288	484.04 ppb	5.288	1.09%
QC value within limits for Ba 233.527 Recovery = 96.81%						
Be 313.107†	1439289.9	483.98 ug/L	1.352	483.98 ppb	1.352	0.28%
QC value within limits for Be 313.107 Recovery = 96.80%						
Ca 317.933Radial†	2710.7	5017.8 ug/L	122.26	5017.8 ppb	122.26	2.44%
QC value within limits for Ca 317.933Radial Recovery = 100.36%						
Cd 226.502†	47023.5	485.44 ug/L	5.424	485.44 ppb	5.424	1.12%
QC value within limits for Cd 226.502 Recovery = 97.09%						
Co 228.616†	26219.6	483.40 ug/L	5.577	483.40 ppb	5.577	1.15%
QC value within limits for Co 228.616 Recovery = 96.68%						
Cr 267.716†	46987.7	484.31 ug/L	4.815	484.31 ppb	4.815	0.99%
QC value within limits for Cr 267.716 Recovery = 96.86%						
Cu 324.752†	170236.3	473.50 ug/L	5.979	473.50 ppb	5.979	1.26%
QC value within limits for Cu 324.752 Recovery = 94.70%						
Fe 238.204 Radial†	439.8	5125.7 ug/L	153.65	5125.7 ppb	153.65	3.00%
QC value within limits for Fe 238.204 Radial Recovery = 102.51%						
K 766.490 Radial†	25662.1	4878.4 ug/L	44.36	4878.4 ppb	44.36	0.91%
QC value within limits for K 766.490 Radial Recovery = 97.57%						
Mg 279.077 IEC†	123.7	5213.9 ug/L	162.33	5213.9 ppb	162.33	3.11%
QC value within limits for Mg 279.077 IEC Recovery = 104.28%						

Mn 257.610†	486918.0	488.84 ug/L	1.815	488.84 ppb	1.815	0.37%
QC value within limits for Mn 257.610 Recovery = 97.77%						
Mo 202.031†	7251.5	482.38 ug/L	4.271	482.38 ppb	4.271	0.89%
QC value within limits for Mo 202.031 Recovery = 96.48%						
Na 589.592 Radial†	32281.3	9947.5 ug/L	89.70	9947.5 ppb	89.70	0.90%
QC value within limits for Na 589.592 Radial Recovery = 99.48%						
Ni 231.604†	21794.0	485.33 ug/L	5.297	485.33 ppb	5.297	1.09%
QC value within limits for Ni 231.604 Recovery = 97.07%						
P 214.914†	4586.0	2288.7 ug/L	26.12	2288.7 ppb	26.12	1.14%
QC value within limits for P 214.914 Recovery = 91.55%						
Pb 220.353†	4504.5	484.87 ug/L	5.830	484.87 ppb	5.830	1.20%
QC value within limits for Pb 220.353 Recovery = 96.97%						
S 181.975 Axial†	780.7	952.75 ug/L	11.609	952.75 ppb	11.609	1.22%
QC value within limits for S 181.975 Axial Recovery = 95.28%						
Sb 206.836†	1572.7	497.98 ug/L	2.473	497.98 ppb	2.473	0.50%
QC value within limits for Sb 206.836 Recovery = 99.60%						
Se 196.026†	861.1	496.00 ug/L	4.046	496.00 ppb	4.046	0.82%
QC value within limits for Se 196.026 Recovery = 99.20%						
Si 251.611†	80434.9	2388.3 ug/L	28.42	2388.3 ppb	28.42	1.19%
QC value within limits for Si 251.611 Recovery = 95.53%						
Sn 189.927†	3006.4	486.54 ug/L	3.345	486.54 ppb	3.345	0.69%
QC value within limits for Sn 189.927 Recovery = 97.31%						
Sr 421.552†	74887.7	494.42 ug/L	3.696	494.42 ppb	3.696	0.75%
QC value within limits for Sr 421.552 Recovery = 98.88%						
Ti 334.940†	319093.1	476.64 ug/L	5.344	476.64 ppb	5.344	1.12%
QC value within limits for Ti 334.940 Recovery = 95.33%						
Tl 190.801†	1721.4	488.92 ug/L	5.237	488.92 ppb	5.237	1.07%
QC value within limits for Tl 190.801 Recovery = 97.78%						
U 409.014†	16636.1	489.74 ug/L	4.362	489.74 ppb	4.362	0.89%
QC value within limits for U 409.014 Recovery = 97.95%						
V 292.402†	72499.1	488.74 ug/L	4.783	488.74 ppb	4.783	0.98%
QC value within limits for V 292.402 Recovery = 97.75%						
Zn 213.857†	56775.5	477.47 ug/L	5.315	477.47 ppb	5.315	1.11%
QC value within limits for Zn 213.857 Recovery = 95.49%						
SiO2†	80546.0	5123.2 ug/L	52.25	5123.2 ppb	52.25	1.02%
QC value within limits for SiO2 Recovery = 95.81%						

All analyte(s) passed QC.



Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 08:32:15

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4325.7	4325.7	105 %		08:34:08
1	Y RADIAL	4908.7	4908.7	101.4 %		08:34:08
1	Al 396.153Radial†	-199.8	-0.4	-0.3681 ug/L	-0.3681 ppb	08:34:08
1	Ca 317.933Radial†	22.4	8.0	14.848 ug/L	14.848 ppb	08:34:28
1	Fe 238.204 Radial†	11.7	1.1	12.247 ug/L	12.247 ppb	08:34:28
1	K 766.490 Radial†	2943.7	183.2	34.860 ug/L	34.860 ppb	08:34:08
1	Mg 279.077 IEC†	-0.1	-0.0	-1.6767 ug/L	-1.6767 ppb	08:34:28
1	Na 589.592 Radial†	-1702.0	29.0	8.9370 ug/L	8.9370 ppb	08:34:08
1	Sr 421.552†	6.3	-30.4	-0.2009 ug/L	-0.2009 ppb	08:34:08
1	Sc 361.383	910215.6	910215.6	102.18 %		08:35:24
1	Y 371.029	746917.6	746917.6	101.73 %		08:35:24
1	Ag 328.068†	597.5	-39.7	-0.1807 ug/L	-0.1807 ppb	08:35:29
1	As 188.979†	-8.7	20.3	7.7827 ug/L	7.7827 ppb	08:35:50
1	B 249.677†	386.4	1139.2	23.817 ug/L	23.817 ppb	08:35:29
1	Ba 233.527†	4.1	19.3	0.1427 ug/L	0.1427 ppb	08:35:50
1	Be 313.107†	-4268.1	225.9	0.0764 ug/L	0.0764 ppb	08:35:29
1	Cd 226.502†	-192.0	16.2	0.1693 ug/L	0.1693 ppb	08:35:50
1	Co 228.616†	-78.0	8.8	0.1614 ug/L	0.1614 ppb	08:35:50
1	Cr 267.716†	114.5	50.2	0.5122 ug/L	0.5122 ppb	08:35:29
1	Cu 324.752†	6879.6	-153.8	-0.4356 ug/L	-0.4356 ppb	08:35:29
1	Mn 257.610†	525.3	-17.7	-0.0165 ug/L	-0.0165 ppb	08:35:50
1	Mo 202.031†	5.6	0.2	0.0167 ug/L	0.0167 ppb	08:35:50
1	Ni 231.604†	107.8	20.3	0.4520 ug/L	0.4520 ppb	08:35:50
1	P 214.914†	222.1	-5.9	-2.9883 ug/L	-2.9883 ppb	08:35:50
1	Pb 220.353†	-42.6	37.9	4.0644 ug/L	4.0644 ppb	08:35:50
1	S 181.975 Axial†	46.9	-2.9	-3.5914 ug/L	-3.5914 ppb	08:35:50
1	Sb 206.836†	56.9	17.2	5.2829 ug/L	5.2829 ppb	08:35:50
1	Se 196.026†	-16.3	10.0	5.5720 ug/L	5.5720 ppb	08:35:50
1	Si 251.611†	588.5	40.2	1.1963 ug/L	1.1963 ppb	08:35:50
1	Sn 189.927†	18.1	8.3	1.3450 ug/L	1.3450 ppb	08:35:50
1	Ti 334.940†	-1652.0	187.6	0.2756 ug/L	0.2756 ppb	08:35:29
1	Tl 190.801†	-39.7	5.6	1.5906 ug/L	1.5906 ppb	08:35:50
1	U 409.014†	-4702.4	510.8	15.087 ug/L	15.087 ppb	08:35:24
1	V 292.402†	-1722.0	66.9	0.4718 ug/L	0.4718 ppb	08:35:29
1	Zn 213.857†	758.6	33.4	0.2796 ug/L	0.2796 ppb	08:35:50
1	SiO2†	589.8	14.9	0.9527 ug/L	0.9527 ppb	08:36:56
2	Sc Radial	4273.2	4273.2	104 %		08:34:33
2	Y RADIAL	4834.6	4834.6	99.86 %		08:34:33
2	Al 396.153Radial†	-194.0	2.8	2.2420 ug/L	2.2420 ppb	08:34:33
2	Ca 317.933Radial†	25.9	11.7	21.679 ug/L	21.679 ppb	08:34:53
2	Fe 238.204 Radial†	11.6	1.1	12.908 ug/L	12.908 ppb	08:34:53
2	K 766.490 Radial†	2925.2	199.8	38.022 ug/L	38.022 ppb	08:34:33
2	Mg 279.077 IEC†	0.4	0.4	18.314 ug/L	18.314 ppb	08:34:53
2	Na 589.592 Radial†	-1753.8	-40.9	-12.616 ug/L	-12.616 ppb	08:34:33
2	Sr 421.552†	66.1	27.4	0.1806 ug/L	0.1806 ppb	08:34:33
2	Sc 361.383	914171.7	914171.7	102.62 %		08:35:55
2	Y 371.029	751212.3	751212.3	102.31 %		08:35:55
2	Ag 328.068†	565.8	-73.2	-0.3256 ug/L	-0.3256 ppb	08:36:00
2	As 188.979†	-7.3	21.6	8.3144 ug/L	8.3144 ppb	08:36:20
2	B 249.677†	435.2	1185.2	24.778 ug/L	24.778 ppb	08:36:00
2	Ba 233.527†	16.5	31.3	0.2312 ug/L	0.2312 ppb	08:36:20
2	Be 313.107†	-4156.1	353.1	0.1192 ug/L	0.1192 ppb	08:36:00
2	Cd 226.502†	-197.8	11.4	0.1193 ug/L	0.1193 ppb	08:36:20
2	Co 228.616†	-74.8	12.2	0.2264 ug/L	0.2264 ppb	08:36:20
2	Cr 267.716†	80.1	16.2	0.1622 ug/L	0.1622 ppb	08:36:00
2	Cu 324.752†	6805.3	-255.4	-0.7180 ug/L	-0.7180 ppb	08:36:00
2	Mn 257.610†	522.1	-23.1	-0.0226 ug/L	-0.0226 ppb	08:36:20
2	Mo 202.031†	18.8	13.1	0.8726 ug/L	0.8726 ppb	08:36:20
2	Ni 231.604†	85.1	-2.3	-0.0506 ug/L	-0.0506 ppb	08:36:20

2	P 214.914†	219.7	-9.2	-4.6034 ug/L	-4.6034 ppb	08:36:20
2	Pb 220.353†	-61.8	19.5	2.0896 ug/L	2.0896 ppb	08:36:20
2	S 181.975 Axial†	46.5	-3.6	-4.4080 ug/L	-4.4080 ppb	08:36:20
2	Sb 206.836†	53.7	13.9	4.3034 ug/L	4.3034 ppb	08:36:20
2	Se 196.026†	-27.9	-1.2	-0.6150 ug/L	-0.6150 ppb	08:36:20
2	Si 251.611†	585.6	34.9	1.0271 ug/L	1.0271 ppb	08:36:20
2	Sn 189.927†	25.1	15.1	2.4357 ug/L	2.4357 ppb	08:36:20
2	Ti 334.940†	-1635.9	210.2	0.3088 ug/L	0.3088 ppb	08:36:00
2	Tl 190.801†	-43.7	1.9	0.5291 ug/L	0.5291 ppb	08:36:20
2	U 409.014†	-4717.3	516.3	15.248 ug/L	15.248 ppb	08:35:55
2	V 292.402†	-1681.2	113.9	0.7973 ug/L	0.7973 ppb	08:36:00
2	Zn 213.857†	767.7	39.0	0.3307 ug/L	0.3307 ppb	08:36:20
2	SiO2†	569.5	-7.3	-0.4889 ug/L	-0.4889 ppb	08:37:01
3	Sc Radial	4372.4	4372.4	106 %		08:34:58
3	Y RADIAL	4899.7	4899.7	101.2 %		08:34:58
3	Al 396.153Radial†	-181.1	19.3	15.901 ug/L	15.901 ppb	08:34:58
3	Ca 317.933Radial†	20.7	6.2	11.394 ug/L	11.394 ppb	08:35:18
3	Fe 238.204 Radial†	9.7	-1.0	-11.178 ug/L	-11.178 ppb	08:35:18
3	K 766.490 Radial†	2870.8	84.4	16.051 ug/L	16.051 ppb	08:34:58
3	Mg 279.077 IEC†	1.8	1.8	73.954 ug/L	73.954 ppb	08:35:18
3	Na 589.592 Radial†	-1690.9	56.9	17.519 ug/L	17.519 ppb	08:34:58
3	Sr 421.552†	82.7	41.6	0.2744 ug/L	0.2744 ppb	08:34:58
3	Sc 361.383	913189.9	913189.9	102.51 %		08:36:25
3	Y 371.029	749036.3	749036.3	102.01 %		08:36:25
3	Ag 328.068†	545.1	-92.7	-0.4204 ug/L	-0.4204 ppb	08:36:30
3	As 188.979†	-8.7	20.3	7.7798 ug/L	7.7798 ppb	08:36:50
3	B 249.677†	354.4	1106.8	23.144 ug/L	23.144 ppb	08:36:30
3	Ba 233.527†	6.6	21.7	0.1596 ug/L	0.1596 ppb	08:36:50
3	Be 313.107†	-4273.3	234.4	0.0796 ug/L	0.0796 ppb	08:36:30
3	Cd 226.502†	-205.5	3.6	0.0419 ug/L	0.0419 ppb	08:36:50
3	Co 228.616†	-92.3	-4.9	-0.0905 ug/L	-0.0905 ppb	08:36:50
3	Cr 267.716†	61.6	-1.7	-0.0236 ug/L	-0.0236 ppb	08:36:30
3	Cu 324.752†	6805.2	-248.3	-0.7002 ug/L	-0.7002 ppb	08:36:30
3	Mn 257.610†	522.8	-21.7	-0.0259 ug/L	-0.0259 ppb	08:36:50
3	Mo 202.031†	5.3	-0.0	-0.0036 ug/L	-0.0036 ppb	08:36:50
3	Ni 231.604†	98.1	10.5	0.2348 ug/L	0.2348 ppb	08:36:50
3	P 214.914†	226.3	-2.5	-1.1295 ug/L	-1.1295 ppb	08:36:50
3	Pb 220.353†	-39.4	41.2	4.4297 ug/L	4.4297 ppb	08:36:50
3	S 181.975 Axial†	45.8	-4.2	-5.1765 ug/L	-5.1765 ppb	08:36:50
3	Sb 206.836†	56.3	16.5	5.0469 ug/L	5.0469 ppb	08:36:50
3	Se 196.026†	-30.4	-3.7	-2.0656 ug/L	-2.0656 ppb	08:36:50
3	Si 251.611†	554.8	5.5	0.1645 ug/L	0.1645 ppb	08:36:50
3	Sn 189.927†	13.8	4.0	0.6551 ug/L	0.6551 ppb	08:36:50
3	Ti 334.940†	-1569.7	273.1	0.3965 ug/L	0.3965 ppb	08:36:30
3	Tl 190.801†	-35.4	9.9	2.8071 ug/L	2.8071 ppb	08:36:50
3	U 409.014†	-4683.3	544.5	16.085 ug/L	16.085 ppb	08:36:25
3	V 292.402†	-1713.3	80.9	0.5714 ug/L	0.5714 ppb	08:36:30
3	Zn 213.857†	770.9	42.9	0.3644 ug/L	0.3644 ppb	08:36:50
3	SiO2†	589.0	12.3	0.7848 ug/L	0.7848 ppb	08:37:06

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	912525.7	102.44 %	0.231			0.23%
Sc Radial	4323.8	105 %	1.2			1.15%
Y 371.029	749055.4	102.02 %	0.292			0.29%
Y RADIAL	4881.0	100.8 %	0.83			0.83%
Ag 328.068†	-68.5	-0.3089 ug/L	0.12076	-0.3089 ppb	0.12076	39.09%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	7.2	5.9250 ug/L	8.73750	5.9250 ppb	8.73750	147.47%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	20.7	7.9589 ug/L	0.30780	7.9589 ppb	0.30780	3.87%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	1143.7	23.913 ug/L	0.8212	23.913 ppb	0.8212	3.43%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	24.1	0.1778 ug/L	0.04696	0.1778 ppb	0.04696	26.41%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	271.1	0.0917 ug/L	0.02382	0.0917 ppb	0.02382	25.97%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	8.6	15.974 ug/L	5.2338	15.974 ppb	5.2338	32.77%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	10.4	0.1101 ug/L	0.06417	0.1101 ppb	0.06417	58.26%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	5.4	0.0991 ug/L	0.16740	0.0991 ppb	0.16740	168.93%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	21.6	0.2169 ug/L	0.27206	0.2169 ppb	0.27206	125.43%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-219.2	-0.6179 ug/L	0.15820	-0.6179 ppb	0.15820	25.60%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.4	4.6591 ug/L	13.71912	4.6591 ppb	13.71912	294.46%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	155.8	29.644 ug/L	11.8780	29.644 ppb	11.8780	40.07%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.7	30.197 ug/L	39.1904	30.197 ppb	39.1904	129.78%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-20.8	-0.0217 ug/L	0.00481	-0.0217 ppb	0.00481	22.20%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	4.4	0.2952 ug/L	0.50009	0.2952 ppb	0.50009	169.38%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	15.0	4.6133 ug/L	15.52557	4.6133 ppb	15.52557	336.54%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	9.5	0.2121 ug/L	0.25207	0.2121 ppb	0.25207	118.85%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-5.9	-2.9071 ug/L	1.73840	-2.9071 ppb	1.73840	59.80%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	32.9	3.5279 ug/L	1.25894	3.5279 ppb	1.25894	35.69%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-3.6	-4.3919 ug/L	0.79269	-4.3919 ppb	0.79269	18.05%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	15.9	4.8777 ug/L	0.51120	4.8777 ppb	0.51120	10.48%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	1.7	0.9638 ug/L	4.05621	0.9638 ppb	4.05621	420.85%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	26.9	0.7960 ug/L	0.55339	0.7960 ppb	0.55339	69.52%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	9.1	1.4786 ug/L	0.89782	1.4786 ppb	0.89782	60.72%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	12.8	0.0847 ug/L	0.25175	0.0847 ppb	0.25175	297.27%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	223.6	0.3270 ug/L	0.06250	0.3270 ppb	0.06250	19.12%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	5.8	1.6423 ug/L	1.13989	1.6423 ppb	1.13989	69.41%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	523.9	15.473 ug/L	0.5360	15.473 ppb	0.5360	3.46%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	87.2	0.6135 ug/L	0.16679	0.6135 ppb	0.16679	27.19%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	38.4	0.3249 ug/L	0.04271	0.3249 ppb	0.04271	13.15%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	6.7	0.4162 ug/L	0.78830	0.4162 ppb	0.78830	189.41%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 3

Sample ID: LR1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 36

Date Collected: 2/1/2010 08:39:16

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4227.1	4227.1	102 %		08:41:10
1	Y RADIAL	4756.3	4756.3	98.24 %		08:41:10
1	Al 396.153Radial†	-240.3	-44.4	-35.316 ug/L	-35.316 ppb	08:41:10
1	Ca 317.933Radial†	19.9	6.0	11.178 ug/L	11.178 ppb	08:41:30
1	Fe 238.204 Radial†	33783.1	32961.4	383050 ug/L	383050 ppb	08:41:10
1	K 766.490 Radial†	2510.9	-173.7	-33.029 ug/L	-33.029 ppb	08:41:10
1	Mg 279.077 IEC†	8.0	7.9	-69.314 ug/L	-69.314 ppb	08:41:30
1	Na 589.592 Radial†	-1602.6	88.2	27.166 ug/L	27.166 ppb	08:41:10
1	Sr 421.552†	82.9	44.4	0.2934 ug/L	0.2934 ppb	08:41:10
1	Sc 361.383	903404.7	903404.7	101.41 %		08:42:27
1	Y 371.029	737290.3	737290.3	100.41 %		08:42:27
1	Ag 328.068†	-27433.5	-27676.0	3.1145 ug/L	3.1145 ppb	08:42:27
1	As 188.979†	-239.2	-207.1	10.250 ug/L	10.250 ppb	08:42:47
1	B 249.677†	2087.2	2819.2	-3.2733 ug/L	-3.2733 ppb	08:42:27
1	Ba 233.527†	-2168.5	-2123.0	-3.7459 ug/L	-3.7459 ppb	08:42:47
1	Be 313.107†	-4182.5	278.8	0.0942 ug/L	0.0942 ppb	08:42:27
1	Cd 226.502†	3209.6	3369.0	-4.7600 ug/L	-4.7600 ppb	08:42:47
1	Co 228.616†	186.1	268.7	-0.6502 ug/L	-0.6502 ppb	08:42:47
1	Cr 267.716†	-635.9	-688.9	0.3936 ug/L	0.3936 ppb	08:42:47
1	Cu 324.752†	-1815.9	-8677.5	-3.9083 ug/L	-3.9083 ppb	08:42:27
1	Mn 257.610†	-40634.2	-40600.2	-2.9172 ug/L	-2.9172 ppb	08:42:27
1	Mo 202.031†	-426.8	-426.1	1.4184 ug/L	1.4184 ppb	08:42:47
1	Ni 231.604†	168.8	81.3	1.8081 ug/L	1.8081 ppb	08:42:47
1	P 214.914†	758.2	524.4	-31.518 ug/L	-31.518 ppb	08:42:47
1	Pb 220.353†	215.0	291.6	-5.3760 ug/L	-5.3760 ppb	08:42:47
1	S 181.975 Axial†	64.4	14.7	17.918 ug/L	17.918 ppb	08:42:47
1	Sb 206.836†	16.7	-21.9	2.4327 ug/L	2.4327 ppb	08:42:47
1	Se 196.026†	-2240.8	-2183.6	56.244 ug/L	56.244 ppb	08:42:47
1	Si 251.611†	-790.5	-1315.3	-38.801 ug/L	-38.801 ppb	08:42:47
1	Sn 189.927†	-20.3	-29.4	1.6910 ug/L	1.6910 ppb	08:42:47
1	Ti 334.940†	-1627.8	199.2	0.2370 ug/L	0.2370 ppb	08:42:47
1	Tl 190.801†	-47.3	-2.2	-0.9374 ug/L	-0.9374 ppb	08:42:47
1	U 409.014†	-2241.6	2902.7	42.090 ug/L	42.090 ppb	08:42:27
1	V 292.402†	6314.5	7978.7	-2.9346 ug/L	-2.9346 ppb	08:42:47
1	Zn 213.857†	4745.3	3970.1	-3.4533 ug/L	-3.4533 ppb	08:42:47
1	SiO2†	-858.9	-1409.2	-89.090 ug/L	-89.090 ppb	08:43:43
2	Sc Radial	4249.9	4249.9	103 %		08:41:35
2	Y RADIAL	4777.7	4777.7	98.68 %		08:41:35
2	Al 396.153Radial†	-226.1	-29.3	-22.815 ug/L	-22.815 ppb	08:41:35
2	Ca 317.933Radial†	16.8	3.0	5.4873 ug/L	5.4873 ppb	08:41:55
2	Fe 238.204 Radial†	33671.4	32675.6	379730 ug/L	379730 ppb	08:41:35
2	K 766.490 Radial†	2683.2	-19.7	-3.6933 ug/L	-3.6933 ppb	08:41:35
2	Mg 279.077 IEC†	9.6	9.4	-3.0144 ug/L	-3.0144 ppb	08:41:55
2	Na 589.592 Radial†	-1690.6	11.2	3.4490 ug/L	3.4490 ppb	08:41:35
2	Sr 421.552†	113.4	73.6	0.4859 ug/L	0.4859 ppb	08:41:35
2	Sc 361.383	894155.4	894155.4	100.37 %		08:42:52
2	Y 371.029	730534.2	730534.2	99.494 %		08:42:52
2	Ag 328.068†	-27012.8	-27536.7	2.6524 ug/L	2.6524 ppb	08:42:52
2	As 188.979†	-220.4	-190.9	15.708 ug/L	15.708 ppb	08:43:12
2	B 249.677†	2222.6	2975.5	0.5313 ug/L	0.5313 ppb	08:42:52
2	Ba 233.527†	-2226.2	-2202.6	-4.4259 ug/L	-4.4259 ppb	08:43:12
2	Be 313.107†	-4140.1	278.3	0.0937 ug/L	0.0937 ppb	08:42:52
2	Cd 226.502†	3224.6	3416.7	-3.9239 ug/L	-3.9239 ppb	08:43:12
2	Co 228.616†	201.1	285.5	-0.2937 ug/L	-0.2937 ppb	08:43:12
2	Cr 267.716†	-652.5	-711.9	0.0933 ug/L	0.0933 ppb	08:43:12
2	Cu 324.752†	-1708.0	-8588.5	-3.8377 ug/L	-3.8377 ppb	08:42:52
2	Mn 257.610†	-39880.4	-40263.7	-2.9101 ug/L	-2.9101 ppb	08:42:52
2	Mo 202.031†	-435.2	-438.8	0.3165 ug/L	0.3165 ppb	08:43:12
2	Ni 231.604†	166.6	80.9	1.7986 ug/L	1.7986 ppb	08:43:12

2	P 214.914†	773.5	547.4	-16.940 ug/L	-16.940 ppb	08:43:12
2	Pb 220.353†	233.5	312.2	-2.8459 ug/L	-2.8459 ppb	08:43:12
2	S 181.975 Axial†	66.4	17.3	21.090 ug/L	21.090 ppb	08:43:12
2	Sb 206.836†	40.6	2.0	9.6406 ug/L	9.6406 ppb	08:43:12
2	Se 196.026†	-2219.9	-2185.6	44.151 ug/L	44.151 ppb	08:43:12
2	Si 251.611†	-751.0	-1283.9	-37.858 ug/L	-37.858 ppb	08:43:12
2	Sn 189.927†	-25.2	-34.5	0.8165 ug/L	0.8165 ppb	08:43:12
2	Ti 334.940†	-1708.4	102.4	0.0856 ug/L	0.0856 ppb	08:43:12
2	Tl 190.801†	-56.5	-11.8	-3.6558 ug/L	-3.6558 ppb	08:43:12
2	U 409.014†	-2149.9	2971.2	44.493 ug/L	44.493 ppb	08:42:52
2	V 292.402†	6455.6	8183.8	-1.0934 ug/L	-1.0934 ppb	08:43:12
2	Zn 213.857†	4750.8	4024.0	-2.6742 ug/L	-2.6742 ppb	08:43:12
2	SiO2†	-887.6	-1446.5	-91.448 ug/L	-91.448 ppb	08:43:48
3	Sc Radial	4394.7	4394.7	107 %		08:42:00
3	Y RADIAL	4934.2	4934.2	101.9 %		08:42:00
3	Al 396.153Radial†	-229.1	-24.9	-19.221 ug/L	-19.221 ppb	08:42:00
3	Ca 317.933Radial†	17.9	3.5	6.4657 ug/L	6.4657 ppb	08:42:20
3	Fe 238.204 Radial†	34179.4	32075.8	372760 ug/L	372760 ppb	08:42:00
3	K 766.490 Radial†	2560.9	-220.3	-41.900 ug/L	-41.900 ppb	08:42:00
3	Mg 279.077 IEC†	10.4	9.8	22.527 ug/L	22.527 ppb	08:42:20
3	Na 589.592 Radial†	-1609.3	141.6	43.625 ug/L	43.625 ppb	08:42:00
3	Sr 421.552†	130.0	85.6	0.5649 ug/L	0.5649 ppb	08:42:00
3	Sc 361.383	891183.3	891183.3	100.04 %		08:43:18
3	Y 371.029	728513.8	728513.8	99.219 %		08:43:18
3	Ag 328.068†	-27219.0	-27832.6	-0.8972 ug/L	-0.8972 ppb	08:43:18
3	As 188.979†	-238.2	-209.4	6.9682 ug/L	6.9682 ppb	08:43:38
3	B 249.677†	2078.8	2839.0	-1.1889 ug/L	-1.1889 ppb	08:43:18
3	Ba 233.527†	-2230.4	-2214.2	-4.7220 ug/L	-4.7220 ppb	08:43:38
3	Be 313.107†	-4142.4	262.3	0.0884 ug/L	0.0884 ppb	08:43:18
3	Cd 226.502†	3253.8	3456.6	-2.7912 ug/L	-2.7912 ppb	08:43:38
3	Co 228.616†	192.3	277.4	-0.3424 ug/L	-0.3424 ppb	08:43:38
3	Cr 267.716†	-613.4	-675.0	0.3389 ug/L	0.3389 ppb	08:43:38
3	Cu 324.752†	-1564.8	-8451.0	-3.8237 ug/L	-3.8237 ppb	08:43:18
3	Mn 257.610†	-39760.0	-40275.8	-3.6115 ug/L	-3.6115 ppb	08:43:18
3	Mo 202.031†	-422.5	-427.6	0.5195 ug/L	0.5195 ppb	08:43:38
3	Ni 231.604†	201.5	116.3	2.5874 ug/L	2.5874 ppb	08:43:38
3	P 214.914†	788.6	565.0	-2.2685 ug/L	-2.2685 ppb	08:43:38
3	Pb 220.353†	245.2	324.8	-0.8322 ug/L	-0.8322 ppb	08:43:38
3	S 181.975 Axial†	65.7	16.8	20.536 ug/L	20.536 ppb	08:43:38
3	Sb 206.836†	36.0	-2.5	8.1040 ug/L	8.1040 ppb	08:43:38
3	Se 196.026†	-2242.9	-2216.1	4.2305 ug/L	4.2305 ppb	08:43:38
3	Si 251.611†	-736.8	-1272.3	-37.521 ug/L	-37.521 ppb	08:43:38
3	Sn 189.927†	-27.4	-36.8	0.3220 ug/L	0.3220 ppb	08:43:38
3	Ti 334.940†	-1693.1	111.9	0.0987 ug/L	0.0987 ppb	08:43:38
3	Tl 190.801†	-51.2	-6.7	-2.2036 ug/L	-2.2036 ppb	08:43:38
3	U 409.014†	-2173.6	2940.4	44.377 ug/L	44.377 ppb	08:43:18
3	V 292.402†	6489.7	8239.3	0.2998 ug/L	0.2998 ppb	08:43:38
3	Zn 213.857†	4808.8	4097.8	-1.3776 ug/L	-1.3776 ppb	08:43:38
3	SiO2†	-816.7	-1378.6	-87.141 ug/L	-87.141 ppb	08:43:54

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	896247.8	100.61 %	0.715			0.71%
Sc Radial	4290.5	104 %	2.2			2.12%
Y 371.029	732112.8	99.709 %	0.6260			0.63%
Y RADIAL	4822.7	99.61 %	2.006			2.01%
Ag 328.068†	-27681.8	1.6233 ug/L	2.19496	1.6233 ppb	2.19496	135.22%
Al 396.153Radial†	-32.9	-25.784 ug/L	8.4486	-25.784 ppb	8.4486	32.77%
As 188.979†	-202.5	10.975 ug/L	4.4149	10.975 ppb	4.4149	40.23%
B 249.677†	2877.9	-1.3103 ug/L	1.90520	-1.3103 ppb	1.90520	145.40%
Ba 233.527†	-2179.9	-4.2979 ug/L	0.50051	-4.2979 ppb	0.50051	11.65%
Be 313.107†	273.1	0.0921 ug/L	0.00323	0.0921 ppb	0.00323	3.51%
Ca 317.933Radial†	4.2	7.7102 ug/L	3.04242	7.7102 ppb	3.04242	39.46%
Cd 226.502†	3414.1	-3.8250 ug/L	0.98813	-3.8250 ppb	0.98813	25.83%
Co 228.616†	277.2	-0.4287 ug/L	0.19328	-0.4287 ppb	0.19328	45.08%
Cr 267.716†	-691.9	0.2753 ug/L	0.15992	0.2753 ppb	0.15992	58.10%
Cu 324.752†	-8572.3	-3.8566 ug/L	0.04538	-3.8566 ppb	0.04538	1.18%
Fe 238.204 Radial†	32570.9	378510 ug/L	5252.1	378510 ppb	5252.1	1.39%
K 766.490 Radial†	-137.9	-26.207 ug/L	19.9958	-26.207 ppb	19.9958	76.30%

Mg 279.077 IEC†	9.0	-16.600 ug/L	47.4037	-16.600 ppb	47.4037	285.56%
Mn 257.610†	-40379.9	-3.1463 ug/L	0.40290	-3.1463 ppb	0.40290	12.81%
Mo 202.031†	-430.8	0.7515 ug/L	0.58645	0.7515 ppb	0.58645	78.04%
Na 589.592 Radial†	80.3	24.747 ug/L	20.1971	24.747 ppb	20.1971	81.62%
Ni 231.604†	92.8	2.0647 ug/L	0.45266	2.0647 ppb	0.45266	21.92%
P 214.914†	545.6	-16.909 ug/L	14.6249	-16.909 ppb	14.6249	86.49%
Pb 220.353†	309.5	-3.0180 ug/L	2.27674	-3.0180 ppb	2.27674	75.44%
S 181.975 Axial†	16.2	19.848 ug/L	1.6944	19.848 ppb	1.6944	8.54%
Sb 206.836†	-7.5	6.7258 ug/L	3.79647	6.7258 ppb	3.79647	56.45%
Se 196.026†	-2195.1	34.875 ug/L	27.2192	34.875 ppb	27.2192	78.05%
Si 251.611†	-1290.5	-38.060 ug/L	0.6636	-38.060 ppb	0.6636	1.74%
Sn 189.927†	-33.6	0.9432 ug/L	0.69326	0.9432 ppb	0.69326	73.50%
Sr 421.552†	67.9	0.4480 ug/L	0.13966	0.4480 ppb	0.13966	31.17%
Ti 334.940†	137.8	0.1404 ug/L	0.08390	0.1404 ppb	0.08390	59.74%
Tl 190.801†	-6.9	-2.2656 ug/L	1.36028	-2.2656 ppb	1.36028	60.04%
U 409.014†	2938.1	43.653 ug/L	1.3553	43.653 ppb	1.3553	3.10%
V 292.402†	8133.9	-1.2427 ug/L	1.62237	-1.2427 ppb	1.62237	130.55%
Zn 213.857†	4030.6	-2.5017 ug/L	1.04856	-2.5017 ppb	1.04856	41.91%
SiO2†	-1411.4	-89.227 ug/L	2.1567	-89.227 ppb	2.1567	2.42%

Sequence No.: 4

Sample ID: LR2

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 37

Date Collected: 2/1/2010 08:46:05

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4336.9	4336.9	105 %		08:47:58
1	Y RADIAL	4927.3	4927.3	101.8 %		08:47:58
1	Al 396.153Radial†	-218.0	-17.3	-14.112 ug/L	-14.112 ppb	08:47:58
1	Ca 317.933Radial†	22.9	8.4	15.574 ug/L	15.574 ppb	08:48:18
1	Fe 238.204 Radial†	-0.6	-10.7	9.0767 ug/L	9.0767 ppb	08:48:18
1	K 766.490 Radial†	2746.6	-11.6	-2.2080 ug/L	-2.2080 ppb	08:47:58
1	Mg 279.077 IEC†	0.0	0.1	2.2972 ug/L	2.2972 ppb	08:48:18
1	Na 589.592 Radial†	-1762.5	-24.4	-7.5051 ug/L	-7.5051 ppb	08:47:58
1	Sr 421.552†	61.2	21.8	0.1438 ug/L	0.1438 ppb	08:47:58
1	Sc 361.383	922327.1	922327.1	103.54 %		08:49:15
1	Y 371.029	755890.1	755890.1	102.95 %		08:49:15
1	Ag 328.068†	465.3	-175.1	-0.8183 ug/L	-0.8183 ppb	08:49:20
1	As 188.979†	-19.1	10.3	3.9344 ug/L	3.9344 ppb	08:49:40
1	B 249.677†	642.7	1381.9	16.190 ug/L	16.190 ppb	08:49:20
1	Ba 233.527†	-3.3	12.1	0.0870 ug/L	0.0870 ppb	08:49:40
1	Be 313.107†	-4239.2	308.7	0.1048 ug/L	0.1048 ppb	08:49:20
1	Cd 226.502†	-220.0	-8.4	-0.0684 ug/L	-0.0684 ppb	08:49:40
1	Co 228.616†	250132.8	241674.9	4455.0 ug/L	4455.0 ppb	08:49:15
1	Cr 267.716†	59.7	-4.2	-0.0521 ug/L	-0.0521 ppb	08:49:20
1	Cu 324.752†	6151.9	-945.0	-2.6463 ug/L	-2.6463 ppb	08:49:20
1	Mn 257.610†	486.4	-62.0	-0.0746 ug/L	-0.0746 ppb	08:49:40
1	Mo 202.031†	-36.5	-40.5	-2.7018 ug/L	-2.7018 ppb	08:49:40
1	Ni 231.604†	196.7	104.8	-0.3536 ug/L	-0.3536 ppb	08:49:40
1	P 214.914†	18762.9	17898.8	9294.0 ug/L	9294.0 ppb	08:49:20
1	Pb 220.353†	-38.6	42.3	4.5436 ug/L	4.5436 ppb	08:49:40
1	S 181.975 Axial†	47.8	-2.8	-3.3662 ug/L	-3.3662 ppb	08:49:40
1	Sb 206.836†	43.7	3.8	1.0929 ug/L	1.0929 ppb	08:49:40
1	Se 196.026†	-36.3	-9.1	-5.4550 ug/L	-5.4550 ppb	08:49:40
1	Si 251.611†	582.0	26.3	0.8174 ug/L	0.8174 ppb	08:49:40
1	Sn 189.927†	9.2	-0.5	-0.0831 ug/L	-0.0831 ppb	08:49:40
1	Ti 334.940†	-1500.4	355.2	0.5237 ug/L	0.5237 ppb	08:49:20
1	Tl 190.801†	36.0	79.2	2.8463 ug/L	2.8463 ppb	08:49:40
1	U 409.014†	-4577.7	691.8	20.449 ug/L	20.449 ppb	08:49:15
1	V 292.402†	-1632.3	175.6	1.1868 ug/L	1.1868 ppb	08:49:20
1	Zn 213.857†	1187238.4	1145980.1	9722.8 ug/L	9722.8 ppb	08:49:15
1	SiO2†	625.3	41.7	2.7316 ug/L	2.7316 ppb	08:50:47
2	Sc Radial	4404.3	4404.3	107 %		08:48:23
2	Y RADIAL	4933.1	4933.1	101.9 %		08:48:23
2	Al 396.153Radial†	-196.0	6.5	5.4996 ug/L	5.4996 ppb	08:48:23
2	Ca 317.933Radial†	22.6	7.8	14.519 ug/L	14.519 ppb	08:48:43
2	Fe 238.204 Radial†	1.4	-8.9	30.604 ug/L	30.604 ppb	08:48:43
2	K 766.490 Radial†	2834.1	30.4	5.7899 ug/L	5.7899 ppb	08:48:23
2	Mg 279.077 IEC†	2.1	2.0	86.052 ug/L	86.052 ppb	08:48:43
2	Na 589.592 Radial†	-1757.2	6.2	1.9217 ug/L	1.9217 ppb	08:48:23
2	Sr 421.552†	42.5	3.3	0.0219 ug/L	0.0219 ppb	08:48:23
2	Sc 361.383	924561.9	924561.9	103.79 %		08:49:46
2	Y 371.029	757976.3	757976.3	103.23 %		08:49:46
2	Ag 328.068†	482.1	-160.0	-0.7504 ug/L	-0.7504 ppb	08:49:51
2	As 188.979†	-30.4	-0.6	-0.2415 ug/L	-0.2415 ppb	08:50:11
2	B 249.677†	633.7	1371.7	15.956 ug/L	15.956 ppb	08:49:51
2	Ba 233.527†	-0.0	15.3	0.1098 ug/L	0.1098 ppb	08:50:11
2	Be 313.107†	-4242.4	315.5	0.1067 ug/L	0.1067 ppb	08:49:51
2	Cd 226.502†	-217.5	-5.4	-0.0391 ug/L	-0.0391 ppb	08:50:11
2	Co 228.616†	251082.0	242005.5	4461.1 ug/L	4461.1 ppb	08:49:46
2	Cr 267.716†	93.7	28.5	0.2824 ug/L	0.2824 ppb	08:49:51
2	Cu 324.752†	6137.6	-973.2	-2.7255 ug/L	-2.7255 ppb	08:49:51
2	Mn 257.610†	476.8	-72.4	-0.0863 ug/L	-0.0863 ppb	08:50:11
2	Mo 202.031†	-34.9	-38.8	-2.5879 ug/L	-2.5879 ppb	08:50:11
2	Ni 231.604†	209.0	116.2	-0.1034 ug/L	-0.1034 ppb	08:50:11

2	P 214.914†	18713.0	17806.9	9246.3 ug/L	9246.3 ppb	08:49:51
2	Pb 220.353†	-31.1	49.7	5.3351 ug/L	5.3351 ppb	08:50:11
2	S 181.975 Axial†	48.5	-2.2	-2.6508 ug/L	-2.6508 ppb	08:50:11
2	Sb 206.836†	64.6	23.9	7.2458 ug/L	7.2458 ppb	08:50:11
2	Se 196.026†	-26.3	0.6	0.0118 ug/L	0.0118 ppb	08:50:11
2	Si 251.611†	581.8	24.9	0.7723 ug/L	0.7723 ppb	08:50:11
2	Sn 189.927†	13.1	3.2	0.5210 ug/L	0.5210 ppb	08:50:11
2	Ti 334.940†	-1625.2	238.5	0.3406 ug/L	0.3406 ppb	08:49:51
2	Tl 190.801†	37.9	81.0	3.3044 ug/L	3.3044 ppb	08:50:11
2	U 409.014†	-4458.3	817.4	24.157 ug/L	24.157 ppb	08:49:46
2	V 292.402†	-1715.8	99.0	0.6846 ug/L	0.6846 ppb	08:49:51
2	Zn 213.857†	1191075.7	1146905.7	9730.6 ug/L	9730.6 ppb	08:49:46
2	SiO2†	583.5	-0.0	0.0691 ug/L	0.0691 ppb	08:50:52
3	Sc Radial	4406.0	4406.0	107 %		08:48:49
3	Y RADIAL	4964.6	4964.6	102.5 %		08:48:49
3	Al 396.153Radial†	-213.1	-9.4	-7.6227 ug/L	-7.6227 ppb	08:48:49
3	Ca 317.933Radial†	19.5	4.9	9.1366 ug/L	9.1366 ppb	08:49:09
3	Fe 238.204 Radial†	-0.1	-10.2	15.234 ug/L	15.234 ppb	08:49:09
3	K 766.490 Radial†	2659.0	-134.6	-25.628 ug/L	-25.628 ppb	08:48:49
3	Mg 279.077 IEC†	-0.6	-0.5	-20.657 ug/L	-20.657 ppb	08:49:09
3	Na 589.592 Radial†	-1714.4	47.0	14.473 ug/L	14.473 ppb	08:48:49
3	Sr 421.552†	50.0	10.4	0.0687 ug/L	0.0687 ppb	08:48:49
3	Sc 361.383	928239.4	928239.4	104.20 %		08:50:16
3	Y 371.029	759161.1	759161.1	103.39 %		08:50:16
3	Ag 328.068†	569.0	-78.4	-0.3997 ug/L	-0.3997 ppb	08:50:21
3	As 188.979†	-29.1	0.8	0.3086 ug/L	0.3086 ppb	08:50:41
3	B 249.677†	569.3	1307.5	14.608 ug/L	14.608 ppb	08:50:21
3	Ba 233.527†	2.4	17.6	0.1278 ug/L	0.1278 ppb	08:50:41
3	Be 313.107†	-4203.2	369.2	0.1249 ug/L	0.1249 ppb	08:50:21
3	Cd 226.502†	-225.2	-12.0	-0.1049 ug/L	-0.1049 ppb	08:50:41
3	Co 228.616†	252248.9	242166.9	4464.1 ug/L	4464.1 ppb	08:50:16
3	Cr 267.716†	100.7	34.8	0.3467 ug/L	0.3467 ppb	08:50:21
3	Cu 324.752†	6177.7	-958.2	-2.6870 ug/L	-2.6870 ppb	08:50:21
3	Mn 257.610†	493.0	-58.6	-0.0697 ug/L	-0.0697 ppb	08:50:41
3	Mo 202.031†	-46.7	-50.0	-3.3316 ug/L	-3.3316 ppb	08:50:41
3	Ni 231.604†	210.4	116.7	-0.0938 ug/L	-0.0938 ppb	08:50:41
3	P 214.914†	18921.3	17935.4	9313.0 ug/L	9313.0 ppb	08:50:21
3	Pb 220.353†	-24.3	56.4	6.0490 ug/L	6.0490 ppb	08:50:41
3	S 181.975 Axial†	48.8	-2.0	-2.4706 ug/L	-2.4706 ppb	08:50:41
3	Sb 206.836†	49.2	8.8	2.6422 ug/L	2.6422 ppb	08:50:41
3	Se 196.026†	-25.5	1.5	0.4342 ug/L	0.4342 ppb	08:50:41
3	Si 251.611†	579.7	20.6	0.6530 ug/L	0.6530 ppb	08:50:41
3	Sn 189.927†	15.1	5.0	0.8110 ug/L	0.8110 ppb	08:50:41
3	Ti 334.940†	-1575.3	292.6	0.4275 ug/L	0.4275 ppb	08:50:21
3	Tl 190.801†	40.4	83.2	3.9179 ug/L	3.9179 ppb	08:50:41
3	U 409.014†	-4327.1	960.4	28.381 ug/L	28.381 ppb	08:50:16
3	V 292.402†	-1634.9	183.1	1.2420 ug/L	1.2420 ppb	08:50:21
3	Zn 213.857†	1195364.4	1146474.9	9727.0 ug/L	9727.0 ppb	08:50:16
3	SiO2†	613.3	26.3	1.7687 ug/L	1.7687 ppb	08:50:57

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	925042.8	103.84 %	0.335			0.32%
Sc Radial	4382.4	106 %	1.0			0.90%
Y 371.029	757675.8	103.19 %	0.226			0.22%
Y RADIAL	4941.7	102.1 %	0.41			0.41%
Ag 328.068†	-137.8	-0.6561 ug/L	0.22467	-0.6561 ppb	0.22467	34.24%
Al 396.153Radial†	-6.7	-5.4119 ug/L	9.99118	-5.4119 ppb	9.99118	184.62%
As 188.979†	3.5	1.3338 ug/L	2.26886	1.3338 ppb	2.26886	170.10%
B 249.677†	1353.7	15.585 ug/L	0.8540	15.585 ppb	0.8540	5.48%
Ba 233.527†	15.0	0.1082 ug/L	0.02042	0.1082 ppb	0.02042	18.87%
Be 313.107†	331.1	0.1121 ug/L	0.01110	0.1121 ppb	0.01110	9.90%
Ca 317.933Radial†	7.1	13.077 ug/L	3.4526	13.077 ppb	3.4526	26.40%
Cd 226.502†	-8.6	-0.0708 ug/L	0.03299	-0.0708 ppb	0.03299	46.60%
Co 228.616†	241949.1	4460.0 ug/L	4.62	4460.0 ppb	4.62	0.10%
Cr 267.716†	19.7	0.1923 ug/L	0.21409	0.1923 ppb	0.21409	111.31%
Cu 324.752†	-958.8	-2.6863 ug/L	0.03962	-2.6863 ppb	0.03962	1.47%
Fe 238.204 Radial†	-9.9	18.305 ug/L	11.0874	18.305 ppb	11.0874	60.57%
K 766.490 Radial†	-38.6	-7.3487 ug/L	16.32763	-7.3487 ppb	16.32763	222.18%



Mg 279.077 IEC†	0.5	22.564 ug/L	56.1674	22.564 ppb	56.1674	248.92%
Mn 257.610†	-64.3	-0.0768 ug/L	0.00853	-0.0768 ppb	0.00853	11.10%
Mo 202.031†	-43.1	-2.8738 ug/L	0.40061	-2.8738 ppb	0.40061	13.94%
Na 589.592 Radial†	9.6	2.9631 ug/L	11.02580	2.9631 ppb	11.02580	372.10%
Ni 231.604†	112.6	-0.1836 ug/L	0.14730	-0.1836 ppb	0.14730	80.23%
P 214.914†	17880.4	9284.4 ug/L	34.38	9284.4 ppb	34.38	0.37%
Pb 220.353†	49.4	5.3093 ug/L	0.75302	5.3093 ppb	0.75302	14.18%
S 181.975 Axial†	-2.3	-2.8292 ug/L	0.47372	-2.8292 ppb	0.47372	16.74%
Sb 206.836†	12.2	3.6603 ug/L	3.20035	3.6603 ppb	3.20035	87.43%
Se 196.026†	-2.3	-1.6697 ug/L	3.28497	-1.6697 ppb	3.28497	196.75%
Si 251.611†	23.9	0.7475 ug/L	0.08495	0.7475 ppb	0.08495	11.36%
Sn 189.927†	2.6	0.4163 ug/L	0.45617	0.4163 ppb	0.45617	109.59%
Sr 421.552†	11.8	0.0781 ug/L	0.06149	0.0781 ppb	0.06149	78.70%
Ti 334.940†	295.4	0.4306 ug/L	0.09160	0.4306 ppb	0.09160	21.27%
Tl 190.801†	81.1	3.3562 ug/L	0.53771	3.3562 ppb	0.53771	16.02%
U 409.014†	823.2	24.329 ug/L	3.9688	24.329 ppb	3.9688	16.31%
V 292.402†	152.6	1.0378 ug/L	0.30710	1.0378 ppb	0.30710	29.59%
Zn 213.857†	1146453.6	9726.8 ug/L	3.93	9726.8 ppb	3.93	0.04%
SiO2†	22.7	1.5231 ug/L	1.34809	1.5231 ppb	1.34809	88.51%

Sequence No.: 5

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 08:53:08

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4224.9	4224.9	102 %		08:55:00
1	Y RADIAL	4781.9	4781.9	98.77 %		08:55:00
1	Al 396.153Radial†	5976.8	6026.2	4952.4 ug/L	4952.4 ppb	08:55:00
1	Ca 317.933Radial†	2810.6	2731.1	5055.7 ug/L	5055.7 ppb	08:55:20
1	Fe 238.204 Radial†	451.3	430.6	5018.1 ug/L	5018.1 ppb	08:55:20
1	K 766.490 Radial†	28935.5	25630.2	4872.4 ug/L	4872.4 ppb	08:55:00
1	Mg 279.077 IEC†	128.8	125.8	5300.5 ug/L	5300.5 ppb	08:55:20
1	Na 589.592 Radial†	29871.3	30820.5	9497.4 ug/L	9497.4 ppb	08:55:00
1	Sr 421.552†	76278.2	74446.6	491.51 ug/L	491.51 ppb	08:55:00
1	Sc 361.383	912358.4	912358.4	102.42 %		08:56:18
1	Y 371.029	738573.3	738573.3	100.59 %		08:56:18
1	Ag 328.068†	112005.0	108737.1	478.81 ug/L	478.81 ppb	08:56:23
1	As 188.979†	1255.5	1254.6	485.97 ug/L	485.97 ppb	08:56:43
1	B 249.677†	22789.5	23012.8	478.98 ug/L	478.98 ppb	08:56:23
1	Ba 233.527†	67390.9	65815.7	482.26 ug/L	482.26 ppb	08:56:23
1	Be 313.107†	1454339.2	1424418.3	478.99 ug/L	478.99 ppb	08:56:18
1	Cd 226.502†	47508.2	46591.0	480.98 ug/L	480.98 ppb	08:56:23
1	Co 228.616†	26485.2	25945.2	478.34 ug/L	478.34 ppb	08:56:23
1	Cr 267.716†	47920.9	46728.1	481.63 ug/L	481.63 ppb	08:56:23
1	Cu 324.752†	181020.5	169861.4	472.45 ug/L	472.45 ppb	08:56:23
1	Mn 257.610†	493696.2	481512.7	483.40 ug/L	483.40 ppb	08:56:18
1	Mo 202.031†	7430.3	7249.7	482.26 ug/L	482.26 ppb	08:56:43
1	Ni 231.604†	22188.5	21579.6	480.56 ug/L	480.56 ppb	08:56:23
1	P 214.914†	4918.9	4579.5	2285.7 ug/L	2285.7 ppb	08:56:43
1	Pb 220.353†	4522.3	4495.2	483.89 ug/L	483.89 ppb	08:56:43
1	S 181.975 Axial†	836.3	767.7	936.87 ug/L	936.87 ppb	08:56:43
1	Sb 206.836†	1634.4	1557.4	493.29 ug/L	493.29 ppb	08:56:43
1	Se 196.026†	869.7	875.2	503.44 ug/L	503.44 ppb	08:56:43
1	Si 251.611†	82440.4	79959.0	2374.1 ug/L	2374.1 ppb	08:56:23
1	Sn 189.927†	3084.7	3002.4	485.89 ug/L	485.89 ppb	08:56:43
1	Ti 334.940†	323919.4	318078.9	475.12 ug/L	475.12 ppb	08:56:23
1	Tl 190.801†	1724.4	1728.1	490.79 ug/L	490.79 ppb	08:56:43
1	U 409.014†	11811.6	16645.9	490.05 ug/L	490.05 ppb	08:56:23
1	V 292.402†	72118.5	72168.7	486.56 ug/L	486.56 ppb	08:56:23
1	Zn 213.857†	58644.3	56551.2	475.61 ug/L	475.61 ppb	08:56:23
1	SiO2†	83817.1	81276.7	5169.8 ug/L	5169.8 ppb	08:57:50
2	Sc Radial	4277.2	4277.2	104 %		08:55:25
2	Y RADIAL	4811.5	4811.5	99.38 %		08:55:25
2	Al 396.153Radial†	6076.3	6050.9	4972.7 ug/L	4972.7 ppb	08:55:25
2	Ca 317.933Radial†	2791.2	2678.8	4958.9 ug/L	4958.9 ppb	08:55:45
2	Fe 238.204 Radial†	448.7	422.6	4925.8 ug/L	4925.8 ppb	08:55:45
2	K 766.490 Radial†	29393.8	25726.8	4890.9 ug/L	4890.9 ppb	08:55:25
2	Mg 279.077 IEC†	122.3	118.0	4972.7 ug/L	4972.7 ppb	08:55:45
2	Na 589.592 Radial†	30373.8	30948.6	9536.9 ug/L	9536.9 ppb	08:55:25
2	Sr 421.552†	77363.9	74583.2	492.41 ug/L	492.41 ppb	08:55:25
2	Sc 361.383	915886.7	915886.7	102.81 %		08:56:49
2	Y 371.029	741304.0	741304.0	100.96 %		08:56:49
2	Ag 328.068†	113191.5	109469.8	481.98 ug/L	481.98 ppb	08:56:54
2	As 188.979†	1263.0	1257.2	486.96 ug/L	486.96 ppb	08:57:14
2	B 249.677†	23006.9	23138.5	481.61 ug/L	481.61 ppb	08:56:54
2	Ba 233.527†	67951.2	66107.2	484.40 ug/L	484.40 ppb	08:56:54
2	Be 313.107†	1461344.6	1425761.6	479.45 ug/L	479.45 ppb	08:56:49
2	Cd 226.502†	48040.9	46930.5	484.50 ug/L	484.50 ppb	08:56:54
2	Co 228.616†	26827.4	26178.5	482.64 ug/L	482.64 ppb	08:56:54
2	Cr 267.716†	48250.1	46868.0	483.06 ug/L	483.06 ppb	08:56:54
2	Cu 324.752†	182851.9	170961.8	475.50 ug/L	475.50 ppb	08:56:54
2	Mn 257.610†	497074.7	482941.7	484.84 ug/L	484.84 ppb	08:56:49
2	Mo 202.031†	7472.1	7262.4	483.10 ug/L	483.10 ppb	08:57:14
2	Ni 231.604†	22471.5	21771.5	484.83 ug/L	484.83 ppb	08:56:54

2	P 214.914†	4921.1	4563.2	2276.6 ug/L	2276.6 ppb	08:57:14
2	Pb 220.353†	4512.7	4468.8	481.07 ug/L	481.07 ppb	08:57:14
2	S 181.975 Axial†	854.6	782.3	954.78 ug/L	954.78 ppb	08:57:14
2	Sb 206.836†	1650.9	1567.3	496.27 ug/L	496.27 ppb	08:57:14
2	Se 196.026†	867.7	870.0	500.25 ug/L	500.25 ppb	08:57:14
2	Si 251.611†	83208.0	80395.5	2387.1 ug/L	2387.1 ppb	08:56:54
2	Sn 189.927†	3075.8	2982.2	482.61 ug/L	482.61 ppb	08:57:14
2	Ti 334.940†	327159.9	320012.4	478.02 ug/L	478.02 ppb	08:56:54
2	Tl 190.801†	1725.7	1723.0	489.34 ug/L	489.34 ppb	08:57:14
2	U 409.014†	12277.9	17055.1	502.14 ug/L	502.14 ppb	08:56:54
2	V 292.402†	72698.8	72461.8	488.55 ug/L	488.55 ppb	08:56:54
2	Zn 213.857†	59162.4	56834.5	477.99 ug/L	477.99 ppb	08:56:54
2	SiO2†	83723.9	80870.7	5143.9 ug/L	5143.9 ppb	08:57:56
3	Sc Radial	4327.0	4327.0	105 %		08:55:50
3	Y RADIAL	4869.0	4869.0	100.6 %		08:55:50
3	Al 396.153Radial†	6153.7	6057.2	4978.0 ug/L	4978.0 ppb	08:55:50
3	Ca 317.933Radial†	2820.5	2675.8	4953.2 ug/L	4953.2 ppb	08:56:11
3	Fe 238.204 Radial†	452.0	420.8	4904.9 ug/L	4904.9 ppb	08:56:11
3	K 766.490 Radial†	29526.9	25527.4	4852.9 ug/L	4852.9 ppb	08:55:50
3	Mg 279.077 IEC†	126.3	120.5	5077.1 ppb	5077.1 ppb	08:56:11
3	Na 589.592 Radial†	30555.2	30784.4	9486.3 ug/L	9486.3 ppb	08:55:50
3	Sr 421.552†	78128.0	74452.9	491.55 ug/L	491.55 ppb	08:55:50
3	Sc 361.383	914913.9	914913.9	102.70 %		08:57:20
3	Y 371.029	739644.3	739644.3	100.74 %		08:57:20
3	Ag 328.068†	113195.8	109591.0	482.51 ug/L	482.51 ppb	08:57:25
3	As 188.979†	1266.8	1262.2	488.90 ug/L	488.90 ppb	08:57:45
3	B 249.677†	23012.2	23167.4	482.22 ug/L	482.22 ppb	08:57:25
3	Ba 233.527†	67891.7	66119.5	484.49 ug/L	484.49 ppb	08:57:25
3	Be 313.107†	1459466.8	1425444.5	479.34 ug/L	479.34 ppb	08:57:20
3	Cd 226.502†	47821.6	46766.7	482.81 ug/L	482.81 ppb	08:57:25
3	Co 228.616†	26818.6	26197.6	482.99 ug/L	482.99 ppb	08:57:25
3	Cr 267.716†	48127.1	46798.2	482.35 ug/L	482.35 ppb	08:57:25
3	Cu 324.752†	182986.7	171282.2	476.39 ug/L	476.39 ppb	08:57:25
3	Mn 257.610†	497023.3	483405.7	485.30 ug/L	485.30 ppb	08:57:20
3	Mo 202.031†	7442.8	7241.6	481.71 ug/L	481.71 ppb	08:57:45
3	Ni 231.604†	22408.8	21733.6	483.99 ug/L	483.99 ppb	08:57:25
3	P 214.914†	4915.1	4562.5	2276.1 ug/L	2276.1 ppb	08:57:45
3	Pb 220.353†	4513.8	4474.6	481.69 ug/L	481.69 ppb	08:57:45
3	S 181.975 Axial†	838.9	767.9	937.12 ug/L	937.12 ppb	08:57:45
3	Sb 206.836†	1636.9	1555.4	492.66 ug/L	492.66 ppb	08:57:45
3	Se 196.026†	860.7	864.0	496.89 ug/L	496.89 ppb	08:57:45
3	Si 251.611†	83211.6	80485.0	2389.8 ug/L	2389.8 ppb	08:57:25
3	Sn 189.927†	3095.2	3004.3	486.18 ug/L	486.18 ppb	08:57:45
3	Ti 334.940†	326890.1	320088.0	478.12 ug/L	478.12 ppb	08:57:25
3	Tl 190.801†	1718.5	1717.7	487.86 ug/L	487.86 ppb	08:57:45
3	U 409.014†	12131.2	16924.9	498.30 ug/L	498.30 ppb	08:57:25
3	V 292.402†	72680.5	72519.1	488.91 ug/L	488.91 ppb	08:57:25
3	Zn 213.857†	59046.4	56782.7	477.55 ug/L	477.55 ppb	08:57:25
3	SiO2†	83482.7	80722.5	5134.5 ug/L	5134.5 ppb	08:58:01

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	914386.3	102.64 %	0.205			0.20%
Sc Radial	4276.4	104 %	1.2			1.19%
Y 371.029	739840.5	100.76 %	0.187			0.19%
Y RADIAL	4820.8	99.57 %	0.915			0.92%
Ag 328.068†	109266.0	481.10 ug/L	2.003	481.10 ppb	2.003	0.42%
QC value within limits for Ag 328.068 Recovery = 96.22%						
Al 396.153Radial†	6044.8	4967.7 ug/L	13.51	4967.7 ppb	13.51	0.27%
QC value within limits for Al 396.153Radial Recovery = 99.35%						
As 188.979†	1258.0	487.28 ug/L	1.489	487.28 ppb	1.489	0.31%
QC value within limits for As 188.979 Recovery = 97.46%						
B 249.677†	23106.2	480.94 ug/L	1.722	480.94 ppb	1.722	0.36%
QC value within limits for B 249.677 Recovery = 96.19%						
Ba 233.527†	66014.1	483.72 ug/L	1.258	483.72 ppb	1.258	0.26%
QC value within limits for Ba 233.527 Recovery = 96.74%						
Be 313.107†	1425208.1	479.26 ug/L	0.239	479.26 ppb	0.239	0.05%
QC value within limits for Be 313.107 Recovery = 95.85%						
Ca 317.933Radial†	2695.2	4989.3 ug/L	57.62	4989.3 ppb	57.62	1.15%

QC value within limits for Ca 317.933 Radial Recovery = 99.79%							
Cd 226.502†	46762.7	482.77 ug/L	1.761	482.77 ppb	1.761	0.36%	
QC value within limits for Cd 226.502 Recovery = 96.55%							
Co 228.616†	26107.1	481.32 ug/L	2.588	481.32 ppb	2.588	0.54%	
QC value within limits for Co 228.616 Recovery = 96.26%							
Cr 267.716†	46798.1	482.35 ug/L	0.718	482.35 ppb	0.718	0.15%	
QC value within limits for Cr 267.716 Recovery = 96.47%							
Cu 324.752†	170701.8	474.78 ug/L	2.067	474.78 ppb	2.067	0.44%	
QC value within limits for Cu 324.752 Recovery = 94.96%							
Fe 238.204 Radial†	424.7	4949.6 ug/L	60.23	4949.6 ppb	60.23	1.22%	
QC value within limits for Fe 238.204 Radial Recovery = 98.99%							
K 766.490 Radial†	25628.1	4872.1 ug/L	18.97	4872.1 ppb	18.97	0.39%	
QC value within limits for K 766.490 Radial Recovery = 97.44%							
Mg 279.077 IEC†	121.4	5116.8 ug/L	167.42	5116.8 ppb	167.42	3.27%	
QC value within limits for Mg 279.077 IEC Recovery = 102.34%							
Mn 257.610†	482620.0	484.51 ug/L	0.990	484.51 ppb	0.990	0.20%	
QC value within limits for Mn 257.610 Recovery = 96.90%							
Mo 202.031†	7251.3	482.36 ug/L	0.699	482.36 ppb	0.699	0.14%	
QC value within limits for Mo 202.031 Recovery = 96.47%							
Na 589.592 Radial†	30851.2	9506.8 ug/L	26.59	9506.8 ppb	26.59	0.28%	
QC value within limits for Na 589.592 Radial Recovery = 95.07%							
Ni 231.604†	21694.9	483.13 ug/L	2.263	483.13 ppb	2.263	0.47%	
QC value within limits for Ni 231.604 Recovery = 96.63%							
P 214.914†	4568.4	2279.5 ug/L	5.37	2279.5 ppb	5.37	0.24%	
QC value within limits for P 214.914 Recovery = 91.18%							
Pb 220.353†	4479.5	482.22 ug/L	1.480	482.22 ppb	1.480	0.31%	
QC value within limits for Pb 220.353 Recovery = 96.44%							
S 181.975 Axial†	772.6	942.92 ug/L	10.264	942.92 ppb	10.264	1.09%	
QC value within limits for S 181.975 Axial Recovery = 94.29%							
Sb 206.836†	1560.0	494.07 ug/L	1.927	494.07 ppb	1.927	0.39%	
QC value within limits for Sb 206.836 Recovery = 98.81%							
Se 196.026†	869.7	500.19 ug/L	3.275	500.19 ppb	3.275	0.65%	
QC value within limits for Se 196.026 Recovery = 100.04%							
Si 251.611†	80279.8	2383.7 ug/L	8.38	2383.7 ppb	8.38	0.35%	
QC value within limits for Si 251.611 Recovery = 95.35%							
Sn 189.927†	2996.3	484.89 ug/L	1.982	484.89 ppb	1.982	0.41%	
QC value within limits for Sn 189.927 Recovery = 96.98%							
Sr 421.552†	74494.2	491.82 ug/L	0.509	491.82 ppb	0.509	0.10%	
QC value within limits for Sr 421.552 Recovery = 98.36%							
Ti 334.940†	319393.1	477.09 ug/L	1.704	477.09 ppb	1.704	0.36%	
QC value within limits for Ti 334.940 Recovery = 95.42%							
Tl 190.801†	1722.9	489.33 ug/L	1.465	489.33 ppb	1.465	0.30%	
QC value within limits for Tl 190.801 Recovery = 97.87%							
U 409.014†	16875.3	496.83 ug/L	6.179	496.83 ppb	6.179	1.24%	
QC value within limits for U 409.014 Recovery = 99.37%							
V 292.402†	72383.2	488.01 ug/L	1.265	488.01 ppb	1.265	0.26%	
QC value within limits for V 292.402 Recovery = 97.60%							
Zn 213.857†	56722.8	477.05 ug/L	1.268	477.05 ppb	1.268	0.27%	
QC value within limits for Zn 213.857 Recovery = 95.41%							
SiO2†	80956.6	5149.4 ug/L	18.29	5149.4 ppb	18.29	0.36%	
QC value within limits for SiO2 Recovery = 96.30%							
All analyte(s) passed QC.							

Sequence No.: 6

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 09:00:10

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4283.6	4283.6	104 %		09:02:03
1	Y RADIAL	4854.0	4854.0	100.3 %		09:02:03
1	Al 396.153Radial†	-201.6	-4.1	-3.3652 ug/L	-3.3652 ppb	09:02:03
1	Ca 317.933Radial†	19.7	5.7	10.487 ug/L	10.487 ppb	09:02:23
1	Fe 238.204 Radial†	12.4	1.8	21.197 ug/L	21.197 ppb	09:02:23
1	K 766.490 Radial†	2712.4	-12.0	-2.2944 ug/L	-2.2944 ppb	09:02:03
1	Mg 279.077 IEC†	0.1	0.2	6.9147 ug/L	6.9147 ppb	09:02:23
1	Na 589.592 Radial†	-1655.4	57.9	17.848 ug/L	17.848 ppb	09:02:03
1	Sr 421.552†	53.4	15.0	0.0990 ug/L	0.0990 ppb	09:02:03
1	Sc 361.383	900112.9	900112.9	101.04 %		09:03:20
1	Y 371.029	745334.2	745334.2	101.51 %		09:03:20
1	Ag 328.068†	566.8	-63.5	-0.2848 ug/L	-0.2848 ppb	09:03:20
1	As 188.979†	-23.8	5.1	1.9814 ug/L	1.9814 ppb	09:03:40
1	B 249.677†	-97.2	664.9	13.900 ug/L	13.900 ppb	09:03:20
1	Ba 233.527†	16.4	31.6	0.2311 ug/L	0.2311 ppb	09:03:40
1	Be 313.107†	-4223.4	223.2	0.0756 ug/L	0.0756 ppb	09:03:20
1	Cd 226.502†	-173.8	32.1	0.3328 ug/L	0.3328 ppb	09:03:40
1	Co 228.616†	-88.8	-2.7	-0.0507 ug/L	-0.0507 ppb	09:03:40
1	Cr 267.716†	67.8	5.3	0.0483 ug/L	0.0483 ppb	09:03:20
1	Cu 324.752†	6741.7	-214.7	-0.6051 ug/L	-0.6051 ppb	09:03:20
1	Mn 257.610†	496.9	-40.0	-0.0384 ug/L	-0.0384 ppb	09:03:40
1	Mo 202.031†	6.3	1.1	0.0716 ug/L	0.0716 ppb	09:03:40
1	Ni 231.604†	97.2	11.0	0.2449 ug/L	0.2449 ppb	09:03:40
1	P 214.914†	214.4	-11.1	-5.6347 ug/L	-5.6347 ppb	09:03:40
1	Pb 220.353†	-73.6	6.8	0.7236 ug/L	0.7236 ppb	09:03:40
1	S 181.975 Axial†	49.9	0.5	0.5621 ug/L	0.5621 ppb	09:03:40
1	Sb 206.836†	42.1	3.2	1.0039 ug/L	1.0039 ppb	09:03:40
1	Se 196.026†	-35.1	-8.7	-4.7777 ug/L	-4.7777 ppb	09:03:40
1	Si 251.611†	573.7	32.1	0.9537 ug/L	0.9537 ppb	09:03:40
1	Sn 189.927†	19.7	10.1	1.6273 ug/L	1.6273 ppb	09:03:40
1	Ti 334.940†	-1617.9	203.2	0.2972 ug/L	0.2972 ppb	09:03:20
1	Tl 190.801†	-37.7	7.2	2.0230 ug/L	2.0230 ppb	09:03:40
1	U 409.014†	-4609.4	551.2	16.280 ug/L	16.280 ppb	09:03:20
1	V 292.402†	-1783.2	-12.6	-0.0550 ug/L	-0.0550 ppb	09:03:20
1	Zn 213.857†	796.6	79.3	0.6698 ug/L	0.6698 ppb	09:03:40
1	SiO2†	610.4	41.9	2.6683 ug/L	2.6683 ppb	09:04:36
2	Sc Radial	4293.6	4293.6	104 %		09:02:28
2	Y RADIAL	4851.2	4851.2	100.2 %		09:02:28
2	Al 396.153Radial†	-209.1	-10.8	-8.9120 ug/L	-8.9120 ppb	09:02:28
2	Ca 317.933Radial†	18.5	4.4	8.1418 ug/L	8.1418 ppb	09:02:48
2	Fe 238.204 Radial†	10.5	-0.0	-0.1979 ug/L	-0.1979 ppb	09:02:48
2	K 766.490 Radial†	2837.0	101.6	19.336 ug/L	19.336 ppb	09:02:28
2	Mg 279.077 IEC†	5.2	5.0	212.08 ug/L	212.08 ppb	09:02:48
2	Na 589.592 Radial†	-1656.4	60.8	18.721 ug/L	18.721 ppb	09:02:28
2	Sr 421.552†	35.2	-2.6	-0.0171 ug/L	-0.0171 ppb	09:02:28
2	Sc 361.383	902460.7	902460.7	101.31 %		09:03:45
2	Y 371.029	745338.4	745338.4	101.51 %		09:03:45
2	Ag 328.068†	538.1	-93.4	-0.4176 ug/L	-0.4176 ppb	09:03:45
2	As 188.979†	-20.6	8.4	3.2465 ug/L	3.2465 ppb	09:04:05
2	B 249.677†	-125.6	637.1	13.320 ug/L	13.320 ppb	09:03:45
2	Ba 233.527†	15.5	30.6	0.2257 ug/L	0.2257 ppb	09:04:05
2	Be 313.107†	-4256.9	201.0	0.0680 ug/L	0.0680 ppb	09:03:45
2	Cd 226.502†	-196.2	10.4	0.1106 ug/L	0.1106 ppb	09:04:05
2	Co 228.616†	-77.0	9.1	0.1663 ug/L	0.1663 ppb	09:04:05
2	Cr 267.716†	65.3	2.7	0.0227 ug/L	0.0227 ppb	09:03:45
2	Cu 324.752†	6856.8	-118.4	-0.3381 ug/L	-0.3381 ppb	09:03:45
2	Mn 257.610†	520.6	-17.9	-0.0266 ug/L	-0.0266 ppb	09:04:05
2	Mo 202.031†	-0.6	-5.9	-0.3891 ug/L	-0.3891 ppb	09:04:05
2	Ni 231.604†	87.3	1.0	0.0227 ug/L	0.0227 ppb	09:04:05

2	P 214.914†	216.1	-10.0	-5.1057 ug/L	-5.1057 ppb	09:04:05
2	Pb 220.353†	-44.1	36.1	3.8706 ug/L	3.8706 ppb	09:04:05
2	S 181.975 Axial†	34.5	-14.8	-18.091 ug/L	-18.091 ppb	09:04:05
2	Sb 206.836†	51.7	12.7	3.8780 ug/L	3.8780 ppb	09:04:05
2	Se 196.026†	-25.0	1.3	0.7075 ug/L	0.7075 ppb	09:04:05
2	Si 251.611†	566.8	23.8	0.7133 ug/L	0.7133 ppb	09:04:05
2	Sn 189.927†	16.2	6.6	1.0618 ug/L	1.0618 ppb	09:04:05
2	Ti 334.940†	-1663.5	162.3	0.2194 ug/L	0.2194 ppb	09:03:45
2	Tl 190.801†	-42.5	2.5	0.7084 ug/L	0.7084 ppb	09:04:05
2	U 409.014†	-4639.6	533.3	15.754 ug/L	15.754 ppb	09:03:45
2	V 292.402†	-1625.7	147.4	1.0092 ug/L	1.0092 ppb	09:03:45
2	Zn 213.857†	786.5	67.2	0.5708 ug/L	0.5708 ppb	09:04:05
2	SiO2†	611.3	41.1	2.6344 ug/L	2.6344 ppb	09:04:41
3	Sc Radial	4352.6	4352.6	106 %		09:02:53
3	Y RADIAL	4899.3	4899.3	101.2 %		09:02:53
3	Al 396.153Radial†	-204.4	-3.6	-2.9635 ug/L	-2.9635 ppb	09:02:53
3	Ca 317.933Radial†	16.1	2.0	3.6101 ug/L	3.6101 ppb	09:03:13
3	Fe 238.204 Radial†	9.6	-1.0	-12.177 ug/L	-12.177 ppb	09:03:13
3	K 766.490 Radial†	2786.0	16.3	3.0975 ug/L	3.0975 ppb	09:02:53
3	Mg 279.077 IEC†	1.3	1.3	55.900 ug/L	55.900 ppb	09:03:13
3	Na 589.592 Radial†	-1635.9	101.7	31.346 ug/L	31.346 ppb	09:02:53
3	Sr 421.552†	41.0	2.4	0.0158 ug/L	0.0158 ppb	09:02:53
3	Sc 361.383	900590.7	900590.7	101.10 %		09:04:11
3	Y 371.029	744841.6	744841.6	101.44 %		09:04:11
3	Ag 328.068†	515.9	-114.2	-0.5142 ug/L	-0.5142 ppb	09:04:11
3	As 188.979†	-20.1	8.9	3.4200 ug/L	3.4200 ppb	09:04:31
3	B 249.677†	-115.2	647.1	13.531 ug/L	13.531 ppb	09:04:11
3	Ba 233.527†	-0.9	14.5	0.1073 ug/L	0.1073 ppb	09:04:31
3	Be 313.107†	-4210.7	238.0	0.0803 ug/L	0.0803 ppb	09:04:11
3	Cd 226.502†	-207.3	-0.9	-0.0048 ug/L	-0.0048 ppb	09:04:31
3	Co 228.616†	-75.3	10.7	0.1954 ug/L	0.1954 ppb	09:04:31
3	Cr 267.716†	78.0	15.3	0.1516 ug/L	0.1516 ppb	09:04:11
3	Cu 324.752†	6848.4	-112.7	-0.3238 ug/L	-0.3238 ppb	09:04:11
3	Mn 257.610†	485.3	-51.7	-0.0554 ug/L	-0.0554 ppb	09:04:31
3	Mo 202.031†	-0.4	-5.6	-0.3761 ug/L	-0.3761 ppb	09:04:31
3	Ni 231.604†	90.4	4.3	0.0950 ug/L	0.0950 ppb	09:04:31
3	P 214.914†	228.3	2.5	1.3948 ug/L	1.3948 ppb	09:04:31
3	Pb 220.353†	-41.1	38.9	4.1787 ug/L	4.1787 ppb	09:04:31
3	S 181.975 Axial†	44.3	-5.1	-6.1697 ug/L	-6.1697 ppb	09:04:31
3	Sb 206.836†	41.4	2.5	0.7677 ug/L	0.7677 ppb	09:04:31
3	Se 196.026†	-23.3	3.0	1.5989 ug/L	1.5989 ppb	09:04:31
3	Si 251.611†	575.5	33.6	1.0033 ug/L	1.0033 ppb	09:04:31
3	Sn 189.927†	15.1	5.5	0.8947 ug/L	0.8947 ppb	09:04:31
3	Ti 334.940†	-1692.1	130.7	0.1834 ug/L	0.1834 ppb	09:04:11
3	Tl 190.801†	-49.2	-4.2	-1.1754 ug/L	-1.1754 ppb	09:04:31
3	U 409.014†	-4568.6	594.0	17.547 ug/L	17.547 ppb	09:04:11
3	V 292.402†	-1628.1	141.7	0.9738 ug/L	0.9738 ppb	09:04:11
3	Zn 213.857†	798.2	80.4	0.6835 ug/L	0.6835 ppb	09:04:31
3	SiO2†	602.9	34.1	2.1850 ug/L	2.1850 ppb	09:04:46

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	901054.8	101.15 %	0.139			0.14%
Sc Radial	4310.0	104 %	0.9			0.87%
Y 371.029	745171.4	101.49 %	0.039			0.04%
Y RADIAL	4868.2	100.6 %	0.56			0.55%
Ag 328.068†	-90.4	-0.4056 ug/L	0.11516	-0.4056 ppb	0.11516	28.40%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-6.2	-5.0803 ug/L	3.32448	-5.0803 ppb	3.32448	65.44%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	7.5	2.8826 ug/L	0.78525	2.8826 ppb	0.78525	27.24%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	649.7	13.584 ug/L	0.2933	13.584 ppb	0.2933	2.16%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	25.5	0.1880 ug/L	0.06994	0.1880 ppb	0.06994	37.19%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	220.8	0.0746 ug/L	0.00621	0.0746 ppb	0.00621	8.32%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	4.0	7.4128 ug/L	3.49573	7.4128 ppb	3.49573	47.16%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	13.9 0.1462 ug/L 0.17157 0.1462 ppb	0.17157	117.35%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	5.7 0.1037 ug/L 0.13451 0.1037 ppb	0.13451	129.75%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	7.8 0.0742 ug/L 0.06824 0.0742 ppb	0.06824	91.98%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-148.6 -0.4223 ug/L 0.15848 -0.4223 ppb	0.15848	37.53%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	0.3 2.9406 ug/L 16.90715 2.9406 ppb	16.90715	574.96%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	35.3 6.7129 ug/L 11.25916 6.7129 ppb	11.25916	167.72%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	2.2 91.632 ug/L 107.1487 91.632 ppb	107.1487	116.93%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-36.5 -0.0401 ug/L 0.01446 -0.0401 ppb	0.01446	36.04%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	-3.5 -0.2312 ug/L 0.26232 -0.2312 ppb	0.26232	113.45%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	73.5 22.638 ug/L 7.5538 22.638 ppb	7.5538	33.37%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	5.4 0.1209 ug/L 0.11338 0.1209 ppb	0.11338	93.81%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	-6.2 -3.1152 ug/L 3.91473 -3.1152 ppb	3.91473	125.67%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	27.3 2.9243 ug/L 1.91208 2.9243 ppb	1.91208	65.39%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	-6.5 -7.8996 ug/L 9.44627 -7.8996 ppb	9.44627	119.58%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	6.1 1.8832 ug/L 1.73158 1.8832 ppb	1.73158	91.95%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-1.5 -0.8238 ug/L 3.45309 -0.8238 ppb	3.45309	419.19%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	29.8 0.8901 ug/L 0.15511 0.8901 ppb	0.15511	17.43%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	7.4 1.1946 ug/L 0.38392 1.1946 ppb	0.38392	32.14%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	4.9 0.0326 ug/L 0.05984 0.0326 ppb	0.05984	183.64%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	165.4 0.2333 ug/L 0.05818 0.2333 ppb	0.05818	24.94%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	1.8 0.5186 ug/L 1.60764 0.5186 ppb	1.60764	309.98%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	559.5 16.527 ug/L 0.9215 16.527 ppb	0.9215	5.58%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	92.2 0.6427 ug/L 0.60451 0.6427 ppb	0.60451	94.06%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	75.7 0.6414 ug/L 0.06148 0.6414 ppb	0.06148	9.59%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	39.0 2.4959 ug/L 0.26975 2.4959 ppb	0.26975	10.81%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 10:18:57

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4128.4	4128.4	100 %		10:21:09
1	Y RADIAL	4866.2	4866.2	100.5 %		10:20:49
1	Al 396.153Radial†	6223.3	6409.0	5268.4 ug/L	5268.4 ppb	10:20:49
1	Ca 317.933Radial†	2838.8	2823.5	5226.7 ug/L	5226.7 ppb	10:21:09
1	Fe 238.204 Radial†	452.6	442.2	5153.4 ug/L	5153.4 ppb	10:21:09
1	K 766.490 Radial†	29770.3	27125.3	5156.8 ug/L	5156.8 ppb	10:20:49
1	Mg 279.077 IEC†	123.1	123.1	5186.7 ug/L	5186.7 ppb	10:21:09
1	Na 589.592 Radial†	30647.0	32277.9	9946.5 ug/L	9946.5 ppb	10:20:49
1	Sr 421.552†	78851.4	78760.0	519.98 ug/L	519.98 ppb	10:20:49
1	Sc 361.383	914389.7	914389.7	102.65 %		10:22:07
1	Y 371.029	739674.6	739674.6	100.74 %		10:22:07
1	Ag 328.068†	115329.9	111733.3	491.99 ug/L	491.99 ppb	10:22:12
1	As 188.979†	1246.5	1243.1	481.70 ug/L	481.70 ppb	10:22:32
1	B 249.677†	22974.1	23143.1	481.65 ug/L	481.65 ppb	10:22:12
1	Ba 233.527†	68991.3	67228.7	492.62 ug/L	492.62 ppb	10:22:12
1	Be 313.107†	1464884.5	1431537.3	481.41 ug/L	481.41 ppb	10:22:07
1	Cd 226.502†	48652.8	47603.1	491.43 ug/L	491.43 ppb	10:22:12
1	Co 228.616†	27322.9	26703.9	492.30 ug/L	492.30 ppb	10:22:12
1	Cr 267.716†	48918.2	47595.8	490.57 ug/L	490.57 ppb	10:22:12
1	Cu 324.752†	187065.2	175357.7	487.73 ug/L	487.73 ppb	10:22:12
1	Mn 257.610†	497911.7	484548.7	486.46 ug/L	486.46 ppb	10:22:07
1	Mo 202.031†	7474.8	7277.0	484.08 ug/L	484.08 ppb	10:22:32
1	Ni 231.604†	22757.4	22085.7	491.83 ug/L	491.83 ppb	10:22:12
1	P 214.914†	4909.2	4559.4	2272.2 ug/L	2272.2 ppb	10:22:32
1	Pb 220.353†	4516.3	4479.6	482.27 ug/L	482.27 ppb	10:22:32
1	S 181.975 Axial†	847.9	777.2	948.39 ug/L	948.39 ppb	10:22:32
1	Sb 206.836†	1636.0	1555.5	492.69 ug/L	492.69 ppb	10:22:32
1	Se 196.026†	870.8	874.3	503.43 ug/L	503.43 ppb	10:22:32
1	Si 251.611†	84794.5	82073.6	2437.0 ug/L	2437.0 ppb	10:22:12
1	Sn 189.927†	3079.2	2990.4	483.97 ug/L	483.97 ppb	10:22:32
1	Ti 334.940†	333404.6	326617.1	487.90 ug/L	487.90 ppb	10:22:12
1	Tl 190.801†	1706.3	1706.8	484.81 ug/L	484.81 ppb	10:22:32
1	U 409.014†	12445.3	17237.6	507.49 ug/L	507.49 ppb	10:22:12
1	V 292.402†	73960.9	73807.1	497.48 ug/L	497.48 ppb	10:22:12
1	Zn 213.857†	60071.7	57814.5	486.22 ug/L	486.22 ppb	10:22:12
1	SiO2†	83478.4	80764.9	5137.2 ug/L	5137.2 ppb	10:23:40
2	Sc Radial	4138.4	4138.4	100 %		10:21:35
2	Y RADIAL	4880.6	4880.6	100.8 %		10:21:15
2	Al 396.153Radial†	6171.7	6342.5	5213.1 ug/L	5213.1 ppb	10:21:15
2	Ca 317.933Radial†	2821.9	2799.8	5182.8 ug/L	5182.8 ppb	10:21:35
2	Fe 238.204 Radial†	440.8	429.3	5003.4 ug/L	5003.4 ppb	10:21:35
2	K 766.490 Radial†	29479.1	26762.7	5087.9 ug/L	5087.9 ppb	10:21:15
2	Mg 279.077 IEC†	127.4	127.0	5351.6 ug/L	5351.6 ppb	10:21:35
2	Na 589.592 Radial†	30182.9	31740.9	9781.0 ug/L	9781.0 ppb	10:21:15
2	Sr 421.552†	77983.1	77702.9	513.00 ug/L	513.00 ppb	10:21:15
2	Sc 361.383	901542.8	901542.8	101.20 %		10:22:38
2	Y 371.029	730447.2	730447.2	99.483 %		10:22:38
2	Ag 328.068†	112704.4	110740.1	487.59 ug/L	487.59 ppb	10:22:43
2	As 188.979†	1248.2	1262.1	488.91 ug/L	488.91 ppb	10:23:03
2	B 249.677†	22294.8	22790.8	474.32 ug/L	474.32 ppb	10:22:43
2	Ba 233.527†	67565.7	66777.9	489.31 ug/L	489.31 ppb	10:22:43
2	Be 313.107†	1437494.5	1424809.3	479.14 ug/L	479.14 ppb	10:22:38
2	Cd 226.502†	47639.4	47277.2	488.08 ug/L	488.08 ppb	10:22:43
2	Co 228.616†	26624.6	26393.2	486.60 ug/L	486.60 ppb	10:22:43
2	Cr 267.716†	48085.7	47452.3	489.09 ug/L	489.09 ppb	10:22:43
2	Cu 324.752†	181828.5	172780.2	480.56 ug/L	480.56 ppb	10:22:43
2	Mn 257.610†	489165.3	482818.6	484.71 ug/L	484.71 ppb	10:22:38
2	Mo 202.031†	7452.7	7358.9	489.52 ug/L	489.52 ppb	10:23:03
2	Ni 231.604†	22363.9	22012.8	490.21 ug/L	490.21 ppb	10:22:43



2	P 214.914†	4923.7	4641.9	2316.6 ug/L	2316.6 ppb	10:23:03
2	Pb 220.353†	4524.4	4550.2	489.87 ug/L	489.87 ppb	10:23:03
2	S 181.975 Axial†	843.9	785.0	958.01 ug/L	958.01 ppb	10:23:03
2	Sb 206.836†	1635.8	1577.9	499.75 ug/L	499.75 ppb	10:23:03
2	Se 196.026†	861.6	877.3	504.61 ug/L	504.61 ppb	10:23:03
2	Si 251.611†	82570.9	81053.6	2406.6 ug/L	2406.6 ppb	10:22:43
2	Sn 189.927†	3071.1	3025.1	489.58 ug/L	489.58 ppb	10:23:03
2	Ti 334.940†	325381.8	323318.2	482.95 ug/L	482.95 ppb	10:22:43
2	Tl 190.801†	1733.6	1757.5	499.09 ug/L	499.09 ppb	10:23:03
2	U 409.014†	11941.1	16912.2	497.90 ug/L	497.90 ppb	10:22:43
2	V 292.402†	72518.5	73408.6	494.92 ug/L	494.92 ppb	10:22:43
2	Zn 213.857†	58597.9	57192.2	480.97 ug/L	480.97 ppb	10:22:43
2	SiO2†	83813.7	82255.1	5232.0 ug/L	5232.0 ppb	10:23:45
3	Sc Radial	4142.2	4142.2	100 %		10:22:00
3	Y RADIAL	4826.6	4826.6	99.70 %		10:21:40
3	Al 396.153Radial†	6116.4	6281.9	5163.7 ug/L	5163.7 ppb	10:21:40
3	Ca 317.933Radial†	2812.2	2787.5	5160.0 ug/L	5160.0 ppb	10:22:00
3	Fe 238.204 Radial†	447.5	435.6	5076.0 ug/L	5076.0 ppb	10:22:00
3	K 766.490 Radial†	29566.0	26822.4	5099.3 ug/L	5099.3 ppb	10:21:40
3	Mg 279.077 IEC†	123.2	122.8	5174.2 ug/L	5174.2 ppb	10:22:00
3	Na 589.592 Radial†	29940.2	31471.7	9698.0 ug/L	9698.0 ppb	10:21:40
3	Sr 421.552†	77308.2	76959.9	508.10 ug/L	508.10 ppb	10:21:40
3	Sc 361.383	924214.7	924214.7	103.75 %		10:23:09
3	Y 371.029	748508.7	748508.7	101.94 %		10:23:09
3	Ag 328.068†	113420.2	108698.1	478.65 ug/L	478.65 ppb	10:23:14
3	As 188.979†	1250.8	1234.3	478.23 ug/L	478.23 ppb	10:23:34
3	B 249.677†	22576.2	22521.7	468.70 ug/L	468.70 ppb	10:23:14
3	Ba 233.527†	68022.3	65580.2	480.54 ug/L	480.54 ppb	10:23:14
3	Be 313.107†	1478262.4	1429260.4	480.61 ug/L	480.61 ppb	10:23:09
3	Cd 226.502†	47969.4	46440.5	479.42 ug/L	479.42 ppb	10:23:14
3	Co 228.616†	26884.5	25998.4	479.31 ug/L	479.31 ppb	10:23:14
3	Cr 267.716†	48411.0	46600.2	480.31 ug/L	480.31 ppb	10:23:14
3	Cu 324.752†	183582.5	170063.4	473.01 ug/L	473.01 ppb	10:23:14
3	Mn 257.610†	501010.8	482379.1	484.28 ug/L	484.28 ppb	10:23:09
3	Mo 202.031†	7433.3	7159.5	476.27 ug/L	476.27 ppb	10:23:34
3	Ni 231.604†	22455.4	21559.0	480.10 ug/L	480.10 ppb	10:23:14
3	P 214.914†	4901.8	4501.5	2245.0 ug/L	2245.0 ppb	10:23:34
3	Pb 220.353†	4506.0	4422.8	476.15 ug/L	476.15 ppb	10:23:34
3	S 181.975 Axial†	848.5	768.9	938.36 ug/L	938.36 ppb	10:23:34
3	Sb 206.836†	1639.2	1541.5	488.15 ug/L	488.15 ppb	10:23:34
3	Se 196.026†	852.3	847.4	488.25 ug/L	488.25 ppb	10:23:34
3	Si 251.611†	83347.9	79801.1	2369.5 ug/L	2369.5 ppb	10:23:14
3	Sn 189.927†	3058.7	2938.8	475.63 ug/L	475.63 ppb	10:23:34
3	Ti 334.940†	328008.0	317962.5	474.97 ug/L	474.97 ppb	10:23:14
3	Tl 190.801†	1721.9	1704.2	484.04 ug/L	484.04 ppb	10:23:34
3	U 409.014†	12046.7	16724.5	492.37 ug/L	492.37 ppb	10:23:14
3	V 292.402†	73057.1	72169.9	486.48 ug/L	486.48 ppb	10:23:14
3	Zn 213.857†	59053.8	56211.2	472.72 ug/L	472.72 ppb	10:23:14
3	SiO2†	82960.6	79401.2	5050.4 ug/L	5050.4 ppb	10:23:50

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913382.4	102.53 %	1.276			1.24%
Sc Radial	4136.3	100 %	0.2			0.17%
Y 371.029	739543.5	100.72 %	1.230			1.22%
Y RADIAL	4857.8	100.3 %	0.58			0.57%
Ag 328.068†	110390.5	486.08 ug/L	6.795	486.08 ppb	6.795	1.40%
QC value within limits for Ag 328.068 Recovery = 97.22%						
Al 396.153Radial†	6344.5	5215.1 ug/L	52.34	5215.1 ppb	52.34	1.00%
QC value within limits for Al 396.153Radial Recovery = 104.30%						
As 188.979†	1246.5	482.95 ug/L	5.452	482.95 ppb	5.452	1.13%
QC value within limits for As 188.979 Recovery = 96.59%						
B 249.677†	22818.6	474.89 ug/L	6.490	474.89 ppb	6.490	1.37%
QC value within limits for B 249.677 Recovery = 94.98%						
Ba 233.527†	66528.9	487.49 ug/L	6.240	487.49 ppb	6.240	1.28%
QC value within limits for Ba 233.527 Recovery = 97.50%						
Be 313.107†	1428535.7	480.39 ug/L	1.151	480.39 ppb	1.151	0.24%
QC value within limits for Be 313.107 Recovery = 96.08%						
Ca 317.933Radial†	2803.6	5189.8 ug/L	33.89	5189.8 ppb	33.89	0.65%

QC value within limits for Ca 317.933 Radial Recovery = 103.80%							
Cd 226.502†	47106.9	486.31 ug/L	6.196	486.31 ppb	6.196	1.27%	
QC value within limits for Cd 226.502 Recovery = 97.26%							
Co 228.616†	26365.2	486.07 ug/L	6.515	486.07 ppb	6.515	1.34%	
QC value within limits for Co 228.616 Recovery = 97.21%							
Cr 267.716†	47216.1	486.66 ug/L	5.546	486.66 ppb	5.546	1.14%	
QC value within limits for Cr 267.716 Recovery = 97.33%							
Cu 324.752†	172733.8	480.43 ug/L	7.361	480.43 ppb	7.361	1.53%	
QC value within limits for Cu 324.752 Recovery = 96.09%							
Fe 238.204 Radial†	435.7	5077.6 ug/L	75.01	5077.6 ppb	75.01	1.48%	
QC value within limits for Fe 238.204 Radial Recovery = 101.55%							
K 766.490 Radial†	26903.5	5114.7 ug/L	36.95	5114.7 ppb	36.95	0.72%	
QC value within limits for K 766.490 Radial Recovery = 102.29%							
Mg 279.077 IEC†	124.3	5237.5 ug/L	98.99	5237.5 ppb	98.99	1.89%	
QC value within limits for Mg 279.077 IEC Recovery = 104.75%							
Mn 257.610†	483248.8	485.15 ug/L	1.158	485.15 ppb	1.158	0.24%	
QC value within limits for Mn 257.610 Recovery = 97.03%							
Mo 202.031†	7265.1	483.29 ug/L	6.658	483.29 ppb	6.658	1.38%	
QC value within limits for Mo 202.031 Recovery = 96.66%							
Na 589.592 Radial†	31830.1	9808.5 ug/L	126.49	9808.5 ppb	126.49	1.29%	
QC value within limits for Na 589.592 Radial Recovery = 98.09%							
Ni 231.604†	21885.8	487.38 ug/L	6.356	487.38 ppb	6.356	1.30%	
QC value within limits for Ni 231.604 Recovery = 97.48%							
P 214.914†	4567.6	2277.9 ug/L	36.15	2277.9 ppb	36.15	1.59%	
QC value within limits for P 214.914 Recovery = 91.12%							
Pb 220.353†	4484.2	482.76 ug/L	6.872	482.76 ppb	6.872	1.42%	
QC value within limits for Pb 220.353 Recovery = 96.55%							
S 181.975 Axial†	777.0	948.25 ug/L	9.823	948.25 ppb	9.823	1.04%	
QC value within limits for S 181.975 Axial Recovery = 94.83%							
Sb 206.836†	1558.3	493.53 ug/L	5.845	493.53 ppb	5.845	1.18%	
QC value within limits for Sb 206.836 Recovery = 98.71%							
Se 196.026†	866.3	498.76 ug/L	9.119	498.76 ppb	9.119	1.83%	
QC value within limits for Se 196.026 Recovery = 99.75%							
Si 251.611†	80976.1	2404.4 ug/L	33.83	2404.4 ppb	33.83	1.41%	
QC value within limits for Si 251.611 Recovery = 96.18%							
Sn 189.927†	2984.8	483.06 ug/L	7.022	483.06 ppb	7.022	1.45%	
QC value within limits for Sn 189.927 Recovery = 96.61%							
Sr 421.552†	77807.6	513.70 ug/L	5.973	513.70 ppb	5.973	1.16%	
QC value within limits for Sr 421.552 Recovery = 102.74%							
Ti 334.940†	322632.6	481.94 ug/L	6.524	481.94 ppb	6.524	1.35%	
QC value within limits for Ti 334.940 Recovery = 96.39%							
Tl 190.801†	1722.8	489.31 ug/L	8.474	489.31 ppb	8.474	1.73%	
QC value within limits for Tl 190.801 Recovery = 97.86%							
U 409.014†	16958.1	499.26 ug/L	7.653	499.26 ppb	7.653	1.53%	
QC value within limits for U 409.014 Recovery = 99.85%							
V 292.402†	73128.5	492.96 ug/L	5.757	492.96 ppb	5.757	1.17%	
QC value within limits for V 292.402 Recovery = 98.59%							
Zn 213.857†	57072.7	479.97 ug/L	6.806	479.97 ppb	6.806	1.42%	
QC value within limits for Zn 213.857 Recovery = 95.99%							
SiO2†	80807.1	5139.9 ug/L	90.85	5139.9 ppb	90.85	1.77%	
QC value within limits for SiO2 Recovery = 96.12%							
All analyte(s) passed QC.							

Sequence No.: 12

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 10:26:00

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4383.8	4383.8	106 %		10:27:53
1	Y RADIAL	4933.8	4933.8	101.9 %		10:27:53
1	Al 396.153Radial†	-205.4	-3.2	-2.6713 ug/L	-2.6713 ppb	10:27:53
1	Ca 317.933Radial†	20.2	5.7	10.583 ug/L	10.583 ppb	10:28:13
1	Fe 238.204 Radial†	12.2	1.3	15.386 ug/L	15.386 ppb	10:28:13
1	K 766.490 Radial†	2805.9	16.2	3.0792 ug/L	3.0792 ppb	10:27:53
1	Mg 279.077 IEC†	3.6	3.5	145.91 ug/L	145.91 ppb	10:28:13
1	Na 589.592 Radial†	-1682.8	68.7	21.161 ug/L	21.161 ppb	10:27:53
1	Sr 421.552†	13.8	-23.4	-0.1547 ug/L	-0.1547 ppb	10:27:53
1	Sc 361.383	923905.1	923905.1	103.71 %		10:29:10
1	Y 371.029	757414.7	757414.7	103.16 %		10:29:10
1	Ag 328.068†	764.6	112.7	0.4837 ug/L	0.4837 ppb	10:29:15
1	As 188.979†	-30.2	-0.4	-0.1535 ug/L	-0.1535 ppb	10:29:35
1	B 249.677†	-476.6	301.6	6.3020 ug/L	6.3020 ppb	10:29:35
1	Ba 233.527†	6.3	21.4	0.1589 ug/L	0.1589 ppb	10:29:35
1	Be 313.107†	-4196.7	356.6	0.1205 ug/L	0.1205 ppb	10:29:15
1	Cd 226.502†	-192.2	18.8	0.1965 ug/L	0.1965 ppb	10:29:35
1	Co 228.616†	-79.6	8.4	0.1542 ug/L	0.1542 ppb	10:29:35
1	Cr 267.716†	73.2	8.8	0.0835 ug/L	0.0835 ppb	10:29:35
1	Cu 324.752†	6800.5	-329.9	-0.9290 ug/L	-0.9290 ppb	10:29:15
1	Mn 257.610†	479.3	-69.6	-0.0743 ug/L	-0.0743 ppb	10:29:35
1	Mo 202.031†	10.4	4.9	0.3238 ug/L	0.3238 ppb	10:29:35
1	Ni 231.604†	92.7	4.2	0.0942 ug/L	0.0942 ppb	10:29:35
1	P 214.914†	220.2	-10.9	-5.5078 ug/L	-5.5078 ppb	10:29:35
1	Pb 220.353†	-59.2	22.6	2.4217 ug/L	2.4217 ppb	10:29:35
1	S 181.975 Axial†	51.6	0.8	1.0139 ug/L	1.0139 ppb	10:29:35
1	Sb 206.836†	50.9	10.6	3.2470 ug/L	3.2470 ppb	10:29:35
1	Se 196.026†	-28.5	-1.5	-0.8032 ug/L	-0.8032 ppb	10:29:35
1	Si 251.611†	513.5	-40.6	-1.2131 ug/L	-1.2131 ppb	10:29:35
1	Sn 189.927†	4.3	-5.3	-0.8578 ug/L	-0.8578 ppb	10:29:35
1	Ti 334.940†	-1624.1	238.5	0.3360 ug/L	0.3360 ppb	10:29:15
1	Tl 190.801†	-49.3	-3.1	-0.8674 ug/L	-0.8674 ppb	10:29:35
1	U 409.014†	-4522.6	752.4	22.224 ug/L	22.224 ppb	10:29:10
1	V 292.402†	-1662.0	149.7	1.0432 ug/L	1.0432 ppb	10:29:15
1	Zn 213.857†	749.0	13.0	0.1098 ug/L	0.1098 ppb	10:29:35
1	SiO2†	502.7	-77.5	-4.9521 ug/L	-4.9521 ppb	10:30:41
2	Sc Radial	4356.4	4356.4	106 %		10:28:18
2	Y RADIAL	4918.9	4918.9	101.6 %		10:28:18
2	Al 396.153Radial†	-182.8	16.9	13.967 ug/L	13.967 ppb	10:28:18
2	Ca 317.933Radial†	21.1	6.6	12.266 ug/L	12.266 ppb	10:28:38
2	Fe 238.204 Radial†	12.0	1.3	14.982 ug/L	14.982 ppb	10:28:38
2	K 766.490 Radial†	2764.3	-6.5	-1.2568 ug/L	-1.2568 ppb	10:28:18
2	Mg 279.077 IEC†	3.0	2.9	121.82 ug/L	121.82 ppb	10:28:38
2	Na 589.592 Radial†	-1641.6	97.6	30.086 ug/L	30.086 ppb	10:28:18
2	Sr 421.552†	48.3	9.3	0.0611 ug/L	0.0611 ppb	10:28:18
2	Sc 361.383	925215.0	925215.0	103.86 %		10:29:40
2	Y 371.029	760268.3	760268.3	103.54 %		10:29:40
2	Ag 328.068†	665.4	16.1	0.0568 ug/L	0.0568 ppb	10:29:45
2	As 188.979†	-30.4	-0.5	-0.1860 ug/L	-0.1860 ppb	10:30:05
2	B 249.677†	-484.4	294.7	6.1587 ug/L	6.1587 ppb	10:30:05
2	Ba 233.527†	5.3	20.4	0.1523 ug/L	0.1523 ppb	10:30:05
2	Be 313.107†	-4170.7	387.3	0.1306 ug/L	0.1306 ppb	10:29:45
2	Cd 226.502†	-184.0	26.9	0.2821 ug/L	0.2821 ppb	10:30:05
2	Co 228.616†	-71.4	16.4	0.3028 ug/L	0.3028 ppb	10:30:05
2	Cr 267.716†	88.3	23.2	0.2292 ug/L	0.2292 ppb	10:30:05
2	Cu 324.752†	6743.7	-393.8	-1.1102 ug/L	-1.1102 ppb	10:29:45
2	Mn 257.610†	496.1	-54.1	-0.0578 ug/L	-0.0578 ppb	10:30:05
2	Mo 202.031†	13.5	7.7	0.5156 ug/L	0.5156 ppb	10:30:05
2	Ni 231.604†	103.7	14.7	0.3278 ug/L	0.3278 ppb	10:30:05

2	P 214.914†	225.2	-6.5	-3.1434 ug/L	-3.1434 ppb	10:30:05
2	Pb 220.353†	-75.5	7.0	0.7501 ug/L	0.7501 ppb	10:30:05
2	S 181.975 Axial†	42.8	-7.7	-9.4040 ug/L	-9.4040 ppb	10:30:05
2	Sb 206.836†	47.7	7.6	2.3180 ug/L	2.3180 ppb	10:30:05
2	Se 196.026†	-27.1	-0.1	-0.0074 ug/L	-0.0074 ppb	10:30:05
2	Si 251.611†	534.1	-21.5	-0.6453 ug/L	-0.6453 ppb	10:30:05
2	Sn 189.927†	9.1	-0.7	-0.1050 ug/L	-0.1050 ppb	10:30:05
2	Ti 334.940†	-1670.0	196.5	0.2726 ug/L	0.2726 ppb	10:29:45
2	Tl 190.801†	-40.3	5.7	1.5954 ug/L	1.5954 ppb	10:30:05
2	U 409.014†	-4307.3	965.9	28.529 ug/L	28.529 ppb	10:29:40
2	V 292.402†	-1634.9	178.0	1.2460 ug/L	1.2460 ppb	10:29:45
2	Zn 213.857†	751.3	14.3	0.1191 ug/L	0.1191 ppb	10:30:05
2	SiO2†	535.8	-46.4	-2.9721 ug/L	-2.9721 ppb	10:30:46
3	Sc Radial	4412.4	4412.4	107 %		10:28:43
3	Y RADIAL	4982.5	4982.5	102.9 %		10:28:43
3	Al 396.153Radial†	-200.2	2.9	2.3959 ug/L	2.3959 ppb	10:28:43
3	Ca 317.933Radial†	21.1	6.3	11.744 ug/L	11.744 ppb	10:29:03
3	Fe 238.204 Radial†	10.6	-0.2	-2.0901 ug/L	-2.0901 ppb	10:29:03
3	K 766.490 Radial†	2738.0	-64.3	-12.264 ug/L	-12.264 ppb	10:28:43
3	Mg 279.077 IEC†	2.8	2.6	111.31 ug/L	111.31 ppb	10:29:03
3	Na 589.592 Radial†	-1640.0	118.9	36.633 ug/L	36.633 ppb	10:28:43
3	Sr 421.552†	27.0	-11.2	-0.0741 ug/L	-0.0741 ppb	10:28:43
3	Sc 361.383	932362.3	932362.3	104.66 %		10:30:11
3	Y 371.029	765328.6	765328.6	104.23 %		10:30:11
3	Ag 328.068†	711.3	55.1	0.2240 ug/L	0.2240 ppb	10:30:16
3	As 188.979†	-29.2	0.9	0.3399 ug/L	0.3399 ppb	10:30:36
3	B 249.677†	-500.7	282.7	5.9098 ug/L	5.9098 ppb	10:30:36
3	Ba 233.527†	4.3	19.4	0.1439 ug/L	0.1439 ppb	10:30:36
3	Be 313.107†	-4171.2	417.6	0.1407 ug/L	0.1407 ppb	10:30:16
3	Cd 226.502†	-196.9	16.0	0.1701 ug/L	0.1701 ppb	10:30:36
3	Co 228.616†	-77.5	11.1	0.2026 ug/L	0.2026 ppb	10:30:36
3	Cr 267.716†	79.7	14.3	0.1389 ug/L	0.1389 ppb	10:30:36
3	Cu 324.752†	6694.8	-490.2	-1.3773 ug/L	-1.3773 ppb	10:30:16
3	Mn 257.610†	486.7	-66.8	-0.0718 ug/L	-0.0718 ppb	10:30:36
3	Mo 202.031†	-1.2	-6.3	-0.4209 ug/L	-0.4209 ppb	10:30:36
3	Ni 231.604†	104.3	14.5	0.3226 ug/L	0.3226 ppb	10:30:36
3	P 214.914†	225.1	-8.2	-3.9748 ug/L	-3.9748 ppb	10:30:36
3	Pb 220.353†	-57.2	25.0	2.6840 ug/L	2.6840 ppb	10:30:36
3	S 181.975 Axial†	44.4	-6.5	-7.9436 ug/L	-7.9436 ppb	10:30:36
3	Sb 206.836†	49.1	8.5	2.6269 ug/L	2.6269 ppb	10:30:36
3	Se 196.026†	-23.8	3.2	1.7566 ug/L	1.7566 ppb	10:30:36
3	Si 251.611†	533.0	-26.5	-0.7824 ug/L	-0.7824 ppb	10:30:36
3	Sn 189.927†	21.4	11.1	1.7884 ug/L	1.7884 ppb	10:30:36
3	Ti 334.940†	-1718.2	162.7	0.2248 ug/L	0.2248 ppb	10:30:16
3	Tl 190.801†	-33.5	12.4	3.5105 ug/L	3.5105 ppb	10:30:36
3	U 409.014†	-4480.3	832.4	24.589 ug/L	24.589 ppb	10:30:11
3	V 292.402†	-1677.2	149.7	1.0390 ug/L	1.0390 ppb	10:30:16
3	Zn 213.857†	747.6	5.2	0.0438 ug/L	0.0438 ppb	10:30:36
3	SiO2†	520.2	-65.2	-4.1492 ug/L	-4.1492 ppb	10:30:51

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	927160.8	104.08 %	0.511			0.49%
Sc Radial	4384.2	106 %	0.7			0.64%
Y 371.029	761003.9	103.64 %	0.546			0.53%
Y RADIAL	4945.1	102.1 %	0.69			0.67%
Ag 328.068†	61.3	0.2548 ug/L	0.21515	0.2548 ppb	0.21515	84.43%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	5.5	4.5640 ug/L	8.52851	4.5640 ppb	8.52851	186.87%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-0.0	0.0001 ug/L	0.29468	0.0001 ppb	0.29468	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	293.0	6.1235 ug/L	0.19850	6.1235 ppb	0.19850	3.24%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	20.4	0.1517 ug/L	0.00751	0.1517 ppb	0.00751	4.95%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	387.2	0.1306 ug/L	0.01010	0.1306 ppb	0.01010	7.74%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	6.2	11.531 ug/L	0.8619	11.531 ppb	0.8619	7.47%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	20.5	0.2162 ug/L	0.05854	0.2162 ppb	0.05854	27.08%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	12.0	0.2199 ug/L	0.07580	0.2199 ppb	0.07580	34.47%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	15.4	0.1505 ug/L	0.07355	0.1505 ppb	0.07355	48.87%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-404.6	-1.1388 ug/L	0.22554	-1.1388 ppb	0.22554	19.80%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.8	9.4258 ug/L	9.97511	9.4258 ppb	9.97511	105.83%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-18.2	-3.4804 ug/L	7.90954	-3.4804 ppb	7.90954	227.26%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	3.0	126.34 ug/L	17.739	126.34 ppb	17.739	14.04%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-63.5	-0.0680 ug/L	0.00888	-0.0680 ppb	0.00888	13.06%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	2.1	0.1395 ug/L	0.49472	0.1395 ppb	0.49472	354.63%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	95.1	29.293 ug/L	7.7663	29.293 ppb	7.7663	26.51%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	11.1	0.2482 ug/L	0.13340	0.2482 ppb	0.13340	53.76%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-8.5	-4.2087 ug/L	1.19944	-4.2087 ppb	1.19944	28.50%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	18.2	1.9519 ug/L	1.04907	1.9519 ppb	1.04907	53.75%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-4.5	-5.4446 ug/L	5.64063	-5.4446 ppb	5.64063	103.60%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	8.9	2.7306 ug/L	0.47310	2.7306 ppb	0.47310	17.33%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	0.5	0.3153 ug/L	1.31008	0.3153 ppb	1.31008	415.46%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-29.5	-0.8803 ug/L	0.29625	-0.8803 ppb	0.29625	33.66%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.7	0.2752 ug/L	1.36343	0.2752 ppb	1.36343	495.48%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-8.5	-0.0559 ug/L	0.10906	-0.0559 ppb	0.10906	195.08%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	199.2	0.2778 ug/L	0.05579	0.2778 ppb	0.05579	20.08%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	5.0	1.4129 ug/L	2.19465	1.4129 ppb	2.19465	155.33%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	850.3	25.114 ug/L	3.1854	25.114 ppb	3.1854	12.68%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	159.1	1.1094 ug/L	0.11830	1.1094 ppb	0.11830	10.66%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	10.8	0.0909 ug/L	0.04108	0.0909 ppb	0.04108	45.19%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-63.1	-4.0245 ug/L	0.99589	-4.0245 ppb	0.99589	24.75%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 10

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 11:44:55

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4546.4	4546.4	110 %		11:46:47
1	Y RADIAL	5092.8	5092.8	105.2 %		11:46:47
1	Al 396.153Radial†	6459.2	6051.3	4972.8 ug/L	4972.8 ppb	11:46:47
1	Ca 317.933Radial†	2947.8	2661.6	4927.0 ug/L	4927.0 ppb	11:47:07
1	Fe 238.204 Radial†	472.6	418.7	4880.0 ug/L	4880.0 ppb	11:47:07
1	K 766.490 Radial†	30609.2	25151.0	4781.2 ug/L	4781.2 ppb	11:46:47
1	Mg 279.077 IEC†	129.5	117.5	4952.4 ug/L	4952.4 ppb	11:47:07
1	Na 589.592 Radial†	32558.3	31196.2	9613.2 ug/L	9613.2 ppb	11:46:47
1	Sr 421.552†	82548.5	74869.5	494.30 ug/L	494.30 ppb	11:46:47
1	Sc 361.383	929704.5	929704.5	104.36 %		11:48:06
1	Y 371.029	754281.0	754281.0	102.73 %		11:48:06
1	Ag 328.068†	115491.3	110037.1	484.46 ug/L	484.46 ppb	11:48:06
1	As 188.979†	1264.5	1240.3	480.62 ug/L	480.62 ppb	11:48:26
1	B 249.677†	22645.1	22459.2	467.43 ug/L	467.43 ppb	11:48:06
1	Ba 233.527†	69095.0	66220.9	485.23 ug/L	485.23 ppb	11:48:06
1	Be 313.107†	1484965.8	1427270.0	479.99 ug/L	479.99 ppb	11:48:06
1	Cd 226.502†	48261.7	46447.6	479.52 ug/L	479.52 ppb	11:48:06
1	Co 228.616†	26955.4	25913.3	477.73 ug/L	477.73 ppb	11:48:26
1	Cr 267.716†	48922.1	46814.4	482.52 ug/L	482.52 ppb	11:48:06
1	Cu 324.752†	189151.7	174354.8	484.93 ug/L	484.93 ppb	11:48:06
1	Mn 257.610†	503466.3	481880.4	483.77 ug/L	483.77 ppb	11:48:06
1	Mo 202.031†	7659.2	7333.7	487.83 ug/L	487.83 ppb	11:48:26
1	Ni 231.604†	22519.0	21492.2	478.61 ug/L	478.61 ppb	11:48:26
1	P 214.914†	4995.4	4563.3	2274.8 ug/L	2274.8 ppb	11:48:26
1	Pb 220.353†	4611.9	4498.6	484.28 ug/L	484.28 ppb	11:48:26
1	S 181.975 Axial†	949.5	860.9	1050.8 ug/L	1050.8 ppb	11:48:26
1	Sb 206.836†	1663.0	1555.1	492.56 ug/L	492.56 ppb	11:48:26
1	Se 196.026†	873.8	863.3	496.41 ug/L	496.41 ppb	11:48:26
1	Si 251.611†	84750.8	80670.9	2395.2 ug/L	2395.2 ppb	11:48:06
1	Sn 189.927†	3113.3	2973.7	481.22 ug/L	481.22 ppb	11:48:26
1	Ti 334.940†	343069.0	330526.8	493.73 ug/L	493.73 ppb	11:48:06
1	Tl 190.801†	1744.7	1716.2	487.59 ug/L	487.59 ppb	11:48:26
1	U 409.014†	12343.3	16940.2	498.76 ug/L	498.76 ppb	11:48:06
1	V 292.402†	74111.3	72764.3	490.62 ug/L	490.62 ppb	11:48:06
1	Zn 213.857†	59642.0	56438.7	474.66 ug/L	474.66 ppb	11:48:06
1	SiO2†	84411.0	80318.9	5108.6 ug/L	5108.6 ppb	11:49:26
2	Sc Radial	4482.6	4482.6	109 %		11:47:12
2	Y RADIAL	5001.3	5001.3	103.3 %		11:47:12
2	Al 396.153Radial†	6390.0	6071.0	4989.0 ug/L	4989.0 ppb	11:47:12
2	Ca 317.933Radial†	2931.5	2684.6	4969.7 ug/L	4969.7 ppb	11:47:32
2	Fe 238.204 Radial†	469.8	422.2	4921.2 ug/L	4921.2 ppb	11:47:32
2	K 766.490 Radial†	30218.0	25186.2	4787.9 ug/L	4787.9 ppb	11:47:12
2	Mg 279.077 IEC†	132.7	122.2	5148.9 ug/L	5148.9 ppb	11:47:32
2	Na 589.592 Radial†	32028.6	31129.2	9592.5 ug/L	9592.5 ppb	11:47:12
2	Sr 421.552†	80999.5	74510.0	491.92 ug/L	491.92 ppb	11:47:12
2	Sc 361.383	923929.7	923929.7	103.72 %		11:48:33
2	Y 371.029	748895.9	748895.9	102.00 %		11:48:33
2	Ag 328.068†	114941.8	110199.0	485.18 ug/L	485.18 ppb	11:48:33
2	As 188.979†	1258.7	1242.3	481.39 ug/L	481.39 ppb	11:48:53
2	B 249.677†	22583.4	22535.3	469.02 ug/L	469.02 ppb	11:48:33
2	Ba 233.527†	68755.4	66307.2	485.86 ug/L	485.86 ppb	11:48:33
2	Be 313.107†	1475302.6	1426846.4	479.85 ug/L	479.85 ppb	11:48:33
2	Cd 226.502†	48129.4	46609.1	481.18 ug/L	481.18 ppb	11:48:33
2	Co 228.616†	26794.2	25919.3	477.84 ug/L	477.84 ppb	11:48:53
2	Cr 267.716†	48690.0	46883.6	483.23 ug/L	483.23 ppb	11:48:33
2	Cu 324.752†	187878.3	174259.9	484.67 ug/L	484.67 ppb	11:48:33
2	Mn 257.610†	501199.2	482709.7	484.60 ug/L	484.60 ppb	11:48:33
2	Mo 202.031†	7628.2	7349.7	488.90 ug/L	488.90 ppb	11:48:53
2	Ni 231.604†	22399.6	21511.9	479.05 ug/L	479.05 ppb	11:48:53

2	P 214.914†	4970.8	4569.4	2278.0 ug/L	2278.0 ppb	11:48:53
2	Pb 220.353†	4593.1	4508.1	485.30 ug/L	485.30 ppb	11:48:53
2	S 181.975 Axial†	903.5	822.3	1003.6 ug/L	1003.6 ppb	11:48:53
2	Sb 206.836†	1659.0	1561.2	494.45 ug/L	494.45 ppb	11:48:53
2	Se 196.026†	867.7	862.5	496.14 ug/L	496.14 ppb	11:48:53
2	Si 251.611†	84504.9	80941.4	2403.3 ug/L	2403.3 ppb	11:48:33
2	Sn 189.927†	3099.0	2978.5	482.01 ug/L	482.01 ppb	11:48:53
2	Ti 334.940†	341064.4	330648.6	493.90 ug/L	493.90 ppb	11:48:33
2	Tl 190.801†	1746.0	1727.9	490.88 ug/L	490.88 ppb	11:48:53
2	U 409.014†	12240.0	16914.6	497.99 ug/L	497.99 ppb	11:48:33
2	V 292.402†	73720.7	72831.5	491.07 ug/L	491.07 ppb	11:48:33
2	Zn 213.857†	59444.0	56605.1	476.07 ug/L	476.07 ppb	11:48:33
2	SiO2†	83979.5	80408.3	5114.3 ug/L	5114.3 ppb	11:49:31
3	Sc Radial	4556.0	4556.0	110 %		11:47:37
3	Y RADIAL	5094.6	5094.6	105.2 %		11:47:37
3	Al 396.153Radial†	6439.0	6020.7	4947.8 ug/L	4947.8 ppb	11:47:37
3	Ca 317.933Radial†	2912.7	2624.1	4857.6 ug/L	4857.6 ppb	11:47:57
3	Fe 238.204 Radial†	467.8	413.4	4818.7 ug/L	4818.7 ppb	11:47:57
3	K 766.490 Radial†	30619.2	25101.8	4771.9 ug/L	4771.9 ppb	11:47:37
3	Mg 279.077 IEC†	126.5	114.6	4829.3 ug/L	4829.3 ppb	11:47:57
3	Na 589.592 Radial†	32543.2	31120.6	9589.9 ug/L	9589.9 ppb	11:47:37
3	Sr 421.552†	82260.6	74451.7	491.54 ug/L	491.54 ppb	11:47:37
3	Sc 361.383	929436.6	929436.6	104.33 %		11:49:01
3	Y 371.029	752506.4	752506.4	102.49 %		11:49:01
3	Ag 328.068†	115762.1	110328.6	485.72 ug/L	485.72 ppb	11:49:01
3	As 188.979†	1251.3	1228.1	475.91 ug/L	475.91 ppb	11:49:21
3	B 249.677†	22843.7	22655.8	471.57 ug/L	471.57 ppb	11:49:01
3	Ba 233.527†	69102.1	66246.7	485.42 ug/L	485.42 ppb	11:49:01
3	Be 313.107†	1483984.2	1426739.1	479.81 ug/L	479.81 ppb	11:49:01
3	Cd 226.502†	48326.9	46523.4	480.30 ug/L	480.30 ppb	11:49:01
3	Co 228.616†	26612.5	25592.1	471.80 ug/L	471.80 ppb	11:49:21
3	Cr 267.716†	48879.7	46787.3	482.24 ug/L	482.24 ppb	11:49:01
3	Cu 324.752†	189463.8	174706.2	485.91 ug/L	485.91 ppb	11:49:01
3	Mn 257.610†	504659.2	483162.8	485.05 ug/L	485.05 ppb	11:49:01
3	Mo 202.031†	7576.5	7256.5	482.70 ug/L	482.70 ppb	11:49:21
3	Ni 231.604†	22285.8	21274.9	473.77 ug/L	473.77 ppb	11:49:21
3	P 214.914†	4927.5	4499.5	2241.5 ug/L	2241.5 ppb	11:49:21
3	Pb 220.353†	4570.0	4459.8	480.10 ug/L	480.10 ppb	11:49:21
3	S 181.975 Axial†	869.7	784.7	957.63 ug/L	957.63 ppb	11:49:21
3	Sb 206.836†	1653.3	1546.2	489.62 ug/L	489.62 ppb	11:49:21
3	Se 196.026†	856.0	846.4	486.85 ug/L	486.85 ppb	11:49:21
3	Si 251.611†	85063.9	80994.4	2404.9 ug/L	2404.9 ppb	11:49:01
3	Sn 189.927†	3069.8	2932.9	474.63 ug/L	474.63 ppb	11:49:21
3	Ti 334.940†	343569.1	331100.8	494.58 ug/L	494.58 ppb	11:49:01
3	Tl 190.801†	1720.7	1693.7	481.27 ug/L	481.27 ppb	11:49:21
3	U 409.014†	12356.3	16956.1	499.24 ug/L	499.24 ppb	11:49:01
3	V 292.402†	74231.6	72900.0	491.45 ug/L	491.45 ppb	11:49:01
3	Zn 213.857†	59908.0	56710.2	477.00 ug/L	477.00 ppb	11:49:01
3	SiO2†	83949.0	79899.4	5082.0 ug/L	5082.0 ppb	11:49:36

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	927690.3	104.14 %	0.366			0.35%
Sc Radial	4528.3	110 %	1.0			0.88%
Y 371.029	751894.4	102.40 %	0.374			0.36%
Y RADIAL	5062.9	104.6 %	1.10			1.05%
Ag 328.068†	110188.2	485.12 ug/L	0.632	485.12 ppb	0.632	0.13%
QC value within limits for Ag 328.068 Recovery = 97.02%						
Al 396.153Radial†	6047.7	4969.9 ug/L	20.79	4969.9 ppb	20.79	0.42%
QC value within limits for Al 396.153Radial Recovery = 99.40%						
As 188.979†	1236.9	479.31 ug/L	2.966	479.31 ppb	2.966	0.62%
QC value within limits for As 188.979 Recovery = 95.86%						
B 249.677†	22550.1	469.34 ug/L	2.087	469.34 ppb	2.087	0.44%
QC value within limits for B 249.677 Recovery = 93.87%						
Ba 233.527†	66258.3	485.50 ug/L	0.325	485.50 ppb	0.325	0.07%
QC value within limits for Ba 233.527 Recovery = 97.10%						
Be 313.107†	1426951.8	479.88 ug/L	0.093	479.88 ppb	0.093	0.02%
QC value within limits for Be 313.107 Recovery = 95.98%						
Ca 317.933Radial†	2656.8	4918.1 ug/L	56.54	4918.1 ppb	56.54	1.15%

QC value within limits for Ca 317.933 Radial Recovery = 98.36%							
Cd 226.502†	46526.7	480.33 ug/L	0.832	480.33 ppb	0.832	0.17%	
QC value within limits for Cd 226.502 Recovery = 96.07%							
Co 228.616†	25808.2	475.79 ug/L	3.459	475.79 ppb	3.459	0.73%	
QC value within limits for Co 228.616 Recovery = 95.16%							
Cr 267.716†	46828.5	482.66 ug/L	0.512	482.66 ppb	0.512	0.11%	
QC value within limits for Cr 267.716 Recovery = 96.53%							
Cu 324.752†	174440.3	485.17 ug/L	0.651	485.17 ppb	0.651	0.13%	
QC value within limits for Cu 324.752 Recovery = 97.03%							
Fe 238.204 Radial†	418.1	4873.3 ug/L	51.54	4873.3 ppb	51.54	1.06%	
QC value within limits for Fe 238.204 Radial Recovery = 97.47%							
K 766.490 Radial†	25146.3	4780.4 ug/L	8.05	4780.4 ppb	8.05	0.17%	
QC value within limits for K 766.490 Radial Recovery = 95.61%							
Mg 279.077 IEC†	118.1	4976.9 ug/L	161.16	4976.9 ppb	161.16	3.24%	
QC value within limits for Mg 279.077 IEC Recovery = 99.54%							
Mn 257.610†	482584.3	484.47 ug/L	0.652	484.47 ppb	0.652	0.13%	
QC value within limits for Mn 257.610 Recovery = 96.89%							
Mo 202.031†	7313.3	486.47 ug/L	3.316	486.47 ppb	3.316	0.68%	
QC value within limits for Mo 202.031 Recovery = 97.29%							
Na 589.592 Radial†	31148.7	9598.5 ug/L	12.75	9598.5 ppb	12.75	0.13%	
QC value within limits for Na 589.592 Radial Recovery = 95.99%							
Ni 231.604†	21426.3	477.14 ug/L	2.928	477.14 ppb	2.928	0.61%	
QC value within limits for Ni 231.604 Recovery = 95.43%							
P 214.914†	4544.1	2264.8 ug/L	20.22	2264.8 ppb	20.22	0.89%	
QC value within limits for P 214.914 Recovery = 90.59%							
Pb 220.353†	4488.9	483.23 ug/L	2.756	483.23 ppb	2.756	0.57%	
QC value within limits for Pb 220.353 Recovery = 96.65%							
S 181.975 Axial†	822.6	1004.0 ug/L	46.58	1004.0 ppb	46.58	4.64%	
QC value within limits for S 181.975 Axial Recovery = 100.40%							
Sb 206.836†	1554.1	492.21 ug/L	2.433	492.21 ppb	2.433	0.49%	
QC value within limits for Sb 206.836 Recovery = 98.44%							
Se 196.026†	857.4	493.13 ug/L	5.439	493.13 ppb	5.439	1.10%	
QC value within limits for Se 196.026 Recovery = 98.63%							
Si 251.611†	80868.9	2401.2 ug/L	5.18	2401.2 ppb	5.18	0.22%	
QC value within limits for Si 251.611 Recovery = 96.05%							
Sn 189.927†	2961.7	479.29 ug/L	4.056	479.29 ppb	4.056	0.85%	
QC value within limits for Sn 189.927 Recovery = 95.86%							
Sr 421.552†	74610.4	492.59 ug/L	1.494	492.59 ppb	1.494	0.30%	
QC value within limits for Sr 421.552 Recovery = 98.52%							
Ti 334.940†	330758.7	494.07 ug/L	0.454	494.07 ppb	0.454	0.09%	
QC value within limits for Ti 334.940 Recovery = 98.81%							
Tl 190.801†	1712.6	486.58 ug/L	4.881	486.58 ppb	4.881	1.00%	
QC value within limits for Tl 190.801 Recovery = 97.32%							
U 409.014†	16937.0	498.66 ug/L	0.626	498.66 ppb	0.626	0.13%	
QC value within limits for U 409.014 Recovery = 99.73%							
V 292.402†	72831.9	491.05 ug/L	0.419	491.05 ppb	0.419	0.09%	
QC value within limits for V 292.402 Recovery = 98.21%							
Zn 213.857†	56584.7	475.91 ug/L	1.177	475.91 ppb	1.177	0.25%	
QC value within limits for Zn 213.857 Recovery = 95.18%							
SiO2†	80208.9	5101.6 ug/L	17.24	5101.6 ppb	17.24	0.34%	
QC value within limits for SiO2 Recovery = 95.40%							
All analyte(s) passed QC.							



Sequence No.: 11

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 11:51:46

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4381.5	4381.5	106 %		11:53:39
1	Y RADIAL	4967.6	4967.6	102.6 %		11:53:39
1	Al 396.153Radial†	-166.0	33.8	27.854 ug/L	27.854 ppb	11:53:39
1	Ca 317.933Radial†	20.5	6.0	11.093 ug/L	11.093 ppb	11:53:59
1	Fe 238.204 Radial†	13.9	3.0	34.300 ug/L	34.300 ppb	11:53:59
1	K 766.490 Radial†	2689.6	-91.9	-17.520 ug/L	-17.520 ppb	11:53:39
1	Mg 279.077 IEC†	0.1	0.1	4.1367 ug/L	4.1367 ppb	11:53:59
1	Na 589.592 Radial†	-1506.1	234.2	72.159 ug/L	72.159 ppb	11:53:39
1	Sr 421.552†	26.7	-11.3	-0.0746 ug/L	-0.0746 ppb	11:53:39
1	Sc 361.383	906602.8	906602.8	101.77 %		11:54:56
1	Y 371.029	751757.2	751757.2	102.38 %		11:54:56
1	Ag 328.068†	545.6	-88.5	-0.3892 ug/L	-0.3892 ppb	11:54:56
1	As 188.979†	-27.1	2.1	0.8061 ug/L	0.8061 ppb	11:55:16
1	B 249.677†	-517.4	252.7	5.2781 ug/L	5.2781 ppb	11:55:16
1	Ba 233.527†	-7.5	8.0	0.0610 ug/L	0.0610 ppb	11:55:16
1	Be 313.107†	-4130.1	344.9	0.1166 ug/L	0.1166 ppb	11:54:56
1	Cd 226.502†	-180.5	26.7	0.2767 ug/L	0.2767 ppb	11:55:16
1	Co 228.616†	-88.8	-2.1	-0.0380 ug/L	-0.0380 ppb	11:55:16
1	Cr 267.716†	84.7	21.4	0.2140 ug/L	0.2140 ppb	11:55:16
1	Cu 324.752†	6783.1	-221.8	-0.6261 ug/L	-0.6261 ppb	11:54:56
1	Mn 257.610†	523.4	-17.5	-0.0143 ug/L	-0.0143 ppb	11:55:16
1	Mo 202.031†	14.8	9.3	0.6194 ug/L	0.6194 ppb	11:55:16
1	Ni 231.604†	123.6	36.3	0.8087 ug/L	0.8087 ppb	11:55:16
1	P 214.914†	224.4	-2.7	-1.3278 ug/L	-1.3278 ppb	11:55:16
1	Pb 220.353†	-61.6	19.1	2.0558 ug/L	2.0558 ppb	11:55:16
1	S 181.975 Axial†	55.9	6.0	7.3835 ug/L	7.3835 ppb	11:55:16
1	Sb 206.836†	45.9	6.6	2.0211 ug/L	2.0211 ppb	11:55:16
1	Se 196.026†	-23.7	2.6	1.5840 ug/L	1.5840 ppb	11:55:16
1	Si 251.611†	530.4	-14.5	-0.4403 ug/L	-0.4403 ppb	11:55:16
1	Sn 189.927†	1.7	-7.7	-1.2435 ug/L	-1.2435 ppb	11:55:16
1	Ti 334.940†	-1569.8	261.9	0.3836 ug/L	0.3836 ppb	11:54:56
1	Tl 190.801†	-29.8	15.2	4.2855 ug/L	4.2855 ppb	11:55:16
1	U 409.014†	-4516.4	675.2	19.942 ug/L	19.942 ppb	11:54:56
1	V 292.402†	-1664.4	116.7	0.8180 ug/L	0.8180 ppb	11:54:56
1	Zn 213.857†	762.3	39.9	0.3309 ug/L	0.3309 ppb	11:55:16
1	SiO2†	507.0	-64.1	-4.1050 ug/L	-4.1050 ppb	11:56:12
2	Sc Radial	4377.4	4377.4	106 %		11:54:04
2	Y RADIAL	4955.9	4955.9	102.4 %		11:54:04
2	Al 396.153Radial†	-167.9	31.9	26.310 ug/L	26.310 ppb	11:54:04
2	Ca 317.933Radial†	22.8	8.1	15.072 ug/L	15.072 ppb	11:54:24
2	Fe 238.204 Radial†	10.9	0.2	1.8592 ug/L	1.8592 ppb	11:54:24
2	K 766.490 Radial†	2798.2	12.9	2.4172 ug/L	2.4172 ppb	11:54:04
2	Mg 279.077 IEC†	-2.0	-1.8	-76.615 ug/L	-76.615 ppb	11:54:24
2	Na 589.592 Radial†	-1506.7	232.3	71.583 ug/L	71.583 ppb	11:54:04
2	Sr 421.552†	34.8	-3.7	-0.0243 ug/L	-0.0243 ppb	11:54:04
2	Sc 361.383	908404.8	908404.8	101.97 %		11:55:21
2	Y 371.029	752737.0	752737.0	102.52 %		11:55:21
2	Ag 328.068†	518.4	-116.2	-0.5197 ug/L	-0.5197 ppb	11:55:21
2	As 188.979†	-32.5	-3.1	-1.2059 ug/L	-1.2059 ppb	11:55:41
2	B 249.677†	-536.1	235.3	4.9191 ug/L	4.9191 ppb	11:55:41
2	Ba 233.527†	11.3	26.4	0.1955 ug/L	0.1955 ppb	11:55:41
2	Be 313.107†	-4202.9	281.5	0.0952 ug/L	0.0952 ppb	11:55:21
2	Cd 226.502†	-186.1	21.6	0.2274 ug/L	0.2274 ppb	11:55:41
2	Co 228.616†	-71.2	15.3	0.2824 ug/L	0.2824 ppb	11:55:41
2	Cr 267.716†	76.6	13.3	0.1307 ug/L	0.1307 ppb	11:55:41
2	Cu 324.752†	6671.7	-344.2	-0.9684 ug/L	-0.9684 ppb	11:55:21
2	Mn 257.610†	514.8	-26.9	-0.0237 ug/L	-0.0237 ppb	11:55:41
2	Mo 202.031†	7.0	1.7	0.1115 ug/L	0.1115 ppb	11:55:41
2	Ni 231.604†	102.8	15.7	0.3493 ug/L	0.3493 ppb	11:55:41

2	P 214.914†	229.9	2.2	1.3065 ug/L	1.3065 ppb	11:55:41
2	Pb 220.353†	-58.2	22.6	2.4316 ug/L	2.4316 ppb	11:55:41
2	S 181.975 Axial†	56.5	6.5	7.9756 ug/L	7.9756 ppb	11:55:41
2	Sb 206.836†	43.8	4.5	1.3630 ug/L	1.3630 ppb	11:55:41
2	Se 196.026†	-24.4	2.0	1.1126 ug/L	1.1126 ppb	11:55:41
2	Si 251.611†	550.0	3.6	0.1061 ug/L	0.1061 ppb	11:55:41
2	Sn 189.927†	4.7	-4.9	-0.7821 ug/L	-0.7821 ppb	11:55:41
2	Ti 334.940†	-1609.1	226.4	0.3378 ug/L	0.3378 ppb	11:55:21
2	Tl 190.801†	-43.5	1.9	0.5215 ug/L	0.5215 ppb	11:55:41
2	U 409.014†	-4522.6	678.0	20.027 ug/L	20.027 ppb	11:55:21
2	V 292.402†	-1616.6	166.9	1.1480 ug/L	1.1480 ppb	11:55:21
2	Zn 213.857†	757.2	33.4	0.2823 ug/L	0.2823 ppb	11:55:41
2	SiO2†	520.5	-51.8	-3.3089 ug/L	-3.3089 ppb	11:56:17
3	Sc Radial	4408.5	4408.5	107 %		11:54:29
3	Y RADIAL	4998.9	4998.9	103.3 %		11:54:29
3	Al 396.153Radial†	-197.3	5.5	4.5234 ug/L	4.5234 ppb	11:54:29
3	Ca 317.933Radial†	25.6	10.6	19.571 ug/L	19.571 ppb	11:54:49
3	Fe 238.204 Radial†	9.4	-1.3	-14.932 ug/L	-14.932 ppb	11:54:49
3	K 766.490 Radial†	2709.7	-88.6	-16.907 ug/L	-16.907 ppb	11:54:29
3	Mg 279.077 IEC†	2.9	2.8	116.58 ug/L	116.58 ppb	11:54:49
3	Na 589.592 Radial†	-1445.1	299.9	92.412 ug/L	92.412 ppb	11:54:29
3	Sr 421.552†	15.2	-22.2	-0.1468 ug/L	-0.1468 ppb	11:54:29
3	Sc 361.383	903494.4	903494.4	101.42 %		11:55:46
3	Y 371.029	748032.8	748032.8	101.88 %		11:55:46
3	Ag 328.068†	557.1	-75.2	-0.3436 ug/L	-0.3436 ppb	11:55:46
3	As 188.979†	-32.3	-3.1	-1.2021 ug/L	-1.2021 ppb	11:56:06
3	B 249.677†	-494.0	274.0	5.7309 ug/L	5.7309 ppb	11:56:06
3	Ba 233.527†	-2.2	13.2	0.0974 ug/L	0.0974 ppb	11:56:06
3	Be 313.107†	-4177.9	283.7	0.0958 ug/L	0.0958 ppb	11:55:46
3	Cd 226.502†	-199.1	7.8	0.0851 ug/L	0.0851 ppb	11:56:06
3	Co 228.616†	-73.9	12.3	0.2259 ug/L	0.2259 ppb	11:56:06
3	Cr 267.716†	73.6	10.8	0.1057 ug/L	0.1057 ppb	11:56:06
3	Cu 324.752†	6770.8	-210.9	-0.5961 ug/L	-0.5961 ppb	11:55:46
3	Mn 257.610†	523.0	-16.1	-0.0224 ug/L	-0.0224 ppb	11:56:06
3	Mo 202.031†	1.5	-3.7	-0.2468 ug/L	-0.2468 ppb	11:56:06
3	Ni 231.604†	91.0	4.6	0.1015 ug/L	0.1015 ppb	11:56:06
3	P 214.914†	224.4	-2.0	-0.8843 ug/L	-0.8843 ppb	11:56:06
3	Pb 220.353†	-69.2	11.4	1.2228 ug/L	1.2228 ppb	11:56:06
3	S 181.975 Axial†	57.0	7.3	8.9049 ug/L	8.9049 ppb	11:56:06
3	Sb 206.836†	40.8	1.8	0.5501 ug/L	0.5501 ppb	11:56:06
3	Se 196.026†	-33.0	-6.6	-3.7144 ug/L	-3.7144 ppb	11:56:06
3	Si 251.611†	512.7	-30.3	-0.8977 ug/L	-0.8977 ppb	11:56:06
3	Sn 189.927†	13.7	4.1	0.6661 ug/L	0.6661 ppb	11:56:06
3	Ti 334.940†	-1643.1	184.3	0.2616 ug/L	0.2616 ppb	11:55:46
3	Tl 190.801†	-41.1	4.0	1.1229 ug/L	1.1229 ppb	11:56:06
3	U 409.014†	-4652.2	526.1	15.543 ug/L	15.543 ppb	11:55:46
3	V 292.402†	-1658.2	117.2	0.8102 ug/L	0.8102 ppb	11:55:46
3	Zn 213.857†	779.5	59.5	0.5062 ug/L	0.5062 ppb	11:56:06
3	SiO2†	577.1	6.8	0.4376 ug/L	0.4376 ppb	11:56:22

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	906167.3	101.72 %	0.279			0.27%
Sc Radial	4389.1	106 %	0.4			0.39%
Y 371.029	750842.4	102.26 %	0.338			0.33%
Y RADIAL	4974.1	102.7 %	0.46			0.45%
Ag 328.068†	-93.3	-0.4175 ug/L	0.09142	-0.4175 ppb	0.09142	21.90%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	23.7	19.562 ug/L	13.0471	19.562 ppb	13.0471	66.69%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.4	-0.5340 ug/L	1.16051	-0.5340 ppb	1.16051	217.34%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	254.0	5.3094 ug/L	0.40680	5.3094 ppb	0.40680	7.66%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	15.8	0.1180 ug/L	0.06955	0.1180 ppb	0.06955	58.96%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	303.4	0.1025 ug/L	0.01218	0.1025 ppb	0.01218	11.88%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	8.2	15.245 ug/L	4.2414	15.245 ppb	4.2414	27.82%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	18.7	0.1964 ug/L	0.09946	0.1964 ppb	0.09946	50.64%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	8.5	0.1568 ug/L	0.17100	0.1568 ppb	0.17100	109.07%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	15.2	0.1501 ug/L	0.05670	0.1501 ppb	0.05670	37.77%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-259.0	-0.7302 ug/L	0.20687	-0.7302 ppb	0.20687	28.33%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.6	7.0759 ug/L	25.02714	7.0759 ppb	25.02714	353.69%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-55.9	-10.670 ug/L	11.3379	-10.670 ppb	11.3379	106.26%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.3	14.699 ug/L	97.0272	14.699 ppb	97.0272	660.08%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-20.2	-0.0201 ug/L	0.00506	-0.0201 ppb	0.00506	25.14%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	2.4	0.1613 ug/L	0.43524	0.1613 ppb	0.43524	269.77%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	255.5	78.718 ug/L	11.8630	78.718 ppb	11.8630	15.07%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	18.8	0.4198 ug/L	0.35883	0.4198 ppb	0.35883	85.47%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-0.8	-0.3019 ug/L	1.41042	-0.3019 ppb	1.41042	467.24%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	17.7	1.9034 ug/L	0.61863	1.9034 ppb	0.61863	32.50%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	6.6	8.0880 ug/L	0.76690	8.0880 ppb	0.76690	9.48%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	4.3	1.3114 ug/L	0.73688	1.3114 ppb	0.73688	56.19%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-0.7	-0.3393 ug/L	2.93244	-0.3393 ppb	2.93244	864.36%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-13.7	-0.4106 ug/L	0.50253	-0.4106 ppb	0.50253	122.38%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-2.8	-0.4532 ug/L	0.99638	-0.4532 ppb	0.99638	219.87%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-12.4	-0.0819 ug/L	0.06161	-0.0819 ppb	0.06161	75.21%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	224.2	0.3277 ug/L	0.06160	0.3277 ppb	0.06160	18.80%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	7.0	1.9766 ug/L	2.02201	1.9766 ppb	2.02201	102.30%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	626.5	18.504 ug/L	2.5646	18.504 ppb	2.5646	13.86%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	133.6	0.9254 ug/L	0.19282	0.9254 ppb	0.19282	20.84%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	44.3	0.3732 ug/L	0.11777	0.3732 ppb	0.11777	31.56%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-36.4	-2.3254 ug/L	2.42574	-2.3254 ppb	2.42574	104.31%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 19

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 12:46:11

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4351.0	4351.0	105 %		12:48:03
1	Y RADIAL	4848.6	4848.6	100.1 %		12:48:03
1	Al 396.153Radial†	6090.9	5965.3	4900.6 ug/L	4900.6 ppb	12:48:03
1	Ca 317.933Radial†	2862.6	2700.9	4999.7 ug/L	4999.7 ppb	12:48:23
1	Fe 238.204 Radial†	479.1	444.2	5176.5 ug/L	5176.5 ppb	12:48:23
1	K 766.490 Radial†	29675.8	25513.4	4849.9 ug/L	4849.9 ppb	12:48:03
1	Mg 279.077 IEC†	130.1	123.4	5198.2 ug/L	5198.2 ppb	12:48:23
1	Na 589.592 Radial†	33713.1	33618.1	10359 ug/L	10359 ppb	12:48:03
1	Sr 421.552†	81139.3	76897.6	507.69 ug/L	507.69 ppb	12:48:03
1	Sc 361.383	858739.4	858739.4	96.398 %		12:49:22
1	Y 371.029	697012.5	697012.5	94.929 %		12:49:22
1	Ag 328.068†	114055.9	117693.0	518.17 ug/L	518.17 ppb	12:49:22
1	As 188.979†	1224.7	1299.2	503.55 ug/L	503.55 ppb	12:49:42
1	B 249.677†	22229.3	23821.0	495.79 ug/L	495.79 ppb	12:49:22
1	Ba 233.527†	68537.5	71113.7	521.08 ug/L	521.08 ppb	12:49:22
1	Be 313.107†	1469089.3	1528384.2	514.00 ug/L	514.00 ppb	12:49:22
1	Cd 226.502†	48069.3	50069.5	516.91 ug/L	516.91 ppb	12:49:22
1	Co 228.616†	26129.6	27191.0	501.26 ug/L	501.26 ppb	12:49:42
1	Cr 267.716†	48802.8	50564.5	521.17 ug/L	521.17 ppb	12:49:22
1	Cu 324.752†	186335.1	186410.6	518.47 ug/L	518.47 ppb	12:49:22
1	Mn 257.610†	499649.6	517787.0	519.81 ug/L	519.81 ppb	12:49:22
1	Mo 202.031†	7424.1	7696.3	511.95 ug/L	511.95 ppb	12:49:42
1	Ni 231.604†	21859.7	22591.3	503.09 ug/L	503.09 ppb	12:49:42
1	P 214.914†	4797.4	4753.4	2366.9 ug/L	2366.9 ppb	12:49:42
1	Pb 220.353†	4473.3	4720.0	508.03 ug/L	508.03 ppb	12:49:42
1	S 181.975 Axial†	834.7	817.0	997.17 ug/L	997.17 ppb	12:49:42
1	Sb 206.836†	1605.3	1626.9	515.38 ug/L	515.38 ppb	12:49:42
1	Se 196.026†	841.3	898.7	517.12 ug/L	517.12 ppb	12:49:42
1	Si 251.611†	83806.0	86401.6	2565.5 ug/L	2565.5 ppb	12:49:22
1	Sn 189.927†	3023.5	3127.0	506.02 ug/L	506.02 ppb	12:49:42
1	Ti 334.940†	339834.3	354336.4	529.27 ug/L	529.27 ppb	12:49:22
1	Tl 190.801†	1696.1	1803.9	512.63 ug/L	512.63 ppb	12:49:42
1	U 409.014†	12200.8	17769.8	523.14 ug/L	523.14 ppb	12:49:22
1	V 292.402†	73581.3	78082.8	526.30 ug/L	526.30 ppb	12:49:22
1	Zn 213.857†	59207.3	60710.4	510.67 ug/L	510.67 ppb	12:49:22
1	SiO2†	84005.5	86582.0	5507.4 ug/L	5507.4 ppb	12:50:43
2	Sc Radial	4352.1	4352.1	105 %		12:48:28
2	Y RADIAL	4860.4	4860.4	100.4 %		12:48:28
2	Al 396.153Radial†	6056.1	5930.9	4873.5 ug/L	4873.5 ppb	12:48:28
2	Ca 317.933Radial†	2833.1	2672.3	4946.8 ug/L	4946.8 ppb	12:48:48
2	Fe 238.204 Radial†	470.8	436.2	5083.2 ug/L	5083.2 ppb	12:48:48
2	K 766.490 Radial†	29762.4	25588.4	4864.2 ug/L	4864.2 ppb	12:48:28
2	Mg 279.077 IEC†	128.1	121.4	5117.3 ug/L	5117.3 ppb	12:48:48
2	Na 589.592 Radial†	33933.9	33819.3	10421 ug/L	10421 ppb	12:48:28
2	Sr 421.552†	80977.7	76724.8	506.55 ug/L	506.55 ppb	12:48:28
2	Sc 361.383	910883.3	910883.3	102.25 %		12:49:50
2	Y 371.029	738493.9	738493.9	100.58 %		12:49:50
2	Ag 328.068†	113597.5	110471.5	486.43 ug/L	486.43 ppb	12:49:50
2	As 188.979†	1237.8	1239.3	480.28 ug/L	480.28 ppb	12:50:10
2	B 249.677†	22229.3	22500.9	468.28 ug/L	468.28 ppb	12:49:50
2	Ba 233.527†	68151.7	66666.3	488.50 ug/L	488.50 ppb	12:49:50
2	Be 313.107†	1458300.2	1430591.6	481.11 ug/L	481.11 ppb	12:49:50
2	Cd 226.502†	47791.1	46942.9	484.61 ug/L	484.61 ppb	12:49:50
2	Co 228.616†	26330.3	25835.6	476.29 ug/L	476.29 ppb	12:50:10
2	Cr 267.716†	48289.4	47164.3	486.12 ug/L	486.12 ppb	12:49:50
2	Cu 324.752†	185294.5	174327.5	484.87 ug/L	484.87 ppb	12:49:50
2	Mn 257.610†	496417.8	484955.0	486.87 ug/L	486.87 ppb	12:49:50
2	Mo 202.031†	7471.9	7302.1	485.75 ug/L	485.75 ppb	12:50:10
2	Ni 231.604†	22036.6	21466.2	478.03 ug/L	478.03 ppb	12:50:10

2	P 214.914†	4853.4	4523.3	2253.9 ug/L	2253.9 ppb	12:50:10
2	Pb 220.353†	4520.1	4500.2	484.41 ug/L	484.41 ppb	12:50:10
2	S 181.975 Axial†	841.8	774.3	945.03 ug/L	945.03 ppb	12:50:10
2	Sb 206.836†	1613.4	1539.4	487.79 ug/L	487.79 ppb	12:50:10
2	Se 196.026†	854.0	861.2	495.90 ug/L	495.90 ppb	12:50:10
2	Si 251.611†	83408.6	81036.2	2406.1 ug/L	2406.1 ppb	12:49:50
2	Sn 189.927†	3065.7	2988.7	483.67 ug/L	483.67 ppb	12:50:10
2	Ti 334.940†	337497.2	331869.9	495.72 ug/L	495.72 ppb	12:49:50
2	Tl 190.801†	1708.5	1715.4	487.38 ug/L	487.38 ppb	12:50:10
2	U 409.014†	12159.9	17005.2	500.65 ug/L	500.65 ppb	12:49:50
2	V 292.402†	72979.4	73124.6	492.96 ug/L	492.96 ppb	12:49:50
2	Zn 213.857†	58813.2	56809.0	477.79 ug/L	477.79 ppb	12:49:50
2	SiO2†	82816.9	80431.0	5115.8 ug/L	5115.8 ppb	12:50:48
3	Sc Radial	4405.4	4405.4	107 %		12:48:53
3	Y RADIAL	4944.4	4944.4	102.1 %		12:48:53
3	Al 396.153Radial†	5961.8	5773.2	4743.1 ug/L	4743.1 ppb	12:48:53
3	Ca 317.933Radial†	2802.9	2611.5	4834.2 ug/L	4834.2 ppb	12:49:13
3	Fe 238.204 Radial†	468.6	428.7	4996.4 ug/L	4996.4 ppb	12:49:13
3	K 766.490 Radial†	29351.6	24862.6	4726.2 ug/L	4726.2 ppb	12:48:53
3	Mg 279.077 IEC†	132.2	123.8	5217.7 ug/L	5217.7 ppb	12:49:13
3	Na 589.592 Radial†	32939.1	32498.8	10015 ug/L	10015 ppb	12:48:53
3	Sr 421.552†	79200.3	74132.2	489.43 ug/L	489.43 ppb	12:48:53
3	Sc 361.383	900833.1	900833.1	101.12 %		12:50:17
3	Y 371.029	730952.9	730952.9	99.551 %		12:50:17
3	Ag 328.068†	112468.3	110594.4	486.95 ug/L	486.95 ppb	12:50:17
3	As 188.979†	1212.9	1228.2	475.98 ug/L	475.98 ppb	12:50:37
3	B 249.677†	22133.5	22648.7	471.37 ug/L	471.37 ppb	12:50:17
3	Ba 233.527†	67475.3	66741.0	489.04 ug/L	489.04 ppb	12:50:17
3	Be 313.107†	1441166.4	1429559.4	480.76 ug/L	480.76 ppb	12:50:17
3	Cd 226.502†	47421.3	47098.6	486.23 ug/L	486.23 ppb	12:50:17
3	Co 228.616†	26242.1	26035.7	479.98 ug/L	479.98 ppb	12:50:37
3	Cr 267.716†	47864.9	47271.4	487.23 ug/L	487.23 ppb	12:50:17
3	Cu 324.752†	182988.4	174068.8	484.15 ug/L	484.15 ppb	12:50:17
3	Mn 257.610†	491613.6	485620.5	487.52 ug/L	487.52 ppb	12:50:17
3	Mo 202.031†	7442.2	7354.3	489.21 ug/L	489.21 ppb	12:50:37
3	Ni 231.604†	21992.9	21663.4	482.43 ug/L	482.43 ppb	12:50:37
3	P 214.914†	4839.7	4562.6	2274.5 ug/L	2274.5 ppb	12:50:37
3	Pb 220.353†	4515.7	4545.1	489.21 ug/L	489.21 ppb	12:50:37
3	S 181.975 Axial†	832.2	774.1	944.76 ug/L	944.76 ppb	12:50:37
3	Sb 206.836†	1628.9	1572.4	497.93 ug/L	497.93 ppb	12:50:37
3	Se 196.026†	849.8	866.3	498.48 ug/L	498.48 ppb	12:50:37
3	Si 251.611†	82500.3	81048.1	2406.5 ug/L	2406.5 ppb	12:50:17
3	Sn 189.927†	3035.4	2992.2	484.21 ug/L	484.21 ppb	12:50:37
3	Ti 334.940†	333897.9	331993.0	495.88 ug/L	495.88 ppb	12:50:17
3	Tl 190.801†	1703.3	1728.8	491.17 ug/L	491.17 ppb	12:50:37
3	U 409.014†	11838.2	16819.8	495.18 ug/L	495.18 ppb	12:50:17
3	V 292.402†	72159.0	73109.6	492.91 ug/L	492.91 ppb	12:50:17
3	Zn 213.857†	58269.9	56913.5	478.65 ug/L	478.65 ppb	12:50:17
3	SiO2†	82591.9	81112.1	5159.2 ug/L	5159.2 ppb	12:50:53

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	890151.9	99.924 %	3.1055			3.11%
Sc Radial	4369.5	106 %	0.8			0.71%
Y 371.029	722153.1	98.353 %	3.0094			3.06%
Y RADIAL	4884.5	100.9 %	1.08			1.07%
Ag 328.068†	112919.7	497.18 ug/L	18.177	497.18 ppb	18.177	3.66%
QC value within limits for Ag 328.068 Recovery = 99.44%						
Al 396.153Radial†	5889.8	4839.1 ug/L	84.23	4839.1 ppb	84.23	1.74%
QC value within limits for Al 396.153Radial Recovery = 96.78%						
As 188.979†	1255.6	486.61 ug/L	14.830	486.61 ppb	14.830	3.05%
QC value within limits for As 188.979 Recovery = 97.32%						
B 249.677†	22990.2	478.48 ug/L	15.071	478.48 ppb	15.071	3.15%
QC value within limits for B 249.677 Recovery = 95.70%						
Ba 233.527†	68173.7	499.54 ug/L	18.656	499.54 ppb	18.656	3.73%
QC value within limits for Ba 233.527 Recovery = 99.91%						
Be 313.107†	1462845.1	491.96 ug/L	19.088	491.96 ppb	19.088	3.88%
QC value within limits for Be 313.107 Recovery = 98.39%						
Ca 317.933Radial†	2661.5	4926.9 ug/L	84.53	4926.9 ppb	84.53	1.72%

QC value within limits for Ca 317.933 Radial Recovery = 98.54%							
Cd 226.502†	48037.0	495.92 ug/L	18.197	495.92 ppb	18.197	3.67%	
QC value within limits for Cd 226.502 Recovery = 99.18%							
Co 228.616†	26354.1	485.84 ug/L	13.480	485.84 ppb	13.480	2.77%	
QC value within limits for Co 228.616 Recovery = 97.17%							
Cr 267.716†	48333.4	498.17 ug/L	19.921	498.17 ppb	19.921	4.00%	
QC value within limits for Cr 267.716 Recovery = 99.63%							
Cu 324.752†	178268.9	495.83 ug/L	19.611	495.83 ppb	19.611	3.96%	
QC value within limits for Cu 324.752 Recovery = 99.17%							
Fe 238.204 Radial†	436.3	5085.4 ug/L	90.08	5085.4 ppb	90.08	1.77%	
QC value within limits for Fe 238.204 Radial Recovery = 101.71%							
K 766.490 Radial†	25321.5	4813.4 ug/L	75.86	4813.4 ppb	75.86	1.58%	
QC value within limits for K 766.490 Radial Recovery = 96.27%							
Mg 279.077 IEC†	122.9	5177.7 ug/L	53.22	5177.7 ppb	53.22	1.03%	
QC value within limits for Mg 279.077 IEC Recovery = 103.55%							
Mn 257.610†	496120.8	498.07 ug/L	18.836	498.07 ppb	18.836	3.78%	
QC value within limits for Mn 257.610 Recovery = 99.61%							
Mo 202.031†	7450.9	495.63 ug/L	14.234	495.63 ppb	14.234	2.87%	
QC value within limits for Mo 202.031 Recovery = 99.13%							
Na 589.592 Radial†	33312.1	10265 ug/L	219.2	10265 ppb	219.2	2.14%	
QC value within limits for Na 589.592 Radial Recovery = 102.65%							
Ni 231.604†	21907.0	487.85 ug/L	13.379	487.85 ppb	13.379	2.74%	
QC value within limits for Ni 231.604 Recovery = 97.57%							
P 214.914†	4613.1	2298.4 ug/L	60.16	2298.4 ppb	60.16	2.62%	
QC value within limits for P 214.914 Recovery = 91.94%							
Pb 220.353†	4588.5	493.88 ug/L	12.487	493.88 ppb	12.487	2.53%	
QC value within limits for Pb 220.353 Recovery = 98.78%							
S 181.975 Axial†	788.5	962.32 ug/L	30.183	962.32 ppb	30.183	3.14%	
QC value within limits for S 181.975 Axial Recovery = 96.23%							
Sb 206.836†	1579.6	500.37 ug/L	13.956	500.37 ppb	13.956	2.79%	
QC value within limits for Sb 206.836 Recovery = 100.07%							
Se 196.026†	875.4	503.83 ug/L	11.579	503.83 ppb	11.579	2.30%	
QC value within limits for Se 196.026 Recovery = 100.77%							
Si 251.611†	82828.6	2459.4 ug/L	91.93	2459.4 ppb	91.93	3.74%	
QC value within limits for Si 251.611 Recovery = 98.38%							
Sn 189.927†	3036.0	491.30 ug/L	12.749	491.30 ppb	12.749	2.60%	
QC value within limits for Sn 189.927 Recovery = 98.26%							
Sr 421.552†	75918.2	501.22 ug/L	10.228	501.22 ppb	10.228	2.04%	
QC value within limits for Sr 421.552 Recovery = 100.24%							
Ti 334.940†	339399.8	506.96 ug/L	19.321	506.96 ppb	19.321	3.81%	
QC value within limits for Ti 334.940 Recovery = 101.39%							
Tl 190.801†	1749.4	497.06 ug/L	13.613	497.06 ppb	13.613	2.74%	
QC value within limits for Tl 190.801 Recovery = 99.41%							
U 409.014†	17198.2	506.32 ug/L	14.822	506.32 ppb	14.822	2.93%	
QC value within limits for U 409.014 Recovery = 101.26%							
V 292.402†	74772.3	504.05 ug/L	19.262	504.05 ppb	19.262	3.82%	
QC value within limits for V 292.402 Recovery = 100.81%							
Zn 213.857†	58144.3	489.04 ug/L	18.742	489.04 ppb	18.742	3.83%	
QC value within limits for Zn 213.857 Recovery = 97.81%							
SiO2†	82708.4	5260.8 ug/L	214.64	5260.8 ppb	214.64	4.08%	
QC value within limits for SiO2 Recovery = 98.38%							
All analyte(s) passed QC.							

Sequence No.: 20

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 12:53:02

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4167.1	4167.1	101 %		12:55:15
1	Y RADIAL	4891.2	4891.2	101.0 %		12:54:55
1	Al 396.153Radial†	-189.3	2.7	2.2497 ug/L	2.2497 ppb	12:54:55
1	Ca 317.933Radial†	17.2	3.7	6.8320 ug/L	6.8320 ppb	12:55:15
1	Fe 238.204 Radial†	10.3	0.1	1.2330 ug/L	1.2330 ppb	12:55:15
1	K 766.490 Radial†	2773.8	121.8	23.179 ug/L	23.179 ppb	12:54:55
1	Mg 279.077 IEC†	1.5	1.6	66.564 ug/L	66.564 ppb	12:55:15
1	Na 589.592 Radial†	-1616.3	52.1	16.064 ug/L	16.064 ppb	12:54:55
1	Sr 421.552†	28.3	-8.5	-0.0560 ug/L	-0.0560 ppb	12:54:55
1	Sc 361.383	921617.4	921617.4	103.46 %		12:56:12
1	Y 371.029	758801.7	758801.7	103.34 %		12:56:12
1	Ag 328.068†	641.6	-4.4	-0.0372 ug/L	-0.0372 ppb	12:56:17
1	As 188.979†	-23.7	5.8	2.2498 ug/L	2.2498 ppb	12:56:37
1	B 249.677†	-486.5	290.9	6.0815 ug/L	6.0815 ppb	12:56:37
1	Ba 233.527†	-5.4	10.1	0.0766 ug/L	0.0766 ppb	12:56:37
1	Be 313.107†	-4208.6	335.0	0.1132 ug/L	0.1132 ppb	12:56:17
1	Cd 226.502†	-211.5	-0.4	0.0016 ug/L	0.0016 ppb	12:56:37
1	Co 228.616†	-86.8	1.3	0.0225 ug/L	0.0225 ppb	12:56:37
1	Cr 267.716†	68.0	3.9	0.0305 ug/L	0.0305 ppb	12:56:17
1	Cu 324.752†	6775.4	-337.8	-0.9552 ug/L	-0.9552 ppb	12:56:17
1	Mn 257.610†	507.7	-41.0	-0.0438 ug/L	-0.0438 ppb	12:56:37
1	Mo 202.031†	5.0	-0.4	-0.0279 ug/L	-0.0279 ppb	12:56:37
1	Ni 231.604†	88.5	0.3	0.0077 ug/L	0.0077 ppb	12:56:37
1	P 214.914†	230.9	-0.0	0.1661 ug/L	0.1661 ppb	12:56:37
1	Pb 220.353†	-62.3	19.4	2.0790 ug/L	2.0790 ppb	12:56:37
1	S 181.975 Axial†	55.6	4.9	5.9832 ug/L	5.9832 ppb	12:56:37
1	Sb 206.836†	33.0	-6.5	-1.9791 ug/L	-1.9791 ppb	12:56:37
1	Se 196.026†	-18.6	7.9	4.4103 ug/L	4.4103 ppb	12:56:37
1	Si 251.611†	494.9	-57.3	-1.7066 ug/L	-1.7066 ppb	12:56:37
1	Sn 189.927†	10.8	1.0	0.1650 ug/L	0.1650 ppb	12:56:37
1	Ti 334.940†	-1636.3	222.7	0.3158 ug/L	0.3158 ppb	12:56:17
1	Tl 190.801†	-35.8	9.9	2.7855 ug/L	2.7855 ppb	12:56:37
1	U 409.014†	-4299.8	956.9	28.266 ug/L	28.266 ppb	12:56:12
1	V 292.402†	-1626.9	179.7	1.2496 ug/L	1.2496 ppb	12:56:17
1	Zn 213.857†	747.7	13.6	0.1165 ug/L	0.1165 ppb	12:56:37
1	SiO2†	506.3	-72.8	-4.6442 ug/L	-4.6442 ppb	12:57:43
2	Sc Radial	4194.4	4194.4	102 %		12:55:40
2	Y RADIAL	4849.9	4849.9	100.2 %		12:55:20
2	Al 396.153Radial†	-190.7	2.5	2.0879 ug/L	2.0879 ppb	12:55:20
2	Ca 317.933Radial†	19.3	5.6	10.403 ug/L	10.403 ppb	12:55:40
2	Fe 238.204 Radial†	10.7	0.4	4.8848 ug/L	4.8848 ppb	12:55:40
2	K 766.490 Radial†	2799.0	128.7	24.464 ug/L	24.464 ppb	12:55:20
2	Mg 279.077 IEC†	3.5	3.5	146.58 ug/L	146.58 ppb	12:55:40
2	Na 589.592 Radial†	-1486.8	189.9	58.518 ug/L	58.518 ppb	12:55:20
2	Sr 421.552†	30.9	-6.1	-0.0401 ug/L	-0.0401 ppb	12:55:20
2	Sc 361.383	920753.8	920753.8	103.36 %		12:56:42
2	Y 371.029	757096.3	757096.3	103.11 %		12:56:42
2	Ag 328.068†	527.7	-114.0	-0.5136 ug/L	-0.5136 ppb	12:56:47
2	As 188.979†	-22.3	7.2	2.7623 ug/L	2.7623 ppb	12:57:07
2	B 249.677†	-536.4	242.1	5.0611 ug/L	5.0611 ppb	12:57:07
2	Ba 233.527†	-8.9	6.7	0.0508 ug/L	0.0508 ppb	12:57:07
2	Be 313.107†	-4187.0	352.1	0.1188 ug/L	0.1188 ppb	12:56:47
2	Cd 226.502†	-189.0	21.3	0.2241 ug/L	0.2241 ppb	12:57:07
2	Co 228.616†	-89.9	-1.8	-0.0338 ug/L	-0.0338 ppb	12:57:07
2	Cr 267.716†	67.1	3.1	0.0234 ug/L	0.0234 ppb	12:56:47
2	Cu 324.752†	6611.1	-490.6	-1.3776 ug/L	-1.3776 ppb	12:56:47
2	Mn 257.610†	535.5	-13.7	-0.0193 ug/L	-0.0193 ppb	12:57:07
2	Mo 202.031†	10.5	4.9	0.3267 ug/L	0.3267 ppb	12:57:07
2	Ni 231.604†	99.4	11.0	0.2453 ug/L	0.2453 ppb	12:57:07

2	P 214.914†	233.4	2.5	1.6006 ug/L	1.6006 ppb	12:57:07
2	Pb 220.353†	-70.3	11.6	1.2465 ug/L	1.2465 ppb	12:57:07
2	S 181.975 Axial†	57.0	6.3	7.7022 ug/L	7.7022 ppb	12:57:07
2	Sb 206.836†	44.6	4.7	1.4571 ug/L	1.4571 ppb	12:57:07
2	Se 196.026†	-28.3	-1.4	-0.7534 ug/L	-0.7534 ppb	12:57:07
2	Si 251.611†	494.0	-57.8	-1.7238 ug/L	-1.7238 ppb	12:57:07
2	Sn 189.927†	17.0	7.1	1.1416 ug/L	1.1416 ppb	12:57:07
2	Ti 334.940†	-1665.1	193.4	0.2679 ug/L	0.2679 ppb	12:56:47
2	Tl 190.801†	-25.7	19.6	5.5297 ug/L	5.5297 ppb	12:57:07
2	U 409.014†	-4446.2	811.4	23.966 ug/L	23.966 ppb	12:56:42
2	V 292.402†	-1691.9	115.2	0.8190 ug/L	0.8190 ppb	12:56:47
2	Zn 213.857†	758.2	24.4	0.2071 ug/L	0.2071 ppb	12:57:07
2	SiO2†	519.1	-60.0	-3.8378 ug/L	-3.8378 ppb	12:57:48
3	Sc Radial	4175.4	4175.4	101 %		12:56:05
3	Y RADIAL	4960.3	4960.3	102.5 %		12:55:45
3	Al 396.153Radial†	-181.2	11.1	9.1237 ug/L	9.1237 ppb	12:55:45
3	Ca 317.933Radial†	23.6	10.0	18.553 ug/L	18.553 ppb	12:56:05
3	Fe 238.204 Radial†	10.5	0.3	3.4989 ug/L	3.4989 ppb	12:56:05
3	K 766.490 Radial†	2725.0	68.1	12.946 ug/L	12.946 ppb	12:55:45
3	Mg 279.077 IEC†	1.3	1.4	58.232 ug/L	58.232 ppb	12:56:05
3	Na 589.592 Radial†	-1589.6	81.7	25.172 ug/L	25.172 ppb	12:55:45
3	Sr 421.552†	3.2	-33.2	-0.2196 ug/L	-0.2196 ppb	12:55:45
3	Sc 361.383	912583.9	912583.9	102.44 %		12:57:12
3	Y 371.029	750268.6	750268.6	102.18 %		12:57:12
3	Ag 328.068†	540.1	-97.3	-0.4399 ug/L	-0.4399 ppb	12:57:18
3	As 188.979†	-35.9	-6.3	-2.4321 ug/L	-2.4321 ppb	12:57:38
3	B 249.677†	-541.4	232.6	4.8631 ug/L	4.8631 ppb	12:57:38
3	Ba 233.527†	-15.1	0.6	0.0050 ug/L	0.0050 ppb	12:57:38
3	Be 313.107†	-4106.6	394.4	0.1332 ug/L	0.1332 ppb	12:57:18
3	Cd 226.502†	-182.5	26.0	0.2718 ug/L	0.2718 ppb	12:57:38
3	Co 228.616†	-82.7	4.5	0.0835 ug/L	0.0835 ppb	12:57:38
3	Cr 267.716†	89.0	25.0	0.2500 ug/L	0.2500 ppb	12:57:18
3	Cu 324.752†	6709.3	-337.5	-0.9498 ug/L	-0.9498 ppb	12:57:18
3	Mn 257.610†	521.2	-23.0	-0.0251 ug/L	-0.0251 ppb	12:57:38
3	Mo 202.031†	20.0	14.3	0.9479 ug/L	0.9479 ppb	12:57:38
3	Ni 231.604†	90.0	2.7	0.0592 ug/L	0.0592 ppb	12:57:38
3	P 214.914†	234.0	5.1	2.8577 ug/L	2.8577 ppb	12:57:38
3	Pb 220.353†	-63.4	17.8	1.9113 ug/L	1.9113 ppb	12:57:38
3	S 181.975 Axial†	49.4	-0.6	-0.7571 ug/L	-0.7571 ppb	12:57:38
3	Sb 206.836†	36.6	-2.7	-0.7971 ug/L	-0.7971 ppb	12:57:38
3	Se 196.026†	-24.4	2.1	1.1812 ug/L	1.1812 ppb	12:57:38
3	Si 251.611†	494.4	-53.1	-1.5932 ug/L	-1.5932 ppb	12:57:38
3	Sn 189.927†	15.4	5.6	0.9131 ug/L	0.9131 ppb	12:57:38
3	Ti 334.940†	-1595.7	246.7	0.3572 ug/L	0.3572 ppb	12:57:18
3	Tl 190.801†	-46.4	-0.8	-0.2302 ug/L	-0.2302 ppb	12:57:38
3	U 409.014†	-4527.5	693.5	20.485 ug/L	20.485 ppb	12:57:12
3	V 292.402†	-1736.6	57.0	0.4316 ug/L	0.4316 ppb	12:57:18
3	Zn 213.857†	751.4	24.4	0.2073 ug/L	0.2073 ppb	12:57:38
3	SiO2†	525.7	-49.1	-3.1566 ug/L	-3.1566 ppb	12:57:53

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	918318.4	103.09 %	0.560			0.54%
Sc Radial	4178.9	101 %	0.3			0.34%
Y 371.029	755388.8	102.88 %	0.615			0.60%
Y RADIAL	4900.5	101.2 %	1.15			1.14%
Ag 328.068†	-71.9	-0.3302 ug/L	0.25647	-0.3302 ppb	0.25647	77.66%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	5.5	4.4871 ug/L	4.01622	4.4871 ppb	4.01622	89.51%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.2	0.8600 ug/L	2.86253	0.8600 ppb	2.86253	332.85%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	255.2	5.3352 ug/L	0.65384	5.3352 ppb	0.65384	12.26%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	5.8	0.0441 ug/L	0.03628	0.0441 ppb	0.03628	82.19%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	360.5	0.1217 ug/L	0.01032	0.1217 ppb	0.01032	8.48%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	6.4	11.929 ug/L	6.0076	11.929 ppb	6.0076	50.36%



QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	15.6 0.1658 ug/L 0.14421 0.1658 ppb	0.14421	86.96%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	1.3 0.0240 ug/L 0.05864 0.0240 ppb	0.05864	243.88%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	10.7 0.1013 ug/L 0.12886 0.1013 ppb	0.12886	127.19%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-388.6 -1.0942 ug/L 0.24542 -1.0942 ppb	0.24542	22.43%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	0.3 3.2056 ug/L 1.84350 3.2056 ppb	1.84350	57.51%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	106.2 20.196 ug/L 6.3121 20.196 ppb	6.3121	31.25%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	2.1 90.458 ug/L 48.7809 90.458 ppb	48.7809	53.93%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-25.9 -0.0294 ug/L 0.01280 -0.0294 ppb	0.01280	43.54%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	6.2 0.4156 ug/L 0.49396 0.4156 ppb	0.49396	118.87%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	107.9 33.251 ug/L 22.3503 33.251 ppb	22.3503	67.22%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	4.7 0.1041 ug/L 0.12497 0.1041 ppb	0.12497	120.10%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	2.5 1.5415 ug/L 1.34674 1.5415 ppb	1.34674	87.37%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	16.2 1.7456 ug/L 0.44025 1.7456 ppb	0.44025	25.22%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	3.5 4.3094 ug/L 4.47110 4.3094 ppb	4.47110	103.75%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	-1.5 -0.4397 ug/L 1.74572 -0.4397 ppb	1.74572	397.03%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	2.9 1.6127 ug/L 2.60876 1.6127 ppb	2.60876	161.76%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	-56.1 -1.6745 ug/L 0.07097 -1.6745 ppb	0.07097	4.24%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	4.6 0.7399 ug/L 0.51083 0.7399 ppb	0.51083	69.04%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-15.9 -0.1052 ug/L 0.09940 -0.1052 ppb	0.09940	94.47%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	220.9 0.3136 ug/L 0.04473 0.3136 ppb	0.04473	14.26%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	9.5 2.6950 ug/L 2.88102 2.6950 ppb	2.88102	106.90%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	820.6 24.239 ug/L 3.8973 24.239 ppb	3.8973	16.08%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	117.3 0.8334 ug/L 0.40919 0.8334 ppb	0.40919	49.10%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	20.8 0.1770 ug/L 0.05234 0.1770 ppb	0.05234	29.57%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	-60.7 -3.8795 ug/L 0.74470 -3.8795 ppb	0.74470	19.20%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 14:11:43

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4180.5	4180.5	101 %		14:13:56
1	Y RADIAL	4842.6	4842.6	100.0 %		14:13:36
1	Al 396.153Radial†	6113.5	6223.2	5115.2 ug/L	5115.2 ppb	14:13:36
1	Ca 317.933Radial†	2895.5	2844.1	5264.8 ug/L	5264.8 ppb	14:13:56
1	Fe 238.204 Radial†	477.0	460.6	5366.9 ug/L	5366.9 ppb	14:13:56
1	K 766.490 Radial†	30144.3	27123.3	5156.1 ug/L	5156.1 ppb	14:13:36
1	Mg 279.077 IEC†	128.7	127.1	5353.6 ug/L	5353.6 ppb	14:13:56
1	Na 589.592 Radial†	33805.4	35012.7	10789 ug/L	10789 ppb	14:13:36
1	Sr 421.552†	81251.8	80145.9	529.13 ug/L	529.13 ppb	14:13:36
1	Sc 361.383	927392.8	927392.8	104.10 %		14:14:55
1	Y 371.029	752959.8	752959.8	102.55 %		14:14:55
1	Ag 328.068†	113342.9	108249.3	476.77 ug/L	476.77 ppb	14:14:55
1	As 188.979†	1237.7	1217.7	471.97 ug/L	471.97 ppb	14:15:15
1	B 249.677†	22021.4	21914.2	455.98 ug/L	455.98 ppb	14:14:55
1	Ba 233.527†	68092.7	65423.1	479.40 ug/L	479.40 ppb	14:14:55
1	Be 313.107†	1451990.3	1399141.4	470.53 ug/L	470.53 ppb	14:14:55
1	Cd 226.502†	48017.2	46328.0	478.23 ug/L	478.23 ppb	14:14:55
1	Co 228.616†	26438.1	25480.8	469.75 ug/L	469.75 ppb	14:15:15
1	Cr 267.716†	48266.0	46301.1	477.23 ug/L	477.23 ppb	14:14:55
1	Cu 324.752†	183377.6	169260.2	470.79 ug/L	470.79 ppb	14:14:55
1	Mn 257.610†	495675.9	475599.7	477.50 ug/L	477.50 ppb	14:14:55
1	Mo 202.031†	7482.5	7182.2	477.80 ug/L	477.80 ppb	14:15:15
1	Ni 231.604†	22180.3	21220.6	472.56 ug/L	472.56 ppb	14:15:15
1	P 214.914†	4899.9	4483.5	2235.8 ug/L	2235.8 ppb	14:15:15
1	Pb 220.353†	4545.2	4445.7	478.57 ug/L	478.57 ppb	14:15:15
1	S 181.975 Axial†	823.0	741.7	905.09 ug/L	905.09 ppb	14:15:15
1	Sb 206.836†	1593.8	1492.5	473.11 ug/L	473.11 ppb	14:15:15
1	Se 196.026†	842.6	835.3	482.50 ug/L	482.50 ppb	14:15:15
1	Si 251.611†	83114.4	79301.5	2354.6 ug/L	2354.6 ppb	14:14:55
1	Sn 189.927†	3044.3	2914.8	471.78 ug/L	471.78 ppb	14:15:15
1	Ti 334.940†	335703.9	324271.5	484.40 ug/L	484.40 ppb	14:14:55
1	Tl 190.801†	1701.7	1679.1	477.04 ug/L	477.04 ppb	14:15:15
1	U 409.014†	12028.9	16667.7	490.67 ug/L	490.67 ppb	14:14:55
1	V 292.402†	72759.9	71643.2	482.95 ug/L	482.95 ppb	14:14:55
1	Zn 213.857†	58785.7	55758.7	468.90 ug/L	468.90 ppb	14:14:55
1	SiO2†	83716.3	79853.1	5079.2 ug/L	5079.2 ppb	14:16:15
2	Sc Radial	4157.4	4157.4	101 %		14:14:21
2	Y RADIAL	4790.4	4790.4	98.95 %		14:14:01
2	Al 396.153Radial†	5964.0	6108.3	5020.0 ug/L	5020.0 ppb	14:14:01
2	Ca 317.933Radial†	2876.3	2840.9	5258.8 ug/L	5258.8 ppb	14:14:21
2	Fe 238.204 Radial†	479.8	466.0	5429.5 ug/L	5429.5 ppb	14:14:21
2	K 766.490 Radial†	29654.6	26802.5	5095.1 ug/L	5095.1 ppb	14:14:01
2	Mg 279.077 IEC†	131.0	130.0	5478.5 ug/L	5478.5 ppb	14:14:21
2	Na 589.592 Radial†	33303.2	34699.7	10693 ug/L	10693 ppb	14:14:01
2	Sr 421.552†	79771.2	79122.2	522.38 ug/L	522.38 ppb	14:14:01
2	Sc 361.383	915553.4	915553.4	102.78 %		14:15:22
2	Y 371.029	741342.4	741342.4	100.97 %		14:15:22
2	Ag 328.068†	113693.9	109998.7	484.48 ug/L	484.48 ppb	14:15:22
2	As 188.979†	1235.6	1231.0	477.15 ug/L	477.15 ppb	14:15:42
2	B 249.677†	22230.7	22391.4	465.92 ug/L	465.92 ppb	14:15:22
2	Ba 233.527†	68673.9	66834.4	489.74 ug/L	489.74 ppb	14:15:22
2	Be 313.107†	1461365.9	1426299.7	479.67 ug/L	479.67 ppb	14:15:22
2	Cd 226.502†	48354.1	47252.2	487.77 ug/L	487.77 ppb	14:15:22
2	Co 228.616†	26551.2	25919.2	477.82 ug/L	477.82 ppb	14:15:42
2	Cr 267.716†	48670.1	47293.8	487.47 ug/L	487.47 ppb	14:15:22
2	Cu 324.752†	184835.4	172956.4	481.07 ug/L	481.07 ppb	14:15:22
2	Mn 257.610†	500254.1	486211.3	488.15 ug/L	488.15 ppb	14:15:22
2	Mo 202.031†	7501.2	7293.4	485.20 ug/L	485.20 ppb	14:15:42
2	Ni 231.604†	22250.4	21564.3	480.22 ug/L	480.22 ppb	14:15:42

2	P 214.914†	4902.2	4546.5	2266.5 ug/L	2266.5 ppb	14:15:42
2	Pb 220.353†	4539.8	4496.9	484.05 ug/L	484.05 ppb	14:15:42
2	S 181.975 Axial†	817.8	746.8	911.35 ug/L	911.35 ppb	14:15:42
2	Sb 206.836†	1608.9	1527.0	483.91 ug/L	483.91 ppb	14:15:42
2	Se 196.026†	852.7	855.6	493.98 ug/L	493.98 ppb	14:15:42
2	Si 251.611†	83707.2	80910.7	2402.4 ug/L	2402.4 ppb	14:15:22
2	Sn 189.927†	3051.4	2959.5	479.00 ug/L	479.00 ppb	14:15:42
2	Ti 334.940†	338447.8	331111.3	494.60 ug/L	494.60 ppb	14:15:22
2	Tl 190.801†	1711.6	1709.9	485.82 ug/L	485.82 ppb	14:15:42
2	U 409.014†	12041.8	16829.6	495.42 ug/L	495.42 ppb	14:15:22
2	V 292.402†	73291.9	73064.6	492.50 ug/L	492.50 ppb	14:15:22
2	Zn 213.857†	59178.3	56870.8	478.27 ug/L	478.27 ppb	14:15:22
2	SiO2†	83093.5	80287.0	5106.7 ug/L	5106.7 ppb	14:16:20
3	Sc Radial	4205.0	4205.0	102 %		14:14:46
3	Y RADIAL	4870.2	4870.2	100.6 %		14:14:26
3	Al 396.153Radial†	6060.3	6135.8	5042.7 ug/L	5042.7 ppb	14:14:26
3	Ca 317.933Radial†	2870.0	2802.5	5187.7 ug/L	5187.7 ppb	14:14:46
3	Fe 238.204 Radial†	475.2	456.1	5315.0 ug/L	5315.0 ppb	14:14:46
3	K 766.490 Radial†	29986.8	26795.7	5093.8 ug/L	5093.8 ppb	14:14:26
3	Mg 279.077 IEC†	133.7	131.2	5528.2 ug/L	5528.2 ppb	14:14:46
3	Na 589.592 Radial†	33560.2	34578.1	10655 ug/L	10655 ppb	14:14:26
3	Sr 421.552†	80769.2	79206.2	522.93 ug/L	522.93 ppb	14:14:26
3	Sc 361.383	917204.4	917204.4	102.96 %		14:15:50
3	Y 371.029	742712.8	742712.8	101.15 %		14:15:50
3	Ag 328.068†	114406.9	110492.0	486.60 ug/L	486.60 ppb	14:15:50
3	As 188.979†	1244.7	1237.6	479.70 ug/L	479.70 ppb	14:16:10
3	B 249.677†	22327.0	22446.0	467.08 ug/L	467.08 ppb	14:15:50
3	Ba 233.527†	68810.4	66846.7	489.83 ug/L	489.83 ppb	14:15:50
3	Be 313.107†	1465998.1	1428239.2	480.32 ug/L	480.32 ppb	14:15:50
3	Cd 226.502†	48584.4	47391.3	489.22 ug/L	489.22 ppb	14:15:50
3	Co 228.616†	26632.0	25951.2	478.42 ug/L	478.42 ppb	14:16:10
3	Cr 267.716†	48797.2	47332.0	487.86 ug/L	487.86 ppb	14:15:50
3	Cu 324.752†	186087.0	173848.3	483.55 ug/L	483.55 ppb	14:15:50
3	Mn 257.610†	501527.6	486572.0	488.50 ug/L	488.50 ppb	14:15:50
3	Mo 202.031†	7533.1	7311.2	486.37 ug/L	486.37 ppb	14:16:10
3	Ni 231.604†	22275.9	21550.1	479.90 ug/L	479.90 ppb	14:16:10
3	P 214.914†	4929.6	4564.6	2275.5 ug/L	2275.5 ppb	14:16:10
3	Pb 220.353†	4561.3	4509.8	485.45 ug/L	485.45 ppb	14:16:10
3	S 181.975 Axial†	823.0	750.5	915.85 ug/L	915.85 ppb	14:16:10
3	Sb 206.836†	1617.1	1532.2	485.54 ug/L	485.54 ppb	14:16:10
3	Se 196.026†	860.9	862.1	497.22 ug/L	497.22 ppb	14:16:10
3	Si 251.611†	84172.0	81215.5	2411.5 ug/L	2411.5 ppb	14:15:50
3	Sn 189.927†	3063.4	2965.8	480.00 ug/L	480.00 ppb	14:16:10
3	Ti 334.940†	340044.8	332069.6	496.02 ug/L	496.02 ppb	14:15:50
3	Tl 190.801†	1706.7	1720.0	483.62 ug/L	483.62 ppb	14:16:10
3	U 409.014†	12169.3	16932.4	498.47 ug/L	498.47 ppb	14:15:50
3	V 292.402†	73657.1	73290.9	494.04 ug/L	494.04 ppb	14:15:50
3	Zn 213.857†	59372.6	56955.9	479.00 ug/L	479.00 ppb	14:15:50
3	SiO2†	82711.1	79770.1	5073.7 ug/L	5073.7 ppb	14:16:26

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	920050.2	103.28 %	0.720			0.70%
Sc Radial	4181.0	101 %	0.6			0.57%
Y 371.029	745671.7	101.56 %	0.865			0.85%
Y RADIAL	4834.4	99.86 %	0.837			0.84%
Ag 328.068†	109580.0	482.61 ug/L	5.174	482.61 ppb	5.174	1.07%
QC value within limits for Ag 328.068 Recovery = 96.52%						
Al 396.153Radial†	6155.8	5059.3 ug/L	49.73	5059.3 ppb	49.73	0.98%
QC value within limits for Al 396.153Radial Recovery = 101.19%						
As 188.979†	1228.8	476.27 ug/L	3.938	476.27 ppb	3.938	0.83%
QC value within limits for As 188.979 Recovery = 95.25%						
B 249.677†	22250.5	463.00 ug/L	6.103	463.00 ppb	6.103	1.32%
QC value within limits for B 249.677 Recovery = 92.60%						
Ba 233.527†	66368.1	486.32 ug/L	5.995	486.32 ppb	5.995	1.23%
QC value within limits for Ba 233.527 Recovery = 97.26%						
Be 313.107†	1417893.5	476.84 ug/L	5.473	476.84 ppb	5.473	1.15%
QC value within limits for Be 313.107 Recovery = 95.37%						
Ca 317.933Radial†	2829.1	5237.1 ug/L	42.88	5237.1 ppb	42.88	0.82%

QC value within limits for Ca 317.933 Radial Recovery = 104.74%							
Cd	226.502†	46990.5	485.07 ug/L	5.971	485.07 ppb	5.971	1.23%
QC value within limits for Cd 226.502 Recovery = 97.01%							
Co	228.616†	25783.8	475.33 ug/L	4.843	475.33 ppb	4.843	1.02%
QC value within limits for Co 228.616 Recovery = 95.07%							
Cr	267.716†	46975.6	484.19 ug/L	6.024	484.19 ppb	6.024	1.24%
QC value within limits for Cr 267.716 Recovery = 96.84%							
Cu	324.752†	172021.6	478.47 ug/L	6.764	478.47 ppb	6.764	1.41%
QC value within limits for Cu 324.752 Recovery = 95.69%							
Fe	238.204 Radial†	460.9	5370.5 ug/L	57.35	5370.5 ppb	57.35	1.07%
QC value within limits for Fe 238.204 Radial Recovery = 107.41%							
K	766.490 Radial†	26907.2	5115.0 ug/L	35.60	5115.0 ppb	35.60	0.70%
QC value within limits for K 766.490 Radial Recovery = 102.30%							
Mg	279.077 IEC†	129.4	5453.4 ug/L	89.96	5453.4 ppb	89.96	1.65%
QC value within limits for Mg 279.077 IEC Recovery = 109.07%							
Mn	257.610†	482794.3	484.71 ug/L	6.251	484.71 ppb	6.251	1.29%
QC value within limits for Mn 257.610 Recovery = 96.94%							
Mo	202.031†	7262.3	483.12 ug/L	4.646	483.12 ppb	4.646	0.96%
QC value within limits for Mo 202.031 Recovery = 96.62%							
Na	589.592 Radial†	34763.5	10712 ug/L	69.1	10712 ppb	69.1	0.64%
QC value within limits for Na 589.592 Radial Recovery = 107.12%							
Ni	231.604†	21445.0	477.56 ug/L	4.331	477.56 ppb	4.331	0.91%
QC value within limits for Ni 231.604 Recovery = 95.51%							
P	214.914†	4531.5	2259.2 ug/L	20.81	2259.2 ppb	20.81	0.92%
QC value within limits for P 214.914 Recovery = 90.37%							
Pb	220.353†	4484.1	482.69 ug/L	3.637	482.69 ppb	3.637	0.75%
QC value within limits for Pb 220.353 Recovery = 96.54%							
S	181.975 Axial†	746.3	910.77 ug/L	5.405	910.77 ppb	5.405	0.59%
QC value within limits for S 181.975 Axial Recovery = 91.08%							
Sb	206.836†	1517.2	480.86 ug/L	6.753	480.86 ppb	6.753	1.40%
QC value within limits for Sb 206.836 Recovery = 96.17%							
Se	196.026†	851.0	491.23 ug/L	7.733	491.23 ppb	7.733	1.57%
QC value within limits for Se 196.026 Recovery = 98.25%							
Si	251.611†	80475.9	2389.5 ug/L	30.55	2389.5 ppb	30.55	1.28%
QC value within limits for Si 251.611 Recovery = 95.58%							
Sn	189.927†	2946.7	476.93 ug/L	4.487	476.93 ppb	4.487	0.94%
QC value within limits for Sn 189.927 Recovery = 95.39%							
Sr	421.552†	79491.4	524.81 ug/L	3.752	524.81 ppb	3.752	0.72%
QC value within limits for Sr 421.552 Recovery = 104.96%							
Ti	334.940†	329150.8	491.67 ug/L	6.339	491.67 ppb	6.339	1.29%
QC value within limits for Ti 334.940 Recovery = 98.33%							
Tl	190.801†	1697.0	482.16 ug/L	4.566	482.16 ppb	4.566	0.95%
QC value within limits for Tl 190.801 Recovery = 96.43%							
U	409.014†	16809.9	494.85 ug/L	3.931	494.85 ppb	3.931	0.79%
QC value within limits for U 409.014 Recovery = 98.97%							
V	292.402†	72666.2	489.83 ug/L	6.008	489.83 ppb	6.008	1.23%
QC value within limits for V 292.402 Recovery = 97.97%							
Zn	213.857†	56528.5	475.39 ug/L	5.631	475.39 ppb	5.631	1.18%
QC value within limits for Zn 213.857 Recovery = 95.08%							
SiO2†		79970.1	5086.5 ug/L	17.67	5086.5 ppb	17.67	0.35%
QC value within limits for SiO2 Recovery = 95.12%							
All analyte(s) passed QC.							

Sequence No.: 12

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 14:18:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4374.4	4374.4	106 %		14:20:28
1	Y RADIAL	4951.8	4951.8	102.3 %		14:20:28
1	Al 396.153Radial†	-217.3	-14.8	-12.220 ug/L	-12.220 ppb	14:20:28
1	Ca 317.933Radial†	27.7	12.8	23.717 ug/L	23.717 ppb	14:20:48
1	Fe 238.204 Radial†	15.1	4.1	47.803 ug/L	47.803 ppb	14:20:48
1	K 766.490 Radial†	2652.1	-123.2	-23.472 ug/L	-23.472 ppb	14:20:28
1	Mg 279.077 IEC†	2.5	2.4	102.00 ug/L	102.00 ppb	14:20:48
1	Na 589.592 Radial†	-1558.2	182.7	56.303 ug/L	56.303 ppb	14:20:28
1	Sr 421.552†	9.7	-27.3	-0.1802 ug/L	-0.1802 ppb	14:20:28
1	Sc 361.383	889564.5	889564.5	99.858 %		14:21:45
1	Y 371.029	735982.5	735982.5	100.24 %		14:21:45
1	Ag 328.068†	504.6	-119.2	-0.5156 ug/L	-0.5156 ppb	14:21:45
1	As 188.979†	-27.0	1.7	0.6717 ug/L	0.6717 ppb	14:22:05
1	B 249.677†	-522.5	237.9	4.9652 ug/L	4.9652 ppb	14:22:05
1	Ba 233.527†	-21.1	-5.9	-0.0393 ug/L	-0.0393 ppb	14:22:05
1	Be 313.107†	-4160.9	236.3	0.0800 ug/L	0.0800 ppb	14:21:45
1	Cd 226.502†	-184.9	19.0	0.1940 ug/L	0.1940 ppb	14:22:05
1	Co 228.616†	-73.9	11.1	0.2028 ug/L	0.2028 ppb	14:22:05
1	Cr 267.716†	90.5	28.8	0.2929 ug/L	0.2929 ppb	14:21:45
1	Cu 324.752†	6632.3	-245.1	-0.6879 ug/L	-0.6879 ppb	14:21:45
1	Mn 257.610†	467.6	-63.5	-0.0632 ug/L	-0.0632 ppb	14:22:05
1	Mo 202.031†	1.5	-3.7	-0.2437 ug/L	-0.2437 ppb	14:22:05
1	Ni 231.604†	85.7	0.7	0.0146 ug/L	0.0146 ppb	14:22:05
1	P 214.914†	226.3	3.4	1.8491 ug/L	1.8491 ppb	14:22:05
1	Pb 220.353†	-60.6	19.0	2.0274 ug/L	2.0274 ppb	14:22:05
1	S 181.975 Axial†	43.6	-5.2	-6.3544 ug/L	-6.3544 ppb	14:22:05
1	Sb 206.836†	46.3	8.0	2.4398 ug/L	2.4398 ppb	14:22:05
1	Se 196.026†	-25.2	0.7	0.5631 ug/L	0.5631 ppb	14:22:05
1	Si 251.611†	488.1	-47.0	-1.3945 ug/L	-1.3945 ppb	14:22:05
1	Sn 189.927†	13.5	4.1	0.6606 ug/L	0.6606 ppb	14:22:05
1	Ti 334.940†	-1575.4	226.7	0.3266 ug/L	0.3266 ppb	14:21:45
1	Tl 190.801†	-40.0	4.4	1.2552 ug/L	1.2552 ppb	14:22:05
1	U 409.014†	-4575.3	531.3	15.686 ug/L	15.686 ppb	14:21:45
1	V 292.402†	-1610.1	139.8	0.9513 ug/L	0.9513 ppb	14:21:45
1	Zn 213.857†	797.9	89.9	0.7590 ug/L	0.7590 ppb	14:22:05
1	SiO2†	499.9	-61.7	-3.9253 ug/L	-3.9253 ppb	14:23:01
2	Sc Radial	4460.3	4460.3	108 %		14:20:53
2	Y RADIAL	5022.1	5022.1	103.7 %		14:20:53
2	Al 396.153Radial†	-208.5	-2.7	-2.2426 ug/L	-2.2426 ppb	14:20:53
2	Ca 317.933Radial†	23.3	8.2	15.175 ug/L	15.175 ppb	14:21:13
2	Fe 238.204 Radial†	11.0	0.0	0.3843 ug/L	0.3843 ppb	14:21:13
2	K 766.490 Radial†	2557.5	-258.8	-49.291 ug/L	-49.291 ppb	14:20:53
2	Mg 279.077 IEC†	6.1	5.7	241.59 ug/L	241.59 ppb	14:21:13
2	Na 589.592 Radial†	-1547.8	220.6	67.987 ug/L	67.987 ppb	14:20:53
2	Sr 421.552†	18.2	-19.7	-0.1299 ug/L	-0.1299 ppb	14:20:53
2	Sc 361.383	902955.6	902955.6	101.36 %		14:22:10
2	Y 371.029	746559.0	746559.0	101.68 %		14:22:10
2	Ag 328.068†	570.3	-61.9	-0.2866 ug/L	-0.2866 ppb	14:22:10
2	As 188.979†	-32.9	-3.8	-1.4416 ug/L	-1.4416 ppb	14:22:31
2	B 249.677†	-581.9	187.0	3.9097 ug/L	3.9097 ppb	14:22:31
2	Ba 233.527†	-5.5	9.8	0.0730 ug/L	0.0730 ppb	14:22:31
2	Be 313.107†	-4229.1	230.8	0.0779 ug/L	0.0779 ppb	14:22:10
2	Cd 226.502†	-199.2	7.6	0.0824 ug/L	0.0824 ppb	14:22:31
2	Co 228.616†	-79.5	6.7	0.1229 ug/L	0.1229 ppb	14:22:31
2	Cr 267.716†	53.9	-8.6	-0.0970 ug/L	-0.0970 ppb	14:22:10
2	Cu 324.752†	6639.7	-336.3	-0.9474 ug/L	-0.9474 ppb	14:22:10
2	Mn 257.610†	507.5	-31.1	-0.0411 ug/L	-0.0411 ppb	14:22:31
2	Mo 202.031†	7.5	2.2	0.1473 ug/L	0.1473 ppb	14:22:31
2	Ni 231.604†	92.5	6.1	0.1353 ug/L	0.1353 ppb	14:22:31

2	P 214.914†	244.8	18.2	9.6283 ug/L	9.6283 ppb	14:22:31
2	Pb 220.353†	-44.7	35.6	3.8180 ug/L	3.8180 ppb	14:22:31
2	S 181.975 Axial†	51.7	2.1	2.5484 ug/L	2.5484 ppb	14:22:31
2	Sb 206.836†	43.0	4.0	1.1986 ug/L	1.1986 ppb	14:22:31
2	Se 196.026†	-22.9	3.4	1.8784 ug/L	1.8784 ppb	14:22:31
2	Si 251.611†	466.5	-75.5	-2.2494 ug/L	-2.2494 ppb	14:22:31
2	Sn 189.927†	0.2	-9.2	-1.4895 ug/L	-1.4895 ppb	14:22:31
2	Ti 334.940†	-1704.7	122.6	0.1559 ug/L	0.1559 ppb	14:22:10
2	Tl 190.801†	-44.8	0.2	0.0679 ug/L	0.0679 ppb	14:22:31
2	U 409.014†	-4432.8	739.8	21.853 ug/L	21.853 ppb	14:22:10
2	V 292.402†	-1701.6	73.5	0.5371 ug/L	0.5371 ppb	14:22:10
2	Zn 213.857†	782.0	62.4	0.5296 ug/L	0.5296 ppb	14:22:31
2	SiO2†	507.9	-61.2	-3.9042 ug/L	-3.9042 ppb	14:23:06
3	Sc Radial	4388.1	4388.1	106 %		14:21:18
3	Y RADIAL	4950.0	4950.0	102.2 %		14:21:18
3	Al 396.153Radial†	-202.0	0.2	0.2013 ug/L	0.2013 ppb	14:21:18
3	Ca 317.933Radial†	22.5	7.8	14.410 ug/L	14.410 ppb	14:21:38
3	Fe 238.204 Radial†	10.0	-0.7	-7.8747 ug/L	-7.8747 ppb	14:21:38
3	K 766.490 Radial†	2671.2	-112.9	-21.524 ug/L	-21.524 ppb	14:21:18
3	Mg 279.077 IEC†	3.1	3.0	125.45 ug/L	125.45 ppb	14:21:38
3	Na 589.592 Radial†	-1536.4	207.8	64.034 ug/L	64.034 ppb	14:21:18
3	Sr 421.552†	-1.2	-37.6	-0.2484 ug/L	-0.2484 ppb	14:21:18
3	Sc 361.383	898376.7	898376.7	100.85 %		14:22:36
3	Y 371.029	741180.2	741180.2	100.94 %		14:22:36
3	Ag 328.068†	493.8	-134.8	-0.6051 ug/L	-0.6051 ppb	14:22:36
3	As 188.979†	-35.3	-6.3	-2.4011 ug/L	-2.4011 ppb	14:22:56
3	B 249.677†	-599.1	167.0	3.4936 ug/L	3.4936 ppb	14:22:56
3	Ba 233.527†	-4.7	10.6	0.0802 ug/L	0.0802 ppb	14:22:56
3	Be 313.107†	-4248.9	189.8	0.0644 ug/L	0.0644 ppb	14:22:36
3	Cd 226.502†	-190.1	15.6	0.1665 ug/L	0.1665 ppb	14:22:56
3	Co 228.616†	-80.9	4.9	0.0896 ug/L	0.0896 ppb	14:22:56
3	Cr 267.716†	108.4	45.6	0.4626 ug/L	0.4626 ppb	14:22:36
3	Cu 324.752†	6795.3	-148.7	-0.4258 ug/L	-0.4258 ppb	14:22:36
3	Mn 257.610†	472.1	-63.7	-0.0698 ug/L	-0.0698 ppb	14:22:56
3	Mo 202.031†	3.0	-2.3	-0.1526 ug/L	-0.1526 ppb	14:22:56
3	Ni 231.604†	97.8	11.8	0.2636 ug/L	0.2636 ppb	14:22:56
3	P 214.914†	239.9	14.6	7.7032 ug/L	7.7032 ppb	14:22:56
3	Pb 220.353†	-66.8	13.4	1.4397 ug/L	1.4397 ppb	14:22:56
3	S 181.975 Axial†	47.3	-2.0	-2.4713 ug/L	-2.4713 ppb	14:22:56
3	Sb 206.836†	41.3	2.6	0.8085 ug/L	0.8085 ppb	14:22:56
3	Se 196.026†	-30.8	-4.6	-2.5690 ug/L	-2.5690 ppb	14:22:56
3	Si 251.611†	460.7	-78.9	-2.3470 ug/L	-2.3470 ppb	14:22:56
3	Sn 189.927†	20.4	10.8	1.7440 ug/L	1.7440 ppb	14:22:56
3	Ti 334.940†	-1620.1	197.9	0.2778 ug/L	0.2778 ppb	14:22:36
3	Tl 190.801†	-46.1	-1.3	-0.3567 ug/L	-0.3567 ppb	14:22:56
3	U 409.014†	-4423.5	726.8	21.468 ug/L	21.468 ppb	14:22:36
3	V 292.402†	-1577.9	187.5	1.2897 ug/L	1.2897 ppb	14:22:36
3	Zn 213.857†	790.2	74.4	0.6312 ug/L	0.6312 ppb	14:22:56
3	SiO2†	459.1	-107.0	-6.8168 ug/L	-6.8168 ppb	14:23:11

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	896965.6	100.69 %	0.764			0.76%
Sc Radial	4407.6	107 %	1.1			1.05%
Y 371.029	741240.6	100.95 %	0.720			0.71%
Y RADIAL	4974.6	102.8 %	0.85			0.83%
Ag 328.068†	-105.3	-0.4691 ug/L	0.16430	-0.4691 ppb	0.16430	35.03%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-5.8	-4.7537 ug/L	6.58030	-4.7537 ppb	6.58030	138.42%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-2.8	-1.0570 ug/L	1.57206	-1.0570 ppb	1.57206	148.73%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	197.3	4.1229 ug/L	0.75862	4.1229 ppb	0.75862	18.40%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.9	0.0379 ug/L	0.06702	0.0379 ppb	0.06702	176.65%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	219.0	0.0741 ug/L	0.00849	0.0741 ppb	0.00849	11.46%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	9.6	17.767 ug/L	5.1668	17.767 ppb	5.1668	29.08%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	14.1 0.1476 ug/L	0.05816 0.1476 ppb	0.05816 39.40%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	7.6 0.1384 ug/L	0.05817 0.1384 ppb	0.05817 42.03%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	21.9 0.2195 ug/L	0.28694 0.2195 ppb	0.28694 130.70%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-243.4 -0.6870 ug/L	0.26081 -0.6870 ppb	0.26081 37.96%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	1.2 13.438 ug/L	30.0466 13.438 ppb	30.0466 223.60%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	-165.0 -31.429 ug/L	15.4992 -31.429 ppb	15.4992 49.31%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	3.7 156.35 ug/L	74.750 156.35 ppb	74.750 47.81%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-52.8 -0.0580 ug/L	0.01505 -0.0580 ppb	0.01505 25.93%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	-1.3 -0.0830 ug/L	0.20458 -0.0830 ppb	0.20458 246.50%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	203.7 62.775 ug/L	5.9429 62.775 ppb	5.9429 9.47%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	6.2 0.1378 ug/L	0.12456 0.1378 ppb	0.12456 90.37%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	12.1 6.3935 ug/L	4.05156 6.3935 ppb	4.05156 63.37%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	22.7 2.4284 ug/L	1.23880 2.4284 ppb	1.23880 51.01%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	-1.7 -2.0924 ug/L	4.46347 -2.0924 ppb	4.46347 213.32%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	4.8 1.4823 ug/L	0.85183 1.4823 ppb	0.85183 57.47%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-0.2 -0.0425 ug/L	2.28474 -0.0425 ppb	2.28474 >999.9%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	-67.1 -1.9970 ug/L	0.52401 -1.9970 ppb	0.52401 26.24%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	1.9 0.3050 ug/L	1.64582 0.3050 ppb	1.64582 539.58%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-28.2 -0.1862 ug/L	0.05950 -0.1862 ppb	0.05950 31.97%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	182.4 0.2534 ug/L	0.08792 0.2534 ppb	0.08792 34.69%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	1.1 0.3222 ug/L	0.83546 0.3222 ppb	0.83546 259.33%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	665.9 19.669 ug/L	3.4546 19.669 ppb	3.4546 17.56%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	133.6 0.9260 ug/L	0.37696 0.9260 ppb	0.37696 40.71%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	75.6 0.6399 ug/L	0.11494 0.6399 ppb	0.11494 17.96%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	-76.6 -4.8821 ug/L	1.67554 -4.8821 ppb	1.67554 34.32%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 15:23:45

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4324.0	4324.0	105 %		15:25:37
1	Y RADIAL	4839.8	4839.8	99.97 %		15:25:37
1	Al 396.153Radial†	6002.2	5916.7	4861.8 ug/L	4861.8 ppb	15:25:37
1	Ca 317.933Radial†	2915.9	2768.7	5125.2 ug/L	5125.2 ppb	15:25:57
1	Fe 238.204 Radial†	489.6	457.0	5325.3 ug/L	5325.3 ppb	15:25:57
1	K 766.490 Radial†	29725.3	25736.2	4892.3 ug/L	4892.3 ppb	15:25:37
1	Mg 279.077 IEC†	132.2	126.1	5314.9 ug/L	5314.9 ppb	15:25:57
1	Na 589.592 Radial†	33325.3	33447.4	10307 ug/L	10307 ppb	15:25:37
1	Sr 421.552†	80087.6	76373.9	504.23 ug/L	504.23 ppb	15:25:37
1	Sc 361.383	908890.7	908890.7	102.03 %		15:26:55
1	Y 371.029	736593.9	736593.9	100.32 %		15:26:55
1	Ag 328.068†	112014.1	109163.2	480.76 ug/L	480.76 ppb	15:27:00
1	As 188.979†	1241.0	1245.1	482.56 ug/L	482.56 ppb	15:27:20
1	B 249.677†	21719.7	22049.1	458.78 ug/L	458.78 ppb	15:27:00
1	Ba 233.527†	67268.0	65946.3	483.23 ug/L	483.23 ppb	15:27:00
1	Be 313.107†	1446843.4	1422489.3	478.39 ug/L	478.39 ppb	15:26:55
1	Cd 226.502†	47360.1	46622.9	481.29 ug/L	481.29 ppb	15:27:00
1	Co 228.616†	26484.6	26043.3	480.11 ug/L	480.11 ppb	15:27:00
1	Cr 267.716†	47928.5	46914.0	483.54 ug/L	483.54 ppb	15:27:00
1	Cu 324.752†	183020.8	172496.3	479.78 ug/L	479.78 ppb	15:27:00
1	Mn 257.610†	496305.2	485908.9	487.84 ug/L	487.84 ppb	15:26:55
1	Mo 202.031†	7456.6	7303.2	485.84 ug/L	485.84 ppb	15:27:20
1	Ni 231.604†	22219.9	21693.1	483.09 ug/L	483.09 ppb	15:27:00
1	P 214.914†	4896.3	4575.8	2281.9 ug/L	2281.9 ppb	15:27:20
1	Pb 220.353†	4488.0	4478.5	482.05 ug/L	482.05 ppb	15:27:20
1	S 181.975 Axial†	815.7	750.6	915.98 ug/L	915.98 ppb	15:27:20
1	Sb 206.836†	1608.6	1538.2	487.33 ug/L	487.33 ppb	15:27:20
1	Se 196.026†	851.9	860.9	496.55 ug/L	496.55 ppb	15:27:20
1	Si 251.611†	82144.0	79975.6	2374.6 ug/L	2374.6 ppb	15:27:00
1	Sn 189.927†	3029.9	2960.3	479.10 ug/L	479.10 ppb	15:27:20
1	Ti 334.940†	336421.2	331538.9	495.23 ug/L	495.23 ppb	15:26:55
1	Tl 190.801†	1715.3	1725.7	490.27 ug/L	490.27 ppb	15:27:20
1	U 409.014†	12508.7	17373.1	511.49 ug/L	511.49 ppb	15:27:00
1	V 292.402†	72167.5	72485.3	488.70 ug/L	488.70 ppb	15:27:00
1	Zn 213.857†	57930.8	56070.3	471.47 ug/L	471.47 ppb	15:27:00
1	SiO2†	82102.5	79908.4	5082.5 ug/L	5082.5 ppb	15:28:28
2	Sc Radial	4399.7	4399.7	107 %		15:26:02
2	Y RADIAL	4930.9	4930.9	101.8 %		15:26:02
2	Al 396.153Radial†	6106.9	5916.3	4861.6 ug/L	4861.6 ppb	15:26:02
2	Ca 317.933Radial†	2882.4	2689.4	4978.5 ug/L	4978.5 ppb	15:26:22
2	Fe 238.204 Radial†	482.5	442.3	5154.9 ug/L	5154.9 ppb	15:26:22
2	K 766.490 Radial†	30275.2	25763.8	4897.6 ug/L	4897.6 ppb	15:26:02
2	Mg 279.077 IEC†	129.9	121.9	5134.6 ug/L	5134.6 ppb	15:26:22
2	Na 589.592 Radial†	34129.0	33653.9	10371 ug/L	10371 ppb	15:26:02
2	Sr 421.552†	81681.4	76553.5	505.42 ug/L	505.42 ppb	15:26:02
2	Sc 361.383	907620.9	907620.9	101.89 %		15:27:26
2	Y 371.029	734823.1	734823.1	100.08 %		15:27:26
2	Ag 328.068†	112963.6	110248.7	485.47 ug/L	485.47 ppb	15:27:31
2	As 188.979†	1233.6	1239.5	480.40 ug/L	480.40 ppb	15:27:51
2	B 249.677†	22093.8	22446.1	467.09 ug/L	467.09 ppb	15:27:31
2	Ba 233.527†	67833.3	66593.4	487.97 ug/L	487.97 ppb	15:27:31
2	Be 313.107†	1447770.4	1425383.0	479.36 ug/L	479.36 ppb	15:27:26
2	Cd 226.502†	47891.2	47209.1	487.36 ug/L	487.36 ppb	15:27:31
2	Co 228.616†	26809.7	26398.7	486.65 ug/L	486.65 ppb	15:27:31
2	Cr 267.716†	48424.5	47466.6	489.23 ug/L	489.23 ppb	15:27:31
2	Cu 324.752†	184496.9	174196.0	484.50 ug/L	484.50 ppb	15:27:31
2	Mn 257.610†	497568.7	487829.6	489.76 ug/L	489.76 ppb	15:27:26
2	Mo 202.031†	7401.7	7259.6	482.92 ug/L	482.92 ppb	15:27:51
2	Ni 231.604†	22343.9	21845.3	486.47 ug/L	486.47 ppb	15:27:31



2	P 214.914†	4882.0	4568.4	2277.3 ug/L	2277.3 ppb	15:27:51
2	Pb 220.353†	4472.6	4469.4	481.09 ug/L	481.09 ppb	15:27:51
2	S 181.975 Axial†	823.8	759.7	927.13 ug/L	927.13 ppb	15:27:51
2	Sb 206.836†	1618.9	1550.5	491.07 ug/L	491.07 ppb	15:27:51
2	Se 196.026†	855.1	865.3	498.41 ug/L	498.41 ppb	15:27:51
2	Si 251.611†	83074.2	81001.2	2405.1 ug/L	2405.1 ppb	15:27:31
2	Sn 189.927†	3041.8	2976.1	481.63 ug/L	481.63 ppb	15:27:51
2	Ti 334.940†	337341.1	332903.1	497.26 ug/L	497.26 ppb	15:27:26
2	Tl 190.801†	1713.3	1726.0	490.37 ug/L	490.37 ppb	15:27:51
2	U 409.014†	12687.8	17566.1	517.20 ug/L	517.20 ppb	15:27:31
2	V 292.402†	72601.6	73010.3	492.18 ug/L	492.18 ppb	15:27:31
2	Zn 213.857†	58558.5	56765.7	477.36 ug/L	477.36 ppb	15:27:31
2	SiO2†	82500.8	80411.9	5114.7 ug/L	5114.7 ppb	15:28:33
3	Sc Radial	4387.0	4387.0	106 %		15:26:27
3	Y RADIAL	4891.2	4891.2	101.0 %		15:26:27
3	Al 396.153Radial†	6067.4	5895.9	4844.6 ug/L	4844.6 ppb	15:26:27
3	Ca 317.933Radial†	2873.6	2689.0	4977.7 ug/L	4977.7 ppb	15:26:47
3	Fe 238.204 Radial†	478.3	439.7	5124.3 ug/L	5124.3 ppb	15:26:47
3	K 766.490 Radial†	30092.6	25674.5	4880.6 ug/L	4880.6 ppb	15:26:27
3	Mg 279.077 IEC†	133.8	125.9	5305.2 ug/L	5305.2 ppb	15:26:47
3	Na 589.592 Radial†	33666.9	33312.2	10265 ug/L	10265 ppb	15:26:27
3	Sr 421.552†	81394.9	76506.5	505.11 ug/L	505.11 ppb	15:26:27
3	Sc 361.383	908526.6	908526.6	101.99 %		15:27:57
3	Y 371.029	735248.8	735248.8	100.14 %		15:27:57
3	Ag 328.068†	113966.3	111121.4	489.29 ug/L	489.29 ppb	15:28:02
3	As 188.979†	1226.6	1231.5	477.30 ug/L	477.30 ppb	15:28:22
3	B 249.677†	22251.6	22579.1	469.86 ug/L	469.86 ppb	15:28:02
3	Ba 233.527†	68487.4	67168.4	492.18 ug/L	492.18 ppb	15:28:02
3	Be 313.107†	1447718.5	1423915.6	478.87 ug/L	478.87 ppb	15:27:57
3	Cd 226.502†	48304.3	47567.3	491.07 ug/L	491.07 ppb	15:28:02
3	Co 228.616†	27050.4	26608.6	490.53 ug/L	490.53 ppb	15:28:02
3	Cr 267.716†	48746.2	47734.7	492.00 ug/L	492.00 ppb	15:28:02
3	Cu 324.752†	186397.9	175879.5	489.18 ug/L	489.18 ppb	15:28:02
3	Mn 257.610†	497823.9	487593.1	489.51 ug/L	489.51 ppb	15:27:57
3	Mo 202.031†	7441.9	7291.7	485.05 ug/L	485.05 ppb	15:28:22
3	Ni 231.604†	22586.2	22061.0	491.28 ug/L	491.28 ppb	15:28:02
3	P 214.914†	4875.9	4557.6	2270.8 ug/L	2270.8 ppb	15:28:22
3	Pb 220.353†	4471.2	4463.7	480.48 ug/L	480.48 ppb	15:28:22
3	S 181.975 Axial†	826.9	761.9	929.87 ug/L	929.87 ppb	15:28:22
3	Sb 206.836†	1614.0	1544.1	489.18 ug/L	489.18 ppb	15:28:22
3	Se 196.026†	840.4	850.0	489.83 ug/L	489.83 ppb	15:28:22
3	Si 251.611†	83722.7	81555.8	2421.6 ug/L	2421.6 ppb	15:28:02
3	Sn 189.927†	3038.7	2970.1	480.66 ug/L	480.66 ppb	15:28:22
3	Ti 334.940†	337324.0	332556.3	496.72 ug/L	496.72 ppb	15:27:57
3	Tl 190.801†	1710.1	1721.2	488.99 ug/L	488.99 ppb	15:28:22
3	U 409.014†	12730.9	17595.9	518.08 ug/L	518.08 ppb	15:28:02
3	V 292.402†	73364.0	73686.8	496.72 ug/L	496.72 ppb	15:28:02
3	Zn 213.857†	58969.1	57111.1	480.26 ug/L	480.26 ppb	15:28:02
3	SiO2†	81425.1	79276.5	5042.2 ug/L	5042.2 ppb	15:28:38

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	908346.0	101.97 %	0.073			0.07%
Sc Radial	4370.3	106 %	1.0			0.93%
Y 371.029	735555.2	100.18 %	0.126			0.13%
Y RADIAL	4887.3	100.9 %	0.94			0.93%
Ag 328.068†	110177.8	485.17 ug/L	4.273	485.17 ppb	4.273	0.88%
QC value within limits for Ag 328.068 Recovery = 97.03%						
Al 396.153Radial†	5909.6	4856.0 ug/L	9.86	4856.0 ppb	9.86	0.20%
QC value within limits for Al 396.153Radial Recovery = 97.12%						
As 188.979†	1238.7	480.09 ug/L	2.643	480.09 ppb	2.643	0.55%
QC value within limits for As 188.979 Recovery = 96.02%						
B 249.677†	22358.1	465.24 ug/L	5.769	465.24 ppb	5.769	1.24%
QC value within limits for B 249.677 Recovery = 93.05%						
Ba 233.527†	66569.4	487.79 ug/L	4.474	487.79 ppb	4.474	0.92%
QC value within limits for Ba 233.527 Recovery = 97.56%						
Be 313.107†	1423929.3	478.87 ug/L	0.488	478.87 ppb	0.488	0.10%
QC value within limits for Be 313.107 Recovery = 95.77%						
Ca 317.933Radial†	2715.7	5027.1 ug/L	84.94	5027.1 ppb	84.94	1.69%

QC value within limits for Ca 317.933Radial Recovery = 100.54%							
Cd 226.502†	47133.1	486.57 ug/L	4.937	486.57 ppb	4.937	1.01%	
QC value within limits for Cd 226.502 Recovery = 97.31%							
Co 228.616†	26350.2	485.77 ug/L	5.265	485.77 ppb	5.265	1.08%	
QC value within limits for Co 228.616 Recovery = 97.15%							
Cr 267.716†	47371.8	488.26 ug/L	4.310	488.26 ppb	4.310	0.88%	
QC value within limits for Cr 267.716 Recovery = 97.65%							
Cu 324.752†	174190.6	484.48 ug/L	4.698	484.48 ppb	4.698	0.97%	
QC value within limits for Cu 324.752 Recovery = 96.90%							
Fe 238.204 Radial†	446.3	5201.5 ug/L	108.31	5201.5 ppb	108.31	2.08%	
QC value within limits for Fe 238.204 Radial Recovery = 104.03%							
K 766.490 Radial†	25724.8	4890.2 ug/L	8.68	4890.2 ppb	8.68	0.18%	
QC value within limits for K 766.490 Radial Recovery = 97.80%							
Mg 279.077 IEC†	124.6	5251.6 ug/L	101.41	5251.6 ppb	101.41	1.93%	
QC value within limits for Mg 279.077 IEC Recovery = 105.03%							
Mn 257.610†	487110.5	489.04 ug/L	1.043	489.04 ppb	1.043	0.21%	
QC value within limits for Mn 257.610 Recovery = 97.81%							
Mo 202.031†	7284.8	484.60 ug/L	1.508	484.60 ppb	1.508	0.31%	
QC value within limits for Mo 202.031 Recovery = 96.92%							
Na 589.592 Radial†	33471.2	10314 ug/L	53.0	10314 ppb	53.0	0.51%	
QC value within limits for Na 589.592 Radial Recovery = 103.14%							
Ni 231.604†	21866.4	486.95 ug/L	4.116	486.95 ppb	4.116	0.85%	
QC value within limits for Ni 231.604 Recovery = 97.39%							
P 214.914†	4567.3	2276.7 ug/L	5.58	2276.7 ppb	5.58	0.25%	
QC value within limits for P 214.914 Recovery = 91.07%							
Pb 220.353†	4470.5	481.21 ug/L	0.794	481.21 ppb	0.794	0.16%	
QC value within limits for Pb 220.353 Recovery = 96.24%							
S 181.975 Axial†	757.4	924.33 ug/L	7.357	924.33 ppb	7.357	0.80%	
QC value within limits for S 181.975 Axial Recovery = 92.43%							
Sb 206.836†	1544.3	489.20 ug/L	1.870	489.20 ppb	1.870	0.38%	
QC value within limits for Sb 206.836 Recovery = 97.84%							
Se 196.026†	858.7	494.93 ug/L	4.513	494.93 ppb	4.513	0.91%	
QC value within limits for Se 196.026 Recovery = 98.99%							
Si 251.611†	80844.2	2400.4 ug/L	23.87	2400.4 ppb	23.87	0.99%	
QC value within limits for Si 251.611 Recovery = 96.02%							
Sn 189.927†	2968.8	480.46 ug/L	1.276	480.46 ppb	1.276	0.27%	
QC value within limits for Sn 189.927 Recovery = 96.09%							
Sr 421.552†	76478.0	504.92 ug/L	0.616	504.92 ppb	0.616	0.12%	
QC value within limits for Sr 421.552 Recovery = 100.98%							
Ti 334.940†	332332.8	496.40 ug/L	1.052	496.40 ppb	1.052	0.21%	
QC value within limits for Ti 334.940 Recovery = 99.28%							
Tl 190.801†	1724.3	489.88 ug/L	0.774	489.88 ppb	0.774	0.16%	
QC value within limits for Tl 190.801 Recovery = 97.98%							
U 409.014†	17511.7	515.59 ug/L	3.575	515.59 ppb	3.575	0.69%	
QC value within limits for U 409.014 Recovery = 103.12%							
V 292.402†	73060.8	492.53 ug/L	4.022	492.53 ppb	4.022	0.82%	
QC value within limits for V 292.402 Recovery = 98.51%							
Zn 213.857†	56649.0	476.36 ug/L	4.477	476.36 ppb	4.477	0.94%	
QC value within limits for Zn 213.857 Recovery = 95.27%							
SiO2†	79865.6	5079.8 ug/L	36.31	5079.8 ppb	36.31	0.71%	
QC value within limits for SiO2 Recovery = 94.99%							
All analyte(s) passed QC.							

Sequence No.: 9

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 15:30:49

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4410.8	4410.8	107 %		15:32:41
1	Y RADIAL	5034.9	5034.9	104.0 %		15:32:41
1	Al 396.153Radial†	-194.1	8.5	7.0662 ug/L	7.0662 ppb	15:32:41
1	Ca 317.933Radial†	21.7	6.9	12.799 ug/L	12.799 ppb	15:33:01
1	Fe 238.204 Radial†	10.1	-0.7	-7.8201 ug/L	-7.8201 ppb	15:33:01
1	K 766.490 Radial†	2679.2	-118.4	-22.570 ug/L	-22.570 ppb	15:32:41
1	Mg 279.077 IEC†	2.3	2.2	90.856 ug/L	90.856 ppb	15:33:01
1	Na 589.592 Radial†	-1495.7	253.3	78.056 ug/L	78.056 ppb	15:32:41
1	Sr 421.552†	-13.1	-48.7	-0.3215 ug/L	-0.3215 ppb	15:32:41
1	Sc 361.383	918284.0	918284.0	103.08 %		15:33:58
1	Y 371.029	756017.4	756017.4	102.97 %		15:33:58
1	Ag 328.068†	524.4	-115.8	-0.5260 ug/L	-0.5260 ppb	15:34:03
1	As 188.979†	-31.4	-1.7	-0.6498 ug/L	-0.6498 ppb	15:34:23
1	B 249.677†	-582.5	196.0	4.0998 ug/L	4.0998 ppb	15:34:23
1	Ba 233.527†	-6.0	9.5	0.0729 ug/L	0.0729 ppb	15:34:23
1	Be 313.107†	-4282.4	248.7	0.0846 ug/L	0.0846 ppb	15:34:03
1	Cd 226.502†	-197.3	12.7	0.1377 ug/L	0.1377 ppb	15:34:23
1	Co 228.616†	-87.5	0.2	0.0026 ug/L	0.0026 ppb	15:34:23
1	Cr 267.716†	201.0	133.2	1.3615 ug/L	1.3615 ppb	15:34:23
1	Cu 324.752†	8758.4	1609.7	4.4607 ug/L	4.4607 ppb	15:34:03
1	Mn 257.610†	510.2	-36.8	-0.0414 ug/L	-0.0414 ppb	15:34:23
1	Mo 202.031†	2.3	-3.0	-0.1990 ug/L	-0.1990 ppb	15:34:23
1	Ni 231.604†	69.6	-17.6	-0.3932 ug/L	-0.3932 ppb	15:34:23
1	P 214.914†	243.8	13.2	5.9885 ug/L	5.9885 ppb	15:34:23
1	Pb 220.353†	-60.8	20.6	2.2132 ug/L	2.2132 ppb	15:34:23
1	S 181.975 Axial†	51.0	0.6	0.6870 ug/L	0.6870 ppb	15:34:23
1	Sb 206.836†	51.9	12.0	3.6588 ug/L	3.6588 ppb	15:34:23
1	Se 196.026†	-29.3	-2.5	-1.3984 ug/L	-1.3984 ppb	15:34:23
1	Si 251.611†	501.3	-49.5	-1.4700 ug/L	-1.4700 ppb	15:34:23
1	Sn 189.927†	11.8	2.0	0.3255 ug/L	0.3255 ppb	15:34:23
1	Ti 334.940†	-1514.4	335.3	0.4820 ug/L	0.4820 ppb	15:34:03
1	Tl 190.801†	-32.4	13.1	3.6900 ug/L	3.6900 ppb	15:34:23
1	U 409.014†	-4258.6	981.8	28.999 ug/L	28.999 ppb	15:33:58
1	V 292.402†	-1546.1	252.3	1.7333 ug/L	1.7333 ppb	15:34:03
1	Zn 213.857†	807.8	74.6	0.6298 ug/L	0.6298 ppb	15:34:23
1	SiO2†	543.5	-35.0	-2.2234 ug/L	-2.2234 ppb	15:35:29
2	Sc Radial	4455.7	4455.7	108 %		15:33:06
2	Y RADIAL	5018.4	5018.4	103.7 %		15:33:06
2	Al 396.153Radial†	-167.7	34.9	28.768 ug/L	28.768 ppb	15:33:06
2	Ca 317.933Radial†	22.2	7.3	13.435 ug/L	13.435 ppb	15:33:26
2	Fe 238.204 Radial†	13.7	2.5	29.517 ug/L	29.517 ppb	15:33:26
2	K 766.490 Radial†	2807.6	-24.8	-4.7460 ug/L	-4.7460 ppb	15:33:06
2	Mg 279.077 IEC†	3.3	3.1	131.57 ug/L	131.57 ppb	15:33:26
2	Na 589.592 Radial†	-1525.4	239.9	73.935 ug/L	73.935 ppb	15:33:06
2	Sr 421.552†	-0.8	-37.2	-0.2458 ug/L	-0.2458 ppb	15:33:06
2	Sc 361.383	911731.9	911731.9	102.35 %		15:34:28
2	Y 371.029	749647.5	749647.5	102.10 %		15:34:28
2	Ag 328.068†	438.7	-195.8	-0.8714 ug/L	-0.8714 ppb	15:34:33
2	As 188.979†	-28.8	0.6	0.2431 ug/L	0.2431 ppb	15:34:53
2	B 249.677†	-576.6	197.7	4.1278 ug/L	4.1278 ppb	15:34:53
2	Ba 233.527†	-5.9	9.6	0.0718 ug/L	0.0718 ppb	15:34:53
2	Be 313.107†	-4302.2	199.5	0.0677 ug/L	0.0677 ppb	15:34:33
2	Cd 226.502†	-191.9	16.6	0.1748 ug/L	0.1748 ppb	15:34:53
2	Co 228.616†	-75.6	11.3	0.2074 ug/L	0.2074 ppb	15:34:53
2	Cr 267.716†	169.1	103.4	1.0532 ug/L	1.0532 ppb	15:34:53
2	Cu 324.752†	8822.4	1733.3	4.8048 ug/L	4.8048 ppb	15:34:33
2	Mn 257.610†	509.7	-33.8	-0.0364 ug/L	-0.0364 ppb	15:34:53
2	Mo 202.031†	8.8	3.4	0.2290 ug/L	0.2290 ppb	15:34:53
2	Ni 231.604†	89.0	1.8	0.0407 ug/L	0.0407 ppb	15:34:53

2	P 214.914†	243.5	14.6	6.6360 ug/L	6.6360 ppb	15:34:53
2	Pb 220.353†	-58.3	22.7	2.4329 ug/L	2.4329 ppb	15:34:53
2	S 181.975 Axial†	48.9	-1.1	-1.3323 ug/L	-1.3323 ppb	15:34:53
2	Sb 206.836†	43.5	4.1	1.2606 ug/L	1.2606 ppb	15:34:53
2	Se 196.026†	-25.8	0.8	0.5442 ug/L	0.5442 ppb	15:34:53
2	Si 251.611†	510.0	-37.4	-1.1171 ug/L	-1.1171 ppb	15:34:53
2	Sn 189.927†	14.2	4.5	0.7246 ug/L	0.7246 ppb	15:34:53
2	Ti 334.940†	-1604.3	236.9	0.3306 ug/L	0.3306 ppb	15:34:33
2	Tl 190.801†	-51.9	-6.2	-1.7501 ug/L	-1.7501 ppb	15:34:53
2	U 409.014†	-4125.1	1082.6	31.972 ug/L	31.972 ppb	15:34:28
2	V 292.402†	-1714.7	76.8	0.5727 ug/L	0.5727 ppb	15:34:33
2	Zn 213.857†	786.5	59.3	0.4938 ug/L	0.4938 ppb	15:34:53
2	SiO2†	515.6	-58.5	-3.7363 ug/L	-3.7363 ppb	15:35:34
3	Sc Radial	4358.9	4358.9	106 %		15:33:31
3	Y RADIAL	4912.7	4912.7	101.5 %		15:33:31
3	Al 396.153Radial†	-201.5	-0.6	-0.5317 ug/L	-0.5317 ppb	15:33:31
3	Ca 317.933Radial†	22.4	7.8	14.469 ug/L	14.469 ppb	15:33:51
3	Fe 238.204 Radial†	13.6	2.7	31.519 ug/L	31.519 ppb	15:33:51
3	K 766.490 Radial†	2717.8	-52.0	-9.9366 ug/L	-9.9366 ppb	15:33:31
3	Mg 279.077 IEC†	3.0	2.8	119.90 ug/L	119.90 ppb	15:33:51
3	Na 589.592 Radial†	-1472.7	258.4	79.620 ug/L	79.620 ppb	15:33:31
3	Sr 421.552†	12.0	-25.1	-0.1655 ug/L	-0.1655 ppb	15:33:31
3	Sc 361.383	915193.5	915193.5	102.74 %		15:34:59
3	Y 371.029	752575.1	752575.1	102.50 %		15:34:59
3	Ag 328.068†	492.2	-145.4	-0.6472 ug/L	-0.6472 ppb	15:35:04
3	As 188.979†	-36.6	-6.9	-2.6461 ug/L	-2.6461 ppb	15:35:24
3	B 249.677†	-560.1	215.9	4.5090 ug/L	4.5090 ppb	15:35:24
3	Ba 233.527†	-2.4	13.0	0.0977 ug/L	0.0977 ppb	15:35:24
3	Be 313.107†	-4289.8	227.5	0.0770 ug/L	0.0770 ppb	15:35:04
3	Cd 226.502†	-188.3	20.8	0.2179 ug/L	0.2179 ppb	15:35:24
3	Co 228.616†	-67.4	19.6	0.3593 ug/L	0.3593 ppb	15:35:24
3	Cr 267.716†	169.4	103.1	1.0510 ug/L	1.0510 ppb	15:35:24
3	Cu 324.752†	8909.6	1785.6	4.9512 ug/L	4.9512 ppb	15:35:04
3	Mn 257.610†	504.9	-40.3	-0.0423 ug/L	-0.0423 ppb	15:35:24
3	Mo 202.031†	6.7	1.3	0.0870 ug/L	0.0870 ppb	15:35:24
3	Ni 231.604†	108.8	20.7	0.4620 ug/L	0.4620 ppb	15:35:24
3	P 214.914†	223.6	-5.6	-3.9095 ug/L	-3.9095 ppb	15:35:24
3	Pb 220.353†	-66.2	15.2	1.6260 ug/L	1.6260 ppb	15:35:24
3	S 181.975 Axial†	51.2	1.0	1.1967 ug/L	1.1967 ppb	15:35:24
3	Sb 206.836†	46.8	7.2	2.1915 ug/L	2.1915 ppb	15:35:24
3	Se 196.026†	-34.8	-7.9	-4.2850 ug/L	-4.2850 ppb	15:35:24
3	Si 251.611†	512.9	-36.5	-1.0865 ug/L	-1.0865 ppb	15:35:24
3	Sn 189.927†	9.6	-0.0	-0.0036 ug/L	-0.0036 ppb	15:35:24
3	Ti 334.940†	-1654.8	193.6	0.2678 ug/L	0.2678 ppb	15:35:04
3	Tl 190.801†	-43.8	1.8	0.5140 ug/L	0.5140 ppb	15:35:24
3	U 409.014†	-4196.5	1028.3	30.369 ug/L	30.369 ppb	15:34:59
3	V 292.402†	-1656.2	140.0	0.9880 ug/L	0.9880 ppb	15:35:04
3	Zn 213.857†	805.4	74.9	0.6226 ug/L	0.6226 ppb	15:35:24
3	SiO2†	510.2	-65.6	-4.1880 ug/L	-4.1880 ppb	15:35:39

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	915069.8	102.72 %	0.368			0.36%
Sc Radial	4408.5	107 %	1.2			1.10%
Y 371.029	752746.7	102.52 %	0.434			0.42%
Y RADIAL	4988.7	103.0 %	1.37			1.33%
Ag 328.068†	-152.3	-0.6815 ug/L	0.17525	-0.6815 ppb	0.17525	25.71%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	14.3	11.768 ug/L	15.2053	11.768 ppb	15.2053	129.21%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-2.7	-1.0176 ug/L	1.47929	-1.0176 ppb	1.47929	145.37%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	203.2	4.2455 ug/L	0.22861	4.2455 ppb	0.22861	5.38%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	10.7	0.0808 ug/L	0.01464	0.0808 ppb	0.01464	18.12%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	225.2	0.0764 ug/L	0.00844	0.0764 ppb	0.00844	11.04%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	7.3	13.568 ug/L	0.8430	13.568 ppb	0.8430	6.21%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	16.7	0.1768 ug/L	0.04016	0.1768 ppb	0.04016	22.72%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	10.4	0.1898 ug/L	0.17900	0.1898 ppb	0.17900	94.33%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	113.2	1.1553 ug/L	0.17866	1.1553 ppb	0.17866	15.46%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	1709.5	4.7389 ug/L	0.25183	4.7389 ppb	0.25183	5.31%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	1.5	17.739 ug/L	22.1574	17.739 ppb	22.1574	124.91%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-65.1	-12.418 ug/L	9.1673	-12.418 ppb	9.1673	73.83%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.7	114.11 ug/L	20.967	114.11 ppb	20.967	18.37%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-37.0	-0.0400 ug/L	0.00320	-0.0400 ppb	0.00320	7.99%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	0.6	0.0390 ug/L	0.21798	0.0390 ppb	0.21798	558.70%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	250.5	77.204 ug/L	2.9368	77.204 ppb	2.9368	3.80%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	1.6	0.0365 ug/L	0.42760	0.0365 ppb	0.42760	>999.9%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	7.4	2.9050 ug/L	5.91042	2.9050 ppb	5.91042	203.46%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	19.5	2.0907 ug/L	0.41712	2.0907 ppb	0.41712	19.95%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	0.2	0.1838 ug/L	1.33748	0.1838 ppb	1.33748	727.64%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.7	2.3703 ug/L	1.20904	2.3703 ppb	1.20904	51.01%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-3.2	-1.7131 ug/L	2.42988	-1.7131 ppb	2.42988	141.84%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-41.1	-1.2245 ug/L	0.21315	-1.2245 ppb	0.21315	17.41%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	2.1	0.3488 ug/L	0.36466	0.3488 ppb	0.36466	104.53%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-37.0	-0.2443 ug/L	0.07800	-0.2443 ppb	0.07800	31.93%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	255.3	0.3601 ug/L	0.11015	0.3601 ppb	0.11015	30.59%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	2.9	0.8180 ug/L	2.73277	0.8180 ppb	2.73277	334.10%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	1030.9	30.447 ug/L	1.4882	30.447 ppb	1.4882	4.89%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	156.4	1.0980 ug/L	0.58806	1.0980 ppb	0.58806	53.56%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	69.6	0.5821 ug/L	0.07651	0.5821 ppb	0.07651	13.15%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-53.0	-3.3826 ug/L	1.02898	-3.3826 ppb	1.02898	30.42%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 18

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 16:35:39

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4325.1	4325.1	105 %		16:37:32
1	Y RADIAL	4800.8	4800.8	99.16 %		16:37:32
1	Al 396.153Radial†	6153.3	6059.4	4978.6 ug/L	4978.6 ppb	16:37:32
1	Ca 317.933Radial†	2924.5	2776.2	5139.2 ug/L	5139.2 ppb	16:37:52
1	Fe 238.204 Radial†	492.5	459.7	5357.0 ug/L	5357.0 ppb	16:37:52
1	K 766.490 Radial†	29903.1	25898.8	4923.2 ug/L	4923.2 ppb	16:37:32
1	Mg 279.077 IEC†	136.3	130.0	5479.3 ug/L	5479.3 ppb	16:37:52
1	Na 589.592 Radial†	33546.7	33650.7	10370 ug/L	10370 ppb	16:37:32
1	Sr 421.552†	80234.6	76495.2	505.03 ug/L	505.03 ppb	16:37:32
1	Sc 361.383	893101.7	893101.7	100.26 %		16:38:51
1	Y 371.029	718786.3	718786.3	97.894 %		16:38:51
1	Ag 328.068†	112267.4	111356.8	490.42 ug/L	490.42 ppb	16:38:51
1	As 188.979†	1296.6	1322.1	512.11 ug/L	512.11 ppb	16:39:11
1	B 249.677†	22151.4	22856.1	475.58 ug/L	475.58 ppb	16:38:51
1	Ba 233.527†	67662.7	67505.5	494.65 ug/L	494.65 ppb	16:38:51
1	Be 313.107†	1453833.4	1454531.5	489.15 ug/L	489.15 ppb	16:38:51
1	Cd 226.502†	48166.1	48247.5	498.07 ug/L	498.07 ppb	16:38:51
1	Co 228.616†	27264.6	27280.3	502.96 ug/L	502.96 ppb	16:39:11
1	Cr 267.716†	48026.9	47842.7	493.12 ug/L	493.12 ppb	16:38:51
1	Cu 324.752†	185439.6	178080.2	495.33 ug/L	495.33 ppb	16:38:51
1	Mn 257.610†	495470.4	493676.0	495.63 ug/L	495.63 ppb	16:38:51
1	Mo 202.031†	7640.2	7615.5	506.59 ug/L	506.59 ppb	16:39:11
1	Ni 231.604†	22761.3	22618.1	503.68 ug/L	503.68 ppb	16:39:11
1	P 214.914†	5125.0	4888.7	2441.6 ug/L	2441.6 ppb	16:39:11
1	Pb 220.353†	4682.0	4749.7	511.22 ug/L	511.22 ppb	16:39:11
1	S 181.975 Axial†	865.7	814.6	994.23 ug/L	994.23 ppb	16:39:11
1	Sb 206.836†	1672.8	1630.1	516.35 ug/L	516.35 ppb	16:39:11
1	Se 196.026†	892.1	915.8	527.15 ug/L	527.15 ppb	16:39:11
1	Si 251.611†	83473.6	82725.1	2456.2 ug/L	2456.2 ppb	16:38:51
1	Sn 189.927†	3172.2	3154.7	510.51 ug/L	510.51 ppb	16:39:11
1	Ti 334.940†	332865.8	333821.9	498.63 ug/L	498.63 ppb	16:38:51
1	Tl 190.801†	1766.2	1806.1	512.93 ug/L	512.93 ppb	16:39:11
1	U 409.014†	11542.6	16626.3	489.41 ug/L	489.41 ppb	16:38:51
1	V 292.402†	72084.9	73653.4	496.71 ug/L	496.71 ppb	16:38:51
1	Zn 213.857†	59146.1	58286.3	490.12 ug/L	490.12 ppb	16:38:51
1	SiO2†	84765.5	83987.3	5342.0 ug/L	5342.0 ppb	16:40:11
2	Sc Radial	4359.5	4359.5	106 %		16:37:57
2	Y RADIAL	4820.1	4820.1	99.56 %		16:37:57
2	Al 396.153Radial†	6151.3	6011.2	4937.0 ug/L	4937.0 ppb	16:37:57
2	Ca 317.933Radial†	2930.0	2759.3	5107.9 ug/L	5107.9 ppb	16:38:17
2	Fe 238.204 Radial†	491.0	454.5	5298.1 ug/L	5298.1 ppb	16:38:17
2	K 766.490 Radial†	30014.6	25779.1	4900.4 ug/L	4900.4 ppb	16:37:57
2	Mg 279.077 IEC†	132.6	125.5	5290.5 ug/L	5290.5 ppb	16:38:17
2	Na 589.592 Radial†	33641.9	33488.2	10319 ug/L	10319 ppb	16:37:57
2	Sr 421.552†	80469.7	76113.5	502.51 ug/L	502.51 ppb	16:37:57
2	Sc 361.383	818456.7	818456.7	91.876 %		16:39:18
2	Y 371.029	659233.1	659233.1	89.784 %		16:39:18
2	Ag 328.068†	114773.0	124296.8	547.20 ug/L	547.20 ppb	16:39:18
2	As 188.979†	1250.1	1389.4	538.38 ug/L	538.38 ppb	16:39:38
2	B 249.677†	22635.6	25398.2	528.64 ug/L	528.64 ppb	16:39:18
2	Ba 233.527†	69349.4	75496.6	553.18 ug/L	553.18 ppb	16:39:18
2	Be 313.107†	1488831.5	1624879.0	546.44 ug/L	546.44 ppb	16:39:18
2	Cd 226.502†	49437.9	54013.3	557.64 ug/L	557.64 ppb	16:39:18
2	Co 228.616†	26771.5	29223.9	538.75 ug/L	538.75 ppb	16:39:38
2	Cr 267.716†	49347.4	53648.9	552.96 ug/L	552.96 ppb	16:39:18
2	Cu 324.752†	189595.0	199472.5	554.80 ug/L	554.80 ppb	16:39:18
2	Mn 257.610†	508803.2	553260.5	555.41 ug/L	555.41 ppb	16:39:18
2	Mo 202.031†	7510.6	8169.5	543.41 ug/L	543.41 ppb	16:39:38
2	Ni 231.604†	22303.9	24190.8	538.71 ug/L	538.71 ppb	16:39:38

2	P 214.914†	5051.0	5274.3	2630.4 ug/L	2630.4 ppb	16:39:38
2	Pb 220.353†	4587.4	5072.7	545.93 ug/L	545.93 ppb	16:39:38
2	S 181.975 Axial†	859.1	886.2	1081.6 ug/L	1081.6 ppb	16:39:38
2	Sb 206.836†	1654.2	1762.1	557.91 ug/L	557.91 ppb	16:39:38
2	Se 196.026†	862.1	964.3	553.93 ug/L	553.93 ppb	16:39:38
2	Si 251.611†	85425.2	92442.9	2745.0 ug/L	2745.0 ppb	16:39:18
2	Sn 189.927†	3089.9	3353.6	542.64 ug/L	542.64 ppb	16:39:38
2	Ti 334.940†	342020.0	374066.3	558.74 ug/L	558.74 ppb	16:39:18
2	Tl 190.801†	1726.1	1923.2	546.47 ug/L	546.47 ppb	16:39:38
2	U 409.014†	11952.0	18121.9	533.46 ug/L	533.46 ppb	16:39:18
2	V 292.402†	73825.7	82105.7	553.46 ug/L	553.46 ppb	16:39:18
2	Zn 213.857†	60659.0	65313.5	549.44 ug/L	549.44 ppb	16:39:18
2	SiO2†	82582.6	89322.4	5681.3 ug/L	5681.3 ppb	16:40:16
3	Sc Radial	4400.2	4400.2	107 %		16:38:22
3	Y RADIAL	4916.9	4916.9	101.6 %		16:38:22
3	Al 396.153Radial†	6105.4	5914.3	4859.3 ug/L	4859.3 ppb	16:38:22
3	Ca 317.933Radial†	2883.0	2689.7	4979.0 ug/L	4979.0 ppb	16:38:42
3	Fe 238.204 Radial†	479.9	439.9	5126.3 ug/L	5126.3 ppb	16:38:42
3	K 766.490 Radial†	29724.0	25243.8	4798.7 ug/L	4798.7 ppb	16:38:22
3	Mg 279.077 IEC†	128.2	120.3	5067.6 ug/L	5067.6 ppb	16:38:42
3	Na 589.592 Radial†	33241.1	32817.9	10113 ug/L	10113 ppb	16:38:22
3	Sr 421.552†	79835.7	74814.5	493.93 ug/L	493.93 ppb	16:38:22
3	Sc 361.383	889726.2	889726.2	99.877 %		16:39:46
3	Y 371.029	716638.6	716638.6	97.602 %		16:39:46
3	Ag 328.068†	112011.0	111524.9	491.08 ug/L	491.08 ppb	16:39:46
3	As 188.979†	1245.4	1275.7	494.27 ug/L	494.27 ppb	16:40:06
3	B 249.677†	22138.9	22927.4	477.14 ug/L	477.14 ppb	16:39:46
3	Ba 233.527†	67311.8	67410.3	493.94 ug/L	493.94 ppb	16:39:46
3	Be 313.107†	1443799.9	1449987.2	487.62 ug/L	487.62 ppb	16:39:46
3	Cd 226.502†	48009.5	48273.0	498.35 ug/L	498.35 ppb	16:39:46
3	Co 228.616†	26609.4	26727.4	492.74 ug/L	492.74 ppb	16:40:06
3	Cr 267.716†	47836.7	47834.0	493.03 ug/L	493.03 ppb	16:39:46
3	Cu 324.752†	184279.1	177620.0	494.03 ug/L	494.03 ppb	16:39:46
3	Mn 257.610†	493861.0	493939.5	495.89 ug/L	495.89 ppb	16:39:46
3	Mo 202.031†	7455.3	7459.3	496.19 ug/L	496.19 ppb	16:40:06
3	Ni 231.604†	22220.1	22162.4	493.53 ug/L	493.53 ppb	16:40:06
3	P 214.914†	5004.4	4787.3	2389.3 ug/L	2389.3 ppb	16:40:06
3	Pb 220.353†	4580.8	4666.1	502.22 ug/L	502.22 ppb	16:40:06
3	S 181.975 Axial†	841.3	793.4	968.36 ug/L	968.36 ppb	16:40:06
3	Sb 206.836†	1645.3	1609.0	509.46 ug/L	509.46 ppb	16:40:06
3	Se 196.026†	866.5	893.6	514.04 ug/L	514.04 ppb	16:40:06
3	Si 251.611†	83087.7	82654.7	2454.2 ug/L	2454.2 ppb	16:39:46
3	Sn 189.927†	3077.6	3072.0	497.12 ug/L	497.12 ppb	16:40:06
3	Ti 334.940†	331823.3	334037.7	498.97 ug/L	498.97 ppb	16:39:46
3	Tl 190.801†	1716.4	1763.0	500.81 ug/L	500.81 ppb	16:40:06
3	U 409.014†	11452.0	16579.3	488.05 ug/L	488.05 ppb	16:39:46
3	V 292.402†	71727.8	73568.6	496.02 ug/L	496.02 ppb	16:39:46
3	Zn 213.857†	58811.4	58175.0	489.26 ug/L	489.26 ppb	16:39:46
3	SiO2†	82716.4	82256.4	5231.9 ug/L	5231.9 ppb	16:40:21

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	867094.9	97.336 %	4.7322			4.86%
Sc Radial	4361.6	106 %	0.9			0.86%
Y 371.029	698219.3	95.093 %	4.6007			4.84%
Y RADIAL	4846.0	100.1 %	1.28			1.28%
Ag 328.068†	115726.2	509.56 ug/L	32.595	509.56 ppb	32.595	6.40%
QC value within limits for Ag 328.068 Recovery = 101.91%						
Al 396.153Radial†	5995.0	4925.0 ug/L	60.55	4925.0 ppb	60.55	1.23%
QC value within limits for Al 396.153Radial Recovery = 98.50%						
As 188.979†	1329.0	514.92 ug/L	22.187	514.92 ppb	22.187	4.31%
QC value within limits for As 188.979 Recovery = 102.98%						
B 249.677†	23727.2	493.79 ug/L	30.194	493.79 ppb	30.194	6.11%
QC value within limits for B 249.677 Recovery = 98.76%						
Ba 233.527†	70137.5	513.92 ug/L	33.997	513.92 ppb	33.997	6.62%
QC value within limits for Ba 233.527 Recovery = 102.78%						
Be 313.107†	1509799.2	507.74 ug/L	33.525	507.74 ppb	33.525	6.60%
QC value within limits for Be 313.107 Recovery = 101.55%						
Ca 317.933Radial†	2741.8	5075.4 ug/L	84.91	5075.4 ppb	84.91	1.67%

QC value within limits for Ca 317.933 Radial Recovery = 101.51%							
Cd 226.502†	50177.9	518.02 ug/L	34.315	518.02 ppb	34.315	6.62%	
QC value within limits for Cd 226.502 Recovery = 103.60%							
Co 228.616†	27743.8	511.48 ug/L	24.158	511.48 ppb	24.158	4.72%	
QC value within limits for Co 228.616 Recovery = 102.30%							
Cr 267.716†	49775.2	513.04 ug/L	34.572	513.04 ppb	34.572	6.74%	
QC value within limits for Cr 267.716 Recovery = 102.61%							
Cu 324.752†	185057.5	514.72 ug/L	34.716	514.72 ppb	34.716	6.74%	
QC value within limits for Cu 324.752 Recovery = 102.94%							
Fe 238.204 Radial†	451.4	5260.5 ug/L	119.88	5260.5 ppb	119.88	2.28%	
QC value within limits for Fe 238.204 Radial Recovery = 105.21%							
K 766.490 Radial†	25640.5	4874.1 ug/L	66.29	4874.1 ppb	66.29	1.36%	
QC value within limits for K 766.490 Radial Recovery = 97.48%							
Mg 279.077 IEC†	125.3	5279.1 ug/L	206.11	5279.1 ppb	206.11	3.90%	
QC value within limits for Mg 279.077 IEC Recovery = 105.58%							
Mn 257.610†	513625.3	515.64 ug/L	34.443	515.64 ppb	34.443	6.68%	
QC value within limits for Mn 257.610 Recovery = 103.13%							
Mo 202.031†	7748.1	515.40 ug/L	24.808	515.40 ppb	24.808	4.81%	
QC value within limits for Mo 202.031 Recovery = 103.08%							
Na 589.592 Radial†	33318.9	10267 ug/L	136.0	10267 ppb	136.0	1.33%	
QC value within limits for Na 589.592 Radial Recovery = 102.67%							
Ni 231.604†	22990.4	511.98 ug/L	23.700	511.98 ppb	23.700	4.63%	
QC value within limits for Ni 231.604 Recovery = 102.40%							
P 214.914†	4983.4	2487.1 ug/L	126.82	2487.1 ppb	126.82	5.10%	
QC value within limits for P 214.914 Recovery = 99.48%							
Pb 220.353†	4829.5	519.79 ug/L	23.079	519.79 ppb	23.079	4.44%	
QC value within limits for Pb 220.353 Recovery = 103.96%							
S 181.975 Axial†	831.4	1014.7 ug/L	59.35	1014.7 ppb	59.35	5.85%	
QC value within limits for S 181.975 Axial Recovery = 101.47%							
Sb 206.836†	1667.1	527.90 ug/L	26.209	527.90 ppb	26.209	4.96%	
QC value within limits for Sb 206.836 Recovery = 105.58%							
Se 196.026†	924.5	531.71 ug/L	20.331	531.71 ppb	20.331	3.82%	
QC value within limits for Se 196.026 Recovery = 106.34%							
Si 251.611†	85940.9	2551.8 ug/L	167.31	2551.8 ppb	167.31	6.56%	
QC value within limits for Si 251.611 Recovery = 102.07%							
Sn 189.927†	3193.4	516.76 ug/L	23.395	516.76 ppb	23.395	4.53%	
QC value within limits for Sn 189.927 Recovery = 103.35%							
Sr 421.552†	75807.7	500.49 ug/L	5.817	500.49 ppb	5.817	1.16%	
QC value within limits for Sr 421.552 Recovery = 100.10%							
Ti 334.940†	347308.6	518.78 ug/L	34.604	518.78 ppb	34.604	6.67%	
QC value within limits for Ti 334.940 Recovery = 103.76%							
Tl 190.801†	1830.8	520.07 ug/L	23.652	520.07 ppb	23.652	4.55%	
QC value within limits for Tl 190.801 Recovery = 104.01%							
U 409.014†	17109.2	503.64 ug/L	25.836	503.64 ppb	25.836	5.13%	
QC value within limits for U 409.014 Recovery = 100.73%							
V 292.402†	76442.6	515.40 ug/L	32.968	515.40 ppb	32.968	6.40%	
QC value within limits for V 292.402 Recovery = 103.08%							
Zn 213.857†	60591.6	509.60 ug/L	34.499	509.60 ppb	34.499	6.77%	
QC value within limits for Zn 213.857 Recovery = 101.92%							
SiO2†	85188.7	5418.4 ug/L	234.19	5418.4 ppb	234.19	4.32%	
QC value within limits for SiO2 Recovery = 101.33%							
All analyte(s) passed QC.							



Sequence No.: 19

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 16:42:32

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4432.1	4432.1	107 %		16:44:24
1	Y RADIAL	4989.4	4989.4	103.1 %		16:44:24
1	Al 396.153Radial†	-149.0	51.4	42.401 ug/L	42.401 ppb	16:44:24
1	Ca 317.933Radial†	25.1	10.0	18.601 ug/L	18.601 ppb	16:44:45
1	Fe 238.204 Radial†	10.3	-0.6	-6.5727 ug/L	-6.5727 ppb	16:44:45
1	K 766.490 Radial†	2657.6	-150.6	-28.682 ug/L	-28.682 ppb	16:44:24
1	Mg 279.077 IEC†	1.0	1.0	42.055 ug/L	42.055 ppb	16:44:45
1	Na 589.592 Radial†	-1612.1	151.6	46.728 ug/L	46.728 ppb	16:44:24
1	Sr 421.552†	2.1	-34.5	-0.2279 ug/L	-0.2279 ppb	16:44:24
1	Sc 361.383	902754.0	902754.0	101.34 %		16:45:41
1	Y 371.029	738257.2	738257.2	100.55 %		16:45:41
1	Ag 328.068†	532.4	-99.2	-0.4556 ug/L	-0.4556 ppb	16:45:46
1	As 188.979†	-34.9	-5.7	-2.1785 ug/L	-2.1785 ppb	16:46:06
1	B 249.677†	-614.2	155.0	3.2413 ug/L	3.2413 ppb	16:46:06
1	Ba 233.527†	-3.9	11.5	0.0849 ug/L	0.0849 ppb	16:46:06
1	Be 313.107†	-4307.3	152.7	0.0514 ug/L	0.0514 ppb	16:45:46
1	Cd 226.502†	-192.3	14.4	0.1545 ug/L	0.1545 ppb	16:46:06
1	Co 228.616†	-83.9	2.3	0.0433 ug/L	0.0433 ppb	16:46:06
1	Cr 267.716†	78.5	15.6	0.1512 ug/L	0.1512 ppb	16:45:46
1	Cu 324.752†	8459.0	1460.4	4.0469 ug/L	4.0469 ppb	16:45:46
1	Mn 257.610†	501.6	-36.8	-0.0393 ug/L	-0.0393 ppb	16:46:06
1	Mo 202.031†	9.1	3.7	0.2466 ug/L	0.2466 ppb	16:46:06
1	Ni 231.604†	95.1	8.7	0.1941 ug/L	0.1941 ppb	16:46:06
1	P 214.914†	235.8	9.4	4.1195 ug/L	4.1195 ppb	16:46:06
1	Pb 220.353†	-51.2	29.2	3.1361 ug/L	3.1361 ppb	16:46:06
1	S 181.975 Axial†	44.9	-4.6	-5.6528 ug/L	-5.6528 ppb	16:46:06
1	Sb 206.836†	47.9	8.9	2.7204 ug/L	2.7204 ppb	16:46:06
1	Se 196.026†	-23.7	2.6	1.4336 ug/L	1.4336 ppb	16:46:06
1	Si 251.611†	499.6	-42.7	-1.2746 ug/L	-1.2746 ppb	16:46:06
1	Sn 189.927†	12.3	2.7	0.4400 ug/L	0.4400 ppb	16:46:06
1	Ti 334.940†	-1784.3	43.7	0.0527 ug/L	0.0527 ppb	16:45:46
1	Tl 190.801†	-43.1	1.9	0.5405 ug/L	0.5405 ppb	16:46:06
1	U 409.014†	-4274.7	894.9	26.435 ug/L	26.435 ppb	16:45:41
1	V 292.402†	-1696.2	78.4	0.5772 ug/L	0.5772 ppb	16:45:46
1	Zn 213.857†	787.0	67.5	0.5663 ug/L	0.5663 ppb	16:46:06
1	SiO2†	509.2	-59.7	-3.8162 ug/L	-3.8162 ppb	16:47:12
2	Sc Radial	4542.8	4542.8	110 %		16:44:50
2	Y RADIAL	5125.6	5125.6	105.9 %		16:44:50
2	Al 396.153Radial†	-157.2	47.3	39.034 ug/L	39.034 ppb	16:44:50
2	Ca 317.933Radial†	18.8	3.7	6.8848 ug/L	6.8848 ppb	16:45:10
2	Fe 238.204 Radial†	8.9	-2.0	-23.759 ug/L	-23.759 ppb	16:45:10
2	K 766.490 Radial†	2653.2	-214.8	-40.911 ug/L	-40.911 ppb	16:44:50
2	Mg 279.077 IEC†	4.1	3.7	158.04 ug/L	158.04 ppb	16:45:10
2	Na 589.592 Radial†	-1614.2	186.3	57.420 ug/L	57.420 ppb	16:44:50
2	Sr 421.552†	19.6	-18.6	-0.1232 ug/L	-0.1232 ppb	16:44:50
2	Sc 361.383	901197.1	901197.1	101.16 %		16:46:12
2	Y 371.029	736312.6	736312.6	100.28 %		16:46:12
2	Ag 328.068†	581.7	-49.5	-0.2414 ug/L	-0.2414 ppb	16:46:17
2	As 188.979†	-19.3	9.7	3.7220 ug/L	3.7220 ppb	16:46:37
2	B 249.677†	-650.3	118.3	2.4776 ug/L	2.4776 ppb	16:46:37
2	Ba 233.527†	-4.4	11.0	0.0825 ug/L	0.0825 ppb	16:46:37
2	Be 313.107†	-4306.6	146.0	0.0496 ug/L	0.0496 ppb	16:46:17
2	Cd 226.502†	-209.5	-2.9	-0.0226 ug/L	-0.0226 ppb	16:46:37
2	Co 228.616†	-104.3	-17.9	-0.3290 ug/L	-0.3290 ppb	16:46:37
2	Cr 267.716†	79.1	16.4	0.1588 ug/L	0.1588 ppb	16:46:17
2	Cu 324.752†	8727.0	1739.7	4.8223 ug/L	4.8223 ppb	16:46:17
2	Mn 257.610†	512.1	-25.6	-0.0345 ug/L	-0.0345 ppb	16:46:37
2	Mo 202.031†	14.6	9.2	0.6121 ug/L	0.6121 ppb	16:46:37
2	Ni 231.604†	84.0	-2.1	-0.0473 ug/L	-0.0473 ppb	16:46:37

2	P 214.914†	236.0	10.0	4.2626 ug/L	4.2626 ppb	16:46:37
2	Pb 220.353†	-64.3	16.1	1.7317 ug/L	1.7317 ppb	16:46:37
2	S 181.975 Axial†	54.7	5.2	6.3601 ug/L	6.3601 ppb	16:46:37
2	Sb 206.836†	44.1	5.2	1.6034 ug/L	1.6034 ppb	16:46:37
2	Se 196.026†	-44.3	-17.8	-9.9593 ug/L	-9.9593 ppb	16:46:37
2	Si 251.611†	501.0	-40.5	-1.2131 ug/L	-1.2131 ppb	16:46:37
2	Sn 189.927†	13.3	3.7	0.5947 ug/L	0.5947 ppb	16:46:37
2	Ti 334.940†	-1651.0	172.4	0.2334 ug/L	0.2334 ppb	16:46:17
2	Tl 190.801†	-41.9	3.0	0.8588 ug/L	0.8588 ppb	16:46:37
2	U 409.014†	-4223.7	938.0	27.709 ug/L	27.709 ppb	16:46:12
2	V 292.402†	-1568.2	202.0	1.4120 ug/L	1.4120 ppb	16:46:17
2	Zn 213.857†	802.9	84.6	0.7137 ug/L	0.7137 ppb	16:46:37
2	SiO2†	482.9	-84.9	-5.4300 ug/L	-5.4300 ppb	16:47:17
3	Sc Radial	4499.0	4499.0	109 %		16:45:15
3	Y RADIAL	5042.0	5042.0	104.1 %		16:45:15
3	Al 396.153Radial†	-148.6	53.8	44.428 ug/L	44.428 ppb	16:45:15
3	Ca 317.933Radial†	24.3	9.0	16.599 ug/L	16.599 ppb	16:45:35
3	Fe 238.204 Radial†	10.5	-0.5	-5.6373 ug/L	-5.6373 ppb	16:45:35
3	K 766.490 Radial†	2711.8	-137.6	-26.216 ug/L	-26.216 ppb	16:45:15
3	Mg 279.077 IEC†	-2.6	-2.3	-98.109 ug/L	-98.109 ppb	16:45:35
3	Na 589.592 Radial†	-1606.9	178.8	55.095 ug/L	55.095 ppb	16:45:15
3	Sr 421.552†	10.1	-27.2	-0.1795 ug/L	-0.1795 ppb	16:45:15
3	Sc 361.383	911824.6	911824.6	102.36 %		16:46:42
3	Y 371.029	744775.4	744775.4	101.43 %		16:46:42
3	Ag 328.068†	489.0	-146.7	-0.6655 ug/L	-0.6655 ppb	16:46:47
3	As 188.979†	-25.6	3.7	1.4362 ug/L	1.4362 ppb	16:47:07
3	B 249.677†	-669.5	107.0	2.2389 ug/L	2.2389 ppb	16:47:07
3	Ba 233.527†	-17.6	-1.9	-0.0130 ug/L	-0.0130 ppb	16:47:07
3	Be 313.107†	-4251.6	249.4	0.0844 ug/L	0.0844 ppb	16:46:47
3	Cd 226.502†	-208.4	0.6	0.0120 ug/L	0.0120 ppb	16:47:07
3	Co 228.616†	-94.6	-7.2	-0.1330 ug/L	-0.1330 ppb	16:47:07
3	Cr 267.716†	118.0	53.5	0.5397 ug/L	0.5397 ppb	16:46:47
3	Cu 324.752†	8594.6	1509.8	4.1832 ug/L	4.1832 ppb	16:46:47
3	Mn 257.610†	482.3	-60.5	-0.0573 ug/L	-0.0573 ppb	16:47:07
3	Mo 202.031†	14.2	8.6	0.5727 ug/L	0.5727 ppb	16:47:07
3	Ni 231.604†	89.2	1.9	0.0434 ug/L	0.0434 ppb	16:47:07
3	P 214.914†	228.7	0.2	-0.7338 ug/L	-0.7338 ppb	16:47:07
3	Pb 220.353†	-53.4	27.4	2.9541 ug/L	2.9541 ppb	16:47:07
3	S 181.975 Axial†	47.8	-2.2	-2.7119 ug/L	-2.7119 ppb	16:47:07
3	Sb 206.836†	42.6	3.2	0.9855 ug/L	0.9855 ppb	16:47:07
3	Se 196.026†	-37.2	-10.3	-5.7412 ug/L	-5.7412 ppb	16:47:07
3	Si 251.611†	487.9	-59.1	-1.7661 ug/L	-1.7661 ppb	16:47:07
3	Sn 189.927†	14.2	4.5	0.7278 ug/L	0.7278 ppb	16:47:07
3	Ti 334.940†	-1617.0	224.6	0.3330 ug/L	0.3330 ppb	16:46:47
3	Tl 190.801†	-49.7	-4.1	-1.1624 ug/L	-1.1624 ppb	16:47:07
3	U 409.014†	-4234.6	976.0	28.830 ug/L	28.830 ppb	16:46:42
3	V 292.402†	-1715.1	76.5	0.5708 ug/L	0.5708 ppb	16:46:47
3	Zn 213.857†	783.2	56.0	0.4701 ug/L	0.4701 ppb	16:47:07
3	SiO2†	459.3	-113.5	-7.2552 ug/L	-7.2552 ppb	16:47:22

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	905258.6	101.62 %	0.644			0.63%
Sc Radial	4491.3	109 %	1.4			1.24%
Y 371.029	739781.7	100.75 %	0.604			0.60%
Y RADIAL	5052.3	104.4 %	1.42			1.36%
Ag 328.068†	-98.5	-0.4542 ug/L	0.21205	-0.4542 ppb	0.21205	46.69%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	50.8	41.955 ug/L	2.7245	41.955 ppb	2.7245	6.49%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.6	0.9932 ug/L	2.97505	0.9932 ppb	2.97505	299.53%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	126.8	2.6526 ug/L	0.52361	2.6526 ppb	0.52361	19.74%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	6.9	0.0515 ug/L	0.05586	0.0515 ppb	0.05586	108.53%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	182.7	0.0618 ug/L	0.01962	0.0618 ppb	0.01962	31.75%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	7.6	14.028 ug/L	6.2668	14.028 ppb	6.2668	44.67%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	4.0 0.0480 ug/L 0.09388 0.0480 ppb	0.09388	195.66%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	-7.6 -0.1396 ug/L 0.18620 -0.1396 ppb	0.18620	133.40%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	28.5 0.2832 ug/L 0.22216 0.2832 ppb	0.22216	78.44%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	1570.0 4.3508 ug/L 0.41396 4.3508 ppb	0.41396	9.51%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	-1.0 -11.990 ug/L 10.2031 -11.990 ppb	10.2031	85.10%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	-167.6 -31.936 ug/L 7.8692 -31.936 ppb	7.8692	24.64%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	0.8 33.995 ug/L 128.2650 33.995 ppb	128.2650	377.30%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-41.0 -0.0437 ug/L 0.01201 -0.0437 ppb	0.01201	27.49%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	7.2 0.4771 ug/L 0.20057 0.4771 ppb	0.20057	42.04%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	172.3 53.081 ug/L 5.6229 53.081 ppb	5.6229	10.59%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	2.8 0.0634 ug/L 0.12198 0.0634 ppb	0.12198	192.43%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	6.5 2.5494 ug/L 2.84425 2.5494 ppb	2.84425	111.56%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	24.2 2.6073 ug/L 0.76373 2.6073 ppb	0.76373	29.29%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	-0.5 -0.6682 ug/L 6.26176 -0.6682 ppb	6.26176	937.13%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	5.7 1.7698 ug/L 0.87935 1.7698 ppb	0.87935	49.69%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-8.5 -4.7556 ug/L 5.76009 -4.7556 ppb	5.76009	121.12%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	-47.4 -1.4180 ug/L 0.30305 -1.4180 ppb	0.30305	21.37%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	3.6 0.5875 ug/L 0.14400 0.5875 ppb	0.14400	24.51%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-26.8 -0.1769 ug/L 0.05245 -0.1769 ppb	0.05245	29.65%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	146.9 0.2064 ug/L 0.14211 0.2064 ppb	0.14211	68.87%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	0.3 0.0790 ug/L 1.08676 0.0790 ppb	1.08676	>999.9%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	936.3 27.658 ug/L 1.1985 27.658 ppb	1.1985	4.33%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	119.0 0.8533 ug/L 0.48382 0.8533 ppb	0.48382	56.70%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	69.4 0.5833 ug/L 0.12270 0.5833 ppb	0.12270	21.03%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	-86.1 -5.5004 ug/L 1.72060 -5.5004 ppb	1.72060	31.28%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

=====  
Analysis Begun

Start Time: 2/1/2010 17:04:26

Plasma On Time: 2/1/2010 05:43:14

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\020110.sif

Batch ID:

Results Data Set: 020110

Results Library: C:\pe\Optima3\Results\Results.mdb

=====  
Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 2/1/2010 17:04:27

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:  
=====

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4520.1	4520.1	110 %		17:06:19
1	Y RADIAL	5033.1	5033.1	104.0 %		17:06:19
1	Al 396.153Radial†	6233.7	5879.6	4830.7 ug/L	4830.7 ppb	17:06:19
1	Ca 317.933Radial†	2951.5	2680.5	4962.0 ug/L	4962.0 ppb	17:06:39
1	Fe 238.204 Radial†	483.6	431.3	5026.9 ug/L	5026.9 ppb	17:06:39
1	K 766.490 Radial†	30249.2	24984.2	4749.3 ug/L	4749.3 ppb	17:06:19
1	Mg 279.077 IEC†	135.2	123.4	5200.8 ug/L	5200.8 ppb	17:06:39
1	Na 589.592 Radial†	33570.0	32291.7	9950.7 ug/L	9950.7 ppb	17:06:19
1	Sr 421.552†	81361.1	74222.0	490.02 ug/L	490.02 ppb	17:06:19
1	Sc 361.383	903485.0	903485.0	101.42 %		17:07:38
1	Y 371.029	728529.9	728529.9	99.221 %		17:07:38
1	Ag 328.068†	113713.8	111496.0	490.92 ug/L	490.92 ppb	17:07:38
1	As 188.979†	1269.4	1280.4	496.05 ug/L	496.05 ppb	17:07:58
1	B 249.677†	22321.8	22770.1	473.88 ug/L	473.88 ppb	17:07:38
1	Ba 233.527†	68183.3	67243.3	492.72 ug/L	492.72 ppb	17:07:38
1	Be 313.107†	1466366.4	1450223.3	487.70 ug/L	487.70 ppb	17:07:38
1	Cd 226.502†	48470.4	47995.3	495.49 ug/L	495.49 ppb	17:07:38
1	Co 228.616†	26795.3	26505.0	488.64 ug/L	488.64 ppb	17:07:58
1	Cr 267.716†	48493.6	47752.3	492.18 ug/L	492.18 ppb	17:07:38
1	Cu 324.752†	186344.7	176846.8	491.87 ug/L	491.87 ppb	17:07:38
1	Mn 257.610†	499032.0	491508.0	493.43 ug/L	493.43 ppb	17:07:38
1	Mo 202.031†	7553.1	7442.1	495.04 ug/L	495.04 ppb	17:07:58
1	Ni 231.604†	22344.7	21946.4	488.73 ug/L	488.73 ppb	17:07:58
1	P 214.914†	5001.1	4707.7	2348.4 ug/L	2348.4 ppb	17:07:58
1	Pb 220.353†	4605.1	4620.2	497.30 ug/L	497.30 ppb	17:07:58
1	S 181.975 Axial†	842.7	782.0	954.44 ug/L	954.44 ppb	17:07:58
1	Sb 206.836†	1646.8	1585.3	502.11 ug/L	502.11 ppb	17:07:58
1	Se 196.026†	878.7	892.3	513.01 ug/L	513.01 ppb	17:07:58
1	Si 251.611†	83949.5	82237.5	2441.8 ug/L	2441.8 ppb	17:07:38
1	Sn 189.927†	3081.5	3028.9	490.15 ug/L	490.15 ppb	17:07:58
1	Ti 334.940†	336658.6	333745.8	498.52 ug/L	498.52 ppb	17:07:38
1	Tl 190.801†	1722.7	1743.1	495.19 ug/L	495.19 ppb	17:07:58
1	U 409.014†	11877.4	16824.1	495.29 ug/L	495.29 ppb	17:07:38
1	V 292.402†	72952.4	73682.4	496.79 ug/L	496.79 ppb	17:07:38
1	Zn 213.857†	59371.7	57830.6	486.38 ug/L	486.38 ppb	17:07:38
1	SiO2†	83626.9	81892.9	5208.8 ug/L	5208.8 ppb	17:08:58
2	Sc Radial	4636.7	4636.7	112 %		17:06:44
2	Y RADIAL	5174.0	5174.0	106.9 %		17:06:44
2	Al 396.153Radial†	6021.9	5548.1	4557.0 ug/L	4557.0 ppb	17:06:44
2	Ca 317.933Radial†	2876.0	2545.6	4712.3 ug/L	4712.3 ppb	17:07:04
2	Fe 238.204 Radial†	475.0	412.5	4808.2 ug/L	4808.2 ppb	17:07:04
2	K 766.490 Radial†	29342.0	23482.9	4463.8 ug/L	4463.8 ppb	17:06:44
2	Mg 279.077 IEC†	128.8	114.6	4831.3 ug/L	4831.3 ppb	17:07:04
2	Na 589.592 Radial†	32528.3	30594.5	9427.7 ug/L	9427.7 ppb	17:06:44
2	Sr 421.552†	79115.6	70357.1	464.51 ug/L	464.51 ppb	17:06:44
2	Sc 361.383	898415.2	898415.2	100.85 %		17:08:05
2	Y 371.029	724172.6	724172.6	98.628 %		17:08:05

2	Ag 328.068†	112673.3	111097.0	489.09 ug/L	489.09 ppb	17:08:05
2	As 188.979†	1254.2	1272.3	492.90 ug/L	492.90 ppb	17:08:25
2	B 249.677†	22156.0	22730.0	473.07 ug/L	473.07 ppb	17:08:05
2	Ba 233.527†	67815.1	67257.5	492.81 ug/L	492.81 ppb	17:08:05
2	Be 313.107†	1452052.1	1444188.7	485.67 ug/L	485.67 ppb	17:08:05
2	Cd 226.502†	47999.6	47798.2	493.48 ug/L	493.48 ppb	17:08:05
2	Co 228.616†	26647.2	26507.2	488.69 ug/L	488.69 ppb	17:08:25
2	Cr 267.716†	48023.2	47555.7	490.15 ug/L	490.15 ppb	17:08:05
2	Cu 324.752†	185062.4	176612.2	491.21 ug/L	491.21 ppb	17:08:05
2	Mn 257.610†	495982.9	491261.2	493.18 ug/L	493.18 ppb	17:08:05
2	Mo 202.031†	7493.7	7425.2	493.90 ug/L	493.90 ppb	17:08:25
2	Ni 231.604†	22236.3	21963.3	489.10 ug/L	489.10 ppb	17:08:25
2	P 214.914†	4975.7	4710.4	2350.0 ug/L	2350.0 ppb	17:08:25
2	Pb 220.353†	4565.1	4606.2	495.75 ug/L	495.75 ppb	17:08:25
2	S 181.975 Axial†	838.4	782.5	954.99 ug/L	954.99 ppb	17:08:25
2	Sb 206.836†	1635.7	1583.5	501.54 ug/L	501.54 ppb	17:08:25
2	Se 196.026†	860.7	879.4	505.12 ug/L	505.12 ppb	17:08:25
2	Si 251.611†	83364.3	82124.4	2438.4 ug/L	2438.4 ppb	17:08:05
2	Sn 189.927†	3077.1	3041.7	492.18 ug/L	492.18 ppb	17:08:25
2	Ti 334.940†	334135.1	333116.8	497.57 ug/L	497.57 ppb	17:08:05
2	Tl 190.801†	1708.7	1738.7	493.96 ug/L	493.96 ppb	17:08:25
2	U 409.014†	11898.6	16911.2	497.89 ug/L	497.89 ppb	17:08:05
2	V 292.402†	72210.2	73352.3	494.61 ug/L	494.61 ppb	17:08:05
2	Zn 213.857†	58819.2	57613.2	484.56 ug/L	484.56 ppb	17:08:05
2	SiO2†	83821.4	82551.1	5250.8 ug/L	5250.8 ppb	17:09:03
3	Sc Radial	4408.3	4408.3	107 %		17:07:09
3	Y RADIAL	4889.5	4889.5	101.0 %		17:07:09
3	Al 396.153Radial†	6245.3	6034.7	4958.9 ug/L	4958.9 ppb	17:07:09
3	Ca 317.933Radial†	2891.5	2692.7	4984.5 ug/L	4984.5 ppb	17:07:29
3	Fe 238.204 Radial†	481.9	440.9	5138.2 ug/L	5138.2 ppb	17:07:29
3	K 766.490 Radial†	30111.4	25555.1	4857.9 ug/L	4857.9 ppb	17:07:09
3	Mg 279.077 IEC†	133.1	124.7	5252.4 ug/L	5252.4 ppb	17:07:29
3	Na 589.592 Radial†	33358.0	32870.0	10129 ug/L	10129 ppb	17:07:09
3	Sr 421.552†	80956.8	75726.0	499.95 ug/L	499.95 ppb	17:07:09
3	Sc 361.383	906367.2	906367.2	101.74 %		17:08:33
3	Y 371.029	729807.2	729807.2	99.395 %		17:08:33
3	Ag 328.068†	113986.1	111407.0	490.55 ug/L	490.55 ppb	17:08:33
3	As 188.979†	1244.8	1252.2	485.27 ug/L	485.27 ppb	17:08:53
3	B 249.677†	22467.0	22842.9	475.39 ug/L	475.39 ppb	17:08:33
3	Ba 233.527†	68411.5	67253.8	492.80 ug/L	492.80 ppb	17:08:33
3	Be 313.107†	1466062.3	1445326.7	486.06 ug/L	486.06 ppb	17:08:33
3	Cd 226.502†	48645.2	48015.2	495.68 ug/L	495.68 ppb	17:08:33
3	Co 228.616†	26743.2	26369.8	486.14 ug/L	486.14 ppb	17:08:53
3	Cr 267.716†	48548.0	47653.7	491.17 ug/L	491.17 ppb	17:08:33
3	Cu 324.752†	187688.0	177582.9	493.93 ug/L	493.93 ppb	17:08:33
3	Mn 257.610†	500884.2	491763.8	493.70 ug/L	493.70 ppb	17:08:33
3	Mo 202.031†	7530.0	7395.7	491.97 ug/L	491.97 ppb	17:08:53
3	Ni 231.604†	22313.7	21845.9	486.49 ug/L	486.49 ppb	17:08:53
3	P 214.914†	5035.8	4726.2	2357.5 ug/L	2357.5 ppb	17:08:53
3	Pb 220.353†	4606.5	4607.1	495.90 ug/L	495.90 ppb	17:08:53
3	S 181.975 Axial†	842.8	779.4	951.24 ug/L	951.24 ppb	17:08:53
3	Sb 206.836†	1651.2	1584.5	501.75 ug/L	501.75 ppb	17:08:53
3	Se 196.026†	875.5	886.4	510.12 ug/L	510.12 ppb	17:08:53
3	Si 251.611†	84321.6	82340.0	2444.9 ug/L	2444.9 ppb	17:08:33
3	Sn 189.927†	3086.7	3024.3	489.42 ug/L	489.42 ppb	17:08:53
3	Ti 334.940†	337936.4	333946.2	498.82 ug/L	498.82 ppb	17:08:33
3	Tl 190.801†	1717.7	1732.7	492.29 ug/L	492.29 ppb	17:08:53
3	U 409.014†	11933.9	16842.4	495.82 ug/L	495.82 ppb	17:08:33
3	V 292.402†	72836.8	73340.1	494.46 ug/L	494.46 ppb	17:08:33
3	Zn 213.857†	59637.7	57906.0	487.02 ug/L	487.02 ppb	17:08:33
3	SiO2†	83024.9	81039.0	5154.4 ug/L	5154.4 ppb	17:09:09

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	902755.8	101.34 %	0.452			0.45%
Sc Radial	4521.7	110 %	2.8			2.52%
Y 371.029	727503.2	99.082 %	0.4024			0.41%
Y RADIAL	5032.2	103.9 %	2.94			2.83%
Ag 328.068†	111333.3	490.19 ug/L	0.966	490.19 ppb	0.966	0.20%

QC value within limits for Ag 328.068 Recovery = 98.04%							
Al 396.153Radial†	5820.8	4782.2 ug/L	205.28	4782.2 ppb	205.28	4.29%	
QC value within limits for Al 396.153Radial Recovery = 95.64%							
As 188.979†	1268.3	491.41 ug/L	5.544	491.41 ppb	5.544	1.13%	
QC value within limits for As 188.979 Recovery = 98.28%							
B 249.677†	22781.0	474.11 ug/L	1.175	474.11 ppb	1.175	0.25%	
QC value within limits for B 249.677 Recovery = 94.82%							
Ba 233.527†	67251.5	492.78 ug/L	0.049	492.78 ppb	0.049	0.01%	
QC value within limits for Ba 233.527 Recovery = 98.56%							
Be 313.107†	1446579.6	486.48 ug/L	1.076	486.48 ppb	1.076	0.22%	
QC value within limits for Be 313.107 Recovery = 97.30%							
Ca 317.933Radial†	2639.6	4886.3 ug/L	151.07	4886.3 ppb	151.07	3.09%	
QC value within limits for Ca 317.933Radial Recovery = 97.73%							
Cd 226.502†	47936.3	494.88 ug/L	1.221	494.88 ppb	1.221	0.25%	
QC value within limits for Cd 226.502 Recovery = 98.98%							
Co 228.616†	26460.7	487.82 ug/L	1.457	487.82 ppb	1.457	0.30%	
QC value within limits for Co 228.616 Recovery = 97.56%							
Cr 267.716†	47653.9	491.17 ug/L	1.016	491.17 ppb	1.016	0.21%	
QC value within limits for Cr 267.716 Recovery = 98.23%							
Cu 324.752†	177014.0	492.34 ug/L	1.417	492.34 ppb	1.417	0.29%	
QC value within limits for Cu 324.752 Recovery = 98.47%							
Fe 238.204 Radial†	428.2	4991.1 ug/L	167.87	4991.1 ppb	167.87	3.36%	
QC value within limits for Fe 238.204 Radial Recovery = 99.82%							
K 766.490 Radial†	24674.1	4690.4 ug/L	203.55	4690.4 ppb	203.55	4.34%	
QC value within limits for K 766.490 Radial Recovery = 93.81%							
Mg 279.077 IEC†	120.9	5094.8 ug/L	229.68	5094.8 ppb	229.68	4.51%	
QC value within limits for Mg 279.077 IEC Recovery = 101.90%							
Mn 257.610†	491511.0	493.44 ug/L	0.260	493.44 ppb	0.260	0.05%	
QC value within limits for Mn 257.610 Recovery = 98.69%							
Mo 202.031†	7421.0	493.64 ug/L	1.553	493.64 ppb	1.553	0.31%	
QC value within limits for Mo 202.031 Recovery = 98.73%							
Na 589.592 Radial†	31918.7	9835.8 ug/L	364.46	9835.8 ppb	364.46	3.71%	
QC value within limits for Na 589.592 Radial Recovery = 98.36%							
Ni 231.604†	21918.6	488.11 ug/L	1.413	488.11 ppb	1.413	0.29%	
QC value within limits for Ni 231.604 Recovery = 97.62%							
P 214.914†	4714.8	2352.0 ug/L	4.85	2352.0 ppb	4.85	0.21%	
QC value within limits for P 214.914 Recovery = 94.08%							
Pb 220.353†	4611.2	496.31 ug/L	0.853	496.31 ppb	0.853	0.17%	
QC value within limits for Pb 220.353 Recovery = 99.26%							
S 181.975 Axial†	781.3	953.56 ug/L	2.027	953.56 ppb	2.027	0.21%	
QC value within limits for S 181.975 Axial Recovery = 95.36%							
Sb 206.836†	1584.4	501.80 ug/L	0.287	501.80 ppb	0.287	0.06%	
QC value within limits for Sb 206.836 Recovery = 100.36%							
Se 196.026†	886.1	509.42 ug/L	3.993	509.42 ppb	3.993	0.78%	
QC value within limits for Se 196.026 Recovery = 101.88%							
Si 251.611†	82233.9	2441.7 ug/L	3.22	2441.7 ppb	3.22	0.13%	
QC value within limits for Si 251.611 Recovery = 97.67%							
Sn 189.927†	3031.6	490.58 ug/L	1.433	490.58 ppb	1.433	0.29%	
QC value within limits for Sn 189.927 Recovery = 98.12%							
Sr 421.552†	73435.0	484.83 ug/L	18.286	484.83 ppb	18.286	3.77%	
QC value within limits for Sr 421.552 Recovery = 96.97%							
Ti 334.940†	333602.9	498.30 ug/L	0.648	498.30 ppb	0.648	0.13%	
QC value within limits for Ti 334.940 Recovery = 99.66%							
Tl 190.801†	1738.2	493.81 ug/L	1.453	493.81 ppb	1.453	0.29%	
QC value within limits for Tl 190.801 Recovery = 98.76%							
U 409.014†	16859.2	496.33 ug/L	1.375	496.33 ppb	1.375	0.28%	
QC value within limits for U 409.014 Recovery = 99.27%							
V 292.402†	73458.3	495.29 ug/L	1.306	495.29 ppb	1.306	0.26%	
QC value within limits for V 292.402 Recovery = 99.06%							
Zn 213.857†	57783.3	485.99 ug/L	1.279	485.99 ppb	1.279	0.26%	
QC value within limits for Zn 213.857 Recovery = 97.20%							
SiO2†	81827.7	5204.7 ug/L	48.32	5204.7 ppb	48.32	0.93%	
QC value within limits for SiO2 Recovery = 97.33%							
All analyte(s) passed QC.							

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 17:11:18

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4183.0	4183.0	101 %		17:13:31
1	Y RADIAL	4799.6	4799.6	99.14 %		17:13:11
1	Al 396.153Radial†	-170.2	22.2	18.332 ug/L	18.332 ppb	17:13:11
1	Ca 317.933Radial†	18.0	4.4	8.1497 ug/L	8.1497 ppb	17:13:31
1	Fe 238.204 Radial†	10.5	0.3	2.9009 ug/L	2.9009 ppb	17:13:31
1	K 766.490 Radial†	2563.1	-96.4	-18.376 ug/L	-18.376 ppb	17:13:11
1	Mg 279.077 IEC†	0.4	0.4	18.050 ug/L	18.050 ppb	17:13:31
1	Na 589.592 Radial†	-1543.1	130.4	40.172 ug/L	40.172 ppb	17:13:11
1	Sr 421.552†	27.2	-9.6	-0.0633 ug/L	-0.0633 ppb	17:13:11
1	Sc 361.383	883603.0	883603.0	99.189 %		17:14:28
1	Y 371.029	725805.8	725805.8	98.850 %		17:14:28
1	Ag 328.068†	500.6	-119.8	-0.5329 ug/L	-0.5329 ppb	17:14:28
1	As 188.979†	-26.0	2.5	0.9625 ug/L	0.9625 ppb	17:14:48
1	B 249.677†	-607.0	149.1	3.1181 ug/L	3.1181 ppb	17:14:48
1	Ba 233.527†	-10.6	4.6	0.0348 ug/L	0.0348 ppb	17:14:48
1	Be 313.107†	-4151.7	217.4	0.0733 ug/L	0.0733 ppb	17:14:28
1	Cd 226.502†	-199.3	3.1	0.0350 ug/L	0.0350 ppb	17:14:48
1	Co 228.616†	-100.6	-16.3	-0.3007 ug/L	-0.3007 ppb	17:14:48
1	Cr 267.716†	112.7	51.8	0.5278 ug/L	0.5278 ppb	17:14:28
1	Cu 324.752†	7982.8	1161.2	3.2218 ug/L	3.2218 ppb	17:14:28
1	Mn 257.610†	500.8	-26.9	-0.0275 ug/L	-0.0275 ppb	17:14:48
1	Mo 202.031†	7.3	2.2	0.1435 ug/L	0.1435 ppb	17:14:48
1	Ni 231.604†	85.4	1.0	0.0220 ug/L	0.0220 ppb	17:14:48
1	P 214.914†	229.7	8.3	3.6854 ug/L	3.6854 ppb	17:14:48
1	Pb 220.353†	-60.0	19.1	2.0537 ug/L	2.0537 ppb	17:14:48
1	S 181.975 Axial†	55.0	6.6	8.0561 ug/L	8.0561 ppb	17:14:48
1	Sb 206.836†	45.8	7.8	2.3908 ug/L	2.3908 ppb	17:14:48
1	Se 196.026†	-24.8	1.0	0.5570 ug/L	0.5570 ppb	17:14:48
1	Si 251.611†	478.8	-53.0	-1.5791 ug/L	-1.5791 ppb	17:14:48
1	Sn 189.927†	11.9	2.5	0.4105 ug/L	0.4105 ppb	17:14:48
1	Ti 334.940†	-1684.8	105.8	0.1511 ug/L	0.1511 ppb	17:14:28
1	Tl 190.801†	-43.5	0.6	0.1761 ug/L	0.1761 ppb	17:14:48
1	U 409.014†	-4578.5	497.2	14.686 ug/L	14.686 ppb	17:14:28
1	V 292.402†	-1653.0	85.7	0.5996 ug/L	0.5996 ppb	17:14:28
1	Zn 213.857†	781.9	79.2	0.6671 ug/L	0.6671 ppb	17:14:48
1	SiO2†	478.2	-80.1	-5.1118 ug/L	-5.1118 ppb	17:15:44
2	Sc Radial	4247.2	4247.2	103 %		17:13:56
2	Y RADIAL	4895.6	4895.6	101.1 %		17:13:36
2	Al 396.153Radial†	-126.6	67.1	55.375 ug/L	55.375 ppb	17:13:36
2	Ca 317.933Radial†	23.0	9.0	16.619 ug/L	16.619 ppb	17:13:56
2	Fe 238.204 Radial†	10.5	0.1	1.4227 ug/L	1.4227 ppb	17:13:56
2	K 766.490 Radial†	2675.6	-25.4	-4.8479 ug/L	-4.8479 ppb	17:13:36
2	Mg 279.077 IEC†	1.9	1.9	78.957 ug/L	78.957 ppb	17:13:56
2	Na 589.592 Radial†	-1563.9	133.2	41.050 ug/L	41.050 ppb	17:13:36
2	Sr 421.552†	32.1	-5.2	-0.0347 ug/L	-0.0347 ppb	17:13:36
2	Sc 361.383	903631.4	903631.4	101.44 %		17:14:54
2	Y 371.029	742223.6	742223.6	101.09 %		17:14:54
2	Ag 328.068†	481.1	-150.3	-0.6668 ug/L	-0.6668 ppb	17:14:54
2	As 188.979†	-28.6	0.6	0.2164 ug/L	0.2164 ppb	17:15:14
2	B 249.677†	-591.7	177.8	3.7167 ug/L	3.7167 ppb	17:15:14
2	Ba 233.527†	-2.6	12.7	0.0955 ug/L	0.0955 ppb	17:15:14
2	Be 313.107†	-4262.7	200.7	0.0681 ug/L	0.0681 ppb	17:14:54
2	Cd 226.502†	-192.6	14.2	0.1503 ug/L	0.1503 ppb	17:15:14
2	Co 228.616†	-76.8	9.5	0.1750 ug/L	0.1750 ppb	17:15:14
2	Cr 267.716†	163.0	98.9	1.0124 ug/L	1.0124 ppb	17:14:54
2	Cu 324.752†	8144.0	1141.8	3.1663 ug/L	3.1663 ppb	17:14:54
2	Mn 257.610†	513.9	-25.1	-0.0283 ug/L	-0.0283 ppb	17:15:14
2	Mo 202.031†	16.1	10.6	0.7058 ug/L	0.7058 ppb	17:15:14
2	Ni 231.604†	92.7	6.2	0.1390 ug/L	0.1390 ppb	17:15:14

2	P 214.914†	249.9	23.1	11.399 ug/L	11.399 ppb	17:15:14
2	Pb 220.353†	-67.0	13.6	1.4738 ug/L	1.4738 ppb	17:15:14
2	S 181.975 Axial†	49.2	-0.3	-0.4372 ug/L	-0.4372 ppb	17:15:14
2	Sb 206.836†	52.4	13.2	4.0600 ug/L	4.0600 ppb	17:15:14
2	Se 196.026†	-24.9	1.4	0.7753 ug/L	0.7753 ppb	17:15:14
2	Si 251.611†	479.1	-63.4	-1.8957 ug/L	-1.8957 ppb	17:15:14
2	Sn 189.927†	11.5	1.9	0.3121 ug/L	0.3121 ppb	17:15:14
2	Ti 334.940†	-1615.2	212.0	0.3047 ug/L	0.3047 ppb	17:14:54
2	Tl 190.801†	-33.6	11.4	3.2056 ug/L	3.2056 ppb	17:15:14
2	U 409.014†	-4595.6	582.6	17.207 ug/L	17.207 ppb	17:14:54
2	V 292.402†	-1610.1	164.9	1.1406 ug/L	1.1406 ppb	17:14:54
2	Zn 213.857†	794.0	73.6	0.6191 ug/L	0.6191 ppb	17:15:14
2	SiO2†	533.8	-36.0	-2.3144 ug/L	-2.3144 ppb	17:15:49
3	Sc Radial	4226.0	4226.0	102 %		17:14:21
3	Y RADIAL	5020.7	5020.7	103.7 %		17:14:01
3	Al 396.153Radial†	-175.5	18.8	15.485 ug/L	15.485 ppb	17:14:01
3	Ca 317.933Radial†	17.4	3.7	6.8398 ug/L	6.8398 ppb	17:14:21
3	Fe 238.204 Radial†	11.8	1.4	16.692 ug/L	16.692 ppb	17:14:21
3	K 766.490 Radial†	2718.2	29.3	5.5542 ug/L	5.5542 ppb	17:14:01
3	Mg 279.077 IEC†	-0.1	-0.0	-0.0921 ug/L	-0.0921 ppb	17:14:21
3	Na 589.592 Radial†	-1584.4	105.5	32.512 ug/L	32.512 ppb	17:14:01
3	Sr 421.552†	-26.1	-62.0	-0.4091 ug/L	-0.4091 ppb	17:14:01
3	Sc 361.383	896686.3	896686.3	100.66 %		17:15:19
3	Y 371.029	735449.3	735449.3	100.16 %		17:15:19
3	Ag 328.068†	463.6	-164.0	-0.7205 ug/L	-0.7205 ppb	17:15:19
3	As 188.979†	-26.1	2.8	1.0877 ug/L	1.0877 ppb	17:15:39
3	B 249.677†	-577.3	187.6	3.9208 ug/L	3.9208 ppb	17:15:39
3	Ba 233.527†	-19.9	-4.5	-0.0307 ug/L	-0.0307 ppb	17:15:39
3	Be 313.107†	-4232.4	198.3	0.0672 ug/L	0.0672 ppb	17:15:19
3	Cd 226.502†	-187.8	17.5	0.1823 ug/L	0.1823 ppb	17:15:39
3	Co 228.616†	-100.9	-15.1	-0.2796 ug/L	-0.2796 ppb	17:15:39
3	Cr 267.716†	99.1	36.6	0.3726 ug/L	0.3726 ppb	17:15:19
3	Cu 324.752†	8013.6	1074.4	2.9818 ug/L	2.9818 ppb	17:15:19
3	Mn 257.610†	505.0	-30.1	-0.0286 ug/L	-0.0286 ppb	17:15:39
3	Mo 202.031†	4.5	-0.7	-0.0476 ug/L	-0.0476 ppb	17:15:39
3	Ni 231.604†	112.2	26.3	0.5852 ug/L	0.5852 ppb	17:15:39
3	P 214.914†	243.2	18.4	8.9549 ug/L	8.9549 ppb	17:15:39
3	Pb 220.353†	-73.6	6.5	0.7019 ug/L	0.7019 ppb	17:15:39
3	S 181.975 Axial†	41.5	-7.6	-9.3197 ug/L	-9.3197 ppb	17:15:39
3	Sb 206.836†	47.5	8.8	2.6998 ug/L	2.6998 ppb	17:15:39
3	Se 196.026†	-25.9	0.3	0.2084 ug/L	0.2084 ppb	17:15:39
3	Si 251.611†	493.1	-45.8	-1.3640 ug/L	-1.3640 ppb	17:15:39
3	Sn 189.927†	14.4	4.9	0.7859 ug/L	0.7859 ppb	17:15:39
3	Ti 334.940†	-1616.0	199.0	0.2922 ug/L	0.2922 ppb	17:15:19
3	Tl 190.801†	-32.7	12.0	3.3868 ug/L	3.3868 ppb	17:15:39
3	U 409.014†	-4686.3	457.4	13.509 ug/L	13.509 ppb	17:15:19
3	V 292.402†	-1668.3	94.8	0.6527 ug/L	0.6527 ppb	17:15:19
3	Zn 213.857†	778.2	64.0	0.5333 ug/L	0.5333 ppb	17:15:39
3	SiO2†	455.4	-109.8	-7.0001 ug/L	-7.0001 ppb	17:15:54

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	894640.2	100.43 %	1.142			1.14%
Sc Radial	4218.7	102 %	0.8			0.78%
Y 371.029	734492.9	100.03 %	1.124			1.12%
Y RADIAL	4905.3	101.3 %	2.29			2.26%
Ag 328.068†	-144.7	-0.6400 ug/L	0.09659	-0.6400 ppb	0.09659	15.09%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	36.0	29.731 ug/L	22.2545	29.731 ppb	22.2545	74.85%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.0	0.7555 ug/L	0.47105	0.7555 ppb	0.47105	62.35%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	171.5	3.5852 ug/L	0.41718	3.5852 ppb	0.41718	11.64%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.3	0.0332 ug/L	0.06314	0.0332 ppb	0.06314	190.26%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	205.5	0.0695 ug/L	0.00331	0.0695 ppb	0.00331	4.75%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	5.7	10.536 ug/L	5.3082	10.536 ppb	5.3082	50.38%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	11.6	0.1225 ug/L	0.07747	0.1225 ppb	0.07747	63.22%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-7.3	-0.1351 ug/L	0.26878	-0.1351 ppb	0.26878	198.99%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	62.4	0.6376 ug/L	0.33371	0.6376 ppb	0.33371	52.34%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	1125.8	3.1233 ug/L	0.12568	3.1233 ppb	0.12568	4.02%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.6	7.0053 ug/L	8.42167	7.0053 ppb	8.42167	120.22%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-30.8	-5.8898 ug/L	11.99891	-5.8898 ppb	11.99891	203.72%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.8	32.305 ug/L	41.4074	32.305 ppb	41.4074	128.18%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-27.4	-0.0281 ug/L	0.00056	-0.0281 ppb	0.00056	2.01%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	4.0	0.2672 ug/L	0.39167	0.2672 ppb	0.39167	146.56%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	123.0	37.911 ug/L	4.6966	37.911 ppb	4.6966	12.39%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	11.2	0.2487 ug/L	0.29719	0.2487 ppb	0.29719	119.48%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	16.6	8.0131 ug/L	3.94216	8.0131 ppb	3.94216	49.20%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	13.1	1.4098 ug/L	0.67819	1.4098 ppb	0.67819	48.11%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-0.5	-0.5669 ug/L	8.68862	-0.5669 ppb	8.68862	>999.9%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	9.9	3.0502 ug/L	0.88806	3.0502 ppb	0.88806	29.11%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	0.9	0.5136 ug/L	0.28592	0.5136 ppb	0.28592	55.67%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-54.1	-1.6129 ug/L	0.26749	-1.6129 ppb	0.26749	16.58%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	3.1	0.5028 ug/L	0.25000	0.5028 ppb	0.25000	49.72%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-25.6	-0.1690 ug/L	0.20842	-0.1690 ppb	0.20842	123.30%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	172.3	0.2493 ug/L	0.08530	0.2493 ppb	0.08530	34.22%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	8.0	2.2562 ug/L	1.80367	2.2562 ppb	1.80367	79.94%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	512.4	15.134 ug/L	1.8895	15.134 ppb	1.8895	12.49%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	115.1	0.7976 ug/L	0.29818	0.7976 ppb	0.29818	37.38%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	72.3	0.6065 ug/L	0.06779	0.6065 ppb	0.06779	11.18%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-75.3	-4.8088 ug/L	2.35749	-4.8088 ppb	2.35749	49.03%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 13

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 18:26:30

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4150.3	4150.3	101 %		18:28:22
1	Y RADIAL	4614.6	4614.6	95.32 %		18:28:22
1	Al 396.153Radial†	6004.7	6159.0	5061.8 ug/L	5061.8 ppb	18:28:22
1	Ca 317.933Radial†	2811.1	2781.0	5148.0 ug/L	5148.0 ppb	18:28:42
1	Fe 238.204 Radial†	476.6	463.7	5403.2 ug/L	5403.2 ppb	18:28:42
1	K 766.490 Radial†	29078.2	26280.5	4995.8 ug/L	4995.8 ppb	18:28:22
1	Mg 279.077 IEC†	130.9	130.1	5482.6 ug/L	5482.6 ppb	18:28:42
1	Na 589.592 Radial†	32666.6	34124.0	10515 ug/L	10515 ppb	18:28:22
1	Sr 421.552†	77989.3	77487.6	511.58 ug/L	511.58 ppb	18:28:22
1	Sc 361.383	882596.8	882596.8	99.076 %		18:29:40
1	Y 371.029	709820.3	709820.3	96.673 %		18:29:40
1	Ag 328.068†	111164.0	111575.9	491.38 ug/L	491.38 ppb	18:29:45
1	As 188.979†	1237.3	1277.6	495.02 ug/L	495.02 ppb	18:30:05
1	B 249.677†	22126.4	23093.8	480.57 ug/L	480.57 ppb	18:29:45
1	Ba 233.527†	66137.8	66769.8	489.27 ug/L	489.27 ppb	18:29:45
1	Be 313.107†	1427946.8	1445663.4	486.16 ug/L	486.16 ppb	18:29:40
1	Cd 226.502†	47374.8	48020.6	495.72 ug/L	495.72 ppb	18:29:45
1	Co 228.616†	26530.5	26863.1	495.23 ug/L	495.23 ppb	18:29:45
1	Cr 267.716†	47240.7	47619.3	490.82 ug/L	490.82 ppb	18:29:45
1	Cu 324.752†	182328.3	177141.4	492.71 ug/L	492.71 ppb	18:29:45
1	Mn 257.610†	483051.8	487023.8	488.96 ug/L	488.96 ppb	18:29:40
1	Mo 202.031†	7245.5	7307.9	486.16 ug/L	486.16 ppb	18:30:05
1	Ni 231.604†	22075.2	22195.9	494.28 ug/L	494.28 ppb	18:29:45
1	P 214.914†	4881.0	4703.2	2345.6 ug/L	2345.6 ppb	18:30:05
1	Pb 220.353†	4408.1	4528.8	487.49 ug/L	487.49 ppb	18:30:05
1	S 181.975 Axial†	838.6	797.5	973.27 ug/L	973.27 ppb	18:30:05
1	Sb 206.836†	1631.4	1608.1	508.90 ug/L	508.90 ppb	18:30:05
1	Se 196.026†	853.0	887.0	511.27 ug/L	511.27 ppb	18:30:05
1	Si 251.611†	82548.6	82782.5	2458.1 ug/L	2458.1 ppb	18:29:45
1	Sn 189.927†	3002.0	3020.5	488.84 ug/L	488.84 ppb	18:30:05
1	Ti 334.940†	324136.6	328963.1	491.37 ug/L	491.37 ppb	18:29:40
1	Tl 190.801†	1672.4	1732.5	492.09 ug/L	492.09 ppb	18:30:05
1	U 409.014†	11624.5	16846.0	495.90 ug/L	495.90 ppb	18:29:45
1	V 292.402†	70944.3	73358.0	494.47 ug/L	494.47 ppb	18:29:45
1	Zn 213.857†	58560.3	58397.2	491.12 ug/L	491.12 ppb	18:29:45
1	SiO2†	82570.0	82777.6	5265.5 ug/L	5265.5 ppb	18:31:13
2	Sc Radial	4355.2	4355.2	106 %		18:28:47
2	Y RADIAL	4843.0	4843.0	100.0 %		18:28:47
2	Al 396.153Radial†	6015.9	5888.7	4838.6 ug/L	4838.6 ppb	18:28:47
2	Ca 317.933Radial†	2845.5	2682.0	4964.8 ug/L	4964.8 ppb	18:29:07
2	Fe 238.204 Radial†	475.1	439.9	5127.4 ug/L	5127.4 ppb	18:29:07
2	K 766.490 Radial†	29513.3	25332.1	4815.5 ug/L	4815.5 ppb	18:28:47
2	Mg 279.077 IEC†	131.5	124.6	5249.0 ug/L	5249.0 ppb	18:29:07
2	Na 589.592 Radial†	32995.2	32906.9	10140 ug/L	10140 ppb	18:28:47
2	Sr 421.552†	79036.3	74830.6	494.04 ug/L	494.04 ppb	18:28:47
2	Sc 361.383	880581.3	880581.3	98.850 %		18:30:11
2	Y 371.029	706591.9	706591.9	96.234 %		18:30:11
2	Ag 328.068†	111192.9	111862.0	492.55 ug/L	492.55 ppb	18:30:16
2	As 188.979†	1220.7	1263.7	489.63 ug/L	489.63 ppb	18:30:36
2	B 249.677†	22139.1	23157.8	481.95 ug/L	481.95 ppb	18:30:16
2	Ba 233.527†	66305.8	67092.5	491.62 ug/L	491.62 ppb	18:30:16
2	Be 313.107†	1427309.7	1448317.6	487.05 ug/L	487.05 ppb	18:30:11
2	Cd 226.502†	47338.4	48093.2	496.49 ug/L	496.49 ppb	18:30:16
2	Co 228.616†	26520.8	26914.4	496.18 ug/L	496.18 ppb	18:30:16
2	Cr 267.716†	47210.3	47697.7	491.62 ug/L	491.62 ppb	18:30:16
2	Cu 324.752†	182241.8	177475.1	493.63 ug/L	493.63 ppb	18:30:16
2	Mn 257.610†	484895.0	490004.3	491.93 ug/L	491.93 ppb	18:30:11
2	Mo 202.031†	7247.4	7326.5	487.37 ug/L	487.37 ppb	18:30:36
2	Ni 231.604†	22093.9	22265.8	495.84 ug/L	495.84 ppb	18:30:16

2	P 214.914†	4906.2	4740.0	2364.7 ug/L	2364.7 ppb	18:30:36
2	Pb 220.353†	4387.7	4518.4	486.34 ug/L	486.34 ppb	18:30:36
2	S 181.975 Axial†	826.3	787.0	960.54 ug/L	960.54 ppb	18:30:36
2	Sb 206.836†	1637.4	1618.1	511.94 ug/L	511.94 ppb	18:30:36
2	Se 196.026†	855.8	891.7	513.00 ug/L	513.00 ppb	18:30:36
2	Si 251.611†	82582.3	83007.3	2464.8 ug/L	2464.8 ppb	18:30:16
2	Sn 189.927†	2990.3	3015.7	488.03 ug/L	488.03 ppb	18:30:36
2	Ti 334.940†	325141.5	330728.5	494.01 ug/L	494.01 ppb	18:30:11
2	Tl 190.801†	1674.0	1737.9	493.67 ug/L	493.67 ppb	18:30:36
2	U 409.014†	11576.8	16824.5	495.29 ug/L	495.29 ppb	18:30:16
2	V 292.402†	70928.0	73505.3	495.50 ug/L	495.50 ppb	18:30:16
2	Zn 213.857†	58606.8	58579.5	492.68 ug/L	492.68 ppb	18:30:16
2	SiO2†	82303.2	82698.5	5260.4 ug/L	5260.4 ppb	18:31:18
3	Sc Radial	4404.9	4404.9	107 %		18:29:13
3	Y RADIAL	4911.7	4911.7	101.5 %		18:29:13
3	Al 396.153Radial†	6194.5	5991.7	4923.4 ug/L	4923.4 ppb	18:29:13
3	Ca 317.933Radial†	2850.2	2656.1	4916.8 ug/L	4916.8 ppb	18:29:33
3	Fe 238.204 Radial†	481.7	441.0	5140.0 ug/L	5140.0 ppb	18:29:33
3	K 766.490 Radial†	29302.2	24819.3	4718.0 ug/L	4718.0 ppb	18:29:13
3	Mg 279.077 IEC†	133.6	125.2	5275.5 ug/L	5275.5 ppb	18:29:33
3	Na 589.592 Radial†	32837.8	32407.3	9986.4 ug/L	9986.4 ppb	18:29:13
3	Sr 421.552†	78839.5	73802.6	487.25 ug/L	487.25 ppb	18:29:13
3	Sc 361.383	871892.5	871892.5	97.875 %		18:30:42
3	Y 371.029	699971.8	699971.8	95.332 %		18:30:42
3	Ag 328.068†	110686.6	112465.7	495.19 ug/L	495.19 ppb	18:30:48
3	As 188.979†	1226.4	1281.8	496.59 ug/L	496.59 ppb	18:31:08
3	B 249.677†	22064.5	23304.7	485.01 ug/L	485.01 ppb	18:30:48
3	Ba 233.527†	65745.8	67188.8	492.33 ug/L	492.33 ppb	18:30:48
3	Be 313.107†	1410812.7	1445851.7	486.22 ug/L	486.22 ppb	18:30:42
3	Cd 226.502†	47094.3	48321.1	498.85 ug/L	498.85 ppb	18:30:48
3	Co 228.616†	26396.9	27055.3	498.79 ug/L	498.79 ppb	18:30:48
3	Cr 267.716†	46986.2	47944.7	494.17 ug/L	494.17 ppb	18:30:48
3	Cu 324.752†	181575.4	178631.5	496.84 ug/L	496.84 ppb	18:30:48
3	Mn 257.610†	479136.2	489008.9	490.93 ug/L	490.93 ppb	18:30:42
3	Mo 202.031†	7243.5	7395.6	491.96 ug/L	491.96 ppb	18:31:08
3	Ni 231.604†	21991.7	22384.0	498.47 ug/L	498.47 ppb	18:30:48
3	P 214.914†	4897.7	4780.8	2385.3 ug/L	2385.3 ppb	18:31:08
3	Pb 220.353†	4405.0	4580.3	493.01 ug/L	493.01 ppb	18:31:08
3	S 181.975 Axial†	827.8	796.9	972.56 ug/L	972.56 ppb	18:31:08
3	Sb 206.836†	1627.2	1624.1	514.00 ug/L	514.00 ppb	18:31:08
3	Se 196.026†	855.1	899.6	517.41 ug/L	517.41 ppb	18:31:08
3	Si 251.611†	82194.9	83444.1	2477.7 ug/L	2477.7 ppb	18:30:48
3	Sn 189.927†	3000.8	3056.5	494.61 ug/L	494.61 ppb	18:31:08
3	Ti 334.940†	321124.0	329901.6	492.76 ug/L	492.76 ppb	18:30:42
3	Tl 190.801†	1678.4	1759.3	499.66 ug/L	499.66 ppb	18:31:08
3	U 409.014†	11677.3	17043.9	501.77 ug/L	501.77 ppb	18:30:48
3	V 292.402†	70541.4	73825.4	497.70 ug/L	497.70 ppb	18:30:48
3	Zn 213.857†	58320.7	58878.0	495.19 ug/L	495.19 ppb	18:30:48
3	SiO2†	82021.4	83240.3	5294.8 ug/L	5294.8 ppb	18:31:23

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	878356.9	98.600 %	0.6385			0.65%
Sc Radial	4303.5	104 %	3.3			3.14%
Y 371.029	705461.4	96.080 %	0.6838			0.71%
Y RADIAL	4789.8	98.93 %	3.213			3.25%
Ag 328.068†	111967.8	493.04 ug/L	1.956	493.04 ppb	1.956	0.40%
QC value within limits for Ag 328.068 Recovery = 98.61%						
Al 396.153Radial†	6013.1	4941.3 ug/L	112.68	4941.3 ppb	112.68	2.28%
QC value within limits for Al 396.153Radial Recovery = 98.83%						
As 188.979†	1274.4	493.75 ug/L	3.648	493.75 ppb	3.648	0.74%
QC value within limits for As 188.979 Recovery = 98.75%						
B 249.677†	23185.4	482.51 ug/L	2.274	482.51 ppb	2.274	0.47%
QC value within limits for B 249.677 Recovery = 96.50%						
Ba 233.527†	67017.0	491.07 ug/L	1.603	491.07 ppb	1.603	0.33%
QC value within limits for Ba 233.527 Recovery = 98.21%						
Be 313.107†	1446610.9	486.48 ug/L	0.500	486.48 ppb	0.500	0.10%
QC value within limits for Be 313.107 Recovery = 97.30%						
Ca 317.933Radial†	2706.4	5009.9 ug/L	122.00	5009.9 ppb	122.00	2.44%

QC value within limits for Ca 317.933 Radial Recovery = 100.20%							
Cd	226.502†	48145.0	497.02 ug/L	1.632	497.02 ppb	1.632	0.33%
QC value within limits for Cd 226.502 Recovery = 99.40%							
Co	228.616†	26944.2	496.73 ug/L	1.842	496.73 ppb	1.842	0.37%
QC value within limits for Co 228.616 Recovery = 99.35%							
Cr	267.716†	47753.9	492.20 ug/L	1.747	492.20 ppb	1.747	0.35%
QC value within limits for Cr 267.716 Recovery = 98.44%							
Cu	324.752†	177749.3	494.39 ug/L	2.168	494.39 ppb	2.168	0.44%
QC value within limits for Cu 324.752 Recovery = 98.88%							
Fe	238.204 Radial†	448.2	5223.5 ug/L	155.68	5223.5 ppb	155.68	2.98%
QC value within limits for Fe 238.204 Radial Recovery = 104.47%							
K	766.490 Radial†	25477.3	4843.1 ug/L	140.96	4843.1 ppb	140.96	2.91%
QC value within limits for K 766.490 Radial Recovery = 96.86%							
Mg	279.077 IEC†	126.6	5335.7 ug/L	127.89	5335.7 ppb	127.89	2.40%
QC value within limits for Mg 279.077 IEC Recovery = 106.71%							
Mn	257.610†	488679.0	490.61 ug/L	1.513	490.61 ppb	1.513	0.31%
QC value within limits for Mn 257.610 Recovery = 98.12%							
Mo	202.031†	7343.3	488.50 ug/L	3.062	488.50 ppb	3.062	0.63%
QC value within limits for Mo 202.031 Recovery = 97.70%							
Na	589.592 Radial†	33146.0	10214 ug/L	272.1	10214 ppb	272.1	2.66%
QC value within limits for Na 589.592 Radial Recovery = 102.14%							
Ni	231.604†	22281.9	496.20 ug/L	2.118	496.20 ppb	2.118	0.43%
QC value within limits for Ni 231.604 Recovery = 99.24%							
P	214.914†	4741.3	2365.2 ug/L	19.84	2365.2 ppb	19.84	0.84%
QC value within limits for P 214.914 Recovery = 94.61%							
Pb	220.353†	4542.5	488.95 ug/L	3.568	488.95 ppb	3.568	0.73%
QC value within limits for Pb 220.353 Recovery = 97.79%							
S	181.975 Axial†	793.8	968.79 ug/L	7.153	968.79 ppb	7.153	0.74%
QC value within limits for S 181.975 Axial Recovery = 96.88%							
Sb	206.836†	1616.8	511.61 ug/L	2.566	511.61 ppb	2.566	0.50%
QC value within limits for Sb 206.836 Recovery = 102.32%							
Se	196.026†	892.8	513.89 ug/L	3.165	513.89 ppb	3.165	0.62%
QC value within limits for Se 196.026 Recovery = 102.78%							
Si	251.611†	83078.0	2466.9 ug/L	9.98	2466.9 ppb	9.98	0.40%
QC value within limits for Si 251.611 Recovery = 98.68%							
Sn	189.927†	3030.9	490.49 ug/L	3.592	490.49 ppb	3.592	0.73%
QC value within limits for Sn 189.927 Recovery = 98.10%							
Sr	421.552†	75373.6	497.63 ug/L	12.555	497.63 ppb	12.555	2.52%
QC value within limits for Sr 421.552 Recovery = 99.53%							
Ti	334.940†	329864.4	492.71 ug/L	1.317	492.71 ppb	1.317	0.27%
QC value within limits for Ti 334.940 Recovery = 98.54%							
Tl	190.801†	1743.2	495.14 ug/L	3.996	495.14 ppb	3.996	0.81%
QC value within limits for Tl 190.801 Recovery = 99.03%							
U	409.014†	16904.8	497.65 ug/L	3.576	497.65 ppb	3.576	0.72%
QC value within limits for U 409.014 Recovery = 99.53%							
V	292.402†	73562.9	495.89 ug/L	1.653	495.89 ppb	1.653	0.33%
QC value within limits for V 292.402 Recovery = 99.18%							
Zn	213.857†	58618.2	492.99 ug/L	2.055	492.99 ppb	2.055	0.42%
QC value within limits for Zn 213.857 Recovery = 98.60%							
SiO2†		82905.4	5273.5 ug/L	18.59	5273.5 ppb	18.59	0.35%
QC value within limits for SiO2 Recovery = 98.62%							
All analyte(s) passed QC.							

Sequence No.: 14

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 18:33:33

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4292.7	4292.7	104 %		18:35:25
1	Y RADIAL	4776.5	4776.5	98.66 %		18:35:25
1	Al 396.153Radial†	-183.4	13.8	11.429 ug/L	11.429 ppb	18:35:25
1	Ca 317.933Radial†	17.2	3.2	5.8501 ug/L	5.8501 ppb	18:35:45
1	Fe 238.204 Radial†	11.5	1.0	11.057 ug/L	11.057 ppb	18:35:45
1	K 766.490 Radial†	2718.5	-11.8	-2.2478 ug/L	-2.2478 ppb	18:35:25
1	Mg 279.077 IEC†	1.4	1.4	59.650 ug/L	59.650 ppb	18:35:45
1	Na 589.592 Radial†	-1654.4	62.3	19.203 ug/L	19.203 ppb	18:35:25
1	Sr 421.552†	17.6	-19.5	-0.1287 ug/L	-0.1287 ppb	18:35:25
1	Sc 361.383	874465.8	874465.8	98.164 %		18:36:42
1	Y 371.029	711494.8	711494.8	96.901 %		18:36:42
1	Ag 328.068†	435.6	-180.7	-0.7963 ug/L	-0.7963 ppb	18:36:42
1	As 188.979†	-32.6	-4.5	-1.7298 ug/L	-1.7298 ppb	18:37:02
1	B 249.677†	-548.2	202.7	4.2359 ug/L	4.2359 ppb	18:37:02
1	Ba 233.527†	-0.0	15.3	0.1114 ug/L	0.1114 ppb	18:37:02
1	Be 313.107†	-3995.0	333.3	0.1120 ug/L	0.1120 ppb	18:36:42
1	Cd 226.502†	-195.6	4.8	0.0509 ug/L	0.0509 ppb	18:37:02
1	Co 228.616†	-87.5	-4.0	-0.0744 ug/L	-0.0744 ppb	18:37:02
1	Cr 267.716†	104.7	44.8	0.4570 ug/L	0.4570 ppb	18:36:42
1	Cu 324.752†	8599.4	1873.4	5.2061 ug/L	5.2061 ppb	18:36:42
1	Mn 257.610†	858.8	343.1	0.3429 ug/L	0.3429 ppb	18:37:02
1	Mo 202.031†	6.9	1.9	0.1240 ug/L	0.1240 ppb	18:37:02
1	Ni 231.604†	96.3	13.0	0.2889 ug/L	0.2889 ppb	18:37:02
1	P 214.914†	240.6	21.8	10.296 ug/L	10.296 ppb	18:37:02
1	Pb 220.353†	-59.3	19.3	2.0650 ug/L	2.0650 ppb	18:37:02
1	S 181.975 Axial†	48.4	0.4	0.4989 ug/L	0.4989 ppb	18:37:02
1	Sb 206.836†	46.6	9.1	2.7843 ug/L	2.7843 ppb	18:37:02
1	Se 196.026†	-23.2	2.4	1.3544 ug/L	1.3544 ppb	18:37:02
1	Si 251.611†	672.8	149.6	4.4520 ug/L	4.4520 ppb	18:37:02
1	Sn 189.927†	15.0	5.9	0.9528 ug/L	0.9528 ppb	18:37:02
1	Ti 334.940†	-1720.2	52.0	0.0693 ug/L	0.0693 ppb	18:36:42
1	Tl 190.801†	-39.9	3.8	1.0720 ug/L	1.0720 ppb	18:37:02
1	U 409.014†	-4702.8	322.4	9.5196 ug/L	9.5196 ppb	18:36:42
1	V 292.402†	-1767.6	-48.5	-0.3035 ug/L	-0.3035 ppb	18:36:42
1	Zn 213.857†	878.9	186.2	1.5700 ug/L	1.5700 ppb	18:37:02
1	SiO2†	497.1	-55.8	-3.5633 ug/L	-3.5633 ppb	18:37:58
2	Sc Radial	4357.0	4357.0	106 %		18:35:50
2	Y RADIAL	4871.9	4871.9	100.6 %		18:35:50
2	Al 396.153Radial†	-142.0	55.7	45.981 ug/L	45.981 ppb	18:35:50
2	Ca 317.933Radial†	13.1	-0.9	-1.6745 ug/L	-1.6745 ppb	18:36:10
2	Fe 238.204 Radial†	13.1	2.3	26.739 ug/L	26.739 ppb	18:36:10
2	K 766.490 Radial†	2877.2	100.0	19.021 ug/L	19.021 ppb	18:35:50
2	Mg 279.077 IEC†	0.4	0.5	19.635 ug/L	19.635 ppb	18:36:10
2	Na 589.592 Radial†	-1634.1	105.0	32.352 ug/L	32.352 ppb	18:35:50
2	Sr 421.552†	6.2	-30.6	-0.2019 ug/L	-0.2019 ppb	18:35:50
2	Sc 361.383	881627.9	881627.9	98.967 %		18:37:07
2	Y 371.029	716931.9	716931.9	97.642 %		18:37:07
2	Ag 328.068†	474.1	-145.5	-0.6406 ug/L	-0.6406 ppb	18:37:07
2	As 188.979†	-34.6	-6.2	-2.3743 ug/L	-2.3743 ppb	18:37:27
2	B 249.677†	-569.2	185.9	3.8821 ug/L	3.8821 ppb	18:37:27
2	Ba 233.527†	-6.0	9.2	0.0691 ug/L	0.0691 ppb	18:37:27
2	Be 313.107†	-4260.2	98.4	0.0332 ug/L	0.0332 ppb	18:37:07
2	Cd 226.502†	-211.4	-9.5	-0.0969 ug/L	-0.0969 ppb	18:37:27
2	Co 228.616†	-74.0	10.3	0.1898 ug/L	0.1898 ppb	18:37:27
2	Cr 267.716†	109.6	48.9	0.4976 ug/L	0.4976 ppb	18:37:07
2	Cu 324.752†	8653.1	1856.6	5.1558 ug/L	5.1558 ppb	18:37:07
2	Mn 257.610†	537.3	11.1	0.0130 ug/L	0.0130 ppb	18:37:27
2	Mo 202.031†	4.9	-0.3	-0.0151 ug/L	-0.0151 ppb	18:37:27
2	Ni 231.604†	93.3	9.1	0.2026 ug/L	0.2026 ppb	18:37:27

2	P 214.914†	228.5	7.6	2.9208 ug/L	2.9208 ppb	18:37:27
2	Pb 220.353†	-65.0	14.0	1.5031 ug/L	1.5031 ppb	18:37:27
2	S 181.975 Axial†	53.5	5.1	6.2637 ug/L	6.2637 ppb	18:37:27
2	Sb 206.836†	50.2	12.3	3.7834 ug/L	3.7834 ppb	18:37:27
2	Se 196.026†	-28.5	-2.9	-1.5005 ug/L	-1.5005 ppb	18:37:27
2	Si 251.611†	554.5	24.6	0.7310 ug/L	0.7310 ppb	18:37:27
2	Sn 189.927†	18.2	9.0	1.4555 ug/L	1.4555 ppb	18:37:27
2	Ti 334.940†	-1741.5	44.7	0.0572 ug/L	0.0572 ppb	18:37:07
2	Tl 190.801†	-51.5	-7.6	-2.1444 ug/L	-2.1444 ppb	18:37:27
2	U 409.014†	-4482.3	584.0	17.246 ug/L	17.246 ppb	18:37:07
2	V 292.402†	-1684.4	50.2	0.3628 ug/L	0.3628 ppb	18:37:07
2	Zn 213.857†	778.1	77.1	0.6432 ug/L	0.6432 ppb	18:37:27
2	SiO2†	513.0	-43.9	-2.7983 ug/L	-2.7983 ppb	18:38:03
3	Sc Radial	4413.2	4413.2	107 %		18:36:15
3	Y RADIAL	4961.4	4961.4	102.5 %		18:36:15
3	Al 396.153Radial†	-219.4	-15.0	-12.434 ug/L	-12.434 ppb	18:36:15
3	Ca 317.933Radial†	16.5	2.1	3.9470 ug/L	3.9470 ppb	18:36:35
3	Fe 238.204 Radial†	11.9	1.0	11.758 ug/L	11.758 ppb	18:36:35
3	K 766.490 Radial†	2741.7	-61.3	-11.685 ug/L	-11.685 ppb	18:36:15
3	Mg 279.077 IEC†	-0.0	0.0	0.9725 ug/L	0.9725 ppb	18:36:35
3	Na 589.592 Radial†	-1670.6	90.5	27.898 ug/L	27.898 ppb	18:36:15
3	Sr 421.552†	57.5	17.3	0.1141 ug/L	0.1141 ppb	18:36:15
3	Sc 361.383	866348.2	866348.2	97.252 %		18:37:33
3	Y 371.029	705420.3	705420.3	96.074 %		18:37:33
3	Ag 328.068†	432.1	-180.2	-0.7888 ug/L	-0.7888 ppb	18:37:33
3	As 188.979†	-23.0	5.1	1.9540 ug/L	1.9540 ppb	18:37:53
3	B 249.677†	-579.9	164.8	3.4445 ug/L	3.4445 ppb	18:37:53
3	Ba 233.527†	-24.3	-9.7	-0.0699 ug/L	-0.0699 ppb	18:37:53
3	Be 313.107†	-4105.3	181.8	0.0613 ug/L	0.0613 ppb	18:37:33
3	Cd 226.502†	-217.0	-19.0	-0.1957 ug/L	-0.1957 ppb	18:37:53
3	Co 228.616†	-85.3	-2.6	-0.0463 ug/L	-0.0463 ppb	18:37:53
3	Cr 267.716†	113.6	55.0	0.5638 ug/L	0.5638 ppb	18:37:33
3	Cu 324.752†	8555.2	1910.0	5.3097 ug/L	5.3097 ppb	18:37:33
3	Mn 257.610†	488.5	-29.5	-0.0285 ug/L	-0.0285 ppb	18:37:53
3	Mo 202.031†	16.5	11.7	0.7809 ug/L	0.7809 ppb	18:37:53
3	Ni 231.604†	99.9	17.6	0.3923 ug/L	0.3923 ppb	18:37:53
3	P 214.914†	226.3	9.5	3.8571 ug/L	3.8571 ppb	18:37:53
3	Pb 220.353†	-77.7	-0.3	-0.0335 ug/L	-0.0335 ppb	18:37:53
3	S 181.975 Axial†	51.8	4.4	5.3384 ug/L	5.3384 ppb	18:37:53
3	Sb 206.836†	42.8	5.6	1.7441 ug/L	1.7441 ppb	18:37:53
3	Se 196.026†	-25.6	-0.3	-0.1360 ug/L	-0.1360 ppb	18:37:53
3	Si 251.611†	504.1	-17.4	-0.5285 ug/L	-0.5285 ppb	18:37:53
3	Sn 189.927†	15.1	6.1	0.9809 ug/L	0.9809 ppb	18:37:53
3	Ti 334.940†	-1674.9	82.1	0.1201 ug/L	0.1201 ppb	18:37:33
3	Tl 190.801†	-29.4	14.3	4.0219 ug/L	4.0219 ppb	18:37:53
3	U 409.014†	-4759.1	219.5	6.4824 ug/L	6.4824 ppb	18:37:33
3	V 292.402†	-1667.8	37.3	0.2696 ug/L	0.2696 ppb	18:37:33
3	Zn 213.857†	785.4	98.5	0.8247 ug/L	0.8247 ppb	18:37:53
3	SiO2†	533.3	-13.8	-0.9035 ug/L	-0.9035 ppb	18:38:08

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	874147.3	98.128 %	0.8582			0.87%
Sc Radial	4354.3	106 %	1.5			1.38%
Y 371.029	711282.3	96.872 %	0.7843			0.81%
Y RADIAL	4869.9	100.6 %	1.91			1.90%
Ag 328.068†	-168.8	-0.7419 ug/L	0.08779	-0.7419 ppb	0.08779	11.83%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	18.2	14.992 ug/L	29.3702	14.992 ppb	29.3702	195.90%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.9	-0.7167 ug/L	2.33524	-0.7167 ppb	2.33524	325.84%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	184.5	3.8542 ug/L	0.39644	3.8542 ppb	0.39644	10.29%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.9	0.0368 ug/L	0.09483	0.0368 ppb	0.09483	257.37%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	204.5	0.0688 ug/L	0.03996	0.0688 ppb	0.03996	58.07%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.5	2.7075 ug/L	3.91245	2.7075 ppb	3.91245	144.50%

QC value within limits for Ca 317.933	Radial	Recovery = Not calculated		
Cd 226.502†	-7.9	-0.0806 ug/L	0.12415	-0.0806 ppb 0.12415 154.08%
QC value within limits for Cd 226.502		Recovery = Not calculated		
Co 228.616†	1.2	0.0230 ug/L	0.14507	0.0230 ppb 0.14507 629.66%
QC value within limits for Co 228.616		Recovery = Not calculated		
Cr 267.716†	49.5	0.5061 ug/L	0.05393	0.5061 ppb 0.05393 10.66%
QC value within limits for Cr 267.716		Recovery = Not calculated		
Cu 324.752†	1880.0	5.2239 ug/L	0.07846	5.2239 ppb 0.07846 1.50%
QC value within limits for Cu 324.752		Recovery = Not calculated		
Fe 238.204 Radial†	1.4	16.518 ug/L	8.8585	16.518 ppb 8.8585 53.63%
QC value within limits for Fe 238.204 Radial		Recovery = Not calculated		
K 766.490 Radial†	9.0	1.6961 ug/L	15.72808	1.6961 ppb 15.72808 927.32%
QC value within limits for K 766.490 Radial		Recovery = Not calculated		
Mg 279.077 IEC†	0.6	26.752 ug/L	29.9793	26.752 ppb 29.9793 112.06%
QC value within limits for Mg 279.077 IEC		Recovery = Not calculated		
Mn 257.610†	108.3	0.1092 ug/L	0.20348	0.1092 ppb 0.20348 186.42%
QC value within limits for Mn 257.610		Recovery = Not calculated		
Mo 202.031†	4.4	0.2966 ug/L	0.42517	0.2966 ppb 0.42517 143.36%
QC value within limits for Mo 202.031		Recovery = Not calculated		
Na 589.592 Radial†	85.9	26.484 ug/L	6.6877	26.484 ppb 6.6877 25.25%
QC value within limits for Na 589.592 Radial		Recovery = Not calculated		
Ni 231.604†	13.2	0.2946 ug/L	0.09497	0.2946 ppb 0.09497 32.24%
QC value within limits for Ni 231.604		Recovery = Not calculated		
P 214.914†	13.0	5.6914 ug/L	4.01539	5.6914 ppb 4.01539 70.55%
QC value within limits for P 214.914		Recovery = Not calculated		
Pb 220.353†	11.0	1.1782 ug/L	1.08630	1.1782 ppb 1.08630 92.20%
QC value within limits for Pb 220.353		Recovery = Not calculated		
S 181.975 Axial†	3.3	4.0336 ug/L	3.09597	4.0336 ppb 3.09597 76.75%
QC value within limits for S 181.975 Axial		Recovery = Not calculated		
Sb 206.836†	9.0	2.7706 ug/L	1.01972	2.7706 ppb 1.01972 36.80%
QC value within limits for Sb 206.836		Recovery = Not calculated		
Se 196.026†	-0.3	-0.0941 ug/L	1.42789	-0.0941 ppb 1.42789 >999.9%
QC value within limits for Se 196.026		Recovery = Not calculated		
Si 251.611†	52.2	1.5515 ug/L	2.58967	1.5515 ppb 2.58967 166.91%
QC value within limits for Si 251.611		Recovery = Not calculated		
Sn 189.927†	7.0	1.1298 ug/L	0.28249	1.1298 ppb 0.28249 25.00%
QC value within limits for Sn 189.927		Recovery = Not calculated		
Sr 421.552†	-10.9	-0.0722 ug/L	0.16542	-0.0722 ppb 0.16542 229.27%
QC value within limits for Sr 421.552		Recovery = Not calculated		
Ti 334.940†	59.6	0.0822 ug/L	0.03337	0.0822 ppb 0.03337 40.59%
QC value within limits for Ti 334.940		Recovery = Not calculated		
Tl 190.801†	3.5	0.9831 ug/L	3.08412	0.9831 ppb 3.08412 313.70%
QC value within limits for Tl 190.801		Recovery = Not calculated		
U 409.014†	375.3	11.083 ug/L	5.5495	11.083 ppb 5.5495 50.07%
QC value within limits for U 409.014		Recovery = Not calculated		
V 292.402†	13.0	0.1096 ug/L	0.36080	0.1096 ppb 0.36080 329.17%
QC value within limits for V 292.402		Recovery = Not calculated		
Zn 213.857†	120.6	1.0126 ug/L	0.49112	1.0126 ppb 0.49112 48.50%
QC value within limits for Zn 213.857		Recovery = Not calculated		
SiO2†	-37.8	-2.4217 ug/L	1.36932	-2.4217 ppb 1.36932 56.54%
QC value within limits for SiO2		Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 24

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 19:41:49

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4243.6	4243.6	103 %		19:44:01
1	Y RADIAL	4564.8	4564.8	94.29 %		19:43:41
1	Al 396.153Radial†	6010.4	6033.2	4957.4 ug/L	4957.4 ppb	19:43:41
1	Ca 317.933Radial†	2792.3	2701.3	5000.4 ug/L	5000.4 ppb	19:44:01
1	Fe 238.204 Radial†	467.2	444.1	5175.8 ug/L	5175.8 ppb	19:44:01
1	K 766.490 Radial†	29278.7	25839.6	4912.0 ug/L	4912.0 ppb	19:43:41
1	Mg 279.077 IEC†	128.0	124.5	5246.2 ug/L	5246.2 ppb	19:44:01
1	Na 589.592 Radial†	32593.9	33339.1	10274 ug/L	10274 ppb	19:43:41
1	Sr 421.552†	78098.2	75888.4	501.03 ug/L	501.03 ppb	19:43:41
1	Sc 361.383	855531.9	855531.9	96.038 %		19:45:00
1	Y 371.029	686414.1	686414.1	93.485 %		19:45:00
1	Ag 328.068†	106955.4	110743.2	487.67 ug/L	487.67 ppb	19:45:00
1	As 188.979†	1205.7	1284.1	497.49 ug/L	497.49 ppb	19:45:20
1	B 249.677†	21182.7	22817.7	474.83 ug/L	474.83 ppb	19:45:00
1	Ba 233.527†	64332.0	67001.3	490.95 ug/L	490.95 ppb	19:45:00
1	Be 313.107†	1391310.5	1453110.2	488.66 ug/L	488.66 ppb	19:45:00
1	Cd 226.502†	46201.7	48311.8	498.74 ug/L	498.74 ppb	19:45:00
1	Co 228.616†	25622.6	26764.8	493.44 ug/L	493.44 ppb	19:45:20
1	Cr 267.716†	45981.5	47816.6	492.85 ug/L	492.85 ppb	19:45:00
1	Cu 324.752†	175069.2	175404.7	487.89 ug/L	487.89 ppb	19:45:00
1	Mn 257.610†	473012.3	491994.0	493.93 ug/L	493.93 ppb	19:45:00
1	Mo 202.031†	7184.2	7475.3	497.27 ug/L	497.27 ppb	19:45:20
1	Ni 231.604†	21386.0	22183.1	494.00 ug/L	494.00 ppb	19:45:20
1	P 214.914†	4861.8	4839.1	2417.4 ug/L	2417.4 ppb	19:45:20
1	Pb 220.353†	4401.4	4662.6	501.86 ug/L	501.86 ppb	19:45:20
1	S 181.975 Axial†	834.4	820.0	1000.8 ug/L	1000.8 ppb	19:45:20
1	Sb 206.836†	1584.5	1611.5	510.32 ug/L	510.32 ppb	19:45:20
1	Se 196.026†	843.9	904.6	520.34 ug/L	520.34 ppb	19:45:20
1	Si 251.611†	79711.6	82464.3	2448.5 ug/L	2448.5 ppb	19:45:00
1	Sn 189.927†	2981.8	3095.4	500.91 ug/L	500.91 ppb	19:45:20
1	Ti 334.940†	315976.9	330816.5	494.15 ug/L	494.15 ppb	19:45:00
1	Tl 190.801†	1656.0	1768.8	502.40 ug/L	502.40 ppb	19:45:20
1	U 409.014†	10422.0	15965.1	469.90 ug/L	469.90 ppb	19:45:00
1	V 292.402†	68483.0	73060.4	492.62 ug/L	492.62 ppb	19:45:00
1	Zn 213.857†	56635.0	58262.3	490.00 ug/L	490.00 ppb	19:45:00
1	SiO2†	80357.4	83110.2	5286.4 ug/L	5286.4 ppb	19:46:21
2	Sc Radial	4115.2	4115.2	99.8 %		19:44:26
2	Y RADIAL	4735.0	4735.0	97.80 %		19:44:06
2	Al 396.153Radial†	5855.2	6059.9	4979.7 ug/L	4979.7 ppb	19:44:06
2	Ca 317.933Radial†	2833.5	2827.2	5233.6 ug/L	5233.6 ppb	19:44:26
2	Fe 238.204 Radial†	474.3	465.4	5423.0 ug/L	5423.0 ppb	19:44:26
2	K 766.490 Radial†	28763.1	26210.5	4982.5 ug/L	4982.5 ppb	19:44:06
2	Mg 279.077 IEC†	131.9	132.3	5574.9 ug/L	5574.9 ppb	19:44:26
2	Na 589.592 Radial†	31614.2	33345.3	10275 ug/L	10275 ppb	19:44:06
2	Sr 421.552†	76157.1	76310.5	503.81 ug/L	503.81 ppb	19:44:06
2	Sc 361.383	875588.0	875588.0	98.289 %		19:45:28
2	Y 371.029	701128.0	701128.0	95.489 %		19:45:28
2	Ag 328.068†	108578.2	109843.3	483.79 ug/L	483.79 ppb	19:45:28
2	As 188.979†	1231.4	1281.6	496.54 ug/L	496.54 ppb	19:45:48
2	B 249.677†	21638.8	22776.5	473.94 ug/L	473.94 ppb	19:45:28
2	Ba 233.527†	65037.5	66184.6	484.97 ug/L	484.97 ppb	19:45:28
2	Be 313.107†	1408658.4	1437576.1	483.44 ug/L	483.44 ppb	19:45:28
2	Cd 226.502†	46671.9	47688.3	492.27 ug/L	492.27 ppb	19:45:28
2	Co 228.616†	26005.6	26543.3	489.35 ug/L	489.35 ppb	19:45:48
2	Cr 267.716†	46408.5	47154.4	486.03 ug/L	486.03 ppb	19:45:28
2	Cu 324.752†	178101.7	174314.3	484.86 ug/L	484.86 ppb	19:45:28
2	Mn 257.610†	479030.5	486835.2	488.77 ug/L	488.77 ppb	19:45:28
2	Mo 202.031†	7278.4	7399.8	492.27 ug/L	492.27 ppb	19:45:48
2	Ni 231.604†	21694.6	21987.0	489.63 ug/L	489.63 ppb	19:45:48



2	P 214.914†	4940.7	4803.4	2399.2 ug/L	2399.2 ppb	19:45:48
2	Pb 220.353†	4464.7	4622.0	497.48 ug/L	497.48 ppb	19:45:48
2	S 181.975 Axial†	834.2	799.9	976.21 ug/L	976.21 ppb	19:45:48
2	Sb 206.836†	1606.4	1595.9	505.37 ug/L	505.37 ppb	19:45:48
2	Se 196.026†	848.7	889.4	512.72 ug/L	512.72 ppb	19:45:48
2	Si 251.611†	80994.6	81868.4	2430.8 ug/L	2430.8 ppb	19:45:28
2	Sn 189.927†	3019.4	3062.5	495.63 ug/L	495.63 ppb	19:45:48
2	Ti 334.940†	320286.0	327664.2	489.45 ug/L	489.45 ppb	19:45:28
2	Tl 190.801†	1667.9	1741.4	494.64 ug/L	494.64 ppb	19:45:48
2	U 409.014†	10776.7	16077.3	473.20 ug/L	473.20 ppb	19:45:28
2	V 292.402†	69265.6	72223.2	486.97 ug/L	486.97 ppb	19:45:28
2	Zn 213.857†	57449.0	57739.7	485.58 ug/L	485.58 ppb	19:45:28
2	SiO2†	81746.4	82606.8	5254.4 ug/L	5254.4 ppb	19:46:26
3	Sc Radial	4090.7	4090.7	99.2 %		19:44:51
3	Y RADIAL	4771.2	4771.2	98.55 %		19:44:31
3	Al 396.153Radial†	5988.1	6229.1	5120.9 ug/L	5120.9 ppb	19:44:31
3	Ca 317.933Radial†	2842.3	2853.1	5281.5 ug/L	5281.5 ppb	19:44:51
3	Fe 238.204 Radial†	474.7	468.6	5459.5 ug/L	5459.5 ppb	19:44:51
3	K 766.490 Radial†	29239.1	26863.3	5106.7 ug/L	5106.7 ppb	19:44:31
3	Mg 279.077 IEC†	130.0	131.2	5526.2 ug/L	5526.2 ppb	19:44:51
3	Na 589.592 Radial†	32340.4	34267.6	10560 ug/L	10560 ppb	19:44:31
3	Sr 421.552†	77892.7	78518.3	518.39 ug/L	518.39 ppb	19:44:31
3	Sc 361.383	925912.9	925912.9	103.94 %		19:45:55
3	Y 371.029	742121.6	742121.6	101.07 %		19:45:55
3	Ag 328.068†	107531.7	102832.3	453.02 ug/L	453.02 ppb	19:45:55
3	As 188.979†	1229.5	1211.7	469.48 ug/L	469.48 ppb	19:46:15
3	B 249.677†	21335.3	21287.9	442.90 ug/L	442.90 ppb	19:45:55
3	Ba 233.527†	64095.0	61681.4	451.99 ug/L	451.99 ppb	19:45:55
3	Be 313.107†	1389903.2	1341636.3	451.17 ug/L	451.17 ppb	19:45:55
3	Cd 226.502†	46086.4	44544.1	459.78 ug/L	459.78 ppb	19:45:55
3	Co 228.616†	25835.2	24941.3	459.82 ug/L	459.82 ppb	19:46:15
3	Cr 267.716†	45532.5	43745.2	450.90 ug/L	450.90 ppb	19:45:55
3	Cu 324.752†	175630.6	162088.3	450.87 ug/L	450.87 ppb	19:45:55
3	Mn 257.610†	471756.0	453347.2	455.17 ug/L	455.17 ppb	19:45:55
3	Mo 202.031†	7230.4	6951.2	462.46 ug/L	462.46 ppb	19:46:15
3	Ni 231.604†	21564.8	20662.4	460.13 ug/L	460.13 ppb	19:46:15
3	P 214.914†	4911.3	4501.9	2249.2 ug/L	2249.2 ppb	19:46:15
3	Pb 220.353†	4434.6	4346.2	467.86 ug/L	467.86 ppb	19:46:15
3	S 181.975 Axial†	833.8	753.3	919.33 ug/L	919.33 ppb	19:46:15
3	Sb 206.836†	1597.6	1498.6	474.56 ug/L	474.56 ppb	19:46:15
3	Se 196.026†	845.6	839.5	485.11 ug/L	485.11 ppb	19:46:15
3	Si 251.611†	79930.4	76365.7	2267.4 ug/L	2267.4 ppb	19:45:55
3	Sn 189.927†	2997.3	2874.3	465.24 ug/L	465.24 ppb	19:46:15
3	Ti 334.940†	315105.2	304968.8	455.57 ug/L	455.57 ppb	19:45:55
3	Tl 190.801†	1671.9	1653.0	469.45 ug/L	469.45 ppb	19:46:15
3	U 409.014†	10604.7	15316.0	450.78 ug/L	450.78 ppb	19:45:55
3	V 292.402†	68280.0	67444.7	454.75 ug/L	454.75 ppb	19:45:55
3	Zn 213.857†	56752.3	53892.5	453.17 ug/L	453.17 ppb	19:45:55
3	SiO2†	81370.1	77724.4	4943.9 ug/L	4943.9 ppb	19:46:31

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	885677.6	99.422 %	4.0703			4.09%
Sc Radial	4149.9	101 %	2.0			1.98%
Y 371.029	709887.9	96.682 %	3.9317			4.07%
Y RADIAL	4690.4	96.88 %	2.276			2.35%
Ag 328.068†	107806.3	474.83 ug/L	18.987	474.83 ppb	18.987	4.00%
QC value within limits for Ag 328.068 Recovery = 94.97%						
Al 396.153Radial†	6107.4	5019.3 ug/L	88.64	5019.3 ppb	88.64	1.77%
QC value within limits for Al 396.153Radial Recovery = 100.39%						
As 188.979†	1259.1	487.84 ug/L	15.906	487.84 ppb	15.906	3.26%
QC value within limits for As 188.979 Recovery = 97.57%						
B 249.677†	22294.0	463.89 ug/L	18.187	463.89 ppb	18.187	3.92%
QC value within limits for B 249.677 Recovery = 92.78%						
Ba 233.527†	64955.8	475.97 ug/L	20.981	475.97 ppb	20.981	4.41%
QC value within limits for Ba 233.527 Recovery = 95.19%						
Be 313.107†	1410774.2	474.42 ug/L	20.305	474.42 ppb	20.305	4.28%
QC value within limits for Be 313.107 Recovery = 94.88%						
Ca 317.933Radial†	2793.9	5171.8 ug/L	150.38	5171.8 ppb	150.38	2.91%

QC value within limits for Ca 317.933 Radial Recovery = 103.44%							
Cd 226.502†	46848.1	483.60 ug/L	20.879	483.60 ppb	20.879	4.32%	
QC value within limits for Cd 226.502 Recovery = 96.72%							
Co 228.616†	26083.1	480.87 ug/L	18.344	480.87 ppb	18.344	3.81%	
QC value within limits for Co 228.616 Recovery = 96.17%							
Cr 267.716†	46238.7	476.59 ug/L	22.512	476.59 ppb	22.512	4.72%	
QC value within limits for Cr 267.716 Recovery = 95.32%							
Cu 324.752†	170602.4	474.54 ug/L	20.553	474.54 ppb	20.553	4.33%	
QC value within limits for Cu 324.752 Recovery = 94.91%							
Fe 238.204 Radial†	459.4	5352.8 ug/L	154.32	5352.8 ppb	154.32	2.88%	
QC value within limits for Fe 238.204 Radial Recovery = 107.06%							
K 766.490 Radial†	26304.5	5000.4 ug/L	98.57	5000.4 ppb	98.57	1.97%	
QC value within limits for K 766.490 Radial Recovery = 100.01%							
Mg 279.077 IEC†	129.3	5449.1 ug/L	177.38	5449.1 ppb	177.38	3.26%	
QC value within limits for Mg 279.077 IEC Recovery = 108.98%							
Mn 257.610†	477392.1	479.29 ug/L	21.046	479.29 ppb	21.046	4.39%	
QC value within limits for Mn 257.610 Recovery = 95.86%							
Mo 202.031†	7275.4	484.00 ug/L	18.821	484.00 ppb	18.821	3.89%	
QC value within limits for Mo 202.031 Recovery = 96.80%							
Na 589.592 Radial†	33650.7	10370 ug/L	164.6	10370 ppb	164.6	1.59%	
QC value within limits for Na 589.592 Radial Recovery = 103.70%							
Ni 231.604†	21610.8	481.25 ug/L	18.421	481.25 ppb	18.421	3.83%	
QC value within limits for Ni 231.604 Recovery = 96.25%							
P 214.914†	4714.8	2355.3 ug/L	92.33	2355.3 ppb	92.33	3.92%	
QC value within limits for P 214.914 Recovery = 94.21%							
Pb 220.353†	4543.6	489.07 ug/L	18.497	489.07 ppb	18.497	3.78%	
QC value within limits for Pb 220.353 Recovery = 97.81%							
S 181.975 Axial†	791.1	965.43 ug/L	41.774	965.43 ppb	41.774	4.33%	
QC value within limits for S 181.975 Axial Recovery = 96.54%							
Sb 206.836†	1568.7	496.75 ug/L	19.375	496.75 ppb	19.375	3.90%	
QC value within limits for Sb 206.836 Recovery = 99.35%							
Se 196.026†	877.9	506.06 ug/L	18.539	506.06 ppb	18.539	3.66%	
QC value within limits for Se 196.026 Recovery = 101.21%							
Si 251.611†	80232.8	2382.3 ug/L	99.85	2382.3 ppb	99.85	4.19%	
QC value within limits for Si 251.611 Recovery = 95.29%							
Sn 189.927†	3010.7	487.26 ug/L	19.251	487.26 ppb	19.251	3.95%	
QC value within limits for Sn 189.927 Recovery = 97.45%							
Sr 421.552†	76905.7	507.74 ug/L	9.325	507.74 ppb	9.325	1.84%	
QC value within limits for Sr 421.552 Recovery = 101.55%							
Ti 334.940†	321149.8	479.72 ug/L	21.049	479.72 ppb	21.049	4.39%	
QC value within limits for Ti 334.940 Recovery = 95.94%							
Tl 190.801†	1721.1	488.83 ug/L	17.222	488.83 ppb	17.222	3.52%	
QC value within limits for Tl 190.801 Recovery = 97.77%							
U 409.014†	15786.1	464.63 ug/L	12.102	464.63 ppb	12.102	2.60%	
QC value within limits for U 409.014 Recovery = 92.93%							
V 292.402†	70909.4	478.11 ug/L	20.427	478.11 ppb	20.427	4.27%	
QC value within limits for V 292.402 Recovery = 95.62%							
Zn 213.857†	56631.5	476.25 ug/L	20.112	476.25 ppb	20.112	4.22%	
QC value within limits for Zn 213.857 Recovery = 95.25%							
SiO2†	81147.1	5161.5 ug/L	189.19	5161.5 ppb	189.19	3.67%	
QC value within limits for SiO2 Recovery = 96.52%							
All analyte(s) passed QC.							

Sequence No.: 25

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 19:48:42

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4228.0	4228.0	102 %		19:50:34
1	Y RADIAL	4774.0	4774.0	98.61 %		19:50:34
1	Al 396.153Radial†	-117.9	75.1	61.957 ug/L	61.957 ppb	19:50:34
1	Ca 317.933Radial†	11.0	-2.6	-4.7396 ug/L	-4.7396 ppb	19:50:54
1	Fe 238.204 Radial†	9.4	-1.0	-11.140 ug/L	-11.140 ppb	19:50:54
1	K 766.490 Radial†	2738.8	48.2	9.1604 ug/L	9.1604 ppb	19:50:34
1	Mg 279.077 IEC†	1.9	1.9	79.204 ug/L	79.204 ppb	19:50:54
1	Na 589.592 Radial†	-1633.7	58.2	17.931 ug/L	17.931 ppb	19:50:34
1	Sr 421.552†	48.6	10.9	0.0722 ug/L	0.0722 ppb	19:50:34
1	Sc 361.383	860168.5	860168.5	96.559 %		19:51:50
1	Y 371.029	700716.5	700716.5	95.433 %		19:51:50
1	Ag 328.068†	458.5	-149.7	-0.6733 ug/L	-0.6733 ppb	19:51:50
1	As 188.979†	-32.3	-4.7	-1.8149 ug/L	-1.8149 ppb	19:52:11
1	B 249.677†	-652.0	85.9	1.7972 ug/L	1.7972 ppb	19:52:11
1	Ba 233.527†	-23.8	-9.4	-0.0692 ug/L	-0.0692 ppb	19:52:11
1	Be 313.107†	-4085.6	171.8	0.0579 ug/L	0.0579 ppb	19:51:50
1	Cd 226.502†	-197.1	-0.1	0.0041 ug/L	0.0041 ppb	19:52:11
1	Co 228.616†	-85.8	-3.7	-0.0669 ug/L	-0.0669 ppb	19:52:11
1	Cr 267.716†	102.7	44.5	0.4507 ug/L	0.4507 ppb	19:51:50
1	Cu 324.752†	7347.1	722.1	1.9983 ug/L	1.9983 ppb	19:51:50
1	Mn 257.610†	500.8	-13.1	-0.0175 ug/L	-0.0175 ppb	19:52:11
1	Mo 202.031†	14.2	9.5	0.6275 ug/L	0.6275 ppb	19:52:11
1	Ni 231.604†	93.0	11.2	0.2488 ug/L	0.2488 ppb	19:52:11
1	P 214.914†	237.0	22.2	11.151 ug/L	11.151 ppb	19:52:11
1	Pb 220.353†	-63.3	14.0	1.5201 ug/L	1.5201 ppb	19:52:11
1	S 181.975 Axial†	53.5	6.5	7.9363 ug/L	7.9363 ppb	19:52:11
1	Sb 206.836†	52.2	15.6	4.7724 ug/L	4.7724 ppb	19:52:11
1	Se 196.026†	-21.5	3.7	2.0055 ug/L	2.0055 ppb	19:52:11
1	Si 251.611†	485.2	-33.2	-0.9960 ug/L	-0.9960 ppb	19:52:11
1	Sn 189.927†	8.9	-0.2	-0.0335 ug/L	-0.0335 ppb	19:52:11
1	Ti 334.940†	-1655.8	89.5	0.1190 ug/L	0.1190 ppb	19:51:50
1	Tl 190.801†	-44.4	-1.5	-0.4131 ug/L	-0.4131 ppb	19:52:11
1	U 409.014†	-4376.0	581.1	17.166 ug/L	17.166 ppb	19:51:50
1	V 292.402†	-1717.4	-26.4	-0.1311 ug/L	-0.1311 ppb	19:51:50
1	Zn 213.857†	815.2	135.1	1.1430 ug/L	1.1430 ppb	19:52:11
1	SiO2†	486.4	-58.5	-3.7478 ug/L	-3.7478 ppb	19:53:07
2	Sc Radial	4218.7	4218.7	102 %		19:50:59
2	Y RADIAL	4740.8	4740.8	97.92 %		19:50:59
2	Al 396.153Radial†	-199.5	-5.0	-4.1090 ug/L	-4.1090 ppb	19:50:59
2	Ca 317.933Radial†	16.2	2.6	4.7244 ug/L	4.7244 ppb	19:51:19
2	Fe 238.204 Radial†	9.3	-1.0	-11.608 ug/L	-11.608 ppb	19:51:19
2	K 766.490 Radial†	2894.4	206.1	39.215 ug/L	39.215 ppb	19:50:59
2	Mg 279.077 IEC†	3.8	3.8	159.97 ug/L	159.97 ppb	19:51:19
2	Na 589.592 Radial†	-1620.0	68.1	20.988 ug/L	20.988 ppb	19:50:59
2	Sr 421.552†	6.4	-30.2	-0.1992 ug/L	-0.1992 ppb	19:50:59
2	Sc 361.383	862047.5	862047.5	96.769 %		19:52:16
2	Y 371.029	699940.4	699940.4	95.328 %		19:52:16
2	Ag 328.068†	543.7	-62.6	-0.2883 ug/L	-0.2883 ppb	19:52:16
2	As 188.979†	-18.4	9.7	3.7256 ug/L	3.7256 ppb	19:52:36
2	B 249.677†	-639.9	99.9	2.0894 ug/L	2.0894 ppb	19:52:36
2	Ba 233.527†	-17.1	-2.4	-0.0181 ug/L	-0.0181 ppb	19:52:36
2	Be 313.107†	-4149.3	115.2	0.0384 ug/L	0.0384 ppb	19:52:16
2	Cd 226.502†	-201.4	-4.0	-0.0380 ug/L	-0.0380 ppb	19:52:36
2	Co 228.616†	-74.7	8.0	0.1482 ug/L	0.1482 ppb	19:52:36
2	Cr 267.716†	66.3	6.7	0.0634 ug/L	0.0634 ppb	19:52:16
2	Cu 324.752†	7438.7	800.2	2.2182 ug/L	2.2182 ppb	19:52:16
2	Mn 257.610†	489.7	-25.8	-0.0335 ug/L	-0.0335 ppb	19:52:36
2	Mo 202.031†	7.7	2.7	0.1799 ug/L	0.1799 ppb	19:52:36
2	Ni 231.604†	81.0	-1.5	-0.0334 ug/L	-0.0334 ppb	19:52:36

2	P 214.914†	245.1	30.0	15.152 ug/L	15.152 ppb	19:52:36
2	Pb 220.353†	-75.6	1.5	0.1586 ug/L	0.1586 ppb	19:52:36
2	S 181.975 Axial†	51.2	4.0	4.9050 ug/L	4.9050 ppb	19:52:36
2	Sb 206.836†	57.7	21.2	6.4687 ug/L	6.4687 ppb	19:52:36
2	Se 196.026†	-24.6	0.5	0.2403 ug/L	0.2403 ppb	19:52:36
2	Si 251.611†	499.7	-19.4	-0.5784 ug/L	-0.5784 ppb	19:52:36
2	Sn 189.927†	8.7	-0.4	-0.0654 ug/L	-0.0654 ppb	19:52:36
2	Ti 334.940†	-1815.7	-71.9	-0.1255 ug/L	-0.1255 ppb	19:52:16
2	Tl 190.801†	-43.9	-0.9	-0.2566 ug/L	-0.2566 ppb	19:52:36
2	U 409.014†	-4534.9	426.8	12.608 ug/L	12.608 ppb	19:52:16
2	V 292.402†	-1700.4	-4.9	-0.0014 ug/L	-0.0014 ppb	19:52:16
2	Zn 213.857†	820.9	139.2	1.1790 ug/L	1.1790 ppb	19:52:36
2	SiO2†	523.8	-21.0	-1.3421 ug/L	-1.3421 ppb	19:53:12
3	Sc Radial	4154.0	4154.0	101 %		19:51:24
3	Y RADIAL	4671.8	4671.8	96.50 %		19:51:24
3	Al 396.153Radial†	-190.7	0.7	0.5493 ug/L	0.5493 ppb	19:51:24
3	Ca 317.933Radial†	11.5	-1.9	-3.5288 ug/L	-3.5288 ppb	19:51:44
3	Fe 238.204 Radial†	11.9	1.7	19.526 ug/L	19.526 ppb	19:51:44
3	K 766.490 Radial†	2728.2	85.2	16.220 ug/L	16.220 ppb	19:51:24
3	Mg 279.077 IEC†	1.7	1.7	72.588 ug/L	72.588 ppb	19:51:44
3	Na 589.592 Radial†	-1663.1	0.6	0.1700 ug/L	0.1700 ppb	19:51:24
3	Sr 421.552†	51.2	14.4	0.0949 ug/L	0.0949 ppb	19:51:24
3	Sc 361.383	859433.0	859433.0	96.476 %		19:52:41
3	Y 371.029	698373.2	698373.2	95.114 %		19:52:41
3	Ag 328.068†	486.3	-120.4	-0.5340 ug/L	-0.5340 ppb	19:52:41
3	As 188.979†	-24.2	3.6	1.3995 ug/L	1.3995 ppb	19:53:01
3	B 249.677†	-643.4	94.2	1.9663 ug/L	1.9663 ppb	19:53:01
3	Ba 233.527†	-6.3	8.8	0.0650 ug/L	0.0650 ppb	19:53:01
3	Be 313.107†	-4077.9	176.2	0.0590 ug/L	0.0590 ppb	19:52:41
3	Cd 226.502†	-208.3	-11.8	-0.1208 ug/L	-0.1208 ppb	19:53:01
3	Co 228.616†	-95.4	-13.8	-0.2537 ug/L	-0.2537 ppb	19:53:01
3	Cr 267.716†	97.9	39.6	0.4016 ug/L	0.4016 ppb	19:52:41
3	Cu 324.752†	7274.3	653.2	1.8086 ug/L	1.8086 ppb	19:52:41
3	Mn 257.610†	589.1	78.8	0.0780 ug/L	0.0780 ppb	19:53:01
3	Mo 202.031†	8.7	3.8	0.2537 ug/L	0.2537 ppb	19:53:01
3	Ni 231.604†	95.0	13.3	0.2958 ug/L	0.2958 ppb	19:53:01
3	P 214.914†	248.1	33.9	17.212 ug/L	17.212 ppb	19:53:01
3	Pb 220.353†	-63.4	13.9	1.4906 ug/L	1.4906 ppb	19:53:01
3	S 181.975 Axial†	48.8	1.7	2.1024 ug/L	2.1024 ppb	19:53:01
3	Sb 206.836†	40.4	3.5	1.0801 ug/L	1.0801 ppb	19:53:01
3	Se 196.026†	-39.2	-14.7	-8.0705 ug/L	-8.0705 ppb	19:53:01
3	Si 251.611†	519.8	3.1	0.0890 ug/L	0.0890 ppb	19:53:01
3	Sn 189.927†	13.0	4.1	0.6574 ug/L	0.6574 ppb	19:53:01
3	Ti 334.940†	-1771.9	-32.3	-0.0622 ug/L	-0.0622 ppb	19:52:41
3	Tl 190.801†	-48.3	-5.6	-1.5777 ug/L	-1.5777 ppb	19:53:01
3	U 409.014†	-4382.3	570.7	16.855 ug/L	16.855 ppb	19:52:41
3	V 292.402†	-1681.8	9.0	0.0939 ug/L	0.0939 ppb	19:52:41
3	Zn 213.857†	839.5	161.1	1.3604 ug/L	1.3604 ppb	19:53:01
3	SiO2†	542.1	-0.3	-0.0281 ug/L	-0.0281 ppb	19:53:17

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	860549.7	96.601 %	0.1514			0.16%
Sc Radial	4200.2	102 %	1.0			0.96%
Y 371.029	699676.7	95.292 %	0.1626			0.17%
Y RADIAL	4728.9	97.68 %	1.076			1.10%
Ag 328.068†	-110.9	-0.4985 ug/L	0.19495	-0.4985 ppb	0.19495	39.11%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	23.6	19.466 ug/L	36.8721	19.466 ppb	36.8721	189.42%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.9	1.1034 ug/L	2.78210	1.1034 ppb	2.78210	252.14%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	93.3	1.9510 ug/L	0.14669	1.9510 ppb	0.14669	7.52%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-1.0	-0.0074 ug/L	0.06772	-0.0074 ppb	0.06772	910.44%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	154.4	0.0518 ug/L	0.01161	0.0518 ppb	0.01161	22.41%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-0.6	-1.1814 ug/L	5.15021	-1.1814 ppb	5.15021	435.96%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	-5.3	-0.0516 ug/L	0.06354	-0.0516 ppb	0.06354	123.21%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-3.2	-0.0575 ug/L	0.20112	-0.0575 ppb	0.20112	349.96%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	30.3	0.3052 ug/L	0.21087	0.3052 ppb	0.21087	69.09%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	725.2	2.0084 ug/L	0.20497	2.0084 ppb	0.20497	10.21%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	-0.1	-1.0738 ug/L	17.84151	-1.0738 ppb	17.84151	>999.9%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	113.1	21.532 ug/L	15.7157	21.532 ppb	15.7157	72.99%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	2.5	103.92 ug/L	48.654	103.92 ppb	48.654	46.82%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	13.3	0.0090 ug/L	0.06031	0.0090 ppb	0.06031	670.04%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	5.3	0.3537 ug/L	0.23996	0.3537 ppb	0.23996	67.84%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	42.3	13.030 ug/L	11.2413	13.030 ppb	11.2413	86.27%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	7.6	0.1704 ug/L	0.17809	0.1704 ppb	0.17809	104.51%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	28.7	14.505 ug/L	3.0815	14.505 ppb	3.0815	21.24%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	9.8	1.0564 ug/L	0.77771	1.0564 ppb	0.77771	73.62%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	4.1	4.9812 ug/L	2.91768	4.9812 ppb	2.91768	58.57%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	13.4	4.1071 ug/L	2.75523	4.1071 ppb	2.75523	67.08%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-3.5	-1.9416 ug/L	5.38069	-1.9416 ppb	5.38069	277.13%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-16.5	-0.4951 ug/L	0.54727	-0.4951 ppb	0.54727	110.53%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	1.2	0.1862 ug/L	0.40841	0.1862 ppb	0.40841	219.35%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-1.6	-0.0107 ug/L	0.16368	-0.0107 ppb	0.16368	>999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-4.9	-0.0229 ug/L	0.12685	-0.0229 ppb	0.12685	554.26%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-2.7	-0.7492 ug/L	0.72181	-0.7492 ppb	0.72181	96.35%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	526.2	15.543 ug/L	2.5464	15.543 ppb	2.5464	16.38%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	-7.5	-0.0128 ug/L	0.11293	-0.0128 ppb	0.11293	880.00%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	145.1	1.2275 ug/L	0.11649	1.2275 ppb	0.11649	9.49%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-26.6	-1.7060 ug/L	1.88636	-1.7060 ppb	1.88636	110.57%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 34

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 20:50:11

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4355.7	4355.7	106 %		20:52:03
1	Y RADIAL	4884.9	4884.9	100.9 %		20:52:03
1	Al 396.153Radial†	6118.7	5985.4	4917.9 ug/L	4917.9 ppb	20:52:03
1	Ca 317.933Radial†	2889.9	2723.8	5042.1 ug/L	5042.1 ppb	20:52:23
1	Fe 238.204 Radial†	486.8	451.0	5255.8 ug/L	5255.8 ppb	20:52:23
1	K 766.490 Radial†	29868.7	25665.7	4878.9 ug/L	4878.9 ppb	20:52:03
1	Mg 279.077 IEC†	129.3	122.6	5163.8 ug/L	5163.8 ppb	20:52:23
1	Na 589.592 Radial†	33632.7	33507.3	10325 ug/L	10325 ppb	20:52:03
1	Sr 421.552†	80774.9	76469.1	504.86 ug/L	504.86 ppb	20:52:03
1	Sc 361.383	866378.0	866378.0	97.256 %		20:53:21
1	Y 371.029	697064.2	697064.2	94.936 %		20:53:21
1	Ag 328.068†	111267.6	113782.9	501.01 ug/L	501.01 ppb	20:53:26
1	As 188.979†	1236.9	1300.6	503.87 ug/L	503.87 ppb	20:53:46
1	B 249.677†	21912.3	23291.7	484.71 ug/L	484.71 ppb	20:53:26
1	Ba 233.527†	66037.6	67916.4	497.66 ug/L	497.66 ppb	20:53:26
1	Be 313.107†	1422438.9	1466980.8	493.33 ug/L	493.33 ppb	20:53:21
1	Cd 226.502†	47237.0	48774.0	503.52 ug/L	503.52 ppb	20:53:26
1	Co 228.616†	26425.8	27256.6	502.49 ug/L	502.49 ppb	20:53:26
1	Cr 267.716†	47363.2	48637.9	501.31 ug/L	501.31 ppb	20:53:26
1	Cu 324.752†	180436.4	178641.1	496.87 ug/L	496.87 ppb	20:53:26
1	Mn 257.610†	482197.7	495272.7	497.23 ug/L	497.23 ppb	20:53:21
1	Mo 202.031†	7276.6	7476.7	497.36 ug/L	497.36 ppb	20:53:46
1	Ni 231.604†	22057.7	22595.0	503.17 ug/L	503.17 ppb	20:53:26
1	P 214.914†	4900.7	4815.7	2403.4 ug/L	2403.4 ppb	20:53:46
1	Pb 220.353†	4433.0	4637.8	499.18 ug/L	499.18 ppb	20:53:46
1	S 181.975 Axial†	834.7	809.3	987.77 ug/L	987.77 ppb	20:53:46
1	Sb 206.836†	1624.5	1631.9	516.58 ug/L	516.58 ppb	20:53:46
1	Se 196.026†	859.0	909.2	523.16 ug/L	523.16 ppb	20:53:46
1	Si 251.611†	82629.0	84424.9	2506.9 ug/L	2506.9 ppb	20:53:26
1	Sn 189.927†	3017.2	3092.9	500.51 ug/L	500.51 ppb	20:53:46
1	Ti 334.940†	323952.1	334897.8	500.24 ug/L	500.24 ppb	20:53:21
1	Tl 190.801†	1667.5	1759.0	499.64 ug/L	499.64 ppb	20:53:46
1	U 409.014†	11855.7	17303.4	509.40 ug/L	509.40 ppb	20:53:26
1	V 292.402†	71043.8	74800.7	504.25 ug/L	504.25 ppb	20:53:26
1	Zn 213.857†	58336.4	59273.5	498.50 ug/L	498.50 ppb	20:53:26
1	SiO2†	82667.3	84437.8	5371.0 ug/L	5371.0 ppb	20:54:54
2	Sc Radial	4407.3	4407.3	107 %		20:52:28
2	Y RADIAL	4886.8	4886.8	100.9 %		20:52:28
2	Al 396.153Radial†	6127.1	5925.5	4868.5 ug/L	4868.5 ppb	20:52:28
2	Ca 317.933Radial†	2890.3	2692.2	4983.6 ug/L	4983.6 ppb	20:52:48
2	Fe 238.204 Radial†	484.7	443.6	5170.2 ug/L	5170.2 ppb	20:52:48
2	K 766.490 Radial†	29880.3	25345.5	4818.0 ug/L	4818.0 ppb	20:52:28
2	Mg 279.077 IEC†	127.9	119.8	5047.6 ug/L	5047.6 ppb	20:52:48
2	Na 589.592 Radial†	33769.2	33262.3	10250 ug/L	10250 ppb	20:52:28
2	Sr 421.552†	80983.0	75768.6	500.23 ug/L	500.23 ppb	20:52:28
2	Sc 361.383	864579.7	864579.7	97.054 %		20:53:52
2	Y 371.029	694380.3	694380.3	94.570 %		20:53:52
2	Ag 328.068†	110509.1	113239.3	498.60 ug/L	498.60 ppb	20:53:57
2	As 188.979†	1229.0	1295.1	501.75 ug/L	501.75 ppb	20:54:17
2	B 249.677†	21727.0	23147.6	481.70 ug/L	481.70 ppb	20:53:57
2	Ba 233.527†	65971.7	67989.7	498.19 ug/L	498.19 ppb	20:53:57
2	Be 313.107†	1418130.4	1465583.6	492.86 ug/L	492.86 ppb	20:53:52
2	Cd 226.502†	47042.0	48674.2	502.50 ug/L	502.50 ppb	20:53:57
2	Co 228.616†	26469.7	27358.4	504.37 ug/L	504.37 ppb	20:53:57
2	Cr 267.716†	47156.3	48526.0	500.16 ug/L	500.16 ppb	20:53:57
2	Cu 324.752†	179073.1	177622.4	494.03 ug/L	494.03 ppb	20:53:57
2	Mn 257.610†	482450.2	496564.1	498.53 ug/L	498.53 ppb	20:53:52
2	Mo 202.031†	7232.4	7446.7	495.36 ug/L	495.36 ppb	20:54:17
2	Ni 231.604†	22004.6	22587.5	503.00 ug/L	503.00 ppb	20:53:57

2	P 214.914†	4852.5	4776.6	2383.7 ug/L	2383.7 ppb	20:54:17
2	Pb 220.353†	4364.9	4577.0	492.65 ug/L	492.65 ppb	20:54:17
2	S 181.975 Axial†	838.6	815.2	994.94 ug/L	994.94 ppb	20:54:17
2	Sb 206.836†	1617.1	1627.8	515.21 ug/L	515.21 ppb	20:54:17
2	Se 196.026†	848.5	900.2	517.86 ug/L	517.86 ppb	20:54:17
2	Si 251.611†	82187.2	84146.4	2498.6 ug/L	2498.6 ppb	20:53:57
2	Sn 189.927†	2986.4	3067.6	496.41 ug/L	496.41 ppb	20:54:17
2	Ti 334.940†	323639.2	335268.3	500.80 ug/L	500.80 ppb	20:53:52
2	Tl 190.801†	1654.6	1749.3	496.91 ug/L	496.91 ppb	20:54:17
2	U 409.014†	11750.8	17220.6	506.97 ug/L	506.97 ppb	20:53:57
2	V 292.402†	70656.9	74554.0	502.59 ug/L	502.59 ppb	20:53:57
2	Zn 213.857†	58082.9	59137.0	497.36 ug/L	497.36 ppb	20:53:57
2	SiO2†	83367.5	85336.1	5428.4 ug/L	5428.4 ppb	20:54:59
3	Sc Radial	4368.2	4368.2	106 %		20:52:53
3	Y RADIAL	4890.2	4890.2	101.0 %		20:52:53
3	Al 396.153Radial†	6487.4	6317.0	5192.1 ug/L	5192.1 ppb	20:52:53
3	Ca 317.933Radial†	2882.3	2708.8	5014.4 ug/L	5014.4 ppb	20:53:13
3	Fe 238.204 Radial†	484.2	447.2	5211.6 ug/L	5211.6 ppb	20:53:13
3	K 766.490 Radial†	29611.4	25341.9	4817.3 ug/L	4817.3 ppb	20:52:53
3	Mg 279.077 IEC†	134.5	127.1	5354.1 ug/L	5354.1 ppb	20:53:13
3	Na 589.592 Radial†	33379.2	33176.9	10224 ug/L	10224 ppb	20:52:53
3	Sr 421.552†	79935.5	75457.8	498.18 ug/L	498.18 ppb	20:52:53
3	Sc 361.383	876177.5	876177.5	98.356 %		20:54:23
3	Y 371.029	703860.3	703860.3	95.862 %		20:54:23
3	Ag 328.068†	110151.2	111368.3	490.41 ug/L	490.41 ppb	20:54:29
3	As 188.979†	1231.0	1280.4	496.08 ug/L	496.08 ppb	20:54:49
3	B 249.677†	21696.4	22820.2	474.89 ug/L	474.89 ppb	20:54:29
3	Ba 233.527†	65543.3	66654.4	488.42 ug/L	488.42 ppb	20:54:29
3	Be 313.107†	1425646.9	1453884.4	488.93 ug/L	488.93 ppb	20:54:23
3	Cd 226.502†	46683.9	47668.5	492.10 ug/L	492.10 ppb	20:54:29
3	Co 228.616†	26163.5	26686.1	491.97 ug/L	491.97 ppb	20:54:29
3	Cr 267.716†	46855.7	47577.2	490.38 ug/L	490.38 ppb	20:54:29
3	Cu 324.752†	179106.0	175213.6	487.34 ug/L	487.34 ppb	20:54:29
3	Mn 257.610†	483909.9	491468.3	493.40 ug/L	493.40 ppb	20:54:23
3	Mo 202.031†	7246.6	7362.5	489.77 ug/L	489.77 ppb	20:54:49
3	Ni 231.604†	21848.5	22128.6	492.78 ug/L	492.78 ppb	20:54:29
3	P 214.914†	4871.0	4729.2	2360.4 ug/L	2360.4 ppb	20:54:49
3	Pb 220.353†	4394.5	4547.6	489.55 ug/L	489.55 ppb	20:54:49
3	S 181.975 Axial†	837.6	802.8	979.69 ug/L	979.69 ppb	20:54:49
3	Sb 206.836†	1616.2	1604.8	507.99 ug/L	507.99 ppb	20:54:49
3	Se 196.026†	848.3	888.4	511.47 ug/L	511.47 ppb	20:54:49
3	Si 251.611†	81667.4	82497.0	2449.6 ug/L	2449.6 ppb	20:54:29
3	Sn 189.927†	3003.2	3044.0	492.60 ug/L	492.60 ppb	20:54:49
3	Ti 334.940†	325395.6	332640.0	496.86 ug/L	496.86 ppb	20:54:23
3	Tl 190.801†	1672.2	1744.6	495.59 ug/L	495.59 ppb	20:54:49
3	U 409.014†	11596.1	16903.1	497.61 ug/L	497.61 ppb	20:54:29
3	V 292.402†	70393.6	73322.7	494.31 ug/L	494.31 ppb	20:54:29
3	Zn 213.857†	57712.6	57968.3	487.51 ug/L	487.51 ppb	20:54:29
3	SiO2†	82648.9	83468.4	5309.4 ug/L	5309.4 ppb	20:55:04

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	869045.1	97.555 %	0.7007			0.72%
Sc Radial	4377.1	106 %	0.7			0.61%
Y 371.029	698434.9	95.123 %	0.6655			0.70%
Y RADIAL	4887.3	100.9 %	0.05			0.05%
Ag 328.068†	112796.8	496.67 ug/L	5.561	496.67 ppb	5.561	1.12%
QC value within limits for Ag 328.068 Recovery = 99.33%						
Al 396.153Radial†	6076.0	4992.9 ug/L	174.32	4992.9 ppb	174.32	3.49%
QC value within limits for Al 396.153Radial Recovery = 99.86%						
As 188.979†	1292.0	500.57 ug/L	4.026	500.57 ppb	4.026	0.80%
QC value within limits for As 188.979 Recovery = 100.11%						
B 249.677†	23086.5	480.43 ug/L	5.032	480.43 ppb	5.032	1.05%
QC value within limits for B 249.677 Recovery = 96.09%						
Ba 233.527†	67520.2	494.76 ug/L	5.498	494.76 ppb	5.498	1.11%
QC value within limits for Ba 233.527 Recovery = 98.95%						
Be 313.107†	1462149.6	491.70 ug/L	2.418	491.70 ppb	2.418	0.49%
QC value within limits for Be 313.107 Recovery = 98.34%						
Ca 317.933Radial†	2708.3	5013.4 ug/L	29.26	5013.4 ppb	29.26	0.58%

QC value within limits for Ca 317.933 Radial Recovery = 100.27%

Cd 226.502†	48372.3	499.37 ug/L	6.319	499.37 ppb	6.319	1.27%
QC value within limits for Cd 226.502 Recovery = 99.87%						
Co 228.616†	27100.4	499.61 ug/L	6.684	499.61 ppb	6.684	1.34%
QC value within limits for Co 228.616 Recovery = 99.92%						
Cr 267.716†	48247.0	497.28 ug/L	6.004	497.28 ppb	6.004	1.21%
QC value within limits for Cr 267.716 Recovery = 99.46%						
Cu 324.752†	177159.0	492.75 ug/L	4.893	492.75 ppb	4.893	0.99%
QC value within limits for Cu 324.752 Recovery = 98.55%						
Fe 238.204 Radial†	447.3	5212.5 ug/L	42.77	5212.5 ppb	42.77	0.82%
QC value within limits for Fe 238.204 Radial Recovery = 104.25%						
K 766.490 Radial†	25451.0	4838.0 ug/L	35.36	4838.0 ppb	35.36	0.73%
QC value within limits for K 766.490 Radial Recovery = 96.76%						
Mg 279.077 IEC†	123.1	5188.5 ug/L	154.72	5188.5 ppb	154.72	2.98%
QC value within limits for Mg 279.077 IEC Recovery = 103.77%						
Mn 257.610†	494435.0	496.39 ug/L	2.663	496.39 ppb	2.663	0.54%
QC value within limits for Mn 257.610 Recovery = 99.28%						
Mo 202.031†	7428.6	494.17 ug/L	3.936	494.17 ppb	3.936	0.80%
QC value within limits for Mo 202.031 Recovery = 98.83%						
Na 589.592 Radial†	33315.5	10266 ug/L	52.9	10266 ppb	52.9	0.51%
QC value within limits for Na 589.592 Radial Recovery = 102.66%						
Ni 231.604†	22437.0	499.65 ug/L	5.948	499.65 ppb	5.948	1.19%
QC value within limits for Ni 231.604 Recovery = 99.93%						
P 214.914†	4773.8	2382.5 ug/L	21.53	2382.5 ppb	21.53	0.90%
QC value within limits for P 214.914 Recovery = 95.30%						
Pb 220.353†	4587.4	493.79 ug/L	4.915	493.79 ppb	4.915	1.00%
QC value within limits for Pb 220.353 Recovery = 98.76%						
S 181.975 Axial†	809.1	987.47 ug/L	7.627	987.47 ppb	7.627	0.77%
QC value within limits for S 181.975 Axial Recovery = 98.75%						
Sb 206.836†	1621.5	513.26 ug/L	4.617	513.26 ppb	4.617	0.90%
QC value within limits for Sb 206.836 Recovery = 102.65%						
Se 196.026†	899.3	517.50 ug/L	5.854	517.50 ppb	5.854	1.13%
QC value within limits for Se 196.026 Recovery = 103.50%						
Si 251.611†	83689.4	2485.0 ug/L	30.97	2485.0 ppb	30.97	1.25%
QC value within limits for Si 251.611 Recovery = 99.40%						
Sn 189.927†	3068.2	496.51 ug/L	3.953	496.51 ppb	3.953	0.80%
QC value within limits for Sn 189.927 Recovery = 99.30%						
Sr 421.552†	75898.5	501.09 ug/L	3.420	501.09 ppb	3.420	0.68%
QC value within limits for Sr 421.552 Recovery = 100.22%						
Ti 334.940†	334268.7	499.30 ug/L	2.132	499.30 ppb	2.132	0.43%
QC value within limits for Ti 334.940 Recovery = 99.86%						
Tl 190.801†	1751.0	497.38 ug/L	2.066	497.38 ppb	2.066	0.42%
QC value within limits for Tl 190.801 Recovery = 99.48%						
U 409.014†	17142.4	504.66 ug/L	6.227	504.66 ppb	6.227	1.23%
QC value within limits for U 409.014 Recovery = 100.93%						
V 292.402†	74225.8	500.38 ug/L	5.327	500.38 ppb	5.327	1.06%
QC value within limits for V 292.402 Recovery = 100.08%						
Zn 213.857†	58792.9	494.46 ug/L	6.042	494.46 ppb	6.042	1.22%
QC value within limits for Zn 213.857 Recovery = 98.89%						
SiO2†	84414.1	5369.6 ug/L	59.49	5369.6 ppb	59.49	1.11%
QC value within limits for SiO2 Recovery = 100.41%						

All analyte(s) passed QC.



Sequence No.: 35

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 20:57:14

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4397.5	4397.5	107 %		20:59:06
1	Y RADIAL	4916.4	4916.4	101.5 %		20:59:06
1	Al 396.153Radial†	-187.1	14.5	12.004 ug/L	12.004 ppb	20:59:06
1	Ca 317.933Radial†	13.1	-1.1	-1.9567 ug/L	-1.9567 ppb	20:59:26
1	Fe 238.204 Radial†	16.7	5.5	64.153 ug/L	64.153 ppb	20:59:26
1	K 766.490 Radial†	2813.2	14.9	2.8171 ug/L	2.8171 ppb	20:59:06
1	Mg 279.077 IEC†	2.1	2.0	84.967 ug/L	84.967 ppb	20:59:26
1	Na 589.592 Radial†	-1633.4	119.9	36.960 ug/L	36.960 ppb	20:59:06
1	Sr 421.552†	-2.8	-39.1	-0.2579 ug/L	-0.2579 ppb	20:59:06
1	Sc 361.383	915128.8	915128.8	102.73 %		21:00:23
1	Y 371.029	744248.7	744248.7	101.36 %		21:00:23
1	Ag 328.068†	487.7	-149.8	-0.6557 ug/L	-0.6557 ppb	21:00:28
1	As 188.979†	-29.1	0.4	0.1748 ug/L	0.1748 ppb	21:00:48
1	B 249.677†	-545.7	229.8	4.7952 ug/L	4.7952 ppb	21:00:48
1	Ba 233.527†	2.0	17.2	0.1294 ug/L	0.1294 ppb	21:00:48
1	Be 313.107†	-4124.0	388.6	0.1309 ug/L	0.1309 ppb	21:00:28
1	Cd 226.502†	-216.3	-6.5	-0.0677 ug/L	-0.0677 ppb	21:00:48
1	Co 228.616†	-88.8	-1.3	-0.0255 ug/L	-0.0255 ppb	21:00:48
1	Cr 267.716†	54.0	-9.3	-0.1049 ug/L	-0.1049 ppb	21:00:28
1	Cu 324.752†	7302.8	222.1	0.6045 ug/L	0.6045 ppb	21:00:28
1	Mn 257.610†	765.2	213.1	0.2166 ug/L	0.2166 ppb	21:00:48
1	Mo 202.031†	6.3	0.9	0.0676 ug/L	0.0676 ppb	21:00:48
1	Ni 231.604†	94.6	7.0	0.1552 ug/L	0.1552 ppb	21:00:48
1	P 214.914†	242.3	12.6	6.3947 ug/L	6.3947 ppb	21:00:48
1	Pb 220.353†	-65.8	15.6	1.6653 ug/L	1.6653 ppb	21:00:48
1	S 181.975 Axial†	56.7	6.3	7.7320 ug/L	7.7320 ppb	21:00:48
1	Sb 206.836†	40.8	1.3	0.4106 ug/L	0.4106 ppb	21:00:48
1	Se 196.026†	-35.8	-8.9	-4.7273 ug/L	-4.7273 ppb	21:00:48
1	Si 251.611†	633.8	81.3	2.4185 ug/L	2.4185 ppb	21:00:48
1	Sn 189.927†	14.1	4.3	0.7020 ug/L	0.7020 ppb	21:00:48
1	Ti 334.940†	-1685.1	164.0	0.2247 ug/L	0.2247 ppb	21:00:28
1	Tl 190.801†	-34.1	11.3	3.1758 ug/L	3.1758 ppb	21:00:48
1	U 409.014†	-4214.0	1011.0	29.858 ug/L	29.858 ppb	21:00:23
1	V 292.402†	-1683.5	113.4	0.8047 ug/L	0.8047 ppb	21:00:28
1	Zn 213.857†	910.8	177.5	1.4980 ug/L	1.4980 ppb	21:00:48
1	SiO2†	553.3	-23.7	-1.5102 ug/L	-1.5102 ppb	21:01:54
2	Sc Radial	4452.4	4452.4	108 %		20:59:31
2	Y RADIAL	4991.3	4991.3	103.1 %		20:59:31
2	Al 396.153Radial†	-215.8	-9.8	-8.1079 ug/L	-8.1079 ppb	20:59:31
2	Ca 317.933Radial†	19.0	4.3	7.8899 ug/L	7.8899 ppb	20:59:51
2	Fe 238.204 Radial†	13.8	2.6	30.677 ug/L	30.677 ppb	20:59:51
2	K 766.490 Radial†	2743.6	-82.2	-15.661 ug/L	-15.661 ppb	20:59:31
2	Mg 279.077 IEC†	1.7	1.7	70.306 ug/L	70.306 ppb	20:59:51
2	Na 589.592 Radial†	-1643.2	129.7	39.957 ug/L	39.957 ppb	20:59:31
2	Sr 421.552†	33.9	-5.0	-0.0332 ug/L	-0.0332 ppb	20:59:31
2	Sc 361.383	902848.4	902848.4	101.35 %		21:00:53
2	Y 371.029	732483.4	732483.4	99.760 %		21:00:53
2	Ag 328.068†	476.9	-154.0	-0.6827 ug/L	-0.6827 ppb	21:00:58
2	As 188.979†	-28.9	0.2	0.0955 ug/L	0.0955 ppb	21:01:18
2	B 249.677†	-581.6	187.3	3.9104 ug/L	3.9104 ppb	21:01:18
2	Ba 233.527†	-2.5	12.8	0.0959 ug/L	0.0959 ppb	21:01:18
2	Be 313.107†	-4139.2	319.0	0.1075 ug/L	0.1075 ppb	21:00:58
2	Cd 226.502†	-198.7	8.0	0.0850 ug/L	0.0850 ppb	21:01:18
2	Co 228.616†	-80.6	5.6	0.1021 ug/L	0.1021 ppb	21:01:18
2	Cr 267.716†	91.7	28.6	0.2857 ug/L	0.2857 ppb	21:00:58
2	Cu 324.752†	7154.6	172.5	0.4668 ug/L	0.4668 ppb	21:00:58
2	Mn 257.610†	523.0	-15.7	-0.0156 ug/L	-0.0156 ppb	21:01:18
2	Mo 202.031†	3.5	-1.8	-0.1169 ug/L	-0.1169 ppb	21:01:18
2	Ni 231.604†	86.0	-0.3	-0.0059 ug/L	-0.0059 ppb	21:01:18

2	P 214.914†	232.2	5.8	2.9245 ug/L	2.9245 ppb	21:01:18
2	Pb 220.353†	-76.6	4.1	0.4341 ug/L	0.4341 ppb	21:01:18
2	S 181.975 Axial†	56.0	6.4	7.7845 ug/L	7.7845 ppb	21:01:18
2	Sb 206.836†	56.4	17.3	5.2879 ug/L	5.2879 ppb	21:01:18
2	Se 196.026†	-31.5	-5.1	-2.7402 ug/L	-2.7402 ppb	21:01:18
2	Si 251.611†	529.8	-12.9	-0.3837 ug/L	-0.3837 ppb	21:01:18
2	Sn 189.927†	16.4	6.7	1.0902 ug/L	1.0902 ppb	21:01:18
2	Ti 334.940†	-1673.5	153.2	0.2125 ug/L	0.2125 ppb	21:00:58
2	Tl 190.801†	-43.3	1.7	0.4857 ug/L	0.4857 ppb	21:01:18
2	U 409.014†	-4284.0	886.1	26.171 ug/L	26.171 ppb	21:00:53
2	V 292.402†	-1683.0	91.6	0.6546 ug/L	0.6546 ppb	21:00:58
2	Zn 213.857†	818.7	98.7	0.8340 ug/L	0.8340 ppb	21:01:18
2	SiO2†	540.7	-28.7	-1.8290 ug/L	-1.8290 ppb	21:01:59
3	Sc Radial	4394.6	4394.6	107 %		20:59:56
3	Y RADIAL	4931.9	4931.9	101.9 %		20:59:56
3	Al 396.153Radial†	-194.1	7.9	6.5053 ug/L	6.5053 ppb	20:59:56
3	Ca 317.933Radial†	11.9	-2.1	-3.9560 ug/L	-3.9560 ppb	21:00:16
3	Fe 238.204 Radial†	12.6	1.7	20.072 ug/L	20.072 ppb	21:00:16
3	K 766.490 Radial†	2727.5	-63.8	-12.166 ug/L	-12.166 ppb	20:59:56
3	Mg 279.077 IEC†	1.7	1.6	67.767 ug/L	67.767 ppb	21:00:16
3	Na 589.592 Radial†	-1631.8	120.4	37.101 ug/L	37.101 ppb	20:59:56
3	Sr 421.552†	13.4	-23.8	-0.1573 ug/L	-0.1573 ppb	20:59:56
3	Sc 361.383	913585.5	913585.5	102.55 %		21:01:23
3	Y 371.029	741614.1	741614.1	101.00 %		21:01:23
3	Ag 328.068†	482.1	-154.5	-0.6937 ug/L	-0.6937 ppb	21:01:29
3	As 188.979†	-28.0	1.5	0.5746 ug/L	0.5746 ppb	21:01:49
3	B 249.677†	-605.4	170.8	3.5686 ug/L	3.5686 ppb	21:01:49
3	Ba 233.527†	-19.9	-4.1	-0.0277 ug/L	-0.0277 ppb	21:01:49
3	Be 313.107†	-4155.0	351.5	0.1184 ug/L	0.1184 ppb	21:01:29
3	Cd 226.502†	-209.4	-0.1	0.0037 ug/L	0.0037 ppb	21:01:49
3	Co 228.616†	-98.9	-11.3	-0.2077 ug/L	-0.2077 ppb	21:01:49
3	Cr 267.716†	84.0	20.1	0.1946 ug/L	0.1946 ppb	21:01:29
3	Cu 324.752†	7064.4	1.6	-0.0129 ug/L	-0.0129 ppb	21:01:29
3	Mn 257.610†	564.4	18.5	0.0178 ug/L	0.0178 ppb	21:01:49
3	Mo 202.031†	9.5	4.1	0.2707 ug/L	0.2707 ppb	21:01:49
3	Ni 231.604†	81.7	-5.5	-0.1219 ug/L	-0.1219 ppb	21:01:49
3	P 214.914†	240.1	10.8	5.5894 ug/L	5.5894 ppb	21:01:49
3	Pb 220.353†	-73.1	8.4	0.8964 ug/L	0.8964 ppb	21:01:49
3	S 181.975 Axial†	53.3	3.1	3.8215 ug/L	3.8215 ppb	21:01:49
3	Sb 206.836†	39.2	-0.2	-0.0733 ug/L	-0.0733 ppb	21:01:49
3	Se 196.026†	-37.8	-10.9	-5.9810 ug/L	-5.9810 ppb	21:01:49
3	Si 251.611†	540.3	-8.9	-0.2694 ug/L	-0.2694 ppb	21:01:49
3	Sn 189.927†	4.6	-4.9	-0.7989 ug/L	-0.7989 ppb	21:01:49
3	Ti 334.940†	-1709.4	137.5	0.1848 ug/L	0.1848 ppb	21:01:29
3	Tl 190.801†	-42.3	3.2	0.9170 ug/L	0.9170 ppb	21:01:49
3	U 409.014†	-4091.1	1123.9	33.195 ug/L	33.195 ppb	21:01:23
3	V 292.402†	-1699.6	94.9	0.6969 ug/L	0.6969 ppb	21:01:29
3	Zn 213.857†	818.8	89.3	0.7563 ug/L	0.7563 ppb	21:01:49
3	SiO2†	565.2	-11.1	-0.7145 ug/L	-0.7145 ppb	21:02:04

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	910520.9	102.21 %	0.751			0.73%
Sc Radial	4414.8	107 %	0.8			0.74%
Y 371.029	739448.7	100.71 %	0.841			0.83%
Y RADIAL	4946.5	102.2 %	0.82			0.80%
Ag 328.068†	-152.7	-0.6774 ug/L	0.01957	-0.6774 ppb	0.01957	2.89%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	4.2	3.4672 ug/L	10.39452	3.4672 ppb	10.39452	299.80%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	0.7	0.2816 ug/L	0.25679	0.2816 ppb	0.25679	91.18%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	196.0	4.0914 ug/L	0.63304	4.0914 ppb	0.63304	15.47%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	8.6	0.0659 ug/L	0.08273	0.0659 ppb	0.08273	125.64%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	353.0	0.1190 ug/L	0.01170	0.1190 ppb	0.01170	9.83%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.4	0.6591 ug/L	6.34140	0.6591 ppb	6.34140	962.19%

QC value within limits for Ca 317.933	Radial	Recovery = Not calculated		
Cd 226.502†	0.5	0.0070 ug/L	0.07643	0.0070 ppb
			0.07643	>999.9%
QC value within limits for Cd 226.502		Recovery = Not calculated		
Co 228.616†	-2.3	-0.0437 ug/L	0.15568	-0.0437 ppb
			0.15568	356.32%
QC value within limits for Co 228.616		Recovery = Not calculated		
Cr 267.716†	13.1	0.1251 ug/L	0.20436	0.1251 ppb
			0.20436	163.34%
QC value within limits for Cr 267.716		Recovery = Not calculated		
Cu 324.752†	132.0	0.3528 ug/L	0.32414	0.3528 ppb
			0.32414	91.87%
QC value within limits for Cu 324.752		Recovery = Not calculated		
Fe 238.204 Radial†	3.3	38.301 ug/L	23.0083	38.301 ppb
			23.0083	60.07%
QC value within limits for Fe 238.204 Radial		Recovery = Not calculated		
K 766.490 Radial†	-43.7	-8.3367 ug/L	9.81624	-8.3367 ppb
			9.81624	117.75%
QC value within limits for K 766.490 Radial		Recovery = Not calculated		
Mg 279.077 IEC†	1.8	74.347 ug/L	9.2845	74.347 ppb
			9.2845	12.49%
QC value within limits for Mg 279.077 IEC		Recovery = Not calculated		
Mn 257.610†	71.9	0.0729 ug/L	0.12558	0.0729 ppb
			0.12558	172.19%
QC value within limits for Mn 257.610		Recovery = Not calculated		
Mo 202.031†	1.1	0.0738 ug/L	0.19389	0.0738 ppb
			0.19389	262.70%
QC value within limits for Mo 202.031		Recovery = Not calculated		
Na 589.592 Radial†	123.3	38.006 ug/L	1.6914	38.006 ppb
			1.6914	4.45%
QC value within limits for Na 589.592 Radial		Recovery = Not calculated		
Ni 231.604†	0.4	0.0091 ug/L	0.13917	0.0091 ppb
			0.13917	>999.9%
QC value within limits for Ni 231.604		Recovery = Not calculated		
P 214.914†	9.8	4.9695 ug/L	1.81620	4.9695 ppb
			1.81620	36.55%
QC value within limits for P 214.914		Recovery = Not calculated		
Pb 220.353†	9.3	0.9986 ug/L	0.62193	0.9986 ppb
			0.62193	62.28%
QC value within limits for Pb 220.353		Recovery = Not calculated		
S 181.975 Axial†	5.3	6.4460 ug/L	2.27304	6.4460 ppb
			2.27304	35.26%
QC value within limits for S 181.975 Axial		Recovery = Not calculated		
Sb 206.836†	6.1	1.8751 ug/L	2.96549	1.8751 ppb
			2.96549	158.15%
QC value within limits for Sb 206.836		Recovery = Not calculated		
Se 196.026†	-8.3	-4.4829 ug/L	1.63422	-4.4829 ppb
			1.63422	36.45%
QC value within limits for Se 196.026		Recovery = Not calculated		
Si 251.611†	19.8	0.5885 ug/L	1.58588	0.5885 ppb
			1.58588	269.49%
QC value within limits for Si 251.611		Recovery = Not calculated		
Sn 189.927†	2.0	0.3311 ug/L	0.99766	0.3311 ppb
			0.99766	301.31%
QC value within limits for Sn 189.927		Recovery = Not calculated		
Sr 421.552†	-22.6	-0.1495 ug/L	0.11258	-0.1495 ppb
			0.11258	75.33%
QC value within limits for Sr 421.552		Recovery = Not calculated		
Ti 334.940†	151.6	0.2073 ug/L	0.02048	0.2073 ppb
			0.02048	9.88%
QC value within limits for Ti 334.940		Recovery = Not calculated		
Tl 190.801†	5.4	1.5262 ug/L	1.44480	1.5262 ppb
			1.44480	94.67%
QC value within limits for Tl 190.801		Recovery = Not calculated		
U 409.014†	1007.0	29.741 ug/L	3.5136	29.741 ppb
			3.5136	11.81%
QC value within limits for U 409.014		Recovery = Not calculated		
V 292.402†	100.0	0.7187 ug/L	0.07740	0.7187 ppb
			0.07740	10.77%
QC value within limits for V 292.402		Recovery = Not calculated		
Zn 213.857†	121.8	1.0294 ug/L	0.40764	1.0294 ppb
			0.40764	39.60%
QC value within limits for Zn 213.857		Recovery = Not calculated		
SiO2†	-21.2	-1.3512 ug/L	0.57399	-1.3512 ppb
			0.57399	42.48%
QC value within limits for SiO2		Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 44

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 21:59:43

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4381.1	4381.1	106 %		22:01:35
1	Y RADIAL	4883.4	4883.4	100.9 %		22:01:35
1	Al 396.153Radial†	6078.4	5913.8	4859.1 ug/L	4859.1 ppb	22:01:35
1	Ca 317.933Radial†	2877.1	2695.9	4990.5 ug/L	4990.5 ppb	22:01:55
1	Fe 238.204 Radial†	481.8	443.6	5169.8 ug/L	5169.8 ppb	22:01:55
1	K 766.490 Radial†	29862.0	25495.3	4846.5 ug/L	4846.5 ppb	22:01:35
1	Mg 279.077 IEC†	131.3	123.7	5211.0 ug/L	5211.0 ppb	22:01:55
1	Na 589.592 Radial†	33500.5	33198.1	10230 ug/L	10230 ppb	22:01:35
1	Sr 421.552†	80450.8	75720.1	499.91 ug/L	499.91 ppb	22:01:35
1	Sc 361.383	872561.1	872561.1	97.950 %		22:02:54
1	Y 371.029	700718.2	700718.2	95.434 %		22:02:54
1	Ag 328.068†	110155.3	111836.6	492.45 ug/L	492.45 ppb	22:02:54
1	As 188.979†	1205.7	1259.7	488.15 ug/L	488.15 ppb	22:03:14
1	B 249.677†	21688.3	22903.3	476.65 ug/L	476.65 ppb	22:02:54
1	Ba 233.527†	65824.5	67217.7	492.54 ug/L	492.54 ppb	22:02:54
1	Be 313.107†	1423617.2	1457819.7	490.25 ug/L	490.25 ppb	22:02:54
1	Cd 226.502†	46970.5	48157.8	497.15 ug/L	497.15 ppb	22:02:54
1	Co 228.616†	25712.3	26335.6	485.51 ug/L	485.51 ppb	22:03:14
1	Cr 267.716†	46906.4	47826.4	492.95 ug/L	492.95 ppb	22:02:54
1	Cu 324.752†	180114.1	176997.5	492.30 ug/L	492.30 ppb	22:02:54
1	Mn 257.610†	483729.7	493323.5	495.27 ug/L	495.27 ppb	22:02:54
1	Mo 202.031†	7226.9	7373.0	490.46 ug/L	490.46 ppb	22:03:14
1	Ni 231.604†	21469.1	21833.4	486.21 ug/L	486.21 ppb	22:03:14
1	P 214.914†	4844.2	4722.3	2355.8 ug/L	2355.8 ppb	22:03:14
1	Pb 220.353†	4395.6	4567.2	491.59 ug/L	491.59 ppb	22:03:14
1	S 181.975 Axial†	826.9	795.3	970.62 ug/L	970.62 ppb	22:03:14
1	Sb 206.836†	1591.0	1585.9	502.19 ug/L	502.19 ppb	22:03:14
1	Se 196.026†	839.9	883.4	508.55 ug/L	508.55 ppb	22:03:14
1	Si 251.611†	81777.8	82953.9	2463.2 ug/L	2463.2 ppb	22:02:54
1	Sn 189.927†	2980.3	3033.3	490.87 ug/L	490.87 ppb	22:03:14
1	Ti 334.940†	325023.3	333631.2	498.35 ug/L	498.35 ppb	22:02:54
1	Tl 190.801†	1658.0	1737.2	493.56 ug/L	493.56 ppb	22:03:14
1	U 409.014†	11331.0	16681.2	491.05 ug/L	491.05 ppb	22:02:54
1	V 292.402†	70348.8	73573.6	495.98 ug/L	495.98 ppb	22:02:54
1	Zn 213.857†	57951.5	58455.5	491.69 ug/L	491.69 ppb	22:02:54
1	SiO2†	80702.2	81829.3	5204.9 ug/L	5204.9 ppb	22:04:14
2	Sc Radial	4412.3	4412.3	107 %		22:02:00
2	Y RADIAL	4891.7	4891.7	101.0 %		22:02:00
2	Al 396.153Radial†	6150.2	5940.6	4880.8 ug/L	4880.8 ppb	22:02:00
2	Ca 317.933Radial†	2898.2	2696.4	4991.5 ug/L	4991.5 ppb	22:02:20
2	Fe 238.204 Radial†	487.8	446.0	5197.3 ug/L	5197.3 ppb	22:02:20
2	K 766.490 Radial†	29887.4	25320.4	4813.2 ug/L	4813.2 ppb	22:02:00
2	Mg 279.077 IEC†	131.0	122.5	5162.4 ug/L	5162.4 ppb	22:02:20
2	Na 589.592 Radial†	33927.3	33374.2	10284 ug/L	10284 ppb	22:02:00
2	Sr 421.552†	81242.5	75925.2	501.27 ug/L	501.27 ppb	22:02:00
2	Sc 361.383	860207.7	860207.7	96.563 %		22:03:21
2	Y 371.029	692008.4	692008.4	94.247 %		22:03:21
2	Ag 328.068†	108710.8	111955.7	492.99 ug/L	492.99 ppb	22:03:21
2	As 188.979†	1215.5	1287.5	498.83 ug/L	498.83 ppb	22:03:42
2	B 249.677†	21323.5	22843.6	475.37 ug/L	475.37 ppb	22:03:21
2	Ba 233.527†	64931.9	67258.4	492.84 ug/L	492.84 ppb	22:03:21
2	Be 313.107†	1403199.1	1457547.4	490.16 ug/L	490.16 ppb	22:03:21
2	Cd 226.502†	46205.4	48054.2	496.08 ug/L	496.08 ppb	22:03:21
2	Co 228.616†	25888.9	26895.5	495.85 ug/L	495.85 ppb	22:03:42
2	Cr 267.716†	46300.7	47886.9	493.58 ug/L	493.58 ppb	22:03:21
2	Cu 324.752†	177551.6	176984.5	492.27 ug/L	492.27 ppb	22:03:21
2	Mn 257.610†	475809.0	492213.0	494.16 ug/L	494.16 ppb	22:03:21
2	Mo 202.031†	7253.1	7506.0	499.31 ug/L	499.31 ppb	22:03:42
2	Ni 231.604†	21605.6	22289.5	496.37 ug/L	496.37 ppb	22:03:42

2	P 214.914†	4880.6	4831.1	2412.3 ug/L	2412.3 ppb	22:03:42
2	Pb 220.353†	4448.2	4686.1	504.37 ug/L	504.37 ppb	22:03:42
2	S 181.975 Axial†	826.9	807.5	985.52 ug/L	985.52 ppb	22:03:42
2	Sb 206.836†	1584.7	1602.7	507.64 ug/L	507.64 ppb	22:03:42
2	Se 196.026†	845.6	901.7	518.79 ug/L	518.79 ppb	22:03:42
2	Si 251.611†	80539.1	82870.1	2460.6 ug/L	2460.6 ppb	22:03:21
2	Sn 189.927†	2986.1	3082.9	498.89 ug/L	498.89 ppb	22:03:42
2	Ti 334.940†	319962.7	333155.8	497.65 ug/L	497.65 ppb	22:03:21
2	Tl 190.801†	1671.8	1775.8	504.38 ug/L	504.38 ppb	22:03:42
2	U 409.014†	10910.8	16412.3	483.10 ug/L	483.10 ppb	22:03:21
2	V 292.402†	69341.0	73561.3	496.00 ug/L	496.00 ppb	22:03:21
2	Zn 213.857†	56899.3	58215.4	489.58 ug/L	489.58 ppb	22:03:21
2	SiO2†	81269.7	83600.1	5317.5 ug/L	5317.5 ppb	22:04:20
3	Sc Radial	4305.5	4305.5	104 %		22:02:25
3	Y RADIAL	4785.7	4785.7	98.85 %		22:02:25
3	Al 396.153Radial†	6066.4	6002.9	4932.8 ug/L	4932.8 ppb	22:02:25
3	Ca 317.933Radial†	2908.2	2773.3	5133.8 ug/L	5133.8 ppb	22:02:45
3	Fe 238.204 Radial†	491.8	461.1	5373.4 ug/L	5373.4 ppb	22:02:45
3	K 766.490 Radial†	29658.7	25794.5	4903.3 ug/L	4903.3 ppb	22:02:25
3	Mg 279.077 IEC†	135.1	129.5	5456.1 ug/L	5456.1 ppb	22:02:45
3	Na 589.592 Radial†	33409.9	33665.4	10374 ug/L	10374 ppb	22:02:25
3	Sr 421.552†	80046.2	76663.4	506.14 ug/L	506.14 ppb	22:02:25
3	Sc 361.383	872231.1	872231.1	97.913 %		22:03:49
3	Y 371.029	700676.1	700676.1	95.428 %		22:03:49
3	Ag 328.068†	110240.1	111965.7	493.10 ug/L	493.10 ppb	22:03:49
3	As 188.979†	1203.2	1257.5	487.38 ug/L	487.38 ppb	22:04:09
3	B 249.677†	21745.6	22970.3	478.02 ug/L	478.02 ppb	22:03:49
3	Ba 233.527†	65910.3	67330.7	493.37 ug/L	493.37 ppb	22:03:49
3	Be 313.107†	1426556.8	1461371.9	491.44 ug/L	491.44 ppb	22:03:49
3	Cd 226.502†	47195.1	48405.4	499.68 ug/L	499.68 ppb	22:03:49
3	Co 228.616†	25700.4	26333.4	485.46 ug/L	485.46 ppb	22:04:09
3	Cr 267.716†	47059.3	48000.7	494.75 ug/L	494.75 ppb	22:03:49
3	Cu 324.752†	180096.4	177048.9	492.46 ug/L	492.46 ppb	22:03:49
3	Mn 257.610†	484816.1	494619.9	496.58 ug/L	496.58 ppb	22:03:49
3	Mo 202.031†	7221.3	7370.0	490.28 ug/L	490.28 ppb	22:04:09
3	Ni 231.604†	21501.3	21874.5	487.12 ug/L	487.12 ppb	22:04:09
3	P 214.914†	4841.2	4721.1	2355.0 ug/L	2355.0 ppb	22:04:09
3	Pb 220.353†	4403.0	4576.5	492.59 ug/L	492.59 ppb	22:04:09
3	S 181.975 Axial†	820.9	789.5	963.56 ug/L	963.56 ppb	22:04:09
3	Sb 206.836†	1587.5	1582.9	501.30 ug/L	501.30 ppb	22:04:09
3	Se 196.026†	842.0	885.9	510.59 ug/L	510.59 ppb	22:04:09
3	Si 251.611†	81953.1	83164.5	2469.4 ug/L	2469.4 ppb	22:03:49
3	Sn 189.927†	2984.2	3038.4	491.72 ug/L	491.72 ppb	22:04:09
3	Ti 334.940†	325042.7	333776.5	498.57 ug/L	498.57 ppb	22:03:49
3	Tl 190.801†	1656.2	1736.0	493.22 ug/L	493.22 ppb	22:04:09
3	U 409.014†	10867.3	16212.0	477.17 ug/L	477.17 ppb	22:03:49
3	V 292.402†	70409.6	73662.8	496.51 ug/L	496.51 ppb	22:03:49
3	Zn 213.857†	58002.9	58530.3	492.29 ug/L	492.29 ppb	22:03:49
3	SiO2†	81721.6	82901.6	5273.2 ug/L	5273.2 ppb	22:04:25

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	868333.3	97.475 %	0.7902			0.81%
Sc Radial	4366.3	106 %	1.3			1.26%
Y 371.029	697800.9	95.036 %	0.6832			0.72%
Y RADIAL	4853.6	100.3 %	1.22			1.22%
Ag 328.068†	111919.3	492.85 ug/L	0.344	492.85 ppb	0.344	0.07%
QC value within limits for Ag 328.068 Recovery = 98.57%						
Al 396.153Radial†	5952.4	4890.9 ug/L	37.82	4890.9 ppb	37.82	0.77%
QC value within limits for Al 396.153Radial Recovery = 97.82%						
As 188.979†	1268.3	491.45 ug/L	6.401	491.45 ppb	6.401	1.30%
QC value within limits for As 188.979 Recovery = 98.29%						
B 249.677†	22905.8	476.68 ug/L	1.325	476.68 ppb	1.325	0.28%
QC value within limits for B 249.677 Recovery = 95.34%						
Ba 233.527†	67268.9	492.91 ug/L	0.422	492.91 ppb	0.422	0.09%
QC value within limits for Ba 233.527 Recovery = 98.58%						
Be 313.107†	1458913.0	490.62 ug/L	0.717	490.62 ppb	0.717	0.15%
QC value within limits for Be 313.107 Recovery = 98.12%						
Ca 317.933Radial†	2721.9	5038.6 ug/L	82.46	5038.6 ppb	82.46	1.64%

QC value within limits for Ca 317.933 Radial Recovery = 100.77%

Cd 226.502†	48205.8	497.64 ug/L	1.850	497.64 ppb	1.850	0.37%
QC value within limits for Cd 226.502 Recovery = 99.53%						
Co 228.616†	26521.5	488.94 ug/L	5.984	488.94 ppb	5.984	1.22%
QC value within limits for Co 228.616 Recovery = 97.79%						
Cr 267.716†	47904.6	493.76 ug/L	0.916	493.76 ppb	0.916	0.19%
QC value within limits for Cr 267.716 Recovery = 98.75%						
Cu 324.752†	177010.3	492.35 ug/L	0.103	492.35 ppb	0.103	0.02%
QC value within limits for Cu 324.752 Recovery = 98.47%						
Fe 238.204 Radial†	450.2	5246.8 ug/L	110.48	5246.8 ppb	110.48	2.11%
QC value within limits for Fe 238.204 Radial Recovery = 104.94%						
K 766.490 Radial†	25536.7	4854.3 ug/L	45.59	4854.3 ppb	45.59	0.94%
QC value within limits for K 766.490 Radial Recovery = 97.09%						
Mg 279.077 IEC†	125.2	5276.5 ug/L	157.45	5276.5 ppb	157.45	2.98%
QC value within limits for Mg 279.077 IEC Recovery = 105.53%						
Mn 257.610†	493385.5	495.33 ug/L	1.212	495.33 ppb	1.212	0.24%
QC value within limits for Mn 257.610 Recovery = 99.07%						
Mo 202.031†	7416.3	493.35 ug/L	5.160	493.35 ppb	5.160	1.05%
QC value within limits for Mo 202.031 Recovery = 98.67%						
Na 589.592 Radial†	33412.6	10296 ug/L	72.7	10296 ppb	72.7	0.71%
QC value within limits for Na 589.592 Radial Recovery = 102.96%						
Ni 231.604†	21999.1	489.90 ug/L	5.618	489.90 ppb	5.618	1.15%
QC value within limits for Ni 231.604 Recovery = 97.98%						
P 214.914†	4758.2	2374.4 ug/L	32.87	2374.4 ppb	32.87	1.38%
QC value within limits for P 214.914 Recovery = 94.97%						
Pb 220.353†	4610.0	496.18 ug/L	7.108	496.18 ppb	7.108	1.43%
QC value within limits for Pb 220.353 Recovery = 99.24%						
S 181.975 Axial†	797.4	973.23 ug/L	11.212	973.23 ppb	11.212	1.15%
QC value within limits for S 181.975 Axial Recovery = 97.32%						
Sb 206.836†	1590.5	503.71 ug/L	3.430	503.71 ppb	3.430	0.68%
QC value within limits for Sb 206.836 Recovery = 100.74%						
Se 196.026†	890.3	512.64 ug/L	5.420	512.64 ppb	5.420	1.06%
QC value within limits for Se 196.026 Recovery = 102.53%						
Si 251.611†	82996.2	2464.4 ug/L	4.56	2464.4 ppb	4.56	0.19%
QC value within limits for Si 251.611 Recovery = 98.58%						
Sn 189.927†	3051.5	493.83 ug/L	4.405	493.83 ppb	4.405	0.89%
QC value within limits for Sn 189.927 Recovery = 98.77%						
Sr 421.552†	76102.9	502.44 ug/L	3.275	502.44 ppb	3.275	0.65%
QC value within limits for Sr 421.552 Recovery = 100.49%						
Ti 334.940†	333521.2	498.19 ug/L	0.483	498.19 ppb	0.483	0.10%
QC value within limits for Ti 334.940 Recovery = 99.64%						
Tl 190.801†	1749.7	497.05 ug/L	6.349	497.05 ppb	6.349	1.28%
QC value within limits for Tl 190.801 Recovery = 99.41%						
U 409.014†	16435.2	483.77 ug/L	6.968	483.77 ppb	6.968	1.44%
QC value within limits for U 409.014 Recovery = 96.75%						
V 292.402†	73599.2	496.16 ug/L	0.304	496.16 ppb	0.304	0.06%
QC value within limits for V 292.402 Recovery = 99.23%						
Zn 213.857†	58400.4	491.19 ug/L	1.424	491.19 ppb	1.424	0.29%
QC value within limits for Zn 213.857 Recovery = 98.24%						
SiO2†	82777.0	5265.2 ug/L	56.77	5265.2 ppb	56.77	1.08%
QC value within limits for SiO2 Recovery = 98.46%						

All analyte(s) passed QC.

Sequence No.: 45

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 22:06:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4140.3	4140.3	100 %		22:08:46
1	Y RADIAL	4426.5	4426.5	91.43 %		22:08:26
1	Al 396.153Radial†	-229.6	-38.7	-31.980 ug/L	-31.980 ppb	22:08:26
1	Ca 317.933Radial†	16.0	2.6	4.7506 ug/L	4.7506 ppb	22:08:46
1	Fe 238.204 Radial†	12.9	2.7	31.636 ug/L	31.636 ppb	22:08:46
1	K 766.490 Radial†	2900.7	266.0	50.635 ug/L	50.635 ppb	22:08:26
1	Mg 279.077 IEC†	4.7	4.8	200.88 ug/L	200.88 ppb	22:08:46
1	Na 589.592 Radial†	-1637.7	20.4	6.2786 ug/L	6.2786 ppb	22:08:26
1	Sr 421.552†	29.3	-7.2	-0.0477 ug/L	-0.0477 ppb	22:08:26
1	Sc 361.383	841490.2	841490.2	94.462 %		22:09:43
1	Y 371.029	686446.8	686446.8	93.490 %		22:09:43
1	Ag 328.068†	331.4	-273.7	-1.1969 ug/L	-1.1969 ppb	22:09:43
1	As 188.979†	-30.6	-3.7	-1.3977 ug/L	-1.3977 ppb	22:10:03
1	B 249.677†	-596.6	129.5	2.7023 ug/L	2.7023 ppb	22:10:03
1	Ba 233.527†	-22.2	-8.2	-0.0611 ug/L	-0.0611 ppb	22:10:03
1	Be 313.107†	-4104.9	57.5	0.0195 ug/L	0.0195 ppb	22:09:43
1	Cd 226.502†	-208.8	-16.9	-0.1764 ug/L	-0.1764 ppb	22:10:03
1	Co 228.616†	-87.0	-7.0	-0.1279 ug/L	-0.1279 ppb	22:10:03
1	Cr 267.716†	61.1	2.8	0.0255 ug/L	0.0255 ppb	22:09:43
1	Cu 324.752†	6984.7	507.4	1.4086 ug/L	1.4086 ppb	22:09:43
1	Mn 257.610†	528.4	27.6	0.0226 ug/L	0.0226 ppb	22:10:03
1	Mo 202.031†	12.1	7.6	0.5055 ug/L	0.5055 ppb	22:10:03
1	Ni 231.604†	71.6	-9.3	-0.2076 ug/L	-0.2076 ppb	22:10:03
1	P 214.914†	229.8	20.1	10.104 ug/L	10.104 ppb	22:10:03
1	Pb 220.353†	-55.0	21.4	2.2876 ug/L	2.2876 ppb	22:10:03
1	S 181.975 Axial†	45.8	-0.4	-0.4500 ug/L	-0.4500 ppb	22:10:03
1	Sb 206.836†	45.5	9.8	2.9990 ug/L	2.9990 ppb	22:10:03
1	Se 196.026†	-36.8	-13.0	-7.0750 ug/L	-7.0750 ppb	22:10:03
1	Si 251.611†	523.3	18.3	0.5381 ug/L	0.5381 ppb	22:10:03
1	Sn 189.927†	11.3	2.5	0.4030 ug/L	0.4030 ppb	22:10:03
1	Ti 334.940†	-1658.0	49.2	0.0542 ug/L	0.0542 ppb	22:09:43
1	Tl 190.801†	-41.9	0.1	0.0443 ug/L	0.0443 ppb	22:10:03
1	U 409.014†	-4578.0	266.7	7.8743 ug/L	7.8743 ppb	22:09:43
1	V 292.402†	-1773.2	-124.9	-0.8098 ug/L	-0.8098 ppb	22:09:43
1	Zn 213.857†	799.9	137.6	1.1641 ug/L	1.1641 ppb	22:10:03
1	SiO2†	537.3	6.6	0.4052 ug/L	0.4052 ppb	22:10:59
2	Sc Radial	4252.7	4252.7	103 %		22:09:11
2	Y RADIAL	5166.5	5166.5	106.7 %		22:08:51
2	Al 396.153Radial†	-200.2	-4.1	-3.3756 ug/L	-3.3756 ppb	22:08:51
2	Ca 317.933Radial†	18.2	4.3	7.9928 ug/L	7.9928 ppb	22:09:11
2	Fe 238.204 Radial†	12.2	1.7	20.213 ug/L	20.213 ppb	22:09:11
2	K 766.490 Radial†	2832.8	123.8	23.552 ug/L	23.552 ppb	22:08:51
2	Mg 279.077 IEC†	3.2	3.1	132.61 ug/L	132.61 ppb	22:09:11
2	Na 589.592 Radial†	-1623.1	77.7	23.931 ug/L	23.931 ppb	22:08:51
2	Sr 421.552†	31.2	-6.2	-0.0409 ug/L	-0.0409 ppb	22:08:51
2	Sc 361.383	870233.1	870233.1	97.688 %		22:10:08
2	Y 371.029	711050.8	711050.8	96.841 %		22:10:08
2	Ag 328.068†	355.1	-261.0	-1.1466 ug/L	-1.1466 ppb	22:10:08
2	As 188.979†	-30.4	-2.4	-0.9191 ug/L	-0.9191 ppb	22:10:29
2	B 249.677†	-585.1	162.2	3.3877 ug/L	3.3877 ppb	22:10:29
2	Ba 233.527†	-10.2	4.9	0.0362 ug/L	0.0362 ppb	22:10:29
2	Be 313.107†	-4027.2	280.6	0.0945 ug/L	0.0945 ppb	22:10:08
2	Cd 226.502†	-207.8	-8.6	-0.0881 ug/L	-0.0881 ppb	22:10:29
2	Co 228.616†	-81.7	1.5	0.0267 ug/L	0.0267 ppb	22:10:29
2	Cr 267.716†	91.5	31.8	0.3227 ug/L	0.3227 ppb	22:10:08
2	Cu 324.752†	7045.6	325.4	0.8987 ug/L	0.8987 ppb	22:10:08
2	Mn 257.610†	559.4	40.9	0.0376 ug/L	0.0376 ppb	22:10:29
2	Mo 202.031†	6.0	0.9	0.0645 ug/L	0.0645 ppb	22:10:29
2	Ni 231.604†	98.0	15.2	0.3380 ug/L	0.3380 ppb	22:10:29

2	P 214.914†	234.7	17.0	8.6436 ug/L	8.6436 ppb	22:10:29
2	Pb 220.353†	-61.7	16.4	1.7588 ug/L	1.7588 ppb	22:10:29
2	S 181.975 Axial†	47.7	-0.0	-0.0393 ug/L	-0.0393 ppb	22:10:29
2	Sb 206.836†	49.8	12.5	3.8093 ug/L	3.8093 ppb	22:10:29
2	Se 196.026†	-19.4	6.1	3.4613 ug/L	3.4613 ppb	22:10:29
2	Si 251.611†	537.7	14.7	0.4366 ug/L	0.4366 ppb	22:10:29
2	Sn 189.927†	4.0	-5.3	-0.8570 ug/L	-0.8570 ppb	22:10:29
2	Ti 334.940†	-1653.7	111.5	0.1507 ug/L	0.1507 ppb	22:10:08
2	Tl 190.801†	-37.9	5.6	1.5927 ug/L	1.5927 ppb	22:10:29
2	U 409.014†	-4545.4	460.1	13.587 ug/L	13.587 ppb	22:10:08
2	V 292.402†	-1718.7	-7.2	-0.0214 ug/L	-0.0214 ppb	22:10:08
2	Zn 213.857†	800.5	110.4	0.9312 ug/L	0.9312 ppb	22:10:29
2	SiO2†	522.1	-27.8	-1.7765 ug/L	-1.7765 ppb	22:11:04
3	Sc Radial	4190.5	4190.5	102 %		22:09:36
3	Y RADIAL	4991.7	4991.7	103.1 %		22:09:16
3	Al 396.153Radial†	-201.3	-8.1	-6.6983 ug/L	-6.6983 ppb	22:09:16
3	Ca 317.933Radial†	19.3	5.6	10.407 ug/L	10.407 ppb	22:09:36
3	Fe 238.204 Radial†	11.7	1.4	15.817 ug/L	15.817 ppb	22:09:36
3	K 766.490 Radial†	2842.6	174.2	33.162 ug/L	33.162 ppb	22:09:16
3	Mg 279.077 IEC†	1.3	1.3	56.624 ug/L	56.624 ppb	22:09:36
3	Na 589.592 Radial†	-1693.1	-14.6	-4.5057 ug/L	-4.5057 ppb	22:09:16
3	Sr 421.552†	38.1	1.1	0.0071 ug/L	0.0071 ppb	22:09:16
3	Sc 361.383	869898.3	869898.3	97.651 %		22:10:34
3	Y 371.029	708760.6	708760.6	96.529 %		22:10:34
3	Ag 328.068†	469.5	-143.7	-0.6354 ug/L	-0.6354 ppb	22:10:34
3	As 188.979†	-33.3	-5.4	-2.0546 ug/L	-2.0546 ppb	22:10:54
3	B 249.677†	-585.5	161.5	3.3741 ug/L	3.3741 ppb	22:10:54
3	Ba 233.527†	-41.4	-27.1	-0.1978 ug/L	-0.1978 ppb	22:10:54
3	Be 313.107†	-4111.3	192.8	0.0649 ug/L	0.0649 ppb	22:10:34
3	Cd 226.502†	-208.8	-9.7	-0.0993 ug/L	-0.0993 ppb	22:10:54
3	Co 228.616†	-89.1	-6.1	-0.1133 ug/L	-0.1133 ppb	22:10:54
3	Cr 267.716†	76.3	16.3	0.1626 ug/L	0.1626 ppb	22:10:34
3	Cu 324.752†	7139.4	424.3	1.1739 ug/L	1.1739 ppb	22:10:34
3	Mn 257.610†	507.9	-11.6	-0.0124 ug/L	-0.0124 ppb	22:10:54
3	Mo 202.031†	7.8	2.8	0.1885 ug/L	0.1885 ppb	22:10:54
3	Ni 231.604†	79.0	-4.3	-0.0953 ug/L	-0.0953 ppb	22:10:54
3	P 214.914†	247.9	30.6	15.674 ug/L	15.674 ppb	22:10:54
3	Pb 220.353†	-70.0	8.0	0.8543 ug/L	0.8543 ppb	22:10:54
3	S 181.975 Axial†	54.0	6.4	7.8662 ug/L	7.8662 ppb	22:10:54
3	Sb 206.836†	44.1	6.7	2.0680 ug/L	2.0680 ppb	22:10:54
3	Se 196.026†	-25.9	-0.5	-0.2434 ug/L	-0.2434 ppb	22:10:54
3	Si 251.611†	521.8	-1.4	-0.0426 ug/L	-0.0426 ppb	22:10:54
3	Sn 189.927†	17.0	8.0	1.2864 ug/L	1.2864 ppb	22:10:54
3	Ti 334.940†	-1705.2	58.2	0.0779 ug/L	0.0779 ppb	22:10:34
3	Tl 190.801†	-41.6	1.8	0.5229 ug/L	0.5229 ppb	22:10:54
3	U 409.014†	-4562.7	440.6	13.013 ug/L	13.013 ppb	22:10:34
3	V 292.402†	-1750.7	-40.6	-0.2438 ug/L	-0.2438 ppb	22:10:34
3	Zn 213.857†	794.9	104.9	0.8873 ug/L	0.8873 ppb	22:10:54
3	SiO2†	567.8	19.2	1.2215 ug/L	1.2215 ppb	22:11:09

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	860540.5	96.600 %	1.8521			1.92%
Sc Radial	4194.5	102 %	1.4			1.34%
Y 371.029	702086.1	95.620 %	1.8512			1.94%
Y RADIAL	4861.6	100.4 %	7.99			7.96%
Ag 328.068†	-226.1	-0.9929 ug/L	0.31069	-0.9929 ppb	0.31069	31.29%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-17.0	-14.018 ug/L	15.6442	-14.018 ppb	15.6442	111.60%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-3.8	-1.4571 ug/L	0.57006	-1.4571 ppb	0.57006	39.12%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	151.0	3.1547 ug/L	0.39187	3.1547 ppb	0.39187	12.42%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-10.1	-0.0742 ug/L	0.11759	-0.0742 ppb	0.11759	158.42%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	177.0	0.0596 ug/L	0.03780	0.0596 ppb	0.03780	63.40%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	4.2	7.7169 ug/L	2.83835	7.7169 ppb	2.83835	36.78%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	-11.7	-0.1213 ug/L	0.04809	-0.1213 ppb	0.04809	39.65%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-3.9	-0.0715 ug/L	0.08538	-0.0715 ppb	0.08538	119.45%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	17.0	0.1703 ug/L	0.14875	0.1703 ppb	0.14875	87.36%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	419.1	1.1604 ug/L	0.25518	1.1604 ppb	0.25518	21.99%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	1.9	22.555 ug/L	8.1657	22.555 ppb	8.1657	36.20%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	188.0	35.783 ug/L	13.7304	35.783 ppb	13.7304	38.37%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	3.1	130.04 ug/L	72.161	130.04 ppb	72.161	55.49%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	18.9	0.0159 ug/L	0.02566	0.0159 ppb	0.02566	161.33%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	3.8	0.2528 ug/L	0.22740	0.2528 ppb	0.22740	89.94%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	27.8	8.5680 ug/L	14.35592	8.5680 ppb	14.35592	167.55%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	0.5	0.0117 ug/L	0.28811	0.0117 ppb	0.28811	>999.9%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	22.6	11.474 ug/L	3.7102	11.474 ppb	3.7102	32.34%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	15.3	1.6336 ug/L	0.72479	1.6336 ppb	0.72479	44.37%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	2.0	2.4590 ug/L	4.68730	2.4590 ppb	4.68730	190.62%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	9.7	2.9588 ug/L	0.87131	2.9588 ppb	0.87131	29.45%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-2.5	-1.2857 ug/L	5.34496	-1.2857 ppb	5.34496	415.72%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	10.5	0.3107 ug/L	0.31019	0.3107 ppb	0.31019	99.83%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.7	0.2774 ug/L	1.07719	0.2774 ppb	1.07719	388.25%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-4.1	-0.0272 ug/L	0.02987	-0.0272 ppb	0.02987	109.81%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	72.9	0.0943 ug/L	0.05031	0.0943 ppb	0.05031	53.37%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	2.5	0.7200 ug/L	0.79278	0.7200 ppb	0.79278	110.12%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	389.1	11.492 ug/L	3.1458	11.492 ppb	3.1458	27.37%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-57.6	-0.3584 ug/L	0.40649	-0.3584 ppb	0.40649	113.43%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	117.6	0.9942 ug/L	0.14875	0.9942 ppb	0.14875	14.96%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-0.7	-0.0499 ug/L	1.54995	-0.0499 ppb	1.54995	>999.9%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 53

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 23:02:42

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4372.1	4372.1	106 %		23:04:35
1	Y RADIAL	4875.5	4875.5	100.7 %		23:04:35
1	Al 396.153Radial†	6060.6	5908.9	4855.5 ug/L	4855.5 ppb	23:04:35
1	Ca 317.933Radial†	2913.5	2735.8	5064.3 ug/L	5064.3 ppb	23:04:55
1	Fe 238.204 Radial†	489.3	451.6	5262.0 ug/L	5262.0 ppb	23:04:55
1	K 766.490 Radial†	29786.8	25482.3	4843.9 ug/L	4843.9 ppb	23:04:35
1	Mg 279.077 IEC†	134.2	126.6	5335.7 ug/L	5335.7 ppb	23:04:55
1	Na 589.592 Radial†	34043.6	33775.5	10408 ug/L	10408 ppb	23:04:35
1	Sr 421.552†	80729.4	76139.2	502.68 ug/L	502.68 ppb	23:04:35
1	Sc 361.383	891843.5	891843.5	100.11 %		23:05:54
1	Y 371.029	716823.9	716823.9	97.627 %		23:05:54
1	Ag 328.068†	108518.1	107769.7	474.63 ug/L	474.63 ppb	23:05:54
1	As 188.979†	1212.7	1240.1	480.51 ug/L	480.51 ppb	23:06:14
1	B 249.677†	21472.5	22209.1	462.14 ug/L	462.14 ppb	23:05:54
1	Ba 233.527†	64702.3	64643.7	473.69 ug/L	473.69 ppb	23:05:54
1	Be 313.107†	1393458.5	1396271.4	469.56 ug/L	469.56 ppb	23:05:54
1	Cd 226.502†	46284.1	46435.4	479.35 ug/L	479.35 ppb	23:05:54
1	Co 228.616†	25922.7	25978.3	478.94 ug/L	478.94 ppb	23:06:14
1	Cr 267.716†	46101.2	45986.7	474.00 ug/L	474.00 ppb	23:05:54
1	Cu 324.752†	176676.3	169587.8	471.71 ug/L	471.71 ppb	23:05:54
1	Mn 257.610†	475354.2	474280.0	476.16 ug/L	476.16 ppb	23:05:54
1	Mo 202.031†	7260.6	7247.1	482.10 ug/L	482.10 ppb	23:06:14
1	Ni 231.604†	21608.7	21498.9	478.76 ug/L	478.76 ppb	23:06:14
1	P 214.914†	4902.6	4673.7	2334.5 ug/L	2334.5 ppb	23:06:14
1	Pb 220.353†	4441.3	4515.9	486.07 ug/L	486.07 ppb	23:06:14
1	S 181.975 Axial†	830.9	781.0	953.21 ug/L	953.21 ppb	23:06:14
1	Sb 206.836†	1607.1	1566.8	496.10 ug/L	496.10 ppb	23:06:14
1	Se 196.026†	848.1	873.1	503.08 ug/L	503.08 ppb	23:06:14
1	Si 251.611†	80713.9	80086.0	2377.9 ug/L	2377.9 ppb	23:05:54
1	Sn 189.927†	3003.6	2990.8	484.02 ug/L	484.02 ppb	23:06:14
1	Ti 334.940†	319748.3	321187.8	479.77 ug/L	479.77 ppb	23:05:54
1	Tl 190.801†	1675.2	1717.8	487.89 ug/L	487.89 ppb	23:06:14
1	U 409.014†	10982.1	16082.7	473.40 ug/L	473.40 ppb	23:05:54
1	V 292.402†	69264.2	70937.4	478.30 ug/L	478.30 ppb	23:05:54
1	Zn 213.857†	56844.9	56070.9	471.52 ug/L	471.52 ppb	23:05:54
1	SiO2†	83135.5	82478.4	5246.5 ug/L	5246.5 ppb	23:07:14
2	Sc Radial	4283.0	4283.0	104 %		23:05:00
2	Y RADIAL	4756.2	4756.2	98.24 %		23:05:00
2	Al 396.153Radial†	6057.2	6024.6	4950.4 ug/L	4950.4 ppb	23:05:00
2	Ca 317.933Radial†	2872.8	2753.8	5097.7 ug/L	5097.7 ppb	23:05:20
2	Fe 238.204 Radial†	479.1	451.4	5260.2 ug/L	5260.2 ppb	23:05:20
2	K 766.490 Radial†	29662.2	25947.3	4932.4 ug/L	4932.4 ppb	23:05:00
2	Mg 279.077 IEC†	131.8	127.0	5352.3 ug/L	5352.3 ppb	23:05:20
2	Na 589.592 Radial†	33632.3	34048.0	10492 ug/L	10492 ppb	23:05:00
2	Sr 421.552†	80303.5	77314.6	510.44 ug/L	510.44 ppb	23:05:00
2	Sc 361.383	870239.0	870239.0	97.689 %		23:06:21
2	Y 371.029	698489.0	698489.0	95.130 %		23:06:21
2	Ag 328.068†	111308.5	113317.2	498.98 ug/L	498.98 ppb	23:06:21
2	As 188.979†	1201.5	1258.6	487.81 ug/L	487.81 ppb	23:06:41
2	B 249.677†	21944.7	23224.9	483.34 ug/L	483.34 ppb	23:06:21
2	Ba 233.527†	66312.8	67896.8	497.52 ug/L	497.52 ppb	23:06:21
2	Be 313.107†	1433496.0	1471810.4	494.96 ug/L	494.96 ppb	23:06:21
2	Cd 226.502†	47308.8	48632.0	502.04 ug/L	502.04 ppb	23:06:21
2	Co 228.616†	25973.1	26672.7	491.72 ug/L	491.72 ppb	23:06:41
2	Cr 267.716†	47168.1	48222.1	497.03 ug/L	497.03 ppb	23:06:21
2	Cu 324.752†	181850.9	179266.0	498.62 ug/L	498.62 ppb	23:06:21
2	Mn 257.610†	487502.5	498503.3	500.47 ug/L	500.47 ppb	23:06:21
2	Mo 202.031†	7284.1	7451.2	495.67 ug/L	495.67 ppb	23:06:41
2	Ni 231.604†	21618.5	22044.7	490.91 ug/L	490.91 ppb	23:06:41

2	P 214.914†	4890.0	4782.4	2385.7 ug/L	2385.7 ppb	23:06:41
2	Pb 220.353†	4425.5	4609.8	496.19 ug/L	496.19 ppb	23:06:41
2	S 181.975 Axial†	837.9	808.8	987.10 ug/L	987.10 ppb	23:06:41
2	Sb 206.836†	1601.2	1600.7	506.90 ug/L	506.90 ppb	23:06:41
2	Se 196.026†	846.3	892.2	513.74 ug/L	513.74 ppb	23:06:41
2	Si 251.611†	82868.6	84293.2	2503.0 ug/L	2503.0 ppb	23:06:21
2	Sn 189.927†	3008.2	3070.0	496.81 ug/L	496.81 ppb	23:06:41
2	Ti 334.940†	328468.9	338043.6	504.94 ug/L	504.94 ppb	23:06:21
2	Tl 190.801†	1678.2	1762.4	500.70 ug/L	500.70 ppb	23:06:41
2	U 409.014†	11350.4	16732.0	492.53 ug/L	492.53 ppb	23:06:21
2	V 292.402†	70956.3	74387.0	501.44 ug/L	501.44 ppb	23:06:21
2	Zn 213.857†	58177.4	58844.5	494.94 ug/L	494.94 ppb	23:06:21
2	SiO2†	81745.8	83117.4	5286.9 ug/L	5286.9 ppb	23:07:19
3	Sc Radial	4297.0	4297.0	104 %		23:05:25
3	Y RADIAL	4800.7	4800.7	99.16 %		23:05:25
3	Al 396.153Radial†	6114.0	6060.1	4979.9 ug/L	4979.9 ppb	23:05:25
3	Ca 317.933Radial†	2873.1	2745.1	5081.6 ug/L	5081.6 ppb	23:05:45
3	Fe 238.204 Radial†	481.6	452.3	5270.9 ug/L	5270.9 ppb	23:05:45
3	K 766.490 Radial†	30064.8	26240.7	4988.2 ug/L	4988.2 ppb	23:05:25
3	Mg 279.077 IEC†	128.4	123.3	5196.5 ug/L	5196.5 ppb	23:05:45
3	Na 589.592 Radial†	34159.0	34448.1	10615 ug/L	10615 ppb	23:05:25
3	Sr 421.552†	81233.0	77954.9	514.67 ug/L	514.67 ppb	23:05:25
3	Sc 361.383	872491.3	872491.3	97.942 %		23:06:49
3	Y 371.029	701227.7	701227.7	95.503 %		23:06:49
3	Ag 328.068†	108785.4	110446.9	486.39 ug/L	486.39 ppb	23:06:49
3	As 188.979†	1230.2	1284.8	497.78 ug/L	497.78 ppb	23:07:09
3	B 249.677†	21492.2	22705.0	472.47 ug/L	472.47 ppb	23:06:49
3	Ba 233.527†	65024.2	66405.9	486.59 ug/L	486.59 ppb	23:06:49
3	Be 313.107†	1400856.2	1434696.6	482.48 ug/L	482.48 ppb	23:06:49
3	Cd 226.502†	46346.1	47524.2	490.60 ug/L	490.60 ppb	23:06:49
3	Co 228.616†	25919.4	26549.2	489.46 ug/L	489.46 ppb	23:07:09
3	Cr 267.716†	46297.6	47208.7	486.59 ug/L	486.59 ppb	23:06:49
3	Cu 324.752†	177439.6	174281.4	484.76 ug/L	484.76 ppb	23:06:49
3	Mn 257.610†	477069.6	486562.8	488.49 ug/L	488.49 ppb	23:06:49
3	Mo 202.031†	7254.8	7402.0	492.40 ug/L	492.40 ppb	23:07:09
3	Ni 231.604†	21612.4	21981.4	489.50 ug/L	489.50 ppb	23:07:09
3	P 214.914†	4895.8	4775.4	2384.8 ug/L	2384.8 ppb	23:07:09
3	Pb 220.353†	4460.9	4634.3	498.81 ug/L	498.81 ppb	23:07:09
3	S 181.975 Axial†	831.1	799.7	976.01 ug/L	976.01 ppb	23:07:09
3	Sb 206.836†	1588.9	1583.8	501.65 ug/L	501.65 ppb	23:07:09
3	Se 196.026†	853.5	897.4	516.63 ug/L	516.63 ppb	23:07:09
3	Si 251.611†	81054.7	82222.3	2441.4 ug/L	2441.4 ppb	23:06:49
3	Sn 189.927†	2998.6	3052.2	493.94 ug/L	493.94 ppb	23:07:09
3	Ti 334.940†	320976.7	329526.0	492.24 ug/L	492.24 ppb	23:06:49
3	Tl 190.801†	1659.1	1738.4	493.81 ug/L	493.81 ppb	23:07:09
3	U 409.014†	10868.8	16210.2	477.14 ug/L	477.14 ppb	23:06:49
3	V 292.402†	69438.2	72649.5	489.82 ug/L	489.82 ppb	23:06:49
3	Zn 213.857†	56998.7	57487.3	483.45 ug/L	483.45 ppb	23:06:49
3	SiO2†	81944.7	83104.4	5286.1 ug/L	5286.1 ppb	23:07:25

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	878191.3	98.582 %	1.3332			1.35%
Sc Radial	4317.4	105 %	1.2			1.11%
Y 371.029	705513.5	96.087 %	1.3470			1.40%
Y RADIAL	4810.8	99.37 %	1.246			1.25%
Ag 328.068†	110511.3	486.67 ug/L	12.175	486.67 ppb	12.175	2.50%
QC value within limits for Ag 328.068 Recovery = 97.33%						
Al 396.153Radial†	5997.9	4928.6 ug/L	65.00	4928.6 ppb	65.00	1.32%
QC value within limits for Al 396.153Radial Recovery = 98.57%						
As 188.979†	1261.2	488.70 ug/L	8.669	488.70 ppb	8.669	1.77%
QC value within limits for As 188.979 Recovery = 97.74%						
B 249.677†	22713.0	472.65 ug/L	10.603	472.65 ppb	10.603	2.24%
QC value within limits for B 249.677 Recovery = 94.53%						
Ba 233.527†	66315.5	485.93 ug/L	11.928	485.93 ppb	11.928	2.45%
QC value within limits for Ba 233.527 Recovery = 97.19%						
Be 313.107†	1434259.5	482.33 ug/L	12.701	482.33 ppb	12.701	2.63%
QC value within limits for Be 313.107 Recovery = 96.47%						
Ca 317.933Radial†	2744.9	5081.2 ug/L	16.68	5081.2 ppb	16.68	0.33%

QC value within limits for Ca 317.933 Radial Recovery = 101.62%

Cd 226.502†	47530.5	490.66 ug/L	11.347	490.66 ppb	11.347	2.31%
QC value within limits for Cd 226.502 Recovery = 98.13%						
Co 228.616†	26400.0	486.71 ug/L	6.821	486.71 ppb	6.821	1.40%
QC value within limits for Co 228.616 Recovery = 97.34%						
Cr 267.716†	47139.2	485.87 ug/L	11.535	485.87 ppb	11.535	2.37%
QC value within limits for Cr 267.716 Recovery = 97.17%						
Cu 324.752†	174378.4	485.03 ug/L	13.456	485.03 ppb	13.456	2.77%
QC value within limits for Cu 324.752 Recovery = 97.01%						
Fe 238.204 Radial†	451.7	5264.4 ug/L	5.70	5264.4 ppb	5.70	0.11%
QC value within limits for Fe 238.204 Radial Recovery = 105.29%						
K 766.490 Radial†	25890.1	4921.5 ug/L	72.74	4921.5 ppb	72.74	1.48%
QC value within limits for K 766.490 Radial Recovery = 98.43%						
Mg 279.077 IEC†	125.7	5294.8 ug/L	85.54	5294.8 ppb	85.54	1.62%
QC value within limits for Mg 279.077 IEC Recovery = 105.90%						
Mn 257.610†	486448.7	488.38 ug/L	12.152	488.38 ppb	12.152	2.49%
QC value within limits for Mn 257.610 Recovery = 97.68%						
Mo 202.031†	7366.8	490.06 ug/L	7.079	490.06 ppb	7.079	1.44%
QC value within limits for Mo 202.031 Recovery = 98.01%						
Na 589.592 Radial†	34090.5	10505 ug/L	104.3	10505 ppb	104.3	0.99%
QC value within limits for Na 589.592 Radial Recovery = 105.05%						
Ni 231.604†	21841.7	486.39 ug/L	6.648	486.39 ppb	6.648	1.37%
QC value within limits for Ni 231.604 Recovery = 97.28%						
P 214.914†	4743.8	2368.3 ug/L	29.31	2368.3 ppb	29.31	1.24%
QC value within limits for P 214.914 Recovery = 94.73%						
Pb 220.353†	4586.7	493.69 ug/L	6.730	493.69 ppb	6.730	1.36%
QC value within limits for Pb 220.353 Recovery = 98.74%						
S 181.975 Axial†	796.5	972.11 ug/L	17.281	972.11 ppb	17.281	1.78%
QC value within limits for S 181.975 Axial Recovery = 97.21%						
Sb 206.836†	1583.8	501.55 ug/L	5.400	501.55 ppb	5.400	1.08%
QC value within limits for Sb 206.836 Recovery = 100.31%						
Se 196.026†	887.6	511.15 ug/L	7.138	511.15 ppb	7.138	1.40%
QC value within limits for Se 196.026 Recovery = 102.23%						
Si 251.611†	82200.5	2440.7 ug/L	62.53	2440.7 ppb	62.53	2.56%
QC value within limits for Si 251.611 Recovery = 97.63%						
Sn 189.927†	3037.6	491.59 ug/L	6.714	491.59 ppb	6.714	1.37%
QC value within limits for Sn 189.927 Recovery = 98.32%						
Sr 421.552†	77136.2	509.26 ug/L	6.080	509.26 ppb	6.080	1.19%
QC value within limits for Sr 421.552 Recovery = 101.85%						
Ti 334.940†	329585.8	492.32 ug/L	12.586	492.32 ppb	12.586	2.56%
QC value within limits for Ti 334.940 Recovery = 98.46%						
Tl 190.801†	1739.5	494.13 ug/L	6.409	494.13 ppb	6.409	1.30%
QC value within limits for Tl 190.801 Recovery = 98.83%						
U 409.014†	16341.6	481.03 ug/L	10.138	481.03 ppb	10.138	2.11%
QC value within limits for U 409.014 Recovery = 96.21%						
V 292.402†	72658.0	489.86 ug/L	11.572	489.86 ppb	11.572	2.36%
QC value within limits for V 292.402 Recovery = 97.97%						
Zn 213.857†	57467.6	483.30 ug/L	11.710	483.30 ppb	11.710	2.42%
QC value within limits for Zn 213.857 Recovery = 96.66%						
SiO2†	82900.0	5273.2 ug/L	23.10	5273.2 ppb	23.10	0.44%
QC value within limits for SiO2 Recovery = 98.61%						

All analyte(s) passed QC.

Sequence No.: 54

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 23:09:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4307.6	4307.6	104 %		23:11:26
1	Y RADIAL	4866.4	4866.4	100.5 %		23:11:26
1	Al 396.153Radial†	-183.2	14.6	12.046 ug/L	12.046 ppb	23:11:26
1	Ca 317.933Radial†	12.7	-1.2	-2.2063 ug/L	-2.2063 ppb	23:11:46
1	Fe 238.204 Radial†	12.2	1.6	18.509 ug/L	18.509 ppb	23:11:46
1	K 766.490 Radial†	2868.6	123.0	23.408 ug/L	23.408 ppb	23:11:26
1	Mg 279.077 IEC†	3.5	3.4	143.25 ug/L	143.25 ppb	23:11:46
1	Na 589.592 Radial†	-1638.8	82.8	25.505 ug/L	25.505 ppb	23:11:26
1	Sr 421.552†	-2.6	-38.9	-0.2571 ug/L	-0.2571 ppb	23:11:26
1	Sc 361.383	841322.7	841322.7	94.443 %		23:12:43
1	Y 371.029	685364.7	685364.7	93.343 %		23:12:43
1	Ag 328.068†	411.2	-189.1	-0.8269 ug/L	-0.8269 ppb	23:12:43
1	As 188.979†	-24.9	2.4	0.9078 ug/L	0.9078 ppb	23:13:03
1	B 249.677†	-558.5	169.7	3.5469 ug/L	3.5469 ppb	23:13:03
1	Ba 233.527†	-33.8	-20.5	-0.1496 ug/L	-0.1496 ppb	23:13:03
1	Be 313.107†	-4078.8	84.2	0.0286 ug/L	0.0286 ppb	23:12:43
1	Cd 226.502†	-195.8	-3.2	-0.0343 ug/L	-0.0343 ppb	23:13:03
1	Co 228.616†	-103.9	-24.9	-0.4578 ug/L	-0.4578 ppb	23:13:03
1	Cr 267.716†	36.5	-23.2	-0.2413 ug/L	-0.2413 ppb	23:12:43
1	Cu 324.752†	7001.3	526.4	1.4621 ug/L	1.4621 ppb	23:12:43
1	Mn 257.610†	553.6	54.4	0.0506 ug/L	0.0506 ppb	23:13:03
1	Mo 202.031†	17.3	13.1	0.8729 ug/L	0.8729 ppb	23:13:03
1	Ni 231.604†	83.5	3.2	0.0726 ug/L	0.0726 ppb	23:13:03
1	P 214.914†	229.5	19.7	9.9414 ug/L	9.9414 ppb	23:13:03
1	Pb 220.353†	-49.7	27.1	2.9050 ug/L	2.9050 ppb	23:13:03
1	S 181.975 Axial†	48.3	2.2	2.6930 ug/L	2.6930 ppb	23:13:03
1	Sb 206.836†	34.7	-1.6	-0.4525 ug/L	-0.4525 ppb	23:13:03
1	Se 196.026†	-26.9	-2.5	-1.3029 ug/L	-1.3029 ppb	23:13:03
1	Si 251.611†	596.9	96.3	2.8550 ug/L	2.8550 ppb	23:13:03
1	Sn 189.927†	20.4	12.2	1.9664 ug/L	1.9664 ppb	23:13:03
1	Ti 334.940†	-1620.4	88.7	0.1182 ug/L	0.1182 ppb	23:12:43
1	Tl 190.801†	-27.9	15.0	4.2232 ug/L	4.2232 ppb	23:13:03
1	U 409.014†	-4655.2	184.0	5.4322 ug/L	5.4322 ppb	23:12:43
1	V 292.402†	-1695.7	-43.3	-0.2652 ug/L	-0.2652 ppb	23:12:43
1	Zn 213.857†	787.2	124.4	1.0513 ug/L	1.0513 ppb	23:13:03
1	SiO2†	628.6	103.3	6.5634 ug/L	6.5634 ppb	23:13:59
2	Sc Radial	4337.7	4337.7	105 %		23:11:51
2	Y RADIAL	4836.1	4836.1	99.89 %		23:11:51
2	Al 396.153Radial†	-185.8	13.4	11.062 ug/L	11.062 ppb	23:11:51
2	Ca 317.933Radial†	16.7	2.5	4.7006 ug/L	4.7006 ppb	23:12:11
2	Fe 238.204 Radial†	8.6	-2.0	-22.915 ug/L	-22.915 ppb	23:12:11
2	K 766.490 Radial†	2830.7	67.9	12.917 ug/L	12.917 ppb	23:11:51
2	Mg 279.077 IEC†	4.3	4.2	176.01 ug/L	176.01 ppb	23:12:11
2	Na 589.592 Radial†	-1625.9	105.9	32.635 ug/L	32.635 ppb	23:11:51
2	Sr 421.552†	30.8	-7.2	-0.0473 ug/L	-0.0473 ppb	23:11:51
2	Sc 361.383	871113.9	871113.9	97.787 %		23:13:09
2	Y 371.029	710151.9	710151.9	96.718 %		23:13:09
2	Ag 328.068†	423.9	-191.0	-0.8608 ug/L	-0.8608 ppb	23:13:09
2	As 188.979†	-30.6	-2.6	-0.9835 ug/L	-0.9835 ppb	23:13:29
2	B 249.677†	-550.9	197.7	4.1378 ug/L	4.1378 ppb	23:13:29
2	Ba 233.527†	-9.7	5.4	0.0392 ug/L	0.0392 ppb	23:13:29
2	Be 313.107†	-4091.0	219.5	0.0745 ug/L	0.0745 ppb	23:13:09
2	Cd 226.502†	-187.6	12.2	0.1333 ug/L	0.1333 ppb	23:13:29
2	Co 228.616†	-91.6	-8.5	-0.1568 ug/L	-0.1568 ppb	23:13:29
2	Cr 267.716†	104.8	45.3	0.4574 ug/L	0.4574 ppb	23:13:09
2	Cu 324.752†	7039.1	311.5	0.8525 ug/L	0.8525 ppb	23:13:09
2	Mn 257.610†	576.2	57.4	0.0481 ug/L	0.0481 ppb	23:13:29
2	Mo 202.031†	6.5	1.5	0.0947 ug/L	0.0947 ppb	23:13:29
2	Ni 231.604†	103.6	20.7	0.4623 ug/L	0.4623 ppb	23:13:29

2	P 214.914†	234.2	16.2	8.2829 ug/L	8.2829 ppb	23:13:29
2	Pb 220.353†	-69.7	8.4	0.9028 ug/L	0.9028 ppb	23:13:29
2	S 181.975 Axial†	48.8	1.1	1.2849 ug/L	1.2849 ppb	23:13:29
2	Sb 206.836†	55.6	18.5	5.6674 ug/L	5.6674 ppb	23:13:29
2	Se 196.026†	-30.0	-4.8	-2.7117 ug/L	-2.7117 ppb	23:13:29
2	Si 251.611†	587.9	65.4	1.9469 ug/L	1.9469 ppb	23:13:29
2	Sn 189.927†	17.7	8.7	1.4022 ug/L	1.4022 ppb	23:13:29
2	Ti 334.940†	-1512.7	257.4	0.3606 ug/L	0.3606 ppb	23:13:09
2	Tl 190.801†	-48.3	-4.9	-1.3756 ug/L	-1.3756 ppb	23:13:29
2	U 409.014†	-4241.3	775.8	22.918 ug/L	22.918 ppb	23:13:09
2	V 292.402†	-1674.0	40.3	0.3195 ug/L	0.3195 ppb	23:13:09
2	Zn 213.857†	807.5	116.7	0.9879 ug/L	0.9879 ppb	23:13:29
2	SiO2†	822.8	279.2	17.800 ug/L	17.800 ppb	23:14:04
3	Sc Radial	4335.7	4335.7	105 %		23:12:16
3	Y RADIAL	4867.2	4867.2	100.5 %		23:12:16
3	Al 396.153Radial†	-222.6	-21.7	-17.948 ug/L	-17.948 ppb	23:12:16
3	Ca 317.933Radial†	14.9	0.9	1.6121 ug/L	1.6121 ppb	23:12:36
3	Fe 238.204 Radial†	14.3	3.5	40.845 ug/L	40.845 ppb	23:12:36
3	K 766.490 Radial†	3005.3	235.3	44.766 ug/L	44.766 ppb	23:12:16
3	Mg 279.077 IEC†	-1.1	-1.0	-42.953 ug/L	-42.953 ppb	23:12:36
3	Na 589.592 Radial†	-1611.1	119.3	36.764 ug/L	36.764 ppb	23:12:16
3	Sr 421.552†	38.2	-0.1	-0.0005 ug/L	-0.0005 ppb	23:12:16
3	Sc 361.383	848843.7	848843.7	95.287 %		23:13:34
3	Y 371.029	693311.6	693311.6	94.425 %		23:13:34
3	Ag 328.068†	428.0	-175.3	-0.7584 ug/L	-0.7584 ppb	23:13:34
3	As 188.979†	-36.4	-9.4	-3.6074 ug/L	-3.6074 ppb	23:13:54
3	B 249.677†	-552.2	181.6	3.7913 ug/L	3.7913 ppb	23:13:54
3	Ba 233.527†	-6.6	8.4	0.0628 ug/L	0.0628 ppb	23:13:54
3	Be 313.107†	-3998.3	207.0	0.0701 ug/L	0.0701 ppb	23:13:34
3	Cd 226.502†	-199.3	-5.0	-0.0548 ug/L	-0.0548 ppb	23:13:54
3	Co 228.616†	-93.2	-12.7	-0.2330 ug/L	-0.2330 ppb	23:13:54
3	Cr 267.716†	90.5	33.2	0.3402 ug/L	0.3402 ppb	23:13:34
3	Cu 324.752†	6987.1	445.9	1.2389 ug/L	1.2389 ppb	23:13:34
3	Mn 257.610†	545.9	41.2	0.0471 ug/L	0.0471 ppb	23:13:54
3	Mo 202.031†	16.0	11.6	0.7753 ug/L	0.7753 ppb	23:13:54
3	Ni 231.604†	73.9	-7.6	-0.1698 ug/L	-0.1698 ppb	23:13:54
3	P 214.914†	232.2	20.4	10.316 ug/L	10.316 ppb	23:13:54
3	Pb 220.353†	-62.8	13.7	1.4632 ug/L	1.4632 ppb	23:13:54
3	S 181.975 Axial†	46.9	0.3	0.4170 ug/L	0.4170 ppb	23:13:54
3	Sb 206.836†	41.1	4.7	1.4266 ug/L	1.4266 ppb	23:13:54
3	Se 196.026†	-31.8	-7.5	-3.9955 ug/L	-3.9955 ppb	23:13:54
3	Si 251.611†	585.0	78.2	2.3176 ug/L	2.3176 ppb	23:13:54
3	Sn 189.927†	0.5	-8.9	-1.4407 ug/L	-1.4407 ppb	23:13:54
3	Ti 334.940†	-1536.9	191.5	0.2871 ug/L	0.2871 ppb	23:13:34
3	Tl 190.801†	-54.7	-12.9	-3.6339 ug/L	-3.6339 ppb	23:13:54
3	U 409.014†	-4676.4	205.4	6.0604 ug/L	6.0604 ppb	23:13:34
3	V 292.402†	-1659.0	11.1	0.0894 ug/L	0.0894 ppb	23:13:34
3	Zn 213.857†	783.4	113.0	0.9546 ug/L	0.9546 ppb	23:13:54
3	SiO2†	586.4	53.1	3.3662 ug/L	3.3662 ppb	23:14:09

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	853760.1	95.839 %	1.7391			1.81%
Sc Radial	4327.0	105 %	0.4			0.39%
Y 371.029	696276.1	94.829 %	1.7238			1.82%
Y RADIAL	4856.5	100.3 %	0.37			0.37%
Ag 328.068†	-185.1	-0.8154 ug/L	0.05214	-0.8154 ppb	0.05214	6.39%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	2.1	1.7200 ug/L	17.04002	1.7200 ppb	17.04002	990.67%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-3.2	-1.2277 ug/L	2.26751	-1.2277 ppb	2.26751	184.70%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	183.0	3.8253 ug/L	0.29692	3.8253 ppb	0.29692	7.76%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-2.2	-0.0158 ug/L	0.11640	-0.0158 ppb	0.11640	734.83%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	170.2	0.0577 ug/L	0.02535	0.0577 ppb	0.02535	43.91%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.7	1.3688 ug/L	3.45988	1.3688 ppb	3.45988	252.76%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	1.3	0.0147 ug/L	0.10320	0.0147 ppb	0.10320	701.32%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-15.4	-0.2825 ug/L	0.15648	-0.2825 ppb	0.15648	55.39%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	18.4	0.1854 ug/L	0.37421	0.1854 ppb	0.37421	201.81%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	427.9	1.1845 ug/L	0.30840	1.1845 ppb	0.30840	26.04%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	1.0	12.146 ug/L	32.3524	12.146 ppb	32.3524	266.36%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	142.1	27.030 ug/L	16.2306	27.030 ppb	16.2306	60.05%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.2	92.105 ug/L	118.1052	92.105 ppb	118.1052	128.23%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	51.0	0.0486 ug/L	0.00179	0.0486 ppb	0.00179	3.69%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	8.7	0.5810 ug/L	0.42391	0.5810 ppb	0.42391	72.97%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	102.7	31.634 ug/L	5.6957	31.634 ppb	5.6957	18.00%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	5.5	0.1217 ug/L	0.31888	0.1217 ppb	0.31888	262.02%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	18.8	9.5135 ug/L	1.08204	9.5135 ppb	1.08204	11.37%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	16.4	1.7570 ug/L	1.03292	1.7570 ppb	1.03292	58.79%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	1.2	1.4649 ug/L	1.14861	1.4649 ppb	1.14861	78.41%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.2	2.2138 ug/L	3.13500	2.2138 ppb	3.13500	141.61%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-4.9	-2.6700 ug/L	1.34675	-2.6700 ppb	1.34675	50.44%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	80.0	2.3732 ug/L	0.45662	2.3732 ppb	0.45662	19.24%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	4.0	0.6426 ug/L	1.82618	0.6426 ppb	1.82618	284.17%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-15.4	-0.1016 ug/L	0.13663	-0.1016 ppb	0.13663	134.47%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	179.2	0.2553 ug/L	0.12430	0.2553 ppb	0.12430	48.69%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-0.9	-0.2621 ug/L	4.04515	-0.2621 ppb	4.04515	>999.9%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	388.4	11.470 ug/L	9.9191	11.470 ppb	9.9191	86.48%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	2.7	0.0479 ug/L	0.29454	0.0479 ppb	0.29454	615.33%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	118.0	0.9979 ug/L	0.04912	0.9979 ppb	0.04912	4.92%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	145.2	9.2434 ug/L	7.58115	9.2434 ppb	7.58115	82.02%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 62

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/2/2010 00:05:23

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4386.0	4386.0	106 %		00:07:15
1	Y RADIAL	4884.6	4884.6	100.9 %		00:07:15
1	Al 396.153Radial†	6102.9	5930.5	4872.5 ug/L	4872.5 ppb	00:07:15
1	Ca 317.933Radial†	2843.0	2660.8	4925.6 ug/L	4925.6 ppb	00:07:35
1	Fe 238.204 Radial†	466.9	429.0	5000.8 ug/L	5000.8 ppb	00:07:35
1	K 766.490 Radial†	30180.1	25763.2	4897.5 ug/L	4897.5 ppb	00:07:15
1	Mg 279.077 IEC†	133.0	125.1	5272.2 ug/L	5272.2 ppb	00:07:35
1	Na 589.592 Radial†	33281.2	32956.8	10156 ug/L	10156 ppb	00:07:15
1	Sr 421.552†	80530.3	75710.8	499.85 ug/L	499.85 ppb	00:07:15
1	Sc 361.383	859975.9	859975.9	96.537 %		00:08:34
1	Y 371.029	691473.4	691473.4	94.175 %		00:08:34
1	Ag 328.068†	108820.3	112099.5	493.56 ug/L	493.56 ppb	00:08:34
1	As 188.979†	1214.5	1286.8	498.52 ug/L	498.52 ppb	00:08:54
1	B 249.677†	21361.2	22888.6	476.34 ug/L	476.34 ppb	00:08:34
1	Ba 233.527†	65096.0	67446.5	494.21 ug/L	494.21 ppb	00:08:34
1	Be 313.107†	1401295.2	1455966.7	489.63 ug/L	489.63 ppb	00:08:34
1	Cd 226.502†	46384.8	48252.9	498.15 ug/L	498.15 ppb	00:08:34
1	Co 228.616†	25857.7	26870.4	495.38 ug/L	495.38 ppb	00:08:54
1	Cr 267.716†	46352.6	47953.6	494.26 ug/L	494.26 ppb	00:08:34
1	Cu 324.752†	177205.0	176675.0	491.40 ug/L	491.40 ppb	00:08:34
1	Mn 257.610†	477731.0	494336.8	496.27 ug/L	496.27 ppb	00:08:34
1	Mo 202.031†	7246.6	7501.4	498.98 ug/L	498.98 ppb	00:08:54
1	Ni 231.604†	21485.4	22170.9	493.72 ug/L	493.72 ppb	00:08:54
1	P 214.914†	4883.2	4835.1	2414.7 ug/L	2414.7 ppb	00:08:54
1	Pb 220.353†	4405.5	4643.1	499.77 ug/L	499.77 ppb	00:08:54
1	S 181.975 Axial†	813.2	793.4	968.35 ug/L	968.35 ppb	00:08:54
1	Sb 206.836†	1595.8	1614.6	511.28 ug/L	511.28 ppb	00:08:54
1	Se 196.026†	853.1	909.7	522.56 ug/L	522.56 ppb	00:08:54
1	Si 251.611†	80900.1	83266.4	2472.4 ug/L	2472.4 ppb	00:08:34
1	Sn 189.927†	2991.4	3089.3	499.90 ug/L	499.90 ppb	00:08:54
1	Ti 334.940†	321487.1	334824.1	500.12 ug/L	500.12 ppb	00:08:34
1	Tl 190.801†	1658.3	1762.2	500.59 ug/L	500.59 ppb	00:08:54
1	U 409.014†	10884.0	16387.6	482.39 ug/L	482.39 ppb	00:08:34
1	V 292.402†	69384.2	73625.4	496.45 ug/L	496.45 ppb	00:08:34
1	Zn 213.857†	56995.5	58330.9	490.60 ug/L	490.60 ppb	00:08:34
1	SiO2†	82443.0	84838.2	5396.5 ug/L	5396.5 ppb	00:09:54
2	Sc Radial	4261.0	4261.0	103 %		00:07:40
2	Y RADIAL	4774.3	4774.3	98.61 %		00:07:40
2	Al 396.153Radial†	5999.6	5998.9	4929.1 ug/L	4929.1 ppb	00:07:40
2	Ca 317.933Radial†	2831.3	2727.9	5049.7 ug/L	5049.7 ppb	00:08:00
2	Fe 238.204 Radial†	463.6	438.8	5113.6 ug/L	5113.6 ppb	00:08:00
2	K 766.490 Radial†	29414.3	25854.4	4914.8 ug/L	4914.8 ppb	00:07:40
2	Mg 279.077 IEC†	129.8	125.7	5296.8 ug/L	5296.8 ppb	00:08:00
2	Na 589.592 Radial†	32602.8	33218.0	10236 ug/L	10236 ppb	00:07:40
2	Sr 421.552†	78525.5	75991.2	501.70 ug/L	501.70 ppb	00:07:40
2	Sc 361.383	859379.7	859379.7	96.470 %		00:09:01
2	Y 371.029	689121.8	689121.8	93.854 %		00:09:01
2	Ag 328.068†	108960.5	112323.0	494.57 ug/L	494.57 ppb	00:09:01
2	As 188.979†	1207.7	1280.7	496.20 ug/L	496.20 ppb	00:09:21
2	B 249.677†	21352.6	22895.0	476.46 ug/L	476.46 ppb	00:09:01
2	Ba 233.527†	65165.7	67565.5	495.08 ug/L	495.08 ppb	00:09:01
2	Be 313.107†	1398851.5	1454440.7	489.12 ug/L	489.12 ppb	00:09:01
2	Cd 226.502†	46512.1	48418.2	499.85 ug/L	499.85 ppb	00:09:01
2	Co 228.616†	25783.5	26812.1	494.30 ug/L	494.30 ppb	00:09:21
2	Cr 267.716†	46420.0	48056.7	495.32 ug/L	495.32 ppb	00:09:01
2	Cu 324.752†	177261.8	176861.3	491.92 ug/L	491.92 ppb	00:09:01
2	Mn 257.610†	479170.4	496172.2	498.12 ug/L	498.12 ppb	00:09:01
2	Mo 202.031†	7208.3	7466.8	496.70 ug/L	496.70 ppb	00:09:21
2	Ni 231.604†	21434.2	22133.4	492.89 ug/L	492.89 ppb	00:09:21



2	P 214.914†	4857.0	4811.4	2402.2 ug/L	2402.2 ppb	00:09:21
2	Pb 220.353†	4413.6	4654.7	501.01 ug/L	501.01 ppb	00:09:21
2	S 181.975 Axial†	824.7	806.0	983.68 ug/L	983.68 ppb	00:09:21
2	Sb 206.836†	1590.4	1610.2	509.82 ug/L	509.82 ppb	00:09:21
2	Se 196.026†	844.2	901.0	518.12 ug/L	518.12 ppb	00:09:21
2	Si 251.611†	81010.0	83438.5	2477.5 ug/L	2477.5 ppb	00:09:01
2	Sn 189.927†	2969.5	3068.7	496.61 ug/L	496.61 ppb	00:09:21
2	Ti 334.940†	321952.1	335537.2	501.20 ug/L	501.20 ppb	00:09:01
2	Tl 190.801†	1665.9	1771.3	503.18 ug/L	503.18 ppb	00:09:21
2	U 409.014†	10955.4	16469.3	484.79 ug/L	484.79 ppb	00:09:01
2	V 292.402†	69426.3	73718.9	497.02 ug/L	497.02 ppb	00:09:01
2	Zn 213.857†	57133.3	58514.8	492.15 ug/L	492.15 ppb	00:09:01
2	SiO2†	80844.6	83240.6	5294.7 ug/L	5294.7 ppb	00:09:59
3	Sc Radial	4325.9	4325.9	105 %		00:08:05
3	Y RADIAL	4802.3	4802.3	99.19 %		00:08:05
3	Al 396.153Radial†	6023.7	5934.7	4876.0 ug/L	4876.0 ppb	00:08:05
3	Ca 317.933Radial†	2838.9	2694.0	4987.0 ug/L	4987.0 ppb	00:08:25
3	Fe 238.204 Radial†	468.1	436.3	5085.5 ug/L	5085.5 ppb	00:08:25
3	K 766.490 Radial†	29618.1	25621.5	4870.6 ug/L	4870.6 ppb	00:08:05
3	Mg 279.077 IEC†	129.0	123.1	5186.8 ug/L	5186.8 ppb	00:08:25
3	Na 589.592 Radial†	32622.1	32762.8	10096 ug/L	10096 ppb	00:08:05
3	Sr 421.552†	79107.3	75405.5	497.84 ug/L	497.84 ppb	00:08:05
3	Sc 361.383	855748.0	855748.0	96.062 %		00:09:29
3	Y 371.029	687112.8	687112.8	93.581 %		00:09:29
3	Ag 328.068†	108506.6	112329.8	494.59 ug/L	494.59 ppb	00:09:29
3	As 188.979†	1202.0	1280.1	495.95 ug/L	495.95 ppb	00:09:49
3	B 249.677†	21342.6	22978.5	478.20 ug/L	478.20 ppb	00:09:29
3	Ba 233.527†	64939.2	67616.4	495.45 ug/L	495.45 ppb	00:09:29
3	Be 313.107†	1391647.8	1453095.6	488.67 ug/L	488.67 ppb	00:09:29
3	Cd 226.502†	46223.7	48322.5	498.87 ug/L	498.87 ppb	00:09:29
3	Co 228.616†	25785.0	26927.1	496.43 ug/L	496.43 ppb	00:09:49
3	Cr 267.716†	46146.6	47976.3	494.49 ug/L	494.49 ppb	00:09:29
3	Cu 324.752†	176500.9	176849.0	491.89 ug/L	491.89 ppb	00:09:29
3	Mn 257.610†	476260.9	495251.4	497.19 ug/L	497.19 ppb	00:09:29
3	Mo 202.031†	7214.4	7504.9	499.23 ug/L	499.23 ppb	00:09:49
3	Ni 231.604†	21490.3	22286.0	496.29 ug/L	496.29 ppb	00:09:49
3	P 214.914†	4846.5	4821.9	2407.7 ug/L	2407.7 ppb	00:09:49
3	Pb 220.353†	4391.6	4651.2	500.64 ug/L	500.64 ppb	00:09:49
3	S 181.975 Axial†	813.7	798.2	974.14 ug/L	974.14 ppb	00:09:49
3	Sb 206.836†	1596.7	1623.8	514.04 ug/L	514.04 ppb	00:09:49
3	Se 196.026†	857.2	918.3	527.62 ug/L	527.62 ppb	00:09:49
3	Si 251.611†	80518.0	83282.7	2472.9 ug/L	2472.9 ppb	00:09:29
3	Sn 189.927†	2960.1	3072.0	497.12 ug/L	497.12 ppb	00:09:49
3	Ti 334.940†	320257.5	335189.5	500.68 ug/L	500.68 ppb	00:09:29
3	Tl 190.801†	1657.4	1769.8	502.72 ug/L	502.72 ppb	00:09:49
3	U 409.014†	10992.5	16556.1	487.36 ug/L	487.36 ppb	00:09:29
3	V 292.402†	69083.7	73667.7	496.73 ug/L	496.73 ppb	00:09:29
3	Zn 213.857†	56835.0	58455.6	491.63 ug/L	491.63 ppb	00:09:29
3	SiO2†	81224.2	83991.4	5342.5 ug/L	5342.5 ppb	00:10:05

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	858367.9	96.356 %	0.2569			0.27%
Sc Radial	4324.3	105 %	1.5			1.45%
Y 371.029	689236.0	93.870 %	0.2972			0.32%
Y RADIAL	4820.4	99.57 %	1.184			1.19%
Ag 328.068†	112250.8	494.24 ug/L	0.590	494.24 ppb	0.590	0.12%
QC value within limits for Ag 328.068 Recovery = 98.85%						
Al 396.153Radial†	5954.7	4892.5 ug/L	31.71	4892.5 ppb	31.71	0.65%
QC value within limits for Al 396.153Radial Recovery = 97.85%						
As 188.979†	1282.5	496.89 ug/L	1.415	496.89 ppb	1.415	0.28%
QC value within limits for As 188.979 Recovery = 99.38%						
B 249.677†	22920.7	477.00 ug/L	1.043	477.00 ppb	1.043	0.22%
QC value within limits for B 249.677 Recovery = 95.40%						
Ba 233.527†	67542.8	494.91 ug/L	0.639	494.91 ppb	0.639	0.13%
QC value within limits for Ba 233.527 Recovery = 98.98%						
Be 313.107†	1454501.0	489.14 ug/L	0.481	489.14 ppb	0.481	0.10%
QC value within limits for Be 313.107 Recovery = 97.83%						
Ca 317.933Radial†	2694.2	4987.4 ug/L	62.04	4987.4 ppb	62.04	1.24%

QC value within limits for Ca 317.933 Radial Recovery = 99.75%							
Cd	226.502†	48331.2	498.96 ug/L	0.851	498.96 ppb	0.851	0.17%
QC value within limits for Cd 226.502 Recovery = 99.79%							
Co	228.616†	26869.9	495.37 ug/L	1.064	495.37 ppb	1.064	0.21%
QC value within limits for Co 228.616 Recovery = 99.07%							
Cr	267.716†	47995.5	494.69 ug/L	0.559	494.69 ppb	0.559	0.11%
QC value within limits for Cr 267.716 Recovery = 98.94%							
Cu	324.752†	176795.1	491.74 ug/L	0.292	491.74 ppb	0.292	0.06%
QC value within limits for Cu 324.752 Recovery = 98.35%							
Fe	238.204 Radial†	434.7	5066.6 ug/L	58.70	5066.6 ppb	58.70	1.16%
QC value within limits for Fe 238.204 Radial Recovery = 101.33%							
K	766.490 Radial†	25746.4	4894.3 ug/L	22.30	4894.3 ppb	22.30	0.46%
QC value within limits for K 766.490 Radial Recovery = 97.89%							
Mg	279.077 IEC†	124.6	5251.9 ug/L	57.73	5251.9 ppb	57.73	1.10%
QC value within limits for Mg 279.077 IEC Recovery = 105.04%							
Mn	257.610†	495253.5	497.19 ug/L	0.926	497.19 ppb	0.926	0.19%
QC value within limits for Mn 257.610 Recovery = 99.44%							
Mo	202.031†	7491.0	498.30 ug/L	1.395	498.30 ppb	1.395	0.28%
QC value within limits for Mo 202.031 Recovery = 99.66%							
Na	589.592 Radial†	32979.2	10163 ug/L	70.4	10163 ppb	70.4	0.69%
QC value within limits for Na 589.592 Radial Recovery = 101.63%							
Ni	231.604†	22196.8	494.30 ug/L	1.772	494.30 ppb	1.772	0.36%
QC value within limits for Ni 231.604 Recovery = 98.86%							
P	214.914†	4822.8	2408.2 ug/L	6.27	2408.2 ppb	6.27	0.26%
QC value within limits for P 214.914 Recovery = 96.33%							
Pb	220.353†	4649.7	500.47 ug/L	0.635	500.47 ppb	0.635	0.13%
QC value within limits for Pb 220.353 Recovery = 100.09%							
S	181.975 Axial†	799.2	975.39 ug/L	7.737	975.39 ppb	7.737	0.79%
QC value within limits for S 181.975 Axial Recovery = 97.54%							
Sb	206.836†	1616.2	511.71 ug/L	2.142	511.71 ppb	2.142	0.42%
QC value within limits for Sb 206.836 Recovery = 102.34%							
Se	196.026†	909.7	522.77 ug/L	4.752	522.77 ppb	4.752	0.91%
QC value within limits for Se 196.026 Recovery = 104.55%							
Si	251.611†	83329.2	2474.2 ug/L	2.84	2474.2 ppb	2.84	0.11%
QC value within limits for Si 251.611 Recovery = 98.97%							
Sn	189.927†	3076.7	497.88 ug/L	1.773	497.88 ppb	1.773	0.36%
QC value within limits for Sn 189.927 Recovery = 99.58%							
Sr	421.552†	75702.5	499.80 ug/L	1.934	499.80 ppb	1.934	0.39%
QC value within limits for Sr 421.552 Recovery = 99.96%							
Ti	334.940†	335183.6	500.67 ug/L	0.539	500.67 ppb	0.539	0.11%
QC value within limits for Ti 334.940 Recovery = 100.13%							
Tl	190.801†	1767.8	502.16 ug/L	1.382	502.16 ppb	1.382	0.28%
QC value within limits for Tl 190.801 Recovery = 100.43%							
U	409.014†	16471.0	484.85 ug/L	2.485	484.85 ppb	2.485	0.51%
QC value within limits for U 409.014 Recovery = 96.97%							
V	292.402†	73670.7	496.73 ug/L	0.288	496.73 ppb	0.288	0.06%
QC value within limits for V 292.402 Recovery = 99.35%							
Zn	213.857†	58433.8	491.46 ug/L	0.791	491.46 ppb	0.791	0.16%
QC value within limits for Zn 213.857 Recovery = 98.29%							
SiO2†		84023.4	5344.6 ug/L	50.94	5344.6 ppb	50.94	0.95%
QC value within limits for SiO2 Recovery = 99.95%							
All analyte(s) passed QC.							

Sequence No.: 63

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/2/2010 00:12:14

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4368.4	4368.4	106 %		00:14:06
1	Y RADIAL	4887.6	4887.6	101.0 %		00:14:06
1	Al 396.153Radial†	-200.8	0.5	0.4061 ug/L	0.4061 ppb	00:14:06
1	Ca 317.933Radial†	12.8	-1.2	-2.2434 ug/L	-2.2434 ppb	00:14:26
1	Fe 238.204 Radial†	14.0	3.1	35.857 ug/L	35.857 ppb	00:14:26
1	K 766.490 Radial†	2773.4	-5.2	-0.9989 ug/L	-0.9989 ppb	00:14:06
1	Mg 279.077 IEC†	0.6	0.6	24.614 ug/L	24.614 ppb	00:14:26
1	Na 589.592 Radial†	-1596.5	144.5	44.536 ug/L	44.536 ppb	00:14:06
1	Sr 421.552†	44.3	5.4	0.0358 ug/L	0.0358 ppb	00:14:06
1	Sc 361.383	864631.8	864631.8	97.060 %		00:15:23
1	Y 371.029	703725.6	703725.6	95.843 %		00:15:23
1	Ag 328.068†	528.9	-79.6	-0.3466 ug/L	-0.3466 ppb	00:15:23
1	As 188.979†	-28.2	-0.3	-0.1125 ug/L	-0.1125 ppb	00:15:43
1	B 249.677†	-613.5	129.0	2.6929 ug/L	2.6929 ppb	00:15:43
1	Ba 233.527†	-7.1	8.0	0.0602 ug/L	0.0602 ppb	00:15:43
1	Be 313.107†	-4096.1	182.9	0.0620 ug/L	0.0620 ppb	00:15:23
1	Cd 226.502†	-192.1	6.2	0.0626 ug/L	0.0626 ppb	00:15:43
1	Co 228.616†	-96.7	-14.5	-0.2685 ug/L	-0.2685 ppb	00:15:43
1	Cr 267.716†	116.0	57.6	0.5889 ug/L	0.5889 ppb	00:15:23
1	Cu 324.752†	7141.7	471.3	1.3051 ug/L	1.3051 ppb	00:15:23
1	Mn 257.610†	790.3	282.4	0.2859 ug/L	0.2859 ppb	00:15:23
1	Mo 202.031†	0.8	-4.4	-0.2916 ug/L	-0.2916 ppb	00:15:43
1	Ni 231.604†	87.6	5.1	0.1146 ug/L	0.1146 ppb	00:15:43
1	P 214.914†	234.6	18.4	9.2728 ug/L	9.2728 ppb	00:15:43
1	Pb 220.353†	-65.8	11.8	1.2658 ug/L	1.2658 ppb	00:15:43
1	S 181.975 Axial†	52.2	4.9	5.9929 ug/L	5.9929 ppb	00:15:43
1	Sb 206.836†	36.3	-1.0	-0.2978 ug/L	-0.2978 ppb	00:15:43
1	Se 196.026†	-30.1	-5.1	-2.6934 ug/L	-2.6934 ppb	00:15:43
1	Si 251.611†	562.6	43.9	1.3094 ug/L	1.3094 ppb	00:15:43
1	Sn 189.927†	14.7	5.7	0.9238 ug/L	0.9238 ppb	00:15:43
1	Ti 334.940†	-1570.3	186.5	0.2702 ug/L	0.2702 ppb	00:15:23
1	Tl 190.801†	-41.6	1.6	0.4525 ug/L	0.4525 ppb	00:15:43
1	U 409.014†	-4513.3	463.0	13.672 ug/L	13.672 ppb	00:15:23
1	V 292.402†	-1667.2	34.5	0.2464 ug/L	0.2464 ppb	00:15:23
1	Zn 213.857†	784.3	98.9	0.8333 ug/L	0.8333 ppb	00:15:43
1	SiO2†	570.2	25.2	1.6165 ug/L	1.6165 ppb	00:16:39
2	Sc Radial	4408.0	4408.0	107 %		00:14:31
2	Y RADIAL	4949.7	4949.7	102.2 %		00:14:31
2	Al 396.153Radial†	-199.6	3.3	2.6955 ug/L	2.6955 ppb	00:14:31
2	Ca 317.933Radial†	15.5	1.2	2.1593 ug/L	2.1593 ppb	00:14:51
2	Fe 238.204 Radial†	12.8	1.9	21.894 ug/L	21.894 ppb	00:14:51
2	K 766.490 Radial†	2909.0	98.3	18.686 ug/L	18.686 ppb	00:14:31
2	Mg 279.077 IEC†	1.7	1.6	68.854 ug/L	68.854 ppb	00:14:51
2	Na 589.592 Radial†	-1562.6	189.8	58.477 ug/L	58.477 ppb	00:14:31
2	Sr 421.552†	43.6	4.3	0.0285 ug/L	0.0285 ppb	00:14:31
2	Sc 361.383	858077.8	858077.8	96.324 %		00:15:49
2	Y 371.029	699300.8	699300.8	95.241 %		00:15:49
2	Ag 328.068†	377.2	-232.9	-1.0196 ug/L	-1.0196 ppb	00:15:49
2	As 188.979†	-28.2	-0.5	-0.1904 ug/L	-0.1904 ppb	00:16:09
2	B 249.677†	-595.8	142.6	2.9784 ug/L	2.9784 ppb	00:16:09
2	Ba 233.527†	-37.6	-23.7	-0.1723 ug/L	-0.1723 ppb	00:16:09
2	Be 313.107†	-4076.1	171.4	0.0577 ug/L	0.0577 ppb	00:15:49
2	Cd 226.502†	-193.5	3.3	0.0332 ug/L	0.0332 ppb	00:16:09
2	Co 228.616†	-103.7	-22.5	-0.4157 ug/L	-0.4157 ppb	00:16:09
2	Cr 267.716†	119.9	62.6	0.6413 ug/L	0.6413 ppb	00:15:49
2	Cu 324.752†	6919.5	296.7	0.8205 ug/L	0.8205 ppb	00:15:49
2	Mn 257.610†	647.2	140.1	0.1399 ug/L	0.1399 ppb	00:15:49
2	Mo 202.031†	7.5	2.6	0.1718 ug/L	0.1718 ppb	00:16:09
2	Ni 231.604†	58.6	-24.4	-0.5427 ug/L	-0.5427 ppb	00:16:09

2	P 214.914†	231.4	17.0	8.6731 ug/L	8.6731 ppb	00:16:09
2	Pb 220.353†	-67.5	9.6	1.0259 ug/L	1.0259 ppb	00:16:09
2	S 181.975 Axial†	48.7	1.6	2.0097 ug/L	2.0097 ppb	00:16:09
2	Sb 206.836†	56.2	19.9	6.1184 ug/L	6.1184 ppb	00:16:09
2	Se 196.026†	-25.3	-0.3	-0.1114 ug/L	-0.1114 ppb	00:16:09
2	Si 251.611†	554.2	39.6	1.1779 ug/L	1.1779 ppb	00:16:09
2	Sn 189.927†	22.6	14.1	2.2742 ug/L	2.2742 ppb	00:16:09
2	Ti 334.940†	-1671.4	69.1	0.0930 ug/L	0.0930 ppb	00:15:49
2	Tl 190.801†	-39.1	3.8	1.0872 ug/L	1.0872 ppb	00:16:09
2	U 409.014†	-4574.2	364.3	10.757 ug/L	10.757 ppb	00:15:49
2	V 292.402†	-1651.3	37.8	0.2725 ug/L	0.2725 ppb	00:15:49
2	Zn 213.857†	771.8	92.1	0.7818 ug/L	0.7818 ppb	00:16:09
2	SiO2†	586.4	46.6	2.9648 ug/L	2.9648 ppb	00:16:45
3	Sc Radial	4355.3	4355.3	106 %		00:14:57
3	Y RADIAL	4897.4	4897.4	101.2 %		00:14:57
3	Al 396.153Radial†	-207.5	-6.5	-5.3591 ug/L	-5.3591 ppb	00:14:57
3	Ca 317.933Radial†	19.5	5.1	9.5319 ug/L	9.5319 ppb	00:15:17
3	Fe 238.204 Radial†	13.5	2.6	30.594 ug/L	30.594 ppb	00:15:17
3	K 766.490 Radial†	2952.7	172.6	32.829 ug/L	32.829 ppb	00:14:57
3	Mg 279.077 IEC†	1.8	1.7	73.134 ug/L	73.134 ppb	00:15:17
3	Na 589.592 Radial†	-1578.8	156.8	48.318 ug/L	48.318 ppb	00:14:57
3	Sr 421.552†	23.5	-14.2	-0.0938 ug/L	-0.0938 ppb	00:14:57
3	Sc 361.383	848400.1	848400.1	95.237 %		00:16:14
3	Y 371.029	691540.6	691540.6	94.184 %		00:16:14
3	Ag 328.068†	429.1	-174.0	-0.7655 ug/L	-0.7655 ppb	00:16:14
3	As 188.979†	-30.9	-3.7	-1.4143 ug/L	-1.4143 ppb	00:16:34
3	B 249.677†	-592.5	138.9	2.9010 ug/L	2.9010 ppb	00:16:34
3	Ba 233.527†	2.4	17.8	0.1319 ug/L	0.1319 ppb	00:16:34
3	Be 313.107†	-4085.9	112.8	0.0383 ug/L	0.0383 ppb	00:16:14
3	Cd 226.502†	-192.6	1.9	0.0196 ug/L	0.0196 ppb	00:16:34
3	Co 228.616†	-95.5	-15.1	-0.2800 ug/L	-0.2800 ppb	00:16:34
3	Cr 267.716†	112.0	55.8	0.5678 ug/L	0.5678 ppb	00:16:14
3	Cu 324.752†	6849.8	305.5	0.8412 ug/L	0.8412 ppb	00:16:14
3	Mn 257.610†	529.5	24.2	0.0243 ug/L	0.0243 ppb	00:16:14
3	Mo 202.031†	6.4	1.5	0.0989 ug/L	0.0989 ppb	00:16:34
3	Ni 231.604†	71.3	-10.3	-0.2298 ug/L	-0.2298 ppb	00:16:34
3	P 214.914†	230.1	18.3	9.2895 ug/L	9.2895 ppb	00:16:34
3	Pb 220.353†	-60.8	15.8	1.6886 ug/L	1.6886 ppb	00:16:34
3	S 181.975 Axial†	52.5	6.3	7.6715 ug/L	7.6715 ppb	00:16:34
3	Sb 206.836†	41.5	5.1	1.5487 ug/L	1.5487 ppb	00:16:34
3	Se 196.026†	-35.8	-11.6	-6.3537 ug/L	-6.3537 ppb	00:16:34
3	Si 251.611†	545.1	36.7	1.0905 ug/L	1.0905 ppb	00:16:34
3	Sn 189.927†	0.6	-8.8	-1.4124 ug/L	-1.4124 ppb	00:16:34
3	Ti 334.940†	-1582.7	142.5	0.1999 ug/L	0.1999 ppb	00:16:14
3	Tl 190.801†	-43.7	-1.5	-0.4137 ug/L	-0.4137 ppb	00:16:34
3	U 409.014†	-4275.9	623.4	18.408 ug/L	18.408 ppb	00:16:14
3	V 292.402†	-1633.5	37.0	0.2790 ug/L	0.2790 ppb	00:16:14
3	Zn 213.857†	780.1	110.0	0.9309 ug/L	0.9309 ppb	00:16:34
3	SiO2†	645.8	115.8	7.3844 ug/L	7.3844 ppb	00:16:50

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	857036.6	96.207 %	0.9167			0.95%
Sc Radial	4377.3	106 %	0.7			0.63%
Y 371.029	698189.0	95.089 %	0.8401			0.88%
Y RADIAL	4911.5	101.4 %	0.69			0.68%
Ag 328.068†	-162.1	-0.7106 ug/L	0.33981	-0.7106 ppb	0.33981	47.82%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-0.9	-0.7525 ug/L	4.15040	-0.7525 ppb	4.15040	551.54%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.5	-0.5724 ug/L	0.73015	-0.5724 ppb	0.73015	127.55%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	136.8	2.8574 ug/L	0.14762	2.8574 ppb	0.14762	5.17%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.7	0.0066 ug/L	0.15900	0.0066 ppb	0.15900	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	155.7	0.0527 ug/L	0.01260	0.0527 ppb	0.01260	23.92%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.7	3.1493 ug/L	5.94971	3.1493 ppb	5.94971	188.92%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	3.8	0.0385 ug/L	0.02199	0.0385 ppb	0.02199	57.17%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-17.4	-0.3214 ug/L	0.08185	-0.3214 ppb	0.08185	25.47%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	58.7	0.5993 ug/L	0.03783	0.5993 ppb	0.03783	6.31%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	357.8	0.9889 ug/L	0.27401	0.9889 ppb	0.27401	27.71%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	2.5	29.448 ug/L	7.0513	29.448 ppb	7.0513	23.94%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	88.6	16.839 ug/L	16.9895	16.839 ppb	16.9895	100.90%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.3	55.534 ug/L	26.8630	55.534 ppb	26.8630	48.37%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	148.9	0.1500 ug/L	0.13111	0.1500 ppb	0.13111	87.39%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-0.1	-0.0070 ug/L	0.24921	-0.0070 ppb	0.24921	>999.9%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	163.7	50.444 ug/L	7.2096	50.444 ppb	7.2096	14.29%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-9.9	-0.2193 ug/L	0.32880	-0.2193 ppb	0.32880	149.93%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	17.9	9.0785 ug/L	0.35113	9.0785 ppb	0.35113	3.87%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	12.4	1.3267 ug/L	0.33553	1.3267 ppb	0.33553	25.29%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	4.3	5.2247 ug/L	2.90803	5.2247 ppb	2.90803	55.66%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	8.0	2.4564 ug/L	3.30304	2.4564 ppb	3.30304	134.47%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-5.7	-3.0529 ug/L	3.13664	-3.0529 ppb	3.13664	102.74%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	40.1	1.1926 ug/L	0.11017	1.1926 ppb	0.11017	9.24%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	3.7	0.5952 ug/L	1.86514	0.5952 ppb	1.86514	313.35%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-1.5	-0.0098 ug/L	0.07280	-0.0098 ppb	0.07280	741.13%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	132.7	0.1877 ug/L	0.08921	0.1877 ppb	0.08921	47.52%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.3	0.3753 ug/L	0.75341	0.3753 ppb	0.75341	200.74%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	483.6	14.279 ug/L	3.8619	14.279 ppb	3.8619	27.05%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	36.4	0.2660 ug/L	0.01724	0.2660 ppb	0.01724	6.48%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	100.4	0.8487 ug/L	0.07570	0.8487 ppb	0.07570	8.92%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	62.5	3.9886 ug/L	3.01715	3.9886 ppb	3.01715	75.64%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 64

Sample ID: 1202018099|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 87

Date Collected: 2/2/2010 00:18:59

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018099|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4518.9	4518.9	110 %		00:20:53
1	Y RADIAL	5076.7	5076.7	104.9 %		00:20:53
1	Al 396.153Radial†	-179.2	26.5	21.844 ug/L	21.844 ppb	00:20:53
1	Ca 317.933Radial†	32.2	16.1	29.729 ug/L	29.729 ppb	00:21:13
1	Fe 238.204 Radial†	43.0	29.1	338.24 ug/L	338.24 ppb	00:21:13
1	K 766.490 Radial†	2970.9	88.0	16.703 ug/L	16.703 ppb	00:20:53
1	Mg 279.077 IEC†	1.4	1.3	55.454 ug/L	55.454 ppb	00:21:13
1	Na 589.592 Radial†	-1470.8	309.5	95.379 ug/L	95.379 ppb	00:20:53
1	Sr 421.552†	35.7	-3.9	-0.0257 ug/L	-0.0257 ppb	00:20:53
1	Sc 361.383	850902.1	850902.1	95.518 %		00:22:10
1	Y 371.029	693025.2	693025.2	94.386 %		00:22:10
1	Ag 328.068†	305.5	-304.7	-1.2410 ug/L	-1.2410 ppb	00:22:10
1	As 188.979†	-29.0	-1.6	-0.5443 ug/L	-0.5443 ppb	00:22:30
1	B 249.677†	-606.3	126.4	2.5877 ug/L	2.5877 ppb	00:22:30
1	Ba 233.527†	5.6	21.1	0.1654 ug/L	0.1654 ppb	00:22:30
1	Be 313.107†	-4095.4	115.5	0.0411 ug/L	0.0411 ppb	00:22:10
1	Cd 226.502†	-186.6	8.7	0.0614 ug/L	0.0614 ppb	00:22:30
1	Co 228.616†	-83.8	-2.6	-0.0532 ug/L	-0.0532 ppb	00:22:30
1	Cr 267.716†	119.0	62.7	0.6438 ug/L	0.6438 ppb	00:22:10
1	Cu 324.752†	7186.9	637.3	1.7780 ug/L	1.7780 ppb	00:22:10
1	Mn 257.610†	3373.5	3000.0	3.0412 ug/L	3.0412 ppb	00:22:10
1	Mo 202.031†	17.7	13.3	0.9077 ug/L	0.9077 ppb	00:22:30
1	Ni 231.604†	195.4	119.4	2.6600 ug/L	2.6600 ppb	00:22:30
1	P 214.914†	243.2	31.4	20.169 ug/L	20.169 ppb	00:22:30
1	Pb 220.353†	-69.4	7.0	0.7199 ug/L	0.7199 ppb	00:22:30
1	S 181.975 Axial†	47.8	1.2	1.4498 ug/L	1.4498 ppb	00:22:30
1	Sb 206.836†	20.4	-17.0	2.2658 ug/L	2.2658 ppb	00:22:30
1	Se 196.026†	-34.8	-10.5	-4.6742 ug/L	-4.6742 ppb	00:22:30
1	Si 251.611†	1182.6	702.3	20.895 ug/L	20.895 ppb	00:22:30
1	Sn 189.927†	2850.3	2974.6	480.55 ug/L	480.55 ppb	00:22:30
1	Ti 334.940†	-1068.1	686.2	1.0145 ug/L	1.0145 ppb	00:22:10
1	Tl 190.801†	-39.1	3.5	1.0174 ug/L	1.0174 ppb	00:22:30
1	U 409.014†	-4154.1	764.1	22.531 ug/L	22.531 ppb	00:22:10
1	V 292.402†	-1631.2	44.5	0.3021 ug/L	0.3021 ppb	00:22:10
1	Zn 213.857†	949.9	285.3	2.3685 ug/L	2.3685 ppb	00:22:30
1	SiO2†	1269.9	767.2	48.901 ug/L	48.901 ppb	00:23:26
2	Sc Radial	4380.6	4380.6	106 %		00:21:18
2	Y RADIAL	4900.3	4900.3	101.2 %		00:21:18
2	Al 396.153Radial†	-169.6	30.4	25.003 ug/L	25.003 ppb	00:21:18
2	Ca 317.933Radial†	29.6	14.5	26.846 ug/L	26.846 ppb	00:21:38
2	Fe 238.204 Radial†	42.6	30.0	348.59 ug/L	348.59 ppb	00:21:38
2	K 766.490 Radial†	2939.1	143.6	27.290 ug/L	27.290 ppb	00:21:18
2	Mg 279.077 IEC†	2.1	2.1	86.620 ug/L	86.620 ppb	00:21:38
2	Na 589.592 Radial†	-1454.8	282.2	86.969 ug/L	86.969 ppb	00:21:18
2	Sr 421.552†	41.0	2.1	0.0139 ug/L	0.0139 ppb	00:21:18
2	Sc 361.383	847817.6	847817.6	95.172 %		00:22:35
2	Y 371.029	691221.3	691221.3	94.140 %		00:22:35
2	Ag 328.068†	342.0	-265.1	-1.0620 ug/L	-1.0620 ppb	00:22:35
2	As 188.979†	-26.0	1.4	0.6269 ug/L	0.6269 ppb	00:22:55
2	B 249.677†	-598.2	132.5	2.7144 ug/L	2.7144 ppb	00:22:55
2	Ba 233.527†	73.1	92.1	0.6852 ug/L	0.6852 ppb	00:22:55
2	Be 313.107†	-4087.0	108.8	0.0388 ug/L	0.0388 ppb	00:22:35
2	Cd 226.502†	-181.9	13.0	0.1038 ug/L	0.1038 ppb	00:22:55
2	Co 228.616†	-75.8	5.5	0.0973 ug/L	0.0973 ppb	00:22:55
2	Cr 267.716†	213.4	162.4	1.6714 ug/L	1.6714 ppb	00:22:35
2	Cu 324.752†	7189.0	666.8	1.8616 ug/L	1.8616 ppb	00:22:35
2	Mn 257.610†	3262.1	2895.8	2.9363 ug/L	2.9363 ppb	00:22:35
2	Mo 202.031†	22.7	18.6	1.2625 ug/L	1.2625 ppb	00:22:55
2	Ni 231.604†	213.6	139.3	3.1034 ug/L	3.1034 ppb	00:22:55

2	P 214.914†	230.6	19.0	13.780 ug/L	13.780 ppb	00:22:55
2	Pb 220.353†	-66.7	9.6	1.0022 ug/L	1.0022 ppb	00:22:55
2	S 181.975 Axial†	54.7	8.6	10.526 ug/L	10.526 ppb	00:22:55
2	Sb 206.836†	28.8	-8.1	5.0764 ug/L	5.0764 ppb	00:22:55
2	Se 196.026†	-34.7	-10.5	-4.6345 ug/L	-4.6345 ppb	00:22:55
2	Si 251.611†	1860.2	1418.8	42.216 ug/L	42.216 ppb	00:22:55
2	Sn 189.927†	2870.6	3006.8	485.75 ug/L	485.75 ppb	00:22:55
2	Ti 334.940†	-1055.1	695.8	1.0263 ug/L	1.0263 ppb	00:22:35
2	Tl 190.801†	-43.1	-0.8	-0.2138 ug/L	-0.2138 ppb	00:22:55
2	U 409.014†	-4195.5	704.7	20.774 ug/L	20.774 ppb	00:22:35
2	V 292.402†	-1584.1	87.7	0.5899 ug/L	0.5899 ppb	00:22:35
2	Zn 213.857†	1149.0	498.2	4.1707 ug/L	4.1707 ppb	00:22:55
2	SiO2†	1188.0	686.0	43.713 ug/L	43.713 ppb	00:23:31
3	Sc Radial	4331.1	4331.1	105 %		00:21:43
3	Y RADIAL	4864.5	4864.5	100.5 %		00:21:43
3	Al 396.153Radial†	-179.6	19.0	15.731 ug/L	15.731 ppb	00:21:43
3	Ca 317.933Radial†	34.5	19.5	36.069 ug/L	36.069 ppb	00:22:03
3	Fe 238.204 Radial†	41.3	29.3	340.11 ug/L	340.11 ppb	00:22:03
3	K 766.490 Radial†	2961.0	196.2	37.295 ug/L	37.295 ppb	00:21:43
3	Mg 279.077 IEC†	3.8	3.6	153.30 ug/L	153.30 ppb	00:22:03
3	Na 589.592 Radial†	-1473.8	248.4	76.554 ug/L	76.554 ppb	00:21:43
3	Sr 421.552†	56.7	17.6	0.1159 ug/L	0.1159 ppb	00:21:43
3	Sc 361.383	805350.9	805350.9	90.405 %		00:23:01
3	Y 371.029	657213.0	657213.0	89.508 %		00:23:01
3	Ag 328.068†	303.7	-288.5	-1.1615 ug/L	-1.1615 ppb	00:23:01
3	As 188.979†	-25.7	0.3	0.1895 ug/L	0.1895 ppb	00:23:21
3	B 249.677†	-597.1	100.6	2.0487 ug/L	2.0487 ppb	00:23:21
3	Ba 233.527†	19.1	36.4	0.2758 ug/L	0.2758 ppb	00:23:21
3	Be 313.107†	-4134.3	-170.1	-0.0551 ug/L	-0.0551 ppb	00:23:01
3	Cd 226.502†	-182.1	2.7	-0.0038 ug/L	-0.0038 ppb	00:23:21
3	Co 228.616†	-83.7	-7.4	-0.1441 ug/L	-0.1441 ppb	00:23:21
3	Cr 267.716†	152.7	107.1	1.1045 ug/L	1.1045 ppb	00:23:01
3	Cu 324.752†	7170.1	1044.2	2.9169 ug/L	2.9169 ppb	00:23:01
3	Mn 257.610†	3363.9	3189.2	3.2271 ug/L	3.2271 ppb	00:23:01
3	Mo 202.031†	3.5	-1.4	-0.0660 ug/L	-0.0660 ppb	00:23:21
3	Ni 231.604†	204.6	141.2	3.1459 ug/L	3.1459 ppb	00:23:21
3	P 214.914†	244.3	46.9	28.348 ug/L	28.348 ppb	00:23:21
3	Pb 220.353†	-73.9	-2.1	-0.2545 ug/L	-0.2545 ppb	00:23:21
3	S 181.975 Axial†	55.2	12.2	14.921 ug/L	14.921 ppb	00:23:21
3	Sb 206.836†	20.2	-16.1	3.0579 ug/L	3.0579 ppb	00:23:21
3	Se 196.026†	-38.0	-16.1	-7.7814 ug/L	-7.7814 ppb	00:23:21
3	Si 251.611†	1193.8	784.8	23.361 ug/L	23.361 ppb	00:23:21
3	Sn 189.927†	2885.2	3182.0	514.06 ug/L	514.06 ppb	00:23:21
3	Ti 334.940†	-1120.2	565.3	0.8322 ug/L	0.8322 ppb	00:23:01
3	Tl 190.801†	-46.3	-6.7	-1.8714 ug/L	-1.8714 ppb	00:23:21
3	U 409.014†	-4318.7	336.0	9.8845 ug/L	9.8845 ppb	00:23:01
3	V 292.402†	-1609.4	-28.0	-0.2165 ug/L	-0.2165 ppb	00:23:01
3	Zn 213.857†	959.7	352.4	2.9330 ug/L	2.9330 ppb	00:23:21
3	SiO2†	1251.3	821.8	52.409 ug/L	52.409 ppb	00:23:36

## Mean Data: 1202018099|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	834690.2	93.698 %	2.8575			3.05%
Sc Radial	4410.2	107 %	2.4			2.21%
Y 371.029	680486.5	92.678 %	2.7478			2.96%
Y RADIAL	4947.1	102.2 %	2.35			2.30%
Ag 328.068†	-286.1	-1.1548 ug/L	0.08968	-1.1548 ppb	0.08968	7.77%
Al 396.153Radial†	25.3	20.859 ug/L	4.7140	20.859 ppb	4.7140	22.60%
As 188.979†	0.0	0.0907 ug/L	0.59180	0.0907 ppb	0.59180	652.30%
B 249.677†	119.8	2.4503 ug/L	0.35346	2.4503 ppb	0.35346	14.43%
Ba 233.527†	49.9	0.3754 ug/L	0.27386	0.3754 ppb	0.27386	72.94%
Be 313.107†	18.0	0.0083 ug/L	0.05492	0.0083 ppb	0.05492	665.15%
Ca 317.933Radial†	16.7	30.881 ug/L	4.7183	30.881 ppb	4.7183	15.28%
Cd 226.502†	8.1	0.0538 ug/L	0.05416	0.0538 ppb	0.05416	100.66%
Co 228.616†	-1.5	-0.0333 ug/L	0.12192	-0.0333 ppb	0.12192	365.75%
Cr 267.716†	110.7	1.1399 ug/L	0.51472	1.1399 ppb	0.51472	45.16%
Cu 324.752†	782.8	2.1855 ug/L	0.63482	2.1855 ppb	0.63482	29.05%
Fe 238.204 Radial†	29.5	342.32 ug/L	5.516	342.32 ppb	5.516	1.61%
K 766.490 Radial†	142.6	27.096 ug/L	10.2975	27.096 ppb	10.2975	38.00%

Mg 279.077 IEC†	2.3	98.457 ug/L	49.9837	98.457 ppb	49.9837	50.77%
Mn 257.610†	3028.3	3.0682 ug/L	0.14727	3.0682 ppb	0.14727	4.80%
Mo 202.031†	10.1	0.7014 ug/L	0.68782	0.7014 ppb	0.68782	98.06%
Na 589.592 Radial†	280.1	86.301 ug/L	9.4300	86.301 ppb	9.4300	10.93%
Ni 231.604†	133.3	2.9698 ug/L	0.26910	2.9698 ppb	0.26910	9.06%
P 214.914†	32.4	20.766 ug/L	7.3023	20.766 ppb	7.3023	35.16%
Pb 220.353†	4.8	0.4892 ug/L	0.65935	0.4892 ppb	0.65935	134.78%
S 181.975 Axial†	7.3	8.9655 ug/L	6.86967	8.9655 ppb	6.86967	76.62%
Sb 206.836†	-13.8	3.4667 ug/L	1.44924	3.4667 ppb	1.44924	41.80%
Se 196.026†	-12.3	-5.6967 ug/L	1.80552	-5.6967 ppb	1.80552	31.69%
Si 251.611†	968.6	28.824 ug/L	11.6634	28.824 ppb	11.6634	40.46%
Sn 189.927†	3054.5	493.46 ug/L	18.035	493.46 ppb	18.035	3.65%
Sr 421.552†	5.3	0.0347 ug/L	0.07306	0.0347 ppb	0.07306	210.45%
Ti 334.940†	649.1	0.9577 ug/L	0.10883	0.9577 ppb	0.10883	11.36%
Tl 190.801†	-1.3	-0.3559 ug/L	1.44964	-0.3559 ppb	1.44964	407.30%
U 409.014†	601.6	17.730 ug/L	6.8508	17.730 ppb	6.8508	38.64%
V 292.402†	34.7	0.2252 ug/L	0.40871	0.2252 ppb	0.40871	181.52%
Zn 213.857†	378.6	3.1574 ug/L	0.92182	3.1574 ppb	0.92182	29.20%
SiO2†	758.3	48.341 ug/L	4.3749	48.341 ppb	4.3749	9.05%



Sequence No.: 65

Sample ID: 1202018100|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 88

Date Collected: 2/2/2010 00:25:48

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018100|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4473.6	4473.6	108 %		00:28:01
1	Y RADIAL	5426.9	5426.9	112.1 %		00:28:01
1	Al 396.153Radial†	104053.5	96146.8	79360 ug/L	79360 ppb	00:27:41
1	Ca 317.933Radial†	60400.5	55687.1	103080 ug/L	103080 ppb	00:27:41
1	Fe 238.204 Radial†	15911.9	14663.6	170440 ug/L	170440 ppb	00:27:41
1	K 766.490 Radial†	224669.3	204562.6	38896 ug/L	38896 ppb	00:27:41
1	Mg 279.077 IEC†	978.7	902.6	37861 ug/L	37861 ppb	00:28:01
1	Na 589.592 Radial†	39189.5	37792.3	11646 ug/L	11646 ppb	00:27:41
1	Sr 421.552†	406538.1	374867.3	2474.3 ug/L	2474.3 ppb	00:27:41
1	Sc 361.383	859234.6	859234.6	96.454 %		00:29:03
1	Y 371.029	748643.6	748643.6	101.96 %		00:29:03
1	Ag 328.068†	57035.0	58507.5	314.82 ug/L	314.82 ppb	00:29:03
1	As 188.979†	2485.9	2606.1	1084.6 ug/L	1084.6 ppb	00:29:08
1	B 249.677†	72546.8	75975.2	1557.9 ug/L	1557.9 ppb	00:29:03
1	Ba 233.527†	242696.3	251634.7	1847.1 ug/L	1847.1 ppb	00:29:03
1	Be 313.107†	2384529.0	2476603.1	842.76 ug/L	842.76 ppb	00:29:03
1	Cd 226.502†	63701.3	66247.5	667.43 ug/L	667.43 ppb	00:29:08
1	Co 228.616†	53660.1	55718.2	1014.7 ug/L	1014.7 ppb	00:29:08
1	Cr 267.716†	252051.0	261256.2	2694.6 ug/L	2694.6 ppb	00:29:03
1	Cu 324.752†	704413.1	723425.1	2021.2 ug/L	2021.2 ppb	00:29:03
1	Mn 257.610†	5258632.7	5451443.0	5484.9 ug/L	5484.9 ppb	00:29:03
1	Mo 202.031†	8024.7	8314.5	567.03 ug/L	567.03 ppb	00:29:08
1	Ni 231.604†	67351.0	69742.1	1553.4 ug/L	1553.4 ppb	00:29:03
1	P 214.914†	15197.8	15533.3	7557.3 ug/L	7557.3 ppb	00:29:08
1	Pb 220.353†	7004.8	7342.0	790.55 ug/L	790.55 ppb	00:29:08
1	S 181.975 Axial†	3392.1	3467.9	4221.6 ug/L	4221.6 ppb	00:29:08
1	Sb 206.836†	4869.8	5010.4	1546.7 ug/L	1546.7 ppb	00:29:08
1	Se 196.026†	4698.9	4897.7	3285.0 ug/L	3285.0 ppb	00:29:08
1	Si 251.611†	868187.6	899572.2	26770 ug/L	26770 ppb	00:29:03
1	Sn 189.927†	5889.4	6096.6	1003.4 ug/L	1003.4 ppb	00:29:08
1	Ti 334.940†	3362008.2	3487422.3	5220.6 ug/L	5220.6 ppb	00:29:03
1	Tl 190.801†	3970.6	4161.1	1236.5 ug/L	1236.5 ppb	00:29:08
1	U 409.014†	-8974.5	-4191.3	-149.25 ug/L	-149.25 ppb	00:29:03
1	V 292.402†	176438.6	184677.8	1205.6 ug/L	1205.6 ppb	00:29:03
1	Zn 213.857†	710177.4	735579.2	6211.7 ug/L	6211.7 ppb	00:29:03
1	SiO2†	872921.0	904453.1	57661 ug/L	57661 ppb	00:29:43
2	Sc Radial	4498.3	4498.3	109 %		00:28:26
2	Y RADIAL	5434.9	5434.9	112.3 %		00:28:26
2	Al 396.153Radial†	104933.0	96425.9	79591 ug/L	79591 ppb	00:28:06
2	Ca 317.933Radial†	60858.9	55801.3	103300 ug/L	103300 ppb	00:28:06
2	Fe 238.204 Radial†	16031.0	14692.2	170770 ug/L	170770 ppb	00:28:06
2	K 766.490 Radial†	226170.5	204800.5	38941 ug/L	38941 ppb	00:28:06
2	Mg 279.077 IEC†	981.0	899.7	37739 ug/L	37739 ppb	00:28:26
2	Na 589.592 Radial†	39796.8	38150.5	11756 ug/L	11756 ppb	00:28:06
2	Sr 421.552†	410756.9	376675.6	2486.3 ug/L	2486.3 ppb	00:28:06
2	Sc 361.383	859312.5	859312.5	96.462 %		00:29:17
2	Y 371.029	748196.5	748196.5	101.90 %		00:29:17
2	Ag 328.068†	57082.1	58550.9	315.12 ug/L	315.12 ppb	00:29:17
2	As 188.979†	2481.6	2601.3	1082.9 ug/L	1082.9 ppb	00:29:22
2	B 249.677†	72588.4	76011.5	1558.6 ug/L	1558.6 ppb	00:29:17
2	Ba 233.527†	243119.6	252050.7	1850.2 ug/L	1850.2 ppb	00:29:17
2	Be 313.107†	2387304.6	2479256.4	843.66 ug/L	843.66 ppb	00:29:17
2	Cd 226.502†	63376.6	65904.9	663.86 ug/L	663.86 ppb	00:29:22
2	Co 228.616†	53466.8	55512.7	1010.9 ug/L	1010.9 ppb	00:29:22
2	Cr 267.716†	252236.7	261425.1	2696.4 ug/L	2696.4 ppb	00:29:17
2	Cu 324.752†	704134.9	723070.6	2020.3 ug/L	2020.3 ppb	00:29:17
2	Mn 257.610†	5269912.9	5462642.6	5496.2 ug/L	5496.2 ppb	00:29:17
2	Mo 202.031†	7942.0	8228.0	561.31 ug/L	561.31 ppb	00:29:22
2	Ni 231.604†	67458.6	69847.3	1555.8 ug/L	1555.8 ppb	00:29:17

2	P 214.914†	15104.6	15435.2	7506.3 ug/L	7506.3 ppb	00:29:22
2	Pb 220.353†	6922.6	7256.1	781.34 ug/L	781.34 ppb	00:29:22
2	S 181.975 Axial†	3370.5	3445.3	4193.9 ug/L	4193.9 ppb	00:29:22
2	Sb 206.836†	4840.7	4979.8	1537.2 ug/L	1537.2 ppb	00:29:22
2	Se 196.026†	4666.9	4864.0	3267.4 ug/L	3267.4 ppb	00:29:22
2	Si 251.611†	868450.0	899762.6	26776 ug/L	26776 ppb	00:29:17
2	Sn 189.927†	5882.9	6089.3	1002.3 ug/L	1002.3 ppb	00:29:22
2	Ti 334.940†	3365129.4	3490341.9	5225.0 ug/L	5225.0 ppb	00:29:17
2	Tl 190.801†	3960.4	4150.1	1233.5 ug/L	1233.5 ppb	00:29:22
2	U 409.014†	-8986.2	-4202.6	-149.63 ug/L	-149.63 ppb	00:29:17
2	V 292.402†	176572.8	184800.4	1206.3 ug/L	1206.3 ppb	00:29:17
2	Zn 213.857†	711060.3	736427.6	6218.8 ug/L	6218.8 ppb	00:29:17
2	SiO2†	879353.1	911039.0	58082 ug/L	58082 ppb	00:29:49
3	Sc Radial	4522.2	4522.2	110 %		00:28:51
3	Y RADIAL	5470.3	5470.3	113.0 %		00:28:51
3	Al 396.153Radial†	104735.1	95737.6	79023 ug/L	79023 ppb	00:28:31
3	Ca 317.933Radial†	60791.1	55445.1	102640 ug/L	102640 ppb	00:28:31
3	Fe 238.204 Radial†	16024.6	14608.8	169800 ug/L	169800 ppb	00:28:31
3	K 766.490 Radial†	225764.3	203335.5	38662 ug/L	38662 ppb	00:28:31
3	Mg 279.077 IEC†	987.8	901.2	37803 ug/L	37803 ppb	00:28:51
3	Na 589.592 Radial†	39672.1	37844.2	11662 ug/L	11662 ppb	00:28:31
3	Sr 421.552†	410349.8	374316.6	2470.7 ug/L	2470.7 ppb	00:28:31
3	Sc 361.383	862106.0	862106.0	96.776 %		00:29:32
3	Y 371.029	749907.9	749907.9	102.13 %		00:29:32
3	Ag 328.068†	57095.3	58372.8	314.03 ug/L	314.03 ppb	00:29:32
3	As 188.979†	2417.5	2526.8	1054.1 ug/L	1054.1 ppb	00:29:37
3	B 249.677†	72848.8	76036.7	1559.4 ug/L	1559.4 ppb	00:29:32
3	Ba 233.527†	244220.9	252372.1	1852.5 ug/L	1852.5 ppb	00:29:32
3	Be 313.107†	2394038.9	2478195.6	843.32 ug/L	843.32 ppb	00:29:32
3	Cd 226.502†	62394.1	64676.8	651.28 ug/L	651.28 ppb	00:29:37
3	Co 228.616†	52531.0	54366.2	989.74 ug/L	989.74 ppb	00:29:37
3	Cr 267.716†	252974.6	261340.3	2695.5 ug/L	2695.5 ppb	00:29:32
3	Cu 324.752†	707256.7	723931.0	2022.6 ug/L	2022.6 ppb	00:29:32
3	Mn 257.610†	5290429.4	5466140.1	5499.6 ug/L	5499.6 ppb	00:29:32
3	Mo 202.031†	7869.6	8126.5	554.48 ug/L	554.48 ppb	00:29:37
3	Ni 231.604†	67701.1	69871.3	1556.3 ug/L	1556.3 ppb	00:29:32
3	P 214.914†	14820.2	15090.6	7327.3 ug/L	7327.3 ppb	00:29:37
3	Pb 220.353†	6865.4	7173.7	772.45 ug/L	772.45 ppb	00:29:37
3	S 181.975 Axial†	3288.1	3348.8	4076.1 ug/L	4076.1 ppb	00:29:37
3	Sb 206.836†	4783.7	4904.6	1513.7 ug/L	1513.7 ppb	00:29:37
3	Se 196.026†	4595.2	4774.3	3214.4 ug/L	3214.4 ppb	00:29:37
3	Si 251.611†	872681.5	901217.8	26819 ug/L	26819 ppb	00:29:32
3	Sn 189.927†	5744.6	5926.5	975.88 ug/L	975.88 ppb	00:29:37
3	Ti 334.940†	3378658.0	3493017.1	5228.9 ug/L	5228.9 ppb	00:29:32
3	Tl 190.801†	3846.8	4019.4	1196.8 ug/L	1196.8 ppb	00:29:37
3	U 409.014†	-8773.7	-3952.9	-142.14 ug/L	-142.14 ppb	00:29:32
3	V 292.402†	177156.5	184810.4	1206.4 ug/L	1206.4 ppb	00:29:32
3	Zn 213.857†	713774.9	736844.1	6222.5 ug/L	6222.5 ppb	00:29:32
3	SiO2†	871649.4	900124.8	57386 ug/L	57386 ppb	00:29:55

Mean Data: 1202018100|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	860217.7	96.564 %	0.1836			0.19%
Sc Radial	4498.0	109 %	0.6			0.54%
Y 371.029	748916.0	102.00 %	0.121			0.12%
Y RADIAL	5444.0	112.4 %	0.48			0.42%
Ag 328.068†	58477.1	314.65 ug/L	0.563	314.65 ppb	0.563	0.18%
Al 396.153Radial†	96103.4	79324 ug/L	285.6	79324 ppb	285.6	0.36%
As 188.979†	2578.1	1073.9 ug/L	17.14	1073.9 ppb	17.14	1.60%
B 249.677†	76007.8	1558.6 ug/L	0.73	1558.6 ppb	0.73	0.05%
Ba 233.527†	252019.2	1849.9 ug/L	2.69	1849.9 ppb	2.69	0.15%
Be 313.107†	2478018.4	843.25 ug/L	0.454	843.25 ppb	0.454	0.05%
Ca 317.933Radial†	55644.5	103010 ug/L	336.8	103010 ppb	336.8	0.33%
Cd 226.502†	65609.7	660.86 ug/L	8.483	660.86 ppb	8.483	1.28%
Co 228.616†	55199.0	1005.1 ug/L	13.44	1005.1 ppb	13.44	1.34%
Cr 267.716†	261340.5	2695.5 ug/L	0.87	2695.5 ppb	0.87	0.03%
Cu 324.752†	723475.6	2021.4 ug/L	1.17	2021.4 ppb	1.17	0.06%
Fe 238.204 Radial†	14654.9	170340 ug/L	492.6	170340 ppb	492.6	0.29%
K 766.490 Radial†	204232.8	38833 ug/L	149.5	38833 ppb	149.5	0.39%

Mg 279.077 IEC†	901.2	37801 ug/L	61.0	37801 ppb	61.0	0.16%
Mn 257.610†	5460075.3	5493.6 ug/L	7.69	5493.6 ppb	7.69	0.14%
Mo 202.031†	8223.0	560.94 ug/L	6.283	560.94 ppb	6.283	1.12%
Na 589.592 Radial†	37929.0	11688 ug/L	59.7	11688 ppb	59.7	0.51%
Ni 231.604†	69820.3	1555.2 ug/L	1.54	1555.2 ppb	1.54	0.10%
P 214.914†	15353.0	7463.6 ug/L	120.77	7463.6 ppb	120.77	1.62%
Pb 220.353†	7257.2	781.45 ug/L	9.053	781.45 ppb	9.053	1.16%
S 181.975 Axial†	3420.7	4163.9 ug/L	77.24	4163.9 ppb	77.24	1.86%
Sb 206.836†	4965.0	1532.6 ug/L	17.00	1532.6 ppb	17.00	1.11%
Se 196.026†	4845.3	3255.6 ug/L	36.74	3255.6 ppb	36.74	1.13%
Si 251.611†	900184.2	26788 ug/L	26.9	26788 ppb	26.9	0.10%
Sn 189.927†	6037.4	993.86 ug/L	15.585	993.86 ppb	15.585	1.57%
Sr 421.552†	375286.5	2477.1 ug/L	8.15	2477.1 ppb	8.15	0.33%
Ti 334.940†	3490260.4	5224.8 ug/L	4.15	5224.8 ppb	4.15	0.08%
Tl 190.801†	4110.2	1222.3 ug/L	22.12	1222.3 ppb	22.12	1.81%
U 409.014†	-4115.6	-147.01 ug/L	4.220	-147.01 ppb	4.220	2.87%
V 292.402†	184762.8	1206.1 ug/L	0.43	1206.1 ppb	0.43	0.04%
Zn 213.857†	736283.6	6217.7 ug/L	5.48	6217.7 ppb	5.48	0.09%
SiO2†	905205.6	57710 ug/L	350.4	57710 ppb	350.4	0.61%

Sequence No.: 72

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/2/2010 01:14:53

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4094.6	4094.6	99.2 %		01:17:04
1	Y RADIAL	4418.1	4418.1	91.26 %		01:16:44
1	Al 396.153Radial†	6068.6	6304.6	5181.3 ug/L	5181.3 ppb	01:16:44
1	Ca 317.933Radial†	2899.9	2908.5	5384.0 ug/L	5384.0 ppb	01:17:04
1	Fe 238.204 Radial†	479.6	473.1	5512.8 ug/L	5512.8 ppb	01:17:04
1	K 766.490 Radial†	29889.6	27491.1	5226.0 ug/L	5226.0 ppb	01:16:44
1	Mg 279.077 IEC†	131.4	132.4	5579.7 ug/L	5579.7 ppb	01:17:04
1	Na 589.592 Radial†	33169.4	35072.3	10808 ug/L	10808 ppb	01:16:44
1	Sr 421.552†	79840.3	80407.2	530.86 ug/L	530.86 ppb	01:16:44
1	Sc 361.383	856586.7	856586.7	96.156 %		01:18:03
1	Y 371.029	685706.3	685706.3	93.389 %		01:18:03
1	Ag 328.068†	109313.5	113058.4	497.92 ug/L	497.92 ppb	01:18:03
1	As 188.979†	1201.9	1278.6	495.55 ug/L	495.55 ppb	01:18:23
1	B 249.677†	21615.8	23240.9	483.61 ug/L	483.61 ppb	01:18:03
1	Ba 233.527†	65504.3	68137.9	499.28 ug/L	499.28 ppb	01:18:03
1	Be 313.107†	1406311.3	1466926.7	493.32 ug/L	493.32 ppb	01:18:03
1	Cd 226.502†	46885.8	48964.0	505.45 ug/L	505.45 ppb	01:18:03
1	Co 228.616†	25935.9	27057.7	498.82 ug/L	498.82 ppb	01:18:23
1	Cr 267.716†	46693.0	48497.5	499.87 ug/L	499.87 ppb	01:18:03
1	Cu 324.752†	178509.0	178757.4	497.22 ug/L	497.22 ppb	01:18:03
1	Mn 257.610†	482219.8	500963.0	502.95 ug/L	502.95 ppb	01:18:03
1	Mo 202.031†	7240.1	7524.2	500.55 ug/L	500.55 ppb	01:18:23
1	Ni 231.604†	21532.5	22308.1	496.78 ug/L	496.78 ppb	01:18:23
1	P 214.914†	4897.4	4869.9	2431.3 ug/L	2431.3 ppb	01:18:23
1	Pb 220.353†	4418.4	4674.6	503.18 ug/L	503.18 ppb	01:18:23
1	S 181.975 Axial†	825.0	809.1	987.38 ug/L	987.38 ppb	01:18:23
1	Sb 206.836†	1602.3	1627.9	515.39 ug/L	515.39 ppb	01:18:23
1	Se 196.026†	849.5	909.4	524.11 ug/L	524.11 ppb	01:18:23
1	Si 251.611†	81611.8	84338.2	2504.3 ug/L	2504.3 ppb	01:18:03
1	Sn 189.927†	2992.2	3102.4	502.10 ug/L	502.10 ppb	01:18:23
1	Ti 334.940†	324110.4	338869.9	506.20 ug/L	506.20 ppb	01:18:03
1	Tl 190.801†	1654.2	1764.8	501.37 ug/L	501.37 ppb	01:18:23
1	U 409.014†	11152.3	16711.1	491.88 ug/L	491.88 ppb	01:18:03
1	V 292.402†	69715.0	74253.8	500.59 ug/L	500.59 ppb	01:18:03
1	Zn 213.857†	57517.6	59107.6	497.11 ug/L	497.11 ppb	01:18:03
1	SiO2†	81423.6	84115.9	5350.4 ug/L	5350.4 ppb	01:19:24
2	Sc Radial	4116.5	4116.5	99.8 %		01:17:30
2	Y RADIAL	4797.8	4797.8	99.10 %		01:17:09
2	Al 396.153Radial†	6082.8	6286.3	5166.2 ug/L	5166.2 ppb	01:17:09
2	Ca 317.933Radial†	2874.8	2867.7	5308.6 ug/L	5308.6 ppb	01:17:30
2	Fe 238.204 Radial†	474.5	465.5	5424.0 ug/L	5424.0 ppb	01:17:30
2	K 766.490 Radial†	30136.1	27578.0	5242.6 ug/L	5242.6 ppb	01:17:09
2	Mg 279.077 IEC†	130.0	130.3	5490.6 ug/L	5490.6 ppb	01:17:30
2	Na 589.592 Radial†	33427.2	35152.9	10832 ug/L	10832 ppb	01:17:09
2	Sr 421.552†	80402.6	80542.8	531.75 ug/L	531.75 ppb	01:17:09
2	Sc 361.383	857587.4	857587.4	96.269 %		01:18:31
2	Y 371.029	686516.2	686516.2	93.499 %		01:18:31
2	Ag 328.068†	109593.8	113216.9	498.58 ug/L	498.58 ppb	01:18:31
2	As 188.979†	1202.4	1277.7	495.17 ug/L	495.17 ppb	01:18:51
2	B 249.677†	21689.5	23291.2	484.68 ug/L	484.68 ppb	01:18:31
2	Ba 233.527†	65582.8	68140.0	499.29 ug/L	499.29 ppb	01:18:31
2	Be 313.107†	1408873.5	1467881.6	493.64 ug/L	493.64 ppb	01:18:31
2	Cd 226.502†	46833.5	48852.7	504.31 ug/L	504.31 ppb	01:18:31
2	Co 228.616†	25937.3	27027.7	498.27 ug/L	498.27 ppb	01:18:51
2	Cr 267.716†	46461.9	48200.8	496.81 ug/L	496.81 ppb	01:18:31
2	Cu 324.752†	179154.4	179211.2	498.47 ug/L	498.47 ppb	01:18:31
2	Mn 257.610†	482670.0	500845.5	502.83 ug/L	502.83 ppb	01:18:31
2	Mo 202.031†	7245.4	7521.0	500.32 ug/L	500.32 ppb	01:18:51
2	Ni 231.604†	21542.1	22291.9	496.42 ug/L	496.42 ppb	01:18:51

2	P 214.914†	4889.6	4855.8	2423.9 ug/L	2423.9 ppb	01:18:51
2	Pb 220.353†	4442.2	4694.1	505.27 ug/L	505.27 ppb	01:18:51
2	S 181.975 Axial†	813.5	796.2	971.65 ug/L	971.65 ppb	01:18:51
2	Sb 206.836†	1599.2	1622.8	513.86 ug/L	513.86 ppb	01:18:51
2	Se 196.026†	848.3	907.1	522.55 ug/L	522.55 ppb	01:18:51
2	Si 251.611†	81738.6	84370.9	2505.2 ug/L	2505.2 ppb	01:18:31
2	Sn 189.927†	3009.7	3117.0	504.44 ug/L	504.44 ppb	01:18:51
2	Ti 334.940†	324724.4	339114.4	506.56 ug/L	506.56 ppb	01:18:31
2	Tl 190.801†	1661.3	1770.1	502.88 ug/L	502.88 ppb	01:18:51
2	U 409.014†	11266.8	16816.5	495.01 ug/L	495.01 ppb	01:18:31
2	V 292.402†	69700.4	74154.0	499.94 ug/L	499.94 ppb	01:18:31
2	Zn 213.857†	57485.3	59004.2	496.24 ug/L	496.24 ppb	01:18:31
2	SiO2†	80223.3	82770.3	5264.6 ug/L	5264.6 ppb	01:19:29
3	Sc Radial	4128.1	4128.1	100 %		01:17:55
3	Y RADIAL	4880.1	4880.1	100.8 %		01:17:35
3	Al 396.153Radial†	6175.9	6362.1	5228.7 ug/L	5228.7 ppb	01:17:35
3	Ca 317.933Radial†	2881.1	2866.0	5305.3 ug/L	5305.3 ppb	01:17:55
3	Fe 238.204 Radial†	473.6	463.2	5398.0 ug/L	5398.0 ppb	01:17:55
3	K 766.490 Radial†	30397.2	27753.7	5276.0 ug/L	5276.0 ppb	01:17:35
3	Mg 279.077 IEC†	130.6	130.5	5500.0 ug/L	5500.0 ppb	01:17:55
3	Na 589.592 Radial†	33697.1	35328.2	10886 ug/L	10886 ppb	01:17:35
3	Sr 421.552†	80908.7	80821.3	533.59 ug/L	533.59 ppb	01:17:35
3	Sc 361.383	853432.8	853432.8	95.802 %		01:18:58
3	Y 371.029	685047.9	685047.9	93.299 %		01:18:58
3	Ag 328.068†	108961.4	113111.0	498.12 ug/L	498.12 ppb	01:18:58
3	As 188.979†	1215.1	1297.1	502.60 ug/L	502.60 ppb	01:19:18
3	B 249.677†	21514.7	23218.4	483.15 ug/L	483.15 ppb	01:18:58
3	Ba 233.527†	65333.9	68211.8	499.82 ug/L	499.82 ppb	01:18:58
3	Be 313.107†	1405910.1	1471912.8	494.99 ug/L	494.99 ppb	01:18:58
3	Cd 226.502†	46754.2	49006.8	505.90 ug/L	505.90 ppb	01:18:58
3	Co 228.616†	26028.9	27254.5	502.46 ug/L	502.46 ppb	01:19:18
3	Cr 267.716†	46568.3	48546.8	500.38 ug/L	500.38 ppb	01:18:58
3	Cu 324.752†	177738.1	178638.8	496.88 ug/L	496.88 ppb	01:18:58
3	Mn 257.610†	479977.0	500475.2	502.45 ug/L	502.45 ppb	01:18:58
3	Mo 202.031†	7263.8	7576.8	504.03 ug/L	504.03 ppb	01:19:18
3	Ni 231.604†	21601.5	22462.8	500.22 ug/L	500.22 ppb	01:19:18
3	P 214.914†	4914.8	4906.9	2450.8 ug/L	2450.8 ppb	01:19:18
3	Pb 220.353†	4464.1	4739.3	510.15 ug/L	510.15 ppb	01:19:18
3	S 181.975 Axial†	827.0	814.4	993.84 ug/L	993.84 ppb	01:19:18
3	Sb 206.836†	1609.2	1641.2	519.61 ug/L	519.61 ppb	01:19:18
3	Se 196.026†	853.4	916.8	527.85 ug/L	527.85 ppb	01:19:18
3	Si 251.611†	81159.0	84179.2	2499.5 ug/L	2499.5 ppb	01:18:58
3	Sn 189.927†	3003.1	3125.3	505.78 ug/L	505.78 ppb	01:19:18
3	Ti 334.940†	322605.1	338544.4	505.71 ug/L	505.71 ppb	01:18:58
3	Tl 190.801†	1661.8	1779.0	505.37 ug/L	505.37 ppb	01:19:18
3	U 409.014†	11186.8	16790.0	494.22 ug/L	494.22 ppb	01:18:58
3	V 292.402†	69574.5	74375.1	501.47 ug/L	501.47 ppb	01:18:58
3	Zn 213.857†	57371.5	59176.1	497.68 ug/L	497.68 ppb	01:18:58
3	SiO2†	81622.4	84636.4	5383.5 ug/L	5383.5 ppb	01:19:34

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	855869.0	96.076 %	0.2434			0.25%
Sc Radial	4113.0	99.7 %	0.41			0.41%
Y 371.029	685756.8	93.396 %	0.1002			0.11%
Y RADIAL	4698.7	97.05 %	5.091			5.25%
Ag 328.068†	113128.8	498.21 ug/L	0.339	498.21 ppb	0.339	0.07%
QC value within limits for Ag 328.068 Recovery = 99.64%						
Al 396.153Radial†	6317.7	5192.1 ug/L	32.59	5192.1 ppb	32.59	0.63%
QC value within limits for Al 396.153Radial Recovery = 103.84%						
As 188.979†	1284.5	497.78 ug/L	4.184	497.78 ppb	4.184	0.84%
QC value within limits for As 188.979 Recovery = 99.56%						
B 249.677†	23250.2	483.81 ug/L	0.784	483.81 ppb	0.784	0.16%
QC value within limits for B 249.677 Recovery = 96.76%						
Ba 233.527†	68163.2	499.47 ug/L	0.308	499.47 ppb	0.308	0.06%
QC value within limits for Ba 233.527 Recovery = 99.89%						
Be 313.107†	1468907.0	493.99 ug/L	0.887	493.99 ppb	0.887	0.18%
QC value within limits for Be 313.107 Recovery = 98.80%						
Ca 317.933Radial†	2880.7	5332.7 ug/L	44.54	5332.7 ppb	44.54	0.84%

QC value within limits for Ca 317.933 Radial Recovery = 106.65%							
Cd 226.502†	48941.2	505.22 ug/L	0.822	505.22 ppb	0.822	0.16%	
QC value within limits for Cd 226.502 Recovery = 101.04%							
Co 228.616†	27113.3	499.85 ug/L	2.276	499.85 ppb	2.276	0.46%	
QC value within limits for Co 228.616 Recovery = 99.97%							
Cr 267.716†	48415.1	499.02 ug/L	1.928	499.02 ppb	1.928	0.39%	
QC value within limits for Cr 267.716 Recovery = 99.80%							
Cu 324.752†	178869.1	497.52 ug/L	0.839	497.52 ppb	0.839	0.17%	
QC value within limits for Cu 324.752 Recovery = 99.50%							
Fe 238.204 Radial†	467.3	5444.9 ug/L	60.20	5444.9 ppb	60.20	1.11%	
QC value within limits for Fe 238.204 Radial Recovery = 108.90%							
K 766.490 Radial†	27607.6	5248.2 ug/L	25.46	5248.2 ppb	25.46	0.49%	
QC value within limits for K 766.490 Radial Recovery = 104.96%							
Mg 279.077 IEC†	131.1	5523.4 ug/L	48.95	5523.4 ppb	48.95	0.89%	
QC value greater than the upper limit for Mg 279.077 IEC Recovery = 110.47%							
Mn 257.610†	500761.3	502.74 ug/L	0.259	502.74 ppb	0.259	0.05%	
QC value within limits for Mn 257.610 Recovery = 100.55%							
Mo 202.031†	7540.7	501.63 ug/L	2.081	501.63 ppb	2.081	0.41%	
QC value within limits for Mo 202.031 Recovery = 100.33%							
Na 589.592 Radial†	35184.5	10842 ug/L	40.3	10842 ppb	40.3	0.37%	
QC value within limits for Na 589.592 Radial Recovery = 108.42%							
Ni 231.604†	22354.3	497.81 ug/L	2.101	497.81 ppb	2.101	0.42%	
QC value within limits for Ni 231.604 Recovery = 99.56%							
P 214.914†	4877.5	2435.3 ug/L	13.89	2435.3 ppb	13.89	0.57%	
QC value within limits for P 214.914 Recovery = 97.41%							
Pb 220.353†	4702.6	506.20 ug/L	3.578	506.20 ppb	3.578	0.71%	
QC value within limits for Pb 220.353 Recovery = 101.24%							
S 181.975 Axial†	806.5	984.29 ug/L	11.411	984.29 ppb	11.411	1.16%	
QC value within limits for S 181.975 Axial Recovery = 98.43%							
Sb 206.836†	1630.6	516.29 ug/L	2.974	516.29 ppb	2.974	0.58%	
QC value within limits for Sb 206.836 Recovery = 103.26%							
Se 196.026†	911.1	524.84 ug/L	2.723	524.84 ppb	2.723	0.52%	
QC value within limits for Se 196.026 Recovery = 104.97%							
Si 251.611†	84296.1	2503.0 ug/L	3.08	2503.0 ppb	3.08	0.12%	
QC value within limits for Si 251.611 Recovery = 100.12%							
Sn 189.927†	3114.9	504.11 ug/L	1.861	504.11 ppb	1.861	0.37%	
QC value within limits for Sn 189.927 Recovery = 100.82%							
Sr 421.552†	80590.4	532.07 ug/L	1.394	532.07 ppb	1.394	0.26%	
QC value within limits for Sr 421.552 Recovery = 106.41%							
Ti 334.940†	338842.9	506.16 ug/L	0.429	506.16 ppb	0.429	0.08%	
QC value within limits for Ti 334.940 Recovery = 101.23%							
Tl 190.801†	1771.3	503.21 ug/L	2.018	503.21 ppb	2.018	0.40%	
QC value within limits for Tl 190.801 Recovery = 100.64%							
U 409.014†	16772.6	493.71 ug/L	1.629	493.71 ppb	1.629	0.33%	
QC value within limits for U 409.014 Recovery = 98.74%							
V 292.402†	74260.9	500.67 ug/L	0.765	500.67 ppb	0.765	0.15%	
QC value within limits for V 292.402 Recovery = 100.13%							
Zn 213.857†	59095.9	497.01 ug/L	0.725	497.01 ppb	0.725	0.15%	
QC value within limits for Zn 213.857 Recovery = 99.40%							
SiO2†	83840.9	5332.8 ug/L	61.36	5332.8 ppb	61.36	1.15%	
QC value within limits for SiO2 Recovery = 99.73%							
QC Failed. Continue with analysis.							

Sequence No.: 73

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/2/2010 01:21:44

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4227.8	4227.8	102 %		01:23:36
1	Y RADIAL	4785.7	4785.7	98.85 %		01:23:36
1	Al 396.153Radial†	-189.1	5.6	4.5941 ug/L	4.5941 ppb	01:23:36
1	Ca 317.933Radial†	13.9	0.2	0.4397 ug/L	0.4397 ppb	01:23:56
1	Fe 238.204 Radial†	13.6	3.1	36.577 ug/L	36.577 ppb	01:23:56
1	K 766.490 Radial†	2887.6	193.4	36.790 ug/L	36.790 ppb	01:23:36
1	Mg 279.077 IEC†	1.6	1.6	66.218 ug/L	66.218 ppb	01:23:56
1	Na 589.592 Radial†	-1535.2	154.2	47.520 ug/L	47.520 ppb	01:23:36
1	Sr 421.552†	9.8	-26.9	-0.1776 ug/L	-0.1776 ppb	01:23:36
1	Sc 361.383	789819.9	789819.9	88.662 %		01:24:53
1	Y 371.029	641802.1	641802.1	87.410 %		01:24:53
1	Ag 328.068†	361.9	-216.3	-0.9478 ug/L	-0.9478 ppb	01:24:53
1	As 188.979†	-41.3	-17.8	-6.8505 ug/L	-6.8505 ppb	01:25:13
1	B 249.677†	-537.6	154.8	3.2318 ug/L	3.2318 ppb	01:25:13
1	Ba 233.527†	-21.8	-9.3	-0.0686 ug/L	-0.0686 ppb	01:25:13
1	Be 313.107†	-4200.2	-334.3	-0.1128 ug/L	-0.1128 ppb	01:24:53
1	Cd 226.502†	-195.5	-16.4	-0.1708 ug/L	-0.1708 ppb	01:25:13
1	Co 228.616†	-97.9	-25.2	-0.4643 ug/L	-0.4643 ppb	01:25:13
1	Cr 267.716†	82.2	30.8	0.3122 ug/L	0.3122 ppb	01:24:53
1	Cu 324.752†	6887.3	881.2	2.4461 ug/L	2.4461 ppb	01:24:53
1	Mn 257.610†	596.8	141.3	0.1427 ug/L	0.1427 ppb	01:24:53
1	Mo 202.031†	11.2	7.4	0.4933 ug/L	0.4933 ppb	01:25:13
1	Ni 231.604†	81.8	7.1	0.1579 ug/L	0.1579 ppb	01:25:13
1	P 214.914†	225.3	30.9	15.528 ug/L	15.528 ppb	01:25:13
1	Pb 220.353†	-63.5	8.0	0.8590 ug/L	0.8590 ppb	01:25:13
1	S 181.975 Axial†	51.0	8.6	10.516 ug/L	10.516 ppb	01:25:13
1	Sb 206.836†	52.3	20.5	6.2879 ug/L	6.2879 ppb	01:25:13
1	Se 196.026†	-24.3	-1.4	-0.6604 ug/L	-0.6604 ppb	01:25:13
1	Si 251.611†	518.0	48.5	1.4376 ug/L	1.4376 ppb	01:25:13
1	Sn 189.927†	10.8	2.7	0.4434 ug/L	0.4434 ppb	01:25:13
1	Ti 334.940†	-1773.2	-195.6	-0.3031 ug/L	-0.3031 ppb	01:24:53
1	Tl 190.801†	-44.9	-6.2	-1.7489 ug/L	-1.7489 ppb	01:25:13
1	U 409.014†	-4161.0	419.9	12.400 ug/L	12.400 ppb	01:24:53
1	V 292.402†	-1654.1	-113.4	-0.7276 ug/L	-0.7276 ppb	01:24:53
1	Zn 213.857†	753.4	140.6	1.1851 ug/L	1.1851 ppb	01:25:13
1	SiO2†	524.4	29.2	1.8516 ug/L	1.8516 ppb	01:26:09
2	Sc Radial	4493.5	4493.5	109 %		01:24:01
2	Y RADIAL	5040.6	5040.6	104.1 %		01:24:01
2	Al 396.153Radial†	-199.8	6.7	5.5056 ug/L	5.5056 ppb	01:24:01
2	Ca 317.933Radial†	13.5	-0.9	-1.7524 ug/L	-1.7524 ppb	01:24:21
2	Fe 238.204 Radial†	12.7	1.5	17.418 ug/L	17.418 ppb	01:24:21
2	K 766.490 Radial†	2786.4	-66.1	-12.615 ug/L	-12.615 ppb	01:24:01
2	Mg 279.077 IEC†	3.6	3.4	141.54 ug/L	141.54 ppb	01:24:21
2	Na 589.592 Radial†	-1511.7	264.4	81.475 ug/L	81.475 ppb	01:24:01
2	Sr 421.552†	54.6	13.7	0.0903 ug/L	0.0903 ppb	01:24:01
2	Sc 361.383	829972.6	829972.6	93.169 %		01:25:18
2	Y 371.029	674157.2	674157.2	91.816 %		01:25:18
2	Ag 328.068†	378.2	-218.6	-0.9619 ug/L	-0.9619 ppb	01:25:18
2	As 188.979†	-30.0	-3.4	-1.3045 ug/L	-1.3045 ppb	01:25:38
2	B 249.677†	-548.4	172.5	3.6045 ug/L	3.6045 ppb	01:25:38
2	Ba 233.527†	-14.3	-0.0	-0.0008 ug/L	-0.0008 ppb	01:25:38
2	Be 313.107†	-4237.5	-145.2	-0.0487 ug/L	-0.0487 ppb	01:25:18
2	Cd 226.502†	-195.4	-5.6	-0.0581 ug/L	-0.0581 ppb	01:25:38
2	Co 228.616†	-87.7	-9.0	-0.1664 ug/L	-0.1664 ppb	01:25:38
2	Cr 267.716†	28.3	-31.4	-0.3283 ug/L	-0.3283 ppb	01:25:18
2	Cu 324.752†	6934.3	555.9	1.5406 ug/L	1.5406 ppb	01:25:18
2	Mn 257.610†	642.7	158.1	0.1545 ug/L	0.1545 ppb	01:25:18
2	Mo 202.031†	6.6	1.8	0.1217 ug/L	0.1217 ppb	01:25:38
2	Ni 231.604†	56.3	-24.8	-0.5517 ug/L	-0.5517 ppb	01:25:38

2	P 214.914†	248.6	43.5	22.278 ug/L	22.278 ppb	01:25:38
2	Pb 220.353†	-66.8	7.9	0.8482 ug/L	0.8482 ppb	01:25:38
2	S 181.975 Axial†	52.6	7.6	9.2698 ug/L	9.2698 ppb	01:25:38
2	Sb 206.836†	39.2	3.7	1.1151 ug/L	1.1151 ppb	01:25:38
2	Se 196.026†	-34.3	-10.9	-5.9631 ug/L	-5.9631 ppb	01:25:38
2	Si 251.611†	514.9	16.9	0.5006 ug/L	0.5006 ppb	01:25:38
2	Sn 189.927†	4.4	-4.7	-0.7545 ug/L	-0.7545 ppb	01:25:38
2	Ti 334.940†	-1674.4	7.2	-0.0060 ug/L	-0.0060 ppb	01:25:18
2	Tl 190.801†	-52.8	-12.2	-3.4412 ug/L	-3.4412 ppb	01:25:38
2	U 409.014†	-4398.6	392.0	11.578 ug/L	11.578 ppb	01:25:18
2	V 292.402†	-1698.0	-70.3	-0.4434 ug/L	-0.4434 ppb	01:25:18
2	Zn 213.857†	770.4	117.8	0.9993 ug/L	0.9993 ppb	01:25:38
2	SiO2†	575.5	55.4	3.5326 ug/L	3.5326 ppb	01:26:14
3	Sc Radial	4260.1	4260.1	103 %		01:24:26
3	Y RADIAL	4816.1	4816.1	99.48 %		01:24:26
3	Al 396.153Radial†	-210.6	-13.9	-11.486 ug/L	-11.486 ppb	01:24:26
3	Ca 317.933Radial†	16.0	2.1	3.9401 ug/L	3.9401 ppb	01:24:46
3	Fe 238.204 Radial†	11.7	1.2	14.390 ug/L	14.390 ppb	01:24:46
3	K 766.490 Radial†	2871.5	156.5	29.755 ug/L	29.755 ppb	01:24:26
3	Mg 279.077 IEC†	-0.6	-0.5	-20.405 ug/L	-20.405 ppb	01:24:46
3	Na 589.592 Radial†	-1470.4	228.3	70.358 ug/L	70.358 ppb	01:24:26
3	Sr 421.552†	47.0	9.0	0.0596 ug/L	0.0596 ppb	01:24:26
3	Sc 361.383	849267.4	849267.4	95.335 %		01:25:44
3	Y 371.029	690749.4	690749.4	94.076 %		01:25:44
3	Ag 328.068†	430.9	-172.5	-0.7591 ug/L	-0.7591 ppb	01:25:44
3	As 188.979†	-27.6	-0.2	-0.0603 ug/L	-0.0603 ppb	01:26:04
3	B 249.677†	-527.3	208.0	4.3472 ug/L	4.3472 ppb	01:26:04
3	Ba 233.527†	-11.2	3.5	0.0261 ug/L	0.0261 ppb	01:26:04
3	Be 313.107†	-4208.5	-11.4	-0.0036 ug/L	-0.0036 ppb	01:25:44
3	Cd 226.502†	-183.5	11.6	0.1202 ug/L	0.1202 ppb	01:26:04
3	Co 228.616†	-88.3	-7.5	-0.1367 ug/L	-0.1367 ppb	01:26:04
3	Cr 267.716†	73.1	14.8	0.1485 ug/L	0.1485 ppb	01:25:44
3	Cu 324.752†	6950.3	403.6	1.1169 ug/L	1.1169 ppb	01:25:44
3	Mn 257.610†	516.5	10.0	0.0123 ug/L	0.0123 ppb	01:25:44
3	Mo 202.031†	13.3	8.7	0.5810 ug/L	0.5810 ppb	01:26:04
3	Ni 231.604†	68.9	-12.9	-0.2878 ug/L	-0.2878 ppb	01:26:04
3	P 214.914†	244.4	33.1	16.988 ug/L	16.988 ppb	01:26:04
3	Pb 220.353†	-70.4	5.8	0.6221 ug/L	0.6221 ppb	01:26:04
3	S 181.975 Axial†	61.1	15.2	18.592 ug/L	18.592 ppb	01:26:04
3	Sb 206.836†	50.2	14.2	4.3865 ug/L	4.3865 ppb	01:26:04
3	Se 196.026†	-26.8	-2.1	-1.1258 ug/L	-1.1258 ppb	01:26:04
3	Si 251.611†	528.7	18.9	0.5551 ug/L	0.5551 ppb	01:26:04
3	Sn 189.927†	18.1	9.5	1.5417 ug/L	1.5417 ppb	01:26:04
3	Ti 334.940†	-1655.8	67.5	0.0980 ug/L	0.0980 ppb	01:25:44
3	Tl 190.801†	-35.2	7.5	2.1170 ug/L	2.1170 ppb	01:26:04
3	U 409.014†	-4504.3	388.4	11.471 ug/L	11.471 ppb	01:25:44
3	V 292.402†	-1661.5	9.4	0.0902 ug/L	0.0902 ppb	01:25:44
3	Zn 213.857†	779.9	108.9	0.9230 ug/L	0.9230 ppb	01:26:04
3	SiO2†	569.5	35.1	2.2210 ug/L	2.2210 ppb	01:26:19

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	823019.9	92.388 %	3.4044			3.68%
Sc Radial	4327.1	105 %	3.5			3.35%
Y 371.029	668902.9	91.101 %	3.3903			3.72%
Y RADIAL	4880.8	100.8 %	2.88			2.85%
Ag 328.068†	-202.5	-0.8896 ug/L	0.11323	-0.8896 ppb	0.11323	12.73%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-0.5	-0.4619 ug/L	9.55755	-0.4619 ppb	9.55755	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-7.1	-2.7384 ug/L	3.61508	-2.7384 ppb	3.61508	132.01%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	178.4	3.7278 ug/L	0.56786	3.7278 ppb	0.56786	15.23%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-1.9	-0.0144 ug/L	0.04880	-0.0144 ppb	0.04880	339.04%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-163.6	-0.0550 ug/L	0.05490	-0.0550 ppb	0.05490	99.75%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.5	0.8758 ug/L	2.87119	0.8758 ppb	2.87119	327.84%



QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	-3.5 -0.0362 ug/L	0.14669 -0.0362 ppb	0.14669 404.94%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	-13.9 -0.2558 ug/L	0.18116 -0.2558 ppb	0.18116 70.82%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	4.8 0.0441 ug/L	0.33279 0.0441 ppb	0.33279 753.77%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	613.5 1.7012 ug/L	0.67899 1.7012 ppb	0.67899 39.91%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	2.0 22.795 ug/L	12.0309 22.795 ppb	12.0309 52.78%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	94.6 17.977 ug/L	26.7256 17.977 ppb	26.7256 148.67%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	1.5 62.452 ug/L	81.0401 62.452 ppb	81.0401 129.76%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	103.1 0.1032 ug/L	0.07893 0.1032 ppb	0.07893 76.49%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	6.0 0.3987 ug/L	0.24385 0.3987 ppb	0.24385 61.17%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	215.6 66.451 ug/L	17.3112 66.451 ppb	17.3112 26.05%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-10.2 -0.2272 ug/L	0.35868 -0.2272 ppb	0.35868 157.87%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	35.9 18.265 ug/L	3.5516 18.265 ppb	3.5516 19.44%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	7.3 0.7764 ug/L	0.13377 0.7764 ppb	0.13377 17.23%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	10.5 12.793 ug/L	5.0610 12.793 ppb	5.0610 39.56%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	12.8 3.9298 ug/L	2.61642 3.9298 ppb	2.61642 66.58%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-4.8 -2.5831 ug/L	2.93638 -2.5831 ppb	2.93638 113.68%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	28.1 0.8311 ug/L	0.52596 0.8311 ppb	0.52596 63.29%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	2.5 0.4102 ug/L	1.14848 0.4102 ppb	1.14848 279.98%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-1.4 -0.0092 ug/L	0.14657 -0.0092 ppb	0.14657 >999.9%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-40.3 -0.0704 ug/L	0.20816 -0.0704 ppb	0.20816 295.80%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	-3.6 -1.0244 ug/L	2.84906 -1.0244 ppb	2.84906 278.12%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	400.1 11.816 ug/L	0.5081 11.816 ppb	0.5081 4.30%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-58.1 -0.3603 ug/L	0.41519 -0.3603 ppb	0.41519 115.24%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	122.4 1.0358 ug/L	0.13482 1.0358 ppb	0.13482 13.02%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	39.9 2.5351 ug/L	0.88345 2.5351 ppb	0.88345 34.85%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 74

Sample ID: 244847001|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 95

Date Collected: 2/2/2010 01:28:29

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 244847001|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4177.6	4177.6	101 %		01:30:42
1	Y RADIAL	5237.5	5237.5	108.2 %		01:30:22
1	Al 396.153Radial†	17490.6	17462.7	14418 ug/L	14418 ppb	01:30:22
1	Ca 317.933Radial†	1965.2	1927.4	3567.9 ug/L	3567.9 ppb	01:30:42
1	Fe 238.204 Radial†	5719.8	5638.4	65525 ug/L	65525 ppb	01:30:22
1	K 766.490 Radial†	17796.4	14950.2	2843.6 ug/L	2843.6 ppb	01:30:22
1	Mg 279.077 IEC†	69.1	68.3	2809.3 ug/L	2809.3 ppb	01:30:42
1	Na 589.592 Radial†	-20.3	1632.3	502.99 ug/L	502.99 ppb	01:30:22
1	Sr 421.552†	4254.6	4165.1	27.474 ug/L	27.474 ppb	01:30:22
1	Sc 361.383	878304.1	878304.1	98.594 %		01:31:40
1	Y 371.029	781740.0	781740.0	106.47 %		01:31:40
1	Ag 328.068†	-3462.8	-4136.7	3.3565 ug/L	3.3565 ppb	01:31:45
1	As 188.979†	-59.8	-31.9	18.017 ug/L	18.017 ppb	01:32:05
1	B 249.677†	92.1	854.6	7.1949 ug/L	7.1949 ppb	01:31:45
1	Ba 233.527†	21989.9	22318.7	165.24 ug/L	165.24 ppb	01:31:45
1	Be 313.107†	-6037.0	-1720.1	3.3453 ug/L	3.3453 ppb	01:31:45
1	Cd 226.502†	368.4	577.8	-0.7730 ug/L	-0.7730 ppb	01:32:05
1	Co 228.616†	506.9	599.3	6.5350 ug/L	6.5350 ppb	01:32:05
1	Cr 267.716†	11444.6	11545.9	120.24 ug/L	120.24 ppb	01:31:45
1	Cu 324.752†	12527.8	5819.6	19.707 ug/L	19.707 ppb	01:31:45
1	Mn 257.610†	1790689.3	1815686.8	1828.1 ug/L	1828.1 ppb	01:31:40
1	Mo 202.031†	183.2	180.6	17.129 ug/L	17.129 ppb	01:32:05
1	Ni 231.604†	3394.7	3357.9	74.816 ug/L	74.816 ppb	01:32:05
1	P 214.914†	1091.9	884.2	406.69 ug/L	406.69 ppb	01:32:05
1	Pb 220.353†	382.5	467.6	47.072 ug/L	47.072 ppb	01:32:05
1	S 181.975 Axial†	146.0	99.2	118.43 ug/L	118.43 ppb	01:32:05
1	Sb 206.836†	76.8	39.5	8.0079 ug/L	8.0079 ppb	01:32:05
1	Se 196.026†	-305.1	-283.5	60.521 ug/L	60.521 ppb	01:32:05
1	Si 251.611†	498869.2	505445.7	15045 ug/L	15045 ppb	01:31:40
1	Sn 189.927†	-9.1	-18.6	-1.3619 ug/L	-1.3619 ppb	01:32:05
1	Ti 334.940†	1138292.5	1156325.1	1728.0 ug/L	1728.0 ppb	01:31:40
1	Tl 190.801†	-116.7	-73.9	2.0598 ug/L	2.0598 ppb	01:32:05
1	U 409.014†	-8198.9	-3202.7	-102.34 ug/L	-102.34 ppb	01:31:45
1	V 292.402†	5790.5	7625.2	39.355 ug/L	39.355 ppb	01:31:45
1	Zn 213.857†	36513.7	36325.1	301.34 ug/L	301.34 ppb	01:31:45
1	SiO2†	488185.2	494582.9	31539 ug/L	31539 ppb	01:33:13
2	Sc Radial	4179.8	4179.8	101 %		01:31:07
2	Y RADIAL	5418.7	5418.7	111.9 %		01:30:47
2	Al 396.153Radial†	16996.9	16966.1	14008 ug/L	14008 ppb	01:30:47
2	Ca 317.933Radial†	1964.4	1925.5	3564.4 ug/L	3564.4 ppb	01:31:07
2	Fe 238.204 Radial†	5528.8	5446.8	63298 ug/L	63298 ppb	01:30:47
2	K 766.490 Radial†	17240.0	14391.7	2737.3 ug/L	2737.3 ppb	01:30:47
2	Mg 279.077 IEC†	65.9	65.1	2675.2 ug/L	2675.2 ppb	01:31:07
2	Na 589.592 Radial†	-61.5	1591.6	490.45 ug/L	490.45 ppb	01:30:47
2	Sr 421.552†	4173.8	4083.1	26.933 ug/L	26.933 ppb	01:30:47
2	Sc 361.383	867232.9	867232.9	97.352 %		01:32:11
2	Y 371.029	774506.7	774506.7	105.48 %		01:32:11
2	Ag 328.068†	-3566.5	-4288.0	1.9867 ug/L	1.9867 ppb	01:32:16
2	As 188.979†	-68.6	-41.8	13.744 ug/L	13.744 ppb	01:32:36
2	B 249.677†	-29.4	730.9	4.9701 ug/L	4.9701 ppb	01:32:16
2	Ba 233.527†	22153.0	22771.0	168.47 ug/L	168.47 ppb	01:32:16
2	Be 313.107†	-6178.9	-1944.0	3.2753 ug/L	3.2753 ppb	01:32:16
2	Cd 226.502†	365.9	580.0	-0.5213 ug/L	-0.5213 ppb	01:32:36
2	Co 228.616†	509.7	608.7	6.7381 ug/L	6.7381 ppb	01:32:36
2	Cr 267.716†	11514.9	11766.3	122.47 ug/L	122.47 ppb	01:32:16
2	Cu 324.752†	12729.5	6189.0	20.624 ug/L	20.624 ppb	01:32:16
2	Mn 257.610†	1768587.3	1816169.5	1828.4 ug/L	1828.4 ppb	01:32:11
2	Mo 202.031†	187.3	187.2	17.395 ug/L	17.395 ppb	01:32:36
2	Ni 231.604†	3433.1	3441.3	76.675 ug/L	76.675 ppb	01:32:36

2	P 214.914†	1099.7	906.4	419.65 ug/L	419.65 ppb	01:32:36
2	Pb 220.353†	364.3	453.9	45.729 ug/L	45.729 ppb	01:32:36
2	S 181.975 Axial†	145.8	100.8	120.55 ug/L	120.55 ppb	01:32:36
2	Sb 206.836†	62.4	25.6	3.7340 ug/L	3.7340 ppb	01:32:36
2	Se 196.026†	-297.0	-279.1	55.521 ug/L	55.521 ppb	01:32:36
2	Si 251.611†	492028.7	504878.4	15028 ug/L	15028 ppb	01:32:11
2	Sn 189.927†	-12.9	-22.6	-2.0502 ug/L	-2.0502 ppb	01:32:36
2	Ti 334.940†	1125415.9	1157836.9	1730.3 ug/L	1730.3 ppb	01:32:11
2	Tl 190.801†	-126.0	-84.9	-1.0387 ug/L	-1.0387 ppb	01:32:36
2	U 409.014†	-8549.1	-3668.6	-115.85 ug/L	-115.85 ppb	01:32:16
2	V 292.402†	5795.1	7704.9	40.184 ug/L	40.184 ppb	01:32:16
2	Zn 213.857†	36888.9	37183.4	308.82 ug/L	308.82 ppb	01:32:16
2	SiO2†	484795.2	497421.7	31720 ug/L	31720 ppb	01:33:19
3	Sc Radial	4158.4	4158.4	101 %		01:31:33
3	Y RADIAL	5494.9	5494.9	113.5 %		01:31:12
3	Al 396.153Radial†	17192.9	17247.0	14240 ug/L	14240 ppb	01:31:12
3	Ca 317.933Radial†	1950.4	1921.6	3557.2 ug/L	3557.2 ppb	01:31:33
3	Fe 238.204 Radial†	5612.1	5557.6	64585 ug/L	64585 ppb	01:31:12
3	K 766.490 Radial†	17489.9	14727.2	2801.2 ug/L	2801.2 ppb	01:31:12
3	Mg 279.077 IEC†	69.5	69.0	2839.3 ug/L	2839.3 ppb	01:31:33
3	Na 589.592 Radial†	-106.6	1546.5	476.57 ug/L	476.57 ppb	01:31:12
3	Sr 421.552†	4244.3	4174.3	27.535 ug/L	27.535 ppb	01:31:12
3	Sc 361.383	868226.9	868226.9	97.463 %		01:32:42
3	Y 371.029	775622.8	775622.8	105.64 %		01:32:42
3	Ag 328.068†	-3617.0	-4335.7	2.1925 ug/L	2.1925 ppb	01:32:47
3	As 188.979†	-48.7	-21.2	21.947 ug/L	21.947 ppb	01:33:07
3	B 249.677†	-77.4	681.7	3.7315 ug/L	3.7315 ppb	01:32:47
3	Ba 233.527†	22344.3	22941.1	169.76 ug/L	169.76 ppb	01:32:47
3	Be 313.107†	-6110.7	-1866.7	3.3019 ug/L	3.3019 ppb	01:32:47
3	Cd 226.502†	347.7	560.8	-0.8517 ug/L	-0.8517 ppb	01:33:07
3	Co 228.616†	526.0	624.8	7.0165 ug/L	7.0165 ppb	01:33:07
3	Cr 267.716†	11628.1	11868.9	123.56 ug/L	123.56 ppb	01:32:47
3	Cu 324.752†	12847.9	6295.5	20.987 ug/L	20.987 ppb	01:32:47
3	Mn 257.610†	1770743.2	1816301.7	1828.6 ug/L	1828.6 ppb	01:32:42
3	Mo 202.031†	196.4	196.3	18.104 ug/L	18.104 ppb	01:33:07
3	Ni 231.604†	3439.6	3443.9	76.733 ug/L	76.733 ppb	01:33:07
3	P 214.914†	1094.0	899.2	414.92 ug/L	414.92 ppb	01:33:07
3	Pb 220.353†	392.2	482.0	48.675 ug/L	48.675 ppb	01:33:07
3	S 181.975 Axial†	148.1	103.1	123.28 ug/L	123.28 ppb	01:33:07
3	Sb 206.836†	67.0	30.3	5.2270 ug/L	5.2270 ppb	01:33:07
3	Se 196.026†	-305.4	-287.4	55.207 ug/L	55.207 ppb	01:33:07
3	Si 251.611†	492828.7	505120.7	15035 ug/L	15035 ppb	01:32:42
3	Sn 189.927†	-5.5	-15.1	-0.8070 ug/L	-0.8070 ppb	01:33:07
3	Ti 334.940†	1126881.7	1158017.4	1730.5 ug/L	1730.5 ppb	01:32:42
3	Tl 190.801†	-138.5	-97.6	-4.6200 ug/L	-4.6200 ppb	01:33:07
3	U 409.014†	-8468.7	-3576.0	-113.27 ug/L	-113.27 ppb	01:32:47
3	V 292.402†	5787.8	7690.6	39.918 ug/L	39.918 ppb	01:32:47
3	Zn 213.857†	37158.2	37416.2	310.67 ug/L	310.67 ppb	01:32:47
3	SiO2†	489311.6	501485.5	31979 ug/L	31979 ppb	01:33:24

Mean Data: 244847001|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	871254.6	97.803 %	0.6876			0.70%
Sc Radial	4171.9	101 %	0.3			0.28%
Y 371.029	777289.8	105.86 %	0.530			0.50%
Y RADIAL	5383.7	111.2 %	2.73			2.46%
Ag 328.068†	-4253.5	2.5119 ug/L	0.73864	2.5119 ppb	0.73864	29.41%
Al 396.153Radial†	17225.3	14222 ug/L	205.6	14222 ppb	205.6	1.45%
As 188.979†	-31.6	17.903 ug/L	4.1024	17.903 ppb	4.1024	22.92%
B 249.677†	755.7	5.2988 ug/L	1.75495	5.2988 ppb	1.75495	33.12%
Ba 233.527†	22677.0	167.82 ug/L	2.330	167.82 ppb	2.330	1.39%
Be 313.107†	-1843.6	3.3075 ug/L	0.03534	3.3075 ppb	0.03534	1.07%
Ca 317.933Radial†	1924.8	3563.2 ug/L	5.47	3563.2 ppb	5.47	0.15%
Cd 226.502†	572.9	-0.7154 ug/L	0.17257	-0.7154 ppb	0.17257	24.12%
Co 228.616†	610.9	6.7632 ug/L	0.24170	6.7632 ppb	0.24170	3.57%
Cr 267.716†	11727.0	122.09 ug/L	1.689	122.09 ppb	1.689	1.38%
Cu 324.752†	6101.3	20.440 ug/L	0.6597	20.440 ppb	0.6597	3.23%
Fe 238.204 Radial†	5547.6	64470 ug/L	1117.8	64470 ppb	1117.8	1.73%
K 766.490 Radial†	14689.7	2794.0 ug/L	53.52	2794.0 ppb	53.52	1.92%

Mg 279.077 IEC†	67.4	2774.6 ug/L	87.38	2774.6 ppb	87.38	3.15%
Mn 257.610†	1816052.6	1828.4 ug/L	0.26	1828.4 ppb	0.26	0.01%
Mo 202.031†	188.0	17.543 ug/L	0.5039	17.543 ppb	0.5039	2.87%
Na 589.592 Radial†	1590.1	490.00 ug/L	13.214	490.00 ppb	13.214	2.70%
Ni 231.604†	3414.4	76.074 ug/L	1.0904	76.074 ppb	1.0904	1.43%
P 214.914†	896.6	413.75 ug/L	6.557	413.75 ppb	6.557	1.58%
Pb 220.353†	467.8	47.159 ug/L	1.4747	47.159 ppb	1.4747	3.13%
S 181.975 Axial†	101.0	120.76 ug/L	2.431	120.76 ppb	2.431	2.01%
Sb 206.836†	31.8	5.6563 ug/L	2.16904	5.6563 ppb	2.16904	38.35%
Se 196.026†	-283.3	57.083 ug/L	2.9816	57.083 ppb	2.9816	5.22%
Si 251.611†	505148.3	15036 ug/L	8.5	15036 ppb	8.5	0.06%
Sn 189.927†	-18.8	-1.4064 ug/L	0.62275	-1.4064 ppb	0.62275	44.28%
Sr 421.552†	4140.8	27.314 ug/L	0.3314	27.314 ppb	0.3314	1.21%
Ti 334.940†	1157393.1	1729.6 ug/L	1.39	1729.6 ppb	1.39	0.08%
Tl 190.801†	-85.5	-1.1996 ug/L	3.34282	-1.1996 ppb	3.34282	278.65%
U 409.014†	-3482.4	-110.49 ug/L	7.173	-110.49 ppb	7.173	6.49%
V 292.402†	7673.6	39.819 ug/L	0.4230	39.819 ppb	0.4230	1.06%
Zn 213.857†	36974.9	306.94 ug/L	4.943	306.94 ppb	4.943	1.61%
SiO2†	497830.1	31746 ug/L	221.2	31746 ppb	221.2	0.70%

Sequence No.: 75

Sample ID: 244847002|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 96

Date Collected: 2/2/2010 01:35:36

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 244847002|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4333.6	4333.6	105 %		01:37:29
1	Y RADIAL	5590.5	5590.5	115.5 %		01:37:29
1	Al 396.153Radial†	27437.7	26310.0	21722 ug/L	21722 ppb	01:37:29
1	Ca 317.933Radial†	3150.4	2985.7	5527.0 ug/L	5527.0 ppb	01:37:49
1	Fe 238.204 Radial†	7727.9	7346.6	85376 ug/L	85376 ppb	01:37:29
1	K 766.490 Radial†	26136.5	22256.9	4233.5 ug/L	4233.5 ppb	01:37:29
1	Mg 279.077 IEC†	136.3	129.8	5381.7 ug/L	5381.7 ppb	01:37:49
1	Na 589.592 Radial†	1243.7	2836.2	873.99 ug/L	873.99 ppb	01:37:29
1	Sr 421.552†	7687.9	7282.2	48.041 ug/L	48.041 ppb	01:37:29
1	Sc 361.383	860869.7	860869.7	96.637 %		01:38:46
1	Y 371.029	800883.0	800883.0	109.08 %		01:38:46
1	Ag 328.068†	-5247.8	-6054.9	1.5594 ug/L	1.5594 ppb	01:38:51
1	As 188.979†	-73.3	-47.1	26.036 ug/L	26.036 ppb	01:39:12
1	B 249.677†	205.7	973.9	6.4455 ug/L	6.4455 ppb	01:38:51
1	Ba 233.527†	32932.7	34094.0	252.00 ug/L	252.00 ppb	01:38:51
1	Be 313.107†	-10584.1	-6549.3	4.1518 ug/L	4.1518 ppb	01:38:51
1	Cd 226.502†	581.4	805.7	-0.3820 ug/L	-0.3820 ppb	01:39:12
1	Co 228.616†	888.6	1004.6	11.478 ug/L	11.478 ppb	01:39:12
1	Cr 267.716†	33764.0	34877.1	360.89 ug/L	360.89 ppb	01:38:51
1	Cu 324.752†	15411.3	9060.7	29.792 ug/L	29.792 ppb	01:38:51
1	Mn 257.610†	2044400.9	2115008.9	2130.3 ug/L	2130.3 ppb	01:38:46
1	Mo 202.031†	570.2	584.8	45.559 ug/L	45.559 ppb	01:39:12
1	Ni 231.604†	9762.5	10017.1	223.19 ug/L	223.19 ppb	01:38:51
1	P 214.914†	1504.8	1333.9	624.16 ug/L	624.16 ppb	01:39:12
1	Pb 220.353†	547.0	645.7	65.946 ug/L	65.946 ppb	01:39:12
1	S 181.975 Axial†	286.1	247.2	297.92 ug/L	297.92 ppb	01:39:12
1	Sb 206.836†	102.0	67.1	13.996 ug/L	13.996 ppb	01:39:12
1	Se 196.026†	-410.6	-398.9	62.721 ug/L	62.721 ppb	01:39:12
1	Si 251.611†	630611.4	652019.3	19407 ug/L	19407 ppb	01:38:46
1	Sn 189.927†	-17.2	-27.2	-2.1167 ug/L	-2.1167 ppb	01:39:12
1	Ti 334.940†	1807039.1	1871723.7	2796.9 ug/L	2796.9 ppb	01:38:46
1	Tl 190.801†	-166.4	-127.7	-2.9343 ug/L	-2.9343 ppb	01:39:12
1	U 409.014†	-9173.6	-4379.8	-139.91 ug/L	-139.91 ppb	01:38:46
1	V 292.402†	11580.2	13735.3	76.256 ug/L	76.256 ppb	01:38:51
1	Zn 213.857†	46198.9	47097.3	389.85 ug/L	389.85 ppb	01:38:51
1	SiO2†	631507.9	652920.5	41635 ug/L	41635 ppb	01:40:20
2	Sc Radial	4353.4	4353.4	106 %		01:37:54
2	Y RADIAL	5634.2	5634.2	116.4 %		01:37:54
2	Al 396.153Radial†	28235.1	26947.2	22248 ug/L	22248 ppb	01:37:54
2	Ca 317.933Radial†	3135.2	2957.7	5475.2 ug/L	5475.2 ppb	01:38:14
2	Fe 238.204 Radial†	7927.7	7502.6	87189 ug/L	87189 ppb	01:37:54
2	K 766.490 Radial†	26917.2	22883.9	4352.8 ug/L	4352.8 ppb	01:37:54
2	Mg 279.077 IEC†	136.9	129.8	5379.1 ug/L	5379.1 ppb	01:38:14
2	Na 589.592 Radial†	1324.5	2907.4	895.92 ug/L	895.92 ppb	01:37:54
2	Sr 421.552†	7929.1	7477.6	49.331 ug/L	49.331 ppb	01:37:54
2	Sc 361.383	870154.4	870154.4	97.680 %		01:39:17
2	Y 371.029	808374.6	808374.6	110.10 %		01:39:17
2	Ag 328.068†	-5280.4	-6030.3	2.2556 ug/L	2.2556 ppb	01:39:23
2	As 188.979†	-78.2	-51.3	24.578 ug/L	24.578 ppb	01:39:43
2	B 249.677†	159.8	924.7	5.1207 ug/L	5.1207 ppb	01:39:23
2	Ba 233.527†	33426.7	34236.1	253.09 ug/L	253.09 ppb	01:39:23
2	Be 313.107†	-10617.9	-6467.1	4.1079 ug/L	4.1079 ppb	01:39:23
2	Cd 226.502†	578.4	796.2	-0.6659 ug/L	-0.6659 ppb	01:39:43
2	Co 228.616†	908.5	1015.2	11.710 ug/L	11.710 ppb	01:39:43
2	Cr 267.716†	34305.5	35058.7	362.79 ug/L	362.79 ppb	01:39:23
2	Cu 324.752†	15523.1	9005.0	29.731 ug/L	29.731 ppb	01:39:23
2	Mn 257.610†	2043152.9	2091158.1	2106.5 ug/L	2106.5 ppb	01:39:17
2	Mo 202.031†	559.3	567.4	44.541 ug/L	44.541 ppb	01:39:43
2	Ni 231.604†	9940.1	10091.1	224.84 ug/L	224.84 ppb	01:39:23

2	P 214.914†	1500.6	1313.0	612.02 ug/L	612.02 ppb	01:39:43
2	Pb 220.353†	531.2	623.5	63.498 ug/L	63.498 ppb	01:39:43
2	S 181.975 Axial†	295.0	253.1	304.99 ug/L	304.99 ppb	01:39:43
2	Sb 206.836†	75.6	39.0	5.5082 ug/L	5.5082 ppb	01:39:43
2	Se 196.026†	-400.3	-383.8	77.087 ug/L	77.087 ppb	01:39:43
2	Si 251.611†	629739.1	644163.4	19174 ug/L	19174 ppb	01:39:17
2	Sn 189.927†	-22.2	-32.1	-2.8891 ug/L	-2.8891 ppb	01:39:43
2	Ti 334.940†	1805942.8	1850649.0	2765.4 ug/L	2765.4 ppb	01:39:17
2	Tl 190.801†	-170.5	-130.1	-3.9916 ug/L	-3.9916 ppb	01:39:43
2	U 409.014†	-9147.2	-4251.4	-136.33 ug/L	-136.33 ppb	01:39:17
2	V 292.402†	11855.9	13889.7	77.043 ug/L	77.043 ppb	01:39:23
2	Zn 213.857†	46909.7	47315.0	391.51 ug/L	391.51 ppb	01:39:23
2	SiO2†	630389.9	644803.2	41118 ug/L	41118 ppb	01:40:25
3	Sc Radial	4353.9	4353.9	106 %		01:38:19
3	Y RADIAL	5662.3	5662.3	117.0 %		01:38:19
3	Al 396.153Radial†	27743.1	26477.8	21860 ug/L	21860 ppb	01:38:19
3	Ca 317.933Radial†	3157.7	2978.7	5514.1 ug/L	5514.1 ppb	01:38:39
3	Fe 238.204 Radial†	7764.7	7347.2	85384 ug/L	85384 ppb	01:38:19
3	K 766.490 Radial†	26634.6	22613.0	4301.2 ug/L	4301.2 ppb	01:38:19
3	Mg 279.077 IEC†	138.4	131.2	5437.8 ug/L	5437.8 ppb	01:38:39
3	Na 589.592 Radial†	1337.3	2919.4	899.63 ug/L	899.63 ppb	01:38:19
3	Sr 421.552†	7797.9	7352.4	48.504 ug/L	48.504 ppb	01:38:19
3	Sc 361.383	875655.3	875655.3	98.297 %		01:39:49
3	Y 371.029	813496.8	813496.8	110.79 %		01:39:49
3	Ag 328.068†	-5258.6	-5974.2	1.9120 ug/L	1.9120 ppb	01:39:54
3	As 188.979†	-77.6	-50.2	24.542 ug/L	24.542 ppb	01:40:14
3	B 249.677†	161.9	925.8	5.4400 ug/L	5.4400 ppb	01:39:54
3	Ba 233.527†	33095.7	33684.4	249.00 ug/L	249.00 ppb	01:39:54
3	Be 313.107†	-10512.8	-6291.9	4.1567 ug/L	4.1567 ppb	01:39:54
3	Cd 226.502†	582.3	796.5	-0.4776 ug/L	-0.4776 ppb	01:40:14
3	Co 228.616†	873.3	973.6	10.979 ug/L	10.979 ppb	01:40:14
3	Cr 267.716†	33968.4	34495.0	356.95 ug/L	356.95 ppb	01:39:54
3	Cu 324.752†	15440.2	8820.9	29.125 ug/L	29.125 ppb	01:39:54
3	Mn 257.610†	2051991.9	2087010.2	2102.2 ug/L	2102.2 ppb	01:39:49
3	Mo 202.031†	565.5	570.0	44.578 ug/L	44.578 ppb	01:40:14
3	Ni 231.604†	9946.4	10033.6	223.56 ug/L	223.56 ppb	01:39:54
3	P 214.914†	1490.9	1293.4	603.36 ug/L	603.36 ppb	01:40:14
3	Pb 220.353†	503.2	591.5	60.157 ug/L	60.157 ppb	01:40:14
3	S 181.975 Axial†	283.0	239.0	287.88 ug/L	287.88 ppb	01:40:14
3	Sb 206.836†	95.2	58.5	11.481 ug/L	11.481 ppb	01:40:14
3	Se 196.026†	-406.0	-387.0	69.335 ug/L	69.335 ppb	01:40:14
3	Si 251.611†	633332.1	643768.6	19162 ug/L	19162 ppb	01:39:49
3	Sn 189.927†	-5.6	-15.1	-0.1720 ug/L	-0.1720 ppb	01:40:14
3	Ti 334.940†	1814464.6	1847704.0	2761.0 ug/L	2761.0 ppb	01:39:49
3	Tl 190.801†	-165.6	-124.0	-2.3061 ug/L	-2.3061 ppb	01:40:14
3	U 409.014†	-9317.5	-4365.9	-139.49 ug/L	-139.49 ppb	01:39:49
3	V 292.402†	11679.3	13633.8	75.607 ug/L	75.607 ppb	01:39:54
3	Zn 213.857†	46467.9	46563.8	385.32 ug/L	385.32 ppb	01:39:54
3	SiO2†	628779.6	639110.8	40755 ug/L	40755 ppb	01:40:31

Mean Data: 244847002|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	868893.1	97.538 %	0.8389			0.86%
Sc Radial	4347.0	105 %	0.3			0.27%
Y 371.029	807584.8	109.99 %	0.864			0.79%
Y RADIAL	5629.0	116.3 %	0.75			0.64%
Ag 328.068†	-6019.8	1.9090 ug/L	0.34810	1.9090 ppb	0.34810	18.23%
Al 396.153Radial†	26578.4	21943 ug/L	272.7	21943 ppb	272.7	1.24%
As 188.979†	-49.5	25.052 ug/L	0.8526	25.052 ppb	0.8526	3.40%
B 249.677†	941.5	5.6687 ug/L	0.69135	5.6687 ppb	0.69135	12.20%
Ba 233.527†	34004.8	251.36 ug/L	2.118	251.36 ppb	2.118	0.84%
Be 313.107†	-6436.1	4.1388 ug/L	0.02686	4.1388 ppb	0.02686	0.65%
Ca 317.933Radial†	2974.1	5505.4 ug/L	26.98	5505.4 ppb	26.98	0.49%
Cd 226.502†	799.5	-0.5085 ug/L	0.14442	-0.5085 ppb	0.14442	28.40%
Co 228.616†	997.8	11.389 ug/L	0.3735	11.389 ppb	0.3735	3.28%
Cr 267.716†	34810.3	360.21 ug/L	2.977	360.21 ppb	2.977	0.83%
Cu 324.752†	8962.2	29.550 ug/L	0.3687	29.550 ppb	0.3687	1.25%
Fe 238.204 Radial†	7398.8	85983 ug/L	1044.4	85983 ppb	1044.4	1.21%
K 766.490 Radial†	22584.6	4295.8 ug/L	59.86	4295.8 ppb	59.86	1.39%

Mg 279.077 IEC†	130.3	5399.5 ug/L	33.18	5399.5 ppb	33.18	0.61%
Mn 257.610†	2097725.8	2113.0 ug/L	15.12	2113.0 ppb	15.12	0.72%
Mo 202.031†	574.1	44.893 ug/L	0.5773	44.893 ppb	0.5773	1.29%
Na 589.592 Radial†	2887.7	889.85 ug/L	13.858	889.85 ppb	13.858	1.56%
Ni 231.604†	10047.2	223.87 ug/L	0.866	223.87 ppb	0.866	0.39%
P 214.914†	1313.4	613.18 ug/L	10.448	613.18 ppb	10.448	1.70%
Pb 220.353†	620.2	63.201 ug/L	2.9059	63.201 ppb	2.9059	4.60%
S 181.975 Axial†	246.4	296.93 ug/L	8.598	296.93 ppb	8.598	2.90%
Sb 206.836†	54.9	10.328 ug/L	4.3595	10.328 ppb	4.3595	42.21%
Se 196.026†	-389.9	69.714 ug/L	7.1909	69.714 ppb	7.1909	10.31%
Si 251.611†	646650.4	19248 ug/L	138.5	19248 ppb	138.5	0.72%
Sn 189.927†	-24.8	-1.7259 ug/L	1.40005	-1.7259 ppb	1.40005	81.12%
Sr 421.552†	7370.7	48.625 ug/L	0.6537	48.625 ppb	0.6537	1.34%
Ti 334.940†	1856692.2	2774.4 ug/L	19.58	2774.4 ppb	19.58	0.71%
Tl 190.801†	-127.3	-3.0773 ug/L	0.85184	-3.0773 ppb	0.85184	27.68%
U 409.014†	-4332.4	-138.58 ug/L	1.958	-138.58 ppb	1.958	1.41%
V 292.402†	13753.0	76.302 ug/L	0.7191	76.302 ppb	0.7191	0.94%
Zn 213.857†	46992.0	388.89 ug/L	3.203	388.89 ppb	3.203	0.82%
SiO2†	645611.5	41169 ug/L	442.6	41169 ppb	442.6	1.07%

Sequence No.: 76

Sample ID: 244847003|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 97

Date Collected: 2/2/2010 01:42:42

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 244847003|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4413.3	4413.3	107 %		01:44:35
1	Y RADIAL	5564.6	5564.6	114.9 %		01:44:35
1	Al 396.153Radial†	22420.8	21148.8	17462 ug/L	17462 ppb	01:44:35
1	Ca 317.933Radial†	4977.8	4639.8	8589.0 ug/L	8589.0 ppb	01:44:35
1	Fe 238.204 Radial†	4477.0	4174.9	48518 ug/L	48518 ppb	01:44:35
1	K 766.490 Radial†	20388.4	16434.5	3124.6 ug/L	3124.6 ppb	01:44:35
1	Mg 279.077 IEC†	92.7	86.7	3603.2 ug/L	3603.2 ppb	01:44:55
1	Na 589.592 Radial†	-193.1	1471.7	453.52 ug/L	453.52 ppb	01:44:35
1	Sr 421.552†	10425.1	9708.8	64.040 ug/L	64.040 ppb	01:44:35
1	Sc 361.383	878273.4	878273.4	98.591 %		01:45:53
1	Y 371.029	789894.8	789894.8	107.58 %		01:45:53
1	Ag 328.068†	-2763.0	-3427.0	0.8447 ug/L	0.8447 ppb	01:45:58
1	As 188.979†	-45.5	-17.4	17.325 ug/L	17.325 ppb	01:46:18
1	B 249.677†	-17.5	743.4	7.6340 ug/L	7.6340 ppb	01:45:58
1	Ba 233.527†	33258.5	33749.1	248.26 ug/L	248.26 ppb	01:45:58
1	Be 313.107†	-5277.9	-950.3	2.9915 ug/L	2.9915 ppb	01:45:58
1	Cd 226.502†	308.7	517.2	0.3316 ug/L	0.3316 ppb	01:46:18
1	Co 228.616†	471.5	563.4	6.7409 ug/L	6.7409 ppb	01:46:18
1	Cr 267.716†	2890.9	2870.4	30.583 ug/L	30.583 ppb	01:46:18
1	Cu 324.752†	17604.9	10969.6	33.111 ug/L	33.111 ppb	01:45:58
1	Mn 257.610†	1491266.2	1512047.7	1521.7 ug/L	1521.7 ppb	01:45:53
1	Mo 202.031†	38.2	33.5	6.0972 ug/L	6.0972 ppb	01:46:18
1	Ni 231.604†	1017.8	947.2	21.099 ug/L	21.099 ppb	01:46:18
1	P 214.914†	1456.4	1254.0	610.69 ug/L	610.69 ppb	01:46:18
1	Pb 220.353†	466.4	552.7	58.542 ug/L	58.542 ppb	01:46:18
1	S 181.975 Axial†	411.6	368.6	447.01 ug/L	447.01 ppb	01:46:18
1	Sb 206.836†	51.3	13.6	0.9149 ug/L	0.9149 ppb	01:46:18
1	Se 196.026†	-255.3	-233.0	32.426 ug/L	32.426 ppb	01:46:18
1	Si 251.611†	535227.8	542341.6	16143 ug/L	16143 ppb	01:45:53
1	Sn 189.927†	260.8	255.1	43.336 ug/L	43.336 ppb	01:46:18
1	Ti 334.940†	960346.2	975875.9	1459.0 ug/L	1459.0 ppb	01:45:53
1	Tl 190.801†	-103.5	-60.5	2.1544 ug/L	2.1544 ppb	01:46:18
1	U 409.014†	-6973.2	-1959.8	-63.487 ug/L	-63.487 ppb	01:45:58
1	V 292.402†	5410.7	7240.2	39.537 ug/L	39.537 ppb	01:45:58
1	Zn 213.857†	29803.3	29520.2	245.57 ug/L	245.57 ppb	01:45:58
1	SiO2†	525665.2	532615.8	33965 ug/L	33965 ppb	01:47:26
2	Sc Radial	4436.4	4436.4	108 %		01:45:00
2	Y RADIAL	5583.0	5583.0	115.3 %		01:45:00
2	Al 396.153Radial†	22692.7	21292.7	17581 ug/L	17581 ppb	01:45:00
2	Ca 317.933Radial†	5029.9	4664.1	8633.9 ug/L	8633.9 ppb	01:45:00
2	Fe 238.204 Radial†	4502.9	4177.3	48545 ug/L	48545 ppb	01:45:00
2	K 766.490 Radial†	20383.3	16330.7	3104.8 ug/L	3104.8 ppb	01:45:00
2	Mg 279.077 IEC†	90.0	83.8	3478.7 ug/L	3478.7 ppb	01:45:20
2	Na 589.592 Radial†	-226.1	1442.0	444.37 ug/L	444.37 ppb	01:45:00
2	Sr 421.552†	10516.0	9742.7	64.263 ug/L	64.263 ppb	01:45:00
2	Sc 361.383	876612.3	876612.3	98.404 %		01:46:24
2	Y 371.029	788540.7	788540.7	107.39 %		01:46:24
2	Ag 328.068†	-2823.9	-3494.2	0.5607 ug/L	0.5607 ppb	01:46:29
2	As 188.979†	-36.5	-8.3	20.756 ug/L	20.756 ppb	01:46:49
2	B 249.677†	-145.6	613.2	4.9073 ug/L	4.9073 ppb	01:46:29
2	Ba 233.527†	33102.9	33654.9	247.57 ug/L	247.57 ppb	01:46:29
2	Be 313.107†	-5352.8	-1036.6	2.9514 ug/L	2.9514 ppb	01:46:29
2	Cd 226.502†	299.1	508.1	0.2336 ug/L	0.2336 ppb	01:46:49
2	Co 228.616†	474.6	567.4	6.8229 ug/L	6.8229 ppb	01:46:49
2	Cr 267.716†	2900.4	2885.6	30.742 ug/L	30.742 ppb	01:46:49
2	Cu 324.752†	17679.4	11079.2	33.419 ug/L	33.419 ppb	01:46:29
2	Mn 257.610†	1484056.5	1507587.3	1517.3 ug/L	1517.3 ppb	01:46:24
2	Mo 202.031†	27.5	22.7	5.3812 ug/L	5.3812 ppb	01:46:49
2	Ni 231.604†	994.1	925.1	20.606 ug/L	20.606 ppb	01:46:49



2	P 214.914†	1454.4	1254.7	611.02 ug/L	611.02 ppb	01:46:49
2	Pb 220.353†	466.8	554.0	58.708 ug/L	58.708 ppb	01:46:49
2	S 181.975 Axial†	422.8	380.7	461.83 ug/L	461.83 ppb	01:46:49
2	Sb 206.836†	52.5	14.9	1.3055 ug/L	1.3055 ppb	01:46:49
2	Se 196.026†	-240.2	-218.1	40.743 ug/L	40.743 ppb	01:46:49
2	Si 251.611†	532337.0	540432.6	16086 ug/L	16086 ppb	01:46:24
2	Sn 189.927†	251.9	246.6	41.964 ug/L	41.964 ppb	01:46:49
2	Ti 334.940†	955289.4	972582.9	1454.1 ug/L	1454.1 ppb	01:46:24
2	Tl 190.801†	-103.7	-60.9	1.9673 ug/L	1.9673 ppb	01:46:49
2	U 409.014†	-7047.5	-2048.7	-66.117 ug/L	-66.117 ppb	01:46:29
2	V 292.402†	5375.9	7215.3	39.355 ug/L	39.355 ppb	01:46:29
2	Zn 213.857†	29891.6	29667.1	246.82 ug/L	246.82 ppb	01:46:29
2	SiO2†	531539.5	539595.7	34410 ug/L	34410 ppb	01:47:32
3	Sc Radial	4400.4	4400.4	107 %		01:45:26
3	Y RADIAL	5535.6	5535.6	114.3 %		01:45:26
3	Al 396.153Radial†	22440.9	21229.2	17528 ug/L	17528 ppb	01:45:26
3	Ca 317.933Radial†	4956.1	4633.2	8576.7 ug/L	8576.7 ppb	01:45:26
3	Fe 238.204 Radial†	4457.9	4169.3	48453 ug/L	48453 ppb	01:45:26
3	K 766.490 Radial†	20288.3	16396.6	3117.4 ug/L	3117.4 ppb	01:45:26
3	Mg 279.077 IEC†	92.3	86.6	3599.4 ug/L	3599.4 ppb	01:45:46
3	Na 589.592 Radial†	-178.5	1484.9	457.58 ug/L	457.58 ppb	01:45:26
3	Sr 421.552†	10430.2	9742.3	64.260 ug/L	64.260 ppb	01:45:26
3	Sc 361.383	875610.2	875610.2	98.292 %		01:46:55
3	Y 371.029	787047.0	787047.0	107.19 %		01:46:55
3	Ag 328.068†	-2774.0	-3446.7	0.7402 ug/L	0.7402 ppb	01:47:00
3	As 188.979†	-47.4	-19.5	16.452 ug/L	16.452 ppb	01:47:20
3	B 249.677†	-37.3	723.1	7.2204 ug/L	7.2204 ppb	01:47:00
3	Ba 233.527†	33175.8	33767.6	248.39 ug/L	248.39 ppb	01:47:00
3	Be 313.107†	-5242.2	-930.2	2.9874 ug/L	2.9874 ppb	01:47:00
3	Cd 226.502†	304.2	513.6	0.2996 ug/L	0.2996 ppb	01:47:20
3	Co 228.616†	484.3	577.9	7.0174 ug/L	7.0174 ppb	01:47:20
3	Cr 267.716†	2894.6	2883.1	30.714 ug/L	30.714 ppb	01:47:20
3	Cu 324.752†	17738.4	11159.8	33.638 ug/L	33.638 ppb	01:47:00
3	Mn 257.610†	1481743.2	1506959.8	1516.6 ug/L	1516.6 ppb	01:46:55
3	Mo 202.031†	31.8	27.2	5.6691 ug/L	5.6691 ppb	01:47:20
3	Ni 231.604†	1003.7	935.9	20.848 ug/L	20.848 ppb	01:47:20
3	P 214.914†	1446.5	1248.3	607.71 ug/L	607.71 ppb	01:47:20
3	Pb 220.353†	473.9	561.7	59.531 ug/L	59.531 ppb	01:47:20
3	S 181.975 Axial†	422.3	380.7	461.80 ug/L	461.80 ppb	01:47:20
3	Sb 206.836†	51.8	14.2	1.1047 ug/L	1.1047 ppb	01:47:20
3	Se 196.026†	-245.4	-223.7	37.370 ug/L	37.370 ppb	01:47:20
3	Si 251.611†	531808.1	540513.7	16089 ug/L	16089 ppb	01:46:55
3	Sn 189.927†	253.3	248.3	42.230 ug/L	42.230 ppb	01:47:20
3	Ti 334.940†	954284.8	972671.9	1454.2 ug/L	1454.2 ppb	01:46:55
3	Tl 190.801†	-119.9	-77.5	-2.7229 ug/L	-2.7229 ppb	01:47:20
3	U 409.014†	-7038.1	-2047.3	-66.065 ug/L	-66.065 ppb	01:47:00
3	V 292.402†	5407.0	7253.1	39.626 ug/L	39.626 ppb	01:47:00
3	Zn 213.857†	29785.0	29593.4	246.20 ug/L	246.20 ppb	01:47:00
3	SiO2†	529060.0	537691.2	34288 ug/L	34288 ppb	01:47:37

Mean Data: 244847003|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	876832.0	98.429 %	0.1510			0.15%
Sc Radial	4416.7	107 %	0.4			0.41%
Y 371.029	788494.2	107.39 %	0.194			0.18%
Y RADIAL	5561.1	114.9 %	0.49			0.43%
Ag 328.068†	-3456.0	0.7152 ug/L	0.14362	0.7152 ppb	0.14362	20.08%
Al 396.153Radial†	21223.6	17524 ug/L	59.6	17524 ppb	59.6	0.34%
As 188.979†	-15.1	18.177 ug/L	2.2752	18.177 ppb	2.2752	12.52%
B 249.677†	693.2	6.5872 ug/L	1.46950	6.5872 ppb	1.46950	22.31%
Ba 233.527†	33723.9	248.07 ug/L	0.441	248.07 ppb	0.441	0.18%
Be 313.107†	-972.4	2.9767 ug/L	0.02206	2.9767 ppb	0.02206	0.74%
Ca 317.933Radial†	4645.7	8599.9 ug/L	30.13	8599.9 ppb	30.13	0.35%
Cd 226.502†	513.0	0.2883 ug/L	0.05000	0.2883 ppb	0.05000	17.35%
Co 228.616†	569.6	6.8604 ug/L	0.14199	6.8604 ppb	0.14199	2.07%
Cr 267.716†	2879.7	30.680 ug/L	0.0845	30.680 ppb	0.0845	0.28%
Cu 324.752†	11069.5	33.389 ug/L	0.2647	33.389 ppb	0.2647	0.79%
Fe 238.204 Radial†	4173.9	48505 ug/L	47.5	48505 ppb	47.5	0.10%
K 766.490 Radial†	16387.3	3115.6 ug/L	10.00	3115.6 ppb	10.00	0.32%

Mg 279.077 IEC†	85.7	3560.4 ug/L	70.84	3560.4 ppb	70.84	1.99%
Mn 257.610†	1508865.0	1518.5 ug/L	2.78	1518.5 ppb	2.78	0.18%
Mo 202.031†	27.8	5.7158 ug/L	0.36031	5.7158 ppb	0.36031	6.30%
Na 589.592 Radial†	1466.2	451.82 ug/L	6.766	451.82 ppb	6.766	1.50%
Ni 231.604†	936.0	20.851 ug/L	0.2464	20.851 ppb	0.2464	1.18%
P 214.914†	1252.4	609.81 ug/L	1.822	609.81 ppb	1.822	0.30%
Pb 220.353†	556.2	58.927 ug/L	0.5297	58.927 ppb	0.5297	0.90%
S 181.975 Axial†	376.7	456.88 ug/L	8.550	456.88 ppb	8.550	1.87%
Sb 206.836†	14.2	1.1084 ug/L	0.19533	1.1084 ppb	0.19533	17.62%
Se 196.026†	-224.9	36.846 ug/L	4.1829	36.846 ppb	4.1829	11.35%
Si 251.611†	541096.0	16106 ug/L	32.1	16106 ppb	32.1	0.20%
Sn 189.927†	250.0	42.510 ug/L	0.7273	42.510 ppb	0.7273	1.71%
Sr 421.552†	9731.2	64.188 ug/L	0.1282	64.188 ppb	0.1282	0.20%
Ti 334.940†	973710.2	1455.8 ug/L	2.80	1455.8 ppb	2.80	0.19%
Tl 190.801†	-66.3	0.4663 ug/L	2.76348	0.4663 ppb	2.76348	592.67%
U 409.014†	-2018.6	-65.223 ug/L	1.5039	-65.223 ppb	1.5039	2.31%
V 292.402†	7236.2	39.506 ug/L	0.1386	39.506 ppb	0.1386	0.35%
Zn 213.857†	29593.6	246.20 ug/L	0.623	246.20 ppb	0.623	0.25%
SiO2†	536634.3	34221 ug/L	230.1	34221 ppb	230.1	0.67%

Sequence No.: 77

Sample ID: 244847004|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 98

Date Collected: 2/2/2010 01:49:49

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 244847004|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4374.9	4374.9	106 %		01:52:03
1	Y RADIAL	5523.4	5523.4	114.1 %		01:52:03
1	Al 396.153Radial†	154265.6	145662.4	120270 ug/L	120270 ppb	01:51:42
1	Ca 317.933Radial†	16593.3	15634.2	28941 ug/L	28941 ppb	01:51:42
1	Fe 238.204 Radial†	12123.4	11422.2	132740 ug/L	132740 ppb	01:51:42
1	K 766.490 Radial†	97073.9	88916.3	16913 ug/L	16913 ppb	01:51:42
1	Mg 279.077 IEC†	541.9	511.1	21397 ug/L	21397 ppb	01:52:03
1	Na 589.592 Radial†	3878.8	5310.0	1636.3 ug/L	1636.3 ppb	01:51:42
1	Sr 421.552†	46922.4	44211.3	291.69 ug/L	291.69 ppb	01:51:42
1	Sc 361.383	818760.2	818760.2	91.910 %		01:53:01
1	Y 371.029	749239.4	749239.4	102.04 %		01:53:01
1	Ag 328.068†	-8690.1	-10079.5	-0.2749 ug/L	-0.2749 ppb	01:53:01
1	As 188.979†	-88.4	-67.4	42.297 ug/L	42.297 ppb	01:53:21
1	B 249.677†	813.6	1646.3	12.675 ug/L	12.675 ppb	01:53:01
1	Ba 233.527†	239135.7	260199.2	1906.4 ug/L	1906.4 ppb	01:53:01
1	Be 313.107†	1687.7	6239.3	11.811 ug/L	11.811 ppb	01:53:01
1	Cd 226.502†	993.1	1284.7	-0.4258 ug/L	-0.4258 ppb	01:53:21
1	Co 228.616†	3237.9	3608.0	56.475 ug/L	56.475 ppb	01:53:21
1	Cr 267.716†	10262.6	11104.0	117.34 ug/L	117.34 ppb	01:53:21
1	Cu 324.752†	30579.7	26384.4	80.518 ug/L	80.518 ppb	01:53:01
1	Mn 257.610†	2933692.2	3191377.8	3214.3 ug/L	3214.3 ppb	01:53:01
1	Mo 202.031†	-87.0	-99.9	4.0118 ug/L	4.0118 ppb	01:53:21
1	Ni 231.604†	3766.3	4012.6	89.371 ug/L	89.371 ppb	01:53:21
1	P 214.914†	1809.7	1745.7	814.63 ug/L	814.63 ppb	01:53:21
1	Pb 220.353†	829.6	982.2	118.87 ug/L	118.87 ppb	01:53:21
1	S 181.975 Axial†	443.4	433.5	507.04 ug/L	507.04 ppb	01:53:21
1	Sb 206.836†	86.4	55.6	3.1903 ug/L	3.1903 ppb	01:53:21
1	Se 196.026†	-676.4	-710.0	53.043 ug/L	53.043 ppb	01:53:21
1	Si 251.611†	772988.2	840489.3	25018 ug/L	25018 ppb	01:53:01
1	Sn 189.927†	-147.2	-169.6	-20.767 ug/L	-20.767 ppb	01:53:21
1	Ti 334.940†	2631316.5	2864723.8	4282.5 ug/L	4282.5 ppb	01:53:01
1	Tl 190.801†	-205.6	-179.2	-0.5364 ug/L	-0.5364 ppb	01:53:21
1	U 409.014†	-10648.4	-6472.6	-206.58 ug/L	-206.58 ppb	01:53:01
1	V 292.402†	35003.5	39836.6	241.07 ug/L	241.07 ppb	01:53:01
1	Zn 213.857†	28999.1	30842.4	248.13 ug/L	248.13 ppb	01:53:21
1	SiO2†	767233.1	834201.1	53197 ug/L	53197 ppb	01:54:21
2	Sc Radial	4331.5	4331.5	105 %		01:52:28
2	Y RADIAL	5467.3	5467.3	112.9 %		01:52:28
2	Al 396.153Radial†	155138.3	147949.9	122160 ug/L	122160 ppb	01:52:08
2	Ca 317.933Radial†	16686.7	15879.7	29396 ug/L	29396 ppb	01:52:08
2	Fe 238.204 Radial†	12196.4	11606.2	134880 ug/L	134880 ppb	01:52:08
2	K 766.490 Radial†	97595.5	90329.5	17182 ug/L	17182 ppb	01:52:08
2	Mg 279.077 IEC†	536.6	511.2	21398 ug/L	21398 ppb	01:52:28
2	Na 589.592 Radial†	3961.2	5425.0	1671.7 ug/L	1671.7 ppb	01:52:08
2	Sr 421.552†	47314.1	45027.3	297.08 ug/L	297.08 ppb	01:52:08
2	Sc 361.383	903299.6	903299.6	101.40 %		01:53:28
2	Y 371.029	814106.6	814106.6	110.88 %		01:53:28
2	Ag 328.068†	-8778.6	-9281.9	3.7698 ug/L	3.7698 ppb	01:53:28
2	As 188.979†	-93.1	-63.0	40.915 ug/L	40.915 ppb	01:53:48
2	B 249.677†	780.5	1530.8	9.9277 ug/L	9.9277 ppb	01:53:28
2	Ba 233.527†	238374.6	235098.2	1723.0 ug/L	1723.0 ppb	01:53:28
2	Be 313.107†	2013.4	6388.6	10.928 ug/L	10.928 ppb	01:53:28
2	Cd 226.502†	1015.4	1205.5	-1.4629 ug/L	-1.4629 ppb	01:53:48
2	Co 228.616†	3286.2	3326.0	52.023 ug/L	52.023 ppb	01:53:48
2	Cr 267.716†	10361.0	10156.1	107.57 ug/L	107.57 ppb	01:53:48
2	Cu 324.752†	30481.1	23173.4	71.680 ug/L	71.680 ppb	01:53:28
2	Mn 257.610†	2928368.1	2887397.8	2909.5 ug/L	2909.5 ppb	01:53:28
2	Mo 202.031†	-90.7	-94.7	4.5289 ug/L	4.5289 ppb	01:53:48
2	Ni 231.604†	3771.0	3633.8	80.933 ug/L	80.933 ppb	01:53:48

2	P 214.914†	1823.3	1574.9	726.49 ug/L	726.49 ppb	01:53:48
2	Pb 220.353†	822.3	890.6	109.26 ug/L	109.26 ppb	01:53:48
2	S 181.975 Axial†	455.9	400.8	466.67 ug/L	466.67 ppb	01:53:48
2	Sb 206.836†	81.1	41.5	0.2413 ug/L	0.2413 ppb	01:53:48
2	Se 196.026†	-660.2	-625.1	107.27 ug/L	107.27 ppb	01:53:48
2	Si 251.611†	772446.6	761244.0	22659 ug/L	22659 ppb	01:53:28
2	Sn 189.927†	-140.9	-148.4	-17.236 ug/L	-17.236 ppb	01:53:48
2	Ti 334.940†	2623976.4	2589545.7	3871.4 ug/L	3871.4 ppb	01:53:28
2	Tl 190.801†	-213.4	-166.0	-1.5974 ug/L	-1.5974 ppb	01:53:48
2	U 409.014†	-10549.8	-5291.0	-171.90 ug/L	-171.90 ppb	01:53:28
2	V 292.402†	34753.0	36025.3	215.91 ug/L	215.91 ppb	01:53:28
2	Zn 213.857†	29263.0	28149.8	225.14 ug/L	225.14 ppb	01:53:48
2	SiO2†	759541.9	748490.9	47731 ug/L	47731 ppb	01:54:27
3	Sc Radial	4357.8	4357.8	106 %		01:52:53
3	Y RADIAL	5459.3	5459.3	112.8 %		01:52:53
3	Al 396.153Radial†	153781.8	145775.3	120360 ug/L	120360 ppb	01:52:33
3	Ca 317.933Radial†	16581.3	15684.2	29034 ug/L	29034 ppb	01:52:33
3	Fe 238.204 Radial†	12091.1	11436.5	132910 ug/L	132910 ppb	01:52:33
3	K 766.490 Radial†	96827.9	89042.7	16937 ug/L	16937 ppb	01:52:33
3	Mg 279.077 IEC†	538.7	510.0	21352 ug/L	21352 ppb	01:52:53
3	Na 589.592 Radial†	3949.7	5391.5	1661.4 ug/L	1661.4 ppb	01:52:33
3	Sr 421.552†	46885.2	44349.8	292.61 ug/L	292.61 ppb	01:52:33
3	Sc 361.383	869069.3	869069.3	97.558 %		01:53:55
3	Y 371.029	787194.5	787194.5	107.21 %		01:53:55
3	Ag 328.068†	-8826.9	-9672.4	1.4792 ug/L	1.4792 ppb	01:53:55
3	As 188.979†	-91.5	-65.0	40.993 ug/L	40.993 ppb	01:54:15
3	B 249.677†	867.9	1650.7	12.750 ug/L	12.750 ppb	01:53:55
3	Ba 233.527†	238502.9	244488.9	1791.6 ug/L	1791.6 ppb	01:53:55
3	Be 313.107†	1875.7	6325.7	11.247 ug/L	11.247 ppb	01:53:55
3	Cd 226.502†	1014.9	1244.4	-0.8577 ug/L	-0.8577 ppb	01:54:15
3	Co 228.616†	3274.2	3441.3	53.895 ug/L	53.895 ppb	01:54:15
3	Cr 267.716†	10300.0	10496.0	111.06 ug/L	111.06 ppb	01:54:15
3	Cu 324.752†	30403.8	24278.1	74.656 ug/L	74.656 ppb	01:53:55
3	Mn 257.610†	2927489.2	3000244.5	3022.5 ug/L	3022.5 ppb	01:53:55
3	Mo 202.031†	-82.4	-89.7	4.7032 ug/L	4.7032 ppb	01:54:15
3	Ni 231.604†	3789.4	3799.1	84.616 ug/L	84.616 ppb	01:54:15
3	P 214.914†	1808.6	1630.7	755.97 ug/L	755.97 ppb	01:54:15
3	Pb 220.353†	829.2	929.5	113.23 ug/L	113.23 ppb	01:54:15
3	S 181.975 Axial†	449.9	412.3	481.13 ug/L	481.13 ppb	01:54:15
3	Sb 206.836†	81.2	44.8	0.7353 ug/L	0.7353 ppb	01:54:15
3	Se 196.026†	-660.3	-650.9	86.358 ug/L	86.358 ppb	01:54:15
3	Si 251.611†	770669.0	789426.3	23498 ug/L	23498 ppb	01:53:55
3	Sn 189.927†	-149.0	-162.2	-19.549 ug/L	-19.549 ppb	01:54:15
3	Ti 334.940†	2622610.8	2690070.0	4021.6 ug/L	4021.6 ppb	01:53:55
3	Tl 190.801†	-223.7	-184.9	-5.1636 ug/L	-5.1636 ppb	01:54:15
3	U 409.014†	-10591.2	-5743.3	-185.04 ug/L	-185.04 ppb	01:53:55
3	V 292.402†	34912.9	37539.1	226.09 ug/L	226.09 ppb	01:53:55
3	Zn 213.857†	29079.5	29098.4	233.35 ug/L	233.35 ppb	01:54:15
3	SiO2†	789388.0	808587.3	51563 ug/L	51563 ppb	01:54:33

Mean Data: 244847004|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	863709.7	96.956 %	4.7735			4.92%
Sc Radial	4354.7	106 %	0.5			0.50%
Y 371.029	783513.5	106.71 %	4.439			4.16%
Y RADIAL	5483.4	113.3 %	0.72			0.64%
Ag 328.068†	-9677.9	1.6580 ug/L	2.02830	1.6580 ppb	2.02830	122.33%
Al 396.153Radial†	146462.5	120930 ug/L	1064.6	120930 ppb	1064.6	0.88%
As 188.979†	-65.2	41.401 ug/L	0.7762	41.401 ppb	0.7762	1.87%
B 249.677†	1609.3	11.784 ug/L	1.6082	11.784 ppb	1.6082	13.65%
Ba 233.527†	246595.4	1807.0 ug/L	92.70	1807.0 ppb	92.70	5.13%
Be 313.107†	6317.8	11.329 ug/L	0.4472	11.329 ppb	0.4472	3.95%
Ca 317.933Radial†	15732.7	29123 ug/L	240.2	29123 ppb	240.2	0.82%
Cd 226.502†	1244.9	-0.9155 ug/L	0.52099	-0.9155 ppb	0.52099	56.91%
Co 228.616†	3458.4	54.131 ug/L	2.2352	54.131 ppb	2.2352	4.13%
Cr 267.716†	10585.4	111.99 ug/L	4.950	111.99 ppb	4.950	4.42%
Cu 324.752†	24612.0	75.618 ug/L	4.4965	75.618 ppb	4.4965	5.95%
Fe 238.204 Radial†	11488.3	133510 ug/L	1189.7	133510 ppb	1189.7	0.89%
K 766.490 Radial†	89429.5	17011 ug/L	148.8	17011 ppb	148.8	0.87%

Mg 279.077 IEC†	510.7	21382 ug/L	26.4	21382 ppb	26.4	0.12%
Mn 257.610†	3026340.0	3048.8 ug/L	154.08	3048.8 ppb	154.08	5.05%
Mo 202.031†	-94.7	4.4146 ug/L	0.35959	4.4146 ppb	0.35959	8.15%
Na 589.592 Radial†	5375.5	1656.5 ug/L	18.23	1656.5 ppb	18.23	1.10%
Ni 231.604†	3815.2	84.973 ug/L	4.2302	84.973 ppb	4.2302	4.98%
P 214.914†	1650.4	765.70 ug/L	44.863	765.70 ppb	44.863	5.86%
Pb 220.353†	934.1	113.79 ug/L	4.831	113.79 ppb	4.831	4.25%
S 181.975 Axial†	415.5	484.94 ug/L	20.451	484.94 ppb	20.451	4.22%
Sb 206.836†	47.3	1.3890 ug/L	1.57943	1.3890 ppb	1.57943	113.71%
Se 196.026†	-662.0	82.223 ug/L	27.3472	82.223 ppb	27.3472	33.26%
Si 251.611†	797053.2	23725 ug/L	1195.7	23725 ppb	1195.7	5.04%
Sn 189.927†	-160.0	-19.184 ug/L	1.7933	-19.184 ppb	1.7933	9.35%
Sr 421.552†	44529.5	293.79 ug/L	2.881	293.79 ppb	2.881	0.98%
Ti 334.940†	2714779.8	4058.5 ug/L	208.03	4058.5 ppb	208.03	5.13%
Tl 190.801†	-176.7	-2.4324 ug/L	2.42400	-2.4324 ppb	2.42400	99.65%
U 409.014†	-5835.6	-187.84 ug/L	17.509	-187.84 ppb	17.509	9.32%
V 292.402†	37800.3	227.69 ug/L	12.654	227.69 ppb	12.654	5.56%
Zn 213.857†	29363.5	235.54 ug/L	11.648	235.54 ppb	11.648	4.95%
SiO2†	797093.1	50830 ug/L	2805.6	50830 ppb	2805.6	5.52%

Sequence No.: 82

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/2/2010 02:25:21

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4271.1	4271.1	104 %		02:27:13
1	Y RADIAL	4761.0	4761.0	98.34 %		02:27:13
1	Al 396.153Radial†	6335.7	6309.8	5184.7 ug/L	5184.7 ppb	02:27:13
1	Ca 317.933Radial†	2956.8	2842.7	5262.2 ug/L	5262.2 ppb	02:27:33
1	Fe 238.204 Radial†	470.4	444.2	5178.0 ug/L	5178.0 ppb	02:27:33
1	K 766.490 Radial†	30844.9	27169.2	5165.0 ug/L	5165.0 ppb	02:27:13
1	Mg 279.077 IEC†	134.7	130.2	5485.8 ug/L	5485.8 ppb	02:27:33
1	Na 589.592 Radial†	32512.6	33056.7	10186 ug/L	10186 ppb	02:27:13
1	Sr 421.552†	80853.4	78061.0	515.37 ug/L	515.37 ppb	02:27:13
1	Sc 361.383	856265.8	856265.8	96.120 %		02:28:32
1	Y 371.029	684927.2	684927.2	93.283 %		02:28:32
1	Ag 328.068†	113878.7	117850.5	518.84 ug/L	518.84 ppb	02:28:32
1	As 188.979†	1249.1	1328.3	514.68 ug/L	514.68 ppb	02:28:52
1	B 249.677†	22565.4	24237.3	504.45 ug/L	504.45 ppb	02:28:32
1	Ba 233.527†	68183.2	70950.4	519.88 ug/L	519.88 ppb	02:28:32
1	Be 313.107†	1465181.5	1528721.1	514.11 ug/L	514.11 ppb	02:28:32
1	Cd 226.502†	48722.8	50893.4	525.42 ug/L	525.42 ppb	02:28:32
1	Co 228.616†	26904.4	28075.5	517.58 ug/L	517.58 ppb	02:28:52
1	Cr 267.716†	48408.2	50300.2	518.44 ug/L	518.44 ppb	02:28:32
1	Cu 324.752†	186292.5	186924.6	519.90 ug/L	519.90 ppb	02:28:32
1	Mn 257.610†	502160.2	521896.2	523.93 ug/L	523.93 ppb	02:28:32
1	Mo 202.031†	7502.8	7800.4	518.87 ug/L	518.87 ppb	02:28:52
1	Ni 231.604†	22298.5	23113.3	514.71 ug/L	514.71 ppb	02:28:52
1	P 214.914†	5042.8	5023.0	2506.8 ug/L	2506.8 ppb	02:28:52
1	Pb 220.353†	4576.4	4840.7	521.06 ug/L	521.06 ppb	02:28:52
1	S 181.975 Axial†	837.6	822.5	1003.8 ug/L	1003.8 ppb	02:28:52
1	Sb 206.836†	1654.5	1682.9	532.88 ug/L	532.88 ppb	02:28:52
1	Se 196.026†	872.9	934.1	536.78 ug/L	536.78 ppb	02:28:52
1	Si 251.611†	85013.8	87909.3	2610.3 ug/L	2610.3 ppb	02:28:32
1	Sn 189.927†	3114.2	3230.4	522.76 ug/L	522.76 ppb	02:28:52
1	Ti 334.940†	338303.4	353762.1	528.42 ug/L	528.42 ppb	02:28:32
1	Tl 190.801†	1728.6	1842.9	523.56 ug/L	523.56 ppb	02:28:52
1	U 409.014†	11968.3	17564.4	517.08 ug/L	517.08 ppb	02:28:32
1	V 292.402†	72654.1	77338.7	521.44 ug/L	521.44 ppb	02:28:32
1	Zn 213.857†	59850.4	61556.9	517.78 ug/L	517.78 ppb	02:28:32
1	SiO2†	84167.9	87002.8	5534.0 ug/L	5534.0 ppb	02:29:52
2	Sc Radial	4248.0	4248.0	103 %		02:27:38
2	Y RADIAL	4761.1	4761.1	98.34 %		02:27:38
2	Al 396.153Radial†	6389.7	6395.5	5255.5 ug/L	5255.5 ppb	02:27:38
2	Ca 317.933Radial†	2939.3	2841.2	5259.5 ug/L	5259.5 ppb	02:27:58
2	Fe 238.204 Radial†	464.6	441.1	5141.1 ug/L	5141.1 ppb	02:27:58
2	K 766.490 Radial†	31056.1	27536.0	5234.8 ug/L	5234.8 ppb	02:27:38
2	Mg 279.077 IEC†	131.5	127.8	5383.4 ug/L	5383.4 ppb	02:27:58
2	Na 589.592 Radial†	32820.2	33525.7	10331 ug/L	10331 ppb	02:27:38
2	Sr 421.552†	81184.9	78806.7	520.29 ug/L	520.29 ppb	02:27:38
2	Sc 361.383	852586.9	852586.9	95.707 %		02:29:00
2	Y 371.029	683312.4	683312.4	93.063 %		02:29:00
2	Ag 328.068†	113414.1	117876.2	518.95 ug/L	518.95 ppb	02:29:00
2	As 188.979†	1237.0	1321.2	511.95 ug/L	511.95 ppb	02:29:20
2	B 249.677†	22577.9	24351.6	506.84 ug/L	506.84 ppb	02:29:00
2	Ba 233.527†	67905.0	70965.8	519.99 ug/L	519.99 ppb	02:29:00
2	Be 313.107†	1460883.4	1530807.5	514.81 ug/L	514.81 ppb	02:29:00
2	Cd 226.502†	48558.8	50940.8	525.91 ug/L	525.91 ppb	02:29:00
2	Co 228.616†	26840.3	28129.2	518.58 ug/L	518.58 ppb	02:29:20
2	Cr 267.716†	48222.0	50322.9	518.68 ug/L	518.68 ppb	02:29:00
2	Cu 324.752†	185569.5	187005.5	520.13 ug/L	520.13 ppb	02:29:00
2	Mn 257.610†	500028.8	521923.5	523.95 ug/L	523.95 ppb	02:29:00
2	Mo 202.031†	7473.0	7802.9	519.04 ug/L	519.04 ppb	02:29:20
2	Ni 231.604†	22232.0	23144.0	515.39 ug/L	515.39 ppb	02:29:20

2	P 214.914†	5060.8	5064.6	2528.3 ug/L	2528.3 ppb	02:29:20
2	Pb 220.353†	4537.3	4820.4	518.90 ug/L	518.90 ppb	02:29:20
2	S 181.975 Axial†	842.8	831.7	1015.1 ug/L	1015.1 ppb	02:29:20
2	Sb 206.836†	1669.9	1706.4	540.01 ug/L	540.01 ppb	02:29:20
2	Se 196.026†	867.5	932.3	535.67 ug/L	535.67 ppb	02:29:20
2	Si 251.611†	84591.6	87849.9	2608.6 ug/L	2608.6 ppb	02:29:00
2	Sn 189.927†	3082.6	3211.4	519.69 ug/L	519.69 ppb	02:29:20
2	Ti 334.940†	336737.8	353644.9	528.26 ug/L	528.26 ppb	02:29:00
2	Tl 190.801†	1721.8	1843.5	523.72 ug/L	523.72 ppb	02:29:20
2	U 409.014†	11803.0	17445.5	513.57 ug/L	513.57 ppb	02:29:00
2	V 292.402†	72457.3	77459.2	522.24 ug/L	522.24 ppb	02:29:00
2	Zn 213.857†	59573.7	61536.5	517.60 ug/L	517.60 ppb	02:29:00
2	SiO2†	84177.2	87390.3	5558.7 ug/L	5558.7 ppb	02:29:58
3	Sc Radial	4237.2	4237.2	103 %		02:28:03
3	Y RADIAL	4699.2	4699.2	97.06 %		02:28:03
3	Al 396.153Radial†	6312.1	6335.9	5206.1 ug/L	5206.1 ppb	02:28:03
3	Ca 317.933Radial†	2959.0	2867.7	5308.5 ug/L	5308.5 ppb	02:28:23
3	Fe 238.204 Radial†	468.7	446.2	5201.0 ug/L	5201.0 ppb	02:28:23
3	K 766.490 Radial†	30813.0	27376.4	5204.4 ug/L	5204.4 ppb	02:28:03
3	Mg 279.077 IEC†	134.2	130.7	5507.9 ug/L	5507.9 ppb	02:28:23
3	Na 589.592 Radial†	32492.1	33287.9	10258 ug/L	10258 ppb	02:28:03
3	Sr 421.552†	80818.9	78652.0	519.27 ug/L	519.27 ppb	02:28:03
3	Sc 361.383	850946.6	850946.6	95.523 %		02:29:27
3	Y 371.029	680283.5	680283.5	92.651 %		02:29:27
3	Ag 328.068†	113256.3	117939.4	519.24 ug/L	519.24 ppb	02:29:27
3	As 188.979†	1258.6	1346.3	521.60 ug/L	521.60 ppb	02:29:47
3	B 249.677†	22424.9	24236.9	504.42 ug/L	504.42 ppb	02:29:27
3	Ba 233.527†	67976.3	71177.2	521.54 ug/L	521.54 ppb	02:29:27
3	Be 313.107†	1455978.5	1528615.2	514.07 ug/L	514.07 ppb	02:29:27
3	Cd 226.502†	48478.7	50954.8	526.05 ug/L	526.05 ppb	02:29:27
3	Co 228.616†	26995.8	28346.1	522.58 ug/L	522.58 ppb	02:29:47
3	Cr 267.716†	48218.1	50416.0	519.64 ug/L	519.64 ppb	02:29:27
3	Cu 324.752†	184905.3	186683.9	519.23 ug/L	519.23 ppb	02:29:27
3	Mn 257.610†	499970.0	522869.1	524.90 ug/L	524.90 ppb	02:29:27
3	Mo 202.031†	7510.6	7857.3	522.66 ug/L	522.66 ppb	02:29:47
3	Ni 231.604†	22361.3	23324.0	519.40 ug/L	519.40 ppb	02:29:47
3	P 214.914†	5084.4	5099.4	2546.6 ug/L	2546.6 ppb	02:29:47
3	Pb 220.353†	4615.1	4911.0	528.62 ug/L	528.62 ppb	02:29:47
3	S 181.975 Axial†	852.9	844.0	1030.0 ug/L	1030.0 ppb	02:29:47
3	Sb 206.836†	1669.7	1709.5	541.12 ug/L	541.12 ppb	02:29:47
3	Se 196.026†	874.8	941.8	541.12 ug/L	541.12 ppb	02:29:47
3	Si 251.611†	84484.7	87908.3	2610.2 ug/L	2610.2 ppb	02:29:27
3	Sn 189.927†	3103.7	3239.7	524.27 ug/L	524.27 ppb	02:29:47
3	Ti 334.940†	336540.8	354117.0	528.96 ug/L	528.96 ppb	02:29:27
3	Tl 190.801†	1726.8	1852.2	526.18 ug/L	526.18 ppb	02:29:47
3	U 409.014†	11785.0	17450.3	513.71 ug/L	513.71 ppb	02:29:27
3	V 292.402†	72310.2	77451.1	522.23 ug/L	522.23 ppb	02:29:27
3	Zn 213.857†	59545.9	61627.4	518.35 ug/L	518.35 ppb	02:29:27
3	SiO2†	84418.1	87812.0	5585.5 ug/L	5585.5 ppb	02:30:03

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	853266.5	95.784 %	0.3058			0.32%
Sc Radial	4252.1	103 %	0.4			0.41%
Y 371.029	682841.0	92.999 %	0.3211			0.35%
Y RADIAL	4740.4	97.91 %	0.737			0.75%
Ag 328.068†	117888.7	519.01 ug/L	0.208	519.01 ppb	0.208	0.04%
QC value within limits for Ag 328.068 Recovery = 103.80%						
Al 396.153Radial†	6347.0	5215.4 ug/L	36.29	5215.4 ppb	36.29	0.70%
QC value within limits for Al 396.153Radial Recovery = 104.31%						
As 188.979†	1331.9	516.08 ug/L	4.978	516.08 ppb	4.978	0.96%
QC value within limits for As 188.979 Recovery = 103.22%						
B 249.677†	24275.3	505.24 ug/L	1.390	505.24 ppb	1.390	0.28%
QC value within limits for B 249.677 Recovery = 101.05%						
Ba 233.527†	71031.2	520.47 ug/L	0.928	520.47 ppb	0.928	0.18%
QC value within limits for Ba 233.527 Recovery = 104.09%						
Be 313.107†	1529381.3	514.33 ug/L	0.414	514.33 ppb	0.414	0.08%
QC value within limits for Be 313.107 Recovery = 102.87%						
Ca 317.933Radial†	2850.5	5276.7 ug/L	27.56	5276.7 ppb	27.56	0.52%

QC value within limits for Ca 317.933 Radial Recovery = 105.53%							
Cd 226.502†	50929.7	525.80 ug/L	0.333	525.80 ppb	0.333	0.06%	
QC value within limits for Cd 226.502 Recovery = 105.16%							
Co 228.616†	28183.6	519.58 ug/L	2.645	519.58 ppb	2.645	0.51%	
QC value within limits for Co 228.616 Recovery = 103.92%							
Cr 267.716†	50346.4	518.92 ug/L	0.633	518.92 ppb	0.633	0.12%	
QC value within limits for Cr 267.716 Recovery = 103.78%							
Cu 324.752†	186871.3	519.75 ug/L	0.464	519.75 ppb	0.464	0.09%	
QC value within limits for Cu 324.752 Recovery = 103.95%							
Fe 238.204 Radial†	443.8	5173.4 ug/L	30.20	5173.4 ppb	30.20	0.58%	
QC value within limits for Fe 238.204 Radial Recovery = 103.47%							
K 766.490 Radial†	27360.5	5201.4 ug/L	34.98	5201.4 ppb	34.98	0.67%	
QC value within limits for K 766.490 Radial Recovery = 104.03%							
Mg 279.077 IEC†	129.5	5459.1 ug/L	66.43	5459.1 ppb	66.43	1.22%	
QC value within limits for Mg 279.077 IEC Recovery = 109.18%							
Mn 257.610†	522229.6	524.26 ug/L	0.556	524.26 ppb	0.556	0.11%	
QC value within limits for Mn 257.610 Recovery = 104.85%							
Mo 202.031†	7820.2	520.19 ug/L	2.139	520.19 ppb	2.139	0.41%	
QC value within limits for Mo 202.031 Recovery = 104.04%							
Na 589.592 Radial†	33290.1	10258 ug/L	72.3	10258 ppb	72.3	0.70%	
QC value within limits for Na 589.592 Radial Recovery = 102.58%							
Ni 231.604†	23193.8	516.50 ug/L	2.535	516.50 ppb	2.535	0.49%	
QC value within limits for Ni 231.604 Recovery = 103.30%							
P 214.914†	5062.3	2527.3 ug/L	19.92	2527.3 ppb	19.92	0.79%	
QC value within limits for P 214.914 Recovery = 101.09%							
Pb 220.353†	4857.4	522.86 ug/L	5.101	522.86 ppb	5.101	0.98%	
QC value within limits for Pb 220.353 Recovery = 104.57%							
S 181.975 Axial†	832.7	1016.3 ug/L	13.17	1016.3 ppb	13.17	1.30%	
QC value within limits for S 181.975 Axial Recovery = 101.63%							
Sb 206.836†	1699.6	538.01 ug/L	4.471	538.01 ppb	4.471	0.83%	
QC value within limits for Sb 206.836 Recovery = 107.60%							
Se 196.026†	936.1	537.86 ug/L	2.880	537.86 ppb	2.880	0.54%	
QC value within limits for Se 196.026 Recovery = 107.57%							
Si 251.611†	87889.1	2609.7 ug/L	1.00	2609.7 ppb	1.00	0.04%	
QC value within limits for Si 251.611 Recovery = 104.39%							
Sn 189.927†	3227.2	522.24 ug/L	2.335	522.24 ppb	2.335	0.45%	
QC value within limits for Sn 189.927 Recovery = 104.45%							
Sr 421.552†	78506.6	518.31 ug/L	2.598	518.31 ppb	2.598	0.50%	
QC value within limits for Sr 421.552 Recovery = 103.66%							
Ti 334.940†	353841.3	528.55 ug/L	0.367	528.55 ppb	0.367	0.07%	
QC value within limits for Ti 334.940 Recovery = 105.71%							
Tl 190.801†	1846.2	524.49 ug/L	1.466	524.49 ppb	1.466	0.28%	
QC value within limits for Tl 190.801 Recovery = 104.90%							
U 409.014†	17486.8	514.79 ug/L	1.989	514.79 ppb	1.989	0.39%	
QC value within limits for U 409.014 Recovery = 102.96%							
V 292.402†	77416.3	521.97 ug/L	0.460	521.97 ppb	0.460	0.09%	
QC value within limits for V 292.402 Recovery = 104.39%							
Zn 213.857†	61573.6	517.91 ug/L	0.387	517.91 ppb	0.387	0.07%	
QC value within limits for Zn 213.857 Recovery = 103.58%							
SiO2†	87401.7	5559.4 ug/L	25.76	5559.4 ppb	25.76	0.46%	
QC value within limits for SiO2 Recovery = 103.96%							
All analyte(s) passed QC.							



Sequence No.: 83

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/2/2010 02:32:13

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4187.6	4187.6	102 %		02:34:05
1	Y RADIAL	4726.4	4726.4	97.62 %		02:34:05
1	Al 396.153Radial†	-199.3	-6.2	-5.1682 ug/L	-5.1682 ppb	02:34:05
1	Ca 317.933Radial†	28.5	14.7	27.220 ug/L	27.220 ppb	02:34:26
1	Fe 238.204 Radial†	12.0	1.7	19.573 ug/L	19.573 ppb	02:34:26
1	K 766.490 Radial†	2834.3	168.0	31.927 ug/L	31.927 ppb	02:34:05
1	Mg 279.077 IEC†	4.1	4.1	173.33 ug/L	173.33 ppb	02:34:26
1	Na 589.592 Radial†	-1407.8	265.4	81.771 ug/L	81.771 ppb	02:34:05
1	Sr 421.552†	46.2	9.1	0.0596 ug/L	0.0596 ppb	02:34:05
1	Sc 361.383	839914.0	839914.0	94.285 %		02:35:22
1	Y 371.029	683115.7	683115.7	93.036 %		02:35:22
1	Ag 328.068†	474.8	-121.0	-0.5317 ug/L	-0.5317 ppb	02:35:22
1	As 188.979†	-25.4	1.8	0.6966 ug/L	0.6966 ppb	02:35:42
1	B 249.677†	-584.3	141.4	2.9542 ug/L	2.9542 ppb	02:35:42
1	Ba 233.527†	-11.0	3.6	0.0280 ug/L	0.0280 ppb	02:35:42
1	Be 313.107†	-4096.4	58.4	0.0206 ug/L	0.0206 ppb	02:35:22
1	Cd 226.502†	-197.5	-5.3	-0.0548 ug/L	-0.0548 ppb	02:35:42
1	Co 228.616†	-90.5	-10.9	-0.1998 ug/L	-0.1998 ppb	02:35:42
1	Cr 267.716†	62.2	4.1	0.0386 ug/L	0.0386 ppb	02:35:22
1	Cu 324.752†	6980.1	516.3	1.4302 ug/L	1.4302 ppb	02:35:22
1	Mn 257.610†	614.5	119.9	0.1152 ug/L	0.1152 ppb	02:35:42
1	Mo 202.031†	14.0	9.7	0.6446 ug/L	0.6446 ppb	02:35:42
1	Ni 231.604†	72.9	-7.9	-0.1756 ug/L	-0.1756 ppb	02:35:42
1	P 214.914†	232.5	23.3	11.801 ug/L	11.801 ppb	02:35:42
1	Pb 220.353†	-72.4	2.9	0.3049 ug/L	0.3049 ppb	02:35:42
1	S 181.975 Axial†	55.9	10.4	12.669 ug/L	12.669 ppb	02:35:42
1	Sb 206.836†	48.2	12.7	3.9031 ug/L	3.9031 ppb	02:35:42
1	Se 196.026†	-33.2	-9.2	-5.0514 ug/L	-5.0514 ppb	02:35:42
1	Si 251.611†	500.8	-4.5	-0.1433 ug/L	-0.1433 ppb	02:35:42
1	Sn 189.927†	16.3	7.9	1.2788 ug/L	1.2788 ppb	02:35:42
1	Ti 334.940†	-1420.5	297.8	0.4289 ug/L	0.4289 ppb	02:35:22
1	Tl 190.801†	-43.7	-1.9	-0.5208 ug/L	-0.5208 ppb	02:35:42
1	U 409.014†	-4420.7	424.4	12.535 ug/L	12.535 ppb	02:35:22
1	V 292.402†	-1593.6	62.0	0.4456 ug/L	0.4456 ppb	02:35:22
1	Zn 213.857†	864.5	207.8	1.7605 ug/L	1.7605 ppb	02:35:42
1	SiO2†	510.3	-21.0	-1.3560 ug/L	-1.3560 ppb	02:36:38
2	Sc Radial	4404.7	4404.7	107 %		02:34:31
2	Y RADIAL	5002.3	5002.3	103.3 %		02:34:31
2	Al 396.153Radial†	-188.8	13.3	10.915 ug/L	10.915 ppb	02:34:31
2	Ca 317.933Radial†	24.8	9.9	18.375 ug/L	18.375 ppb	02:34:51
2	Fe 238.204 Radial†	11.6	0.7	8.5911 ug/L	8.5911 ppb	02:34:51
2	K 766.490 Radial†	2799.6	-2.2	-0.4671 ug/L	-0.4671 ppb	02:34:31
2	Mg 279.077 IEC†	4.4	4.1	173.82 ug/L	173.82 ppb	02:34:51
2	Na 589.592 Radial†	-1363.0	375.6	115.75 ug/L	115.75 ppb	02:34:31
2	Sr 421.552†	30.8	-7.6	-0.0504 ug/L	-0.0504 ppb	02:34:31
2	Sc 361.383	845026.0	845026.0	94.859 %		02:35:48
2	Y 371.029	686727.5	686727.5	93.528 %		02:35:48
2	Ag 328.068†	375.6	-228.5	-1.0053 ug/L	-1.0053 ppb	02:35:48
2	As 188.979†	-30.7	-3.6	-1.3872 ug/L	-1.3872 ppb	02:36:08
2	B 249.677†	-576.5	153.4	3.2059 ug/L	3.2059 ppb	02:36:08
2	Ba 233.527†	-14.2	0.4	0.0045 ug/L	0.0045 ppb	02:36:08
2	Be 313.107†	-4214.7	-40.1	-0.0128 ug/L	-0.0128 ppb	02:35:48
2	Cd 226.502†	-201.3	-8.1	-0.0824 ug/L	-0.0824 ppb	02:36:08
2	Co 228.616†	-89.5	-9.2	-0.1680 ug/L	-0.1680 ppb	02:36:08
2	Cr 267.716†	76.2	18.5	0.1860 ug/L	0.1860 ppb	02:35:48
2	Cu 324.752†	7130.4	630.0	1.7454 ug/L	1.7454 ppb	02:35:48
2	Mn 257.610†	708.2	214.8	0.2093 ug/L	0.2093 ppb	02:36:08
2	Mo 202.031†	20.0	15.9	1.0546 ug/L	1.0546 ppb	02:36:08
2	Ni 231.604†	56.2	-26.0	-0.5782 ug/L	-0.5782 ppb	02:36:08

2	P 214.914†	250.6	41.0	20.922 ug/L	20.922 ppb	02:36:08
2	Pb 220.353†	-67.3	8.6	0.9314 ug/L	0.9314 ppb	02:36:08
2	S 181.975 Axial†	48.0	1.7	2.1100 ug/L	2.1100 ppb	02:36:08
2	Sb 206.836†	53.3	17.7	5.4436 ug/L	5.4436 ppb	02:36:08
2	Se 196.026†	-27.8	-3.3	-1.8176 ug/L	-1.8176 ppb	02:36:08
2	Si 251.611†	526.0	18.8	0.5463 ug/L	0.5463 ppb	02:36:08
2	Sn 189.927†	11.8	3.0	0.4859 ug/L	0.4859 ppb	02:36:08
2	Ti 334.940†	-1518.6	203.5	0.2864 ug/L	0.2864 ppb	02:35:48
2	Tl 190.801†	-41.8	0.4	0.1260 ug/L	0.1260 ppb	02:36:08
2	U 409.014†	-4425.0	448.2	13.239 ug/L	13.239 ppb	02:35:48
2	V 292.402†	-1563.8	103.6	0.7313 ug/L	0.7313 ppb	02:35:48
2	Zn 213.857†	856.6	193.9	1.6454 ug/L	1.6454 ppb	02:36:08
2	SiO2†	523.8	-10.1	-0.6721 ug/L	-0.6721 ppb	02:36:44
3	Sc Radial	4197.4	4197.4	102 %		02:34:56
3	Y RADIAL	4759.6	4759.6	98.31 %		02:34:56
3	Al 396.153Radial†	-204.8	-11.2	-9.3101 ug/L	-9.3101 ppb	02:34:56
3	Ca 317.933Radial†	21.6	7.9	14.543 ug/L	14.543 ppb	02:35:16
3	Fe 238.204 Radial†	12.4	2.1	23.943 ug/L	23.943 ppb	02:35:16
3	K 766.490 Radial†	2859.1	185.8	35.317 ug/L	35.317 ppb	02:34:56
3	Mg 279.077 IEC†	6.1	6.0	253.53 ug/L	253.53 ppb	02:35:16
3	Na 589.592 Radial†	-1337.0	338.2	104.22 ug/L	104.22 ppb	02:34:56
3	Sr 421.552†	26.0	-10.9	-0.0719 ug/L	-0.0719 ppb	02:34:56
3	Sc 361.383	847073.8	847073.8	95.089 %		02:36:13
3	Y 371.029	687568.3	687568.3	93.643 %		02:36:13
3	Ag 328.068†	370.4	-235.0	-1.0357 ug/L	-1.0357 ppb	02:36:13
3	As 188.979†	-21.7	5.9	2.2795 ug/L	2.2795 ppb	02:36:33
3	B 249.677†	-557.2	175.1	3.6579 ug/L	3.6579 ppb	02:36:33
3	Ba 233.527†	-17.8	-3.4	-0.0251 ug/L	-0.0251 ppb	02:36:33
3	Be 313.107†	-4276.7	-94.5	-0.0313 ug/L	-0.0313 ppb	02:36:13
3	Cd 226.502†	-203.4	-9.8	-0.1001 ug/L	-0.1001 ppb	02:36:33
3	Co 228.616†	-97.5	-17.4	-0.3176 ug/L	-0.3176 ppb	02:36:33
3	Cr 267.716†	102.8	46.2	0.4694 ug/L	0.4694 ppb	02:36:13
3	Cu 324.752†	6945.7	417.6	1.1537 ug/L	1.1537 ppb	02:36:13
3	Mn 257.610†	643.5	145.0	0.1374 ug/L	0.1374 ppb	02:36:33
3	Mo 202.031†	25.3	21.4	1.4236 ug/L	1.4236 ppb	02:36:33
3	Ni 231.604†	84.0	3.2	0.0719 ug/L	0.0719 ppb	02:36:33
3	P 214.914†	262.1	52.4	26.928 ug/L	26.928 ppb	02:36:33
3	Pb 220.353†	-69.9	6.1	0.6531 ug/L	0.6531 ppb	02:36:33
3	S 181.975 Axial†	46.7	0.2	0.2294 ug/L	0.2294 ppb	02:36:33
3	Sb 206.836†	44.4	8.3	2.5520 ug/L	2.5520 ppb	02:36:33
3	Se 196.026†	-24.2	0.6	0.3964 ug/L	0.3964 ppb	02:36:33
3	Si 251.611†	488.6	-21.9	-0.6691 ug/L	-0.6691 ppb	02:36:33
3	Sn 189.927†	6.7	-2.4	-0.3890 ug/L	-0.3890 ppb	02:36:33
3	Ti 334.940†	-1605.0	116.5	0.1480 ug/L	0.1480 ppb	02:36:13
3	Tl 190.801†	-35.2	7.5	2.1123 ug/L	2.1123 ppb	02:36:33
3	U 409.014†	-4336.9	552.2	16.307 ug/L	16.307 ppb	02:36:13
3	V 292.402†	-1730.7	-67.9	-0.3995 ug/L	-0.3995 ppb	02:36:13
3	Zn 213.857†	855.8	190.8	1.6148 ug/L	1.6148 ppb	02:36:33
3	SiO2†	497.5	-39.0	-2.5278 ug/L	-2.5278 ppb	02:36:49

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	844004.6	94.744 %	0.4140			0.44%
Sc Radial	4263.2	103 %	3.0			2.88%
Y 371.029	685803.8	93.402 %	0.3222			0.34%
Y RADIAL	4829.4	99.75 %	3.111			3.12%
Ag 328.068†	-194.8	-0.8576 ug/L	0.28257	-0.8576 ppb	0.28257	32.95%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-1.4	-1.1878 ug/L	10.68385	-1.1878 ppb	10.68385	899.48%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.4	0.5296 ug/L	1.83902	0.5296 ppb	1.83902	347.23%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	156.6	3.2727 ug/L	0.35661	3.2727 ppb	0.35661	10.90%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.2	0.0025 ug/L	0.02663	0.0025 ppb	0.02663	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-25.4	-0.0078 ug/L	0.02631	-0.0078 ppb	0.02631	335.92%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	10.8	20.046 ug/L	6.5017	20.046 ppb	6.5017	32.43%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	-7.7 -0.0791 ug/L	0.02281 -0.0791 ppb	0.02281 28.83%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	-12.5 -0.2285 ug/L	0.07878 -0.2285 ppb	0.07878 34.48%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	22.9 0.2313 ug/L	0.21893 0.2313 ppb	0.21893 94.65%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	521.3 1.4431 ug/L	0.29610 1.4431 ppb	0.29610 20.52%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	1.5 17.369 ug/L	7.9098 17.369 ppb	7.9098 45.54%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	117.2 22.259 ug/L	19.7544 22.259 ppb	19.7544 88.75%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	4.8 200.23 ug/L	46.163 200.23 ppb	46.163 23.06%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	159.9 0.1540 ug/L	0.04917 0.1540 ppb	0.04917 31.94%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	15.6 1.0409 ug/L	0.38969 1.0409 ppb	0.38969 37.44%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	326.4 100.58 ug/L	17.278 100.58 ppb	17.278 17.18%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-10.2 -0.2273 ug/L	0.32816 -0.2273 ppb	0.32816 144.38%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	38.9 19.884 ug/L	7.6170 19.884 ppb	7.6170 38.31%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	5.9 0.6298 ug/L	0.31390 0.6298 ppb	0.31390 49.84%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	4.1 5.0028 ug/L	6.70539 5.0028 ppb	6.70539 134.03%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	12.9 3.9662 ug/L	1.44684 3.9662 ppb	1.44684 36.48%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-4.0 -2.1575 ug/L	2.73978 -2.1575 ppb	2.73978 126.99%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	-2.6 -0.0887 ug/L	0.60953 -0.0887 ppb	0.60953 687.05%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	2.8 0.4586 ug/L	0.83422 0.4586 ppb	0.83422 181.91%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-3.1 -0.0209 ug/L	0.07053 -0.0209 ppb	0.07053 337.30%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	205.9 0.2878 ug/L	0.14046 0.2878 ppb	0.14046 48.81%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	2.0 0.5725 ug/L	1.37215 0.5725 ppb	1.37215 239.67%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	474.9 14.027 ug/L	2.0054 14.027 ppb	2.0054 14.30%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	32.6 0.2591 ug/L	0.58800 0.2591 ppb	0.58800 226.92%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	197.5 1.6736 ug/L	0.07686 1.6736 ppb	0.07686 4.59%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	-23.4 -1.5186 ug/L	0.93844 -1.5186 ppb	0.93844 61.80%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 85

Sample ID: 1202018101|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 104

Date Collected: 2/2/2010 02:46:06

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018101|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4374.2	4374.2	106 %		02:47:59
1	Y RADIAL	5654.1	5654.1	116.8 %		02:47:59
1	Al 396.153Radial†	29769.9	28267.6	23340 ug/L	23340 ppb	02:47:59
1	Ca 317.933Radial†	4309.8	4051.5	7499.8 ug/L	7499.8 ppb	02:47:59
1	Fe 238.204 Radial†	7727.7	7278.2	84582 ug/L	84582 ppb	02:47:59
1	K 766.490 Radial†	29729.0	25414.6	4833.9 ug/L	4833.9 ppb	02:47:59
1	Mg 279.077 IEC†	136.4	128.7	5335.4 ug/L	5335.4 ppb	02:48:19
1	Na 589.592 Radial†	70.8	1719.0	529.71 ug/L	529.71 ppb	02:47:59
1	Sr 421.552†	9009.7	8461.0	55.809 ug/L	55.809 ppb	02:47:59
1	Sc 361.383	863488.1	863488.1	96.931 %		02:49:17
1	Y 371.029	796053.6	796053.6	108.42 %		02:49:17
1	Ag 328.068†	-5126.3	-5913.1	1.8463 ug/L	1.8463 ppb	02:49:22
1	As 188.979†	-86.9	-61.0	24.925 ug/L	24.925 ppb	02:49:42
1	B 249.677†	283.9	1054.0	8.2451 ug/L	8.2451 ppb	02:49:22
1	Ba 233.527†	35324.5	36458.1	269.22 ug/L	269.22 ppb	02:49:22
1	Be 313.107†	-9695.8	-5599.7	5.5985 ug/L	5.5985 ppb	02:49:22
1	Cd 226.502†	605.5	828.7	-0.1843 ug/L	-0.1843 ppb	02:49:42
1	Co 228.616†	958.4	1073.9	11.788 ug/L	11.788 ppb	02:49:42
1	Cr 267.716†	5101.1	5200.8	55.348 ug/L	55.348 ppb	02:49:42
1	Cu 324.752†	13715.2	7262.6	24.755 ug/L	24.755 ppb	02:49:22
1	Mn 257.610†	2249561.3	2320249.5	2336.1 ug/L	2336.1 ppb	02:49:17
1	Mo 202.031†	62.7	59.5	10.608 ug/L	10.608 ppb	02:49:42
1	Ni 231.604†	1610.1	1575.9	35.104 ug/L	35.104 ppb	02:49:42
1	P 214.914†	1961.2	1800.1	868.27 ug/L	868.27 ppb	02:49:42
1	Pb 220.353†	417.9	510.8	51.844 ug/L	51.844 ppb	02:49:42
1	S 181.975 Axial†	303.6	264.4	318.56 ug/L	318.56 ppb	02:49:42
1	Sb 206.836†	56.6	19.9	-3.0274 ug/L	-3.0274 ppb	02:49:42
1	Se 196.026†	-401.2	-388.0	66.137 ug/L	66.137 ppb	02:49:42
1	Si 251.611†	675535.9	696387.3	20729 ug/L	20729 ppb	02:49:17
1	Sn 189.927†	-13.2	-23.1	-1.1664 ug/L	-1.1664 ppb	02:49:42
1	Ti 334.940†	2134903.5	2204297.9	3294.2 ug/L	3294.2 ppb	02:49:17
1	Tl 190.801†	-167.5	-128.3	2.0287 ug/L	2.0287 ppb	02:49:42
1	U 409.014†	-9588.7	-4779.2	-150.93 ug/L	-150.93 ppb	02:49:17
1	V 292.402†	9496.2	11549.0	60.896 ug/L	60.896 ppb	02:49:22
1	Zn 213.857†	45902.8	46647.0	387.31 ug/L	387.31 ppb	02:49:22
1	SiO2†	677275.7	698155.7	44521 ug/L	44521 ppb	02:50:51
2	Sc Radial	4404.2	4404.2	107 %		02:48:24
2	Y RADIAL	5670.5	5670.5	117.1 %		02:48:24
2	Al 396.153Radial†	30024.3	28314.8	23379 ug/L	23379 ppb	02:48:24
2	Ca 317.933Radial†	4349.6	4061.1	7517.7 ug/L	7517.7 ppb	02:48:24
2	Fe 238.204 Radial†	7779.6	7277.2	84570 ug/L	84570 ppb	02:48:24
2	K 766.490 Radial†	29974.3	25453.5	4841.3 ug/L	4841.3 ppb	02:48:24
2	Mg 279.077 IEC†	133.3	124.9	5175.0 ug/L	5175.0 ppb	02:48:44
2	Na 589.592 Radial†	51.3	1700.4	523.97 ug/L	523.97 ppb	02:48:24
2	Sr 421.552†	9041.9	8433.4	55.627 ug/L	55.627 ppb	02:48:24
2	Sc 361.383	873778.2	873778.2	98.086 %		02:49:48
2	Y 371.029	803354.6	803354.6	109.41 %		02:49:48
2	Ag 328.068†	-5133.2	-5857.9	2.0776 ug/L	2.0776 ppb	02:49:53
2	As 188.979†	-103.5	-76.8	18.871 ug/L	18.871 ppb	02:50:13
2	B 249.677†	251.2	1017.2	7.4785 ug/L	7.4785 ppb	02:49:53
2	Ba 233.527†	35065.6	35765.1	264.15 ug/L	264.15 ppb	02:49:53
2	Be 313.107†	-9524.7	-5307.5	5.7022 ug/L	5.7022 ppb	02:49:53
2	Cd 226.502†	584.3	799.8	-0.4817 ug/L	-0.4817 ppb	02:50:13
2	Co 228.616†	974.7	1078.8	11.872 ug/L	11.872 ppb	02:50:13
2	Cr 267.716†	5100.5	5138.2	54.702 ug/L	54.702 ppb	02:50:13
2	Cu 324.752†	13761.6	7143.2	24.421 ug/L	24.421 ppb	02:49:53
2	Mn 257.610†	2276672.1	2320558.6	2336.4 ug/L	2336.4 ppb	02:49:48
2	Mo 202.031†	66.3	62.4	10.799 ug/L	10.799 ppb	02:50:13
2	Ni 231.604†	1579.3	1525.0	33.968 ug/L	33.968 ppb	02:50:13

2	P 214.914†	1969.0	1784.1	860.10 ug/L	860.10 ppb	02:50:13
2	Pb 220.353†	413.0	500.7	50.771 ug/L	50.771 ppb	02:50:13
2	S 181.975 Axial†	318.8	276.2	332.98 ug/L	332.98 ppb	02:50:13
2	Sb 206.836†	83.7	46.9	5.2155 ug/L	5.2155 ppb	02:50:13
2	Se 196.026†	-392.0	-373.7	74.034 ug/L	74.034 ppb	02:50:13
2	Si 251.611†	684676.5	697498.9	20762 ug/L	20762 ppb	02:49:48
2	Sn 189.927†	-4.7	-14.2	0.2745 ug/L	0.2745 ppb	02:50:13
2	Ti 334.940†	2161973.3	2205958.1	3296.7 ug/L	3296.7 ppb	02:49:48
2	Tl 190.801†	-175.2	-134.2	0.3934 ug/L	0.3934 ppb	02:50:13
2	U 409.014†	-9595.1	-4669.2	-147.68 ug/L	-147.68 ppb	02:49:48
2	V 292.402†	9471.9	11408.9	59.969 ug/L	59.969 ppb	02:49:53
2	Zn 213.857†	45615.9	45796.8	380.10 ug/L	380.10 ppb	02:49:53
2	SiO2†	680410.3	693123.0	44200 ug/L	44200 ppb	02:50:56
3	Sc Radial	4439.9	4439.9	108 %		02:48:49
3	Y RADIAL	5718.5	5718.5	118.1 %		02:48:49
3	Al 396.153Radial†	30056.5	28118.2	23216 ug/L	23216 ppb	02:48:49
3	Ca 317.933Radial†	4362.2	4040.0	7478.6 ug/L	7478.6 ppb	02:48:49
3	Fe 238.204 Radial†	7726.4	7169.1	83314 ug/L	83314 ppb	02:48:49
3	K 766.490 Radial†	29898.7	25157.1	4785.0 ug/L	4785.0 ppb	02:48:49
3	Mg 279.077 IEC†	135.3	125.7	5211.0 ug/L	5211.0 ppb	02:49:10
3	Na 589.592 Radial†	-13.2	1640.0	505.37 ug/L	505.37 ppb	02:48:49
3	Sr 421.552†	9059.0	8381.0	55.281 ug/L	55.281 ppb	02:48:49
3	Sc 361.383	864112.6	864112.6	97.001 %		02:50:19
3	Y 371.029	794251.9	794251.9	108.17 %		02:50:19
3	Ag 328.068†	-5099.0	-5881.1	1.5787 ug/L	1.5787 ppb	02:50:24
3	As 188.979†	-94.8	-69.0	21.551 ug/L	21.551 ppb	02:50:44
3	B 249.677†	296.9	1067.1	8.7255 ug/L	8.7255 ppb	02:50:24
3	Ba 233.527†	35625.2	36741.9	271.26 ug/L	271.26 ppb	02:50:24
3	Be 313.107†	-9607.7	-5501.7	5.6363 ug/L	5.6363 ppb	02:50:24
3	Cd 226.502†	600.7	823.4	-0.1092 ug/L	-0.1092 ppb	02:50:44
3	Co 228.616†	972.6	1087.8	12.058 ug/L	12.058 ppb	02:50:44
3	Cr 267.716†	5150.8	5248.2	55.812 ug/L	55.812 ppb	02:50:44
3	Cu 324.752†	13796.9	7336.6	24.894 ug/L	24.894 ppb	02:50:24
3	Mn 257.610†	2253414.7	2322544.7	2338.3 ug/L	2338.3 ppb	02:50:19
3	Mo 202.031†	59.5	56.2	10.289 ug/L	10.289 ppb	02:50:44
3	Ni 231.604†	1599.1	1563.3	34.823 ug/L	34.823 ppb	02:50:44
3	P 214.914†	1959.0	1796.3	867.25 ug/L	867.25 ppb	02:50:44
3	Pb 220.353†	415.7	508.1	51.656 ug/L	51.656 ppb	02:50:44
3	S 181.975 Axial†	313.6	274.4	330.82 ug/L	330.82 ppb	02:50:44
3	Sb 206.836†	62.1	25.6	-1.3381 ug/L	-1.3381 ppb	02:50:44
3	Se 196.026†	-405.3	-391.9	59.767 ug/L	59.767 ppb	02:50:44
3	Si 251.611†	676443.2	696819.0	20741 ug/L	20741 ppb	02:50:19
3	Sn 189.927†	-10.5	-20.2	-0.7317 ug/L	-0.7317 ppb	02:50:44
3	Ti 334.940†	2137831.9	2205725.0	3296.3 ug/L	3296.3 ppb	02:50:19
3	Tl 190.801†	-174.8	-135.8	-0.0582 ug/L	-0.0582 ppb	02:50:44
3	U 409.014†	-9613.0	-4797.1	-151.32 ug/L	-151.32 ppb	02:50:19
3	V 292.402†	9583.5	11632.0	61.623 ug/L	61.623 ppb	02:50:24
3	Zn 213.857†	46254.6	46975.3	390.22 ug/L	390.22 ppb	02:50:24
3	SiO2†	680153.6	700617.6	44678 ug/L	44678 ppb	02:51:02

Mean Data: 1202018101|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	867126.3	97.340 %	0.6476			0.67%
Sc Radial	4406.1	107 %	0.8			0.75%
Y 371.029	797886.7	108.67 %	0.656			0.60%
Y RADIAL	5681.0	117.3 %	0.69			0.59%
Ag 328.068†	-5884.0	1.8342 ug/L	0.24971	1.8342 ppb	0.24971	13.61%
Al 396.153Radial†	28233.5	23312 ug/L	84.7	23312 ppb	84.7	0.36%
As 188.979†	-68.9	21.782 ug/L	3.0337	21.782 ppb	3.0337	13.93%
B 249.677†	1046.1	8.1497 ug/L	0.62894	8.1497 ppb	0.62894	7.72%
Ba 233.527†	36321.7	268.21 ug/L	3.658	268.21 ppb	3.658	1.36%
Be 313.107†	-5469.6	5.6457 ug/L	0.05247	5.6457 ppb	0.05247	0.93%
Ca 317.933Radial†	4050.8	7498.7 ug/L	19.56	7498.7 ppb	19.56	0.26%
Cd 226.502†	817.3	-0.2584 ug/L	0.19701	-0.2584 ppb	0.19701	76.24%
Co 228.616†	1080.2	11.906 ug/L	0.1383	11.906 ppb	0.1383	1.16%
Cr 267.716†	5195.7	55.288 ug/L	0.5579	55.288 ppb	0.5579	1.01%
Cu 324.752†	7247.5	24.690 ug/L	0.2433	24.690 ppb	0.2433	0.99%
Fe 238.204 Radial†	7241.5	84155 ug/L	728.7	84155 ppb	728.7	0.87%
K 766.490 Radial†	25341.8	4820.1 ug/L	30.65	4820.1 ppb	30.65	0.64%

Mg 279.077 IEC†	126.5	5240.5 ug/L	84.18	5240.5 ppb	84.18	1.61%
Mn 257.610†	2321117.6	2337.0 ug/L	1.18	2337.0 ppb	1.18	0.05%
Mo 202.031†	59.3	10.565 ug/L	0.2574	10.565 ppb	0.2574	2.44%
Na 589.592 Radial†	1686.5	519.69 ug/L	12.725	519.69 ppb	12.725	2.45%
Ni 231.604†	1554.8	34.632 ug/L	0.5915	34.632 ppb	0.5915	1.71%
P 214.914†	1793.5	865.21 ug/L	4.453	865.21 ppb	4.453	0.51%
Pb 220.353†	506.5	51.423 ug/L	0.5728	51.423 ppb	0.5728	1.11%
S 181.975 Axial†	271.6	327.46 ug/L	7.777	327.46 ppb	7.777	2.38%
Sb 206.836†	30.8	0.2833 ug/L	4.35412	0.2833 ppb	4.35412	>999.9%
Se 196.026†	-384.5	66.646 ug/L	7.1474	66.646 ppb	7.1474	10.72%
Si 251.611†	696901.7	20744 ug/L	16.7	20744 ppb	16.7	0.08%
Sn 189.927†	-19.2	-0.5412 ug/L	0.73907	-0.5412 ppb	0.73907	136.56%
Sr 421.552†	8425.2	55.572 ug/L	0.2682	55.572 ppb	0.2682	0.48%
Ti 334.940†	2205327.0	3295.7 ug/L	1.35	3295.7 ppb	1.35	0.04%
Tl 190.801†	-132.8	0.7880 ug/L	1.09796	0.7880 ppb	1.09796	139.34%
U 409.014†	-4748.5	-149.98 ug/L	1.997	-149.98 ppb	1.997	1.33%
V 292.402†	11530.0	60.829 ug/L	0.8293	60.829 ppb	0.8293	1.36%
Zn 213.857†	46473.0	385.88 ug/L	5.207	385.88 ppb	5.207	1.35%
SiO2†	697298.7	44466 ug/L	243.6	44466 ppb	243.6	0.55%

Sequence No.: 86

Sample ID: 1202018102|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 105

Date Collected: 2/2/2010 02:53:14

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018102|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4280.8	4280.8	104 %		02:55:27
1	Y RADIAL	5430.0	5430.0	112.2 %		02:55:27
1	Al 396.153Radial†	57625.8	55725.6	45988 ug/L	45988 ppb	02:55:07
1	Ca 317.933Radial†	6902.9	6639.1	12290 ug/L	12290 ppb	02:55:27
1	Fe 238.204 Radial†	7952.8	7654.2	88965 ug/L	88965 ppb	02:55:07
1	K 766.490 Radial†	64926.4	59946.9	11403 ug/L	11403 ppb	02:55:07
1	Mg 279.077 IEC†	293.7	283.1	11841 ug/L	11841 ppb	02:55:27
1	Na 589.592 Radial†	17942.8	18944.2	5837.7 ug/L	5837.7 ppb	02:55:07
1	Sr 421.552†	89711.7	86421.1	570.51 ug/L	570.51 ppb	02:55:07
1	Sc 361.383	863811.1	863811.1	96.967 %		02:56:26
1	Y 371.029	787987.5	787987.5	107.32 %		02:56:26
1	Ag 328.068†	105192.8	107858.1	502.51 ug/L	502.51 ppb	02:56:26
1	As 188.979†	1139.2	1203.6	515.64 ug/L	515.64 ppb	02:56:47
1	B 249.677†	22669.3	24139.3	488.85 ug/L	488.85 ppb	02:56:26
1	Ba 233.527†	99633.0	102764.2	755.07 ug/L	755.07 ppb	02:56:26
1	Be 313.107†	1430230.6	1479362.4	505.18 ug/L	505.18 ppb	02:56:26
1	Cd 226.502†	46983.2	48656.7	493.64 ug/L	493.64 ppb	02:56:26
1	Co 228.616†	26064.6	26964.9	488.86 ug/L	488.86 ppb	02:56:47
1	Cr 267.716†	52680.5	54266.2	561.04 ug/L	561.04 ppb	02:56:26
1	Cu 324.752†	196181.9	195430.4	548.08 ug/L	548.08 ppb	02:56:26
1	Mn 257.610†	2583096.4	2663347.9	2680.5 ug/L	2680.5 ppb	02:56:26
1	Mo 202.031†	6998.0	7211.6	486.33 ug/L	486.33 ppb	02:56:47
1	Ni 231.604†	22811.6	23439.8	522.00 ug/L	522.00 ppb	02:56:47
1	P 214.914†	3159.0	3034.5	1412.1 ug/L	1412.1 ppb	02:56:47
1	Pb 220.353†	4772.0	5000.8	538.97 ug/L	538.97 ppb	02:56:47
1	S 181.975 Axial†	4193.6	4275.9	5214.8 ug/L	5214.8 ppb	02:56:47
1	Sb 206.836†	1576.4	1587.3	492.60 ug/L	492.60 ppb	02:56:47
1	Se 196.026†	466.7	507.2	579.70 ug/L	579.70 ppb	02:56:47
1	Si 251.611†	832554.0	858055.4	25535 ug/L	25535 ppb	02:56:26
1	Sn 189.927†	3011.2	3096.0	503.52 ug/L	503.52 ppb	02:56:47
1	Ti 334.940†	2522543.6	2603237.4	3890.0 ug/L	3890.0 ppb	02:56:26
1	Tl 190.801†	1494.6	1585.8	489.19 ug/L	489.19 ppb	02:56:47
1	U 409.014†	6831.2	12157.9	347.74 ug/L	347.74 ppb	02:56:26
1	V 292.402†	80927.3	85210.4	557.29 ug/L	557.29 ppb	02:56:26
1	Zn 213.857†	102279.9	104769.4	876.20 ug/L	876.20 ppb	02:56:26
1	SiO2†	821731.5	846867.9	53991 ug/L	53991 ppb	02:57:48
2	Sc Radial	4244.8	4244.8	103 %		02:55:52
2	Y RADIAL	5390.6	5390.6	111.3 %		02:55:52
2	Al 396.153Radial†	58016.5	56576.2	46691 ug/L	46691 ppb	02:55:32
2	Ca 317.933Radial†	6927.4	6719.4	12438 ug/L	12438 ppb	02:55:52
2	Fe 238.204 Radial†	7990.5	7755.8	90146 ug/L	90146 ppb	02:55:32
2	K 766.490 Radial†	65054.7	60602.3	11527 ug/L	11527 ppb	02:55:32
2	Mg 279.077 IEC†	292.5	284.3	11892 ug/L	11892 ppb	02:55:52
2	Na 589.592 Radial†	17843.2	18994.0	5853.0 ug/L	5853.0 ppb	02:55:32
2	Sr 421.552†	90086.8	87518.7	577.76 ug/L	577.76 ppb	02:55:32
2	Sc 361.383	864215.5	864215.5	97.013 %		02:56:54
2	Y 371.029	789774.1	789774.1	107.56 %		02:56:54
2	Ag 328.068†	104976.2	107584.1	501.68 ug/L	501.68 ppb	02:56:54
2	As 188.979†	1155.2	1219.6	521.91 ug/L	521.91 ppb	02:57:14
2	B 249.677†	22556.0	24011.7	485.98 ug/L	485.98 ppb	02:56:54
2	Ba 233.527†	99745.7	102832.3	755.60 ug/L	755.60 ppb	02:56:54
2	Be 313.107†	1426596.9	1474926.6	503.65 ug/L	503.65 ppb	02:56:54
2	Cd 226.502†	47074.5	48728.1	494.26 ug/L	494.26 ppb	02:56:54
2	Co 228.616†	26184.9	27076.3	490.93 ug/L	490.93 ppb	02:57:14
2	Cr 267.716†	52691.8	54252.4	560.92 ug/L	560.92 ppb	02:56:54
2	Cu 324.752†	194464.1	193565.0	542.96 ug/L	542.96 ppb	02:56:54
2	Mn 257.610†	2578741.2	2657612.0	2674.9 ug/L	2674.9 ppb	02:56:54
2	Mo 202.031†	7015.3	7226.1	487.39 ug/L	487.39 ppb	02:57:14
2	Ni 231.604†	22922.8	23543.4	524.30 ug/L	524.30 ppb	02:57:14

2	P 214.914†	3174.9	3049.4	1420.1 ug/L	1420.1 ppb	02:57:14
2	Pb 220.353†	4765.6	4992.0	538.07 ug/L	538.07 ppb	02:57:14
2	S 181.975 Axial†	4191.5	4271.7	5209.6 ug/L	5209.6 ppb	02:57:14
2	Sb 206.836†	1578.6	1588.8	493.14 ug/L	493.14 ppb	02:57:14
2	Se 196.026†	476.6	517.3	589.22 ug/L	589.22 ppb	02:57:14
2	Si 251.611†	829187.9	854183.9	25420 ug/L	25420 ppb	02:56:54
2	Sn 189.927†	3019.3	3102.8	504.67 ug/L	504.67 ppb	02:57:14
2	Ti 334.940†	2513739.2	2592944.6	3874.6 ug/L	3874.6 ppb	02:56:54
2	Tl 190.801†	1498.8	1589.4	490.04 ug/L	490.04 ppb	02:57:14
2	U 409.014†	6853.7	12177.9	348.19 ug/L	348.19 ppb	02:56:54
2	V 292.402†	80825.2	85066.1	556.19 ug/L	556.19 ppb	02:56:54
2	Zn 213.857†	102008.4	104440.2	873.28 ug/L	873.28 ppb	02:56:54
2	SiO2†	824523.3	849349.1	54149 ug/L	54149 ppb	02:57:54
3	Sc Radial	4311.9	4311.9	105 %		02:56:18
3	Y RADIAL	5471.2	5471.2	113.0 %		02:56:18
3	Al 396.153Radial†	57439.5	55146.5	45510 ug/L	45510 ppb	02:55:58
3	Ca 317.933Radial†	6939.8	6626.4	12266 ug/L	12266 ppb	02:56:18
3	Fe 238.204 Radial†	7857.3	7507.5	87261 ug/L	87261 ppb	02:55:58
3	K 766.490 Radial†	64337.3	58931.6	11209 ug/L	11209 ppb	02:55:58
3	Mg 279.077 IEC†	293.8	281.1	11760 ug/L	11760 ppb	02:56:18
3	Na 589.592 Radial†	17625.9	18516.2	5705.8 ug/L	5705.8 ppb	02:55:58
3	Sr 421.552†	89238.6	85344.3	563.41 ug/L	563.41 ppb	02:55:58
3	Sc 361.383	866474.6	866474.6	97.266 %		02:57:21
3	Y 371.029	791580.4	791580.4	107.81 %		02:57:21
3	Ag 328.068†	105335.2	107670.9	501.13 ug/L	501.13 ppb	02:57:21
3	As 188.979†	1143.2	1204.1	515.35 ug/L	515.35 ppb	02:57:41
3	B 249.677†	22764.7	24165.6	489.67 ug/L	489.67 ppb	02:57:21
3	Ba 233.527†	99870.9	102692.9	754.50 ug/L	754.50 ppb	02:57:21
3	Be 313.107†	1432755.0	1477423.7	504.50 ug/L	504.50 ppb	02:57:21
3	Cd 226.502†	46958.6	48482.4	492.02 ug/L	492.02 ppb	02:57:21
3	Co 228.616†	26220.8	27042.9	490.35 ug/L	490.35 ppb	02:57:41
3	Cr 267.716†	52696.7	54115.8	559.45 ug/L	559.45 ppb	02:57:21
3	Cu 324.752†	195878.8	194496.9	545.40 ug/L	545.40 ppb	02:57:21
3	Mn 257.610†	2583102.5	2655165.2	2672.2 ug/L	2672.2 ppb	02:57:21
3	Mo 202.031†	7039.2	7231.8	487.54 ug/L	487.54 ppb	02:57:41
3	Ni 231.604†	22971.9	23532.3	524.06 ug/L	524.06 ppb	02:57:41
3	P 214.914†	3147.0	3012.2	1402.3 ug/L	1402.3 ppb	02:57:41
3	Pb 220.353†	4773.3	4987.1	537.57 ug/L	537.57 ppb	02:57:41
3	S 181.975 Axial†	4191.2	4260.1	5195.7 ug/L	5195.7 ppb	02:57:41
3	Sb 206.836†	1591.9	1598.2	495.96 ug/L	495.96 ppb	02:57:41
3	Se 196.026†	472.4	511.6	576.46 ug/L	576.46 ppb	02:57:41
3	Si 251.611†	831989.3	854835.5	25439 ug/L	25439 ppb	02:57:21
3	Sn 189.927†	3016.7	3092.0	502.85 ug/L	502.85 ppb	02:57:41
3	Ti 334.940†	2524024.3	2596762.9	3880.3 ug/L	3880.3 ppb	02:57:21
3	Tl 190.801†	1502.3	1589.0	489.96 ug/L	489.96 ppb	02:57:41
3	U 409.014†	6837.2	12142.5	347.48 ug/L	347.48 ppb	02:57:21
3	V 292.402†	81002.8	85031.5	556.38 ug/L	556.38 ppb	02:57:21
3	Zn 213.857†	102309.0	104475.2	873.86 ug/L	873.86 ppb	02:57:21
3	SiO2†	822776.2	845336.9	53894 ug/L	53894 ppb	02:58:00

Mean Data: 1202018102|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	864833.7	97.082 %	0.1611			0.17%
Sc Radial	4279.2	104 %	0.8			0.78%
Y 371.029	789780.7	107.56 %	0.245			0.23%
Y RADIAL	5430.6	112.2 %	0.83			0.74%
Ag 328.068†	107704.4	501.77 ug/L	0.692	501.77 ppb	0.692	0.14%
Al 396.153Radial†	55816.1	46063 ug/L	593.8	46063 ppb	593.8	1.29%
As 188.979†	1209.1	517.63 ug/L	3.706	517.63 ppb	3.706	0.72%
B 249.677†	24105.5	488.17 ug/L	1.937	488.17 ppb	1.937	0.40%
Ba 233.527†	102763.2	755.06 ug/L	0.553	755.06 ppb	0.553	0.07%
Be 313.107†	1477237.6	504.44 ug/L	0.763	504.44 ppb	0.763	0.15%
Ca 317.933Radial†	6661.6	12332 ug/L	93.3	12332 ppb	93.3	0.76%
Cd 226.502†	48622.4	493.31 ug/L	1.157	493.31 ppb	1.157	0.23%
Co 228.616†	27028.0	490.05 ug/L	1.068	490.05 ppb	1.068	0.22%
Cr 267.716†	54211.5	560.47 ug/L	0.881	560.47 ppb	0.881	0.16%
Cu 324.752†	194497.4	545.48 ug/L	2.564	545.48 ppb	2.564	0.47%
Fe 238.204 Radial†	7639.2	88791 ug/L	1450.6	88791 ppb	1450.6	1.63%
K 766.490 Radial†	59826.9	11380 ug/L	160.2	11380 ppb	160.2	1.41%



Mg 279.077 IEC†	282.8	11831 ug/L	66.6	11831 ppb	66.6	0.56%
Mn 257.610†	2658708.4	2675.9 ug/L	4.27	2675.9 ppb	4.27	0.16%
Mo 202.031†	7223.2	487.08 ug/L	0.659	487.08 ppb	0.659	0.14%
Na 589.592 Radial†	18818.2	5798.8 ug/L	80.94	5798.8 ppb	80.94	1.40%
Ni 231.604†	23505.2	523.45 ug/L	1.267	523.45 ppb	1.267	0.24%
P 214.914†	3032.0	1411.5 ug/L	8.93	1411.5 ppb	8.93	0.63%
Pb 220.353†	4993.3	538.20 ug/L	0.714	538.20 ppb	0.714	0.13%
S 181.975 Axial†	4269.2	5206.7 ug/L	9.90	5206.7 ppb	9.90	0.19%
Sb 206.836†	1591.4	493.90 ug/L	1.805	493.90 ppb	1.805	0.37%
Se 196.026†	512.0	581.79 ug/L	6.632	581.79 ppb	6.632	1.14%
Si 251.611†	855691.6	25465 ug/L	61.7	25465 ppb	61.7	0.24%
Sn 189.927†	3097.0	503.68 ug/L	0.921	503.68 ppb	0.921	0.18%
Sr 421.552†	86428.0	570.56 ug/L	7.178	570.56 ppb	7.178	1.26%
Ti 334.940†	2597648.3	3881.6 ug/L	7.77	3881.6 ppb	7.77	0.20%
Tl 190.801†	1588.0	489.73 ug/L	0.472	489.73 ppb	0.472	0.10%
U 409.014†	12159.4	347.80 ug/L	0.361	347.80 ppb	0.361	0.10%
V 292.402†	85102.7	556.62 ug/L	0.589	556.62 ppb	0.589	0.11%
Zn 213.857†	104561.6	874.45 ug/L	1.544	874.45 ppb	1.544	0.18%
SiO2†	847184.6	54011 ug/L	129.1	54011 ppb	129.1	0.24%

Sequence No.: 87

Sample ID: 1202018104|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 106

Date Collected: 2/2/2010 03:00:11

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018104|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4495.8	4495.8	109 %		03:02:24
1	Y RADIAL	5822.1	5822.1	120.3 %		03:02:24
1	Al 396.153Radial†	65244.8	60061.6	49568 ug/L	49568 ppb	03:02:04
1	Ca 317.933Radial†	6872.8	6293.4	11650 ug/L	11650 ppb	03:02:24
1	Fe 238.204 Radial†	8181.4	7497.5	87145 ug/L	87145 ppb	03:02:04
1	K 766.490 Radial†	64606.0	56661.0	10778 ug/L	10778 ppb	03:02:04
1	Mg 279.077 IEC†	289.1	265.3	11094 ug/L	11094 ppb	03:02:24
1	Na 589.592 Radial†	16919.5	17178.4	5293.5 ug/L	5293.5 ppb	03:02:04
1	Sr 421.552†	88742.8	81397.9	537.35 ug/L	537.35 ppb	03:02:04
1	Sc 361.383	855297.1	855297.1	96.012 %		03:03:24
1	Y 371.029	800869.1	800869.1	109.07 %		03:03:24
1	Ag 328.068†	105761.6	109530.4	509.29 ug/L	509.29 ppb	03:03:24
1	As 188.979†	1157.3	1234.1	526.51 ug/L	526.51 ppb	03:03:44
1	B 249.677†	23082.2	24802.1	502.96 ug/L	502.96 ppb	03:03:24
1	Ba 233.527†	101075.5	105289.5	773.49 ug/L	773.49 ppb	03:03:24
1	Be 313.107†	1441715.4	1506006.7	514.01 ug/L	514.01 ppb	03:03:24
1	Cd 226.502†	47438.8	49613.5	503.72 ug/L	503.72 ppb	03:03:24
1	Co 228.616†	26668.1	27861.0	505.54 ug/L	505.54 ppb	03:03:44
1	Cr 267.716†	52691.7	54818.6	566.71 ug/L	566.71 ppb	03:03:24
1	Cu 324.752†	197483.2	198799.8	557.37 ug/L	557.37 ppb	03:03:24
1	Mn 257.610†	2603869.9	2711501.8	2728.7 ug/L	2728.7 ppb	03:03:24
1	Mo 202.031†	7087.5	7376.7	497.15 ug/L	497.15 ppb	03:03:44
1	Ni 231.604†	23400.5	24287.4	540.87 ug/L	540.87 ppb	03:03:44
1	P 214.914†	3083.4	2988.2	1388.7 ug/L	1388.7 ppb	03:03:44
1	Pb 220.353†	4841.1	5121.8	552.90 ug/L	552.90 ppb	03:03:44
1	S 181.975 Axial†	4311.1	4441.3	5416.2 ug/L	5416.2 ppb	03:03:44
1	Sb 206.836†	1587.0	1614.5	501.39 ug/L	501.39 ppb	03:03:44
1	Se 196.026†	472.8	518.4	580.16 ug/L	580.16 ppb	03:03:44
1	Si 251.611†	852428.7	887302.5	26405 ug/L	26405 ppb	03:03:24
1	Sn 189.927†	3058.6	3176.3	516.36 ug/L	516.36 ppb	03:03:44
1	Ti 334.940†	2467809.6	2572125.8	3843.5 ug/L	3843.5 ppb	03:03:24
1	Tl 190.801†	1534.0	1642.1	504.84 ug/L	504.84 ppb	03:03:44
1	U 409.014†	6244.6	11617.0	331.96 ug/L	331.96 ppb	03:03:24
1	V 292.402†	81358.0	86489.7	566.23 ug/L	566.23 ppb	03:03:24
1	Zn 213.857†	104502.7	108134.6	904.79 ug/L	904.79 ppb	03:03:24
1	SiO2†	843860.2	878351.5	55999 ug/L	55999 ppb	03:04:45
2	Sc Radial	4343.9	4343.9	105 %		03:02:50
2	Y RADIAL	5656.9	5656.9	116.8 %		03:02:50
2	Al 396.153Radial†	65930.6	62806.6	51835 ug/L	51835 ppb	03:02:30
2	Ca 317.933Radial†	6922.9	6561.5	12146 ug/L	12146 ppb	03:02:50
2	Fe 238.204 Radial†	8259.4	7834.1	91056 ug/L	91056 ppb	03:02:30
2	K 766.490 Radial†	65570.9	59650.6	11346 ug/L	11346 ppb	03:02:30
2	Mg 279.077 IEC†	297.7	282.8	11824 ug/L	11824 ppb	03:02:50
2	Na 589.592 Radial†	17061.7	17856.3	5502.4 ug/L	5502.4 ppb	03:02:30
2	Sr 421.552†	89810.6	85259.6	562.85 ug/L	562.85 ppb	03:02:30
2	Sc 361.383	869296.1	869296.1	97.583 %		03:03:51
2	Y 371.029	813317.6	813317.6	110.77 %		03:03:51
2	Ag 328.068†	106371.9	108381.9	505.50 ug/L	505.50 ppb	03:03:51
2	As 188.979†	1160.6	1218.1	521.01 ug/L	521.01 ppb	03:04:11
2	B 249.677†	23315.3	24653.9	499.25 ug/L	499.25 ppb	03:03:51
2	Ba 233.527†	101602.3	104134.0	765.15 ug/L	765.15 ppb	03:03:51
2	Be 313.107†	1454391.3	1494814.9	510.18 ug/L	510.18 ppb	03:03:51
2	Cd 226.502†	47725.9	49112.1	498.13 ug/L	498.13 ppb	03:03:51
2	Co 228.616†	26624.8	27369.3	496.47 ug/L	496.47 ppb	03:04:11
2	Cr 267.716†	53035.7	54287.4	561.30 ug/L	561.30 ppb	03:03:51
2	Cu 324.752†	199131.1	197176.1	553.05 ug/L	553.05 ppb	03:03:51
2	Mn 257.610†	2619456.3	2683799.9	2701.3 ug/L	2701.3 ppb	03:03:51
2	Mo 202.031†	7067.0	7236.8	488.17 ug/L	488.17 ppb	03:04:11
2	Ni 231.604†	23349.5	23842.6	530.97 ug/L	530.97 ppb	03:04:11

2	P 214.914†	3066.4	2919.1	1351.0 ug/L	1351.0 ppb	03:04:11
2	Pb 220.353†	4844.1	5043.7	544.62 ug/L	544.62 ppb	03:04:11
2	S 181.975 Axial†	4250.1	4306.5	5251.1 ug/L	5251.1 ppb	03:04:11
2	Sb 206.836†	1555.6	1555.7	483.21 ug/L	483.21 ppb	03:04:11
2	Se 196.026†	470.3	507.9	587.36 ug/L	587.36 ppb	03:04:11
2	Si 251.611†	859046.4	879786.4	26182 ug/L	26182 ppb	03:03:51
2	Sn 189.927†	3050.1	3116.2	506.80 ug/L	506.80 ppb	03:04:11
2	Ti 334.940†	2485608.2	2548972.9	3808.9 ug/L	3808.9 ppb	03:03:51
2	Tl 190.801†	1516.7	1598.7	492.21 ug/L	492.21 ppb	03:04:11
2	U 409.014†	6487.0	11760.8	335.77 ug/L	335.77 ppb	03:03:51
2	V 292.402†	81862.8	85642.5	559.95 ug/L	559.95 ppb	03:03:51
2	Zn 213.857†	105256.1	107153.8	896.16 ug/L	896.16 ppb	03:03:51
2	SiO2†	867932.1	888865.7	56669 ug/L	56669 ppb	03:04:51
3	Sc Radial	4314.1	4314.1	105 %		03:03:15
3	Y RADIAL	5616.7	5616.7	116.0 %		03:03:15
3	Al 396.153Radial†	65495.1	62821.3	51847 ug/L	51847 ppb	03:02:55
3	Ca 317.933Radial†	6882.4	6568.1	12158 ug/L	12158 ppb	03:03:15
3	Fe 238.204 Radial†	8193.3	7824.9	90949 ug/L	90949 ppb	03:02:55
3	K 766.490 Radial†	65057.9	59588.8	11335 ug/L	11335 ppb	03:02:55
3	Mg 279.077 IEC†	294.7	281.9	11789 ug/L	11789 ppb	03:03:15
3	Na 589.592 Radial†	16939.2	17850.8	5500.7 ug/L	5500.7 ppb	03:02:55
3	Sr 421.552†	89141.7	85207.3	562.50 ug/L	562.50 ppb	03:02:55
3	Sc 361.383	877447.5	877447.5	98.498 %		03:04:19
3	Y 371.029	820428.4	820428.4	111.74 %		03:04:19
3	Ag 328.068†	105542.8	106527.4	497.32 ug/L	497.32 ppb	03:04:19
3	As 188.979†	1151.9	1198.2	512.80 ug/L	512.80 ppb	03:04:39
3	B 249.677†	23020.9	24132.9	488.40 ug/L	488.40 ppb	03:04:19
3	Ba 233.527†	100840.2	102392.9	752.41 ug/L	752.41 ppb	03:04:19
3	Be 313.107†	1446420.6	1472876.8	502.67 ug/L	502.67 ppb	03:04:19
3	Cd 226.502†	47293.5	48218.7	488.91 ug/L	488.91 ppb	03:04:19
3	Co 228.616†	26344.3	26831.1	486.66 ug/L	486.66 ppb	03:04:39
3	Cr 267.716†	52746.7	53489.1	553.07 ug/L	553.07 ppb	03:04:19
3	Cu 324.752†	197780.1	193908.7	543.96 ug/L	543.96 ppb	03:04:19
3	Mn 257.610†	2598596.7	2637685.1	2655.0 ug/L	2655.0 ppb	03:04:19
3	Mo 202.031†	7044.6	7146.8	482.17 ug/L	482.17 ppb	03:04:39
3	Ni 231.604†	23119.2	23386.5	520.81 ug/L	520.81 ppb	03:04:39
3	P 214.914†	3043.3	2866.4	1325.5 ug/L	1325.5 ppb	03:04:39
3	Pb 220.353†	4804.1	4957.0	535.32 ug/L	535.32 ppb	03:04:39
3	S 181.975 Axial†	4273.5	4289.8	5230.7 ug/L	5230.7 ppb	03:04:39
3	Sb 206.836†	1545.4	1530.6	475.47 ug/L	475.47 ppb	03:04:39
3	Se 196.026†	456.2	489.2	576.60 ug/L	576.60 ppb	03:04:39
3	Si 251.611†	851597.8	864046.2	25713 ug/L	25713 ppb	03:04:19
3	Sn 189.927†	3031.9	3068.7	499.12 ug/L	499.12 ppb	03:04:39
3	Ti 334.940†	2467756.9	2507186.6	3746.5 ug/L	3746.5 ppb	03:04:19
3	Tl 190.801†	1520.5	1588.1	488.56 ug/L	488.56 ppb	03:04:39
3	U 409.014†	6351.8	11561.7	329.92 ug/L	329.92 ppb	03:04:19
3	V 292.402†	81409.1	84402.5	551.69 ug/L	551.69 ppb	03:04:19
3	Zn 213.857†	104202.4	105082.0	878.67 ug/L	878.67 ppb	03:04:19
3	SiO2†	844611.7	856927.1	54633 ug/L	54633 ppb	03:04:57

Mean Data: 1202018104|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	867346.9	97.364 %	1.2576			1.29%
Sc Radial	4384.6	106 %	2.4			2.22%
Y 371.029	811538.4	110.53 %	1.348			1.22%
Y RADIAL	5698.5	117.7 %	2.25			1.91%
Ag 328.068†	108146.6	504.04 ug/L	6.116	504.04 ppb	6.116	1.21%
Al 396.153Radial†	61896.5	51083 ug/L	1312.4	51083 ppb	1312.4	2.57%
As 188.979†	1216.8	520.11 ug/L	6.898	520.11 ppb	6.898	1.33%
B 249.677†	24529.6	496.87 ug/L	7.564	496.87 ppb	7.564	1.52%
Ba 233.527†	103938.8	763.68 ug/L	10.619	763.68 ppb	10.619	1.39%
Be 313.107†	1491232.8	508.95 ug/L	5.766	508.95 ppb	5.766	1.13%
Ca 317.933Radial†	6474.3	11985 ug/L	290.1	11985 ppb	290.1	2.42%
Cd 226.502†	48981.4	496.92 ug/L	7.479	496.92 ppb	7.479	1.50%
Co 228.616†	27353.8	496.22 ug/L	9.441	496.22 ppb	9.441	1.90%
Cr 267.716†	54198.4	560.36 ug/L	6.865	560.36 ppb	6.865	1.23%
Cu 324.752†	196628.2	551.46 ug/L	6.841	551.46 ppb	6.841	1.24%
Fe 238.204 Radial†	7718.8	89717 ug/L	2227.7	89717 ppb	2227.7	2.48%
K 766.490 Radial†	58633.4	11153 ug/L	325.1	11153 ppb	325.1	2.91%

Mg 279.077 IEC†	276.7	11569 ug/L	411.9	11569 ppb	411.9	3.56%
Mn 257.610†	2677662.2	2695.0 ug/L	37.26	2695.0 ppb	37.26	1.38%
Mo 202.031†	7253.4	489.16 ug/L	7.539	489.16 ppb	7.539	1.54%
Na 589.592 Radial†	17628.5	5432.2 ug/L	120.12	5432.2 ppb	120.12	2.21%
Ni 231.604†	23838.8	530.88 ug/L	10.031	530.88 ppb	10.031	1.89%
P 214.914†	2924.6	1355.1 ug/L	31.80	1355.1 ppb	31.80	2.35%
Pb 220.353†	5040.8	544.28 ug/L	8.796	544.28 ppb	8.796	1.62%
S 181.975 Axial†	4345.8	5299.4 ug/L	101.73	5299.4 ppb	101.73	1.92%
Sb 206.836†	1566.9	486.69 ug/L	13.303	486.69 ppb	13.303	2.73%
Se 196.026†	505.2	581.37 ug/L	5.480	581.37 ppb	5.480	0.94%
Si 251.611†	877045.0	26100 ug/L	353.2	26100 ppb	353.2	1.35%
Sn 189.927†	3120.4	507.43 ug/L	8.636	507.43 ppb	8.636	1.70%
Sr 421.552†	83954.9	554.23 ug/L	14.620	554.23 ppb	14.620	2.64%
Ti 334.940†	2542761.8	3799.6 ug/L	49.17	3799.6 ppb	49.17	1.29%
Tl 190.801†	1609.7	495.21 ug/L	8.545	495.21 ppb	8.545	1.73%
U 409.014†	11646.5	332.55 ug/L	2.969	332.55 ppb	2.969	0.89%
V 292.402†	85511.6	559.29 ug/L	7.291	559.29 ppb	7.291	1.30%
Zn 213.857†	106790.2	893.21 ug/L	13.309	893.21 ppb	13.309	1.49%
SiO2†	874714.8	55767 ug/L	1037.9	55767 ppb	1037.9	1.86%

Sequence No.: 88

Autosampler Location: 107

Sample ID: 1202018103|942648|5

Date Collected: 2/2/2010 03:07:08

Analyst: HSC

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Replicate Data: 1202018103|942648|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4326.4	4326.4	105 %		03:09:01
1	Y RADIAL	4989.4	4989.4	103.1 %		03:09:01
1	Al 396.153Radial†	4978.8	4937.8	4077.0 ug/L	4077.0 ppb	03:09:01
1	Ca 317.933Radial†	814.4	763.2	1412.9 ug/L	1412.9 ppb	03:09:21
1	Fe 238.204 Radial†	1373.2	1299.3	15100 ug/L	15100 ppb	03:09:21
1	K 766.490 Radial†	7407.3	4439.1	844.27 ug/L	844.27 ppb	03:09:01
1	Mg 279.077 IEC†	25.8	24.6	1022.9 ug/L	1022.9 ppb	03:09:21
1	Na 589.592 Radial†	-1105.8	597.8	184.22 ug/L	184.22 ppb	03:09:01
1	Sr 421.552†	1507.3	1400.9	9.2391 ug/L	9.2391 ppb	03:09:01
1	Sc 361.383	866949.7	866949.7	97.320 %		03:10:18
1	Y 371.029	715195.2	715195.2	97.405 %		03:10:18
1	Ag 328.068†	-504.5	-1142.9	-0.0700 ug/L	-0.0700 ppb	03:10:24
1	As 188.979†	-38.2	-10.5	4.3779 ug/L	4.3779 ppb	03:10:44
1	B 249.677†	-382.8	367.8	5.2292 ug/L	5.2292 ppb	03:10:24
1	Ba 233.527†	5724.3	5897.3	43.596 ug/L	43.596 ppb	03:10:24
1	Be 313.107†	-4905.5	-637.6	1.0681 ug/L	1.0681 ppb	03:10:24
1	Cd 226.502†	-59.3	143.2	-0.0770 ug/L	-0.0770 ppb	03:10:44
1	Co 228.616†	62.4	149.2	1.3672 ug/L	1.3672 ppb	03:10:44
1	Cr 267.716†	1092.7	1061.0	11.236 ug/L	11.236 ppb	03:10:24
1	Cu 324.752†	8136.2	1473.4	4.8968 ug/L	4.8968 ppb	03:10:24
1	Mn 257.610†	369171.7	378807.0	381.52 ug/L	381.52 ppb	03:10:18
1	Mo 202.031†	13.7	8.9	1.7773 ug/L	1.7773 ppb	03:10:44
1	Ni 231.604†	334.7	258.8	5.7647 ug/L	5.7647 ppb	03:10:44
1	P 214.914†	629.3	423.4	207.87 ug/L	207.87 ppb	03:10:44
1	Pb 220.353†	7.3	87.1	8.8014 ug/L	8.8014 ppb	03:10:44
1	S 181.975 Axial†	99.8	53.6	64.768 ug/L	64.768 ppb	03:10:44
1	Sb 206.836†	50.9	13.9	2.6934 ug/L	2.6934 ppb	03:10:44
1	Se 196.026†	-95.6	-72.3	10.141 ug/L	10.141 ppb	03:10:44
1	Si 251.611†	120971.6	123767.5	3684.0 ug/L	3684.0 ppb	03:10:24
1	Sn 189.927†	5.8	-3.5	-0.0978 ug/L	-0.0978 ppb	03:10:44
1	Ti 334.940†	366042.9	377928.2	564.79 ug/L	564.79 ppb	03:10:18
1	Tl 190.801†	-72.2	-29.7	-1.9170 ug/L	-1.9170 ppb	03:10:44
1	U 409.014†	-4933.3	44.0	-0.4472 ug/L	-0.4472 ppb	03:10:18
1	V 292.402†	480.3	2245.7	12.169 ug/L	12.169 ppb	03:10:24
1	Zn 213.857†	8423.1	7945.9	65.908 ug/L	65.908 ppb	03:10:24
1	SiO2†	125069.2	127951.4	8159.4 ug/L	8159.4 ppb	03:11:50
2	Sc Radial	4264.8	4264.8	103 %		03:09:27
2	Y RADIAL	4984.5	4984.5	103.0 %		03:09:27
2	Al 396.153Radial†	4961.7	4989.7	4119.8 ug/L	4119.8 ppb	03:09:27
2	Ca 317.933Radial†	814.2	774.3	1433.3 ug/L	1433.3 ppb	03:09:47
2	Fe 238.204 Radial†	1382.4	1327.1	15423 ug/L	15423 ppb	03:09:47
2	K 766.490 Radial†	7312.7	4449.5	846.26 ug/L	846.26 ppb	03:09:27
2	Mg 279.077 IEC†	25.4	24.6	1021.8 ug/L	1021.8 ppb	03:09:47
2	Na 589.592 Radial†	-1168.4	522.0	160.86 ug/L	160.86 ppb	03:09:27
2	Sr 421.552†	1516.3	1430.4	9.4334 ug/L	9.4334 ppb	03:09:27
2	Sc 361.383	864812.3	864812.3	97.080 %		03:10:49
2	Y 371.029	713669.4	713669.4	97.197 %		03:10:49
2	Ag 328.068†	-508.4	-1148.2	0.0042 ug/L	0.0042 ppb	03:10:54
2	As 188.979†	-42.1	-14.7	2.8646 ug/L	2.8646 ppb	03:11:14
2	B 249.677†	-365.9	384.2	5.5206 ug/L	5.5206 ppb	03:10:54
2	Ba 233.527†	5684.4	5870.7	43.409 ug/L	43.409 ppb	03:10:54
2	Be 313.107†	-4970.8	-717.3	1.0408 ug/L	1.0408 ppb	03:10:54
2	Cd 226.502†	-53.1	149.4	-0.0458 ug/L	-0.0458 ppb	03:11:14
2	Co 228.616†	60.1	147.0	1.3245 ug/L	1.3245 ppb	03:11:14
2	Cr 267.716†	1052.6	1022.5	10.843 ug/L	10.843 ppb	03:10:54
2	Cu 324.752†	8192.8	1552.4	5.1322 ug/L	5.1322 ppb	03:10:54
2	Mn 257.610†	368017.2	378555.3	381.30 ug/L	381.30 ppb	03:10:49
2	Mo 202.031†	29.9	25.6	2.9175 ug/L	2.9175 ppb	03:11:14
2	Ni 231.604†	354.7	280.2	6.2421 ug/L	6.2421 ppb	03:11:14

2	P 214.914†	619.0	414.3	202.87 ug/L	202.87 ppb	03:11:14
2	Pb 220.353†	9.5	89.4	9.0305 ug/L	9.0305 ppb	03:11:14
2	S 181.975 Axial†	96.0	50.0	60.311 ug/L	60.311 ppb	03:11:14
2	Sb 206.836†	57.9	21.2	4.9592 ug/L	4.9592 ppb	03:11:14
2	Se 196.026†	-92.1	-68.9	13.061 ug/L	13.061 ppb	03:11:14
2	Si 251.611†	120997.0	124100.8	3694.0 ug/L	3694.0 ppb	03:10:54
2	Sn 189.927†	6.0	-3.3	-0.0551 ug/L	-0.0551 ppb	03:11:14
2	Ti 334.940†	364982.9	377765.9	564.55 ug/L	564.55 ppb	03:10:49
2	Tl 190.801†	-57.8	-15.1	2.2013 ug/L	2.2013 ppb	03:11:14
2	U 409.014†	-4841.0	126.5	1.9540 ug/L	1.9540 ppb	03:10:49
2	V 292.402†	295.2	2056.3	10.883 ug/L	10.883 ppb	03:10:54
2	Zn 213.857†	8437.2	7981.9	66.179 ug/L	66.179 ppb	03:10:54
2	SiO2†	125302.2	128509.0	8194.9 ug/L	8194.9 ppb	03:11:55
3	Sc Radial	4384.6	4384.6	106 %		03:09:52
3	Y RADIAL	5055.9	5055.9	104.4 %		03:09:52
3	Al 396.153Radial†	5012.7	4906.6	4051.2 ug/L	4051.2 ppb	03:09:52
3	Ca 317.933Radial†	816.0	754.4	1396.6 ug/L	1396.6 ppb	03:10:12
3	Fe 238.204 Radial†	1380.0	1288.3	14972 ug/L	14972 ppb	03:10:12
3	K 766.490 Radial†	7335.8	4278.0	813.62 ug/L	813.62 ppb	03:09:52
3	Mg 279.077 IEC†	24.7	23.3	964.55 ug/L	964.55 ppb	03:10:12
3	Na 589.592 Radial†	-1138.6	580.9	179.02 ug/L	179.02 ppb	03:09:52
3	Sr 421.552†	1558.8	1430.2	9.4326 ug/L	9.4326 ppb	03:09:52
3	Sc 361.383	863329.2	863329.2	96.913 %		03:11:20
3	Y 371.029	714666.5	714666.5	97.333 %		03:11:20
3	Ag 328.068†	-542.9	-1184.7	-0.2995 ug/L	-0.2995 ppb	03:11:25
3	As 188.979†	-40.1	-12.6	3.5263 ug/L	3.5263 ppb	03:11:45
3	B 249.677†	-389.5	359.1	5.0698 ug/L	5.0698 ppb	03:11:25
3	Ba 233.527†	5742.7	5940.9	43.909 ug/L	43.909 ppb	03:11:25
3	Be 313.107†	-4979.9	-735.4	1.0298 ug/L	1.0298 ppb	03:11:25
3	Cd 226.502†	-45.5	157.1	0.0808 ug/L	0.0808 ppb	03:11:45
3	Co 228.616†	63.5	150.7	1.4023 ug/L	1.4023 ppb	03:11:45
3	Cr 267.716†	1085.8	1058.6	11.207 ug/L	11.207 ppb	03:11:25
3	Cu 324.752†	8104.6	1475.9	4.8959 ug/L	4.8959 ppb	03:11:25
3	Mn 257.610†	366008.6	377133.9	379.83 ug/L	379.83 ppb	03:11:20
3	Mo 202.031†	24.4	19.9	2.5046 ug/L	2.5046 ppb	03:11:45
3	Ni 231.604†	352.0	278.1	6.1941 ug/L	6.1941 ppb	03:11:45
3	P 214.914†	622.6	419.2	205.78 ug/L	205.78 ppb	03:11:45
3	Pb 220.353†	34.2	114.9	11.791 ug/L	11.791 ppb	03:11:45
3	S 181.975 Axial†	106.3	60.9	73.579 ug/L	73.579 ppb	03:11:45
3	Sb 206.836†	52.7	15.9	3.3382 ug/L	3.3382 ppb	03:11:45
3	Se 196.026†	-103.4	-80.7	5.0235 ug/L	5.0235 ppb	03:11:45
3	Si 251.611†	121138.8	124461.3	3704.7 ug/L	3704.7 ppb	03:11:25
3	Sn 189.927†	5.0	-4.2	-0.2224 ug/L	-0.2224 ppb	03:11:45
3	Ti 334.940†	362971.6	376336.4	562.41 ug/L	562.41 ppb	03:11:20
3	Tl 190.801†	-75.7	-33.7	-3.0663 ug/L	-3.0663 ppb	03:11:45
3	U 409.014†	-4852.8	105.7	1.3908 ug/L	1.3908 ppb	03:11:20
3	V 292.402†	333.7	2096.5	11.211 ug/L	11.211 ppb	03:11:25
3	Zn 213.857†	8456.2	8016.5	66.516 ug/L	66.516 ppb	03:11:25
3	SiO2†	123322.4	126687.9	8078.8 ug/L	8078.8 ppb	03:12:00

## Mean Data: 1202018103|942648|5

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	865030.4	97.104 %	0.2043			0.21%
Sc Radial	4325.3	105 %	1.5			1.38%
Y 371.029	714510.4	97.312 %	0.1055			0.11%
Y RADIAL	5009.9	103.5 %	0.82			0.80%
Ag 328.068†	-1158.6	-0.1218 ug/L	0.15836	-0.1218 ppb	0.15836	130.05%
Al 396.153Radial†	4944.7	4082.7 ug/L	34.66	4082.7 ppb	34.66	0.85%
As 188.979†	-12.6	3.5896 ug/L	0.75859	3.5896 ppb	0.75859	21.13%
B 249.677†	370.4	5.2732 ug/L	0.22858	5.2732 ppb	0.22858	4.33%
Ba 233.527†	5903.0	43.638 ug/L	0.2528	43.638 ppb	0.2528	0.58%
Be 313.107†	-696.8	1.0462 ug/L	0.01969	1.0462 ppb	0.01969	1.88%
Ca 317.933Radial†	764.0	1414.3 ug/L	18.41	1414.3 ppb	18.41	1.30%
Cd 226.502†	149.9	-0.0140 ug/L	0.08356	-0.0140 ppb	0.08356	595.34%
Co 228.616†	149.0	1.3647 ug/L	0.03896	1.3647 ppb	0.03896	2.86%
Cr 267.716†	1047.3	11.096 ug/L	0.2188	11.096 ppb	0.2188	1.97%
Cu 324.752†	1500.6	4.9750 ug/L	0.13619	4.9750 ppb	0.13619	2.74%
Fe 238.204 Radial†	1304.9	15165 ug/L	232.5	15165 ppb	232.5	1.53%
K 766.490 Radial†	4388.9	834.71 ug/L	18.297	834.71 ppb	18.297	2.19%

Mg 279.077 IEC†	24.2	1003.1 ug/L	33.36	1003.1 ppb	33.36	3.33%
Mn 257.610†	378165.4	380.88 ug/L	0.918	380.88 ppb	0.918	0.24%
Mo 202.031†	18.1	2.3998 ug/L	0.57726	2.3998 ppb	0.57726	24.05%
Na 589.592 Radial†	566.9	174.70 ug/L	12.262	174.70 ppb	12.262	7.02%
Ni 231.604†	272.4	6.0670 ug/L	0.26286	6.0670 ppb	0.26286	4.33%
P 214.914†	419.0	205.51 ug/L	2.512	205.51 ppb	2.512	1.22%
Pb 220.353†	97.2	9.8743 ug/L	1.66383	9.8743 ppb	1.66383	16.85%
S 181.975 Axial†	54.8	66.219 ug/L	6.7520	66.219 ppb	6.7520	10.20%
Sb 206.836†	17.0	3.6636 ug/L	1.16744	3.6636 ppb	1.16744	31.87%
Se 196.026†	-74.0	9.4085 ug/L	4.06842	9.4085 ppb	4.06842	43.24%
Si 251.611†	124109.9	3694.2 ug/L	10.32	3694.2 ppb	10.32	0.28%
Sn 189.927†	-3.7	-0.1251 ug/L	0.08691	-0.1251 ppb	0.08691	69.47%
Sr 421.552†	1420.5	9.3684 ug/L	0.11196	9.3684 ppb	0.11196	1.20%
Ti 334.940†	377343.5	563.92 ug/L	1.308	563.92 ppb	1.308	0.23%
Tl 190.801†	-26.2	-0.9273 ug/L	2.76973	-0.9273 ppb	2.76973	298.68%
U 409.014†	92.0	0.9659 ug/L	1.25574	0.9659 ppb	1.25574	130.01%
V 292.402†	2132.8	11.421 ug/L	0.6684	11.421 ppb	0.6684	5.85%
Zn 213.857†	7981.4	66.201 ug/L	0.3046	66.201 ppb	0.3046	0.46%
SiO2†	127716.1	8144.4 ug/L	59.50	8144.4 ppb	59.50	0.73%

Sequence No.: 92

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/2/2010 03:35:25

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4222.7	4222.7	102 %		03:37:18
1	Y RADIAL	4792.4	4792.4	98.99 %		03:37:18
1	Al 396.153Radial†	6295.4	6340.5	5210.2 ug/L	5210.2 ppb	03:37:18
1	Ca 317.933Radial†	2944.0	2862.9	5299.7 ug/L	5299.7 ppb	03:37:38
1	Fe 238.204 Radial†	470.3	449.4	5237.8 ug/L	5237.8 ppb	03:37:38
1	K 766.490 Radial†	30948.0	27611.3	5249.1 ug/L	5249.1 ppb	03:37:18
1	Mg 279.077 IEC†	136.4	133.3	5616.4 ug/L	5616.4 ppb	03:37:38
1	Na 589.592 Radial†	32790.0	33687.4	10381 ug/L	10381 ppb	03:37:18
1	Sr 421.552†	80875.0	78976.9	521.42 ug/L	521.42 ppb	03:37:18
1	Sc 361.383	854942.3	854942.3	95.972 %		03:38:37
1	Y 371.029	685238.8	685238.8	93.325 %		03:38:37
1	Ag 328.068†	112657.5	116761.5	514.08 ug/L	514.08 ppb	03:38:37
1	As 188.979†	1249.0	1330.2	515.41 ug/L	515.41 ppb	03:38:57
1	B 249.677†	22284.1	23980.5	499.07 ug/L	499.07 ppb	03:38:37
1	Ba 233.527†	67435.7	70281.4	514.98 ug/L	514.98 ppb	03:38:37
1	Be 313.107†	1449772.6	1515025.1	509.50 ug/L	509.50 ppb	03:38:37
1	Cd 226.502†	48223.9	50452.1	520.86 ug/L	520.86 ppb	03:38:37
1	Co 228.616†	26795.3	28005.1	516.29 ug/L	516.29 ppb	03:38:57
1	Cr 267.716†	47835.2	49781.1	513.10 ug/L	513.10 ppb	03:38:37
1	Cu 324.752†	183818.0	184646.3	513.57 ug/L	513.57 ppb	03:38:37
1	Mn 257.610†	496565.4	516875.3	518.89 ug/L	518.89 ppb	03:38:37
1	Mo 202.031†	7454.3	7761.9	516.32 ug/L	516.32 ppb	03:38:57
1	Ni 231.604†	22226.4	23074.1	513.84 ug/L	513.84 ppb	03:38:57
1	P 214.914†	5061.9	5051.0	2522.5 ug/L	2522.5 ppb	03:38:57
1	Pb 220.353†	4583.8	4855.8	522.68 ug/L	522.68 ppb	03:38:57
1	S 181.975 Axial†	841.1	827.5	1009.9 ug/L	1009.9 ppb	03:38:57
1	Sb 206.836†	1656.1	1687.1	534.08 ug/L	534.08 ppb	03:38:57
1	Se 196.026†	885.3	948.4	544.88 ug/L	544.88 ppb	03:38:57
1	Si 251.611†	83943.8	86931.3	2581.2 ug/L	2581.2 ppb	03:38:37
1	Sn 189.927†	3089.0	3209.2	519.33 ug/L	519.33 ppb	03:38:57
1	Ti 334.940†	334843.1	350701.4	523.85 ug/L	523.85 ppb	03:38:37
1	Tl 190.801†	1706.0	1822.0	517.64 ug/L	517.64 ppb	03:38:57
1	U 409.014†	11826.9	17436.4	513.30 ug/L	513.30 ppb	03:38:37
1	V 292.402†	71888.4	76657.9	516.87 ug/L	516.87 ppb	03:38:37
1	Zn 213.857†	59029.8	60798.3	511.35 ug/L	511.35 ppb	03:38:37
1	SiO2†	84106.2	87074.0	5538.6 ug/L	5538.6 ppb	03:39:57
2	Sc Radial	4303.1	4303.1	104 %		03:37:43
2	Y RADIAL	4819.0	4819.0	99.54 %		03:37:43
2	Al 396.153Radial†	6378.8	6305.7	5181.6 ug/L	5181.6 ppb	03:37:43
2	Ca 317.933Radial†	2944.5	2809.7	5201.1 ug/L	5201.1 ppb	03:38:03
2	Fe 238.204 Radial†	471.4	441.8	5149.4 ug/L	5149.4 ppb	03:38:03
2	K 766.490 Radial†	31251.5	27337.4	5197.0 ug/L	5197.0 ppb	03:37:43
2	Mg 279.077 IEC†	134.0	128.6	5417.4 ug/L	5417.4 ppb	03:38:03
2	Na 589.592 Radial†	33224.1	33505.1	10325 ug/L	10325 ppb	03:37:43
2	Sr 421.552†	81919.8	78502.3	518.28 ug/L	518.28 ppb	03:37:43
2	Sc 361.383	860195.0	860195.0	96.562 %		03:39:04
2	Y 371.029	687540.6	687540.6	93.639 %		03:39:04
2	Ag 328.068†	113417.4	116831.5	514.36 ug/L	514.36 ppb	03:39:04
2	As 188.979†	1250.0	1323.3	512.73 ug/L	512.73 ppb	03:39:24
2	B 249.677†	22662.6	24230.6	504.32 ug/L	504.32 ppb	03:39:04
2	Ba 233.527†	67967.0	70402.6	515.86 ug/L	515.86 ppb	03:39:04
2	Be 313.107†	1459267.3	1515633.4	509.71 ug/L	509.71 ppb	03:39:04
2	Cd 226.502†	48503.6	50434.8	520.68 ug/L	520.68 ppb	03:39:04
2	Co 228.616†	26907.0	27950.3	515.27 ug/L	515.27 ppb	03:39:24
2	Cr 267.716†	48149.6	49802.3	513.31 ug/L	513.31 ppb	03:39:04
2	Cu 324.752†	185235.6	184944.8	514.39 ug/L	514.39 ppb	03:39:04
2	Mn 257.610†	500050.6	517325.2	519.34 ug/L	519.34 ppb	03:39:04
2	Mo 202.031†	7459.2	7719.6	513.50 ug/L	513.50 ppb	03:39:24
2	Ni 231.604†	22208.2	22913.8	510.27 ug/L	510.27 ppb	03:39:24



2	P 214.914†	5060.3	5017.2	2504.9 ug/L	2504.9 ppb	03:39:24
2	Pb 220.353†	4593.6	4836.8	520.63 ug/L	520.63 ppb	03:39:24
2	S 181.975 Axial†	855.1	836.6	1021.0 ug/L	1021.0 ppb	03:39:24
2	Sb 206.836†	1659.5	1680.2	531.85 ug/L	531.85 ppb	03:39:24
2	Se 196.026†	888.9	946.5	543.55 ug/L	543.55 ppb	03:39:24
2	Si 251.611†	84607.3	87084.4	2585.8 ug/L	2585.8 ppb	03:39:04
2	Sn 189.927†	3088.8	3189.4	516.12 ug/L	516.12 ppb	03:39:24
2	Ti 334.940†	336965.1	350768.4	523.95 ug/L	523.95 ppb	03:39:04
2	Tl 190.801†	1722.0	1827.8	519.27 ug/L	519.27 ppb	03:39:24
2	U 409.014†	11891.4	17427.9	513.06 ug/L	513.06 ppb	03:39:04
2	V 292.402†	72403.5	76733.9	517.34 ug/L	517.34 ppb	03:39:04
2	Zn 213.857†	59521.8	60932.3	512.52 ug/L	512.52 ppb	03:39:04
2	SiO2†	84491.4	86937.9	5530.0 ug/L	5530.0 ppb	03:40:02
3	Sc Radial	4241.1	4241.1	103 %		03:38:08
3	Y RADIAL	4760.4	4760.4	98.33 %		03:38:08
3	Al 396.153Radial†	6272.0	6291.1	5169.5 ug/L	5169.5 ppb	03:38:08
3	Ca 317.933Radial†	2931.4	2838.1	5253.8 ug/L	5253.8 ppb	03:38:28
3	Fe 238.204 Radial†	463.5	440.7	5137.3 ug/L	5137.3 ppb	03:38:28
3	K 766.490 Radial†	30787.9	27324.3	5194.5 ug/L	5194.5 ppb	03:38:08
3	Mg 279.077 IEC†	131.6	128.1	5397.0 ug/L	5397.0 ppb	03:38:28
3	Na 589.592 Radial†	32594.4	33358.2	10279 ug/L	10279 ppb	03:38:08
3	Sr 421.552†	80331.1	78105.0	515.66 ug/L	515.66 ppb	03:38:08
3	Sc 361.383	853369.3	853369.3	95.795 %		03:39:32
3	Y 371.029	682735.1	682735.1	92.984 %		03:39:32
3	Ag 328.068†	112575.3	116892.0	514.62 ug/L	514.62 ppb	03:39:32
3	As 188.979†	1247.5	1331.0	515.68 ug/L	515.68 ppb	03:39:52
3	B 249.677†	22319.2	24060.0	500.75 ug/L	500.75 ppb	03:39:32
3	Ba 233.527†	67245.3	70212.1	514.47 ug/L	514.47 ppb	03:39:32
3	Be 313.107†	1443038.5	1510779.9	508.07 ug/L	508.07 ppb	03:39:32
3	Cd 226.502†	47960.1	50269.3	518.98 ug/L	518.98 ppb	03:39:32
3	Co 228.616†	26688.6	27945.2	515.19 ug/L	515.19 ppb	03:39:52
3	Cr 267.716†	47698.5	49730.3	512.57 ug/L	512.57 ppb	03:39:32
3	Cu 324.752†	183377.6	184539.6	513.27 ug/L	513.27 ppb	03:39:32
3	Mn 257.610†	494687.2	515868.5	517.88 ug/L	517.88 ppb	03:39:32
3	Mo 202.031†	7439.5	7760.8	516.24 ug/L	516.24 ppb	03:39:52
3	Ni 231.604†	22108.4	22993.6	512.04 ug/L	512.04 ppb	03:39:52
3	P 214.914†	5019.8	5016.9	2504.9 ug/L	2504.9 ppb	03:39:52
3	Pb 220.353†	4537.8	4816.6	518.47 ug/L	518.47 ppb	03:39:52
3	S 181.975 Axial†	836.5	824.3	1006.0 ug/L	1006.0 ppb	03:39:52
3	Sb 206.836†	1652.1	1686.2	533.74 ug/L	533.74 ppb	03:39:52
3	Se 196.026†	880.8	945.5	542.92 ug/L	542.92 ppb	03:39:52
3	Si 251.611†	83659.8	86796.1	2577.2 ug/L	2577.2 ppb	03:39:32
3	Sn 189.927†	3058.3	3183.1	515.11 ug/L	515.11 ppb	03:39:52
3	Ti 334.940†	333704.7	350156.2	523.04 ug/L	523.04 ppb	03:39:32
3	Tl 190.801†	1708.7	1828.1	519.35 ug/L	519.35 ppb	03:39:52
3	U 409.014†	11883.0	17517.7	515.72 ug/L	515.72 ppb	03:39:32
3	V 292.402†	71657.3	76554.6	516.19 ug/L	516.19 ppb	03:39:32
3	Zn 213.857†	58861.9	60736.4	510.85 ug/L	510.85 ppb	03:39:32
3	SiO2†	83467.9	86569.2	5506.4 ug/L	5506.4 ppb	03:40:08

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	856168.9	96.110 %	0.4012			0.42%
Sc Radial	4255.6	103 %	1.0			0.99%
Y 371.029	685171.5	93.316 %	0.3273			0.35%
Y RADIAL	4790.6	98.95 %	0.606			0.61%
Ag 328.068†	116828.3	514.35 ug/L	0.267	514.35 ppb	0.267	0.05%
QC value within limits for Ag 328.068 Recovery = 102.87%						
Al 396.153Radial†	6312.5	5187.1 ug/L	20.94	5187.1 ppb	20.94	0.40%
QC value within limits for Al 396.153Radial Recovery = 103.74%						
As 188.979†	1328.2	514.60 ug/L	1.630	514.60 ppb	1.630	0.32%
QC value within limits for As 188.979 Recovery = 102.92%						
B 249.677†	24090.4	501.38 ug/L	2.680	501.38 ppb	2.680	0.53%
QC value within limits for B 249.677 Recovery = 100.28%						
Ba 233.527†	70298.7	515.10 ug/L	0.706	515.10 ppb	0.706	0.14%
QC value within limits for Ba 233.527 Recovery = 103.02%						
Be 313.107†	1513812.8	509.09 ug/L	0.888	509.09 ppb	0.888	0.17%
QC value within limits for Be 313.107 Recovery = 101.82%						
Ca 317.933Radial†	2836.9	5251.5 ug/L	49.33	5251.5 ppb	49.33	0.94%

QC value within limits for Ca 317.933Radial Recovery = 105.03%							
Cd 226.502†	50385.4	520.17 ug/L	1.038	520.17 ppb	1.038	0.20%	
QC value within limits for Cd 226.502 Recovery = 104.03%							
Co 228.616†	27966.8	515.58 ug/L	0.613	515.58 ppb	0.613	0.12%	
QC value within limits for Co 228.616 Recovery = 103.12%							
Cr 267.716†	49771.3	512.99 ug/L	0.383	512.99 ppb	0.383	0.07%	
QC value within limits for Cr 267.716 Recovery = 102.60%							
Cu 324.752†	184710.2	513.74 ug/L	0.584	513.74 ppb	0.584	0.11%	
QC value within limits for Cu 324.752 Recovery = 102.75%							
Fe 238.204 Radial†	444.0	5174.9 ug/L	54.88	5174.9 ppb	54.88	1.06%	
QC value within limits for Fe 238.204 Radial Recovery = 103.50%							
K 766.490 Radial†	27424.3	5213.5 ug/L	30.81	5213.5 ppb	30.81	0.59%	
QC value within limits for K 766.490 Radial Recovery = 104.27%							
Mg 279.077 IEC†	130.0	5476.9 ug/L	121.18	5476.9 ppb	121.18	2.21%	
QC value within limits for Mg 279.077 IEC Recovery = 109.54%							
Mn 257.610†	516689.6	518.70 ug/L	0.749	518.70 ppb	0.749	0.14%	
QC value within limits for Mn 257.610 Recovery = 103.74%							
Mo 202.031†	7747.4	515.35 ug/L	1.606	515.35 ppb	1.606	0.31%	
QC value within limits for Mo 202.031 Recovery = 103.07%							
Na 589.592 Radial†	33516.9	10328 ug/L	50.8	10328 ppb	50.8	0.49%	
QC value within limits for Na 589.592 Radial Recovery = 103.28%							
Ni 231.604†	22993.8	512.05 ug/L	1.785	512.05 ppb	1.785	0.35%	
QC value within limits for Ni 231.604 Recovery = 102.41%							
P 214.914†	5028.4	2510.8 ug/L	10.20	2510.8 ppb	10.20	0.41%	
QC value within limits for P 214.914 Recovery = 100.43%							
Pb 220.353†	4836.4	520.59 ug/L	2.102	520.59 ppb	2.102	0.40%	
QC value within limits for Pb 220.353 Recovery = 104.12%							
S 181.975 Axial†	829.5	1012.3 ug/L	7.78	1012.3 ppb	7.78	0.77%	
QC value within limits for S 181.975 Axial Recovery = 101.23%							
Sb 206.836†	1684.5	533.22 ug/L	1.203	533.22 ppb	1.203	0.23%	
QC value within limits for Sb 206.836 Recovery = 106.64%							
Se 196.026†	946.8	543.79 ug/L	1.003	543.79 ppb	1.003	0.18%	
QC value within limits for Se 196.026 Recovery = 108.76%							
Si 251.611†	86937.3	2581.4 ug/L	4.31	2581.4 ppb	4.31	0.17%	
QC value within limits for Si 251.611 Recovery = 103.26%							
Sn 189.927†	3193.9	516.86 ug/L	2.205	516.86 ppb	2.205	0.43%	
QC value within limits for Sn 189.927 Recovery = 103.37%							
Sr 421.552†	78528.1	518.45 ug/L	2.882	518.45 ppb	2.882	0.56%	
QC value within limits for Sr 421.552 Recovery = 103.69%							
Ti 334.940†	350542.0	523.61 ug/L	0.497	523.61 ppb	0.497	0.09%	
QC value within limits for Ti 334.940 Recovery = 104.72%							
Tl 190.801†	1826.0	518.75 ug/L	0.963	518.75 ppb	0.963	0.19%	
QC value within limits for Tl 190.801 Recovery = 103.75%							
U 409.014†	17460.6	514.03 ug/L	1.468	514.03 ppb	1.468	0.29%	
QC value within limits for U 409.014 Recovery = 102.81%							
V 292.402†	76648.8	516.80 ug/L	0.576	516.80 ppb	0.576	0.11%	
QC value within limits for V 292.402 Recovery = 103.36%							
Zn 213.857†	60822.3	511.57 ug/L	0.857	511.57 ppb	0.857	0.17%	
QC value within limits for Zn 213.857 Recovery = 102.31%							
SiO2†	86860.4	5525.0 ug/L	16.66	5525.0 ppb	16.66	0.30%	
QC value within limits for SiO2 Recovery = 103.32%							
All analyte(s) passed QC.							

Sequence No.: 93

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/2/2010 03:42:17

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4336.5	4336.5	105 %		03:44:10
1	Y RADIAL	4899.0	4899.0	101.2 %		03:44:10
1	Al 396.153Radial†	-211.1	-10.7	-8.8986 ug/L	-8.8986 ppb	03:44:10
1	Ca 317.933Radial†	29.1	14.3	26.495 ug/L	26.495 ppb	03:44:30
1	Fe 238.204 Radial†	9.0	-1.5	-17.670 ug/L	-17.670 ppb	03:44:30
1	K 766.490 Radial†	2873.0	108.9	20.677 ug/L	20.677 ppb	03:44:10
1	Mg 279.077 IEC†	4.4	4.3	179.64 ug/L	179.64 ppb	03:44:30
1	Na 589.592 Radial†	-1343.1	374.5	115.42 ug/L	115.42 ppb	03:44:10
1	Sr 421.552†	10.2	-26.7	-0.1767 ug/L	-0.1767 ppb	03:44:10
1	Sc 361.383	850463.7	850463.7	95.469 %		03:45:27
1	Y 371.029	690634.5	690634.5	94.060 %		03:45:27
1	Ag 328.068†	393.5	-212.4	-0.9520 ug/L	-0.9520 ppb	03:45:32
1	As 188.979†	-45.2	-18.6	-7.1467 ug/L	-7.1467 ppb	03:45:52
1	B 249.677†	-561.6	172.8	3.6176 ug/L	3.6176 ppb	03:45:52
1	Ba 233.527†	-18.7	-4.3	-0.0321 ug/L	-0.0321 ppb	03:45:52
1	Be 313.107†	-4141.7	64.8	0.0222 ug/L	0.0222 ppb	03:45:32
1	Cd 226.502†	-201.6	-7.0	-0.0666 ug/L	-0.0666 ppb	03:45:52
1	Co 228.616†	-104.5	-24.3	-0.4465 ug/L	-0.4465 ppb	03:45:52
1	Cr 267.716†	86.5	28.7	0.2873 ug/L	0.2873 ppb	03:45:32
1	Cu 324.752†	7003.8	449.4	1.2375 ug/L	1.2375 ppb	03:45:32
1	Mn 257.610†	665.2	164.9	0.1564 ug/L	0.1564 ppb	03:45:52
1	Mo 202.031†	18.0	13.6	0.9056 ug/L	0.9056 ppb	03:45:52
1	Ni 231.604†	91.1	10.3	0.2289 ug/L	0.2289 ppb	03:45:52
1	P 214.914†	257.3	46.3	23.803 ug/L	23.803 ppb	03:45:52
1	Pb 220.353†	-50.2	27.0	2.8986 ug/L	2.8986 ppb	03:45:52
1	S 181.975 Axial†	55.8	9.6	11.749 ug/L	11.749 ppb	03:45:52
1	Sb 206.836†	51.1	15.1	4.6606 ug/L	4.6606 ppb	03:45:52
1	Se 196.026†	-26.2	-1.5	-0.8695 ug/L	-0.8695 ppb	03:45:52
1	Si 251.611†	537.4	27.2	0.7975 ug/L	0.7975 ppb	03:45:52
1	Sn 189.927†	19.2	10.7	1.7289 ug/L	1.7289 ppb	03:45:52
1	Ti 334.940†	-1598.1	130.4	0.1746 ug/L	0.1746 ppb	03:45:32
1	Tl 190.801†	-36.0	6.7	1.8952 ug/L	1.8952 ppb	03:45:52
1	U 409.014†	-4212.3	700.9	20.706 ug/L	20.706 ppb	03:45:27
1	V 292.402†	-1673.9	-1.1	0.0508 ug/L	0.0508 ppb	03:45:32
1	Zn 213.857†	875.0	207.4	1.7582 ug/L	1.7582 ppb	03:45:52
1	SiO2†	506.1	-32.1	-2.0729 ug/L	-2.0729 ppb	03:46:58
2	Sc Radial	4402.3	4402.3	107 %		03:44:35
2	Y RADIAL	4970.4	4970.4	102.7 %		03:44:35
2	Al 396.153Radial†	-194.7	7.6	6.3010 ug/L	6.3010 ppb	03:44:35
2	Ca 317.933Radial†	28.7	13.5	25.033 ug/L	25.033 ppb	03:44:55
2	Fe 238.204 Radial†	11.6	0.7	8.3014 ug/L	8.3014 ppb	03:44:55
2	K 766.490 Radial†	2867.6	63.0	11.937 ug/L	11.937 ppb	03:44:35
2	Mg 279.077 IEC†	0.3	0.3	12.301 ug/L	12.301 ppb	03:44:55
2	Na 589.592 Radial†	-1337.4	399.0	122.95 ug/L	122.95 ppb	03:44:35
2	Sr 421.552†	38.7	-0.2	-0.0016 ug/L	-0.0016 ppb	03:44:35
2	Sc 361.383	854479.4	854479.4	95.920 %		03:45:57
2	Y 371.029	692552.1	692552.1	94.321 %		03:45:57
2	Ag 328.068†	386.5	-221.6	-0.9863 ug/L	-0.9863 ppb	03:46:02
2	As 188.979†	-30.5	-3.1	-1.1798 ug/L	-1.1798 ppb	03:46:22
2	B 249.677†	-541.2	196.9	4.1149 ug/L	4.1149 ppb	03:46:22
2	Ba 233.527†	-34.0	-20.1	-0.1461 ug/L	-0.1461 ppb	03:46:22
2	Be 313.107†	-4197.5	27.0	0.0099 ug/L	0.0099 ppb	03:46:02
2	Cd 226.502†	-197.9	-2.2	-0.0192 ug/L	-0.0192 ppb	03:46:22
2	Co 228.616†	-85.0	-3.5	-0.0650 ug/L	-0.0650 ppb	03:46:22
2	Cr 267.716†	120.0	63.2	0.6417 ug/L	0.6417 ppb	03:46:02
2	Cu 324.752†	6965.2	374.7	1.0285 ug/L	1.0285 ppb	03:46:02
2	Mn 257.610†	621.6	116.2	0.1169 ug/L	0.1169 ppb	03:46:22
2	Mo 202.031†	7.2	2.3	0.1546 ug/L	0.1546 ppb	03:46:22
2	Ni 231.604†	69.8	-12.4	-0.2770 ug/L	-0.2770 ppb	03:46:22

2	P 214.914†	248.8	36.1	18.524 ug/L	18.524 ppb	03:46:22
2	Pb 220.353†	-49.2	28.3	3.0362 ug/L	3.0362 ppb	03:46:22
2	S 181.975 Axial†	53.1	6.5	7.8853 ug/L	7.8853 ppb	03:46:22
2	Sb 206.836†	36.0	-0.8	-0.2407 ug/L	-0.2407 ppb	03:46:22
2	Se 196.026†	-27.0	-2.1	-1.1553 ug/L	-1.1553 ppb	03:46:22
2	Si 251.611†	504.7	-9.5	-0.2859 ug/L	-0.2859 ppb	03:46:22
2	Sn 189.927†	14.2	5.4	0.8746 ug/L	0.8746 ppb	03:46:22
2	Ti 334.940†	-1496.2	244.6	0.3564 ug/L	0.3564 ppb	03:46:02
2	Tl 190.801†	-59.4	-17.5	-4.9232 ug/L	-4.9232 ppb	03:46:22
2	U 409.014†	-4081.4	858.1	25.344 ug/L	25.344 ppb	03:45:57
2	V 292.402†	-1631.4	51.4	0.3910 ug/L	0.3910 ppb	03:46:02
2	Zn 213.857†	869.1	196.9	1.6702 ug/L	1.6702 ppb	03:46:22
2	SiO2†	509.3	-31.3	-2.0011 ug/L	-2.0011 ppb	03:47:03
3	Sc Radial	4389.9	4389.9	106 %		03:45:00
3	Y RADIAL	4918.4	4918.4	101.6 %		03:45:00
3	Al 396.153Radial†	-193.6	8.2	6.7482 ug/L	6.7482 ppb	03:45:00
3	Ca 317.933Radial†	25.7	10.8	20.029 ug/L	20.029 ppb	03:45:20
3	Fe 238.204 Radial†	12.6	1.7	19.884 ug/L	19.884 ppb	03:45:20
3	K 766.490 Radial†	2922.1	121.8	23.130 ug/L	23.130 ppb	03:45:00
3	Mg 279.077 IEC†	2.3	2.2	94.772 ug/L	94.772 ppb	03:45:20
3	Na 589.592 Radial†	-1337.7	395.1	121.75 ug/L	121.75 ppb	03:45:00
3	Sr 421.552†	44.5	5.4	0.0353 ug/L	0.0353 ppb	03:45:00
3	Sc 361.383	856009.4	856009.4	96.092 %		03:46:28
3	Y 371.029	693520.9	693520.9	94.453 %		03:46:28
3	Ag 328.068†	518.8	-84.6	-0.3863 ug/L	-0.3863 ppb	03:46:33
3	As 188.979†	-35.9	-8.7	-3.3165 ug/L	-3.3165 ppb	03:46:53
3	B 249.677†	-543.6	195.4	4.0826 ug/L	4.0826 ppb	03:46:53
3	Ba 233.527†	-15.9	-1.2	-0.0074 ug/L	-0.0074 ppb	03:46:53
3	Be 313.107†	-4221.8	9.5	0.0038 ug/L	0.0038 ppb	03:46:33
3	Cd 226.502†	-179.0	17.8	0.1876 ug/L	0.1876 ppb	03:46:53
3	Co 228.616†	-89.4	-7.8	-0.1455 ug/L	-0.1455 ppb	03:46:53
3	Cr 267.716†	163.1	108.0	1.1007 ug/L	1.1007 ppb	03:46:33
3	Cu 324.752†	7017.8	416.4	1.1427 ug/L	1.1427 ppb	03:46:33
3	Mn 257.610†	951.1	458.0	0.4576 ug/L	0.4576 ppb	03:46:53
3	Mo 202.031†	7.1	2.2	0.1491 ug/L	0.1491 ppb	03:46:53
3	Ni 231.604†	81.2	-0.6	-0.0143 ug/L	-0.0143 ppb	03:46:53
3	P 214.914†	250.8	37.8	19.362 ug/L	19.362 ppb	03:46:53
3	Pb 220.353†	-69.9	6.8	0.7344 ug/L	0.7344 ppb	03:46:53
3	S 181.975 Axial†	52.0	5.2	6.4121 ug/L	6.4121 ppb	03:46:53
3	Sb 206.836†	62.1	26.2	8.0269 ug/L	8.0269 ppb	03:46:53
3	Se 196.026†	-27.4	-2.5	-1.3266 ug/L	-1.3266 ppb	03:46:53
3	Si 251.611†	602.0	90.7	2.6982 ug/L	2.6982 ppb	03:46:53
3	Sn 189.927†	12.9	4.0	0.6532 ug/L	0.6532 ppb	03:46:53
3	Ti 334.940†	-1572.1	168.3	0.2330 ug/L	0.2330 ppb	03:46:33
3	Tl 190.801†	-39.2	3.7	1.0421 ug/L	1.0421 ppb	03:46:53
3	U 409.014†	-3943.8	1008.9	29.796 ug/L	29.796 ppb	03:46:28
3	V 292.402†	-1607.9	78.9	0.5824 ug/L	0.5824 ppb	03:46:33
3	Zn 213.857†	912.1	240.1	2.0336 ug/L	2.0336 ppb	03:46:53
3	SiO2†	577.9	39.2	2.4931 ug/L	2.4931 ppb	03:47:08

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	853650.9	95.827 %	0.3215			0.34%
Sc Radial	4376.2	106 %	0.8			0.80%
Y 371.029	692235.8	94.278 %	0.2001			0.21%
Y RADIAL	4929.3	101.8 %	0.76			0.75%
Ag 328.068†	-172.8	-0.7749 ug/L	0.33696	-0.7749 ppb	0.33696	43.49%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	1.7	1.3835 ug/L	8.90738	1.3835 ppb	8.90738	643.81%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-10.1	-3.8810 ug/L	3.02327	-3.8810 ppb	3.02327	77.90%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	188.4	3.9384 ug/L	0.27828	3.9384 ppb	0.27828	7.07%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-8.6	-0.0619 ug/L	0.07396	-0.0619 ppb	0.07396	119.58%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	33.8	0.0119 ug/L	0.00938	0.0119 ppb	0.00938	78.50%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	12.9	23.852 ug/L	3.3905	23.852 ppb	3.3905	14.21%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd	226.502†	2.8	0.0340 ug/L	0.13517	0.0340 ppb	0.13517	398.08%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co	228.616†	-11.9	-0.2190 ug/L	0.20111	-0.2190 ppb	0.20111	91.83%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr	267.716†	66.6	0.6766 ug/L	0.40779	0.6766 ppb	0.40779	60.27%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	413.5	1.1362 ug/L	0.10461	1.1362 ppb	0.10461	9.21%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	0.3	3.5051 ug/L	19.23092	3.5051 ppb	19.23092	548.65%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K	766.490 Radial†	97.9	18.582 ug/L	5.8838	18.582 ppb	5.8838	31.66%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	2.3	95.569 ug/L	83.6703	95.569 ppb	83.6703	87.55%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn	257.610†	246.4	0.2436 ug/L	0.18632	0.2436 ppb	0.18632	76.47%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	6.1	0.4031 ug/L	0.43520	0.4031 ppb	0.43520	107.96%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	389.5	120.04 ug/L	4.049	120.04 ppb	4.049	3.37%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	-0.9	-0.0208 ug/L	0.25303	-0.0208 ppb	0.25303	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	40.0	20.563 ug/L	2.8371	20.563 ppb	2.8371	13.80%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	20.7	2.2231 ug/L	1.29107	2.2231 ppb	1.29107	58.08%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	7.1	8.6820 ug/L	2.75608	8.6820 ppb	2.75608	31.74%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	13.5	4.1489 ug/L	4.15746	4.1489 ppb	4.15746	100.21%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	-2.0	-1.1171 ug/L	0.23091	-1.1171 ppb	0.23091	20.67%
QC value within limits for Se 196.026 Recovery = Not calculated							
Si	251.611†	36.1	1.0699 ug/L	1.51058	1.0699 ppb	1.51058	141.18%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	6.7	1.0855 ug/L	0.56801	1.0855 ppb	0.56801	52.32%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	-7.2	-0.0477 ug/L	0.11327	-0.0477 ppb	0.11327	237.50%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	181.1	0.2546 ug/L	0.09283	0.2546 ppb	0.09283	36.45%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	-2.4	-0.6620 ug/L	3.71486	-0.6620 ppb	3.71486	561.19%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	856.0	25.282 ug/L	4.5452	25.282 ppb	4.5452	17.98%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	43.1	0.3414 ug/L	0.26925	0.3414 ppb	0.26925	78.87%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	214.8	1.8207 ug/L	0.18962	1.8207 ppb	0.18962	10.41%
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†		-8.1	-0.5270 ug/L	2.61569	-0.5270 ppb	2.61569	496.38%
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

## Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Tuesday, February 09, 2010 11:04:58

Sample Description:

Method File: c:\elandata\Method\daily2.mth

Dataset File: c:\elandata\Dataset\100125\Sample.313

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	1553.9	1553.885	29.075	1.9
Mg	24.0	17663.7	17663.716	284.270	1.6
Co	58.9	66421.1	66421.076	907.488	1.4
Rh	102.9	138078.3	138078.331	1252.315	0.9
In	114.9	180102.9	180102.873	1794.208	1.0
Pb	208.0	66476.9	66476.926	694.901	1.0
[> Ba	137.9	144033.9	144033.876	1349.029	0.9
[ Ba++	69.0	1901.0	0.013	0.000	1.8
[> Ce	139.9	169135.3	169135.282	2242.228	1.3
[ CeO	155.9	4914.7	0.029	0.000	1.3
Bkgd	220.0	1.6	1.600	0.742	46.4

### Current Optimization File Data

Current Value	Description
0.93	Nebulizer Gas Flow
4.50	Lens Voltage
1000.00	ICP RF Power
-2000.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	4.3	1371.4
Co	59	17	5.0	56445.6
In	115	17	5.5	148438.2

## ICPMS #4 TUNING REPORT

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	603	2060	0.697
Be	9.0	9.0	2029	2045	0.715
Mg	24.0	24.0	5664	2065	0.656
Mg	25.0	24.9	5927	2080	0.719
Mg	26.0	26.0	6142	2085	0.632
Co	58.9	58.9	14170	2140	0.663
Rh	102.9	102.9	24866	2230	0.674
In	114.9	114.9	27761	2255	0.675
Ce	139.9	139.9	33840	2310	0.646
Pb	206.0	206.0	49933	2500	0.588
Pb	207.0	207.0	50101	2375	0.613
Pb	208.0	208.0	50436	2570	0.575
U	238.1	238.0	57683	2510	0.636

## ICPMS#4 - Summary Report

Sample ID: Blank

Sample Date/Time: Tuesday, February 09, 2010 20:52:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\Blank.215

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		209350	
[	U	238	ug/L		516	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Simple Linear	
U	238Simple Linear	

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu	175				
[	U	238				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Tuesday, February 09, 2010 20:54:25

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\Standard 1.216

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		214623	214622.728
[	U 238	10.000	ug/L	1.088	155198	0.721

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175					
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Tuesday, February 09, 2010 20:56:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\Standard 2.217

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		198727	198726.923
[	U 238	100.028	ug/L	2.051	1474056	7.417

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175					
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Tuesday, February 09, 2010 20:58:44

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 1.218

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		210065	210064.972
[	U 238	49.845	ug/L	0.635	776838	3.696

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			100.3		
[	U 238	99.689				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Tuesday, February 09, 2010 21:00:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 2.219

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		204420	204420.309
[	U 238	0.021	ug/L	5.620	824	0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			97.6		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Tuesday, February 09, 2010 21:03:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 3.220

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		200242	200241.832
[	U 238	0.207	ug/L	33.331	3489	0.015

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			95.6		
[	U 238	103.465				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, February 09, 2010 21:05:19

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 4.221

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		186840	186840.126
[	U 238	-0.025	ug/L	4.434	119	-0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			89.2		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, February 09, 2010 21:07:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 5.222

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		186429	186428.749
[	U 238	19.181	ug/L	0.450	265593	1.422

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			89.1		
[	U 238	95.905				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, February 09, 2010 21:09:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 6.223

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		188776	188775.602
[	U 238	54.266	ug/L	4.622	759067	4.024

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			90.2		
[	U 238	108.532				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, February 09, 2010 21:11:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 7.224

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		185230	185230.049
[	U 238	0.024	ug/L	70.695	755	0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			88.5		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202037284

Sample Date/Time: Tuesday, February 09, 2010 21:14:11

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037284.225

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		205324	205324.058
[	U 238	-0.023	ug/L	2.165	154	-0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			98.1		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202037289

Sample Date/Time: Tuesday, February 09, 2010 21:16:28

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 950661|40|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037289.226

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		209227	209227.166
[ U 238	0.360	ug/L	1.505	6095	0.027

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			99.9		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 244847001

Sample Date/Time: Tuesday, February 09, 2010 21:18:45

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244847001.227

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		210519	210518.702
[	U 238	8.361	ug/L	0.894	131033	0.620

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			100.6		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244847001

Report Date/Time: Tuesday, February 09, 2010 21:19:00

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## ICPMS#4 - Summary Report

Sample ID: 1202037285

Sample Date/Time: Tuesday, February 09, 2010 21:21:03

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037285.228

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		209194	209193.966
[	U 238	8.949	ug/L	0.981	139315	0.664

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.9		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202037287

Sample Date/Time: Tuesday, February 09, 2010 21:23:19

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037287.229

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		216666	216665.910
[ U 238	32.096	ug/L	1.037	516110	2.380

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175		103.5			
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202037288

Sample Date/Time: Tuesday, February 09, 2010 21:25:35

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037288.230

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		216216	216215.504
[	U 238	32.748	ug/L	0.186	525526	2.428

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175		103.3			
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202037286

Sample Date/Time: Tuesday, February 09, 2010 21:27:51

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 950661|10|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037286.231

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		208548	208548.453
[	U 238	1.697	ug/L	1.344	26753	0.126

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.6		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, February 09, 2010 21:30:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 6.232

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		209522	209522.328
[	U 238	49.264	ug/L	0.481	765789	3.653

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			100.1		
[	U 238	98.528				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, February 09, 2010 21:32:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 7.233

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		198052	198052.118
[ U 238	0.019	ug/L	14.595	769	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			94.6		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 244847002

Sample Date/Time: Tuesday, February 09, 2010 21:34:34

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244847002.234

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		210872	210872.212
[	U 238	5.430	ug/L	1.118	85418	0.403

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175		100.7			
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 244847003

Sample Date/Time: Tuesday, February 09, 2010 21:36:51

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244847003.235

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		208462	208461.756
[ U 238	14.003	ug/L	0.874	216937	1.038

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			99.6		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 244847004

Sample Date/Time: Tuesday, February 09, 2010 21:39:09

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244847004.236

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		203546	203545.561
[	U 238	6.257	ug/L	1.032	94920	0.464

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			97.2		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, February 09, 2010 21:48:14

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 6.240

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		208050	208049.802
[	U 238	48.730	ug/L	0.377	752209	3.613

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.4		
[	U 238	97.460				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, February 09, 2010 21:50:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 7.241

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		198195	198194.675
[	U 238	0.018	ug/L	9.536	755	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			94.7		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Sunday, February 07, 2010 10:49:08

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default\Sample.416

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	5210.6	5210.550	72.223	1.4
Mg	24.0	60809.6	60809.556	527.059	0.9
Co	58.9	109400.5	109400.522	924.040	0.8
Rh	102.9	186396.6	186396.615	1564.265	0.8
In	114.9	258539.8	258539.829	2000.285	0.8
Pb	208.0	240198.7	240198.694	2632.240	1.1
[> Ba	137.9	228475.0	228474.993	1061.131	0.5
[ Ba++	69.0	5556.6	0.024	0.000	0.9
[> Ce	139.9	282158.2	282158.181	3673.070	1.3
[ CeO	155.9	8137.4	0.029	0.001	3.3
Bkgd	220.0	19.8	19.800	4.396	22.2

### Current Optimization File Data

Current Value	Description
0.90	Nebulizer Gas Flow
10.25	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	19	10.5	5965.9
Co	59	19	11.0	105652.6
In	115	19	12.0	259194.6



## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	595	2060	0.623
Be	9.0	9.0	2049	2080	0.602
Mg	24.0	24.0	5687	2090	0.564
Mg	25.0	25.0	5951	2085	0.601
Mg	26.0	26.0	6162	2085	0.603
Co	58.9	59.0	14192	2115	0.601
Rh	102.9	102.9	24880	2175	0.579
In	114.9	114.9	27794	2190	0.601
Ce	139.9	139.9	33866	2210	0.603
Pb	206.0	206.0	49948	2300	0.600
Pb	207.0	207.0	50159	2245	0.611
Pb	208.0	208.0	50463	2280	0.671
U	238.1	238.0	57727	2300	0.666

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, February 08, 2010 01:25:52

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\Blank.247

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7		ug/L		73	
Be	9		ug/L		18	
B	11		ug/L		377	
Na	23		ug/L		13006	
Mg	24		ug/L		3334	
Al	27		ug/L		6001	
P	31		ug/L		8837	
K	39		ug/L		455837	
Ca	43		ug/L		348	
> Sc	45		ug/L		1527458	
Ti	47		ug/L		352	
V	51		ug/L		7766	
Cr	52		ug/L		2599	
Cr	53		ug/L		111664	
Mn	55		ug/L		1249	
Fe	57		ug/L		5560	
Co	59		ug/L		116	
Ni	60		ug/L		163	
Cu	63		ug/L		314	
Cu	65		ug/L		186	
Zn	66		ug/L		465	
Zn	67		ug/L		13404	
Zn	68		ug/L		1428	
> Ge	74		ug/L		405769	
As	75		ug/L		-165	
Se	77		ug/L		5681	
Se	82		ug/L		22	
Kr	83		ug/L		104	
Sr	88		ug/L		281	
Y	89		ug/L		56	
Mo	98		ug/L		111	
Ag	107		ug/L		46	
Cd	111		ug/L		22	
Cd	114		ug/L		51	
> In	115		ug/L		277023	
Sn	120		ug/L		219	
Sb	121		ug/L		393	
Sb	123		ug/L		291	
Ba	135		ug/L		40	
Ba	137		ug/L		55	
Ho	165		ug/L		23	
> Lu	175		ug/L		500170	
Tl	205		ug/L		812	
Pb	208		ug/L		606	
Bi	209		ug/L		122	
Th	232		ug/L		740	
U	238		ug/L		413	

Sample ID: Blank

Report Date/Time: Monday, February 08, 2010 01:28:36

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Simple Linear	
Be	9Linear Thru Zero	1.0000
B	11Simple Linear	
Na	23Simple Linear	
Mg	24Simple Linear	
Al	27Simple Linear	
P	31Simple Linear	
K	39Simple Linear	
Ca	43Simple Linear	
Sc	45Linear Thru Zero	
Ti	47Simple Linear	
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Simple Linear	
Fe	57Simple Linear	
Co	59Simple Linear	
Ni	60Simple Linear	
Cu	63Simple Linear	
Cu	65Simple Linear	
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Simple Linear	
Se	77Simple Linear	
Se	82Simple Linear	
Kr	83Simple Linear	
Sr	88Simple Linear	
Y	89Simple Linear	
Mo	98Simple Linear	
Ag	107Simple Linear	
Cd	111Simple Linear	
Cd	114Simple Linear	
In	115Simple Linear	
Sn	120Simple Linear	
Sb	121Simple Linear	
Sb	123Simple Linear	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Simple Linear	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Simple Linear	
Th	232Simple Linear	
U	238Simple Linear	

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits	Message
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## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, February 08, 2010 01:31:58

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\Standard 1.248

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.000	ug/L	0.676	22059	0.014
Be	9	10.000	ug/L	1.000	4829	0.003
B	11	20.000	ug/L	2.937	9974	0.006
Na	23	1000.000	ug/L	1.580	3562557	2.311
Mg	24	1000.000	ug/L	4.370	2807468	1.826
Al	27	1000.000	ug/L	8.432	4203377	2.735
P	31	1000.000	ug/L	1.611	247377	0.155
K	39	1000.000	ug/L	3.122	5227445	3.104
Ca	43	1000.000	ug/L	2.306	13132	0.008
> Sc	45		ug/L		1535737	1535736.716
Ti	47	10.000	ug/L	2.835	6911	0.004
V	51	10.000	ug/L	5.250	80445	0.047
Cr	52	10.000	ug/L	0.912	59525	0.037
Cr	53		ug/L		119349	0.005
Mn	55	10.000	ug/L	2.639	97481	0.063
Fe	57	1000.000	ug/L	0.563	201437	0.128
Co	59	10.000	ug/L	0.165	75146	0.049
Ni	60	10.000	ug/L	2.322	16373	0.011
Cu	63		ug/L		39457	0.025
Cu	65	10.000	ug/L	1.805	19401	0.013
Zn	66	10.000	ug/L	0.968	12503	0.030
Zn	67		ug/L		15519	0.005
Zn	68		ug/L		10127	0.021
> Ge	74		ug/L		405790	405790.376
As	75	10.000	ug/L	1.634	11954	0.030
Se	77		ug/L		6812	0.003
Se	82	10.000	ug/L	2.458	1341	0.003
Kr	83		ug/L		85	-0.000
Sr	88	10.000	ug/L	0.755	156230	0.556
Y	89		ug/L		73	0.000
Mo	98	10.000	ug/L	1.378	36730	0.131
Ag	107	10.000	ug/L	1.531	67604	0.241
Cd	111	10.000	ug/L	2.471	16575	0.059
Cd	114		ug/L		40076	0.143
> In	115		ug/L		280578	280577.919
Sn	120	10.000	ug/L	2.807	71617	0.255
Sb	121	10.000	ug/L	0.444	56895	0.201
Sb	123		ug/L		44611	0.158
Ba	135		ug/L		17318	0.034
Ba	137	10.000	ug/L	1.743	30473	0.061
Ho	165		ug/L		22	-0.000
> Lu	175		ug/L		501359	501359.216
Tl	205	10.000	ug/L	1.884	235259	0.468
Pb	208	10.000	ug/L	1.495	384622	0.766
Bi	209		ug/L		174	0.000
Th	232	10.000	ug/L	1.894	469217	0.934
U	238	10.000	ug/L	0.908	476250	0.949

Sample ID: Standard 1

Report Date/Time: Monday, February 08, 2010 01:34:40

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits	Message
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## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, February 08, 2010 01:38:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\Standard 2.249

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	100.014	ug/L	1.633	216800	0.145
Be	9	99.999	ug/L	2.805	46748	0.031
B	11	200.032	ug/L	3.811	95127	0.063
Na	23	10001.506	ug/L	11.237	35038039	23.468
Mg	24	9999.009	ug/L	4.219	26989444	18.079
Al	27	9993.517	ug/L	4.507	38319724	25.669
P	31	9997.538	ug/L	3.118	2270499	1.515
K	39	10001.426	ug/L	1.887	47461692	31.498
Ca	43	9997.216	ug/L	1.136	121211	0.081
> Sc	45		ug/L		1492718	1492717.700
Ti	47	99.998	ug/L	1.088	63983	0.043
V	51	99.983	ug/L	2.474	701291	0.465
Cr	52	99.985	ug/L	2.155	547416	0.365
Cr	53		ug/L		166652	0.039
Mn	55	99.924	ug/L	2.071	870121	0.582
Fe	57	9984.853	ug/L	1.137	1656103	1.106
Co	59	99.940	ug/L	0.303	687683	0.461
Ni	60	99.967	ug/L	2.071	152618	0.102
Cu	63		ug/L		356891	0.239
Cu	65	99.949	ug/L	1.463	177751	0.119
Zn	66	99.976	ug/L	1.557	114488	0.290
Zn	67		ug/L		31564	0.047
Zn	68		ug/L		83987	0.210
> Ge	74		ug/L		393801	393801.412
As	75	99.987	ug/L	1.921	115951	0.295
Se	77		ug/L		14315	0.022
Se	82	99.936	ug/L	0.736	12050	0.031
Kr	83		ug/L		107	0.000
Sr	88	99.912	ug/L	1.387	1356704	5.105
Y	89		ug/L		174	0.000
Mo	98	100.026	ug/L	1.163	356251	1.340
Ag	107	99.954	ug/L	1.581	611785	2.302
Cd	111	99.996	ug/L	1.647	156178	0.588
Cd	114		ug/L		367696	1.384
> In	115		ug/L		265734	265733.785
Sn	120	99.964	ug/L	1.466	652814	2.456
Sb	121	99.983	ug/L	2.145	526507	1.980
Sb	123		ug/L		414540	1.559
Ba	135		ug/L		164556	0.343
Ba	137	99.983	ug/L	0.915	286072	0.596
Ho	165		ug/L		25	0.000
> Lu	175		ug/L		479562	479562.392
Tl	205	99.785	ug/L	1.239	1842466	3.841
Pb	208	99.862	ug/L	1.269	3222310	6.719
Bi	209		ug/L		387	0.001
Th	232	99.761	ug/L	1.640	3608832	7.525
U	238	99.749	ug/L	1.590	3630553	7.570

Sample ID: Standard 2

Report Date/Time: Monday, February 08, 2010 01:40:44

Page 1



# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits	Message
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## QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 2

Report Date/Time: Monday, February 08, 2010 01:40:44

Page 3

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, February 08, 2010 01:44:07

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 1.250

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	52.137	ug/L	1.991	113829	0.076
Be	9	51.548	ug/L	0.580	24274	0.016
B	11	106.600	ug/L	3.969	51226	0.034
Na	23	5059.871	ug/L	9.239	17855513	11.873
Mg	24	5082.175	ug/L	3.394	13813216	9.189
Al	27	5331.991	ug/L	7.251	20591381	13.696
P	31	4791.521	ug/L	0.121	1100233	0.726
K	39	4822.354	ug/L	4.330	23273785	15.187
Ca	43	4990.531	ug/L	2.266	61086	0.040
> Sc	45		ug/L		1502822	1502822.440
Ti	47	50.372	ug/L	1.216	32620	0.021
V	51	50.646	ug/L	3.387	361435	0.235
Cr	52	50.719	ug/L	1.324	280852	0.185
Cr	53		ug/L		135348	0.017
Mn	55	53.177	ug/L	0.372	466812	0.310
Fe	57	5400.185	ug/L	2.657	904293	0.598
Co	59	50.897	ug/L	0.776	352642	0.235
Ni	60	51.825	ug/L	1.065	79740	0.053
Cu	63		ug/L		184229	0.122
Cu	65	50.987	ug/L	1.070	91391	0.061
Zn	66	51.983	ug/L	1.454	60135	0.151
Zn	67		ug/L		22334	0.023
Zn	68		ug/L		44320	0.108
> Ge	74		ug/L		396345	396344.512
As	75	48.504	ug/L	0.883	56533	0.143
Se	77		ug/L		9872	0.011
Se	82	49.333	ug/L	1.182	5998	0.015
Kr	83		ug/L		107	0.000
Sr	88	53.680	ug/L	1.516	733282	2.743
Y	89		ug/L		88	0.000
Mo	98	49.584	ug/L	1.244	177681	0.664
Ag	107	51.845	ug/L	1.898	319154	1.194
Cd	111	50.919	ug/L	1.513	80003	0.299
Cd	114		ug/L		190991	0.714
> In	115		ug/L		267295	267294.859
Sn	120	52.371	ug/L	1.870	344097	1.287
Sb	121	52.825	ug/L	1.126	280006	1.046
Sb	123		ug/L		218334	0.816
Ba	135		ug/L		83781	0.169
Ba	137	50.142	ug/L	1.002	148264	0.299
Ho	165		ug/L		51	0.000
> Lu	175		ug/L		495487	495487.307
Tl	205	53.162	ug/L	2.440	1014628	2.046
Pb	208	53.377	ug/L	0.275	1779945	3.591
Bi	209		ug/L		453	0.001
Th	232	51.712	ug/L	0.609	1933317	3.900
U	238	52.031	ug/L	1.700	1956942	3.949

Sample ID: QC Std 1

Report Date/Time: Monday, February 08, 2010 01:46:49

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	104.273				
Be	9	103.096				
B	11	106.600				
Na	23	101.197				
Mg	24	101.644				
Al	27	105.584				
P	31	95.830				
K	39	96.447				
Ca	43	99.811				
> Sc	45		98.4			
Ti	47	100.745				
V	51	101.292				
Cr	52	101.438				
Cr	53					
Mn	55	106.354				
Fe	57	108.004				
Co	59	101.795				
Ni	60	103.649				
Cu	63					
Cu	65	101.973				
Zn	66	103.966				
Zn	67					
Zn	68					
> Ge	74		97.7			
As	75	97.008				
Se	77					
Se	82	98.665				
Kr	83					
Sr	88	107.360				
Y	89					
Mo	98	99.168				
Ag	107	103.690				
Cd	111	101.838				
Cd	114					
> In	115		96.5			
Sn	120	104.742				
Sb	121	105.651				
Sb	123					
Ba	135					
Ba	137	100.284				
Ho	165					
> Lu	175		99.1			
Tl	205	106.325				
Pb	208	106.754				
Bi	209					
Th	232	103.423				
U	238	104.062				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, February 08, 2010 01:50:14

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 2.251

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.018	ug/L	40.894	110	0.000
Be	9	-0.008	ug/L	159.361	14	-0.000
B	11	4.453	ug/L	20.533	2483	0.001
Na	23	2.933	ug/L	32.912	23019	0.007
Mg	24	0.144	ug/L	382.152	3667	0.000
Al	27	-0.135	ug/L	327.884	5334	-0.000
P	31	-2.864	ug/L	67.650	8016	-0.000
K	39	-6.629	ug/L	85.859	415630	-0.021
Ca	43	-2.729	ug/L	96.009	308	-0.000
> Sc	45		ug/L		1499491	1499490.621
Ti	47	-0.017	ug/L	199.957	334	-0.000
V	51	0.050	ug/L	1055.717	7941	0.000
Cr	52	-0.096	ug/L	133.843	2027	-0.000
Cr	53		ug/L		104271	-0.004
Mn	55	-0.009	ug/L	87.678	1148	-0.000
Fe	57	-1.813	ug/L	72.378	5152	-0.000
Co	59	0.002	ug/L	61.631	131	0.000
Ni	60	0.005	ug/L	81.610	168	0.000
Cu	63		ug/L		333	0.000
Cu	65	0.007	ug/L	190.421	195	0.000
Zn	66	0.001	ug/L	1299.916	457	0.000
Zn	67		ug/L		12503	-0.002
Zn	68		ug/L		1347	-0.000
> Ge	74		ug/L		397418	397417.947
As	75	-0.383	ug/L	68.966	-608	-0.001
Se	77		ug/L		5531	-0.000
Se	82	0.043	ug/L	62.673	27	0.000
Kr	83		ug/L		93	-0.000
Sr	88	0.002	ug/L	126.954	296	0.000
Y	89		ug/L		50	-0.000
Mo	98	0.027	ug/L	19.057	206	0.000
Ag	107	0.003	ug/L	27.576	63	0.000
Cd	111	-0.000	ug/L	2442.395	21	-0.000
Cd	114		ug/L		56	0.000
> In	115		ug/L		271642	271641.532
Sn	120	0.017	ug/L	40.445	329	0.000
Sb	121	0.543	ug/L	17.284	3302	0.011
Sb	123		ug/L		2604	0.009
Ba	135		ug/L		46	0.000
Ba	137	0.000	ug/L	1254.203	57	0.000
Ho	165		ug/L		28	0.000
> Lu	175		ug/L		501405	501405.206
Tl	205	0.096	ug/L	20.347	2674	0.004
Pb	208	0.003	ug/L	31.988	719	0.000
Bi	209		ug/L		113	-0.000
Th	232	0.035	ug/L	42.360	2054	0.003
U	238	0.006	ug/L	33.855	629	0.000

Sample ID: QC Std 2

Report Date/Time: Monday, February 08, 2010 01:52:58

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		98.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		97.9			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.1			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, February 08, 2010 01:56:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 3.252

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	11.445	ug/L	2.504	24799	0.017
Be	9	0.569	ug/L	2.234	283	0.000
B	11	17.683	ug/L	2.964	8721	0.006
Na	23	295.767	ug/L	7.469	1045349	0.694
Mg	24	15.419	ug/L	8.316	44737	0.028
Al	27	35.726	ug/L	9.255	142376	0.092
P	31	51.705	ug/L	4.499	20273	0.008
K	39	328.237	ug/L	4.490	1982241	1.034
Ca	43	217.463	ug/L	4.121	2960	0.002
> Sc	45		ug/L		1488119	1488119.134
Ti	47	8.959	ug/L	2.108	6026	0.004
V	51	11.364	ug/L	4.004	86171	0.053
Cr	52	11.292	ug/L	0.783	63887	0.041
Cr	53		ug/L		115490	0.005
Mn	55	6.029	ug/L	2.210	53479	0.035
Fe	57	125.101	ug/L	1.341	26035	0.014
Co	59	1.167	ug/L	1.797	8117	0.005
Ni	60	2.271	ug/L	2.130	3611	0.002
Cu	63		ug/L		4479	0.003
Cu	65	1.156	ug/L	1.894	2228	0.001
Zn	66	11.303	ug/L	2.311	13331	0.033
Zn	67		ug/L		14856	0.005
Zn	68		ug/L		10200	0.022
> Ge	74		ug/L		393469	393469.173
As	75	5.501	ug/L	6.319	6219	0.016
Se	77		ug/L		6315	0.002
Se	82	5.652	ug/L	2.085	701	0.002
Kr	83		ug/L		93	-0.000
Sr	88	11.886	ug/L	1.490	167492	0.607
Y	89		ug/L		54	-0.000
Mo	98	0.530	ug/L	2.820	2067	0.007
Ag	107	1.059	ug/L	1.405	6764	0.024
Cd	111	1.101	ug/L	2.920	1803	0.006
Cd	114		ug/L		4266	0.015
> In	115		ug/L		275334	275334.471
Sn	120	5.576	ug/L	2.217	37941	0.137
Sb	121	3.399	ug/L	0.616	18927	0.067
Sb	123		ug/L		14953	0.053
Ba	135		ug/L		3723	0.007
Ba	137	2.141	ug/L	0.570	6420	0.013
Ho	165		ug/L		25	0.000
> Lu	175		ug/L		498293	498292.746
Tl	205	1.291	ug/L	0.697	25575	0.050
Pb	208	2.482	ug/L	1.175	83808	0.167
Bi	209		ug/L		132	0.000
Th	232	1.383	ug/L	1.127	52705	0.104
U	238	0.291	ug/L	0.924	11418	0.022

Sample ID: QC Std 3

Report Date/Time: Monday, February 08, 2010 01:59:04

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	114.454				
Be	9	113.803				
B	11	117.889				
Na	23	118.307				
Mg	24	102.793				
Al	27	119.086				
P	31	103.411				
K	39	109.412				
Ca	43	108.732				
> Sc	45		97.4			
Ti	47	89.594				
V	51	113.639				
Cr	52	112.923				
Cr	53					
Mn	55	120.572				
Fe	57	125.101				
Co	59	116.695				
Ni	60	113.540				
Cu	63					
Cu	65	115.580				
Zn	66	113.029				
Zn	67					
Zn	68					
> Ge	74		97.0			
As	75	110.012				
Se	77					
Se	82	113.048				
Kr	83					
Sr	88	118.863				
Y	89					
Mo	98	106.036				
Ag	107	105.939				
Cd	111	110.076				
Cd	114					
> In	115		99.4			
Sn	120	111.523				
Sb	121	113.306				
Sb	123					
Ba	135					
Ba	137	107.060				
Ho	165					
> Lu	175		99.6			
Tl	205	129.131				
Pb	208	124.099				
Bi	209					
Th	232	138.274				
U	238	145.529				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Th	232	CRDL is out of limits
QC Std 3	U	238	CRDL is out of limits

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, February 08, 2010 02:02:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 4.253

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.102	ug/L	2.988	267	0.000
Be	9	0.095	ug/L	16.356	57	0.000
B	11	1.588	ug/L	9.375	1027	0.001
Na	23	98123.646	ug/L	1.249	314829600	230.245
Mg	24	93493.608	ug/L	1.685	231203280	169.040
Al	27	90317.379	ug/L	4.809	317256192	231.988
P	31	87633.643	ug/L	1.492	18167671	13.284
K	39	98557.411	ug/L	4.272	424830572	310.396
Ca	43	92216.908	ug/L	2.438	1021233	0.747
Sc	45		ug/L		1367354	1367354.365
Ti	47	1691.416	ug/L	2.285	985949	0.721
V	51	-0.273	ug/L	6.678	5216	-0.001
Cr	52	1.629	ug/L	3.624	10456	0.006
Cr	53		ug/L		77970	-0.016
Mn	55	6.021	ug/L	2.803	49064	0.035
Fe	57	93663.043	ug/L	2.319	14184214	10.374
Co	59	0.306	ug/L	5.587	2032	0.001
Ni	60	3.356	ug/L	3.866	4833	0.003
Cu	63		ug/L		8369	0.006
Cu	65	3.512	ug/L	2.040	5881	0.004
Zn	66	4.509	ug/L	1.006	5043	0.013
Zn	67		ug/L		11029	-0.002
Zn	68		ug/L		1876	0.002
Ge	74		ug/L		355007	355007.057
As	75	0.304	ug/L	50.387	175	0.001
Se	77		ug/L		6425	0.004
Se	82	-1.313	ug/L	7.714	-123	-0.000
Kr	83		ug/L		283	0.001
Sr	88	3.211	ug/L	1.527	39859	0.164
Y	89		ug/L		459	0.002
Mo	98	1887.139	ug/L	2.004	6105958	25.288
Ag	107	0.120	ug/L	1.357	706	0.003
Cd	111	0.588	ug/L	32.323	853	0.003
Cd	114		ug/L		10100	0.042
In	115		ug/L		241489	241488.908
Sn	120	0.286	ug/L	2.030	1887	0.007
Sb	121	0.171	ug/L	28.487	1161	0.003
Sb	123		ug/L		903	0.003
Ba	135		ug/L		1089	0.002
Ba	137	0.734	ug/L	1.324	1937	0.004
Ho	165		ug/L		9203	0.021
Lu	175		ug/L		431699	431699.033
Tl	205	0.013	ug/L	30.726	912	0.000
Pb	208	0.237	ug/L	1.884	7400	0.016
Bi	209		ug/L		5084	0.012
Th	232	0.023	ug/L	41.104	1387	0.002
U	238	-0.004	ug/L	9.132	223	-0.000

Sample ID: QC Std 4

Report Date/Time: Monday, February 08, 2010 02:05:10

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23	98.124				
Mg	24	93.494				
Al	27	90.317				
P	31	87.634				
K	39	98.557				
Ca	43	92.217				
> Sc	45		89.5			
Ti	47	84.571				
V	51					
Cr	52	49.371				
Cr	53					
Mn	55	103.812				
Fe	57	93.663				
Co	59	130.199				
Ni	60	101.405				
Cu	63					
Cu	65	105.152				
Zn	66	119.917				
Zn	67					
Zn	68					
> Ge	74		87.5			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88	108.478				
Y	89					
Mo	98	94.357				
Ag	107					
Cd	111	132.468				
Cd	114					
> In	115		87.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137	91.948				
Ho	165					
> Lu	175		86.3			
Tl	205					
Pb	208	125.286				
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, February 08, 2010 02:08:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 5.254

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	20.255	ug/L	0.781	38613	0.029
Be	9	18.689	ug/L	3.095	7685	0.006
B	11	19.157	ug/L	0.891	8295	0.006
Na	23	96094.852	ug/L	3.405	295515949	225.484
Mg	24	87443.210	ug/L	4.372	207233634	158.100
Al	27	92023.538	ug/L	0.207	309864570	236.370
P	31	88079.782	ug/L	0.489	17509903	13.352
K	39	97336.623	ug/L	2.739	402165193	306.551
Ca	43	92984.466	ug/L	1.905	987525	0.753
> Sc	45		ug/L		1310931	1310931.409
Ti	47	1686.870	ug/L	2.921	942821	0.719
V	51	20.824	ug/L	2.850	133545	0.097
Cr	52	22.027	ug/L	2.459	107638	0.080
Cr	53		ug/L		86812	-0.007
Mn	55	27.476	ug/L	2.508	210881	0.160
Fe	57	94947.349	ug/L	1.047	13790488	10.516
Co	59	20.505	ug/L	1.711	123984	0.095
Ni	60	22.752	ug/L	0.785	30614	0.023
Cu	63		ug/L		67130	0.051
Cu	65	21.758	ug/L	1.618	34109	0.026
Zn	66	22.825	ug/L	1.909	23053	0.066
Zn	67		ug/L		13676	0.007
Zn	68		ug/L		15330	0.041
> Ge	74		ug/L		342742	342741.938
As	75	20.542	ug/L	1.550	20624	0.061
Se	77		ug/L		7595	0.008
Se	82	18.612	ug/L	3.359	1968	0.006
Kr	83		ug/L		286	0.001
Sr	88	25.923	ug/L	0.484	311045	1.325
Y	89		ug/L		436	0.002
Mo	98	1921.587	ug/L	0.567	6042339	25.749
Ag	107	19.369	ug/L	1.615	104716	0.446
Cd	111	19.660	ug/L	1.295	27134	0.116
Cd	114		ug/L		73683	0.314
> In	115		ug/L		234659	234658.636
Sn	120	21.502	ug/L	1.418	124161	0.528
Sb	121	21.621	ug/L	1.330	100821	0.428
Sb	123		ug/L		79143	0.336
Ba	135		ug/L		30178	0.070
Ba	137	20.806	ug/L	2.095	53543	0.124
Ho	165		ug/L		9240	0.021
> Lu	175		ug/L		431099	431098.684
Tl	205	22.282	ug/L	2.438	370310	0.858
Pb	208	22.132	ug/L	0.730	642375	1.489
Bi	209		ug/L		5590	0.013
Th	232	24.442	ug/L	1.791	795214	1.844
U	238	25.304	ug/L	1.450	828117	1.920

Sample ID: QC Std 5

Report Date/Time: Monday, February 08, 2010 02:11:17

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Li	7	101.273				
Be	9	93.444				
B	11	95.785				
Na	23	96.095				
Mg	24	87.443				
Al	27	92.024				
P	31	88.080				
K	39	97.337				
Ca	43	92.984				
> Sc	45			85.8		
Ti	47	84.343				
V	51	104.120				
Cr	52	94.535				
Cr	53					
Mn	55	106.495				
Fe	57	94.947				
Co	59	101.335				
Ni	60	97.605				
Cu	63					
Cu	65	93.221				
Zn	66	96.064				
Zn	67					
Zn	68					
> Ge	74			84.5		
As	75	102.709				
Se	77					
Se	82	93.059				
Kr	83					
Sr	88	112.905				
Y	89					
Mo	98	96.079				
Ag	107	96.844				
Cd	111	96.166				
Cd	114					
> In	115			84.7		
Sn	120	107.512				
Sb	121	108.106				
Sb	123					
Ba	135					
Ba	137	100.041				
Ho	165					
> Lu	175			86.2		
Tl	205	111.411				
Pb	208	109.623				
Bi	209					
Th	232	122.210				
U	238	126.521				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Th	232	ICSAB is out of limits
QC Std 5	U	238	ICSAB is out of limits

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, February 08, 2010 02:14:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 6.255

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	50.783	ug/L	1.672	102892	0.074
Be	9	49.602	ug/L	1.737	21678	0.016
B	11	95.309	ug/L	2.424	42539	0.030
Na	23	4790.529	ug/L	5.818	15687000	11.241
Mg	24	4755.932	ug/L	4.160	11993670	8.599
Al	27	4825.698	ug/L	3.514	17290681	12.395
P	31	4433.153	ug/L	2.917	945276	0.672
K	39	4355.884	ug/L	0.914	19550706	13.718
Ca	43	4692.765	ug/L	2.121	53333	0.038
> Sc	45		ug/L		1394824	1394824.119
Ti	47	47.923	ug/L	2.622	28817	0.020
V	51	48.039	ug/L	2.564	318544	0.223
Cr	52	48.474	ug/L	2.965	249227	0.177
Cr	53		ug/L		120873	0.014
Mn	55	50.972	ug/L	1.951	415311	0.297
Fe	57	5176.426	ug/L	2.103	804646	0.573
Co	59	49.016	ug/L	1.947	315170	0.226
Ni	60	49.349	ug/L	1.992	70472	0.050
Cu	63		ug/L		164308	0.118
Cu	65	48.877	ug/L	1.752	81310	0.058
Zn	66	48.800	ug/L	0.723	53087	0.141
Zn	67		ug/L		19703	0.020
Zn	68		ug/L		38847	0.101
> Ge	74		ug/L		372533	372532.948
As	75	46.588	ug/L	1.621	51025	0.137
Se	77		ug/L		8892	0.010
Se	82	47.762	ug/L	2.006	5458	0.015
Kr	83		ug/L		93	-0.000
Sr	88	49.985	ug/L	2.498	675672	2.554
Y	89		ug/L		109	0.000
Mo	98	46.069	ug/L	1.600	163377	0.617
Ag	107	48.278	ug/L	1.559	294121	1.112
Cd	111	48.185	ug/L	1.895	74923	0.283
Cd	114		ug/L		179789	0.680
> In	115		ug/L		264501	264501.253
Sn	120	49.557	ug/L	2.088	322228	1.218
Sb	121	49.313	ug/L	2.185	258692	0.977
Sb	123		ug/L		203802	0.770
Ba	135		ug/L		79039	0.156
Ba	137	45.926	ug/L	0.602	138552	0.274
Ho	165		ug/L		53	0.000
> Lu	175		ug/L		505529	505529.045
Tl	205	51.542	ug/L	2.412	1003512	1.984
Pb	208	51.642	ug/L	2.107	1756699	3.474
Bi	209		ug/L		462	0.001
Th	232	50.369	ug/L	1.169	1921166	3.799
U	238	51.400	ug/L	1.163	1972357	3.901

Sample ID: QC Std 6

Report Date/Time: Monday, February 08, 2010 02:17:24

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	101.566				
Be	9	99.204				
B	11	95.309				
Na	23	95.811				
Mg	24	95.119				
Al	27	95.558				
P	31	88.663				
K	39	87.118				
Ca	43	93.855				
> Sc	45		91.3			
Ti	47	95.846				
V	51	96.079				
Cr	52	96.948				
Cr	53					
Mn	55	101.943				
Fe	57	103.529				
Co	59	98.031				
Ni	60	98.697				
Cu	63					
Cu	65	97.754				
Zn	66	97.600				
Zn	67					
Zn	68					
> Ge	74		91.8			
As	75	93.176				
Se	77					
Se	82	95.523				
Kr	83					
Sr	88	99.969				
Y	89					
Mo	98	92.137				
Ag	107	96.556				
Cd	111	96.369				
Cd	114					
> In	115		95.5			
Sn	120	99.114				
Sb	121	98.627				
Sb	123					
Ba	135					
Ba	137	91.853				
Ho	165					
> Lu	175		101.1			
Tl	205	103.083				
Pb	208	103.283				
Bi	209					
Th	232	100.737				
U	238	102.801				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	P	31	CCV is out of limits (+/- 10%)
QC Std 6	K	39	CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, February 08, 2010 02:20:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 7.256

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.014	ug/L	63.736	93	0.000
Be	9	0.012	ug/L	197.180	21	0.000
B	11	2.844	ug/L	20.237	1572	0.001
Na	23	2.920	ug/L	73.996	21017	0.007
Mg	24	0.812	ug/L	177.787	5001	0.001
Al	27	1.891	ug/L	40.533	12005	0.005
P	31	-2.731	ug/L	77.951	7345	-0.000
K	39	-0.427	ug/L	1946.585	406051	-0.001
Ca	43	0.473	ug/L	288.115	317	0.000
> Sc	45		ug/L		1366986	1366986.433
Ti	47	0.008	ug/L	559.917	319	0.000
V	51	-0.275	ug/L	144.443	5204	-0.001
Cr	52	-0.551	ug/L	6.193	-425	-0.002
Cr	53		ug/L		95223	-0.003
Mn	55	-0.009	ug/L	39.027	1045	-0.000
Fe	57	-1.807	ug/L	11.105	4702	-0.000
Co	59	0.002	ug/L	5.449	119	0.000
Ni	60	0.013	ug/L	36.258	164	0.000
Cu	63		ug/L		335	0.000
Cu	65	0.003	ug/L	154.872	172	0.000
Zn	66	0.011	ug/L	347.137	431	0.000
Zn	67		ug/L		11021	-0.003
Zn	68		ug/L		1168	-0.000
> Ge	74		ug/L		365474	365474.413
As	75	0.025	ug/L	183.235	-122	0.000
Se	77		ug/L		5075	-0.000
Se	82	-0.059	ug/L	401.417	13	-0.000
Kr	83		ug/L		87	-0.000
Sr	88	-0.000	ug/L	666.554	256	-0.000
Y	89		ug/L		57	0.000
Mo	98	0.060	ug/L	18.373	312	0.001
Ag	107	0.004	ug/L	17.753	67	0.000
Cd	111	-0.001	ug/L	489.508	19	-0.000
Cd	114		ug/L		54	0.000
> In	115		ug/L		257865	257864.926
Sn	120	0.014	ug/L	25.566	292	0.000
Sb	121	0.251	ug/L	25.895	1651	0.005
Sb	123		ug/L		1264	0.004
Ba	135		ug/L		37	-0.000
Ba	137	0.001	ug/L	316.093	56	0.000
Ho	165		ug/L		23	0.000
> Lu	175		ug/L		492537	492537.005
Tl	205	0.130	ug/L	28.929	3260	0.005
Pb	208	0.003	ug/L	21.918	688	0.000
Bi	209		ug/L		118	-0.000
Th	232	0.039	ug/L	35.370	2181	0.003
U	238	0.006	ug/L	32.200	648	0.000

Sample ID: QC Std 7

Report Date/Time: Monday, February 08, 2010 02:23:33

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		89.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		90.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		93.1			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		98.5			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Monday, February 08, 2010 02:26:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 10.257

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	998.731	ug/L	1.289	1798612	1.450
Be	9	1022.266	ug/L	2.442	396989	0.320
B	11	1.072	ug/L	17.084	728	0.000
Na	23	54095.692	ug/L	6.199	157414800	126.934
Mg	24	48845.815	ug/L	4.343	109656413	88.315
Al	27	51559.113	ug/L	6.499	164366329	132.434
P	31	23582.621	ug/L	1.822	4441461	3.575
K	39	50549.420	ug/L	3.852	197789336	159.200
Ca	43	50180.329	ug/L	1.476	504454	0.406
> Sc	45		ug/L		1240716	1240715.865
Ti	47	46.264	ug/L	2.586	24746	0.020
V	51	906.860	ug/L	3.566	5235410	4.216
Cr	52	920.184	ug/L	2.563	4169366	3.360
Cr	53		ug/L		616798	0.424
Mn	55	943.845	ug/L	2.445	6820375	5.499
Fe	57	50866.653	ug/L	4.365	6990534	5.634
Co	59	868.546	ug/L	3.712	4964017	4.003
Ni	60	892.624	ug/L	2.286	1131339	0.912
Cu	63		ug/L		2570061	2.072
Cu	65	850.903	ug/L	3.389	1255997	1.013
Zn	66	2031.712	ug/L	2.571	1943502	5.885
Zn	67		ug/L		365792	1.075
Zn	68		ug/L		1475079	4.464
> Ge	74		ug/L		330288	330288.155
As	75	892.545	ug/L	2.356	868939	2.632
Se	77		ug/L		41874	0.113
Se	82	487.991	ug/L	1.332	49274	0.149
Kr	83		ug/L		169	0.000
Sr	88	962.735	ug/L	1.510	11507137	49.190
Y	89		ug/L		457	0.002
Mo	98	993.756	ug/L	2.138	3115156	13.316
Ag	107	223.951	ug/L	0.494	1206657	5.158
Cd	111	886.315	ug/L	0.710	1218621	5.209
Cd	114		ug/L		2994556	12.801
> In	115		ug/L		233933	233933.253
Sn	120	924.046	ug/L	2.252	5311274	22.704
Sb	121	239.262	ug/L	0.952	1108873	4.739
Sb	123		ug/L		881466	3.767
Ba	135		ug/L		1310371	2.933
Ba	137	917.612	ug/L	3.067	2445330	5.474
Ho	165		ug/L		364	0.001
> Lu	175		ug/L		446788	446787.557
Tl	205	451.872	ug/L	0.518	7771279	17.392
Pb	208	4682.850	ug/L	1.717	140748577	315.055
Bi	209		ug/L		4203	0.009
Th	232	2516.718	ug/L	0.756	84808464	189.826
U	238	5229.802	ug/L	1.830	177321844	396.916

Sample ID: QC Std 10

Report Date/Time: Monday, February 08, 2010 02:29:38

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	99.873				
Be	9	102.227				
B	11					
Na	23	108.191				
Mg	24	97.692				
Al	27	103.118				
P	31	94.330				
K	39	101.099				
Ca	43	100.361				
> Sc	45		81.2			
Ti	47					
V	51	90.686				
Cr	52	92.018				
Cr	53					
Mn	55	94.385				
Fe	57	101.733				
Co	59	86.855				
Ni	60	89.262				
Cu	63					
Cu	65	85.090				
Zn	66	81.268				
Zn	67					
Zn	68					
> Ge	74		81.4			
As	75	89.254				
Se	77					
Se	82	97.598				
Kr	83					
Sr	88	96.274				
Y	89					
Mo	98	99.376				
Ag	107	89.581				
Cd	111	88.632				
Cd	114					
> In	115		84.4			
Sn	120	92.405				
Sb	121	95.705				
Sb	123					
Ba	135					
Ba	137	91.761				
Ho	165					
> Lu	175		89.3			
Tl	205	90.374				
Pb	208	93.657				
Bi	209					
Th	232	100.669				
U	238	104.596				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 10	Co	59	LRS is out of limits (+/- 10%)
QC Std 10	Ni	60	LRS is out of limits (+/- 10%)
QC Std 10	Cu	65	LRS is out of limits (+/- 10%)
QC Std 10	Zn	66	LRS is out of limits (+/- 10%)
QC Std 10	As	75	LRS is out of limits (+/- 10%)
QC Std 10	Ag	107	LRS is out of limits (+/- 10%)
QC Std 10	Cd	111	LRS is out of limits (+/- 10%)

Sample ID: QC Std 10

Report Date/Time: Monday, February 08, 2010 02:29:38

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## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Monday, February 08, 2010 02:33:01

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 11.258

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	53.842	ug/L	0.831	110374	0.078
Be	9	52.565	ug/L	0.726	23243	0.016
B	11	103.264	ug/L	2.973	46599	0.033
Na	23	5513.140	ug/L	6.666	18264112	12.936
Mg	24	5415.435	ug/L	2.969	13819114	9.791
Al	27	5289.873	ug/L	7.989	19172019	13.587
P	31	4711.582	ug/L	2.018	1015938	0.714
K	39	5018.937	ug/L	12.498	22741052	15.807
Ca	43	5027.634	ug/L	0.440	57787	0.041
> Sc	45		ug/L		1411151	1411151.270
Ti	47	49.263	ug/L	1.003	29962	0.021
V	51	50.567	ug/L	3.121	338843	0.235
Cr	52	50.762	ug/L	2.712	263911	0.185
Cr	53		ug/L		124001	0.015
Mn	55	53.022	ug/L	2.310	437050	0.309
Fe	57	5410.200	ug/L	1.021	850710	0.599
Co	59	51.185	ug/L	2.374	332966	0.236
Ni	60	51.293	ug/L	1.807	74104	0.052
Cu	63		ug/L		172985	0.122
Cu	65	50.348	ug/L	2.004	84733	0.060
Zn	66	51.142	ug/L	0.863	55853	0.148
Zn	67		ug/L		21294	0.024
Zn	68		ug/L		41546	0.108
> Ge	74		ug/L		374142	374142.068
As	75	48.330	ug/L	2.454	53176	0.143
Se	77		ug/L		8700	0.009
Se	82	49.809	ug/L	0.872	5716	0.015
Kr	83		ug/L		102	0.000
Sr	88	53.139	ug/L	1.986	708868	2.715
Y	89		ug/L		81	0.000
Mo	98	49.161	ug/L	1.318	172035	0.659
Ag	107	50.541	ug/L	2.517	303828	1.164
Cd	111	50.295	ug/L	1.129	77172	0.296
Cd	114		ug/L		185708	0.711
> In	115		ug/L		260989	260989.291
Sn	120	52.403	ug/L	0.905	336249	1.288
Sb	121	53.770	ug/L	0.128	278315	1.065
Sb	123		ug/L		221210	0.847
Ba	135		ug/L		81316	0.165
Ba	137	49.277	ug/L	1.812	145282	0.294
Ho	165		ug/L		51	0.000
> Lu	175		ug/L		494098	494097.671
Tl	205	53.648	ug/L	0.589	1021009	2.065
Pb	208	53.963	ug/L	0.881	1794309	3.631
Bi	209		ug/L		445	0.001
Th	232	52.591	ug/L	1.420	1960453	3.967
U	238	53.973	ug/L	2.033	2024108	4.096

Sample ID: QC Std 11

Report Date/Time: Monday, February 08, 2010 02:35:43

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	107.684				
Be	9	105.130				
B	11	103.264				
Na	23	110.263				
Mg	24	108.309				
Al	27	104.750				
P	31	94.232				
K	39	100.379				
Ca	43	100.553				
> Sc	45		92.4			
Ti	47	98.526				
V	51	101.133				
Cr	52	101.524				
Cr	53					
Mn	55	106.045				
Fe	57	108.204				
Co	59	102.370				
Ni	60	102.587				
Cu	63					
Cu	65	100.695				
Zn	66	102.284				
Zn	67					
Zn	68					
> Ge	74		92.2			
As	75	96.661				
Se	77					
Se	82	99.617				
Kr	83					
Sr	88	106.277				
Y	89					
Mo	98	98.323				
Ag	107	101.082				
Cd	111	100.589				
Cd	114					
> In	115		94.2			
Sn	120	104.806				
Sb	121	107.540				
Sb	123					
Ba	135					
Ba	137	98.554				
Ho	165					
> Lu	175		98.8			
Tl	205	107.296				
Pb	208	107.925				
Bi	209					
Th	232	105.181				
U	238	107.946				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	Na	23	CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Monday, February 08, 2010 02:39:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 12.259

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.068	ug/L	3.006	214	0.000
Be	9	0.009	ug/L	109.968	21	0.000
B	11	2.839	ug/L	22.343	1670	0.001
Na	23	1.359	ug/L	44.712	17010	0.003
Mg	24	1.078	ug/L	71.128	6001	0.002
Al	27	1.147	ug/L	45.111	10004	0.003
P	31	-4.513	ug/L	84.778	7414	-0.001
K	39	-7.069	ug/L	45.049	401572	-0.022
Ca	43	-1.651	ug/L	217.327	312	-0.000
> Sc	45		ug/L		1453993	1453992.744
Ti	47	-0.045	ug/L	85.981	307	-0.000
V	51	-0.351	ug/L	100.980	5020	-0.002
Cr	52	-0.477	ug/L	12.019	-61	-0.002
Cr	53		ug/L		96015	-0.007
Mn	55	-0.012	ug/L	9.958	1091	-0.000
Fe	57	-4.329	ug/L	15.344	4595	-0.000
Co	59	0.014	ug/L	17.325	207	0.000
Ni	60	0.020	ug/L	25.752	185	0.000
Cu	63		ug/L		399	0.000
Cu	65	0.024	ug/L	60.671	218	0.000
Zn	66	0.040	ug/L	30.944	486	0.000
Zn	67		ug/L		12032	-0.002
Zn	68		ug/L		1316	-0.000
> Ge	74		ug/L		385122	385121.608
As	75	-0.154	ug/L	66.562	-332	-0.000
Se	77		ug/L		4832	-0.001
Se	82	0.077	ug/L	81.165	30	0.000
Kr	83		ug/L		81	-0.000
Sr	88	0.005	ug/L	44.229	350	0.000
Y	89		ug/L		53	-0.000
Mo	98	0.095	ug/L	8.973	454	0.001
Ag	107	0.005	ug/L	40.933	74	0.000
Cd	111	0.014	ug/L	32.543	43	0.000
Cd	114		ug/L		74	0.000
> In	115		ug/L		271512	271511.847
Sn	120	0.068	ug/L	10.162	665	0.002
Sb	121	1.160	ug/L	17.891	6608	0.023
Sb	123		ug/L		5020	0.017
Ba	135		ug/L		45	0.000
Ba	137	0.010	ug/L	23.081	87	0.000
Ho	165		ug/L		22	-0.000
> Lu	175		ug/L		512092	512092.125
Tl	205	0.157	ug/L	21.489	3921	0.006
Pb	208	0.041	ug/L	19.099	2019	0.003
Bi	209		ug/L		111	-0.000
Th	232	0.093	ug/L	17.613	4337	0.007
U	238	0.069	ug/L	12.247	3114	0.005

Sample ID: QC Std 12

Report Date/Time: Monday, February 08, 2010 02:41:52

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		95.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		94.9			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.0			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		102.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 12

Report Date/Time: Monday, February 08, 2010 02:41:52

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## ICPMS#5 - Summary Report

Sample ID: 1202018068

Sample Date/Time: Monday, February 08, 2010 02:45:18

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018068.260

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.030	ug/L	16.525	134	0.000
Be	9	0.006	ug/L	227.321	20	0.000
B	11	0.958	ug/L	13.002	803	0.000
Na	23	15.817	ug/L	26.155	66492	0.037
Mg	24	2.079	ug/L	27.397	8669	0.004
Al	27	4.627	ug/L	47.162	23020	0.012
P	31	15.271	ug/L	2.920	11812	0.002
K	39	-6.943	ug/L	14.135	403280	-0.022
Ca	43	8.313	ug/L	46.130	430	0.000
> Sc	45		ug/L		1458299	1458299.173
Ti	47	0.283	ug/L	75.831	513	0.000
V	51	-0.631	ug/L	46.751	3117	-0.003
Cr	52	0.233	ug/L	9.592	3721	0.001
Cr	53		ug/L		77518	-0.020
Mn	55	0.830	ug/L	1.962	8245	0.005
Fe	57	59.417	ug/L	4.872	14902	0.007
Co	59	0.017	ug/L	5.286	227	0.000
Ni	60	0.140	ug/L	12.221	365	0.000
Cu	63		ug/L		2768	0.002
Cu	65	0.670	ug/L	1.714	1340	0.001
Zn	66	1.036	ug/L	6.754	1570	0.003
Zn	67		ug/L		9619	-0.008
Zn	68		ug/L		1982	0.002
> Ge	74		ug/L		378767	378766.663
As	75	-0.134	ug/L	221.337	-304	-0.000
Se	77		ug/L		3684	-0.004
Se	82	-0.170	ug/L	84.961	1	-0.000
Kr	83		ug/L		92	-0.000
Sr	88	0.030	ug/L	8.588	695	0.002
Y	89		ug/L		100	0.000
Mo	98	0.077	ug/L	7.650	394	0.001
Ag	107	0.006	ug/L	10.159	81	0.000
Cd	111	0.008	ug/L	88.627	34	0.000
Cd	114		ug/L		66	0.000
> In	115		ug/L		273668	273668.427
Sn	120	1.573	ug/L	2.680	10791	0.039
Sb	121	0.514	ug/L	28.919	3166	0.010
Sb	123		ug/L		2464	0.008
Ba	135		ug/L		207	0.000
Ba	137	0.077	ug/L	9.299	298	0.000
Ho	165		ug/L		30	0.000
> Lu	175		ug/L		523007	523007.318
Tl	205	0.066	ug/L	8.480	2183	0.003
Pb	208	0.062	ug/L	14.545	2809	0.004
Bi	209		ug/L		323	0.000
Th	232	0.086	ug/L	19.404	4162	0.006
U	238	0.028	ug/L	16.743	1549	0.002

Sample ID: 1202018068

Report Date/Time: Monday, February 08, 2010 02:48:03

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		95.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		93.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		104.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018069

Sample Date/Time: Monday, February 08, 2010 02:51:29

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942638|40|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018069.261

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	2.625	ug/L	2.131	5540	0.004
Be	9	20.946	ug/L	2.576	9431	0.007
B	11	39.180	ug/L	2.188	18211	0.012
Na	23	285.440	ug/L	5.952	973077	0.670
Mg	24	1004.538	ug/L	5.152	2612833	1.816
Al	27	3056.203	ug/L	7.610	11281949	7.850
P	31	202.634	ug/L	1.902	52398	0.031
K	39	1077.797	ug/L	3.367	5303118	3.394
Ca	43	2699.974	ug/L	1.919	31718	0.022
> Sc	45		ug/L		1435809	1435808.841
Ti	47	102.869	ug/L	1.864	63283	0.044
V	51	32.671	ug/L	4.291	225251	0.152
Cr	52	65.559	ug/L	2.114	346035	0.239
Cr	53		ug/L		130700	0.018
Mn	55	139.822	ug/L	2.423	1170391	0.815
Fe	57	4432.962	ug/L	3.419	709952	0.491
Co	59	26.038	ug/L	2.049	172363	0.120
Ni	60	38.182	ug/L	2.308	56152	0.039
Cu	63		ug/L		159729	0.111
Cu	65	45.541	ug/L	1.564	77990	0.054
Zn	66	157.632	ug/L	4.163	172187	0.457
Zn	67		ug/L		37274	0.066
Zn	68		ug/L		124066	0.326
> Ge	74		ug/L		376389	376389.069
As	75	26.829	ug/L	3.137	29611	0.079
Se	77		ug/L		11135	0.016
Se	82	77.716	ug/L	4.507	8954	0.024
Kr	83		ug/L		94	-0.000
Sr	88	61.674	ug/L	2.501	845226	3.151
Y	89		ug/L		42920	0.160
Mo	98	13.417	ug/L	2.958	48315	0.180
Ag	107	6.522	ug/L	2.288	40328	0.150
Cd	111	16.345	ug/L	2.435	25780	0.096
Cd	114		ug/L		62716	0.234
> In	115		ug/L		268212	268212.469
Sn	120	7.810	ug/L	2.541	51668	0.192
Sb	121	14.877	ug/L	2.619	79390	0.295
Sb	123		ug/L		62632	0.233
Ba	135		ug/L		80398	0.155
Ba	137	45.470	ug/L	1.407	140330	0.271
Ho	165		ug/L		3550	0.007
> Lu	175		ug/L		517141	517140.990
Tl	205	34.857	ug/L	0.483	694651	1.342
Pb	208	24.940	ug/L	1.748	868306	1.678
Bi	209		ug/L		7480	0.014
Th	232	3.530	ug/L	0.256	138463	0.266
U	238	0.679	ug/L	3.353	27080	0.052

Sample ID: 1202018069

Report Date/Time: Monday, February 08, 2010 02:54:14

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		94.0			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		92.8			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		96.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		103.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202018069

Report Date/Time: Monday, February 08, 2010 02:54:14

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## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 03:28:28

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.267

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	54.590	ug/L	0.906	104793	0.079
Be	9	53.473	ug/L	0.658	22143	0.017
B	11	101.005	ug/L	1.489	42709	0.032
Na	23	4974.995	ug/L	2.397	15441307	11.674
Mg	24	5077.789	ug/L	6.868	12135223	9.181
Al	27	4964.722	ug/L	0.459	16859098	12.752
P	31	4576.192	ug/L	0.893	924478	0.694
K	39	4848.694	ug/L	8.936	20594984	15.270
Ca	43	4869.499	ug/L	0.834	52425	0.039
> Sc	45		ug/L		1321592	1321592.240
Ti	47	47.817	ug/L	2.203	27249	0.020
V	51	49.111	ug/L	2.343	308422	0.228
Cr	52	50.299	ug/L	3.307	245034	0.184
Cr	53		ug/L		107803	0.008
Mn	55	52.752	ug/L	1.090	407292	0.307
Fe	57	5382.682	ug/L	0.689	792674	0.596
Co	59	50.899	ug/L	1.314	310152	0.235
Ni	60	51.107	ug/L	1.321	69166	0.052
Cu	63		ug/L		162030	0.122
Cu	65	49.936	ug/L	1.442	78731	0.059
Zn	66	51.082	ug/L	1.352	52189	0.148
Zn	67		ug/L		18003	0.018
Zn	68		ug/L		37713	0.104
> Ge	74		ug/L		349945	349944.853
As	75	47.757	ug/L	1.593	49146	0.141
Se	77		ug/L		7791	0.008
Se	82	48.785	ug/L	0.442	5237	0.015
Kr	83		ug/L		95	0.000
Sr	88	52.340	ug/L	1.442	667967	2.674
Y	89		ug/L		148	0.000
Mo	98	48.150	ug/L	2.457	161178	0.645
Ag	107	50.158	ug/L	0.386	288434	1.155
Cd	111	50.231	ug/L	0.960	73719	0.295
Cd	114		ug/L		174969	0.701
> In	115		ug/L		249645	249645.474
Sn	120	51.879	ug/L	1.108	318443	1.275
Sb	121	51.721	ug/L	1.401	256094	1.024
Sb	123		ug/L		201052	0.804
Ba	135		ug/L		77892	0.156
Ba	137	46.701	ug/L	3.560	138739	0.279
Ho	165		ug/L		62	0.000
> Lu	175		ug/L		497925	497924.726
Tl	205	53.149	ug/L	2.747	1019139	2.046
Pb	208	53.428	ug/L	1.401	1790184	3.595
Bi	209		ug/L		512	0.001
Th	232	52.080	ug/L	3.121	1956047	3.928
U	238	53.172	ug/L	2.471	2009306	4.036

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 03:31:11

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	109.180				
	Be	9	106.945				
	B	11	101.005				
	Na	23	99.500				
	Mg	24	101.556				
	Al	27	98.311				
	P	31	91.524				
	K	39	96.974				
	Ca	43	97.390				
>	Sc	45		86.5			
	Ti	47	95.634				
	V	51	98.222				
	Cr	52	100.597				
	Cr	53					
	Mn	55	105.503				
	Fe	57	107.654				
	Co	59	101.798				
	Ni	60	102.213				
	Cu	63					
	Cu	65	99.873				
	Zn	66	102.165				
	Zn	67					
	Zn	68					
>	Ge	74		86.2			
	As	75	95.513				
	Se	77					
	Se	82	97.571				
	Kr	83					
	Sr	88	104.680				
	Y	89					
	Mo	98	96.300				
	Ag	107	100.315				
	Cd	111	100.461				
	Cd	114					
>	In	115		90.1			
	Sn	120	103.758				
	Sb	121	103.442				
	Sb	123					
	Ba	135					
	Ba	137	93.402				
	Ho	165					
>	Lu	175		99.6			
	Tl	205	106.299				
	Pb	208	106.857				
	Bi	209					
	Th	232	104.159				
	U	238	106.345				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 03:34:36

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.268

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.055	ug/L	4.826	167	0.000
Be	9	0.001	ug/L	1647.564	16	0.000
B	11	2.823	ug/L	20.987	1497	0.001
Na	23	1.906	ug/L	59.465	17010	0.004
Mg	24	0.484	ug/L	231.387	4001	0.001
Al	27	0.950	ug/L	127.301	8336	0.002
P	31	-1.419	ug/L	67.277	7298	-0.000
K	39	-13.495	ug/L	42.574	335233	-0.043
Ca	43	-0.541	ug/L	642.190	293	-0.000
> Sc	45		ug/L		1309993	1309993.263
Ti	47	-0.038	ug/L	102.350	280	-0.000
V	51	-0.545	ug/L	80.680	3348	-0.003
Cr	52	-0.202	ug/L	24.451	1263	-0.001
Cr	53		ug/L		81185	-0.011
Mn	55	0.013	ug/L	27.511	1173	0.000
Fe	57	-3.535	ug/L	6.771	4255	-0.000
Co	59	0.005	ug/L	29.210	130	0.000
Ni	60	0.000	ug/L	4151.152	140	0.000
Cu	63		ug/L		302	0.000
Cu	65	-0.007	ug/L	74.684	148	-0.000
Zn	66	0.031	ug/L	44.047	430	0.000
Zn	67		ug/L		9881	-0.005
Zn	68		ug/L		1045	-0.001
> Ge	74		ug/L		347647	347646.740
As	75	-0.178	ug/L	74.904	-324	-0.001
Se	77		ug/L		3991	-0.003
Se	82	-0.072	ug/L	71.571	11	-0.000
Kr	83		ug/L		78	-0.000
Sr	88	0.002	ug/L	44.220	275	0.000
Y	89		ug/L		69	0.000
Mo	98	0.028	ug/L	17.196	193	0.000
Ag	107	0.003	ug/L	61.802	56	0.000
Cd	111	0.013	ug/L	27.621	39	0.000
Cd	114		ug/L		50	0.000
> In	115		ug/L		249254	249254.273
Sn	120	0.015	ug/L	4.465	291	0.000
Sb	121	0.276	ug/L	25.463	1715	0.005
Sb	123		ug/L		1389	0.005
Ba	135		ug/L		47	0.000
Ba	137	0.003	ug/L	15.362	63	0.000
Ho	165		ug/L		18	-0.000
> Lu	175		ug/L		498437	498436.960
Tl	205	0.113	ug/L	18.115	2976	0.004
Pb	208	0.006	ug/L	41.124	789	0.000
Bi	209		ug/L		123	0.000
Th	232	0.034	ug/L	24.002	2009	0.003
U	238	0.008	ug/L	9.729	730	0.001

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 03:37:21

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Li	7						
	Be	9						
	B	11						
	Na	23						
	Mg	24						
	Al	27						
	P	31						
	K	39						
	Ca	43						
>	Sc	45		85.8				
	Ti	47						
	V	51						
	Cr	52						
	Cr	53						
	Mn	55						
	Fe	57						
	Co	59						
	Ni	60						
	Cu	63						
	Cu	65						
[	Zn	66						
	Zn	67						
	Zn	68						
>	Ge	74		85.7				
	As	75						
	Se	77						
	Se	82						
	Kr	83						
[	Sr	88						
	Y	89						
	Mo	98						
	Ag	107						
	Cd	111						
	Cd	114						
>	In	115		90.0				
	Sn	120						
	Sb	121						
	Sb	123						
[	Ba	135						
	Ba	137						
	Ho	165						
>	Lu	175		99.7				
	Tl	205						
	Pb	208						
	Bi	209						
	Th	232						
	U	238						

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244847001

Sample Date/Time: Monday, February 08, 2010 03:46:58

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244847001.270

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	29.286	ug/L	2.345	53674	0.043
Be	9	1.572	ug/L	3.221	636	0.000
B	11	3.843	ug/L	4.650	1849	0.001
Na	23	286.501	ug/L	8.330	858101	0.672
Mg	24	1756.744	ug/L	5.144	4007720	3.176
Al	27	11346.019	ug/L	6.558	36763593	29.143
P	31	220.789	ug/L	4.298	49495	0.033
K	39	2142.587	ug/L	12.350	8889987	6.748
Ca	43	1728.265	ug/L	1.294	17941	0.014
> Sc	45		ug/L		1261186	1261185.954
Ti	47	394.820	ug/L	1.717	212548	0.168
V	51	14.155	ug/L	1.789	89396	0.066
Cr	52	8.817	ug/L	2.701	42748	0.032
Cr	53		ug/L		56169	-0.029
Mn	55	585.603	ug/L	2.589	4302954	3.412
Fe	57	15943.959	ug/L	2.765	2231254	1.766
Co	59	3.191	ug/L	2.256	18640	0.015
Ni	60	6.889	ug/L	1.748	9011	0.007
Cu	63		ug/L		28806	0.023
Cu	65	9.486	ug/L	1.980	14393	0.011
Zn	66	81.037	ug/L	4.063	76633	0.235
Zn	67		ug/L		18208	0.023
Zn	68		ug/L		56220	0.169
> Ge	74		ug/L		325050	325049.679
As	75	3.295	ug/L	5.463	3025	0.010
Se	77		ug/L		2176	-0.007
Se	82	-0.060	ug/L	66.025	12	-0.000
Kr	83		ug/L		133	0.000
Sr	88	15.045	ug/L	2.525	188290	0.769
Y	89		ug/L		574618	2.349
Mo	98	3.659	ug/L	3.791	12094	0.049
Ag	107	0.143	ug/L	5.671	847	0.003
Cd	111	0.738	ug/L	4.167	1081	0.004
Cd	114		ug/L		973	0.004
> In	115		ug/L		244641	244641.421
Sn	120	1.189	ug/L	1.271	7342	0.029
Sb	121	0.154	ug/L	6.048	1091	0.003
Sb	123		ug/L		880	0.003
Ba	135		ug/L		139003	0.264
Ba	137	77.105	ug/L	1.690	242164	0.460
Ho	165		ug/L		48560	0.092
> Lu	175		ug/L		526442	526442.197
Tl	205	0.150	ug/L	1.443	3887	0.006
Pb	208	22.632	ug/L	1.573	802108	1.523
Bi	209		ug/L		8249	0.015
Th	232	15.512	ug/L	1.074	616666	1.170
U	238	9.854	ug/L	2.357	394064	0.748

Sample ID: 244847001

Report Date/Time: Monday, February 08, 2010 03:49:43

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		82.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.3			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		105.3			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244847001

Report Date/Time: Monday, February 08, 2010 03:49:43

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## ICPMS#5 - Summary Report

Sample ID: 244847002

Sample Date/Time: Monday, February 08, 2010 03:53:10

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244847002.271

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	38.240	ug/L	0.975	70990	0.056
Be	9	2.159	ug/L	0.893	879	0.001
B	11	4.760	ug/L	1.077	2246	0.002
Na	23	555.192	ug/L	9.669	1674502	1.303
Mg	24	2647.096	ug/L	10.008	6125118	4.786
Al	27	16694.254	ug/L	10.426	54853615	42.881
P	31	287.425	ug/L	0.751	63063	0.044
K	39	2586.249	ug/L	3.455	10781795	8.145
Ca	43	2795.875	ug/L	1.222	29219	0.023
> Sc	45		ug/L		1277602	1277602.263
Ti	47	642.329	ug/L	1.546	350080	0.274
V	51	28.604	ug/L	3.374	176325	0.133
Cr	52	30.591	ug/L	1.803	144835	0.112
Cr	53		ug/L		68019	-0.020
Mn	55	756.433	ug/L	0.545	5631848	4.407
Fe	57	26179.916	ug/L	1.206	3709249	2.900
Co	59	6.297	ug/L	0.622	37173	0.029
Ni	60	20.594	ug/L	1.977	27012	0.021
Cu	63		ug/L		39749	0.031
Cu	65	13.039	ug/L	1.101	19981	0.016
Zn	66	115.694	ug/L	1.207	110069	0.335
Zn	67		ug/L		23341	0.038
Zn	68		ug/L		79870	0.241
> Ge	74		ug/L		327291	327290.919
As	75	6.053	ug/L	0.483	5710	0.018
Se	77		ug/L		2264	-0.007
Se	82	0.133	ug/L	55.492	31	0.000
Kr	83		ug/L		161	0.000
Sr	88	26.199	ug/L	1.872	333765	1.339
Y	89		ug/L		756571	3.036
Mo	98	5.156	ug/L	2.731	17312	0.069
Ag	107	0.254	ug/L	4.398	1498	0.006
Cd	111	0.932	ug/L	5.747	1387	0.005
Cd	114		ug/L		911	0.003
> In	115		ug/L		249232	249232.500
Sn	120	1.600	ug/L	2.105	9988	0.039
Sb	121	0.225	ug/L	4.759	1463	0.004
Sb	123		ug/L		1144	0.004
Ba	135		ug/L		204735	0.385
Ba	137	110.917	ug/L	1.798	352222	0.662
Ho	165		ug/L		63671	0.120
> Lu	175		ug/L		532246	532246.216
Tl	205	0.218	ug/L	2.126	5338	0.008
Pb	208	30.757	ug/L	1.590	1101830	2.069
Bi	209		ug/L		11017	0.020
Th	232	21.570	ug/L	1.582	866652	1.627
U	238	7.928	ug/L	2.058	320661	0.602

Sample ID: 244847002

Report Date/Time: Monday, February 08, 2010 03:55:55

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		83.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		90.0			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		106.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244847002

Report Date/Time: Monday, February 08, 2010 03:55:55

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## ICPMS#5 - Summary Report

Sample ID: 244847003

Sample Date/Time: Monday, February 08, 2010 03:59:21

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244847003.272

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	17.171	ug/L	3.491	31517	0.025
Be	9	1.541	ug/L	4.524	623	0.000
B	11	4.315	ug/L	5.270	2039	0.001
Na	23	279.522	ug/L	7.830	837942	0.656
Mg	24	1851.609	ug/L	4.434	4225948	3.348
Al	27	13451.960	ug/L	9.890	43571666	34.552
P	31	265.175	ug/L	0.797	58029	0.040
K	39	1984.067	ug/L	7.034	8257366	6.249
Ca	43	3103.693	ug/L	1.376	32013	0.025
> Sc	45		ug/L		1261912	1261911.861
Ti	47	331.684	ug/L	2.324	178746	0.141
V	51	14.910	ug/L	2.435	93879	0.069
Cr	52	7.571	ug/L	0.608	37029	0.028
Cr	53		ug/L		55514	-0.029
Mn	55	418.354	ug/L	2.271	3076958	2.437
Fe	57	13829.826	ug/L	2.002	1937199	1.532
Co	59	3.093	ug/L	1.773	18080	0.014
Ni	60	6.462	ug/L	0.606	8468	0.007
Cu	63		ug/L		41594	0.033
Cu	65	13.647	ug/L	2.339	20652	0.016
Zn	66	69.179	ug/L	2.011	65544	0.200
Zn	67		ug/L		16585	0.018
Zn	68		ug/L		47924	0.144
> Ge	74		ug/L		325266	325265.844
As	75	3.670	ug/L	3.655	3388	0.011
Se	77		ug/L		2249	-0.007
Se	82	0.183	ug/L	74.272	36	0.000
Kr	83		ug/L		118	0.000
Sr	88	26.544	ug/L	0.976	333462	1.356
Y	89		ug/L		489596	1.993
Mo	98	1.278	ug/L	1.916	4306	0.017
Ag	107	0.166	ug/L	4.476	982	0.004
Cd	111	0.722	ug/L	3.217	1061	0.004
Cd	114		ug/L		1068	0.004
> In	115		ug/L		245674	245673.515
Sn	120	0.924	ug/L	2.445	5769	0.023
Sb	121	0.219	ug/L	3.925	1415	0.004
Sb	123		ug/L		1131	0.004
Ba	135		ug/L		163962	0.314
Ba	137	91.123	ug/L	1.967	284138	0.544
Ho	165		ug/L		40691	0.078
> Lu	175		ug/L		522697	522696.613
Tl	205	0.145	ug/L	3.365	3768	0.006
Pb	208	26.377	ug/L	1.747	928048	1.775
Bi	209		ug/L		10139	0.019
Th	232	12.600	ug/L	1.846	497431	0.950
U	238	23.818	ug/L	0.396	945293	1.808

Sample ID: 244847003

Report Date/Time: Monday, February 08, 2010 04:02:05

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		82.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.2			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		104.5			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244847004

Sample Date/Time: Monday, February 08, 2010 04:05:31

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244847004.273

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	91.093	ug/L	0.760	180483	0.132
Be	9	5.584	ug/L	0.840	2401	0.002
B	11	17.213	ug/L	5.476	7795	0.005
Na	23	991.074	ug/L	5.561	3186005	2.326
Mg	24	13766.572	ug/L	4.247	33972727	24.890
Al	27	101437.515	ug/L	3.810	355575916	260.551
P	31	363.913	ug/L	2.878	83158	0.055
K	39	11943.333	ug/L	1.068	51723558	37.614
Ca	43	14753.021	ug/L	1.911	163353	0.119
> Sc	45		ug/L		1364103	1364103.124
Ti	47	1542.729	ug/L	1.236	897354	0.658
V	51	98.264	ug/L	1.867	630023	0.457
Cr	52	52.105	ug/L	1.423	261799	0.190
Cr	53		ug/L		80479	-0.014
Mn	55	1424.595	ug/L	1.176	11321079	8.300
Fe	57	62507.590	ug/L	2.000	9447442	6.923
Co	59	35.503	ug/L	2.522	223301	0.164
Ni	60	42.069	ug/L	0.998	58787	0.043
Cu	63		ug/L		112226	0.082
Cu	65	34.838	ug/L	0.639	56728	0.041
Zn	66	139.505	ug/L	0.680	135776	0.404
Zn	67		ug/L		31915	0.062
Zn	68		ug/L		110240	0.325
> Ge	74		ug/L		335066	335066.463
As	75	10.246	ug/L	0.940	9987	0.030
Se	77		ug/L		2452	-0.007
Se	82	-1.824	ug/L	20.907	-169	-0.001
Kr	83		ug/L		386	0.001
Sr	88	149.807	ug/L	1.204	1853988	7.654
Y	89		ug/L		793472	3.276
Mo	98	1.671	ug/L	1.184	5520	0.022
Ag	107	0.572	ug/L	0.224	3231	0.013
Cd	111	1.668	ug/L	3.485	2392	0.010
Cd	114		ug/L		751	0.003
> In	115		ug/L		242220	242220.273
Sn	120	0.641	ug/L	2.741	4008	0.016
Sb	121	0.171	ug/L	5.517	1163	0.003
Sb	123		ug/L		949	0.003
Ba	135		ug/L		1368388	2.764
Ba	137	853.264	ug/L	2.537	2519693	5.090
Ho	165		ug/L		66299	0.134
> Lu	175		ug/L		495132	495131.746
Tl	205	1.291	ug/L	2.142	25392	0.050
Pb	208	60.489	ug/L	1.296	2015300	4.070
Bi	209		ug/L		27383	0.055
Th	232	42.722	ug/L	1.694	1595888	3.222
U	238	4.684	ug/L	1.783	176377	0.355

Sample ID: 244847004

Report Date/Time: Monday, February 08, 2010 04:08:15

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		89.3			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		82.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		87.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		99.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)
	Fe	57	Sample is out of limits (over linear range)

# QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 04:24:01

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.276

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	55.698	ug/L	1.068	103878	0.081
Be	9	54.904	ug/L	1.872	22090	0.017
B	11	101.806	ug/L	3.764	41821	0.032
Na	23	5116.117	ug/L	1.623	15425283	12.005
Mg	24	5021.923	ug/L	3.152	11660431	9.080
Al	27	4853.676	ug/L	1.148	16011128	12.467
P	31	4580.636	ug/L	2.294	899060	0.694
K	39	5337.949	ug/L	14.848	21987355	16.811
Ca	43	4932.825	ug/L	2.724	51599	0.040
> Sc	45		ug/L		1283934	1283934.111
Ti	47	48.132	ug/L	3.281	26647	0.021
V	51	49.085	ug/L	3.490	299561	0.228
Cr	52	50.056	ug/L	2.065	236875	0.183
Cr	53		ug/L		103739	0.008
Mn	55	53.907	ug/L	0.803	404299	0.314
Fe	57	5474.646	ug/L	1.523	783195	0.606
Co	59	51.557	ug/L	0.715	305195	0.238
Ni	60	51.980	ug/L	2.428	68341	0.053
Cu	63		ug/L		157832	0.123
Cu	65	50.528	ug/L	1.331	77379	0.060
Zn	66	50.939	ug/L	1.807	50868	0.148
Zn	67		ug/L		17369	0.018
Zn	68		ug/L		37471	0.106
> Ge	74		ug/L		342018	342017.792
As	75	48.148	ug/L	0.850	48430	0.142
Se	77		ug/L		7452	0.008
Se	82	50.520	ug/L	1.412	5300	0.015
Kr	83		ug/L		93	0.000
Sr	88	52.497	ug/L	2.540	659722	2.682
Y	89		ug/L		164	0.000
Mo	98	48.059	ug/L	2.721	158429	0.644
Ag	107	50.316	ug/L	2.802	284949	1.159
Cd	111	50.252	ug/L	2.323	72636	0.295
Cd	114		ug/L		172255	0.700
> In	115		ug/L		245907	245907.304
Sn	120	51.446	ug/L	2.281	310980	1.264
Sb	121	51.477	ug/L	3.483	250993	1.020
Sb	123		ug/L		199481	0.810
Ba	135		ug/L		77892	0.158
Ba	137	46.173	ug/L	1.252	135846	0.275
Ho	165		ug/L		54	0.000
> Lu	175		ug/L		492995	492995.208
Tl	205	54.099	ug/L	0.763	1027330	2.082
Pb	208	53.780	ug/L	0.982	1784355	3.618
Bi	209		ug/L		491	0.001
Th	232	53.126	ug/L	0.981	1976159	4.007
U	238	54.154	ug/L	0.093	2026620	4.110

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 04:26:44

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	111.396				
Be	9	109.807				
B	11	101.806				
Na	23	102.322				
Mg	24	100.438				
Al	27	96.112				
P	31	91.613				
K	39	106.759				
Ca	43	98.657				
> Sc	45		84.1			
Ti	47	96.264				
V	51	98.170				
Cr	52	100.112				
Cr	53					
Mn	55	107.813				
Fe	57	109.493				
Co	59	103.114				
Ni	60	103.961				
Cu	63					
Cu	65	101.056				
Zn	66	101.879				
Zn	67					
Zn	68					
> Ge	74		84.3			
As	75	96.296				
Se	77					
Se	82	101.041				
Kr	83					
Sr	88	104.993				
Y	89					
Mo	98	96.118				
Ag	107	100.633				
Cd	111	100.504				
Cd	114					
> In	115		88.8			
Sn	120	102.892				
Sb	121	102.953				
Sb	123					
Ba	135					
Ba	137	92.346				
Ho	165					
> Lu	175		98.6			
Tl	205	108.197				
Pb	208	107.561				
Bi	209					
Th	232	106.252				
U	238	108.308				

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message  
 QC Std 8 Li 7CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 04:30:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.277

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.039	ug/L	5.761	135	0.000
Be	9	0.004	ug/L	238.673	17	0.000
B	11	2.801	ug/L	18.491	1477	0.001
Na	23	2.055	ug/L	8.837	17344	0.005
Mg	24	0.354	ug/L	278.234	3667	0.001
Al	27	0.867	ug/L	35.931	8002	0.002
P	31	-2.389	ug/L	104.338	7054	-0.000
K	39	1.117	ug/L	1272.292	392737	0.004
Ca	43	-3.316	ug/L	10.449	261	-0.000
> Sc	45		ug/L		1300428	1300427.565
Ti	47	-0.030	ug/L	126.631	283	-0.000
V	51	-0.701	ug/L	22.575	2376	-0.003
Cr	52	-0.188	ug/L	31.657	1322	-0.001
Cr	53		ug/L		78842	-0.012
Mn	55	0.017	ug/L	15.316	1188	0.000
Fe	57	-4.796	ug/L	7.832	4043	-0.001
Co	59	0.003	ug/L	42.767	116	0.000
Ni	60	0.007	ug/L	163.040	148	0.000
Cu	63		ug/L		300	0.000
Cu	65	-0.003	ug/L	258.548	154	-0.000
Zn	66	0.007	ug/L	288.622	401	0.000
Zn	67		ug/L		9697	-0.005
Zn	68		ug/L		1020	-0.001
> Ge	74		ug/L		343880	343880.446
As	75	0.040	ug/L	483.800	-100	0.000
Se	77		ug/L		3745	-0.003
Se	82	0.031	ug/L	685.425	22	0.000
Kr	83		ug/L		75	-0.000
Sr	88	0.002	ug/L	131.101	270	0.000
Y	89		ug/L		66	0.000
Mo	98	0.022	ug/L	34.621	170	0.000
Ag	107	0.003	ug/L	31.679	60	0.000
Cd	111	0.002	ug/L	334.232	22	0.000
Cd	114		ug/L		48	0.000
> In	115		ug/L		245359	245359.357
Sn	120	0.012	ug/L	30.890	267	0.000
Sb	121	0.261	ug/L	27.271	1618	0.005
Sb	123		ug/L		1285	0.004
Ba	135		ug/L		39	-0.000
Ba	137	0.001	ug/L	567.042	57	0.000
Ho	165		ug/L		23	0.000
> Lu	175		ug/L		500969	500969.258
Tl	205	0.104	ug/L	31.029	2814	0.004
Pb	208	0.005	ug/L	19.906	764	0.000
Bi	209		ug/L		125	0.000
Th	232	0.031	ug/L	49.104	1898	0.002
U	238	0.008	ug/L	5.636	702	0.001

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 04:32:54

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		85.1			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		84.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.6			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 1202018070

Sample Date/Time: Monday, February 08, 2010 04:54:57

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018070.281

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	31.841	ug/L	1.093	59539	0.046
Be	9	2.466	ug/L	3.409	1009	0.001
B	11	5.288	ug/L	3.408	2478	0.002
Na	23	230.713	ug/L	9.504	707895	0.541
Mg	24	2380.628	ug/L	0.613	5541211	4.304
Al	27	15886.272	ug/L	3.120	52519419	40.805
P	31	323.279	ug/L	1.940	70502	0.049
K	39	2661.553	ug/L	5.986	11166211	8.382
Ca	43	2682.892	ug/L	3.609	28253	0.022
> Sc	45		ug/L		1286717	1286716.786
Ti	47	530.935	ug/L	1.507	291565	0.226
V	51	18.005	ug/L	1.631	114250	0.084
Cr	52	10.060	ug/L	1.051	49452	0.037
Cr	53		ug/L		53641	-0.031
Mn	55	578.498	ug/L	0.546	4337791	3.370
Fe	57	20936.460	ug/L	0.964	2988508	2.319
Co	59	3.791	ug/L	1.208	22582	0.017
Ni	60	8.480	ug/L	0.603	11286	0.009
Cu	63		ug/L		30739	0.024
Cu	65	9.956	ug/L	0.915	15404	0.012
Zn	66	92.278	ug/L	1.923	87833	0.267
Zn	67		ug/L		19779	0.027
Zn	68		ug/L		63513	0.191
> Ge	74		ug/L		327213	327212.686
As	75	3.320	ug/L	4.111	3071	0.010
Se	77		ug/L		1995	-0.008
Se	82	0.048	ug/L	430.086	22	0.000
Kr	83		ug/L		138	0.000
Sr	88	22.352	ug/L	3.253	282890	1.142
Y	89		ug/L		581504	2.349
Mo	98	1.752	ug/L	3.780	5911	0.023
Ag	107	0.162	ug/L	8.263	962	0.004
Cd	111	0.678	ug/L	4.808	1005	0.004
Cd	114		ug/L		588	0.002
> In	115		ug/L		247613	247613.398
Sn	120	1.839	ug/L	3.712	11376	0.045
Sb	121	0.107	ug/L	8.736	876	0.002
Sb	123		ug/L		690	0.002
Ba	135		ug/L		152407	0.289
Ba	137	85.087	ug/L	1.757	267641	0.508
Ho	165		ug/L		49333	0.094
> Lu	175		ug/L		527246	527245.563
Tl	205	0.160	ug/L	4.974	4105	0.006
Pb	208	19.056	ug/L	2.250	676404	1.282
Bi	209		ug/L		6607	0.012
Th	232	14.892	ug/L	3.569	592734	1.123
U	238	6.330	ug/L	2.443	253681	0.480

Sample ID: 1202018070

Report Date/Time: Monday, February 08, 2010 04:57:41

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		89.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		105.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018071

Sample Date/Time: Monday, February 08, 2010 05:01:07

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018071.282

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	56.701	ug/L	0.834	105636	0.082
Be	9	26.836	ug/L	1.513	10792	0.008
B	11	52.865	ug/L	3.889	21840	0.017
Na	23	1242.348	ug/L	4.909	3749497	2.915
Mg	24	3394.482	ug/L	1.784	7873887	6.137
Al	27	19308.083	ug/L	6.524	63606852	49.594
P	31	1088.507	ug/L	0.648	219038	0.165
K	39	3711.597	ug/L	3.391	15373593	11.689
Ca	43	3720.762	ug/L	4.820	38946	0.030
> Sc	45		ug/L		1282502	1282502.204
Ti	47	597.039	ug/L	0.606	326740	0.255
V	51	43.006	ug/L	2.715	262930	0.200
Cr	52	34.955	ug/L	0.281	165868	0.128
Cr	53		ug/L		67151	-0.021
Mn	55	568.546	ug/L	1.361	4249196	3.312
Fe	57	21552.949	ug/L	1.782	3066237	2.387
Co	59	27.010	ug/L	0.732	159749	0.124
Ni	60	31.474	ug/L	2.062	41384	0.032
Cu	63		ug/L		100605	0.078
Cu	65	32.599	ug/L	1.818	49923	0.039
Zn	66	112.642	ug/L	1.537	106862	0.326
Zn	67		ug/L		22887	0.037
Zn	68		ug/L		77521	0.234
> Ge	74		ug/L		326359	326359.345
As	75	37.599	ug/L	1.724	36055	0.111
Se	77		ug/L		2643	-0.006
Se	82	8.346	ug/L	2.385	850	0.003
Kr	83		ug/L		148	0.000
Sr	88	47.464	ug/L	2.333	599634	2.425
Y	89		ug/L		652322	2.639
Mo	98	23.282	ug/L	3.648	77195	0.312
Ag	107	22.923	ug/L	2.464	130523	0.528
Cd	111	5.377	ug/L	2.610	7830	0.032
Cd	114		ug/L		16513	0.067
> In	115		ug/L		247234	247234.107
Sn	120	21.223	ug/L	3.452	129052	0.521
Sb	121	64.479	ug/L	3.499	315932	1.277
Sb	123		ug/L		250591	1.013
Ba	135		ug/L		197925	0.378
Ba	137	110.815	ug/L	0.258	345804	0.661
Ho	165		ug/L		55622	0.106
> Lu	175		ug/L		523003	523003.373
Tl	205	49.236	ug/L	1.042	991963	1.895
Pb	208	106.966	ug/L	1.010	3764392	7.197
Bi	209		ug/L		7835	0.015
Th	232	39.932	ug/L	1.351	1576016	3.012
U	238	33.422	ug/L	0.728	1327071	2.537

Sample ID: 1202018071

Report Date/Time: Monday, February 08, 2010 05:03:52

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.0			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.4			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		89.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		104.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202018071

Report Date/Time: Monday, February 08, 2010 05:03:52

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## ICPMS#5 - Summary Report

Sample ID: 1202018073

Sample Date/Time: Monday, February 08, 2010 05:07:18

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018073.283

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	69.544	ug/L	0.444	128947	0.101
Be	9	26.895	ug/L	1.450	10765	0.008
B	11	53.680	ug/L	2.085	22069	0.017
Na	23	1224.442	ug/L	8.009	3677392	2.873
Mg	24	3919.498	ug/L	4.922	9047598	7.087
Al	27	19460.253	ug/L	3.533	63801368	49.985
P	31	1091.357	ug/L	2.140	218548	0.165
K	39	4053.524	ug/L	2.928	16675157	12.766
Ca	43	3665.935	ug/L	1.451	38199	0.030
> Sc	45		ug/L		1276577	1276576.563
Ti	47	727.669	ug/L	1.194	396295	0.310
V	51	44.087	ug/L	1.890	268103	0.205
Cr	52	35.281	ug/L	1.738	166600	0.129
Cr	53		ug/L		66329	-0.021
Mn	55	716.688	ug/L	1.323	5330992	4.175
Fe	57	23957.610	ug/L	1.771	3391774	2.653
Co	59	27.358	ug/L	1.722	161045	0.126
Ni	60	32.171	ug/L	1.047	42098	0.033
Cu	63		ug/L		100846	0.079
Cu	65	32.637	ug/L	1.962	49742	0.039
Zn	66	128.594	ug/L	1.858	121353	0.373
Zn	67		ug/L		24643	0.043
Zn	68		ug/L		88049	0.268
> Ge	74		ug/L		324782	324782.324
As	75	37.707	ug/L	0.215	35985	0.111
Se	77		ug/L		2604	-0.006
Se	82	8.631	ug/L	6.483	874	0.003
Kr	83		ug/L		155	0.000
Sr	88	48.146	ug/L	1.579	604705	2.460
Y	89		ug/L		618168	2.516
Mo	98	23.327	ug/L	2.275	76895	0.313
Ag	107	22.899	ug/L	1.538	129621	0.527
Cd	111	5.342	ug/L	4.471	7733	0.031
Cd	114		ug/L		16454	0.067
> In	115		ug/L		245724	245724.146
Sn	120	23.180	ug/L	2.057	140120	0.570
Sb	121	63.986	ug/L	1.557	311725	1.267
Sb	123		ug/L		245059	0.996
Ba	135		ug/L		208089	0.393
Ba	137	114.737	ug/L	3.818	362001	0.684
Ho	165		ug/L		53619	0.101
> Lu	175		ug/L		529138	529138.376
Tl	205	48.434	ug/L	1.940	986958	1.864
Pb	208	106.512	ug/L	3.123	3790402	7.166
Bi	209		ug/L		8924	0.017
Th	232	39.439	ug/L	2.113	1574249	2.975
U	238	33.620	ug/L	2.153	1350141	2.552

Sample ID: 1202018073

Report Date/Time: Monday, February 08, 2010 05:10:03

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		83.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.0			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		105.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018072

Sample Date/Time: Monday, February 08, 2010 05:13:29

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942638|10|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018072.284

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.923	ug/L	0.954	19431	0.016
Be	9	0.578	ug/L	2.283	235	0.000
B	11	3.048	ug/L	16.458	1482	0.001
Na	23	54.025	ug/L	9.976	165290	0.127
Mg	24	605.394	ug/L	8.092	1339153	1.095
Al	27	3714.577	ug/L	1.865	11658825	9.541
P	31	87.113	ug/L	4.449	23195	0.013
K	39	665.520	ug/L	4.387	2923979	2.096
Ca	43	645.399	ug/L	3.101	6666	0.005
> Sc	45		ug/L		1221550	1221549.504
Ti	47	134.752	ug/L	0.498	70460	0.057
V	51	3.130	ug/L	3.739	23982	0.015
Cr	52	2.182	ug/L	2.381	11809	0.008
Cr	53		ug/L		60522	-0.024
Mn	55	154.593	ug/L	0.128	1101212	0.901
Fe	57	5344.584	ug/L	2.197	727457	0.592
Co	59	0.855	ug/L	2.858	4910	0.004
Ni	60	1.979	ug/L	2.422	2600	0.002
Cu	63		ug/L		7172	0.006
Cu	65	2.346	ug/L	1.736	3560	0.003
Zn	66	23.609	ug/L	0.463	22121	0.068
Zn	67		ug/L		10900	0.001
Zn	68		ug/L		16344	0.048
> Ge	74		ug/L		318134	318134.208
As	75	0.616	ug/L	12.247	449	0.002
Se	77		ug/L		2437	-0.006
Se	82	-0.032	ug/L	303.813	14	-0.000
Kr	83		ug/L		86	0.000
Sr	88	5.005	ug/L	2.383	61346	0.256
Y	89		ug/L		130447	0.546
Mo	98	0.440	ug/L	5.211	1504	0.006
Ag	107	0.032	ug/L	5.284	217	0.001
Cd	111	0.141	ug/L	5.765	216	0.001
Cd	114		ug/L		180	0.001
> In	115		ug/L		238919	238918.662
Sn	120	0.404	ug/L	2.823	2562	0.010
Sb	121	0.026	ug/L	48.157	461	0.001
Sb	123		ug/L		349	0.000
Ba	135		ug/L		33794	0.067
Ba	137	19.779	ug/L	2.538	59649	0.118
Ho	165		ug/L		11040	0.022
> Lu	175		ug/L		505090	505089.668
Tl	205	0.134	ug/L	12.120	3421	0.005
Pb	208	4.459	ug/L	0.869	152123	0.300
Bi	209		ug/L		1499	0.003
Th	232	3.389	ug/L	2.346	129828	0.256
U	238	1.393	ug/L	2.034	53801	0.106

Sample ID: 1202018072

Report Date/Time: Monday, February 08, 2010 05:16:15

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		80.0			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		78.4			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		86.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		101.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 05:19:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.285

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	57.397	ug/L	1.141	104543	0.083
Be	9	55.517	ug/L	1.051	21804	0.017
B	11	102.983	ug/L	2.285	41304	0.033
Na	23	5237.143	ug/L	1.328	15417271	12.289
Mg	24	5036.369	ug/L	4.684	11427458	9.106
Al	27	4910.530	ug/L	3.524	15822691	12.613
P	31	4531.320	ug/L	2.021	868579	0.687
K	39	5190.733	ug/L	8.136	20837136	16.348
Ca	43	4969.991	ug/L	1.070	50740	0.040
> Sc	45		ug/L		1253594	1253594.001
Ti	47	47.705	ug/L	0.492	25784	0.020
V	51	49.674	ug/L	1.623	295775	0.231
Cr	52	50.677	ug/L	1.390	234053	0.185
Cr	53		ug/L		100840	0.007
Mn	55	53.320	ug/L	1.961	390303	0.311
Fe	57	5466.658	ug/L	1.334	763495	0.605
Co	59	51.297	ug/L	0.858	296508	0.236
Ni	60	51.925	ug/L	1.511	66628	0.053
Cu	63		ug/L		152630	0.122
Cu	65	50.294	ug/L	2.035	75173	0.060
Zn	66	51.674	ug/L	1.918	49838	0.150
Zn	67		ug/L		17150	0.019
Zn	68		ug/L		36118	0.106
> Ge	74		ug/L		330532	330532.386
As	75	48.144	ug/L	1.634	46782	0.142
Se	77		ug/L		7199	0.008
Se	82	50.063	ug/L	2.227	5075	0.015
Kr	83		ug/L		82	-0.000
Sr	88	51.790	ug/L	1.628	635622	2.646
Y	89		ug/L		177	0.001
Mo	98	47.578	ug/L	1.903	153187	0.638
Ag	107	49.608	ug/L	0.734	274383	1.143
Cd	111	50.331	ug/L	2.798	71045	0.296
Cd	114		ug/L		170021	0.708
> In	115		ug/L		240131	240131.399
Sn	120	52.407	ug/L	2.075	309359	1.288
Sb	121	51.818	ug/L	3.331	246768	1.026
Sb	123		ug/L		196220	0.816
Ba	135		ug/L		76639	0.154
Ba	137	45.392	ug/L	1.699	134374	0.271
Ho	165		ug/L		57	0.000
> Lu	175		ug/L		496006	496006.481
Tl	205	52.940	ug/L	1.255	1011443	2.038
Pb	208	53.586	ug/L	1.483	1788662	3.605
Bi	209		ug/L		474	0.001
Th	232	52.093	ug/L	0.732	1949553	3.929
U	238	53.295	ug/L	1.907	2006444	4.045

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 05:22:22

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	114.795				
Be	9	111.035				
B	11	102.983				
Na	23	104.743				
Mg	24	100.727				
Al	27	97.238				
P	31	90.626				
K	39	103.815				
Ca	43	99.400				
> Sc	45		82.1			
Ti	47	95.410				
V	51	99.348				
Cr	52	101.354				
Cr	53					
Mn	55	106.639				
Fe	57	109.333				
Co	59	102.595				
Ni	60	103.850				
Cu	63					
Cu	65	100.589				
Zn	66	103.348				
Zn	67					
Zn	68					
> Ge	74		81.5			
As	75	96.287				
Se	77					
Se	82	100.126				
Kr	83					
Sr	88	103.580				
Y	89					
Mo	98	95.156				
Ag	107	99.215				
Cd	111	100.662				
Cd	114					
> In	115		86.7			
Sn	120	104.815				
Sb	121	103.635				
Sb	123					
Ba	135					
Ba	137	90.784				
Ho	165					
> Lu	175		99.2			
Tl	205	105.880				
Pb	208	107.172				
Bi	209					
Th	232	104.186				
U	238	106.590				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Li	7	7CCV is out of limits (+/- 10%)
QC Std 8	Be	9	9CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 05:25:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.286

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.034	ug/L	9.752	125	0.000
Be	9	0.008	ug/L	101.563	18	0.000
B	11	2.906	ug/L	16.835	1506	0.001
Na	23	3.878	ug/L	57.409	22686	0.009
Mg	24	-0.778	ug/L	0.747	1000	-0.001
Al	27	-0.018	ug/L	7414.992	5001	-0.000
P	31	-2.254	ug/L	14.151	7018	-0.000
K	39	-5.064	ug/L	146.039	364276	-0.016
Ca	43	-2.727	ug/L	67.910	265	-0.000
> Sc	45		ug/L		1289097	1289097.363
Ti	47	-0.038	ug/L	8.479	276	-0.000
V	51	-0.609	ug/L	36.330	2896	-0.003
Cr	52	-0.225	ug/L	22.675	1134	-0.001
Cr	53		ug/L		74577	-0.015
Mn	55	0.006	ug/L	53.810	1097	0.000
Fe	57	-6.088	ug/L	13.951	3823	-0.001
Co	59	0.000	ug/L	474.257	99	0.000
Ni	60	0.004	ug/L	322.817	142	0.000
Cu	63		ug/L		302	0.000
Cu	65	-0.003	ug/L	177.834	151	-0.000
Zn	66	0.002	ug/L	1554.117	391	0.000
Zn	67		ug/L		9424	-0.005
Zn	68		ug/L		1052	-0.000
> Ge	74		ug/L		339603	339603.153
As	75	-0.195	ug/L	115.579	-336	-0.001
Se	77		ug/L		3650	-0.003
Se	82	-0.009	ug/L	337.469	17	-0.000
Kr	83		ug/L		82	-0.000
Sr	88	0.001	ug/L	103.060	263	0.000
Y	89		ug/L		60	0.000
Mo	98	0.024	ug/L	38.697	178	0.000
Ag	107	0.003	ug/L	44.853	60	0.000
Cd	111	0.006	ug/L	55.808	28	0.000
Cd	114		ug/L		43	-0.000
> In	115		ug/L		246083	246082.657
Sn	120	0.015	ug/L	26.536	286	0.000
Sb	121	0.269	ug/L	22.101	1663	0.005
Sb	123		ug/L		1283	0.004
Ba	135		ug/L		43	0.000
Ba	137	0.000	ug/L	608.244	57	0.000
Ho	165		ug/L		22	-0.000
> Lu	175		ug/L		511252	511252.479
Tl	205	0.124	ug/L	26.249	3276	0.005
Pb	208	0.003	ug/L	40.829	725	0.000
Bi	209		ug/L		111	-0.000
Th	232	0.030	ug/L	46.935	1930	0.002
U	238	0.007	ug/L	24.908	681	0.001

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 05:28:31

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.4			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		83.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		102.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, February 08, 2010 06:08:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\Blank.293

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7		ug/L		103	
	Be	9		ug/L		23	
>	Sc	45		ug/L		1288373	
[	Ni	60		ug/L		140	
[>	Ge	74		ug/L		337704	
	As	75		ug/L		-195	
	Se	77		ug/L		3776	
	Se	82		ug/L		15	
[	Kr	83		ug/L		78	
[>	Lu	175		ug/L		502580	
[	Tl	205		ug/L		896	

Sample ID: Blank

Report Date/Time: Monday, February 08, 2010 06:09:14

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45					
	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175					
	Tl	205					

### QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, February 08, 2010 06:12:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\Standard 1.294

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	10.000	ug/L	0.938	20383	0.016
	Be	9	10.000	ug/L	2.079	4309	0.003
>	Sc	45		ug/L		1278987	1278987.310
[	Ni	60	10.000	ug/L	3.433	13624	0.011
>	Ge	74		ug/L		338297	338296.517
	As	75	10.000	ug/L	8.725	9791	0.030
	Se	77		ug/L		4688	0.003
	Se	82	10.000	ug/L	5.772	1065	0.003
[	Kr	83		ug/L		83	0.000
>	Lu	175		ug/L		494390	494390.391
[	Tl	205	10.000	ug/L	4.201	228807	0.461

Sample ID: Standard 1

Report Date/Time: Monday, February 08, 2010 06:12:52

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45					
	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175					
	Tl	205					

## QC Out Of Limits

Measurement Type   Analyte                      MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, February 08, 2010 06:15:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\Standard 2.295

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	99.996	ug/L	3.828	201368	0.158
	Be	9	99.989	ug/L	2.639	42257	0.033
>	Sc	45		ug/L		1274421	1274421.448
[	Ni	60	99.979	ug/L	3.605	131640	0.103
>	Ge	74		ug/L		340404	340403.587
	As	75	99.987	ug/L	1.241	99062	0.292
	Se	77		ug/L		11969	0.024
	Se	82	99.989	ug/L	1.952	10461	0.031
[	Kr	83		ug/L		111	0.000
>	Lu	175		ug/L		469183	469182.664
[	Tl	205	99.801	ug/L	0.757	1802664	3.840

Sample ID: Standard 2

Report Date/Time: Monday, February 08, 2010 06:16:30

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45					
	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175					
	Tl	205					

### QC Out Of Limits

Measurement Type   Analyte                      MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, February 08, 2010 06:19:28

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 1.296

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	51.738	ug/L	2.257	105464	0.082
	Be	9	51.711	ug/L	1.497	22123	0.017
>	Sc	45		ug/L		1289024	1289023.730
[	Ni	60	51.931	ug/L	2.988	69247	0.054
[>	Ge	74		ug/L		339888	339887.920
	As	75	49.857	ug/L	3.178	49202	0.145
	Se	77		ug/L		8290	0.013
	Se	82	52.081	ug/L	1.717	5447	0.016
[	Kr	83		ug/L		95	0.000
[>	Lu	175		ug/L		480940	480940.133
[	Tl	205	53.054	ug/L	4.236	981931	2.042

Sample ID: QC Std 1

Report Date/Time: Monday, February 08, 2010 06:20:09

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	103.476				
	Be	9	103.422				
>	Sc	45		100.1			
	Ni	60	103.861				
>	Ge	74		100.6			
	As	75	99.715				
	Se	77					
	Se	82	104.161				
	Kr	83					
>	Lu	175		95.7			
	Tl	205	106.108				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, February 08, 2010 06:23:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 2.297

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.002	ug/L	427.095	109	0.000
	Be	9	-0.023	ug/L	22.218	14	-0.000
>	Sc	45		ug/L		1318667	1318667.315
[	Ni	60	-0.000	ug/L	1711.909	143	-0.000
>	Ge	74		ug/L		348481	348481.051
	As	75	-0.056	ug/L	493.545	-259	-0.000
	Se	77		ug/L		4197	0.001
	Se	82	-0.102	ug/L	125.610	5	-0.000
[	Kr	83		ug/L		85	0.000
>	Lu	175		ug/L		488560	488559.760
[	Tl	205	0.075	ug/L	8.216	2274	0.003

Sample ID: QC Std 2

Report Date/Time: Monday, February 08, 2010 06:23:52

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		102.4			
	Ni	60					
>	Ge	74		103.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		97.2			
	Tl	205					

QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, February 08, 2010 06:26:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 3.298

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	10.972	ug/L	1.563	22472	0.017
	Be	9	0.501	ug/L	8.382	238	0.000
>	Sc	45		ug/L		1290317	1290316.627
[	Ni	60	2.198	ug/L	4.984	3067	0.002
[>	Ge	74		ug/L		340364	340364.451
	As	75	5.401	ug/L	5.580	5167	0.016
	Se	77		ug/L		4709	0.003
	Se	82	5.422	ug/L	3.997	582	0.002
[	Kr	83		ug/L		91	0.000
[>	Lu	175		ug/L		486503	486503.143
[	Tl	205	1.286	ug/L	2.123	24932	0.049

Sample ID: QC Std 3

Report Date/Time: Monday, February 08, 2010 06:27:31

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	109.719				
	Be	9	100.287				
>	Sc	45		100.2			
	Ni	60	109.910				
>	Ge	74		100.8			
	As	75	108.024				
	Se	77					
	Se	82	108.440				
	Kr	83					
>	Lu	175		96.8			
	Tl	205	128.564				

### QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, February 08, 2010 06:30:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 4.299

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.065	ug/L	9.276	233	0.000
	Be	9	0.096	ug/L	16.145	64	0.000
>	Sc	45		ug/L		1275682	1275681.886
[	Ni	60	3.463	ug/L	3.607	4699	0.004
>	Ge	74		ug/L		329513	329513.125
	As	75	-0.050	ug/L	762.463	-240	-0.000
	Se	77		ug/L		6202	0.008
	Se	82	-1.549	ug/L	13.471	-142	-0.000
[	Kr	83		ug/L		290	0.001
>	Lu	175		ug/L		418209	418209.105
[	Tl	205	0.005	ug/L	29.861	831	0.000

Sample ID: QC Std 4

Report Date/Time: Monday, February 08, 2010 06:31:11

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45			99.0		
	Ni	60	104.634				
>	Ge	74			97.6		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175			83.2		
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, February 08, 2010 06:34:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 5.300

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	18.914	ug/L	2.749	38269	0.030
	Be	9	17.588	ug/L	2.511	7470	0.006
>	Sc	45		ug/L		1277179	1277178.901
[	Ni	60	21.527	ug/L	3.488	28522	0.022
[>	Ge	74		ug/L		329535	329534.749
	As	75	19.705	ug/L	3.634	18748	0.057
	Se	77		ug/L		7377	0.011
	Se	82	17.814	ug/L	2.856	1816	0.005
[	Kr	83		ug/L		289	0.001
[>	Lu	175		ug/L		422555	422554.515
[	Tl	205	21.452	ug/L	1.378	349537	0.825

Sample ID: QC Std 5

Report Date/Time: Monday, February 08, 2010 06:34:51

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	94.571				
	Be	9	87.942				
>	Sc	45		99.1			
	Ni	60	92.351				
>	Ge	74		97.6			
	As	75	98.525				
	Se	77					
	Se	82	89.071				
	Kr	83					
>	Lu	175		84.1			
	Tl	205	107.262				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, February 08, 2010 06:37:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 6.301

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	49.466	ug/L	2.582	101329	0.078
	Be	9	48.899	ug/L	2.340	21017	0.016
>	Sc	45		ug/L		1295124	1295123.992
[	Ni	60	50.468	ug/L	2.914	67612	0.052
[>	Ge	74		ug/L		343556	343555.744
	As	75	47.678	ug/L	1.529	47571	0.139
	Se	77		ug/L		8618	0.014
	Se	82	50.446	ug/L	0.240	5334	0.015
[	Kr	83		ug/L		88	0.000
[>	Lu	175		ug/L		475036	475035.721
[	Tl	205	52.731	ug/L	2.215	964527	2.029

Sample ID: QC Std 6

Report Date/Time: Monday, February 08, 2010 06:38:32

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	98.931				
	Be	9	97.799				
>	Sc	45		100.5			
	Ni	60	100.935				
>	Ge	74		101.7			
	As	75	95.356				
	Se	77					
	Se	82	100.892				
	Kr	83					
>	Lu	175		94.5			
	Tl	205	105.462				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, February 08, 2010 06:41:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 7.302

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.002	ug/L	270.506	110	0.000
	Be	9	-0.019	ug/L	50.803	16	-0.000
>	Sc	45		ug/L		1321534	1321533.981
[	Ni	60	0.007	ug/L	195.973	152	0.000
[>	Ge	74		ug/L		350128	350128.429
	As	75	0.036	ug/L	813.147	-167	0.000
	Se	77		ug/L		4893	0.003
	Se	82	0.010	ug/L	1540.662	17	0.000
[	Kr	83		ug/L		85	0.000
[>	Lu	175		ug/L		489198	489198.017
[	Tl	205	0.096	ug/L	5.045	2679	0.004

Sample ID: QC Std 7

Report Date/Time: Monday, February 08, 2010 06:42:15

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		102.6			
	Ni	60					
>	Ge	74		103.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		97.3			
	Tl	205					

### QC Out Of Limits

Measurement Type   Analyte                      MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Monday, February 08, 2010 06:45:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 10.303

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	924.502	ug/L	1.709	1749243	1.461
	Be	9	965.161	ug/L	2.445	383176	0.320
>	Sc	45		ug/L		1197440	1197440.237
[	Ni	60	874.970	ug/L	1.463	1081886	0.903
[>	Ge	74		ug/L		317174	317173.653
	As	75	891.628	ug/L	3.573	824070	2.600
	Se	77		ug/L		39655	0.114
	Se	82	478.812	ug/L	3.998	46586	0.147
[	Kr	83		ug/L		187	0.000
[>	Lu	175		ug/L		434937	434937.171
[	Tl	205	432.816	ug/L	1.915	7244049	16.655

Sample ID: QC Std 10

Report Date/Time: Monday, February 08, 2010 06:45:53

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	92.450				
	Be	9	96.516				
>	Sc	45		92.9			
	Ni	60	87.497				
>	Ge	74		93.9			
	As	75	89.163				
	Se	77					
	Se	82	95.762				
	Kr	83					
>	Lu	175		86.5			
	Tl	205	86.563				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 10	Ni	60	LRS is out of limits (+/- 10%)
QC Std 10	As	75	LRS is out of limits (+/- 10%)
QC Std 10	Tl	205	LRS is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Monday, February 08, 2010 06:48:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 11.304

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	50.812	ug/L	2.339	104982	0.080
	Be	9	50.665	ug/L	2.844	21964	0.017
>	Sc	45		ug/L		1306346	1306345.653
[	Ni	60	51.421	ug/L	2.773	69499	0.053
[>	Ge	74		ug/L		343514	343513.900
	As	75	49.822	ug/L	1.627	49708	0.145
	Se	77		ug/L		8516	0.014
	Se	82	51.066	ug/L	2.461	5399	0.016
[	Kr	83		ug/L		98	0.000
[>	Lu	175		ug/L		477939	477939.207
[	Tl	205	53.433	ug/L	1.916	983426	2.056

Sample ID: QC Std 11

Report Date/Time: Monday, February 08, 2010 06:49:32

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	101.623				
	Be	9	101.331				
>	Sc	45		101.4			
	Ni	60	102.842				
>	Ge	74		101.7			
	As	75	99.645				
	Se	77					
	Se	82	102.133				
	Kr	83					
>	Lu	175		95.1			
	Tl	205	106.866				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Monday, February 08, 2010 06:52:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 12.305

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.034	ug/L	15.715	175	0.000
	Be	9	-0.018	ug/L	77.744	16	-0.000
>	Sc	45		ug/L		1304663	1304662.903
[	Ni	60	0.008	ug/L	99.139	152	0.000
>	Ge	74		ug/L		341792	341792.490
	As	75	0.105	ug/L	505.179	-85	0.000
	Se	77		ug/L		4554	0.002
	Se	82	0.109	ug/L	169.976	27	0.000
[	Kr	83		ug/L		80	0.000
>	Lu	175		ug/L		471536	471536.018
[	Tl	205	0.127	ug/L	10.115	3139	0.005

Sample ID: QC Std 12

Report Date/Time: Monday, February 08, 2010 06:53:15

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		101.3			
	Ni	60					
>	Ge	74		101.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		93.8			
	Tl	205					

### QC Out Of Limits

Measurement Type   Analyte                      MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018068

Sample Date/Time: Monday, February 08, 2010 06:56:16

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018068.306

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.011	ug/L	7.196	132	0.000
	Be	9	-0.011	ug/L	111.086	19	-0.000
>	Sc	45		ug/L		1346286	1346286.066
[	Ni	60	0.129	ug/L	4.588	325	0.000
[>	Ge	74		ug/L		347915	347915.339
	As	75	0.091	ug/L	135.922	-108	0.000
	Se	77		ug/L		3641	-0.001
	Se	82	-0.062	ug/L	176.872	9	-0.000
[	Kr	83		ug/L		90	0.000
[>	Lu	175		ug/L		499678	499678.164
[	Tl	205	0.050	ug/L	0.932	1858	0.002

Sample ID: 1202018068

Report Date/Time: Monday, February 08, 2010 06:56:59

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		104.5			
	Ni	60					
>	Ge	74		103.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		99.4			
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018069

Sample Date/Time: Monday, February 08, 2010 07:00:00

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942638|40|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018069.307

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	2.491	ug/L	2.243	5221	0.004
	Be	9	20.970	ug/L	2.830	9062	0.007
>	Sc	45		ug/L		1300273	1300273.495
[	Ni	60	39.161	ug/L	2.718	52704	0.040
[>	Ge	74		ug/L		344854	344854.386
	As	75	27.275	ug/L	2.881	27231	0.080
	Se	77		ug/L		10661	0.020
	Se	82	77.924	ug/L	0.353	8262	0.024
[	Kr	83		ug/L		97	0.000
[>	Lu	175		ug/L		484008	484008.382
[	Tl	205	34.909	ug/L	0.662	651018	1.343

Sample ID: 1202018069

Report Date/Time: Monday, February 08, 2010 07:00:44

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		100.9			
	Ni	60					
>	Ge	74		102.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		96.3			
	Tl	205					

QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 07:22:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.313

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	48.890	ug/L	1.818	92149	0.077
	Be	9	48.952	ug/L	1.450	19358	0.016
>	Sc	45		ug/L		1191494	1191493.688
[	Ni	60	49.187	ug/L	1.022	60646	0.051
[>	Ge	74		ug/L		319503	319503.157
	As	75	46.837	ug/L	1.672	43443	0.137
	Se	77		ug/L		6851	0.010
	Se	82	48.430	ug/L	1.925	4762	0.015
[	Kr	83		ug/L		91	0.000
[>	Lu	175		ug/L		468041	468040.579
[	Tl	205	51.790	ug/L	1.209	933567	1.993

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 07:23:04

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	97.780				
	Be	9	97.903				
>	Sc	45		92.5			
	Ni	60	98.374				
>	Ge	74		94.6			
	As	75	93.674				
	Se	77					
	Se	82	96.860				
	Kr	83					
>	Lu	175		93.1			
	Tl	205	103.579				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 07:26:04

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.314

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.014	ug/L	18.782	121	0.000
	Be	9	-0.023	ug/L	59.225	12	-0.000
>	Sc	45		ug/L		1174342	1174341.883
[	Ni	60	0.004	ug/L	207.006	132	0.000
>	Ge	74		ug/L		314457	314457.383
	As	75	0.275	ug/L	156.231	71	0.001
	Se	77		ug/L		3246	-0.001
	Se	82	-0.020	ug/L	653.248	12	-0.000
[	Kr	83		ug/L		84	0.000
>	Lu	175		ug/L		473291	473291.182
[	Tl	205	0.123	ug/L	1.396	3079	0.005

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 07:26:47

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		91.1			
	Ni	60					
>	Ge	74		93.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		94.2			
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244847001

Sample Date/Time: Monday, February 08, 2010 07:33:33

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\244847001.316

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	25.758	ug/L	1.867	47833	0.041
	Be	9	1.417	ug/L	7.102	572	0.000
>	Sc	45		ug/L		1173152	1173152.204
[	Ni	60	7.022	ug/L	3.057	8631	0.007
[>	Ge	74		ug/L		302267	302266.540
	As	75	3.482	ug/L	9.196	2894	0.010
	Se	77		ug/L		2179	-0.004
	Se	82	0.225	ug/L	62.523	35	0.000
[	Kr	83		ug/L		122	0.000
[>	Lu	175		ug/L		497425	497425.123
[	Tl	205	0.149	ug/L	5.859	3747	0.006

Sample ID: 244847001

Report Date/Time: Monday, February 08, 2010 07:34:17

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		91.1			
	Ni	60					
>	Ge	74		89.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		99.0			
	Tl	205					

QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 244847002

Sample Date/Time: Monday, February 08, 2010 07:37:19

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\244847002.317

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	34.497	ug/L	2.168	63140	0.055
	Be	9	1.888	ug/L	6.754	745	0.001
>	Sc	45		ug/L		1156683	1156683.365
[	Ni	60	20.002	ug/L	1.269	24014	0.021
[>	Ge	74		ug/L		299911	299911.277
	As	75	5.970	ug/L	3.524	5047	0.017
	Se	77		ug/L		2143	-0.004
	Se	82	0.357	ug/L	139.251	46	0.000
[	Kr	83		ug/L		154	0.000
[>	Lu	175		ug/L		503577	503576.888
[	Tl	205	0.216	ug/L	2.964	5080	0.008

Sample ID: 244847002

Report Date/Time: Monday, February 08, 2010 07:38:03

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		89.8			
	Ni	60					
>	Ge	74		88.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		100.2			
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244847003

Sample Date/Time: Monday, February 08, 2010 07:41:03

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\244847003.318

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	15.855	ug/L	4.059	28494	0.025
	Be	9	1.365	ug/L	4.164	534	0.000
>	Sc	45		ug/L		1133789	1133788.969
[	Ni	60	6.427	ug/L	0.310	7647	0.007
[>	Ge	74		ug/L		300062	300061.964
	As	75	3.917	ug/L	2.466	3254	0.011
	Se	77		ug/L		2104	-0.004
	Se	82	0.288	ug/L	79.026	40	0.000
[	Kr	83		ug/L		102	0.000
[>	Lu	175		ug/L		493201	493201.136
[	Tl	205	0.139	ug/L	6.452	3523	0.005

Sample ID: 244847003

Report Date/Time: Monday, February 08, 2010 07:41:46

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		88.0			
	Ni	60					
>	Ge	74		88.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		98.1			
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244847004

Sample Date/Time: Monday, February 08, 2010 07:44:47

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\244847004.319

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	82.297	ug/L	0.819	158122	0.130
	Be	9	5.192	ug/L	2.139	2114	0.002
>	Sc	45		ug/L		1215138	1215138.098
[	Ni	60	42.041	ug/L	1.724	52876	0.043
[>	Ge	74		ug/L		302967	302966.687
	As	75	10.307	ug/L	1.009	8932	0.030
	Se	77		ug/L		2271	-0.004
	Se	82	-2.122	ug/L	5.180	-184	-0.001
[	Kr	83		ug/L		369	0.001
[>	Lu	175		ug/L		470068	470067.757
[	Tl	205	1.228	ug/L	1.800	23047	0.047

Sample ID: 244847004

Report Date/Time: Monday, February 08, 2010 07:45:30

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		94.3			
	Ni	60					
>	Ge	74		89.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		93.5			
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 07:55:59

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.322

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	50.444	ug/L	2.051	91506	0.080
	Be	9	50.804	ug/L	3.405	19338	0.017
>	Sc	45		ug/L		1146832	1146831.756
[	Ni	60	50.523	ug/L	1.333	59948	0.052
>	Ge	74		ug/L		309826	309825.637
	As	75	47.972	ug/L	1.796	43152	0.140
	Se	77		ug/L		6705	0.010
	Se	82	49.026	ug/L	4.246	4672	0.015
[	Kr	83		ug/L		83	0.000
>	Lu	175		ug/L		463250	463250.178
[	Tl	205	51.580	ug/L	1.020	920361	1.985

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 07:56:41

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	100.888				
	Be	9	101.608				
>	Sc	45		89.0			
	Ni	60	101.046				
>	Ge	74		91.7			
	As	75	95.944				
	Se	77					
	Se	82	98.052				
	Kr	83					
>	Lu	175		92.2			
	Tl	205	103.160				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 07:59:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.323

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.003	ug/L	43.096	99	0.000
	Be	9	-0.000	ug/L	4975.673	21	-0.000
>	Sc	45		ug/L		1168930	1168930.110
[	Ni	60	0.010	ug/L	85.558	139	0.000
>	Ge	74		ug/L		316502	316502.368
	As	75	0.064	ug/L	30.424	-124	0.000
	Se	77		ug/L		3148	-0.001
	Se	82	-0.020	ug/L	1116.512	13	-0.000
[	Kr	83		ug/L		85	0.000
>	Lu	175		ug/L		469378	469377.679
[	Tl	205	0.115	ug/L	5.060	2912	0.004

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 08:00:24

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		90.7			
	Ni	60					
>	Ge	74		93.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		93.4			
	Tl	205					

### QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018070

Sample Date/Time: Monday, February 08, 2010 08:14:43

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018070.327

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	28.763	ug/L	5.156	53000	0.045
	Be	9	2.226	ug/L	1.842	881	0.001
>	Sc	45		ug/L		1164813	1164813.380
[	Ni	60	8.271	ug/L	3.560	10070	0.009
[>	Ge	74		ug/L		301009	301009.487
	As	75	3.394	ug/L	7.717	2809	0.010
	Se	77		ug/L		1970	-0.005
	Se	82	-0.003	ug/L	5835.441	13	-0.000
[	Kr	83		ug/L		136	0.000
[>	Lu	175		ug/L		498195	498195.168
[	Tl	205	0.156	ug/L	2.981	3884	0.006

Sample ID: 1202018070

Report Date/Time: Monday, February 08, 2010 08:15:26

Page 1



## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		90.4			
	Ni	60					
>	Ge	74		89.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		99.1			
	Tl	205					

QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018071

Sample Date/Time: Monday, February 08, 2010 08:18:27

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018071.328

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	51.287	ug/L	2.427	94467	0.081
	Be	9	24.327	ug/L	1.924	9413	0.008
>	Sc	45		ug/L		1164576	1164575.991
[	Ni	60	31.110	ug/L	0.632	37535	0.032
[>	Ge	74		ug/L		300766	300765.523
	As	75	36.694	ug/L	0.972	32011	0.107
	Se	77		ug/L		2497	-0.003
	Se	82	8.418	ug/L	5.762	791	0.003
[	Kr	83		ug/L		151	0.000
[>	Lu	175		ug/L		498354	498354.242
[	Tl	205	47.797	ug/L	2.663	917443	1.839

Sample ID: 1202018071

Report Date/Time: Monday, February 08, 2010 08:19:10

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		90.4			
	Ni	60					
>	Ge	74		89.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		99.2			
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018073

Sample Date/Time: Monday, February 08, 2010 08:22:11

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018073.329

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	63.084	ug/L	1.745	115549	0.100
	Be	9	24.547	ug/L	2.136	9447	0.008
>	Sc	45		ug/L		1158592	1158591.656
[	Ni	60	32.576	ug/L	3.645	39070	0.034
[>	Ge	74		ug/L		297205	297205.269
	As	75	37.856	ug/L	3.012	32629	0.110
	Se	77		ug/L		2416	-0.003
	Se	82	8.577	ug/L	1.307	796	0.003
[	Kr	83		ug/L		153	0.000
[>	Lu	175		ug/L		507283	507283.005
[	Tl	205	47.945	ug/L	0.743	936768	1.845

Sample ID: 1202018073

Report Date/Time: Monday, February 08, 2010 08:22:55

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		89.9			
	Ni	60					
>	Ge	74		88.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		100.9			
	Tl	205					

QC Out Of Limits

Measurement Type    Analyte                      MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 1202018072

Sample Date/Time: Monday, February 08, 2010 08:25:57

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942638|10|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018072.330

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	9.935	ug/L	4.443	17507	0.016
	Be	9	0.523	ug/L	0.490	213	0.000
>	Sc	45		ug/L		1110594	1110593.904
[	Ni	60	1.978	ug/L	4.652	2387	0.002
[>	Ge	74		ug/L		294346	294345.899
	As	75	0.868	ug/L	39.559	575	0.003
	Se	77		ug/L		2339	-0.003
	Se	82	0.065	ug/L	34.236	19	0.000
[	Kr	83		ug/L		85	0.000
[>	Lu	175		ug/L		485761	485760.983
[	Tl	205	0.113	ug/L	2.878	2983	0.004

Sample ID: 1202018072

Report Date/Time: Monday, February 08, 2010 08:26:41

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		86.2			
	Ni	60					
>	Ge	74		87.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		96.7			
	Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 08:29:40

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.331

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	50.930	ug/L	2.399	91492	0.080
	Be	9	49.802	ug/L	1.594	18772	0.017
>	Sc	45		ug/L		1135707	1135706.518
[	Ni	60	49.833	ug/L	1.674	58564	0.051
>	Ge	74		ug/L		304400	304399.741
	As	75	45.914	ug/L	2.268	40580	0.134
	Se	77		ug/L		6310	0.010
	Se	82	47.854	ug/L	1.759	4484	0.015
[	Kr	83		ug/L		84	0.000
>	Lu	175		ug/L		480978	480977.869
[	Tl	205	51.240	ug/L	2.816	948798	1.972

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 08:30:22

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	101.860				
	Be	9	99.604				
>	Sc	45		88.2			
	Ni	60	99.665				
>	Ge	74		90.1			
	As	75	91.828				
	Se	77					
	Se	82	95.707				
	Kr	83					
>	Lu	175		95.7			
	Tl	205	102.479				

### QC Out Of Limits

Measurement Type   Analyte                      MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 08:33:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.332

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	-0.006	ug/L	75.909	81	-0.000
	Be	9	-0.014	ug/L	79.678	16	-0.000
>	Sc	45		ug/L		1152951	1152950.905
[	Ni	60	-0.002	ug/L	810.594	123	-0.000
>	Ge	74		ug/L		304904	304904.202
	As	75	0.163	ug/L	100.152	-31	0.000
	Se	77		ug/L		2993	-0.001
	Se	82	-0.030	ug/L	625.643	11	-0.000
[	Kr	83		ug/L		75	0.000
>	Lu	175		ug/L		493269	493269.037
[	Tl	205	0.123	ug/L	7.668	3212	0.005

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 08:34:05

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Li	7						
	Be	9						
>	Sc	45			89.5			
	Ni	60						
>	Ge	74			90.3			
	As	75						
	Se	77						
	Se	82						
	Kr	83						
>	Lu	175			98.1			
	Tl	205						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Method Name: SOIL  
 Method Description: 7471A, ILM04 ANALYST JXL1  
 Element: Hg

Date: 02/02/2010  
 Technique: FI-MHS  
 Calibration Type:  
 Hg, Calc. Intercept : Linear  
 Wavelength: 253.7 nm  
 Sample Info Name: 020210S1.SIF

Results Data Set Name: 020210S1

Element: Hg Seq. No.: 1 AS Loc.: 1 Date: 02/02/2010  
 Sample ID: Calib Blank

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0049	0.0049	09:42:46	No
2			0.0049	0.0049	09:43:21	No
Mean:			0.0049			
SD :			0.0000			
%RSD:						

Auto-zero performed.

Element: Hg Seq. No.: 2 AS Loc.: 2 Date: 02/02/2010  
 Sample ID: S0.2

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0016	0.0064	09:44:43	No
2			0.0016	0.0064	09:45:17	No
Mean:			0.0016			
SD :			0.0000			
%RSD:			0.5455			

[Hg] Standard number 1 applied. [0.200]  
 Correlation Coefficient: 1.00000 Slope: 0.00787  
 Intercept : 0.00000

Element: Hg Seq. No.: 3 AS Loc.: 3 Date: 02/02/2010  
 Sample ID: S0.5

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0045	0.0093	09:46:41	No
2			0.0044	0.0093	09:47:16	No
Mean:			0.0044			
SD :			0.0000			
%RSD:			0.3698			

[Hg] Standard number 2 applied. [0.500]  
 Correlation Coefficient: 0.99868 Slope: 0.00893  
 Intercept : -0.00008

Element: Hg Seq. No.: 4 AS Loc.: 4 Date: 02/02/2010  
 Sample ID: S2.0

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0196	0.0245	09:48:40	No
2			0.0193	0.0242	09:49:15	No
Mean:			0.0195			
SD :			0.0002			
%RSD:			1.0985			

[Hg] Standard number 3 applied. [2.000]

Correlation Coefficient: 0.99971  
Intercept : -0.00027

Slope: 0.00985

=====

Element: Hg Seq. No.: 5 AS Loc.: 5 Date: 02/02/2010  
Sample ID: S5.0

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1			0.0478	0.0527	09:50:40	No
2			0.0480	0.0529	09:51:15	No
Mean:			0.0479			
SD :			0.0001			
%RSD:			0.2952			

[Hg] Standard number 4 applied. [5.000]  
Correlation Coefficient: 0.99992  
Intercept : -0.00016

Slope: 0.00964

=====

Element: Hg Seq. No.: 6 AS Loc.: 6 Date: 02/02/2010  
Sample ID: S10

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1			0.0941	0.0989	09:52:42	No
2			0.0933	0.0981	09:53:17	No
Mean:			0.0937			
SD :			0.0006			
%RSD:			0.5940			

[Hg] Standard number 5 applied. [10.00]  
Correlation Coefficient: 0.99989  
Intercept : 0.00011

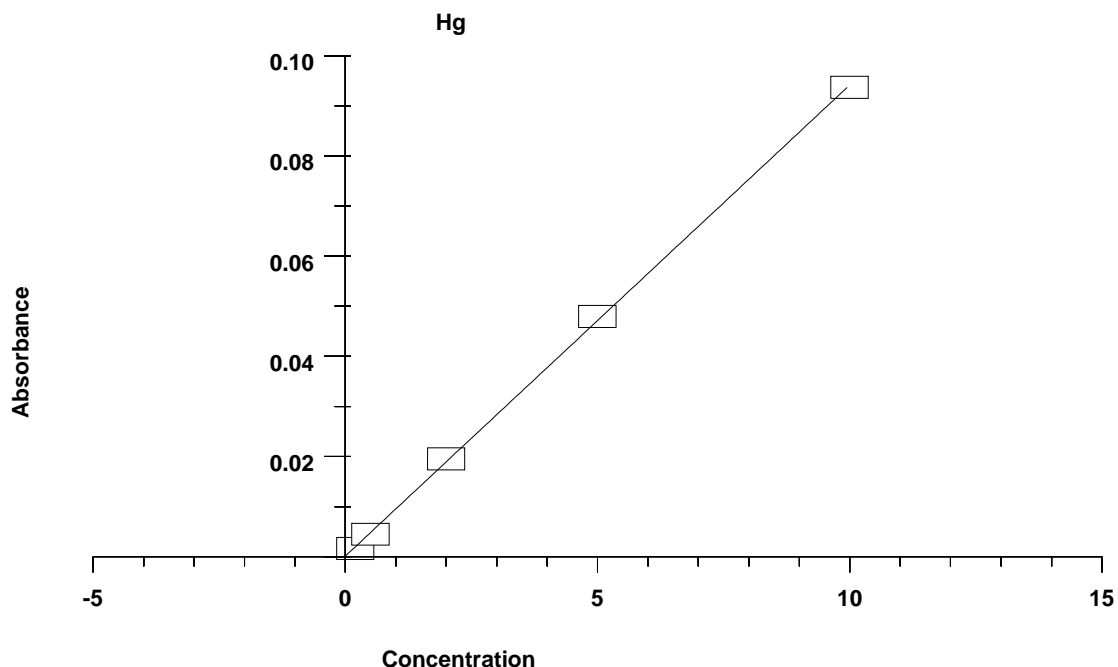
Slope: 0.00940

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Calibration data for Hg

Standard ID	Mean Signal (Pk Height)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.0049	---	----	----	----
S0.2	0.0016	0.200	0.156	0.0000	0.5
S0.5	0.0044	0.500	0.461	0.0000	0.4
S2.0	0.0195	2.000	2.062	0.0002	1.1
S5.0	0.0479	5.000	5.085	0.0001	0.3
S10	0.0937	10.000	9.948	0.0006	0.6
Correlation Coefficient: 0.99989		Slope:	0.00940	Intercept:	0.0001

-----



=====  
 Element: Hg Seq. No.: 7 AS Loc.: 9 Date: 02/02/2010  
 Sample ID: ICV

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.159	5.159	0.0486	0.0535	09:54:46	No
2	5.104	5.104	0.0481	0.0530	09:55:21	No
Mean:	5.131	5.131	0.0484			
SD :	0.0391	0.0391	0.0004			
%RSD:	0.8	0.8	0.7594			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 8 AS Loc.: 10 Date: 02/02/2010  
 Sample ID: ICB

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.121	-0.121	-0.0010	0.0038	09:56:43	No
2	-0.140	-0.140	-0.0012	0.0036	09:57:18	No
Mean:	-0.130	-0.130	-0.0011			
SD :	0.0132	0.0132	0.0001			
%RSD:	10.1	10.1	11.0345			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 9 AS Loc.: 11 Date: 02/02/2010  
 Sample ID: CRDL

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.170	0.170	0.0017	0.0066	09:58:41	No
2	0.161	0.161	0.0016	0.0065	09:59:15	No
Mean:	0.166	0.166	0.0017			
SD :	0.0061	0.0061	0.0001			
%RSD:	3.7	3.7	3.4519			

QC value within specified limits.

=====

Element: Hg Seq. No.: 10 AS Loc.: 7 Date: 02/02/2010  
Sample ID: CCV

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	5.070	5.070	0.0478	0.0526	10:00:40	No
2	5.084	5.084	0.0479	0.0528	10:01:14	No
Mean:	5.077	5.077	0.0479			
SD :	0.0100	0.0100	0.0001			
%RSD:	0.2	0.2	0.1962			

QC value within specified limits.

=====

Element: Hg Seq. No.: 11 AS Loc.: 8 Date: 02/02/2010  
Sample ID: CCB

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.054	-0.054	-0.0004	0.0045	10:02:42	No
2	-0.051	-0.051	-0.0004	0.0045	10:03:17	No
Mean:	-0.052	-0.052	-0.0004			
SD :	0.0026	0.0026	0.0000			
%RSD:	4.9	4.9	6.2882			

QC value within specified limits.

=====

Element: Hg Seq. No.: 12 AS Loc.: 12 Date: 02/02/2010  
Sample ID: 1202019773|i||943317|MB

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.110	-0.110	-0.0009	0.0039	10:04:43	No
2	-0.103	-0.103	-0.0009	0.0040	10:05:18	No
Mean:	-0.106	-0.106	-0.0009			
SD :	0.0048	0.0048	0.0000			
%RSD:	4.5	4.5	5.0570			

=====

Element: Hg Seq. No.: 13 AS Loc.: 13 Date: 02/02/2010  
Sample ID: 1202019774|i|10||LCS

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	3.464	3.464	0.0327	0.0375	10:06:42	No
2	3.395	3.395	0.0320	0.0369	10:07:17	No
Mean:	3.430	3.430	0.0324			
SD :	0.0486	0.0486	0.0005			
%RSD:	1.4	1.4	1.4117			

=====

Element: Hg Seq. No.: 14 AS Loc.: 14 Date: 02/02/2010  
Sample ID: 244828001|i|||

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.038	0.038	0.0005	0.0053	10:08:44	No
2	0.034	0.034	0.0004	0.0053	10:09:19	No
Mean:	0.036	0.036	0.0004			
SD :	0.0030	0.0030	0.0000			
%RSD:	8.2	8.2	6.2278			

=====

Element: Hg Seq. No.: 15 AS Loc.: 15 Date: 02/02/2010  
Sample ID: 244828002|i|||

%RSD: 13.5 13.5 11.9462

=====  
Element: Hg Seq. No.: 21 AS Loc.: 21 Date: 02/02/2010  
Sample ID: 244828008|i|||

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.131	0.131	0.0013	0.0062	10:22:34	No
2	0.118	0.118	0.0012	0.0061	10:23:09	No
Mean:	0.125	0.125	0.0013			
SD :	0.0090	0.0090	0.0001			
%RSD:	7.2	7.2	6.5940			

=====  
Element: Hg Seq. No.: 22 AS Loc.: 7 Date: 02/02/2010  
Sample ID: CCV

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.089	5.089	0.0480	0.0528	10:24:33	No
2	5.052	5.052	0.0476	0.0525	10:25:08	No
Mean:	5.071	5.071	0.0478			
SD :	0.0263	0.0263	0.0002			
%RSD:	0.5	0.5	0.5181			

QC value within specified limits.

=====  
Element: Hg Seq. No.: 23 AS Loc.: 8 Date: 02/02/2010  
Sample ID: CCB

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.117	-0.117	-0.0010	0.0039	10:26:36	No
2	-0.106	-0.106	-0.0009	0.0040	10:27:11	No
Mean:	-0.111	-0.111	-0.0009			
SD :	0.0078	0.0078	0.0001			
%RSD:	7.0	7.0	7.8187			

QC value within specified limits.

=====  
Element: Hg Seq. No.: 24 AS Loc.: 22 Date: 02/02/2010  
Sample ID: 244828009|i|||

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.010	0.010	0.0002	0.0051	10:28:37	No
2	0.016	0.016	0.0003	0.0051	10:29:11	No
Mean:	0.013	0.013	0.0002			
SD :	0.0041	0.0041	0.0000			
%RSD:	31.4	31.4	16.9666			

=====  
Element: Hg Seq. No.: 25 AS Loc.: 23 Date: 02/02/2010  
Sample ID: 244828010|i|||

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.091	-0.091	-0.0007	0.0041	10:30:34	No
2	-0.095	-0.095	-0.0008	0.0041	10:31:09	No
Mean:	-0.093	-0.093	-0.0008			
SD :	0.0031	0.0031	0.0000			
%RSD:	3.3	3.3	3.7962			

=====  
Element: Hg Seq. No.: 26 AS Loc.: 24 Date: 02/02/2010  
Sample ID: 244842001|i|||

%RSD: 1.2 1.2 1.1359

=====  
Element: Hg Seq. No.: 32 AS Loc.: 30 Date: 02/02/2010  
Sample ID: 244847001|i|||

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.062	-0.062	-0.0005	0.0044	10:44:34	No
2	-0.076	-0.076	-0.0006	0.0042	10:45:09	No
Mean:	-0.069	-0.069	-0.0005			
SD :	0.0100	0.0100	0.0001			
%RSD:	14.4	14.4	17.2340			

=====  
Element: Hg Seq. No.: 33 AS Loc.: 31 Date: 02/02/2010  
Sample ID: 1202019775|i|||DUP

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.071	-0.071	-0.0006	0.0043	10:46:36	No
2	-0.057	-0.057	-0.0004	0.0044	10:47:11	No
Mean:	-0.064	-0.064	-0.0005			
SD :	0.0094	0.0094	0.0001			
%RSD:	14.8	14.8	17.9374			

=====  
Element: Hg Seq. No.: 34 AS Loc.: 7 Date: 02/02/2010  
Sample ID: CCV

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	5.395	5.395	0.0508	0.0557	10:48:38	No
2	5.236	5.236	0.0493	0.0542	10:49:13	No
Mean:	5.316	5.316	0.0501			
SD :	0.1123	0.1123	0.0011			
%RSD:	2.1	2.1	2.1090			

QC value within specified limits.

=====  
Element: Hg Seq. No.: 35 AS Loc.: 8 Date: 02/02/2010  
Sample ID: CCB

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.093	-0.093	-0.0008	0.0041	10:50:41	No
2	-0.088	-0.088	-0.0007	0.0041	10:51:16	No
Mean:	-0.090	-0.090	-0.0007			
SD :	0.0037	0.0037	0.0000			
%RSD:	4.1	4.1	4.6303			

=====  
Element: Hg Seq. No.: 36 AS Loc.: 32 Date: 02/02/2010  
Sample ID: 1202019776|i|||MS

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	2.240	2.240	0.0212	0.0260	10:55:00	No
2	2.135	2.135	0.0202	0.0250	10:55:35	No
Mean:	2.188	2.188	0.0207			
SD :	0.0744	0.0744	0.0007			
%RSD:	3.4	3.4	3.3818			

=====  
Element: Hg Seq. No.: 37 AS Loc.: 33 Date: 02/02/2010  
Sample ID: 1202019778|i|||MSD

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	2.181	2.181	0.0206	0.0255	10:56:55	No
2	2.203	2.203	0.0208	0.0257	10:57:29	No
Mean:	2.192	2.192	0.0207			
SD :	0.0162	0.0162	0.0002			
%RSD:	0.7	0.7	0.7347			

=====

Element: Hg Seq. No.: 38 AS Loc.: 34 Date: 02/02/2010  
Sample ID: 1202019777|i|5||SDILT

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Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.200	-0.200	-0.0018	0.0031	10:58:49	No
2	-0.212	-0.212	-0.0019	0.0030	10:59:24	No
Mean:	-0.206	-0.206	-0.0018			
SD :	0.0086	0.0086	0.0001			
%RSD:	4.2	4.2	4.4278			

=====

Element: Hg Seq. No.: 39 AS Loc.: 35 Date: 02/02/2010  
Sample ID: 244847002|i|||

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Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.007	0.007	0.0002	0.0050	11:00:45	No
2	-0.007	-0.007	0.0000	0.0049	11:01:20	No
Mean:	0.000	0.000	0.0001			
SD :	0.0097	0.0097	0.0001			
%RSD:	35910	35910	85.9165			

=====

Element: Hg Seq. No.: 40 AS Loc.: 36 Date: 02/02/2010  
Sample ID: 244847003|i|||

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0048	11:02:42	No
2	-0.007	-0.007	0.0000	0.0049	11:03:17	No
Mean:	-0.010	-0.010	0.0000			
SD :	0.0049	0.0049	0.0000			
%RSD:	47.4	47.4	502.8021			

=====

Element: Hg Seq. No.: 41 AS Loc.: 37 Date: 02/02/2010  
Sample ID: 244847004|i|||

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Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.287	0.287	0.0028	0.0077	11:04:39	No
2	0.323	0.323	0.0031	0.0080	11:05:14	No
Mean:	0.305	0.305	0.0030			
SD :	0.0256	0.0256	0.0002			
%RSD:	8.4	8.4	8.0974			

=====

Element: Hg Seq. No.: 42 AS Loc.: 38 Date: 02/02/2010  
Sample ID: 1202024831|i||945431|MB

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.127	-0.127	-0.0011	0.0038	11:06:37	No
2	-0.111	-0.111	-0.0009	0.0039	11:07:12	No
Mean:	-0.119	-0.119	-0.0010			
SD :	0.0110	0.0110	0.0001			
%RSD:	9.3	9.3	10.2152			



=====

Element: Hg Seq. No.: 43 AS Loc.: 39 Date: 02/02/2010  
Sample ID: 1202024832|i|10|LCS

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	3.534	3.534	0.0333	0.0382	11:08:36	No
2	3.514	3.514	0.0332	0.0380	11:09:10	No
Mean:	3.524	3.524	0.0332			
SD :	0.0136	0.0136	0.0001			
%RSD:	0.4	0.4	0.3851			

-----

=====

Element: Hg Seq. No.: 44 AS Loc.: 40 Date: 02/02/2010  
Sample ID: 245111001|i|||

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Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.093	0.093	0.0010	0.0058	11:10:34	No
2	0.077	0.077	0.0008	0.0057	11:11:09	No
Mean:	0.085	0.085	0.0009			
SD :	0.0118	0.0118	0.0001			
%RSD:	13.9	13.9	12.2377			

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=====

Element: Hg Seq. No.: 45 AS Loc.: 41 Date: 02/02/2010  
Sample ID: 1202024833|i|||DUP

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.045	0.045	0.0005	0.0054	11:12:33	No
2	0.048	0.048	0.0006	0.0054	11:13:08	No
Mean:	0.046	0.046	0.0005			
SD :	0.0024	0.0024	0.0000			
%RSD:	5.1	5.1	4.1365			

-----

=====

Element: Hg Seq. No.: 46 AS Loc.: 7 Date: 02/02/2010  
Sample ID: CCV

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.152	5.152	0.0486	0.0534	11:14:33	No
2	5.276	5.276	0.0497	0.0546	11:15:08	No
Mean:	5.214	5.214	0.0491			
SD :	0.0873	0.0873	0.0008			
%RSD:	1.7	1.7	1.6702			

QC value within specified limits.

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=====

Element: Hg Seq. No.: 47 AS Loc.: 8 Date: 02/02/2010  
Sample ID: CCB

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Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.133	-0.133	-0.0011	0.0037	11:16:36	No
2	-0.154	-0.154	-0.0013	0.0035	11:17:12	No
Mean:	-0.143	-0.143	-0.0012			
SD :	0.0147	0.0147	0.0001			
%RSD:	10.3	10.3	11.1314			

QC value within specified limits.

-----

=====

Element: Hg Seq. No.: 48 AS Loc.: 42 Date: 02/02/2010  
Sample ID: 1202024834|i|||MS

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Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	2.392	2.392	0.0226	0.0275	11:18:37	No

# Miscellaneous

# Prep LogBook

Analyst: AXG2      Verified by: \_\_\_\_\_

Batch: 942632

Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202018069	UI062540-MS	.518	g
MS	1202018071	UI091015-A	.5	mL
MS	1202018071	UI091015-B	.5	mL
MSD	1202018073	UI091015-A	.5	mL
MSD	1202018073	UI091015-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202018068		SW846 3050B	21-JAN-2010 07:45	0.519 g	50 mL	96.33911	SOIL
LCS	1202018069		SW846 3050B	21-JAN-2010 07:45	0.518 g	50 mL	96.5251	SOIL
SAMPLE	244842001		SW846 3050B	21-JAN-2010 07:45	0.513 g	50 mL	97.46589	SOIL
SAMPLE	244842002		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL
SAMPLE	244842003		SW846 3050B	21-JAN-2010 07:45	0.524 g	50 mL	95.41985	SOIL
SAMPLE	244842004		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	SOIL
SAMPLE	244842005		SW846 3050B	21-JAN-2010 07:45	0.514 g	50 mL	97.27626	SOIL
SAMPLE	244842006		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL
SAMPLE	244847001		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	SOIL
SAMPLE	244847002		SW846 3050B	21-JAN-2010 07:45	0.514 g	50 mL	97.27626	SOIL
SAMPLE	244847003		SW846 3050B	21-JAN-2010 07:45	0.522 g	50 mL	95.78544	SOIL
SAMPLE	244847004		SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	SOIL
SAMPLE	244852001		SW846 3050B	21-JAN-2010 07:45	0.502 g	50 mL	99.60159	SOIL
SAMPLE	244852002		SW846 3050B	21-JAN-2010 07:45	0.508 g	50 mL	98.4252	SOIL
SAMPLE	244852003		SW846 3050B	21-JAN-2010 07:45	0.518 g	50 mL	96.5251	SOIL
SAMPLE	244852004		SW846 3050B	21-JAN-2010 07:45	0.523 g	50 mL	95.60229	SOIL
SAMPLE	244881001		SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	SOIL
DUP	1202018070	244881001	SW846 3050B	21-JAN-2010 07:45	0.501 g	50 mL	99.8004	SOIL
MS	1202018071	244881001	SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	SOIL
MSD	1202018073	244881001	SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	SOIL
SDILT	1202018072	244881001	SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	SOIL
SAMPLE	244881002		SW846 3050B	21-JAN-2010 07:45	0.502 g	50 mL	99.60159	SOIL
SAMPLE	244881003		SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	SOIL
SAMPLE	244881004		SW846 3050B	21-JAN-2010 07:45	0.509 g	50 mL	98.23183	SOIL

Reagent/Solvent Lot ID	Amount	Description
1203655-02	1.5 mL	Hydrogen Peroxide 30%
1234886	5 mL	Nitric Acid CONC.

Comments: Sample 244881001 consist of brown soil with small rocks.

# Prep LogBook

Analyst: AXG2      Verified by: \_\_\_\_\_  
 Batch: 942644  
 Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202018100	UI062540-I	.501	g
MS	1202018102	UI091216-01	.25	mL
MS	1202018102	UI091216-06	.25	mL
MSD	1202018104	UI091216-01	.25	mL
MSD	1202018104	UI091216-06	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202018099		SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
LCS	1202018100		SW846 3050B	21-JAN-2010 07:45	0.501 g	50 mL	99.8004	SOIL
SAMPLE	244842001		SW846 3050B	21-JAN-2010 07:45	0.502 g	50 mL	99.60159	SOIL
SAMPLE	244842002		SW846 3050B	21-JAN-2010 07:45	0.519 g	50 mL	96.33911	SOIL
SAMPLE	244842003		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL
SAMPLE	244842004		SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	SOIL
SAMPLE	244842005		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	SOIL
SAMPLE	244842006		SW846 3050B	21-JAN-2010 07:45	0.516 g	50 mL	96.89922	SOIL
SAMPLE	244847001		SW846 3050B	21-JAN-2010 07:45	0.509 g	50 mL	98.23183	SOIL
SAMPLE	244847002		SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
SAMPLE	244847003		SW846 3050B	21-JAN-2010 07:45	0.517 g	50 mL	96.7118	SOIL
SAMPLE	244847004		SW846 3050B	21-JAN-2010 07:45	0.508 g	50 mL	98.4252	SOIL
SAMPLE	244852001		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	SOIL
SAMPLE	244852002		SW846 3050B	21-JAN-2010 07:45	0.519 g	50 mL	96.33911	SOIL
SAMPLE	244852003		SW846 3050B	21-JAN-2010 07:45	0.517 g	50 mL	96.7118	SOIL
SAMPLE	244852004		SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	SOIL
SAMPLE	244881001		SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
DUP	1202018101	244881001	SW846 3050B	21-JAN-2010 07:45	0.507 g	50 mL	98.61933	SOIL
MS	1202018102	244881001	SW846 3050B	21-JAN-2010 07:45	0.517 g	50 mL	96.7118	SOIL
MSD	1202018104	244881001	SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	SOIL
SDILT	1202018103	244881001	SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
SAMPLE	244881002		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL
SAMPLE	244881003		SW846 3050B	21-JAN-2010 07:45	0.524 g	50 mL	95.41985	SOIL
SAMPLE	244881004		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL

Reagent/Solvent Lot ID	Amount	Description
1252838	10 mL	HYDROCHLORIC ACID
1234886	1.25 mL	Nitric Acid CONC.

Comments: Sample 244881001 consist of brown soil with small rocks.

# Prep LogBook

Analyst: AXG2      Verified by: \_\_\_\_\_  
 Batch: 950660  
 Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202037289	UI062540-MS	.52	g
MS	1202037287	UI1207771-01	.25	mL
MS	1202037287	UI091015-A	.5	mL
MS	1202037287	UI091015-B	.5	mL
MSD	1202037288	UI1207771-01	.25	mL
MSD	1202037288	UI091015-A	.5	mL
MSD	1202037288	UI091015-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202037284		SW846 3050B	09-FEB-2010 08:00	0.522 g	50 mL	95.78544	SOIL
LCS	1202037289		SW846 3050B	09-FEB-2010 08:00	0.52 g	50 mL	96.15385	SOIL
SAMPLE	244847001		SW846 3050B	09-FEB-2010 08:00	0.52 g	50 mL	96.15385	SOIL
DUP	1202037285	244847001	SW846 3050B	09-FEB-2010 08:00	0.5 g	50 mL	100	SOIL
SDILT	1202037286	244847001	SW846 3050B	09-FEB-2010 08:00	0.52 g	50 mL	96.15385	SOIL
MS	1202037287	244847001	SW846 3050B	09-FEB-2010 08:00	0.523 g	50 mL	95.60229	SOIL
MSD	1202037288	244847001	SW846 3050B	09-FEB-2010 08:00	0.518 g	50 mL	96.5251	SOIL
SAMPLE	244847002		SW846 3050B	09-FEB-2010 08:00	0.508 g	50 mL	98.4252	SOIL
SAMPLE	244847003		SW846 3050B	09-FEB-2010 08:00	0.514 g	50 mL	97.27626	SOIL
SAMPLE	244847004		SW846 3050B	09-FEB-2010 08:00	0.51 g	50 mL	98.03922	SOIL
SAMPLE	244852001		SW846 3050B	09-FEB-2010 08:00	0.504 g	50 mL	99.20635	SOIL
SAMPLE	244852002		SW846 3050B	09-FEB-2010 08:00	0.504 g	50 mL	99.20635	SOIL
SAMPLE	244852003		SW846 3050B	09-FEB-2010 08:00	0.522 g	50 mL	95.78544	SOIL
SAMPLE	244852004		SW846 3050B	09-FEB-2010 08:00	0.506 g	50 mL	98.81423	SOIL
SAMPLE	244881001		SW846 3050B	09-FEB-2010 08:00	0.5 g	50 mL	100	SOIL
SAMPLE	244881002		SW846 3050B	09-FEB-2010 08:00	0.506 g	50 mL	98.81423	SOIL
SAMPLE	244881003		SW846 3050B	09-FEB-2010 08:00	0.501 g	50 mL	99.8004	SOIL
SAMPLE	244881004		SW846 3050B	09-FEB-2010 08:00	0.504 g	50 mL	99.20635	SOIL

Reagent/Solvent Lot ID	Amount	Description
1203655-02	1.5 mL	Hydrogen Peroxide 30%
1264396	5 mL	Nitric Acid CONC.

Comments: Sample 244847001 consist of moist, gray, rocky soil.

# Prep LogBook

Analyst: TXB3      Verified by: \_\_\_\_\_  
 Batch: 943316  
 Lab SOP: GL-MA-E-010 REV# 23

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202019774	UI031809A	.204	g
MS	1202019776	WHG100201-14	.3	mL
MSD	1202019778	WHG100201-14	.3	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202019773		SW846 7471A Prep	01-FEB-2010 09:25	0.6 g	30 mL	50	SOIL
LCS	1202019774		SW846 7471A Prep	01-FEB-2010 09:25	0.204 g	30 mL	147.05882	SOIL
SAMPLE	244828001		SW846 7471A Prep	01-FEB-2010 09:25	0.506 g	30 mL	59.28854	SOIL
SAMPLE	244828002		SW846 7471A Prep	01-FEB-2010 09:25	0.52 g	30 mL	57.69231	SOIL
SAMPLE	244828003		SW846 7471A Prep	01-FEB-2010 09:25	0.591 g	30 mL	50.76142	SOIL
SAMPLE	244828004		SW846 7471A Prep	01-FEB-2010 09:25	0.501 g	30 mL	59.88024	SOIL
SAMPLE	244828005		SW846 7471A Prep	01-FEB-2010 09:25	0.541 g	30 mL	55.45287	SOIL
SAMPLE	244828006		SW846 7471A Prep	01-FEB-2010 09:25	0.504 g	30 mL	59.52381	SOIL
SAMPLE	244828007		SW846 7471A Prep	01-FEB-2010 09:25	0.515 g	30 mL	58.25243	SOIL
SAMPLE	244828008		SW846 7471A Prep	01-FEB-2010 09:25	0.597 g	30 mL	50.25126	SOIL
SAMPLE	244828009		SW846 7471A Prep	01-FEB-2010 09:25	0.528 g	30 mL	56.81818	SOIL
SAMPLE	244828010		SW846 7471A Prep	01-FEB-2010 09:25	0.57 g	30 mL	52.63158	SOIL
SAMPLE	244842001		SW846 7471A Prep	01-FEB-2010 09:25	0.529 g	30 mL	56.71078	SOIL
SAMPLE	244842002		SW846 7471A Prep	01-FEB-2010 09:25	0.55 g	30 mL	54.54545	SOIL
SAMPLE	244842003		SW846 7471A Prep	01-FEB-2010 09:25	0.597 g	30 mL	50.25126	SOIL
SAMPLE	244842004		SW846 7471A Prep	01-FEB-2010 09:25	0.6 g	30 mL	50	SOIL
SAMPLE	244842005		SW846 7471A Prep	01-FEB-2010 09:25	0.556 g	30 mL	53.95683	SOIL
SAMPLE	244842006		SW846 7471A Prep	01-FEB-2010 09:25	0.505 g	30 mL	59.40594	SOIL
SAMPLE	244847001		SW846 7471A Prep	01-FEB-2010 09:25	0.503 g	30 mL	59.64215	SOIL
DUP	1202019775	244847001	SW846 7471A Prep	01-FEB-2010 09:25	0.574 g	30 mL	52.26481	SOIL
MS	1202019776	244847001	SW846 7471A Prep	01-FEB-2010 09:25	0.542 g	30 mL	55.35055	SOIL
MSD	1202019778	244847001	SW846 7471A Prep	01-FEB-2010 09:25	0.538 g	30 mL	55.76208	SOIL
SDILT	1202019777	244847001	SW846 7471A Prep	01-FEB-2010 09:25	0.503 g	30 mL	59.64215	SOIL
SAMPLE	244847002		SW846 7471A Prep	01-FEB-2010 09:25	0.514 g	30 mL	58.36576	SOIL
SAMPLE	244847003		SW846 7471A Prep	01-FEB-2010 09:25	0.555 g	30 mL	54.05405	SOIL
SAMPLE	244847004		SW846 7471A Prep	01-FEB-2010 09:25	0.532 g	30 mL	56.39098	SOIL

Reagent/Solvent Lot ID	Amount	Description
1236355-A	1.125 mL	Hydrochloric Acid Conc.
1257474-1	.375 mL	NITRIC ACID
1255535-C	7.5 mL	5% KMnO4 solution

Comments: Sample 244847001 is a brown moist clumpy soil.  
 Digestion Start Date: 01-FEB-10 09:25  
 Digestion End Date: 01-FEB-10 09:55

# Prep LogBook

1255532-C	2 mL	Hg reducing agent
WHG100201-07	30 uL	Mercury Working Standard 1st Source CAL S 0.2/CRA
WHG100201-08	75 uL	Mercury Working Standard 1st Source CAL S 0.5
WHG100201-11	1.5 mL	Mercury Working 1st Source CAL S 10.0
WHG100201-09	300 uL	Mercury Working 1st Source CAL S 2.0
WHG100201-10	750 uL	Mercury Working 1st Source CAL S 5.0/CCV
WHG100201-12	750 uL	Mercury Working 2nd Source S 5.0/ICV

### DATA EXCEPTION REPORT

<b>Mo.Day Yr.</b> 05-FEB-10	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> ICP	<b>Test / Method:</b> SW846 3050B/6010B	<b>Matrix Type:</b> Solid	<b>Client Code:</b> LANL
<b>Batch ID:</b> 942648	<b>Sample Numbers:</b> See Below		
<b>Potentially affected work order(s)(SDG): 244842(10-1257),244847(10-1262),244852(10-1263),244881(10-1264-1)</b> <b>Application Issues:</b> Failed Recovery for MS/PS Method Blank contamination Failed Recovery for MSD/PSD			
<b>Specification and Requirements Exception Description:</b>		<b>DER Disposition:</b>	
1. Failed Recovery for MS/PS: QC 1202018102MS 2. Failed Recovery for MSD/PSD: QC 1202018104MSD 3. Method Blank Contamination: QC 1202018099MB		1./2. The matrix spike and matrix spike duplicate recovery failed outside of the control limits for magnesium,manganese and potassium due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported. 3. The method blank failed high for iron but all samples were 10x greater than PQL/RDL therefore data was not adversely affected.	

**Originator's Name:**  
Helen Camello 10-FEB-10

**Data Validator/Group Leader:**  
Christopher Louviere 10-FEB-10



# Standard Logbook

**Serial ID:** UHG1167639-01      **Opened:** 13-AUG-09      **Amount :** 125 mL  
**Name:** MHGSTOCK1      **Received:** 13-AUG-09      **Catalog Number :** PLHG4-2Y  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 15-37HG  
**Employee:** Bryan Davis      **Solvent :** 10% HNO3  
**Supplier:** Spex  
**Description:** Mercury Source Standard #1 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

**Serial ID:** UHG1167641-02      **Opened:** 13-AUG-09      **Amount :** 100 mL  
**Name:** MHGSTOCK2      **Received:** 13-AUG-09      **Catalog Number :** AHG1KN-100  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 4905530  
**Employee:** Bryan Davis      **Solvent :** 3% HNO3  
**Supplier:** Ricca Chemical Company  
**Description:** Mercury Source Standard #2 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

**Serial ID:** UI031809A      **Opened:** 18-MAR-09      **Catalog Number :** 540  
**Name:** METALSOILSRM      **Received:** 18-MAR-09      **Lot Number :** D061-540  
**Type:** Source Material      **Expires:** 10-OCT-10  
**Employee:** Jamie Johnson  
**Supplier:** ERA  
**Description:** Metals LCS Soil SRM  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	10600 mg/kg	Antimony	126 mg/kg
Arsenic	225 mg/kg	Barium	565 mg/kg
Beryllium	162 mg/kg	Boron	107 mg/kg
Cadmium	69.1 mg/kg	Calcium	10000 mg/kg
Chromium	124 mg/kg	Cobalt	115 mg/kg
Copper	66.7 mg/kg	Iron	17600 mg/kg
Lead	223 mg/kg	Magnesium	4260 mg/kg
Manganese	368 mg/kg	Mercury	5.15 mg/kg
Molybdenum	107 mg/kg	Nickel	172 mg/kg
Potassium	4090 mg/kg	Selenium	147 mg/kg
Silver	35.2 mg/kg	Sodium	538 mg/kg
Strontium	117 mg/kg	Thallium	173 mg/kg
Tin	164 mg/kg	Titanium	381 mg/kg
Vanadium	93.9 mg/kg	Zinc	349 mg/kg

# Standard Logbook

**Serial ID:** UI062540-I      **Opened:** 12-JUN-09      **Amount :** 80 g  
**Name:** ICP SOIL SRM      **Received:** 12-JUN-09      **Lot Number :** D062-540  
**Type:** Source Material      **Expires:** 31-JAN-12  
**Employee:** Bryan Davis  
**Supplier:** ERA  
**Description:** Metals Soil LCS SRM ICP/Hg  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	173 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.7 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Magnesium	4000 mg/kg
Manganese	558 mg/kg	Mercury	8.46 mg/kg
Molybdenum	48.6 mg/kg	Nickel	134 mg/kg
Phosphorous	736 mg/kg	Potassium	4300 mg/kg
Selenium	286 mg/kg	Silica	2591 mg/kg
Silicon	1211 mg/kg	Silver	30.1 mg/kg
Sodium	1020 mg/kg	Strontium	227 mg/kg
Sulfur	385 mg/kg	Thallium	121 mg/kg
Tin	104 mg/kg	Titanium	462 mg/kg
Vanadium	115 mg/kg	Zinc	594 mg/kg

**Serial ID:** UI062540-MS      **Opened:** 12-JUN-09      **Lot Number :** D062-540  
**Name:** ICPMS SOIL SRM      **Received:** 12-JUN-09  
**Type:** Source Material      **Expires:** 31-JAN-12  
**Employee:** Bryan Davis  
**Supplier:** ERA  
**Description:** Metals Soil LCS SRM ICPMS  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	67.4 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.6 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Lithium	10.6 mg/kg
Magnesium	4000 mg/kg	Manganese	558 mg/kg
Mercury	8.46 mg/kg	Molybdenum	48.6 mg/kg
Nickel	134 mg/kg	Phosphorous	755 mg/kg
Potassium	4300 mg/kg	Selenium	286 mg/kg
Silver	30.1 mg/kg	Sodium	1020 mg/kg

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Strontium	227 mg/kg	Thallium	121 mg/kg
Thorium	9.84 mg/kg	Tin	104 mg/kg
Titanium	462 mg/kg	Uranium	2.13 mg/kg
Uranium-235	.0153 mg/kg	Uranium-238	2.11 mg/kg
Vanadium	92.4 mg/kg	Zinc	594 mg/kg
Zirconium	10.6 mg/kg		

**Serial ID:** UI090422-40      **Opened:** 04-MAY-09      **Amount :** 500 mL  
**Name:** TRACE ICP ICSA SOLN A      **Received:** 22-APR-09      **Catalog Number :** 160005-01-03  
**Type:** Source Material      **Expires:** 04-MAY-10      **Lot Number :** 1013357  
**Employee:** Helen Camello      **Solvent :** 5%HNO3  
**Supplier:** o2si  
**Description:** TRACE ICP ICSA SOLN A mg/L +/- 0.5% IN 5% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

**Serial ID:** UI090610-03      **Opened:** 10-JUN-09      **Catalog Number :** 060074-06-01  
**Name:** ICPMS Tungsten - 10mg/L      **Received:** 10-JUN-09      **Lot Number :** 1016338  
**Type:** Source Material      **Expires:** 10-JUN-10      **Solvent :** 2% HNO3  
**Employee:** Paul Boyd  
**Supplier:** O2SI  
**Description:** ICPMS Tungsten standard SPIKE - 10mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

**Serial ID:** UI090701-09      **Opened:** 01-JUL-09      **Amount :** 250 mL  
**Name:** ICP-MS CRDL Master #1      **Received:** 01-JUL-09      **Catalog Number :** 160044-09-02  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016477  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% IN 2% HNO3  
**Supplier:** O2SI  
**Description:** ICPMS CRDL Master Soln #1  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

**Serial ID:** UI090701-10      **Opened:** 01-JUL-09      **Amount :** 250 mL  
**Name:** ICP-MS CRDL Master #2      **Received:** 01-JUL-09      **Catalog Number :** 160044-08-02  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016476  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% IN 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS CRDL Soln #2  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI090701-40      **Opened:** 01-JUL-09      **Amount :** 500 mL  
**Name:** TRACE ICP Stock PQL St      **Received:** 30-JUN-09      **Catalog Number :** 160543-01-03  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016475  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3+TrHF  
**Supplier:** 02si  
**Description:** TRACE ICP Stock PQL Standard  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

**Serial ID:** UI090828-42      **Opened:** 16-SEP-09      **Amount :** 500 mL  
**Name:** TRACE ICP Na-1000SOUR      **Received:** 27-AUG-09      **Catalog Number :** 060011-02-03  
**Type:** Source Material      **Expires:** 16-SEP-10      **Lot Number :** 1017098  
**Employee:** Helen Camello      **Solvent :** 1%HNO3  
**Supplier:** 02SI  
**Description:** Sodium 1000 +/- 3 ug/mL in 1% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

**Serial ID:** UI090925-40      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX38-500N  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909129  
**Employee:** Helen Camello      **Solvent :** 5%HNO3  
**Supplier:** SPECTRO PURE  
**Description:** SECOND SOURCE STD #1A 5%HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

**Serial ID:** UI090925-41      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX39-500B  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909130  
**Employee:** Helen Camello      **Solvent :** 5%HNO3,TR.HF  
**Supplier:** SPECTRO PURE  
**Description:** SECOND SOURCE STD #1B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

**Serial ID:** UI091015-42      **Opened:** 28-OCT-09      **Amount :** 500 mL  
**Name:** SI 1000mg/L      **Received:** 15-OCT-09      **Catalog Number :** 060014-02-03  
**Type:** Source Material      **Expires:** 28-OCT-10      **Lot Number :** 1017581  
**Employee:** Helen Camello      **Solvent :** 0.3%H<sub>2</sub>O(NH<sub>4</sub>)<sub>2</sub>SiF<sub>6</sub>  
**Supplier:** o2si  
**Description:** Silicon 1000mg/L+/-0.3%in H<sub>2</sub>O(NH<sub>4</sub>)<sub>2</sub>SiF<sub>6</sub>  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI091015-A      **Opened:** 15-OCT-09      **Catalog Number :** 160067-03  
**Name:** ICP-MS DOE SOIL SPIKE      **Received:** 15-OCT-09      **Lot Number :** 1017142  
**Type:** Source Material      **Expires:** 15-OCT-10  
**Employee:** Francena Armstrong  
**Supplier:** 02si  
**Description:** ICP-MS Spike for soil products.  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	20 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	10 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

# Standard Logbook

**Serial ID:** UI091015-B      **Opened:** 15-OCT-09      **Catalog Number :** 160067-03  
**Name:** ICP-MS DOE SOIL SPIKE      **Received:** 15-OCT-09      **Lot Number :** 1017142  
**Type:** Source Material      **Expires:** 15-OCT-10  
**Employee:** Francena Armstrong  
**Supplier:** 02si  
**Description:** ICP-MS Spike for Soil Products  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silicon	200 mg/L	Silver	5 mg/L
Tin	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UI091102-40      **Opened:** 16-NOV-09      **Amount :** 500 mL  
**Name:** TRACE CALSTD#1A SOUR      **Received:** 02-NOV-09      **Catalog Number :** HP2270-1-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number :** 0930215  
**Employee:** Helen Camello      **Solvent :** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Std #1A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

**Serial ID:** UI091102-41      **Opened:** 16-NOV-09      **Amount :** 500 mL  
**Name:** TRACE CALSTD#1B SOUR      **Received:** 02-NOV-09      **Catalog Number :** HP2270-2-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number :** 0930216  
**Employee:** Helen Camello      **Solvent :** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Standard #1B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Tin	200 mg/L	Titanium	200 mg/L

**Serial ID:** UI091102-42      **Opened:** 17-NOV-09      **Amount :** 200 mL  
**Name:** SILICON      **Received:** 02-NOV-09      **Catalog Number :** HP100050-4F  
**Type:** Source Material      **Expires:** 17-NOV-10      **Lot Number :** 0921924  
**Employee:** Helen Camello      **Solvent :** H2O/tr HF  
**Supplier:** ENVIRNMENTAL EXPRESS  
**Description:** SILICON 1000mg/L H2O/tr HF  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI091212-60      **Opened:** 12-DEC-09      **Amount :** .5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

**Serial ID:** UI091212-61      **Opened:** 12-DEC-09      **Amount :** .5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard B  
**Comments:** None



# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

**Serial ID:** UI091216-01      **Opened:** 16-DEC-09      **Lot Number :** 1018095  
**Name:** METALSPIKE-1      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix I  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

**Serial ID:** UI091216-06      **Opened:** 16-DEC-09      **Lot Number :** 1018096  
**Name:** METALSPIKE-2      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix II  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

# Standard Logbook

**Serial ID:** UI091217-06 **Opened:** 17-DEC-09 **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master A **Received:** 17-DEC-09 **Catalog Number :** 160055-01  
**Type:** Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018209  
**Employee:** Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV SOLN A - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

**Serial ID:** UI091217-07 **Opened:** 17-DEC-09 **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master B **Received:** 17-DEC-09 **Catalog Number :** 160054-02  
**Type:** Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018210  
**Employee:** Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln B - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

**Serial ID:** UI091217-08 **Opened:** 17-DEC-09 **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master C **Received:** 17-DEC-09 **Catalog Number :** 160054-03  
**Type:** Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018211  
**Employee:** Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln C - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Zirconium	20 mg/L		

**Serial ID:** UI091217-12      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master B      **Received:** 17-DEC-09      **Catalog Number :** 160033-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018212  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

**Serial ID:** UI091217-13      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master C      **Received:** 17-DEC-09      **Catalog Number :** 160033-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1016926  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI100114-48      **Opened:** 22-JAN-10      **Amount :** 1000 mL  
**Name:** Trace ICP ICESA      **Received:** 18-JAN-10      **Catalog Number :** 160005-02  
**Type:** Source Material      **Expires:** 22-JAN-11      **Lot Number :** 1018466  
**Employee:** Helen Camello      **Solvent :** 3% HCl + 1% HNO3  
**Supplier:** o2si  
**Description:** Trace ICP Interferent Check Standard A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L
Iron	200000 UG/L	Magnesium	500000 UG/L

**Serial ID:** UI100126-11      **Opened:** 26-JAN-10      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 26-JAN-10      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 26-JAN-11      **Lot Number :** 1018321  
**Employee:** Elizabeth Janssen      **Solvent :** 2% HNO3  
**Supplier:** 02SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

**Serial ID:** UI100128-40      **Opened:** 28-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD-A      **Received:** 28-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 28-JAN-11      **Lot Number :** 1018409  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

# Standard Logbook

**Serial ID:** UI100128-41      **Opened:** 28-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD B      **Received:** 28-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 28-JAN-11      **Lot Number :** 1018409  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

**Serial ID:** UI1207771-01      **Opened:** 26-OCT-09      **Lot Number :** 1013481  
**Name:** AUPDPTSPIKE      **Received:** 26-OCT-09  
**Type:** Source Material      **Expires:** 26-OCT-10  
**Employee:** Francena Armstrong  
**Supplier:** o2si  
**Description:** AU,PD,PT,CS,CE SPIKE  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Cerium	10 ug/mL	Cesium	10 ug/mL
Gold	10 ug/mL	Palladium	10 ug/mL
Platinum	10 ug/mL		

**Serial ID:** UMS090303-01      **Opened:** 03-MAR-09      **Amount :** 250 mL  
**Name:** ICPMSCaSPIKEB      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-100-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 14-81JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

# Standard Logbook

**Serial ID:** UMS090303-02      **Opened:** 03-MAR-09      **Catalog Number :** ZGEL-102-250  
**Name:** ICPMSCalSPIKEA      **Received:** 03-MAR-09      **Lot Number :** 14-83JB  
**Type:** Source Material      **Expires:** 28-FEB-10  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

**Serial ID:** UMS090303-03      **Opened:** 03-MAR-09      **Amount :** 250 ml  
**Name:** ICPMSCalSPIKEC      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-101-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 15-199JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

**Serial ID:** IHG100201-01      **Opened:** 01-FEB-10      **Instrument Id :** Mercury  
**Name:** MHGINTER1      **Received:** 01-FEB-10      **Pipet Id :** Minou1  
**Type:** Intermediate      **Expires:** 02-FEB-10      **Solvent :** 1mL HNO3 + TypeI H2O  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 1st Source 200 ug/L  
**Comments:** Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** IHG100201-02      **Opened:** 01-FEB-10      **Pipet Id :** Minou1  
**Name:** MHGINTER2      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Intermediate      **Expires:** 02-FEB-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 2nd Source 200 ug/L  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** WHG100201-07      **Opened:** 01-FEB-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS0.2CRA      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Working      **Expires:** 08-FEB-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Working Standard 1st Source CAL S 0.2/CRA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100201-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

**Serial ID:** WHG100201-08      **Opened:** 01-FEB-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS0.5      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Working      **Expires:** 08-FEB-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working Standard 1st Source CAL S 0.5  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100201-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

**Serial ID:** WHG100201-09      **Opened:** 01-FEB-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS2.0      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Working      **Expires:** 08-FEB-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL S 2.0  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100201-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

**Serial ID:** WHG100201-10      **Opened:** 01-FEB-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS5.0CCV      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Working      **Expires:** 08-FEB-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL S 5.0/CCV  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100201-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

**Serial ID:** WHG100201-11      **Opened:** 01-FEB-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS10.0      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Working      **Expires:** 08-FEB-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL S 10.0  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100201-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

**Serial ID:** WHG100201-12      **Opened:** 01-FEB-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKS5.0ICV      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Working      **Expires:** 08-FEB-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 2nd Source S 5.0/ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100201-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

**Serial ID:** WHG100201-14      **Opened:** 01-FEB-10      **Pipet Id :** Hg1289245  
**Name:** MHGSOILMSSPIKE      **Received:** 01-FEB-10      **Solvent :** 2% HNO3-1257474  
**Type:** Working      **Expires:** 08-FEB-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury soil working intermediate standard for MS  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** WI100201-42      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.1 PPM STD.      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL and 1%HNO3 -1263028  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP 0.1 PPM CALIBRATION STD.  
**Comments:** None



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100201-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100201-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100201-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100201-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100201-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

**Serial ID:** WI100201-43      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.5/CCV STD.      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL and 1%HNO3 -1263028  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP 0.5/CCV CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI091102-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L

**Serial ID:** W1100201-44      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** TRACE ICP SCAL 1.0      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL and 1 %HNO3-1263028  
**Employee:** Helen Camello  
**Supplier:** o2si  
**Description:** Trace ICP Calibration Standard 1.0ppm  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

**Serial ID:** WI100201-45      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** TRACE ICP S-10 STD      **Received:** 22-APR-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL and 1%HNO3 -1263028  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP S-10 CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

# Standard Logbook

**Serial ID:** WI100201-46      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** ICP TRACE ICV      **Received:** 25-SEP-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL AND 1%HNO3-1263028  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** Initial Calibration Verification ICP Trace Metals  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

# Standard Logbook

**Serial ID:** WI100201-47      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** PQL Working Standard      **Received:** 30-JUN-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL &1%HNO3-1263028  
**Employee:** Helen Camello  
**Supplier:** 02si  
**Description:** PQL Working Standard  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

**Serial ID:** WMS100207-04      **Opened:** 07-FEB-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 07-FEB-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 08-FEB-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl-1262930  
**Supplier:** GEL

# Standard Logbook

**Description:** ICPMS Calibration Standard (100 ppb)

**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

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**Serial ID:** WMS100207-04A      **Opened:** 07-FEB-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 07-FEB-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100207-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100207-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100207-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100207-05      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 07-FEB-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100207-06      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 07-FEB-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

**Serial ID:** WMS100207-07      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 07-FEB-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 08-FEB-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100207-08      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 07-FEB-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100207-70      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS LINEAR RANGE ST      **Received:** 07-FEB-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** 02SI  
**Description:** ICPMS LINEAR RANGE STANDARD  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

**Serial ID:** WMS100209-04      **Opened:** 09-FEB-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 09-FEB-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 10-FEB-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCl-1266278  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (100 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

**Serial ID:** WMS100209-04A      **Opened:** 09-FEB-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 09-FEB-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100209-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100209-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100209-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

# Standard Logbook

**Serial ID:** WMS100209-05      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 09-FEB-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

# Standard Logbook

**Serial ID:** WMS100209-06      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 09-FEB-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

# Standard Logbook

**Serial ID:** WMS100209-07      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 09-FEB-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 10-FEB-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100209-08      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 09-FEB-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** 1156689-A      **Opened:** 20-JUL-09      **Lot Number :** 41226920  
**Name:** B-KMnO4(VWR)-MER      **Received:** 20-JUL-09  
**Type:** Reagent/Solvent      **Expires:** 20-JUL-10  
**Employee:** Tara Griffin      **Verified:** 07-AUG-07  
**Supplier:** VWR  
**Description:** Potassium Permanganate  
**Comments:** None

**Serial ID:** 1203655-02      **Opened:** 15-OCT-09      **Lot Number :** ZU74081198 mL  
**Name:** B-H2O2      **Received:** 15-OCT-09  
**Type:** Reagent/Solvent      **Expires:** 15-OCT-10  
**Employee:** Francena Armstrong  
**Supplier:** EM SCIENCE  
**Description:** Hydrogen Peroxide 30%  
**Comments:** None

**Serial ID:** 1228372-A      **Opened:** 12-NOV-09      **Lot Number :** 49215936  
**Name:** B-NH2OH.HCl-MER      **Received:** 12-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 12-NOV-10  
**Employee:** Tara Griffin  
**Supplier:** Fisher Scientific  
**Description:** Hydroxylamine Hydrochloride  
**Comments:** None

# Standard Logbook

**Serial ID:** 1234886      **Opened:** 27-NOV-09      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 27-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 27-NOV-10  
**Employee:** Bryan Davis  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

**Serial ID:** 1236355-A      **Opened:** 01-DEC-09      **Lot Number :** 200930201  
**Name:** B-HCl-MER      **Received:** 01-DEC-09  
**Type:** Reagent/Solvent      **Expires:** 01-DEC-10  
**Employee:** Tara Griffin  
**Supplier:** Aristar  
**Description:** Hydrochloric Acid Conc.  
**Comments:** None

**Serial ID:** 1252836      **Opened:** 08-JAN-10      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 08-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 08-JAN-11  
**Employee:** Francena Armstrong  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

**Serial ID:** 1252838      **Opened:** 08-JAN-10      **Lot Number :** H41032  
**Name:** I-HCL      **Received:** 08-JAN-10      **Preservative\_Id :** 5 none  
**Type:** Reagent/Solvent      **Expires:** 08-JAN-11  
**Employee:** Francena Armstrong  
**Supplier:** J.T. BAKER  
**Description:** HYDROCHLORIC ACID  
**Comments:** None

**Serial ID:** 1255532-C      **Opened:** 15-JAN-10      **Balance Id :** BAL-002  
**Name:** B-NaCl.NH2OH.HCl-MER      **Received:** 15-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 15-JUL-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Hg reducing agent  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

# Standard Logbook

**Serial ID:** 1255535-C      **Opened:** 15-JAN-10      **Balance Id :** BAL-002  
**Name:** B-KMnO4-MER      **Received:** 15-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 15-JUL-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** 5% KMnO4 solution  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

**Serial ID:** 1257474-1      **Opened:** 20-JAN-10      **Instrument Id :** MERCURY  
**Name:** B-HNO3-MER      **Received:** 20-JAN-10      **Lot Number :** H20053  
**Type:** Reagent/Solvent      **Expires:** 20-JAN-11  
**Employee:** Tara Griffin  
**Supplier:** Mallinckrodt Chemicals  
**Description:** NITRIC ACID  
**Comments:** None

**Serial ID:** 1262930      **Opened:** 01-FEB-10      **Solvent :** Type I Water  
**Name:** B-2%HNO3/1%HCl-ICPMS      **Received:** 01-FEB-10  
**Type:** Reagent/Solvent      **Expires:** 08-FEB-10  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** 2%HNO3/1%HCl Solution (Type I Water)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1252836	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1252838	I-HCL	36.5-38.0	90 mL	9 l	N/A

**Serial ID:** 1263028      **Opened:** 01-FEB-10      **Amount :** 20 L  
**Name:** B-ICP-RINSE SOLN      **Received:** 15-JAN-10      **Lot Number :** H04040+G34050  
**Type:** Reagent/Solvent      **Expires:** 07-FEB-10      **Solvent :** 3%HCL+1%HNO3  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** 3%HCL+1%HNO3 RINSE SOLN.  
**Comments:** None

**Serial ID:** 1264396      **Opened:** 03-FEB-10      **Lot Number :** H51025 L  
**Name:** I-HNO3      **Received:** 02-FEB-10  
**Type:** Reagent/Solvent      **Expires:** 03-FEB-11  
**Employee:** Bryan Davis  
**Supplier:** BAKER

# Standard Logbook

**Description:** Nitric Acid CONC.

**Comments:** None

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**Serial ID:** 1266278      **Opened:** 08-FEB-10      **Solvent :** Type I Water  
**Name:** B-2%HNO3/1%HCl-ICPMS      **Received:** 08-FEB-10  
**Type:** Reagent/Solvent      **Expires:** 15-FEB-10  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** 2%HNO3/1%HCl Solution (Type I Water)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1252836	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1252838	I-HCL	36.5-38.0	90 mL	9 l	N/A

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# Metals Analysis

# Case Narrative

**Metals Fractional Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262-1**

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244849001	RE12-10-7286
1202017559	Method Blank (MB) <b>ICP</b>
1202017560	Laboratory Control Sample (LCS)
1202017563	244922001(RE15-10-7229L) Serial Dilution (SD)
1202017561	244922001(RE15-10-7229D) Sample Duplicate (DUP)
1202017562	244922001(RE15-10-7229S) Matrix Spike (MS)
1202017705	Method Blank (MB) <b>ICP-MS</b>
1202026084	Method Blank (MB) <b>ICP-MS</b>
1202017706	Laboratory Control Sample (LCS)
1202026085	Laboratory Control Sample (LCS)
1202017709	244925001(WST52-10-11327L) Serial Dilution (SD)
1202026088	244925001(WST52-10-11327L) Serial Dilution (SD)
1202017707	244925001(WST52-10-11327D) Sample Duplicate (DUP)
1202026086	244925001(WST52-10-11327D) Sample Duplicate (DUP)
1202017708	244925001(WST52-10-11327S) Matrix Spike (MS)
1202026087	244925001(WST52-10-11327S) Matrix Spike (MS)
1202019182	Method Blank (MB) <b>CVAA</b>
1202019183	Laboratory Control Sample (LCS)
1202019186	244922001(RE15-10-7229L) Serial Dilution (SD)
1202019184	244922001(RE15-10-7229D) Sample Duplicate (DUP)
1202019185	244922001(RE15-10-7229S) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

**Method/Analysis Information**

<b>Analytical Batch:</b>	942466, 942514, 945922 and 943087
<b>Prep Batch :</b>	942449, 942490, 945920 and 943086

<b>Standard Operating Procedures:</b>	GL-MA-E-013 REV# 20, GL-MA-E-006 REV# 9, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23
<b>Analytical Method:</b>	SW846 3005/6010B, SW846 3005/6020 and SW846 7470A
<b>Prep Method :</b>	SW846 3005A and SW846 7470A Prep

### **Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

### **System Configuration**

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

### **Calibration Information**

#### **Instrument Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).



**CRDL Requirements**

All CRDL standard(s) met the referenced advisory control limits with the exceptions of mercury and potassium that recovered outside of the advisory control limits of 70-130%.

**ICSA/ICSAB Statement**

All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

**Continuing Calibration Blank (CCB) Requirements**

All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

**Continuing Calibration Verification (CCV) Requirements**

All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

**Quality Control (QC) Information****Method Blank (MB) Statement**

The MBs analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**Quality Control (QC) Sample Statement**

The following samples were selected as the quality control (QC) samples for this SDG: 244922001 (RE15-10-7229)-ICP and CVAA and 244925001 (WST52-10-11327)-ICP-MS.

**Matrix Spike (MS) Recovery Statement**

The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. All applicable elements met the acceptance criteria.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is >5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements.

**Serial Dilution % Difference Statement**

The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations 25x the IDL/MDL for CVAA, 50X the IDL/MDL for ICP and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the established criteria of less than 10% difference (%D) with the exception of manganese as indicated by the "E" qualifier.

## **Technical Information**

### **Holding Time Specifications**

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

### **Sample Dilutions**

Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG did not require dilutions.

### **Preparation Information**

The samples in this SDG were prepared exactly according to the cited SOP.

## **Miscellaneous Information**

### **Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

### **Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

### **Additional Comments**

Additional comments were not required for this SDG.

## **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

**Review Validation:**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

**The following data validator verified the information presented in this case narrative:**

Reviewer: Y. Nick-Cole A. Elmer Date: 2.5.10

# Sample Data Summary

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1262-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244849001

BASIS: As Received

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-7286

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/28/10 08:19	100127-5	945922
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/25/10 11:46	100125-4	942514
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	01/26/10 17:17	012610-1	942466
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/26/10 17:17	012610-1	942466
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/26/10 17:17	012610-1	942466
7439-96-5	Manganese	1.27	ug/L	J	1	5	5	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	01/20/10 10:29	012010W1-6	943087
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-09-7	Potassium	122	ug/L	J	50	150	150	1	P	HSC	01/26/10 17:17	012610-1	942466
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-23-5	Sodium	300	ug/L	U	100	300	300	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/24/10 17:18	100124-3	942514
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	SKJ	01/25/10 12:22	100125-2	942514
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:17	012610-1	942466
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/26/10 17:17	012610-1	942466

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942466	942449	SW846 3005A	50	mL	50	mL	01/19/10	FGA
942514	942490	SW846 3005A	50	mL	50	mL	01/19/10	FGA
943087	943086	SW846 7470A Prep	20	mL	20	mL	01/19/10	TXB3
945922	945920	SW846 3005A	25	mL	25	mL	01/27/10	AXG2

# **Quality Control Summary**

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICV01										
	Mercury	4.98	ug/L	5	ug/L	99.7	90.0 – 110.0	AV	20–JAN–10 09:53	012010W1–6
	Cadmium	50.8	ug/L	50	ug/L	101.6	90.0 – 110.0	MS	24–JAN–10 15:03	100124–3
	Lead	53.6	ug/L	50	ug/L	107.1	90.0 – 110.0	MS	24–JAN–10 15:03	100124–3
	Manganese	52.9	ug/L	50	ug/L	105.7	90.0 – 110.0	MS	24–JAN–10 15:03	100124–3
	Thallium	53.7	ug/L	50	ug/L	107.3	90.0 – 110.0	MS	24–JAN–10 15:03	100124–3
	Uranium	52.7	ug/L	50	ug/L	105.3	90.0 – 110.0	MS	25–JAN–10 10:54	100125–2
	Beryllium	49.9	ug/L	50	ug/L	99.9	90.0 – 110.0	MS	25–JAN–10 11:20	100125–4
	Aluminum	4910	ug/L	5000	ug/L	98.1	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Arsenic	462	ug/L	500	ug/L	92.4	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Barium	495	ug/L	500	ug/L	99	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Calcium	4940	ug/L	5000	ug/L	98.9	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Chromium	475	ug/L	500	ug/L	95	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Cobalt	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Copper	495	ug/L	500	ug/L	98.9	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Iron	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Magnesium	5360	ug/L	5000	ug/L	107.1	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Nickel	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Potassium	2430	ug/L	2500	ug/L	97.2	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Selenium	2480	ug/L	2500	ug/L	99.3	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Silver	255	ug/L	250	ug/L	101.8	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Sodium	2360	ug/L	2500	ug/L	94.6	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Vanadium	500	ug/L	500	ug/L	100	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Zinc	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	26–JAN–10 09:38	012610–1
	Antimony	50.9	ug/L	50	ug/L	101.9	90.0 – 110.0	MS	28–JAN–10 07:32	100127–5
CCV01										
	Mercury	4.91	ug/L	5	ug/L	98.2	80.0 – 120.0	AV	20–JAN–10 09:59	012010W1–6
	Cadmium	49.6	ug/L	50	ug/L	99.2	90.0 – 110.0	MS	24–JAN–10 15:33	100124–3
	Lead	52.9	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	24–JAN–10 15:33	100124–3
	Manganese	52.5	ug/L	50	ug/L	105.1	90.0 – 110.0	MS	24–JAN–10 15:33	100124–3
	Thallium	53.3	ug/L	50	ug/L	106.7	90.0 – 110.0	MS	24–JAN–10 15:33	100124–3

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Uranium	50.9	ug/L	50	ug/L	101.7	90.0 – 110.0	MS	25–JAN–10 11:05	100125–2
	Beryllium	49.2	ug/L	50	ug/L	98.3	90.0 – 110.0	MS	25–JAN–10 11:28	100125–4
	Aluminum	4880	ug/L	5000	ug/L	97.6	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Arsenic	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Barium	485	ug/L	500	ug/L	97	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Calcium	5030	ug/L	5000	ug/L	100.6	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Chromium	485	ug/L	500	ug/L	97	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Cobalt	495	ug/L	500	ug/L	99	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Copper	477	ug/L	500	ug/L	95.3	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Iron	5140	ug/L	5000	ug/L	102.9	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Magnesium	5240	ug/L	5000	ug/L	104.9	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Nickel	487	ug/L	500	ug/L	97.4	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Potassium	5020	ug/L	5000	ug/L	100.5	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Selenium	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Silver	485	ug/L	500	ug/L	96.9	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Sodium	9840	ug/L	10000	ug/L	98.4	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Vanadium	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Zinc	480	ug/L	500	ug/L	96	90.0 – 110.0	P	26–JAN–10 10:38	012610–1
	Antimony	51.6	ug/L	50	ug/L	103.2	90.0 – 110.0	MS	28–JAN–10 07:44	100127–5
CCV02										
	Mercury	4.83	ug/L	5	ug/L	96.6	80.0 – 120.0	AV	20–JAN–10 10:23	012010W1–6
	Cadmium	49.9	ug/L	50	ug/L	99.8	90.0 – 110.0	MS	24–JAN–10 15:51	100124–3
	Lead	53.3	ug/L	50	ug/L	106.5	90.0 – 110.0	MS	24–JAN–10 15:51	100124–3
	Manganese	53.2	ug/L	50	ug/L	106.4	90.0 – 110.0	MS	24–JAN–10 15:51	100124–3
	Thallium	53.9	ug/L	50	ug/L	107.8	90.0 – 110.0	MS	24–JAN–10 15:51	100124–3
	Uranium	49.8	ug/L	50	ug/L	99.6	90.0 – 110.0	MS	25–JAN–10 11:25	100125–2
	Beryllium	47.2	ug/L	50	ug/L	94.3	90.0 – 110.0	MS	25–JAN–10 11:41	100125–4
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Arsenic	485	ug/L	500	ug/L	97.1	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Barium	476	ug/L	500	ug/L	95.3	90.0 – 110.0	P	26–JAN–10 11:00	012610–1



**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Calcium	5010	ug/L	5000	ug/L	100.1	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Chromium	478	ug/L	500	ug/L	95.6	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Cobalt	487	ug/L	500	ug/L	97.5	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Copper	468	ug/L	500	ug/L	93.7	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Iron	5200	ug/L	5000	ug/L	103.9	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Magnesium	5220	ug/L	5000	ug/L	104.5	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Nickel	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Potassium	5020	ug/L	5000	ug/L	100.5	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Selenium	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Silver	478	ug/L	500	ug/L	95.6	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Sodium	10000	ug/L	10000	ug/L	100	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Vanadium	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Zinc	473	ug/L	500	ug/L	94.5	90.0 – 110.0	P	26–JAN–10 11:00	012610–1
	Antimony	49.4	ug/L	50	ug/L	98.7	90.0 – 110.0	MS	28–JAN–10 08:07	100127–5
CCV03										
	Mercury	4.79	ug/L	5	ug/L	95.7	80.0 – 120.0	AV	20–JAN–10 10:47	012010W1–6
	Cadmium	50	ug/L	50	ug/L	100	90.0 – 110.0	MS	24–JAN–10 16:47	100124–3
	Lead	52.9	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	24–JAN–10 16:47	100124–3
	Manganese	52.9	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	24–JAN–10 16:47	100124–3
	Thallium	54	ug/L	50	ug/L	108	90.0 – 110.0	MS	24–JAN–10 16:47	100124–3
	Uranium	49.4	ug/L	50	ug/L	98.8	90.0 – 110.0	MS	25–JAN–10 11:40	100125–2
	Beryllium	45.3	ug/L	50	ug/L	90.6	90.0 – 110.0	MS	25–JAN–10 11:58	100125–4
	Aluminum	4930	ug/L	5000	ug/L	98.6	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Arsenic	496	ug/L	500	ug/L	99.3	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Barium	491	ug/L	500	ug/L	98.3	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Calcium	5050	ug/L	5000	ug/L	101	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Chromium	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Cobalt	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Copper	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Iron	5290	ug/L	5000	ug/L	105.8	90.0 – 110.0	P	26–JAN–10 12:13	012610–1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Magnesium	5330	ug/L	5000	ug/L	106.5	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Nickel	495	ug/L	500	ug/L	99	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Potassium	5050	ug/L	5000	ug/L	101	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Selenium	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Silver	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Sodium	10300	ug/L	10000	ug/L	102.6	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Vanadium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Zinc	487	ug/L	500	ug/L	97.5	90.0 – 110.0	P	26–JAN–10 12:13	012610–1
	Antimony	50.4	ug/L	50	ug/L	100.8	90.0 – 110.0	MS	28–JAN–10 08:21	100127–5
CCV04										
	Mercury	4.9	ug/L	5	ug/L	98.1	80.0 – 120.0	AV	20–JAN–10 11:11	012010W1–6
	Cadmium	49.8	ug/L	50	ug/L	99.7	90.0 – 110.0	MS	24–JAN–10 17:42	100124–3
	Lead	53	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	24–JAN–10 17:42	100124–3
	Manganese	52.8	ug/L	50	ug/L	105.7	90.0 – 110.0	MS	24–JAN–10 17:42	100124–3
	Thallium	53.5	ug/L	50	ug/L	107	90.0 – 110.0	MS	24–JAN–10 17:42	100124–3
	Beryllium	47.1	ug/L	50	ug/L	94.1	90.0 – 110.0	MS	25–JAN–10 12:07	100125–4
	Uranium	48.3	ug/L	50	ug/L	96.7	90.0 – 110.0	MS	25–JAN–10 12:13	100125–2
	Aluminum	4920	ug/L	5000	ug/L	98.3	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Arsenic	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Barium	489	ug/L	500	ug/L	97.9	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Calcium	5010	ug/L	5000	ug/L	100.2	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Chromium	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Cobalt	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Copper	484	ug/L	500	ug/L	96.7	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Iron	5220	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Magnesium	5310	ug/L	5000	ug/L	106.2	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Nickel	491	ug/L	500	ug/L	98.1	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Potassium	5030	ug/L	5000	ug/L	100.6	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Selenium	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Silver	492	ug/L	500	ug/L	98.3	90.0 – 110.0	P	26–JAN–10 13:02	012610–1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Sodium	10100	ug/L	10000	ug/L	101.3	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Vanadium	493	ug/L	500	ug/L	98.5	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Zinc	485	ug/L	500	ug/L	96.9	90.0 – 110.0	P	26–JAN–10 13:02	012610–1
	Antimony	48.2	ug/L	50	ug/L	96.4	90.0 – 110.0	MS	28–JAN–10 08:43	100127–5
CCV05										
	Cadmium	49.7	ug/L	50	ug/L	99.4	90.0 – 110.0	MS	24–JAN–10 18:32	100124–3
	Lead	52.8	ug/L	50	ug/L	105.5	90.0 – 110.0	MS	24–JAN–10 18:32	100124–3
	Manganese	53.6	ug/L	50	ug/L	107.2	90.0 – 110.0	MS	24–JAN–10 18:32	100124–3
	Thallium	53	ug/L	50	ug/L	106.1	90.0 – 110.0	MS	24–JAN–10 18:32	100124–3
	Beryllium	51.9	ug/L	50	ug/L	103.8	90.0 – 110.0	MS	25–JAN–10 12:17	100125–4
	Uranium	48.5	ug/L	50	ug/L	97	90.0 – 110.0	MS	25–JAN–10 12:37	100125–2
	Aluminum	4930	ug/L	5000	ug/L	98.7	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Arsenic	489	ug/L	500	ug/L	97.9	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Barium	487	ug/L	500	ug/L	97.5	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Calcium	5070	ug/L	5000	ug/L	101.4	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Chromium	488	ug/L	500	ug/L	97.5	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Cobalt	500	ug/L	500	ug/L	100	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Copper	482	ug/L	500	ug/L	96.4	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Iron	5370	ug/L	5000	ug/L	107.4	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Magnesium	5380	ug/L	5000	ug/L	107.5	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Nickel	490	ug/L	500	ug/L	98	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Potassium	5050	ug/L	5000	ug/L	101	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Selenium	507	ug/L	500	ug/L	101.5	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Silver	490	ug/L	500	ug/L	98	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Sodium	10800	ug/L	10000	ug/L	107.9	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Vanadium	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Zinc	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26–JAN–10 13:39	012610–1
	Antimony	49.4	ug/L	50	ug/L	98.9	90.0 – 110.0	MS	28–JAN–10 09:04	100127–5
CCV06										
	Cadmium	49.7	ug/L	50	ug/L	99.5	90.0 – 110.0	MS	24–JAN–10 19:09	100124–3

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Lead	53.7	ug/L	50	ug/L	107.5	90.0 – 110.0	MS	24–JAN–10 19:09	100124–3
	Manganese	52.2	ug/L	50	ug/L	104.4	90.0 – 110.0	MS	24–JAN–10 19:09	100124–3
	Thallium	54.3	ug/L	50	ug/L	108.5	90.0 – 110.0	MS	24–JAN–10 19:09	100124–3
	Uranium	48.4	ug/L	50	ug/L	96.9	90.0 – 110.0	MS	25–JAN–10 12:59	100125–2
	Aluminum	4830	ug/L	5000	ug/L	96.6	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Arsenic	474	ug/L	500	ug/L	94.8	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Barium	476	ug/L	500	ug/L	95.2	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Calcium	4950	ug/L	5000	ug/L	99	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Chromium	476	ug/L	500	ug/L	95.3	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Cobalt	487	ug/L	500	ug/L	97.4	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Copper	470	ug/L	500	ug/L	94	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Iron	5120	ug/L	5000	ug/L	102.5	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Magnesium	5180	ug/L	5000	ug/L	103.6	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Nickel	478	ug/L	500	ug/L	95.6	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Potassium	4950	ug/L	5000	ug/L	98.9	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Selenium	485	ug/L	500	ug/L	97	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Silver	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Sodium	9870	ug/L	10000	ug/L	98.7	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Vanadium	481	ug/L	500	ug/L	96.1	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
	Zinc	471	ug/L	500	ug/L	94.1	90.0 – 110.0	P	26–JAN–10 14:50	012610–1
CCV07										
	Aluminum	4780	ug/L	5000	ug/L	95.6	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Arsenic	476	ug/L	500	ug/L	95.2	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Barium	475	ug/L	500	ug/L	94.9	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Calcium	4900	ug/L	5000	ug/L	98	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Chromium	475	ug/L	500	ug/L	94.9	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Copper	467	ug/L	500	ug/L	93.4	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Iron	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Magnesium	5160	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	26–JAN–10 15:38	012610–1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Nickel	477	ug/L	500	ug/L	95.3	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Potassium	4900	ug/L	5000	ug/L	98	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Selenium	489	ug/L	500	ug/L	97.9	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Silver	478	ug/L	500	ug/L	95.5	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Sodium	9980	ug/L	10000	ug/L	99.8	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Vanadium	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
	Zinc	469	ug/L	500	ug/L	93.8	90.0 – 110.0	P	26–JAN–10 15:38	012610–1
CCV08										
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Arsenic	485	ug/L	500	ug/L	97	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Barium	481	ug/L	500	ug/L	96.1	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Calcium	4970	ug/L	5000	ug/L	99.4	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Chromium	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Cobalt	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Copper	476	ug/L	500	ug/L	95.3	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Iron	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Magnesium	5220	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Nickel	482	ug/L	500	ug/L	96.5	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Potassium	4960	ug/L	5000	ug/L	99.1	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Selenium	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Silver	484	ug/L	500	ug/L	96.9	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Sodium	9720	ug/L	10000	ug/L	97.2	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Vanadium	485	ug/L	500	ug/L	97.1	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
	Zinc	475	ug/L	500	ug/L	95.1	90.0 – 110.0	P	26–JAN–10 16:55	012610–1
CCV09										
	Aluminum	4830	ug/L	5000	ug/L	96.5	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Arsenic	486	ug/L	500	ug/L	97.1	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Barium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Calcium	4970	ug/L	5000	ug/L	99.4	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Chromium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26–JAN–10 18:12	012610–1

**METALS**  
**–2a–**  
**Initial and Continuing Calibration Verification**

SDG No: 10–1262–1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Cobalt	495	ug/L	500	ug/L	99	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Copper	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Iron	5220	ug/L	5000	ug/L	104.4	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Magnesium	5220	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Nickel	487	ug/L	500	ug/L	97.5	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Potassium	4910	ug/L	5000	ug/L	98.2	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Selenium	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Silver	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Sodium	10200	ug/L	10000	ug/L	101.8	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Vanadium	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
	Zinc	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	26–JAN–10 18:12	012610–1
CCV10	Aluminum	4780	ug/L	5000	ug/L	95.6	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Arsenic	490	ug/L	500	ug/L	98	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Barium	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Calcium	4900	ug/L	5000	ug/L	97.9	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Chromium	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Cobalt	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Copper	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Iron	5040	ug/L	5000	ug/L	100.7	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Magnesium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Nickel	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Potassium	4820	ug/L	5000	ug/L	96.5	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Selenium	495	ug/L	500	ug/L	99	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Silver	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Sodium	9290	ug/L	10000	ug/L	92.9	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Vanadium	496	ug/L	500	ug/L	99.3	90.0 – 110.0	P	26–JAN–10 19:22	012610–1
	Zinc	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	26–JAN–10 19:22	012610–1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-1262-1

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CRDL01										
	Mercury	.261	ug/L	.2	ug/L	130.6	70.0 – 130.0	AV	20-JAN-10 09:57	012010W1-6
	Lead	2.42	ug/L	2	ug/L	120.9	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Manganese	6	ug/L	5	ug/L	120	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Thallium	1.24	ug/L	1	ug/L	124.3	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Cadmium	1.09	ug/L	1	ug/L	109.1	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Uranium	.228	ug/L	.2	ug/L	114	70.0 – 130.0	MS	25-JAN-10 10:59	100125-2
	Beryllium	.568	ug/L	.5	ug/L	113.6	70.0 – 130.0	MS	25-JAN-10 11:23	100125-4
	Antimony	2.84	ug/L	3	ug/L	94.8	70.0 – 130.0	MS	28-JAN-10 07:37	100127-5
PQL01										
	Aluminum	202	ug/L	200	ug/L	101.1	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Iron	104	ug/L	100	ug/L	103.8	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Magnesium	382	ug/L	300	ug/L	127.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Nickel	5.64	ug/L	5	ug/L	112.7	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Potassium	99.4	ug/L	150	ug/L	66.3	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Silver	5.01	ug/L	5	ug/L	100.2	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Sodium	233	ug/L	300	ug/L	77.8	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Arsenic	26.8	ug/L	30	ug/L	89.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Barium	5.18	ug/L	5	ug/L	103.6	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Chromium	5.04	ug/L	5	ug/L	100.7	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Cobalt	5.2	ug/L	5	ug/L	103.9	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Copper	9.35	ug/L	10	ug/L	93.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Vanadium	5.51	ug/L	5	ug/L	110.1	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Zinc	9.48	ug/L	10	ug/L	94.8	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Calcium	205	ug/L	200	ug/L	102.4	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Selenium	31	ug/L	30	ug/L	103.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
PQL02										
	Aluminum	199	ug/L	200	ug/L	99.4	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Iron	114	ug/L	100	ug/L	114.3	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Magnesium	321	ug/L	300	ug/L	107.2	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Nickel	5.88	ug/L	5	ug/L	117.6	70.0 – 130.0	P	26-JAN-10 12:20	012610-1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-1262-1

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source:

ICP CRDL Standard Source

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Potassium	125	ug/L	150	ug/L	83.6	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Silver	5.42	ug/L	5	ug/L	108.3	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Sodium	254	ug/L	300	ug/L	84.6	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Arsenic	29.2	ug/L	30	ug/L	97.2	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Barium	5.23	ug/L	5	ug/L	104.5	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Chromium	5.14	ug/L	5	ug/L	102.8	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Cobalt	5.09	ug/L	5	ug/L	101.8	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Copper	9.78	ug/L	10	ug/L	97.8	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Vanadium	5.28	ug/L	5	ug/L	105.7	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Zinc	9.95	ug/L	10	ug/L	99.5	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Calcium	203	ug/L	200	ug/L	101.3	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Selenium	27.9	ug/L	30	ug/L	92.9	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
PQL03										
	Aluminum	213	ug/L	200	ug/L	106.4	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Iron	116	ug/L	100	ug/L	115.8	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Magnesium	359	ug/L	300	ug/L	119.7	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Nickel	5.42	ug/L	5	ug/L	108.4	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Potassium	109	ug/L	150	ug/L	72.9	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Silver	5.13	ug/L	5	ug/L	102.7	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Sodium	258	ug/L	300	ug/L	86.1	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Arsenic	27.3	ug/L	30	ug/L	91	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Barium	4.91	ug/L	5	ug/L	98.1	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Chromium	4.88	ug/L	5	ug/L	97.5	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Cobalt	5.02	ug/L	5	ug/L	100.4	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Copper	8.8	ug/L	10	ug/L	88	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Vanadium	5.44	ug/L	5	ug/L	108.9	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Zinc	9.4	ug/L	10	ug/L	94	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Calcium	200	ug/L	200	ug/L	99.9	70.0 – 130.0	P	26-JAN-10 14:57	012610-1
	Selenium	30.1	ug/L	30	ug/L	100.4	70.0 – 130.0	P	26-JAN-10 14:57	012610-1



**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
<b>ICB01</b>										
	Mercury	0.066	+/- .2	U	0.066	0.2	LIQ	AV	20-JAN-10 09:55	012010W1-6
	Cadmium	0.11	+/- 1	U	0.11	1.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Lead	0.5	+/- 2	U	0.5	2.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Manganese	1.0	+/- 5	U	1.0	5.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Thallium	0.3	+/- 1	U	0.3	1.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Uranium	0.05	+/- .2	U	0.05	0.2	LIQ	MS	25-JAN-10 10:56	100125-2
	Beryllium	0.1	+/- .5	U	0.1	0.5	LIQ	MS	25-JAN-10 11:21	100125-4
	Aluminum	68.0	+/- 200	U	68.0	200	LIQ	P	26-JAN-10 09:45	012610-1
	Arsenic	5.0	+/- 30	U	5.0	30.0	LIQ	P	26-JAN-10 09:45	012610-1
	Barium	1.0	+/- 5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Calcium	50.0	+/- 200	U	50.0	200	LIQ	P	26-JAN-10 09:45	012610-1
	Chromium	1.0	+/- 5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Cobalt	1.0	+/- 5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Copper	3.0	+/- 10	U	3.0	10.0	LIQ	P	26-JAN-10 09:45	012610-1
	Iron	30.0	+/- 100	U	30.0	100	LIQ	P	26-JAN-10 09:45	012610-1
	Magnesium	85.0	+/- 300	U	85.0	300	LIQ	P	26-JAN-10 09:45	012610-1
	Nickel	1.5	+/- 5	U	1.5	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Potassium	50.0	+/- 150	U	50.0	150	LIQ	P	26-JAN-10 09:45	012610-1
	Selenium	5.0	+/- 30	U	5.0	30.0	LIQ	P	26-JAN-10 09:45	012610-1
	Silver	1.0	+/- 5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Sodium	100	+/- 300	U	100	300	LIQ	P	26-JAN-10 09:45	012610-1
	Vanadium	1.0	+/- 5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Zinc	3.3	+/- 10	U	3.3	10.0	LIQ	P	26-JAN-10 09:45	012610-1
	Antimony	1.0	+/- 3	U	1.0	3.0	LIQ	MS	28-JAN-10 07:35	100127-5
<b>CCB01</b>										
	Mercury	0.066	+/- .2	U	0.066	0.2	LIQ	AV	20-JAN-10 10:01	012010W1-6
	Cadmium	0.11	+/- 1	U	0.11	1.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Lead	0.5	+/- 2	U	0.5	2.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Manganese	1.0	+/- 5	U	1.0	5.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Thallium	0.3	+/- 1	U	0.3	1.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Uranium	0.05	+/- .2	U	0.05	0.2	LIQ	MS	25-JAN-10 11:07	100125-2

**Metals**  
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**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 11:30	100125-4
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 10:46	012610-1
	Arsenic	5.93	+/-30	J	5.0	30.0	LIQ	P	26-JAN-10 10:46	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 10:46	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 10:46	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 10:46	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 10:46	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 10:46	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 10:46	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 10:46	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 10:46	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 07:46	100127-5
<b>CCB02</b>										
	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 10:25	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 11:27	100125-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 11:43	100125-4
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 11:07	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 11:07	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 11:07	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 11:07	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 11:07	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 11:07	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 11:07	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 11:07	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 11:07	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 11:07	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 08:10	100127-5
<b>CCB03</b>	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 10:49	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 11:43	100125-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 12:00	100125-4
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 12:27	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 12:27	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 12:27	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 12:27	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 12:27	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 12:27	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 12:27	012610-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB04	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 12:27	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 12:27	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 12:27	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 08:24	100127-5
	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 11:13	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 12:08	100125-4
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 12:15	100125-2
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 13:09	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:09	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 13:09	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 13:09	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 13:09	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 13:09	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 13:09	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:09	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 13:09	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 13:09	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 08:45	100127-5

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
<b>CCB05</b>										
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 12:19	100125-4
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 12:39	100125-2
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 13:46	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:46	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 13:46	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 13:46	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 13:46	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 13:46	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 13:46	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:46	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 13:46	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 13:46	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 09:06	100127-5
<b>CCB06</b>										
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 13:02	100125-2
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 15:04	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:04	012610-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 15:04	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 15:04	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 15:04	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 15:04	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 15:04	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:04	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 15:04	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 15:04	012610-1
CCB07	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 15:45	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:45	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 15:45	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 15:45	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 15:45	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 15:45	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 15:45	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:45	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 15:45	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 15:45	012610-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
<b>CCB08</b>	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 17:02	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 17:02	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 17:02	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 17:02	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 17:02	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 17:02	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 17:02	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 17:02	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 17:02	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 17:02	012610-1
<b>CCB09</b>	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 18:19	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 18:19	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 18:19	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 18:19	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 18:19	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 18:19	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 18:19	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 18:19	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 18:19	012610-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
<b>CCB10</b>	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 18:19	012610-1
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 19:29	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 19:29	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 19:29	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 19:29	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 19:29	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 19:29	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 19:29	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 19:29	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 19:29	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 19:29	012610-1



**METALS**  
**-3b-**  
**PREPARATION BLANK SUMMARY**

**SDG NO.** 10-1262-1  
**Contract:** LANL01004  
**Matrix:** WATER

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Acceptance Window</u>	<u>Conc Qual</u>	<u>M</u>	<u>MDL</u>	<u>RDL</u>
1202017559	Aluminum	68	ug/L	+/-200	U	P	68	200
	Arsenic	5	ug/L	+/-30	U	P	5	30
	Barium	1	ug/L	+/-5	U	P	1	5
	Calcium	50	ug/L	+/-200	U	P	50	200
	Chromium	1	ug/L	+/-5	U	P	1	5
	Cobalt	1	ug/L	+/-5	U	P	1	5
	Copper	3	ug/L	+/-10	U	P	3	10
	Iron	30	ug/L	+/-100	U	P	30	100
	Magnesium	85	ug/L	+/-300	U	P	85	300
	Nickel	1.5	ug/L	+/-5	U	P	1.5	5
	Potassium	-63.4	ug/L	+/-150	J	P	50	150
	Selenium	5	ug/L	+/-30	U	P	5	30
	Silver	1	ug/L	+/-5	U	P	1	5
	Sodium	100	ug/L	+/-300	U	P	100	300
	Vanadium	1	ug/L	+/-5	U	P	1	5
	Zinc	3.3	ug/L	+/-10	U	P	3.3	10
1202017705	Beryllium	0.1	ug/L	+/-0.5	U	MS	0.1	0.5
	Cadmium	0.11	ug/L	+/-1	U	MS	0.11	1
	Lead	0.5	ug/L	+/-2	U	MS	0.5	2
	Manganese	1	ug/L	+/-5	U	MS	1	5
	Thallium	0.3	ug/L	+/-1	U	MS	0.3	1
	Uranium	0.05	ug/L	+/-0.2	U	MS	0.05	0.2
1202019182	Mercury	0.066	ug/L	+/-0.2	U	AV	0.066	0.2
1202026084	Antimony	0.5	ug/L	+/-3	U	MS	0.5	3

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1262-1

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Aluminum	523000	ug/L	500000	ug/L	105	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Arsenic	15.3	ug/L					26-JAN-10 09:59	012610-1
	Barium	1.3	ug/L					26-JAN-10 09:59	012610-1
	Calcium	483000	ug/L	500000	ug/L	96.6	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Chromium	1.81	ug/L					26-JAN-10 09:59	012610-1
	Cobalt	-1.55	ug/L					26-JAN-10 09:59	012610-1
	Copper	3.75	ug/L					26-JAN-10 09:59	012610-1
	Iron	189000	ug/L	200000	ug/L	94.7	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Magnesium	499000	ug/L	500000	ug/L	99.9	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Nickel	3.09	ug/L					26-JAN-10 09:59	012610-1
	Potassium	-162.0	ug/L					26-JAN-10 09:59	012610-1
	Selenium	32.6	ug/L					26-JAN-10 09:59	012610-1
	Silver	4.99	ug/L					26-JAN-10 09:59	012610-1
	Sodium	-12.2	ug/L					26-JAN-10 09:59	012610-1
	Vanadium	-1.22	ug/L					26-JAN-10 09:59	012610-1
	Zinc	8.12	ug/L					26-JAN-10 09:59	012610-1
<b>ICSAB01</b>									
	Aluminum	534000	ug/L	500000	ug/L	107	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Arsenic	504	ug/L	500	ug/L	101	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Barium	481	ug/L	500	ug/L	96.2	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Calcium	488000	ug/L	500000	ug/L	97.7	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Chromium	464	ug/L	500	ug/L	92.7	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Cobalt	440	ug/L	500	ug/L	88	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Copper	550	ug/L	500	ug/L	110	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Iron	189000	ug/L	200000	ug/L	94.8	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Magnesium	503000	ug/L	500000	ug/L	101	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Nickel	426	ug/L	500	ug/L	85.3	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Potassium	5420	ug/L	5000	ug/L	108	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Selenium	2520	ug/L	2500	ug/L	101	80.0 – 120.0	26-JAN-10 10:05	012610-1

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:**

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Silver	267	ug/L	250	ug/L	107	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Sodium	5560	ug/L	5000	ug/L	111	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Vanadium	483	ug/L	500	ug/L	96.6	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Zinc	485	ug/L	500	ug/L	97	80.0 – 120.0	26-JAN-10 10:05	012610-1

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:** O2Si

**Instrument:** ICPMS4

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Uranium	0.003	ug/L					25-JAN-10 11:01	100125-2
ICSAB01	Uranium	20.5	ug/L	20	ug/L	103	80.0 – 120.0	25-JAN-10 11:03	100125-2

**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262-1**Contract:** LANL01004**Lab Code:** GEL**ICS:** O2Si**Instrument:** ICPMS5

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Cadmium	0.453	ug/L					24-JAN-10 15:21	100124-3
	Lead	0.202	ug/L					24-JAN-10 15:21	100124-3
	Manganese	6.05	ug/L					24-JAN-10 15:21	100124-3
	Thallium	0.009	ug/L					24-JAN-10 15:21	100124-3
<b>ICSAB01</b>									
	Cadmium	20.2	ug/L	20.4	ug/L	99.2	80.0 – 120.0	24-JAN-10 15:27	100124-3
	Lead	21.8	ug/L	20.5	ug/L	106	80.0 – 120.0	24-JAN-10 15:27	100124-3
	Manganese	27.1	ug/L	25.8	ug/L	105	80.0 – 120.0	24-JAN-10 15:27	100124-3
	Thallium	22.6	ug/L	20	ug/L	113	80.0 – 120.0	24-JAN-10 15:27	100124-3

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:** O2Si

**Instrument:** ICPMS5

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Beryllium	0.054	ug/L					25-JAN-10 11:25	100125-4
ICSAB01	Beryllium	17.4	ug/L	20	ug/L	87.1	80.0 – 120.0	25-JAN-10 11:26	100125-4

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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**ICS:** O2Si

**Instrument:** ICPMS5

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Antimony	0.227	ug/L					28-JAN-10 07:39	100127-5
ICSAB01	Antimony	24.0	ug/L	20	ug/L	120	80.0 – 120.0	28-JAN-10 07:42	100127-5

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1262-1 Client ID: RE15-10-7229S

Contract: LANL01004 Level: Low

Matrix: WATER % Solids:

Sample ID: 244922001 Spike ID: 1202017562

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Magnesium	ug/L	75-125	4820		128	J	5000	93.9		P
Nickel	ug/L	75-125	394		1.5	U	500	78.5		P
Potassium	ug/L	75-125	4840		291		5000	91		P
Selenium	ug/L	75-125	387		5	U	500	77.4		P
Silver	ug/L	75-125	436		1	U	500	87.2		P
Sodium	ug/L	75-125	5000		323		5000	93.6		P
Vanadium	ug/L	75-125	401		1	U	500	79.9		P
Zinc	ug/L	75-125	388		3.3	U	500	77		P
Aluminum	ug/L	75-125	4880		405		5000	89.5		P
Arsenic	ug/L	75-125	422		5	U	500	84.5		P
Barium	ug/L	75-125	445		4.81	J	500	88		P
Calcium	ug/L	75-125	4600		113	J	5000	89.7		P
Chromium	ug/L	75-125	392		1	U	500	78.3		P
Cobalt	ug/L	75-125	433		1	U	500	86.5		P
Copper	ug/L	75-125	403		3	U	500	80.2		P
Iron	ug/L	75-125	4920		234		5000	93.8		P



## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1262-1

Client ID: WST52-10-11327S

Contract: LANL01006

Level: Low

Matrix: WATER

% Solids:

Sample ID: 244925001

Spike ID: 1202017708

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Beryllium	ug/L	75-125	44.7		0.92		50	87.5		MS
Cadmium	ug/L	75-125	9.69		0.214	J	10	94.8		MS
Lead	ug/L	75-125	38.4		8.18		40	75.5		MS
Manganese	ug/L		260		225		50	70.3	N/A	MS
Thallium	ug/L	75-125	91.9		0.3	U	100	91.8		MS
Uranium	ug/L	75-125	49.3		3.03		50	92.5		MS

## METALS

-5a-

## Matrix Spike Summary

**SDG NO.** 10-1262-1 **Client ID:** RE15-10-7229S**Contract:** LANL01004 **Level:** Low**Matrix:** WATER **% Solids:****Sample ID:** 244922001 **Spike ID:** 1202019185

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/L	75-125	1.96		0.066	U	2	97.8		AV

## METALS

-5a-

## Matrix Spike Summary

**SDG NO.** 10-1262-1 **Client ID:** WST52-10-11327S**Contract:** LANL01006 **Level:** Low**Matrix:** WATER **% Solids:****Sample ID:** 244925001 **Spike ID:** 1202026087

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Antimony	ug/L	75-125	158		0.833	J	200	78.6		MS

**Metals**  
**–6–**  
**Duplicate Sample Summary**

SDG No.: 10-1262-1

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE15-10-7229D

Sample ID: 244922001

Duplicate ID: 1202017561

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	+/-200	405		313		25.6		P
Arsenic	ug/L		5 U		5 U				P
Barium	ug/L	+/-5	4.81 J		4.24 J		12.7		P
Calcium	ug/L	+/-200	113 J		101 J		11.5		P
Chromium	ug/L		1 U		1 U				P
Cobalt	ug/L		1 U		1 U				P
Copper	ug/L		3 U		3 U				P
Iron	ug/L	+/-100	234		191		20.1		P
Magnesium	ug/L		128 J		85 U		200		P
Nickel	ug/L		1.5 U		1.5 U				P
Potassium	ug/L	+/-150	291		260		11.3		P
Selenium	ug/L		5 U		5 U				P
Silver	ug/L		1 U		1 U				P
Sodium	ug/L	+/-300	323		310		3.89		P
Vanadium	ug/L		1 U		1.01 J		200		P
Zinc	ug/L		3.3 U		3.3 U				P

**Metals**  
**–6–**  
**Duplicate Sample Summary**

**SDG No.:** 10-1262-1**Contract:** LANL01004**Lab Code:** GEL**Matrix:** LIQUID**Level:** Low**Client ID:** WST52-10-11327D**Sample ID:** 244925001**Duplicate ID:** 1202017707**Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Beryllium	ug/L	+/- .5	0.92		0.928		.866		MS
Cadmium	ug/L	+/- 1	0.214 J		0.228 J		6.33		MS
Lead	ug/L	+/- 2	8.18		7.68		6.41		MS
Manganese	ug/L	+/- 20%	225		218		3.31		MS
Thallium	ug/L		0.3 U		0.3 U				MS
Uranium	ug/L	+/- 20%	3.03		2.9		4.22		MS

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**Metals**  
**-6-**  
**Duplicate Sample Summary**

**SDG No.:** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** LIQUID

**Level:** Low

**Client ID:** RE15-10-7229D

**Sample ID:** 244922001

**Duplicate ID:** 1202019184

**Percent Solids for Dup:** N/A

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L		0.066	U	0.066	U			AV

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**Metals**  
**–6–**  
**Duplicate Sample Summary**

**SDG No.:** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** LIQUID

**Level:** Low

**Client ID:** WST52-10-11327D

**Sample ID:** 244925001

**Duplicate ID:** 1202026086

**Percent Solids for Dup:** N/A

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Antimony	ug/L	+/-3	0.833 J		0.804 J		3.54		MS

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## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262-1

Contract: LANL01004

Aqueous LCS Source:OS2I

Solid LCS Source:

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202017560								
	Aluminum	ug/L	5000	4880		97.7	80-120	P
	Arsenic	ug/L	500	478		95.6	80-120	P
	Barium	ug/L	500	484		96.8	80-120	P
	Calcium	ug/L	5000	4960		99.2	80-120	P
	Chromium	ug/L	500	473		94.6	80-120	P
	Cobalt	ug/L	500	477		95.3	80-120	P
	Copper	ug/L	500	477		95.5	80-120	P
	Iron	ug/L	5000	5130		103	80-120	P
	Magnesium	ug/L	5000	5200		104	80-120	P
	Nickel	ug/L	500	475		95	80-120	P
	Potassium	ug/L	5000	4970		99.4	80-120	P
	Selenium	ug/L	500	475		95.1	80-120	P
	Silver	ug/L	500	475		95	80-120	P
	Sodium	ug/L	5000	4860		97.1	80-120	P
	Vanadium	ug/L	500	482		96.3	80-120	P
	Zinc	ug/L	500	465		93	80-120	P



## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262-1

Contract: LANL01004

Aqueous LCS Source:O2si

Solid LCS Source:

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202017706								
	Beryllium	ug/L	50	51.4		103	80-120	MS
	Cadmium	ug/L	50	50		100	80-120	MS
	Lead	ug/L	50	53.4		107	80-120	MS
	Manganese	ug/L	50	52.2		104	80-120	MS
	Thallium	ug/L	50	51.7		103	80-120	MS
	Uranium	ug/L	50	48		95.9	80-120	MS

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262-1

Contract: LANL01004

Aqueous LCS Source:GEL

Solid LCS Source:

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202019183	Mercury	ug/L	2	2.02		101	80-120	AV

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1262-1

Contract: LANL01004

Aqueous LCS Source:O2si

Solid LCS Source:

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202026085	Antimony	ug/L	50	55.1		110	80-120	MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1262-1

Client ID: RE15-10-7229L

Contract: LANL01004

Matrix: LIQUID

Level: Low

Sample ID: 244922001

Serial Dilution ID: 1202017563

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Aluminum	405		464	J	14.4			P
Arsenic	5	U	25	U				P
Barium	4.81	J	5.25	J	9.15			P
Calcium	113	J	250	U	100			P
Chromium	1	U	5	U				P
Cobalt	1	U	5	U				P
Copper	3	U	15	U				P
Iron	234		275	J	17.5			P
Magnesium	128	J	425	U	100			P
Nickel	1.5	U	7.5	U				P
Potassium	291		250	U	100			P
Selenium	5	U	25	U				P
Silver	1	U	5	U				P
Sodium	323		500	U	100			P
Vanadium	1	U	5	U				P
Zinc	3.3	U	16.5	U				P

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1262-1 Client ID: WST52-10-11327L

Contract: LANL01004

Matrix: LIQUID Level: Low

Sample ID: 244925001 Serial Dilution ID: 1202017709

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Beryllium	.92		1.01	J	9.24			MS
Cadmium	.214	J	.55	U	100			MS
Lead	8.18		8.55	J	4.52			MS
Manganese	225		269		19.6	E	10	MS
Thallium	.3	U	1.5	U				MS
Uranium	3.03		3.1		2.15			MS

## METALS

-9-

## Serial Dilution Sample Summary

**SDG NO.** 10-1262-1 **Client ID:** RE15-10-7229L**Contract:** LANL01004**Matrix:** LIQUID **Level:** Low**Sample ID:** 244922001 **Serial Dilution ID:** 1202019186

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Mercury	.066	U	.33	U				AV

## METALS

-9-

## Serial Dilution Sample Summary

**SDG NO.** 10-1262-1 **Client ID:** WST52-10-11327L**Contract:** LANL01004**Matrix:** LIQUID **Level:** Low**Sample ID:** 244925001 **Serial Dilution ID:** 1202026088

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Antimony	.833	J	2.5	U	100			MS

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

**SDG No:** 10-1262-1**Method Type:** P**Contract:** LANL01004**Lab Code:** GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number</b> 942449							
1202017559	MB for batch 942449	MB	W	19-JAN-10	50mL	50mL	
1202017560	LCS for batch 942449	LCS	W	19-JAN-10	50mL	50mL	
1202017562	RE15-10-7229S	MS	W	19-JAN-10	50mL	50mL	
1202017561	RE15-10-7229D	DUP	W	19-JAN-10	50mL	50mL	
244849001	RE12-10-7286	SAMPLE	W	19-JAN-10	50mL	50mL	

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**SW846**



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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

SDG No: 10-1262-1

Method Type: MS

Contract: LANL01004

Lab Code: GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number</b> 942490							
1202017705	MB for batch 942490	MB	W	19-JAN-10	50mL	50mL	
1202017706	LCS for batch 942490	LCS	W	19-JAN-10	50mL	50mL	
1202017708	WST52-10-11327S	MS	W	19-JAN-10	50mL	50mL	
1202017707	WST52-10-11327D	DUP	W	19-JAN-10	50mL	50mL	
244849001	RE12-10-7286	SAMPLE	W	19-JAN-10	50mL	50mL	
<b>Batch Number</b> 945920							
1202026084	MB for batch 945920	MB	W	27-JAN-10	25mL	25mL	
1202026085	LCS for batch 945920	LCS	W	27-JAN-10	25mL	25mL	
1202026087	WST52-10-11327S	MS	W	27-JAN-10	25mL	25mL	
1202026086	WST52-10-11327D	DUP	W	27-JAN-10	25mL	25mL	
244849001	RE12-10-7286	SAMPLE	W	27-JAN-10	25mL	25mL	

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SW846

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

**SDG No:** 10-1262-1**Method Type:** AV**Contract:** LANL01004**Lab Code:** GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number</b>	943086						
1202019182	MB for batch 943086	MB	W	19-JAN-10	20mL	20mL	
1202019183	LCS for batch 943086	LCS	W	19-JAN-10	20mL	20mL	
1202019185	RE15-10-7229S	MS	W	19-JAN-10	20mL	20mL	
1202019184	RE15-10-7229D	DUP	W	19-JAN-10	20mL	20mL	
244849001	RE12-10-7286	SAMPLE	W	19-JAN-10	20mL	20mL	

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**SW846**

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS5**Start Date:** 24-JAN-10**Client Sdg:** 10-1262-1**Method:** MS**Data File:** 100124-3**End Date:** 24-JAN-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	14:44						X						X		X							X			
S10	1	14:50						X						X		X							X			
S100	1	14:57						X						X		X							X			
ICV01	1	15:03						X						X		X							X			
ICB01	1	15:09						X						X		X							X			
CRDL01	1	15:15						X						X		X							X			
ICSA01	1	15:21						X						X		X							X			
ICSAB01	1	15:27						X						X		X							X			
CCV01	1	15:33						X						X		X							X			
CCB01	1	15:39						X						X		X							X			
LR01	1	15:45						X						X		X							X			
CCV02	1	15:51						X						X		X							X			
CCB02	1	15:58						X						X		X							X			
1202017705	1	16:04						X						X		X							X			
1202017706	1	16:10						X						X		X							X			
ZZZZZZ	1	16:16																								
ZZZZZZ	1	16:22																								
ZZZZZZ	1	16:28																								
ZZZZZZ	1	16:35																								
ZZZZZZ	1	16:41																								
CCV03	1	16:47						X						X		X							X			
CCB03	1	16:53						X						X		X							X			
ZZZZZZ	1	16:59																								
ZZZZZZ	1	17:05																								
ZZZZZZ	1	17:11																								
244849001	1	17:18						X						X		X							X			
ZZZZZZ	1	17:24																								
ZZZZZZ	1	17:30																								
ZZZZZZ	1	17:36																								
CCV04	1	17:42						X						X		X							X			
CCB04	1	17:48						X						X		X							X			
ZZZZZZ	1	17:55																								
ZZZZZZ	1	18:01																								
ZZZZZZ	1	18:07																								
ZZZZZZ	1	18:13																								
ZZZZZZ	1	18:19																								
ZZZZZZ	1	18:26																								
CCV05	1	18:32						X						X		X							X			
CCB05	1	18:38						X						X		X							X			
ZZZZZZ	1	18:44																								

**Metals**  
**–14–**  
**Analysis Run Log**

Samp No.	D/F	Run Time							X						X		X								X			
I202017707	1	18:50							X						X		X								X			
I202017708	1	18:56							X						X		X								X			
I202017709	5	19:03							X						X		X								X			
CCV06	1	19:09							X						X		X								X			
CCB06	1	19:15							X						X		X								X			

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS5**Start Date:** 25-JAN-10**End Date:** 25-JAN-10**Client Sdg:** 10-1262-1**Method:** MS**Data File:** 100125-4

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	11:15					X																			
S10	1	11:16					X																			
S100	1	11:18					X																			
ICV01	1	11:20					X																			
ICB01	1	11:21					X																			
CRDL01	1	11:23					X																			
ICSA01	1	11:25					X																			
ICSAB01	1	11:26					X																			
CCV01	1	11:28					X																			
CCB01	1	11:30					X																			
1202017705	1	11:31					X																			
1202017706	1	11:33					X																			
ZZZZZZ	1	11:35																								
ZZZZZZ	1	11:36																								
ZZZZZZ	1	11:38																								
ZZZZZZ	1	11:40																								
CCV02	1	11:41					X																			
CCB02	1	11:43					X																			
244849001	1	11:46					X																			
ZZZZZZ	1	11:48																								
ZZZZZZ	1	11:50																								
ZZZZZZ	1	11:51																								
ZZZZZZ	1	11:53																								
ZZZZZZ	1	11:55																								
ZZZZZZ	1	11:56																								
CCV03	1	11:58					X																			
CCB03	1	12:00					X																			
ZZZZZZ	1	12:02																								
ZZZZZZ	1	12:03																								
ZZZZZZ	1	12:05																								
CCV04	1	12:07					X																			
CCB04	1	12:08					X																			
ZZZZZZ	1	12:10																								
1202017707	1	12:12					X																			
1202017708	1	12:14					X																			
1202017709	5	12:15					X																			
CCV05	1	12:17					X																			
CCB05	1	12:19					X																			

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS5**Start Date:** 28-JAN-10**Client Sdg:** 10-1262-1**Method:** MS**Data File:** 100127-5**End Date:** 28-JAN-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	07:25		X																						
S10	1	07:28		X																						
S100	1	07:30		X																						
ICV01	1	07:32		X																						
ICB01	1	07:35		X																						
CRDL01	1	07:37		X																						
ICSA01	1	07:39		X																						
ICSAB01	1	07:42		X																						
CCV01	1	07:44		X																						
CCB01	1	07:46		X																						
1202026084	1	07:49		X																						
1202026085	1	07:51		X																						
ZZZZZZ	1	07:53																								
ZZZZZZ	1	07:56																								
ZZZZZZ	1	07:58																								
ZZZZZZ	1	08:00																								
ZZZZZZ	1	08:03																								
ZZZZZZ	1	08:05																								
CCV02	1	08:07		X																						
CCB02	1	08:10		X																						
ZZZZZZ	1	08:14																								
ZZZZZZ	1	08:17																								
244849001	1	08:19		X																						
CCV03	1	08:21		X																						
CCB03	1	08:24		X																						
ZZZZZZ	1	08:26																								
ZZZZZZ	1	08:28																								
ZZZZZZ	5	08:31																								
ZZZZZZ	1	08:33																								
ZZZZZZ	1	08:36																								
ZZZZZZ	1	08:38																								
ZZZZZZ	1	08:40																								
CCV04	1	08:43		X																						
CCB04	1	08:45		X																						
ZZZZZZ	1	08:47																								
ZZZZZZ	1	08:50																								
ZZZZZZ	1	08:52																								
ZZZZZZ	1	08:54																								
1202026086	1	08:57		X																						
1202026087	1	08:59		X																						

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time
120206088	5	09:02
CCV05	1	09:04
CCB05	1	09:06

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** OPTIMA3**Start Date:** 26-JAN-10**End Date:** 26-JAN-10**Client Sdg:** 10-1262-1**Method** P**Data File:** 012610-1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:04	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S0.1	1	09:12			X	X				X	X	X						X	X	X	X				X	X
S0.5	1	09:18	X		X	X			X	X	X	X			X			X	X	X	X				X	X
SCAL	1	09:25	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S10	1	09:32	X						X				X		X							X				
ICV01	1	09:38	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICB01	1	09:45	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
PQL01	1	09:53	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSA01	1	09:59	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSAB01	1	10:05	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR01	1	10:12	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR02	1	10:18	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	10:24																								
ZZZZZZ	1	10:32																								
CCV01	1	10:38	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB01	1	10:46	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR03	1	10:53	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV02	1	11:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB02	1	11:07	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	11:18																								
ZZZZZZ	1	11:25																								
ZZZZZZ	1	11:32																								
ZZZZZZ	1	11:39																								
ZZZZZZ	1	11:46																								
ZZZZZZ	1	11:53																								
ZZZZZZ	1	11:59																								
ZZZZZZ	5	12:06																								
CCV03	1	12:13	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
PQL02	1	12:20	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB03	1	12:27	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	12:35																								
ZZZZZZ	1	12:42																								
ZZZZZZ	1	12:48																								
ZZZZZZ	1	12:55																								
CCV04	1	13:02	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB04	1	13:09	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	13:24																								
ZZZZZZ	1	13:32																								
CCV05	1	13:39	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB05	1	13:46	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X



**Metals**  
**-14-**  
**Analysis Run Log**

[illegible]

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
I202017562	1	19:02	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
I202017563	5	19:08	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	19:15																								
CCV10	1	19:22	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB10	1	19:29	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** MER536**Start Date:** 20-JAN-10**Client Sdg:** 10-1262-1**Method:** AV**Data File:** 012010W1-6**End Date:** 20-JAN-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:41															X									
S0.2	1	09:43															X									
S0.5	1	09:45															X									
S2.0	1	09:47															X									
S5.0	1	09:49															X									
S10	1	09:51															X									
ICV01	1	09:53															X									
ICB01	1	09:55															X									
CRDL01	1	09:57															X									
CCV01	1	09:59															X									
CCB01	1	10:01															X									
ZZZZZZ	1	10:03																								
ZZZZZZ	1	10:05																								
ZZZZZZ	1	10:07																								
ZZZZZZ	1	10:09																								
ZZZZZZ	1	10:11																								
ZZZZZZ	5	10:13																								
ZZZZZZ	1	10:15																								
ZZZZZZ	1	10:17																								
ZZZZZZ	1	10:19																								
I202019182	1	10:21															X									
CCV02	1	10:23															X									
CCB02	1	10:25															X									
I202019183	1	10:27															X									
244849001	1	10:29															X									
ZZZZZZ	1	10:31																								
ZZZZZZ	1	10:33																								
ZZZZZZ	1	10:35																								
ZZZZZZ	1	10:37																								
ZZZZZZ	1	10:39																								
ZZZZZZ	1	10:41																								
I202019184	1	10:43															X									
I202019185	1	10:45															X									
CCV03	1	10:47															X									
CCB03	1	10:49															X									
I202019186	5	10:51															X									
ZZZZZZ	1	10:53																								
ZZZZZZ	1	10:55																								
ZZZZZZ	1	10:57																								
ZZZZZZ	1	10:59																								

**Metals**  
**-14-**  
**Analysis Run Log**

[illegible]

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS4**Start Date:** 25-JAN-10**Client Sdg:** 10-1262-1**Method:** MS**Data File:** 100125-2**End Date:** 25-JAN-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	10:48																						X		
S10	1	10:50																						X		
S100	1	10:52																						X		
ICV01	1	10:54																						X		
ICB01	1	10:56																						X		
CRDL01	1	10:59																						X		
ICSA01	1	11:01																						X		
ICSAB01	1	11:03																						X		
CCV01	1	11:05																						X		
CCB01	1	11:07																						X		
ZZZZZZ	2	11:10																								
ZZZZZZ	40	11:12																								
ZZZZZZ	2	11:14																								
ZZZZZZ	2	11:16																								
ZZZZZZ	2	11:18																								
ZZZZZZ	2	11:21																								
ZZZZZZ	2	11:23																								
CCV02	1	11:25																						X		
CCB02	1	11:27																						X		
ZZZZZZ	2	11:29																								
ZZZZZZ	2	11:32																								
ZZZZZZ	2	11:34																								
ZZZZZZ	2	11:36																								
ZZZZZZ	10	11:38																								
CCV03	1	11:40																						X		
CCB03	1	11:43																						X		
1202017705	1	11:55																						X		
1202017706	1	11:57																						X		
ZZZZZZ	1	11:59																								
ZZZZZZ	1	12:02																								
ZZZZZZ	1	12:04																								
ZZZZZZ	1	12:06																								
ZZZZZZ	1	12:08																								
ZZZZZZ	1	12:11																								
CCV04	1	12:13																						X		
CCB04	1	12:15																						X		
ZZZZZZ	1	12:17																								
ZZZZZZ	1	12:19																								
244849001	1	12:22																						X		
ZZZZZZ	1	12:24																								

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time																						
ZZZZZZ	1	12:26																						
ZZZZZZ	1	12:28																						
ZZZZZZ	1	12:31																						
ZZZZZZ	1	12:33																						
ZZZZZZ	1	12:35																						
CCV05	1	12:37																		X				
CCB05	1	12:39																		X				
ZZZZZZ	1	12:42																						
ZZZZZZ	1	12:44																						
ZZZZZZ	1	12:46																						
ZZZZZZ	1	12:48																						
ZZZZZZ	1	12:51																						
1202017707	1	12:53																		X				
1202017708	1	12:55																		X				
1202017709	5	12:57																		X				
CCV06	1	12:59																		X				
CCB06	1	13:02																		X				

# Standards

METALS  
-10-  
Instrument Detection Limits

SDG NO. 10-1262-1

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

ICP/MS	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u>	<u>RDL</u>
			<u>ug/L</u>	<u>ug/L</u>
LIQUID	Aluminum		15.0	30
	Antimony		1.0	3
	Arsenic		1.6	5
	Barium		0.6	2
	Beryllium		0.1	.5
	Cadmium		0.11	1
	Calcium		65.0	200
	Chromium		2.0	10
	Cobalt		0.1	1
	Copper		0.33	1
	Iron		33.0	100
	Lead		0.5	2
	Magnesium		5.2	15
	Manganese		1.0	5
	Nickel		0.5	2
	Potassium		80.0	300
	Selenium		1.0	5
	Silver		0.2	1
	Sodium		80.0	250
	Thallium		0.3	1
	Uranium		0.05	.2
	Vanadium		3.0	10
	Zinc		3.0	10



METALS  
-10-  
Instrument Detection Limits

**SDG NO.** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**MDL Effective Date:** 01-JUL-09

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		<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u> <u>ug/L</u>	<u>RDL</u> <u>ug/L</u>
MERCURY	<u>Analyte</u>			
LIQUID	Mercury		0.066	.2

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**METALS**  
**-10-**  
**Instrument Detection Limits**

**SDG NO.** 10-1262-1

**Contract:** LANL01004

**Lab Code:** GEL

**MDL Effective Date:** 01-JUL-09

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ICP	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u>	<u>RDL</u>
			<u>ug/L</u>	<u>ug/L</u>
LIQUID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.0	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	50.0	200
	Chromium	267.716	1.0	5
	Cobalt	228.616	1.0	5
	Copper	324.752	3.0	10
	Iron	238.204	30.0	100
	Lead	220.353	3.3	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	50.0	150
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	100	300
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Aluminum	Antimony	Arsenic	Barium	Beryllium
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.02697	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	-0.48147	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.21356	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.05571	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.18741	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.02739	0.00000	0.00000	0.00000	0.00000
Tin	189.927	-0.00058	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Boron	Cadmium	Chromium	Cobalt	Copper
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	2.85580	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.44491	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-29.9151	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.57616
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.60374	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	198.62
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	5.22870	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.35099	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	1.93161	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.39273	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.19810

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Iron	Lead	Magnesium	Manganese	Molybdenum
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	48.4946
Antimony	206.836	-0.02515	0.00000	0.00000	0.00000	-20.5057
Arsenic	188.979	-0.23424	0.00000	0.00000	0.00000	2.41902
Barium	233.527	-0.03042	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.16240	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.10329	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	-0.01944	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.01444	0.00000	0.00000	0.00000	-2.33100
Copper	324.752	-0.05293	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.09554	0.00000	0.00000	0.00000	-2.48774
Magnesium	279.077	1.04597	0.00000	0.00000	0.00000	-10.4683
Manganese	257.61	-0.09877	0.00000	0.04089	0.00000	0.00000
Molybdenum	202.031	-0.07763	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.80543	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.39429	1.18725
Selenium	196.026	-3.00009	0.00000	0.00000	0.00000	-3.17982
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	17.4444
Silver	328.068	-0.32385	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-5.85948	0.00000
Tin	189.927	-0.01337	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.12581	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.15211	0.00000	-0.02256	0.00000	-14.2921
Zinc	213.857	0.09548	0.00000	0.03423	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Nickel	Phosphorous	Potassium	Selenium	Silicon
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	-0.84443	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-0.63547	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.33191	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	6.38465	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Silver	Strontium	Sulfur	Thallium	Tin
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	-15.4932
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	-9.37529
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	3.10491
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1262-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		<b>Titanium</b>	<b>Uranium</b>	<b>Vanadium</b>	<b>Zinc</b>
<b>Parmname</b>	<b>Wavelength</b>				
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	3.30431	0.00000	-2.81282	0.00000
Arsenic	188.979	-8.66313	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	-2.20293	0.00000
Beryllium	313.107	-2.27027	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	-0.19473	0.00000	0.00000
Chromium	267.716	0.00000	0.39645	-1.41250	0.00000
Cobalt	228.616	2.09497	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.55360	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.81635	-4.04400	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-7.67419	0.00000	2.18873	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.44145	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	1.10141	-1.94183	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000



**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1262-1

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS5

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1262-1

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA3

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	20	500000	ug/L	01-NOV-09
Antimony	20	10000	ug/L	01-NOV-09
Arsenic	20	10000	ug/L	01-NOV-09
Barium	20	15000	ug/L	01-NOV-09
Beryllium	20	3000	ug/L	01-NOV-09
Cadmium	20	10000	ug/L	01-NOV-09
Calcium	20	500000	ug/L	01-NOV-09
Chromium	20	25000	ug/L	01-NOV-09
Cobalt	20	10000	ug/L	01-NOV-09
Copper	20	20000	ug/L	01-NOV-09
Iron	20	500000	ug/L	01-NOV-09
Lead	20	25000	ug/L	01-NOV-09
Magnesium	20	500000	ug/L	01-NOV-09
Manganese	20	10000	ug/L	01-NOV-09
Nickel	20	10000	ug/L	01-NOV-09
Potassium	20	300000	ug/L	01-NOV-09
Selenium	20	10000	ug/L	01-NOV-09
Silver	20	1000	ug/L	01-NOV-09
Sodium	20	500000	ug/L	01-NOV-09
Thallium	20	10000	ug/L	01-NOV-09
Uranium	20	15000	ug/L	01-NOV-09
Vanadium	20	10000	ug/L	01-NOV-09
Zinc	20	15000	ug/L	01-NOV-09

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1262-1

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS4

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09

# Raw Data

=====  
Analysis Begun

Start Time: 1/26/2010 09:04:50

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012610.sif

Batch ID:

Results Data Set: 012610

Results Library: C:\pe\Optima3\Results\Results.mdb

=====  
Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/25/2010 09:50:48

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 8

Sample ID: S0

Date Collected: 1/26/2010 09:04:59

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

-----  
Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5270.9	5270.9	98.7 %	09:06:51
1	Y RADIAL	5705.9	5705.9	99.11 %	09:06:51
1	Al 396.153Radial†	10.0	10.2	[0.00] ug/L	09:07:11

1	Ca 317.933Radial†	17.0	17.2	[0.00]	ug/L	09:07:11
1	Fe 238.204 Radial†	6.7	6.8	[0.00]	ug/L	09:07:11
1	K 766.490 Radial†	2388.4	2419.8	[0.00]	ug/L	09:06:51
1	Mg 279.077 IEC†	2.8	2.8	[0.00]	ug/L	09:07:11
1	Na 589.592 Radial†	-551.5	-558.7	[0.00]	ug/L	09:06:51
1	Sr 421.552†	1.2	1.3	[0.00]	ug/L	09:06:51
1	Sc 361.383	897998.2	897998.2	100.01	%	09:08:08
1	Y 371.029	821867.5	821867.5	99.848	%	09:08:08
1	Ag 328.068†	250.1	250.0	[0.00]	ug/L	09:08:08
1	As 188.979†	-30.3	-30.3	[0.00]	ug/L	09:08:28
1	B 249.677†	-230.6	-230.6	[0.00]	ug/L	09:08:28
1	Ba 233.527†	0.5	0.5	[0.00]	ug/L	09:08:28
1	Be 313.107†	-5154.8	-5154.0	[0.00]	ug/L	09:08:08
1	Cd 226.502†	-211.8	-211.8	[0.00]	ug/L	09:08:28
1	Co 228.616†	-60.5	-60.5	[0.00]	ug/L	09:08:28
1	Cr 267.716†	96.1	96.1	[0.00]	ug/L	09:08:28
1	Cu 324.752†	9140.4	9139.1	[0.00]	ug/L	09:08:08
1	Mn 257.610†	497.9	497.9	[0.00]	ug/L	09:08:28
1	Mo 202.031†	24.4	24.4	[0.00]	ug/L	09:08:28
1	Ni 231.604†	100.2	100.2	[0.00]	ug/L	09:08:28
1	P 214.914†	249.5	249.5	[0.00]	ug/L	09:08:28
1	Pb 220.353†	-59.3	-59.3	[0.00]	ug/L	09:08:28
1	S 181.975 Axial†	79.8	79.8	[0.00]	ug/L	09:08:28
1	Sb 206.836†	33.5	33.5	[0.00]	ug/L	09:08:28
1	Se 196.026†	-21.1	-21.1	[0.00]	ug/L	09:08:28
1	Si 251.611†	505.0	504.9	[0.00]	ug/L	09:08:28
1	Sn 189.927†	-0.8	-0.8	[0.00]	ug/L	09:08:28
1	Ti 334.940†	-870.8	-870.7	[0.00]	ug/L	09:08:08
1	Tl 190.801†	-42.5	-42.5	[0.00]	ug/L	09:08:28
1	U 409.014†	-1117.0	-1116.9	[0.00]	ug/L	09:08:08
1	V 292.402†	-1380.5	-1380.3	[0.00]	ug/L	09:08:08
1	Zn 213.857†	721.7	721.6	[0.00]	ug/L	09:08:28
1	SiO2†	507.3	507.2	[0.00]	ug/L	09:09:39
2	Sc Radial	5430.3	5430.3	102	%	09:07:17
2	Y RADIAL	5851.7	5851.7	101.6	%	09:07:17
2	Al 396.153Radial†	7.5	7.4	[0.00]	ug/L	09:07:37
2	Ca 317.933Radial†	21.2	20.8	[0.00]	ug/L	09:07:37
2	Fe 238.204 Radial†	7.9	7.8	[0.00]	ug/L	09:07:37
2	K 766.490 Radial†	2627.0	2583.3	[0.00]	ug/L	09:07:17
2	Mg 279.077 IEC†	-1.8	-1.7	[0.00]	ug/L	09:07:37
2	Na 589.592 Radial†	-568.8	-559.3	[0.00]	ug/L	09:07:17
2	Sr 421.552†	-1.4	-1.3	[0.00]	ug/L	09:07:17
2	Sc 361.383	895675.0	895675.0	99.755	%	09:08:34
2	Y 371.029	819609.1	819609.1	99.573	%	09:08:34
2	Ag 328.068†	327.6	328.4	[0.00]	ug/L	09:08:34
2	As 188.979†	-31.5	-31.6	[0.00]	ug/L	09:08:54
2	B 249.677†	-244.4	-245.0	[0.00]	ug/L	09:08:54
2	Ba 233.527†	-1.4	-1.4	[0.00]	ug/L	09:08:54
2	Be 313.107†	-5103.8	-5116.3	[0.00]	ug/L	09:08:34
2	Cd 226.502†	-193.7	-194.2	[0.00]	ug/L	09:08:54
2	Co 228.616†	-82.8	-83.0	[0.00]	ug/L	09:08:54
2	Cr 267.716†	84.9	85.1	[0.00]	ug/L	09:08:54
2	Cu 324.752†	9095.4	9117.7	[0.00]	ug/L	09:08:34
2	Mn 257.610†	494.4	495.6	[0.00]	ug/L	09:08:54
2	Mo 202.031†	24.8	24.8	[0.00]	ug/L	09:08:54
2	Ni 231.604†	86.1	86.3	[0.00]	ug/L	09:08:54
2	P 214.914†	231.3	231.9	[0.00]	ug/L	09:08:54
2	Pb 220.353†	-55.9	-56.1	[0.00]	ug/L	09:08:54
2	S 181.975 Axial†	73.8	74.0	[0.00]	ug/L	09:08:54
2	Sb 206.836†	25.7	25.7	[0.00]	ug/L	09:08:54
2	Se 196.026†	-15.9	-16.0	[0.00]	ug/L	09:08:54
2	Si 251.611†	498.6	499.8	[0.00]	ug/L	09:08:54
2	Sn 189.927†	-0.8	-0.8	[0.00]	ug/L	09:08:54
2	Ti 334.940†	-903.1	-905.3	[0.00]	ug/L	09:08:34
2	Tl 190.801†	-29.5	-29.6	[0.00]	ug/L	09:08:54
2	U 409.014†	-1068.1	-1070.7	[0.00]	ug/L	09:08:34
2	V 292.402†	-1404.0	-1407.5	[0.00]	ug/L	09:08:34
2	Zn 213.857†	724.5	726.2	[0.00]	ug/L	09:08:54
2	SiO2†	511.0	512.3	[0.00]	ug/L	09:09:59
3	Sc Radial	5319.1	5319.1	99.6	%	09:07:42
3	Y RADIAL	5714.0	5714.0	99.25	%	09:07:42

3	Al 396.153Radial†	9.9	9.9	[0.00] ug/L	09:08:02
3	Ca 317.933Radial†	22.6	22.7	[0.00] ug/L	09:08:02
3	Fe 238.204 Radial†	6.9	6.9	[0.00] ug/L	09:08:02
3	K 766.490 Radial†	2497.5	2507.4	[0.00] ug/L	09:07:42
3	Mg 279.077 IEC†	1.8	1.8	[0.00] ug/L	09:08:02
3	Na 589.592 Radial†	-522.8	-524.9	[0.00] ug/L	09:07:42
3	Sr 421.552†	21.3	21.3	[0.00] ug/L	09:07:42
3	Sc 361.383	899945.9	899945.9	100.23 %	09:08:59
3	Y 371.029	827890.4	827890.4	100.58 %	09:08:59
3	Ag 328.068†	310.3	309.6	[0.00] ug/L	09:08:59
3	As 188.979†	-28.8	-28.7	[0.00] ug/L	09:09:19
3	B 249.677†	-246.2	-245.6	[0.00] ug/L	09:09:19
3	Ba 233.527†	-8.4	-8.4	[0.00] ug/L	09:09:19
3	Be 313.107†	-5042.6	-5031.0	[0.00] ug/L	09:08:59
3	Cd 226.502†	-213.0	-212.5	[0.00] ug/L	09:09:19
3	Co 228.616†	-66.4	-66.3	[0.00] ug/L	09:09:19
3	Cr 267.716†	100.8	100.5	[0.00] ug/L	09:09:19
3	Cu 324.752†	9148.3	9127.2	[0.00] ug/L	09:08:59
3	Mn 257.610†	477.2	476.1	[0.00] ug/L	09:09:19
3	Mo 202.031†	21.6	21.6	[0.00] ug/L	09:09:19
3	Ni 231.604†	94.8	94.5	[0.00] ug/L	09:09:19
3	P 214.914†	235.4	234.9	[0.00] ug/L	09:09:19
3	Pb 220.353†	-66.0	-65.8	[0.00] ug/L	09:09:19
3	S 181.975 Axial†	77.3	77.2	[0.00] ug/L	09:09:19
3	Sb 206.836†	31.6	31.5	[0.00] ug/L	09:09:19
3	Se 196.026†	-16.8	-16.8	[0.00] ug/L	09:09:19
3	Si 251.611†	484.3	483.1	[0.00] ug/L	09:09:19
3	Sn 189.927†	0.5	0.5	[0.00] ug/L	09:09:19
3	Ti 334.940†	-945.8	-943.6	[0.00] ug/L	09:08:59
3	Tl 190.801†	-38.7	-38.6	[0.00] ug/L	09:09:19
3	U 409.014†	-1003.2	-1000.9	[0.00] ug/L	09:08:59
3	V 292.402†	-1396.2	-1393.0	[0.00] ug/L	09:08:59
3	Zn 213.857†	754.1	752.4	[0.00] ug/L	09:09:19
3	SiO2†	522.0	520.8	[0.00] ug/L	09:10:19

## Mean Data: S0

Analyte	Mean Corrected		Calib	
	Intensity	Std.Dev.	RSD	Conc. Units
Sc 361.383	897873.0	2138.24	0.24%	100.00 %
Sc Radial	5340.1	81.74	1.53%	100 %
Y 371.029	823122.4	4280.88	0.52%	100.00 %
Y RADIAL	5757.2	81.93	1.42%	100.0 %
Ag 328.068†	296.0	40.93	13.83%	[0.00] ug/L
Al 396.153Radial†	9.1	1.55	16.93%	[0.00] ug/L
As 188.979†	-30.2	1.45	4.79%	[0.00] ug/L
B 249.677†	-240.4	8.50	3.54%	[0.00] ug/L
Ba 233.527†	-3.1	4.71	152.10%	[0.00] ug/L
Be 313.107†	-5100.4	63.05	1.24%	[0.00] ug/L
Ca 317.933Radial†	20.2	2.80	13.85%	[0.00] ug/L
Cd 226.502†	-206.2	10.37	5.03%	[0.00] ug/L
Co 228.616†	-69.9	11.70	16.72%	[0.00] ug/L
Cr 267.716†	93.9	7.92	8.44%	[0.00] ug/L
Cu 324.752†	9128.0	10.74	0.12%	[0.00] ug/L
Fe 238.204 Radial†	7.2	0.54	7.51%	[0.00] ug/L
K 766.490 Radial†	2503.5	81.85	3.27%	[0.00] ug/L
Mg 279.077 IEC†	1.0	2.39	245.73%	[0.00] ug/L
Mn 257.610†	489.9	11.99	2.45%	[0.00] ug/L
Mo 202.031†	23.6	1.76	7.45%	[0.00] ug/L
Na 589.592 Radial†	-547.6	19.71	3.60%	[0.00] ug/L
Ni 231.604†	93.7	7.00	7.47%	[0.00] ug/L
P 214.914†	238.7	9.42	3.95%	[0.00] ug/L
Pb 220.353†	-60.4	4.98	8.24%	[0.00] ug/L
S 181.975 Axial†	77.0	2.90	3.77%	[0.00] ug/L
Sb 206.836†	30.3	4.04	13.36%	[0.00] ug/L
Se 196.026†	-18.0	2.78	15.50%	[0.00] ug/L
Si 251.611†	496.0	11.39	2.30%	[0.00] ug/L
Sn 189.927†	-0.3	0.72	209.81%	[0.00] ug/L
Sr 421.552†	7.1	12.41	175.14%	[0.00] ug/L
Ti 334.940†	-906.5	36.45	4.02%	[0.00] ug/L
Tl 190.801†	-36.9	6.60	17.88%	[0.00] ug/L

U 409.014†	-1062.8	58.40	5.49%	[0.00]	ug/L
V 292.402†	-1393.6	13.60	0.98%	[0.00]	ug/L
Zn 213.857†	733.4	16.62	2.27%	[0.00]	ug/L
SiO2†	513.4	6.86	1.34%	[0.00]	ug/L



Sequence No.: 2

Sample ID: S0.1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 2

Date Collected: 1/26/2010 09:12:30

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5478.5	5478.5	103 %	09:14:28
1	Y RADIAL	5929.0	5929.0	103.0 %	09:14:28
1	K 766.490 Radial†	8180.8	5470.6	[1000] ug/L	09:14:22
1	Sr 421.552†	15624.1	15222.2	[100] ug/L	09:14:28
1	Sc 361.383	945841.4	945841.4	105.34 %	09:14:54
1	Y 371.029	834392.6	834392.6	101.37 %	09:14:54
1	Ag 328.068†	24461.7	22925.1	[100] ug/L	09:14:59
1	As 188.979†	218.1	237.2	[100] ug/L	09:15:19
1	B 249.677†	4102.6	4135.0	[100] ug/L	09:14:59
1	Ba 233.527†	12755.3	12111.5	[100] ug/L	09:14:59
1	Be 313.107†	276501.8	267579.4	[100] ug/L	09:14:54
1	Cd 226.502†	8905.8	8660.3	[100] ug/L	09:14:59
1	Co 228.616†	4544.0	4383.5	[100] ug/L	09:15:19
1	Cr 267.716†	9400.6	8829.9	[100] ug/L	09:14:59
1	Cu 324.752†	44282.4	32908.6	[100] ug/L	09:14:59
1	Mn 257.610†	89928.8	84878.2	[100] ug/L	09:14:59
1	Mo 202.031†	1497.9	1398.3	[100] ug/L	09:15:19
1	Ni 231.604†	4055.6	3756.2	[100] ug/L	09:15:19
1	P 214.914†	1122.9	827.2	[500] ug/L	09:15:19
1	Pb 220.353†	744.8	767.4	[100] ug/L	09:15:19
1	S 181.975 Axial†	208.9	121.3	[200] ug/L	09:15:19
1	Sb 206.836†	322.1	275.5	[100] ug/L	09:15:19
1	Se 196.026†	148.1	158.5	[100] ug/L	09:15:19
1	Si 251.611†	17157.6	15791.5	[500] ug/L	09:14:59
1	Sn 189.927†	532.4	505.8	[100] ug/L	09:15:19
1	Ti 334.940†	64818.1	62437.4	[100] ug/L	09:14:59
1	Tl 190.801†	277.3	300.1	[100] ug/L	09:15:19
1	U 409.014†	2516.8	3452.0	[100] ug/L	09:14:59
1	V 292.402†	14563.8	15218.7	[100] ug/L	09:14:59
1	Zn 213.857†	11534.9	10216.5	[100] ug/L	09:14:59
1	SiO2†	17321.5	15929.7	[1069.5] ug/L	09:16:25
2	Sc Radial	5485.7	5485.7	103 %	09:14:38
2	Y RADIAL	5888.9	5888.9	102.3 %	09:14:38
2	K 766.490 Radial†	8131.4	5412.0	[1000] ug/L	09:14:33
2	Sr 421.552†	15502.5	15083.8	[100] ug/L	09:14:38
2	Sc 361.383	933561.7	933561.7	103.97 %	09:15:25
2	Y 371.029	824195.9	824195.9	100.13 %	09:15:25
2	Ag 328.068†	24140.4	22921.5	[100] ug/L	09:15:30
2	As 188.979†	218.9	240.8	[100] ug/L	09:15:50
2	B 249.677†	4075.6	4160.2	[100] ug/L	09:15:30
2	Ba 233.527†	12627.0	12147.4	[100] ug/L	09:15:30
2	Be 313.107†	273568.0	268210.4	[100] ug/L	09:15:25
2	Cd 226.502†	8810.8	8680.1	[100] ug/L	09:15:30
2	Co 228.616†	4533.4	4430.1	[100] ug/L	09:15:50
2	Cr 267.716†	9333.6	8882.9	[100] ug/L	09:15:30
2	Cu 324.752†	43795.1	32992.8	[100] ug/L	09:15:30
2	Mn 257.610†	89016.7	85123.8	[100] ug/L	09:15:30
2	Mo 202.031†	1490.2	1409.6	[100] ug/L	09:15:50
2	Ni 231.604†	4047.7	3799.3	[100] ug/L	09:15:50
2	P 214.914†	1108.9	827.7	[500] ug/L	09:15:50
2	Pb 220.353†	737.7	769.9	[100] ug/L	09:15:50
2	S 181.975 Axial†	212.2	127.1	[200] ug/L	09:15:50
2	Sb 206.836†	318.9	276.5	[100] ug/L	09:15:50
2	Se 196.026†	149.5	161.8	[100] ug/L	09:15:50
2	Si 251.611†	16977.9	15832.9	[500] ug/L	09:15:30
2	Sn 189.927†	530.1	510.1	[100] ug/L	09:15:50
2	Ti 334.940†	64288.7	62737.6	[100] ug/L	09:15:30
2	Tl 190.801†	272.5	299.0	[100] ug/L	09:15:50
2	U 409.014†	2576.4	3540.8	[100] ug/L	09:15:30

2	V 292.402†	14557.2	15394.3	[100]	ug/L	09:15:30
2	Zn 213.857†	11410.7	10241.1	[100]	ug/L	09:15:30
2	SiO2†	17135.5	15967.1	[1069.5]	ug/L	09:16:31
3	Sc Radial	5500.8	5500.8	103	%	09:14:48
3	Y RADIAL	5878.0	5878.0	102.1	%	09:14:48
3	K 766.490 Radial†	8274.4	5529.2	[1000]	ug/L	09:14:43
3	Sr 421.552†	15524.9	15064.1	[100]	ug/L	09:14:48
3	Sc 361.383	940133.8	940133.8	104.71	%	09:15:55
3	Y 371.029	830474.4	830474.4	100.89	%	09:15:55
3	Ag 328.068†	24348.1	22957.6	[100]	ug/L	09:16:00
3	As 188.979†	213.4	234.0	[100]	ug/L	09:16:20
3	B 249.677†	4131.3	4186.0	[100]	ug/L	09:16:00
3	Ba 233.527†	12754.6	12184.3	[100]	ug/L	09:16:00
3	Be 313.107†	276165.1	268851.4	[100]	ug/L	09:15:55
3	Cd 226.502†	8836.7	8645.7	[100]	ug/L	09:16:00
3	Co 228.616†	4541.1	4406.9	[100]	ug/L	09:16:20
3	Cr 267.716†	9334.6	8821.1	[100]	ug/L	09:16:00
3	Cu 324.752†	44165.7	33052.4	[100]	ug/L	09:16:00
3	Mn 257.610†	89482.1	84969.9	[100]	ug/L	09:16:00
3	Mo 202.031†	1498.1	1407.2	[100]	ug/L	09:16:20
3	Ni 231.604†	4050.9	3775.1	[100]	ug/L	09:16:20
3	P 214.914†	1118.0	829.0	[500]	ug/L	09:16:20
3	Pb 220.353†	764.8	790.8	[100]	ug/L	09:16:20
3	S 181.975 Axial†	203.2	117.1	[200]	ug/L	09:16:20
3	Sb 206.836†	326.8	281.9	[100]	ug/L	09:16:20
3	Se 196.026†	149.1	160.3	[100]	ug/L	09:16:20
3	Si 251.611†	17113.9	15848.6	[500]	ug/L	09:16:00
3	Sn 189.927†	530.1	506.6	[100]	ug/L	09:16:20
3	Ti 334.940†	64692.0	62690.5	[100]	ug/L	09:16:00
3	Tl 190.801†	274.6	299.2	[100]	ug/L	09:16:20
3	U 409.014†	2598.0	3544.1	[100]	ug/L	09:16:00
3	V 292.402†	14424.7	15169.9	[100]	ug/L	09:16:00
3	Zn 213.857†	11446.7	10198.8	[100]	ug/L	09:16:00
3	SiO2†	17261.3	15971.9	[1069.5]	ug/L	09:16:36

## Mean Data: S0.1

Analyte	Mean Corrected		Calib	
	Intensity	Std.Dev.	RSD	Conc. Units
Sc 361.383	939845.6	6144.95	0.65%	104.67 %
Sc Radial	5488.3	11.39	0.21%	103 %
Y 371.029	829687.6	5143.69	0.62%	100.80 %
Y RADIAL	5898.6	26.84	0.45%	102.5 %
Ag 328.068†	22934.7	19.84	0.09%	[100] ug/L
As 188.979†	237.3	3.37	1.42%	[100] ug/L
B 249.677†	4160.4	25.53	0.61%	[100] ug/L
Ba 233.527†	12147.8	36.43	0.30%	[100] ug/L
Be 313.107†	268213.8	636.02	0.24%	[100] ug/L
Cd 226.502†	8662.0	17.28	0.20%	[100] ug/L
Co 228.616†	4406.8	23.31	0.53%	[100] ug/L
Cr 267.716†	8844.6	33.42	0.38%	[100] ug/L
Cu 324.752†	32984.6	72.25	0.22%	[100] ug/L
K 766.490 Radial†	5470.6	58.57	1.07%	[1000] ug/L
Mn 257.610†	84990.6	124.11	0.15%	[100] ug/L
Mo 202.031†	1405.0	5.95	0.42%	[100] ug/L
Ni 231.604†	3776.9	21.60	0.57%	[100] ug/L
P 214.914†	828.0	0.92	0.11%	[500] ug/L
Pb 220.353†	776.0	12.84	1.66%	[100] ug/L
S 181.975 Axial†	121.9	5.02	4.12%	[200] ug/L
Sb 206.836†	278.0	3.43	1.23%	[100] ug/L
Se 196.026†	160.2	1.62	1.01%	[100] ug/L
Si 251.611†	15824.3	29.53	0.19%	[500] ug/L
Sn 189.927†	507.5	2.31	0.46%	[100] ug/L
Sr 421.552†	15123.4	86.16	0.57%	[100] ug/L
Ti 334.940†	62621.8	161.47	0.26%	[100] ug/L
Tl 190.801†	299.4	0.61	0.20%	[100] ug/L
U 409.014†	3512.3	52.21	1.49%	[100] ug/L
V 292.402†	15261.0	118.01	0.77%	[100] ug/L
Zn 213.857†	10218.8	21.26	0.21%	[100] ug/L
SiO2†	15956.2	23.14	0.15%	[1069.5] ug/L

Sequence No.: 3

Sample ID: S0.5

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 1/26/2010 09:18:46

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5276.5	5276.5	98.8 %	09:20:39
1	Y RADIAL	5642.9	5642.9	98.02 %	09:20:39
1	Al 396.153Radial†	6434.8	6503.2	[5000] ug/L	09:20:39
1	Ca 317.933Radial†	3188.7	3206.9	[5000] ug/L	09:20:59
1	K 766.490 Radial†	30120.9	27980.2	[5000] ug/L	09:20:39
1	Mg 279.077 IEC†	149.5	150.4	[5000] ug/L	09:20:59
1	Sr 421.552†	78289.2	79225.0	[500] ug/L	09:20:39
1	Sc 361.383	937398.2	937398.2	104.40 %	09:21:56
1	Y 371.029	818980.5	818980.5	99.497 %	09:21:56
1	Ag 328.068†	121403.4	115988.5	[500] ug/L	09:22:02
1	As 188.979†	1198.4	1178.0	[500] ug/L	09:22:22
1	B 249.677†	22582.0	21870.2	[500] ug/L	09:22:02
1	Ba 233.527†	64045.6	61348.3	[500] ug/L	09:22:02
1	Be 313.107†	1425315.9	1370318.3	[500] ug/L	09:21:56
1	Cd 226.502†	45085.4	43390.5	[500] ug/L	09:22:02
1	Co 228.616†	23485.7	22565.3	[500] ug/L	09:22:02
1	Cr 267.716†	46577.6	44519.7	[500] ug/L	09:22:02
1	Cu 324.752†	188814.8	171725.5	[500] ug/L	09:22:02
1	Mn 257.610†	452812.6	433230.0	[500] ug/L	09:21:56
1	Mo 202.031†	7371.0	7036.6	[500] ug/L	09:22:22
1	Ni 231.604†	20252.8	19305.2	[500] ug/L	09:22:02
1	P 214.914†	4680.6	4244.5	[2500] ug/L	09:22:22
1	Pb 220.353†	3954.5	3848.1	[500] ug/L	09:22:22
1	S 181.975 Axial†	803.3	692.5	[1000] ug/L	09:22:22
1	Sb 206.836†	1520.2	1425.8	[500] ug/L	09:22:22
1	Se 196.026†	852.0	834.0	[500] ug/L	09:22:22
1	Si 251.611†	85957.7	81837.3	[2500] ug/L	09:22:02
1	Sn 189.927†	2702.3	2588.7	[500] ug/L	09:22:22
1	Ti 334.940†	329288.5	316310.7	[500] ug/L	09:22:02
1	Tl 190.801†	1543.5	1515.3	[500] ug/L	09:22:22
1	U 409.014†	19191.0	19444.7	[500] ug/L	09:22:02
1	V 292.402†	79506.6	77547.8	[500] ug/L	09:22:02
1	Zn 213.857†	55045.2	51990.8	[500] ug/L	09:22:02
1	SiO2†	85563.9	81442.7	[5347.5] ug/L	09:23:29
2	Sc Radial	5492.4	5492.4	103 %	09:21:04
2	Y RADIAL	5888.7	5888.7	102.3 %	09:21:04
2	Al 396.153Radial†	6663.2	6469.2	[5000] ug/L	09:21:04
2	Ca 317.933Radial†	3207.1	3097.9	[5000] ug/L	09:21:24
2	K 766.490 Radial†	30912.1	27551.1	[5000] ug/L	09:21:04
2	Mg 279.077 IEC†	148.2	143.1	[5000] ug/L	09:21:24
2	Sr 421.552†	80704.1	78458.2	[500] ug/L	09:21:04
2	Sc 361.383	935356.6	935356.6	104.17 %	09:22:27
2	Y 371.029	818485.6	818485.6	99.437 %	09:22:27
2	Ag 328.068†	120356.2	115237.0	[500] ug/L	09:22:33
2	As 188.979†	1195.6	1177.9	[500] ug/L	09:22:53
2	B 249.677†	22466.2	21806.3	[500] ug/L	09:22:33
2	Ba 233.527†	63727.0	61176.3	[500] ug/L	09:22:33
2	Be 313.107†	1411823.8	1360346.6	[500] ug/L	09:22:27
2	Cd 226.502†	45018.1	43420.2	[500] ug/L	09:22:33
2	Co 228.616†	23420.5	22551.9	[500] ug/L	09:22:33
2	Cr 267.716†	46416.9	44462.9	[500] ug/L	09:22:33
2	Cu 324.752†	186490.7	169889.2	[500] ug/L	09:22:33
2	Mn 257.610†	446497.8	428115.0	[500] ug/L	09:22:27
2	Mo 202.031†	7366.4	7047.6	[500] ug/L	09:22:53
2	Ni 231.604†	20222.2	19318.1	[500] ug/L	09:22:33
2	P 214.914†	4688.8	4262.2	[2500] ug/L	09:22:53
2	Pb 220.353†	3937.2	3839.8	[500] ug/L	09:22:53
2	S 181.975 Axial†	797.2	688.3	[1000] ug/L	09:22:53
2	Sb 206.836†	1521.4	1430.2	[500] ug/L	09:22:53

2	Se 196.026†	850.8	834.6	[500]	ug/L	09:22:53
2	Si 251.611†	85449.0	81528.7	[2500]	ug/L	09:22:33
2	Sn 189.927†	2715.2	2606.8	[500]	ug/L	09:22:53
2	Ti 334.940†	326947.0	314751.5	[500]	ug/L	09:22:33
2	Tl 190.801†	1530.6	1506.1	[500]	ug/L	09:22:53
2	U 409.014†	18817.8	19126.5	[500]	ug/L	09:22:33
2	V 292.402†	79133.9	77356.3	[500]	ug/L	09:22:33
2	Zn 213.857†	54711.1	51785.1	[500]	ug/L	09:22:33
2	SiO2†	85555.8	81613.8	[5347.5]	ug/L	09:23:34
3	Sc Radial	5619.8	5619.8	105	%	09:21:29
3	Y RADIAL	6029.1	6029.1	104.7	%	09:21:29
3	Al 396.153Radial†	6714.0	6370.7	[5000]	ug/L	09:21:29
3	Ca 317.933Radial†	3206.4	3026.6	[5000]	ug/L	09:21:49
3	K 766.490 Radial†	31280.5	27220.0	[5000]	ug/L	09:21:29
3	Mg 279.077 IEC†	150.8	142.3	[5000]	ug/L	09:21:49
3	Sr 421.552†	81800.0	77721.3	[500]	ug/L	09:21:29
3	Sc 361.383	935046.1	935046.1	104.14	%	09:22:58
3	Y 371.029	818427.1	818427.1	99.430	%	09:22:58
3	Ag 328.068†	119722.0	114666.3	[500]	ug/L	09:23:04
3	As 188.979†	1189.4	1172.3	[500]	ug/L	09:23:24
3	B 249.677†	22298.7	21652.6	[500]	ug/L	09:23:04
3	Ba 233.527†	63397.1	60879.8	[500]	ug/L	09:23:04
3	Be 313.107†	1419339.9	1368014.0	[500]	ug/L	09:22:58
3	Cd 226.502†	44767.0	43193.4	[500]	ug/L	09:23:04
3	Co 228.616†	23283.4	22427.7	[500]	ug/L	09:23:04
3	Cr 267.716†	46273.4	44339.9	[500]	ug/L	09:23:04
3	Cu 324.752†	186029.8	169506.1	[500]	ug/L	09:23:04
3	Mn 257.610†	449335.3	430981.9	[500]	ug/L	09:22:58
3	Mo 202.031†	7341.1	7025.7	[500]	ug/L	09:23:24
3	Ni 231.604†	20081.9	19189.8	[500]	ug/L	09:23:04
3	P 214.914†	4686.1	4261.1	[2500]	ug/L	09:23:24
3	Pb 220.353†	3942.7	3846.3	[500]	ug/L	09:23:24
3	S 181.975 Axial†	805.3	696.3	[1000]	ug/L	09:23:24
3	Sb 206.836†	1528.1	1437.1	[500]	ug/L	09:23:24
3	Se 196.026†	855.2	839.2	[500]	ug/L	09:23:24
3	Si 251.611†	84941.2	81068.4	[2500]	ug/L	09:23:04
3	Sn 189.927†	2725.6	2617.6	[500]	ug/L	09:23:24
3	Ti 334.940†	324928.9	312917.8	[500]	ug/L	09:23:04
3	Tl 190.801†	1534.4	1510.3	[500]	ug/L	09:23:24
3	U 409.014†	18829.3	19143.6	[500]	ug/L	09:23:04
3	V 292.402†	78624.8	76892.7	[500]	ug/L	09:23:04
3	Zn 213.857†	54448.2	51550.2	[500]	ug/L	09:23:04
3	SiO2†	85756.2	81833.5	[5347.5]	ug/L	09:23:39

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Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	935933.6	1277.77	0.14%	104.24 %
Sc Radial	5462.9	173.53	3.18%	102 %
Y 371.029	818631.1	304.00	0.04%	99.454 %
Y RADIAL	5853.6	195.45	3.34%	101.7 %
Ag 328.068†	115297.3	663.12	0.58%	[500] ug/L
Al 396.153Radial†	6447.7	68.80	1.07%	[5000] ug/L
As 188.979†	1176.1	3.27	0.28%	[500] ug/L
B 249.677†	21776.4	111.83	0.51%	[500] ug/L
Ba 233.527†	61134.8	236.97	0.39%	[500] ug/L
Be 313.107†	1366226.3	5220.68	0.38%	[500] ug/L
Ca 317.933Radial†	3110.5	90.81	2.92%	[5000] ug/L
Cd 226.502†	43334.7	123.26	0.28%	[500] ug/L
Co 228.616†	22515.0	75.86	0.34%	[500] ug/L
Cr 267.716†	44440.8	91.92	0.21%	[500] ug/L
Cu 324.752†	170373.6	1186.34	0.70%	[500] ug/L
K 766.490 Radial†	27583.8	381.15	1.38%	[5000] ug/L
Mg 279.077 IEC†	145.2	4.46	3.07%	[5000] ug/L
Mn 257.610†	430775.6	2563.76	0.60%	[500] ug/L
Mo 202.031†	7036.6	10.95	0.16%	[500] ug/L
Ni 231.604†	19271.1	70.63	0.37%	[500] ug/L
P 214.914†	4255.9	9.91	0.23%	[2500] ug/L
Pb 220.353†	3844.8	4.36	0.11%	[500] ug/L
S 181.975 Axial†	692.4	4.03	0.58%	[1000] ug/L

Sb 206.836†	1431.0	5.68	0.40%	[500]	ug/L
Se 196.026†	835.9	2.82	0.34%	[500]	ug/L
Si 251.611†	81478.1	386.97	0.47%	[2500]	ug/L
Sn 189.927†	2604.3	14.60	0.56%	[500]	ug/L
Sr 421.552†	78468.2	751.89	0.96%	[500]	ug/L
Ti 334.940†	314660.0	1698.32	0.54%	[500]	ug/L
Tl 190.801†	1510.6	4.61	0.31%	[500]	ug/L
U 409.014†	19238.3	178.95	0.93%	[500]	ug/L
V 292.402†	77265.6	336.87	0.44%	[500]	ug/L
Zn 213.857†	51775.4	220.48	0.43%	[500]	ug/L
SiO2†	81630.0	195.91	0.24%	[5347.5]	ug/L

Sequence No.: 4

Sample ID: SCAL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 1/26/2010 09:25:50

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5490.0	5490.0	103 %	09:27:43
1	Y RADIAL	5899.6	5899.6	102.5 %	09:27:43
1	Al 396.153Radial†	13109.2	12742.0	[10000] ug/L	09:27:43
1	Ca 317.933Radial†	6424.5	6228.8	[10000] ug/L	09:27:43
1	Fe 238.204 Radial†	1109.0	1071.6	[10000] ug/L	09:28:03
1	K 766.490 Radial†	58355.3	54257.7	[10000] ug/L	09:27:43
1	Mg 279.077 IEC†	295.5	286.5	[10000] ug/L	09:28:03
1	Na 589.592 Radial†	33069.1	32713.4	[10000] ug/L	09:27:43
1	Sr 421.552†	159135.1	154780.8	[1000] ug/L	09:27:43
1	Sc 361.383	873351.5	873351.5	97.269 %	09:29:06
1	Y 371.029	776986.9	776986.9	94.395 %	09:29:06
1	Ag 328.068†	234042.0	240317.3	[1000] ug/L	09:29:06
1	As 188.979†	2386.7	2483.9	[1000] ug/L	09:29:27
1	B 249.677†	44137.1	45616.8	[1000] ug/L	09:29:06
1	Ba 233.527†	123470.6	126940.4	[1000] ug/L	09:29:06
1	Be 313.107†	2812668.3	2896741.5	[1000] ug/L	09:29:01
1	Cd 226.502†	86786.4	89429.3	[1000] ug/L	09:29:06
1	Co 228.616†	44636.4	45959.6	[1000] ug/L	09:29:27
1	Cr 267.716†	89926.1	92357.1	[1000] ug/L	09:29:06
1	Cu 324.752†	357126.6	358025.8	[1000] ug/L	09:29:06
1	Mn 257.610†	887295.3	911718.5	[1000] ug/L	09:29:01
1	Mo 202.031†	14486.9	14870.0	[1000] ug/L	09:29:27
1	Ni 231.604†	38732.2	39726.0	[1000] ug/L	09:29:06
1	P 214.914†	8973.9	8987.1	[5000] ug/L	09:29:27
1	Pb 220.353†	7795.6	8074.8	[1000] ug/L	09:29:27
1	S 181.975 Axial†	1508.1	1473.4	[2000] ug/L	09:29:27
1	Sb 206.836†	2977.1	3030.4	[1000] ug/L	09:29:27
1	Se 196.026†	1689.3	1754.7	[1000] ug/L	09:29:27
1	Si 251.611†	164645.9	168772.8	[5000] ug/L	09:29:06
1	Sn 189.927†	5369.6	5520.7	[1000] ug/L	09:29:27
1	Ti 334.940†	638137.0	656960.8	[1000] ug/L	09:29:06
1	Tl 190.801†	3057.7	3180.5	[1000] ug/L	09:29:27
1	U 409.014†	37941.9	40070.1	[1000] ug/L	09:29:06
1	V 292.402†	155491.1	161250.5	[1000] ug/L	09:29:06
1	Zn 213.857†	105137.4	107356.0	[1000] ug/L	09:29:06
1	SiO2†	167060.8	171238.1	[10695] ug/L	09:30:35
2	Sc Radial	5509.4	5509.4	103 %	09:28:08
2	Y RADIAL	5946.5	5946.5	103.3 %	09:28:08
2	Al 396.153Radial†	13348.4	12929.1	[10000] ug/L	09:28:08
2	Ca 317.933Radial†	6546.0	6324.6	[10000] ug/L	09:28:08
2	Fe 238.204 Radial†	1104.0	1062.9	[10000] ug/L	09:28:28
2	K 766.490 Radial†	59013.7	54696.9	[10000] ug/L	09:28:08
2	Mg 279.077 IEC†	294.3	284.3	[10000] ug/L	09:28:28
2	Na 589.592 Radial†	33358.1	32880.8	[10000] ug/L	09:28:08
2	Sr 421.552†	160976.9	156023.4	[1000] ug/L	09:28:08
2	Sc 361.383	884457.4	884457.4	98.506 %	09:29:38
2	Y 371.029	789932.9	789932.9	95.968 %	09:29:38
2	Ag 328.068†	240298.0	243646.9	[1000] ug/L	09:29:38
2	As 188.979†	2372.4	2438.6	[1000] ug/L	09:29:58
2	B 249.677†	45576.6	46508.3	[1000] ug/L	09:29:38
2	Ba 233.527†	126823.1	128749.8	[1000] ug/L	09:29:38
2	Be 313.107†	2760137.8	2807104.6	[1000] ug/L	09:29:32
2	Cd 226.502†	88950.2	90505.6	[1000] ug/L	09:29:38
2	Co 228.616†	44630.8	45377.7	[1000] ug/L	09:29:58
2	Cr 267.716†	92114.8	93418.1	[1000] ug/L	09:29:38
2	Cu 324.752†	367506.8	363953.3	[1000] ug/L	09:29:38
2	Mn 257.610†	867933.9	880609.1	[1000] ug/L	09:29:32
2	Mo 202.031†	14468.4	14664.2	[1000] ug/L	09:29:58
2	Ni 231.604†	39782.8	40292.6	[1000] ug/L	09:29:38

2	P 214.914†	8977.8	8875.2	[5000]	ug/L	09:29:58
2	Pb 220.353†	7799.7	7978.4	[1000]	ug/L	09:29:58
2	S 181.975 Axial†	1508.8	1454.7	[2000]	ug/L	09:29:58
2	Sb 206.836†	2977.4	2992.3	[1000]	ug/L	09:29:58
2	Se 196.026†	1701.5	1745.2	[1000]	ug/L	09:29:58
2	Si 251.611†	169491.2	171566.1	[5000]	ug/L	09:29:38
2	Sn 189.927†	5372.8	5454.6	[1000]	ug/L	09:29:58
2	Ti 334.940†	656564.4	667429.8	[1000]	ug/L	09:29:38
2	Tl 190.801†	3035.2	3118.1	[1000]	ug/L	09:29:58
2	U 409.014†	39157.8	40814.6	[1000]	ug/L	09:29:38
2	V 292.402†	159397.9	163209.2	[1000]	ug/L	09:29:38
2	Zn 213.857†	108054.6	108960.2	[1000]	ug/L	09:29:38
2	SiO2†	166820.6	168837.5	[10695]	ug/L	09:30:40
3	Sc Radial	5341.0	5341.0	100	%	09:28:34
3	Y RADIAL	5734.2	5734.2	99.60	%	09:28:34
3	Al 396.153Radial†	12914.3	12902.8	[10000]	ug/L	09:28:34
3	Ca 317.933Radial†	6329.4	6308.0	[10000]	ug/L	09:28:34
3	Fe 238.204 Radial†	1106.9	1099.6	[10000]	ug/L	09:28:54
3	K 766.490 Radial†	57457.1	54943.5	[10000]	ug/L	09:28:34
3	Mg 279.077 IEC†	295.8	294.8	[10000]	ug/L	09:28:54
3	Na 589.592 Radial†	32526.7	33068.6	[10000]	ug/L	09:28:34
3	Sr 421.552†	155987.1	155952.7	[1000]	ug/L	09:28:34
3	Sc 361.383	878114.9	878114.9	97.799	%	09:30:09
3	Y 371.029	782745.7	782745.7	95.095	%	09:30:09
3	Ag 328.068†	236972.7	242008.7	[1000]	ug/L	09:30:09
3	As 188.979†	2397.5	2481.6	[1000]	ug/L	09:30:30
3	B 249.677†	45069.1	46323.6	[1000]	ug/L	09:30:09
3	Ba 233.527†	125693.3	128524.6	[1000]	ug/L	09:30:09
3	Be 313.107†	2813407.2	2881811.0	[1000]	ug/L	09:30:04
3	Cd 226.502†	88658.7	90859.8	[1000]	ug/L	09:30:09
3	Co 228.616†	44912.7	45993.2	[1000]	ug/L	09:30:30
3	Cr 267.716†	91627.1	93594.8	[1000]	ug/L	09:30:09
3	Cu 324.752†	361045.0	360040.7	[1000]	ug/L	09:30:09
3	Mn 257.610†	887989.8	907480.2	[1000]	ug/L	09:30:04
3	Mo 202.031†	14571.4	14875.6	[1000]	ug/L	09:30:30
3	Ni 231.604†	39553.9	40350.2	[1000]	ug/L	09:30:09
3	P 214.914†	9055.4	9020.4	[5000]	ug/L	09:30:30
3	Pb 220.353†	7825.3	8061.8	[1000]	ug/L	09:30:30
3	S 181.975 Axial†	1530.2	1487.7	[2000]	ug/L	09:30:30
3	Sb 206.836†	3004.1	3041.4	[1000]	ug/L	09:30:30
3	Se 196.026†	1695.3	1751.4	[1000]	ug/L	09:30:30
3	Si 251.611†	167298.3	170566.7	[5000]	ug/L	09:30:09
3	Sn 189.927†	5400.2	5522.1	[1000]	ug/L	09:30:30
3	Ti 334.940†	648493.8	663991.8	[1000]	ug/L	09:30:09
3	Tl 190.801†	3057.3	3163.0	[1000]	ug/L	09:30:30
3	U 409.014†	38445.4	40373.3	[1000]	ug/L	09:30:09
3	V 292.402†	157949.2	162896.8	[1000]	ug/L	09:30:09
3	Zn 213.857†	107095.9	108772.3	[1000]	ug/L	09:30:09
3	SiO2†	168631.0	171911.9	[10695]	ug/L	09:30:46

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Mean Data: SCAL

Analyte	Mean Corrected		Calib		
	Intensity	Std.Dev.	RSD	Conc.	Units
Sc 361.383	878641.3	5571.64	0.63%	97.858	%
Sc Radial	5446.8	92.13	1.69%	102	%
Y 371.029	783221.8	6486.13	0.83%	95.153	%
Y RADIAL	5860.1	111.51	1.90%	101.8	%
Ag 328.068†	241991.0	1664.87	0.69%	[1000]	ug/L
Al 396.153Radial†	12858.0	101.30	0.79%	[10000]	ug/L
As 188.979†	2468.0	25.53	1.03%	[1000]	ug/L
B 249.677†	46149.6	470.55	1.02%	[1000]	ug/L
Ba 233.527†	128071.6	986.10	0.77%	[1000]	ug/L
Be 313.107†	2861885.7	48025.56	1.68%	[1000]	ug/L
Ca 317.933Radial†	6287.1	51.21	0.81%	[10000]	ug/L
Cd 226.502†	90264.9	745.01	0.83%	[1000]	ug/L
Co 228.616†	45776.9	346.04	0.76%	[1000]	ug/L
Cr 267.716†	93123.3	669.46	0.72%	[1000]	ug/L
Cu 324.752†	360673.3	3013.92	0.84%	[1000]	ug/L
Fe 238.204 Radial†	1078.0	19.17	1.78%	[10000]	ug/L
K 766.490 Radial†	54632.7	347.39	0.64%	[10000]	ug/L

Mg 279.077 IEC†	288.5	5.53	1.92%	[10000]	ug/L
Mn 257.610†	899935.9	16871.16	1.87%	[1000]	ug/L
Mo 202.031†	14803.3	120.46	0.81%	[1000]	ug/L
Na 589.592 Radial†	32887.6	177.72	0.54%	[10000]	ug/L
Ni 231.604†	40122.9	344.93	0.86%	[1000]	ug/L
P 214.914†	8960.9	76.06	0.85%	[5000]	ug/L
Pb 220.353†	8038.4	52.31	0.65%	[1000]	ug/L
S 181.975 Axial†	1471.9	16.53	1.12%	[2000]	ug/L
Sb 206.836†	3021.4	25.77	0.85%	[1000]	ug/L
Se 196.026†	1750.5	4.83	0.28%	[1000]	ug/L
Si 251.611†	170301.9	1415.37	0.83%	[5000]	ug/L
Sn 189.927†	5499.1	38.55	0.70%	[1000]	ug/L
Sr 421.552†	155585.6	697.91	0.45%	[1000]	ug/L
Ti 334.940†	662794.2	5336.26	0.81%	[1000]	ug/L
Tl 190.801†	3153.9	32.15	1.02%	[1000]	ug/L
U 409.014†	40419.3	374.38	0.93%	[1000]	ug/L
V 292.402†	162452.1	1052.35	0.65%	[1000]	ug/L
Zn 213.857†	108362.8	877.02	0.81%	[1000]	ug/L
SiO2†	170662.5	1615.97	0.95%	[10695]	ug/L



Sequence No.: 5

Autosampler Location: 5

Sample ID: S10

Date Collected: 1/26/2010 09:32:56

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

## Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5254.7	5254.7	98.4 %	09:35:10
1	Y RADIAL	5600.1	5600.1	97.27 %	09:35:10
1	Al 396.153Radial†	65162.8	66212.0	[50000] ug/L	09:34:50
1	Ca 317.933Radial†	30729.5	31208.3	[50000] ug/L	09:34:50
1	Fe 238.204 Radial†	2112.0	2139.2	[20000] ug/L	09:35:10
1	Mg 279.077 IEC†	1384.0	1405.5	[50000] ug/L	09:35:10
1	Na 589.592 Radial†	66167.5	67789.8	[20000] ug/L	09:34:50
1	Sc 361.383	909079.1	909079.1	101.25 %	09:36:07
1	Y 371.029	791008.5	791008.5	96.099 %	09:36:07
2	Sc Radial	5290.9	5290.9	99.1 %	09:35:35
2	Y RADIAL	5632.8	5632.8	97.84 %	09:35:35
2	Al 396.153Radial†	65366.4	65964.2	[50000] ug/L	09:35:15
2	Ca 317.933Radial†	30818.9	31084.8	[50000] ug/L	09:35:15
2	Fe 238.204 Radial†	2127.1	2139.7	[20000] ug/L	09:35:35
2	Mg 279.077 IEC†	1391.3	1403.2	[50000] ug/L	09:35:35
2	Na 589.592 Radial†	66538.2	67703.8	[20000] ug/L	09:35:15
2	Sc 361.383	910680.4	910680.4	101.43 %	09:36:13
2	Y 371.029	792508.2	792508.2	96.281 %	09:36:13
3	Sc Radial	5325.4	5325.4	99.7 %	09:36:00
3	Y RADIAL	5675.3	5675.3	98.58 %	09:36:00
3	Al 396.153Radial†	65914.7	66087.3	[50000] ug/L	09:35:40
3	Ca 317.933Radial†	30927.0	30992.0	[50000] ug/L	09:35:40
3	Fe 238.204 Radial†	2130.6	2129.3	[20000] ug/L	09:36:00
3	Mg 279.077 IEC†	1387.2	1390.1	[50000] ug/L	09:36:00
3	Na 589.592 Radial†	66737.8	67469.4	[20000] ug/L	09:35:40
3	Sc 361.383	914147.0	914147.0	101.81 %	09:36:18
3	Y 371.029	795556.8	795556.8	96.651 %	09:36:18

## Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	911302.2	2590.53	0.28%	101.50 %
Sc Radial	5290.4	35.33	0.67%	99.1 %
Y 371.029	793024.5	2317.69	0.29%	96.343 %
Y RADIAL	5636.1	37.74	0.67%	97.90 %
Al 396.153Radial†	66087.8	123.89	0.19%	[50000] ug/L
Ca 317.933Radial†	31095.1	108.49	0.35%	[50000] ug/L
Fe 238.204 Radial†	2136.1	5.88	0.28%	[20000] ug/L
Mg 279.077 IEC†	1399.6	8.34	0.60%	[50000] ug/L
Na 589.592 Radial†	67654.3	165.80	0.25%	[20000] ug/L

## Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	239.6	0.00000	0.999813	
Al 396.153Radial	3	Lin Thru 0	0.0	1.320	0.00000	0.999984	
As 188.979	3	Lin Thru 0	0.0	2.444	0.00000	0.999818	
B 249.677	3	Lin Thru 0	0.0	45.60	0.00000	0.999712	
Ba 233.527	3	Lin Thru 0	0.0	126.9	0.00000	0.999827	
Be 313.107	3	Lin Thru 0	0.0	2835	0.00000	0.999823	
Ca 317.933Radial	3	Lin Thru 0	0.0	0.6222	0.00000	0.999998	
Cd 226.502	3	Lin Thru 0	0.0	89.52	0.00000	0.999868	
Co 228.616	3	Lin Thru 0	0.0	45.62	0.00000	0.999974	
Cr 267.716	3	Lin Thru 0	0.0	92.24	0.00000	0.999825	
Cu 324.752	3	Lin Thru 0	0.0	356.5	0.00000	0.999730	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.1070	0.00000	0.999993	
K 766.490 Radial	3	Lin Thru 0	0.0	5.474	0.00000	0.999992	

Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0280	0.00000	0.999977
Mn 257.610	3	Lin Thru 0	0.0	891.9	0.00000	0.999844
Mo 202.031	3	Lin Thru 0	0.0	14.65	0.00000	0.999796
Na 589.592 Radia	2	Lin Thru 0	0.0	3.364	0.00000	0.999938
Ni 231.604	3	Lin Thru 0	0.0	39.79	0.00000	0.999864
P 214.914	3	Lin Thru 0	0.0	1.773	0.00000	0.999779
Pb 220.353	3	Lin Thru 0	0.0	7.967	0.00000	0.999845
S 181.975 Axial	3	Lin Thru 0	0.0	0.7263	0.00000	0.999610
Sb 206.836	3	Lin Thru 0	0.0	2.988	0.00000	0.999755
Se 196.026	3	Lin Thru 0	0.0	1.734	0.00000	0.999814
Si 251.611	3	Lin Thru 0	0.0	33.75	0.00000	0.999834
Sn 189.927	3	Lin Thru 0	0.0	5.438	0.00000	0.999756
Sr 421.552	3	Lin Thru 0	0.0	155.8	0.00000	0.999991
Ti 334.940	3	Lin Thru 0	0.0	655.9	0.00000	0.999785
Tl 190.801	3	Lin Thru 0	0.0	3.126	0.00000	0.999850
U 409.014	3	Lin Thru 0	0.0	39.99	0.00000	0.999753
V 292.402	3	Lin Thru 0	0.0	160.8	0.00000	0.999797
Zn 213.857	3	Lin Thru 0	0.0	107.4	0.00000	0.999831
SiO2	3	Lin Thru 0	0.0	15.81	0.00000	0.999835

Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 1/26/2010 09:38:30

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5529.0	5529.0	104 %		09:40:22
1	Y RADIAL	5902.0	5902.0	102.5 %		09:40:22
1	Al 396.153Radial†	6743.5	6503.8	4901.7 ug/L	4901.7 ppb	09:40:22
1	Ca 317.933Radial†	3157.4	3029.2	4868.9 ug/L	4868.9 ppb	09:40:43
1	Fe 238.204 Radial†	560.7	534.4	5008.8 ug/L	5008.8 ppb	09:40:43
1	K 766.490 Radial†	16368.8	13305.9	2427.4 ug/L	2427.4 ppb	09:40:22
1	Mg 279.077 IEC†	154.1	147.9	5274.4 ug/L	5274.4 ppb	09:40:43
1	Na 589.592 Radial†	7735.7	8019.0	2383.8 ug/L	2383.8 ppb	09:40:22
1	Sr 421.552†	84235.4	81349.3	522.04 ug/L	522.04 ppb	09:40:22
1	Sc 361.383	934550.6	934550.6	104.08 %		09:41:40
1	Y 371.029	821438.6	821438.6	99.795 %		09:41:40
1	Ag 328.068†	62913.3	60148.2	254.16 ug/L	254.16 ppb	09:41:40
1	As 188.979†	1141.2	1126.6	465.10 ug/L	465.10 ppb	09:42:00
1	B 249.677†	23610.6	22924.3	500.52 ug/L	500.52 ppb	09:41:40
1	Ba 233.527†	65239.1	62681.8	495.31 ug/L	495.31 ppb	09:41:40
1	Be 313.107†	736308.9	712512.1	252.46 ug/L	252.46 ppb	09:41:40
1	Cd 226.502†	43866.6	42351.2	472.96 ug/L	472.96 ppb	09:42:00
1	Co 228.616†	23483.0	22631.3	496.27 ug/L	496.27 ppb	09:42:00
1	Cr 267.716†	45639.9	43754.8	474.94 ug/L	474.94 ppb	09:41:40
1	Cu 324.752†	192751.0	176058.3	493.89 ug/L	493.89 ppb	09:41:40
1	Mn 257.610†	460430.0	441870.0	495.69 ug/L	495.69 ppb	09:41:40
1	Mo 202.031†	7945.2	7609.8	519.80 ug/L	519.80 ppb	09:42:00
1	Ni 231.604†	20126.0	19242.5	483.29 ug/L	483.29 ppb	09:42:00
1	P 214.914†	4720.0	4296.0	2326.6 ug/L	2326.6 ppb	09:42:00
1	Pb 220.353†	3955.6	3860.7	486.27 ug/L	486.27 ppb	09:42:00
1	S 181.975 Axial†	1900.4	1748.9	2407.0 ug/L	2407.0 ppb	09:42:00
1	Sb 206.836†	1532.9	1442.5	501.66 ug/L	501.66 ppb	09:42:00
1	Se 196.026†	4419.4	4263.9	2477.8 ug/L	2477.8 ppb	09:42:00
1	Si 251.611†	164820.1	157855.6	4670.8 ug/L	4670.8 ppb	09:41:40
1	Sn 189.927†	2941.6	2826.5	520.58 ug/L	520.58 ppb	09:42:00
1	Ti 334.940†	334537.4	322314.6	491.28 ug/L	491.28 ppb	09:41:40
1	Tl 190.801†	1606.5	1580.4	508.86 ug/L	508.86 ppb	09:42:00
1	U 409.014†	18431.7	18771.1	467.74 ug/L	467.74 ppb	09:41:40
1	V 292.402†	80960.2	79176.4	499.30 ug/L	499.30 ppb	09:41:40
1	Zn 213.857†	56166.4	53228.7	491.57 ug/L	491.57 ppb	09:41:40
1	SiO2†	162523.5	155631.7	9828.7 ug/L	9828.7 ppb	09:42:58
2	Sc Radial	5518.3	5518.3	103 %		09:40:48
2	Y RADIAL	5888.3	5888.3	102.3 %		09:40:48
2	Al 396.153Radial†	6721.4	6495.2	4894.9 ug/L	4894.9 ppb	09:40:48
2	Ca 317.933Radial†	3187.0	3063.8	4924.5 ug/L	4924.5 ppb	09:41:08
2	Fe 238.204 Radial†	568.3	542.8	5087.8 ug/L	5087.8 ppb	09:41:08
2	K 766.490 Radial†	16372.7	13340.2	2433.7 ug/L	2433.7 ppb	09:40:48
2	Mg 279.077 IEC†	154.6	148.7	5303.2 ug/L	5303.2 ppb	09:41:08
2	Na 589.592 Radial†	7637.2	7938.1	2359.8 ug/L	2359.8 ppb	09:40:48
2	Sr 421.552†	83965.2	81245.5	521.37 ug/L	521.37 ppb	09:40:48
2	Sc 361.383	926496.6	926496.6	103.19 %		09:42:06
2	Y 371.029	813316.0	813316.0	98.809 %		09:42:06
2	Ag 328.068†	62560.8	60332.0	254.96 ug/L	254.96 ppb	09:42:06
2	As 188.979†	1131.2	1126.4	465.02 ug/L	465.02 ppb	09:42:26
2	B 249.677†	23461.0	22976.6	501.65 ug/L	501.65 ppb	09:42:06
2	Ba 233.527†	64625.9	62632.4	494.92 ug/L	494.92 ppb	09:42:06
2	Be 313.107†	730281.0	712819.8	252.57 ug/L	252.57 ppb	09:42:06
2	Cd 226.502†	43703.8	42559.7	475.28 ug/L	475.28 ppb	09:42:26
2	Co 228.616†	23369.3	22717.2	498.16 ug/L	498.16 ppb	09:42:26
2	Cr 267.716†	45276.8	43784.0	475.26 ug/L	475.26 ppb	09:42:06
2	Cu 324.752†	191554.9	176508.9	495.16 ug/L	495.16 ppb	09:42:06
2	Mn 257.610†	457122.5	442510.1	496.41 ug/L	496.41 ppb	09:42:06
2	Mo 202.031†	7939.2	7670.3	523.94 ug/L	523.94 ppb	09:42:26
2	Ni 231.604†	20069.7	19356.0	486.15 ug/L	486.15 ppb	09:42:26

2	P 214.914†	4683.8	4300.3	2328.7 ug/L	2328.7 ppb	09:42:26
2	Pb 220.353†	3964.0	3901.9	491.44 ug/L	491.44 ppb	09:42:26
2	S 181.975 Axial†	1883.2	1748.0	2405.8 ug/L	2405.8 ppb	09:42:26
2	Sb 206.836†	1522.8	1445.5	502.74 ug/L	502.74 ppb	09:42:26
2	Se 196.026†	4397.9	4279.9	2487.4 ug/L	2487.4 ppb	09:42:26
2	Si 251.611†	163797.9	158241.5	4682.2 ug/L	4682.2 ppb	09:42:06
2	Sn 189.927†	2913.0	2823.4	520.01 ug/L	520.01 ppb	09:42:26
2	Ti 334.940†	332133.9	322779.4	491.99 ug/L	491.99 ppb	09:42:06
2	Tl 190.801†	1609.9	1597.1	514.21 ug/L	514.21 ppb	09:42:26
2	U 409.014†	18330.2	18826.7	469.12 ug/L	469.12 ppb	09:42:06
2	V 292.402†	80367.4	79278.1	499.98 ug/L	499.98 ppb	09:42:06
2	Zn 213.857†	55760.3	53304.2	492.24 ug/L	492.24 ppb	09:42:06
2	SiO2†	165322.5	159701.6	10086 ug/L	10086 ppb	09:43:03
3	Sc Radial	5416.5	5416.5	101 %		09:41:13
3	Y RADIAL	5831.9	5831.9	101.3 %		09:41:13
3	Al 396.153Radial†	6631.6	6528.8	4920.6 ug/L	4920.6 ppb	09:41:13
3	Ca 317.933Radial†	3198.2	3132.8	5035.3 ug/L	5035.3 ppb	09:41:33
3	Fe 238.204 Radial†	566.6	551.4	5168.4 ug/L	5168.4 ppb	09:41:33
3	K 766.490 Radial†	16048.1	13318.1	2429.6 ug/L	2429.6 ppb	09:41:13
3	Mg 279.077 IEC†	157.1	153.9	5489.4 ug/L	5489.4 ppb	09:41:33
3	Na 589.592 Radial†	7465.8	7908.1	2350.9 ug/L	2350.9 ppb	09:41:13
3	Sr 421.552†	82380.8	81211.0	521.15 ug/L	521.15 ppb	09:41:13
3	Sc 361.383	930823.2	930823.2	103.67 %		09:42:32
3	Y 371.029	818504.2	818504.2	99.439 %		09:42:32
3	Ag 328.068†	62784.2	60265.7	254.71 ug/L	254.71 ppb	09:42:32
3	As 188.979†	1114.5	1105.2	456.38 ug/L	456.38 ppb	09:42:52
3	B 249.677†	23566.3	22972.5	501.55 ug/L	501.55 ppb	09:42:32
3	Ba 233.527†	64951.2	62655.1	495.10 ug/L	495.10 ppb	09:42:32
3	Be 313.107†	734417.2	713520.1	252.82 ug/L	252.82 ppb	09:42:32
3	Cd 226.502†	43659.8	42320.4	472.60 ug/L	472.60 ppb	09:42:52
3	Co 228.616†	23368.7	22611.4	495.83 ug/L	495.83 ppb	09:42:52
3	Cr 267.716†	45446.6	43743.9	474.83 ug/L	474.83 ppb	09:42:32
3	Cu 324.752†	192364.4	176426.9	494.93 ug/L	494.93 ppb	09:42:32
3	Mn 257.610†	459010.9	442272.5	496.15 ug/L	496.15 ppb	09:42:32
3	Mo 202.031†	7923.6	7619.5	520.47 ug/L	520.47 ppb	09:42:52
3	Ni 231.604†	20042.9	19239.7	483.22 ug/L	483.22 ppb	09:42:52
3	P 214.914†	4675.6	4271.3	2312.4 ug/L	2312.4 ppb	09:42:52
3	Pb 220.353†	3942.5	3863.3	486.58 ug/L	486.58 ppb	09:42:52
3	S 181.975 Axial†	1892.0	1748.0	2405.8 ug/L	2405.8 ppb	09:42:52
3	Sb 206.836†	1532.7	1448.2	503.56 ug/L	503.56 ppb	09:42:52
3	Se 196.026†	4406.4	4268.3	2480.9 ug/L	2480.9 ppb	09:42:52
3	Si 251.611†	164260.4	157949.8	4673.6 ug/L	4673.6 ppb	09:42:32
3	Sn 189.927†	2921.3	2818.2	519.08 ug/L	519.08 ppb	09:42:52
3	Ti 334.940†	333508.8	322609.5	491.73 ug/L	491.73 ppb	09:42:32
3	Tl 190.801†	1604.4	1584.5	510.18 ug/L	510.18 ppb	09:42:52
3	U 409.014†	18413.6	18824.7	469.06 ug/L	469.06 ppb	09:42:32
3	V 292.402†	80872.9	79403.7	500.70 ug/L	500.70 ppb	09:42:32
3	Zn 213.857†	55935.1	53221.7	491.49 ug/L	491.49 ppb	09:42:32
3	SiO2†	162740.7	156466.5	9881.5 ug/L	9881.5 ppb	09:43:08

## Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	930623.5	103.65 %	0.449			0.43%
Sc Radial	5488.0	103 %	1.2			1.13%
Y 371.029	817752.9	99.348 %	0.4997			0.50%
Y RADIAL	5874.1	102.0 %	0.64			0.63%
Ag 328.068†	60248.6	254.61 ug/L	0.406	254.61 ppb	0.406	0.16%
QC value within limits for Ag 328.068 Recovery = 101.84%						
Al 396.153Radial†	6509.3	4905.7 ug/L	13.31	4905.7 ppb	13.31	0.27%
QC value within limits for Al 396.153Radial Recovery = 98.11%						
As 188.979†	1119.4	462.17 ug/L	5.010	462.17 ppb	5.010	1.08%
QC value within limits for As 188.979 Recovery = 92.43%						
B 249.677†	22957.8	501.24 ug/L	0.625	501.24 ppb	0.625	0.12%
QC value within limits for B 249.677 Recovery = 100.25%						
Ba 233.527†	62656.4	495.11 ug/L	0.193	495.11 ppb	0.193	0.04%
QC value within limits for Ba 233.527 Recovery = 99.02%						
Be 313.107†	712950.6	252.62 ug/L	0.183	252.62 ppb	0.183	0.07%
QC value within limits for Be 313.107 Recovery = 101.05%						
Ca 317.933Radial†	3075.3	4942.9 ug/L	84.74	4942.9 ppb	84.74	1.71%

QC value within limits for Ca 317.933 Radial Recovery = 98.86%							
Cd 226.502†	42410.5	473.62 ug/L	1.456	473.62 ppb	1.456	0.31%	
QC value within limits for Cd 226.502 Recovery = 94.72%							
Co 228.616†	22653.3	496.76 ug/L	1.237	496.76 ppb	1.237	0.25%	
QC value within limits for Co 228.616 Recovery = 99.35%							
Cr 267.716†	43760.9	475.01 ug/L	0.224	475.01 ppb	0.224	0.05%	
QC value within limits for Cr 267.716 Recovery = 95.00%							
Cu 324.752†	176331.4	494.66 ug/L	0.676	494.66 ppb	0.676	0.14%	
QC value within limits for Cu 324.752 Recovery = 98.93%							
Fe 238.204 Radial†	542.9	5088.3 ug/L	79.81	5088.3 ppb	79.81	1.57%	
QC value within limits for Fe 238.204 Radial Recovery = 101.77%							
K 766.490 Radial†	13321.4	2430.2 ug/L	3.17	2430.2 ppb	3.17	0.13%	
QC value within limits for K 766.490 Radial Recovery = 97.21%							
Mg 279.077 IEC†	150.1	5355.7 ug/L	116.67	5355.7 ppb	116.67	2.18%	
QC value within limits for Mg 279.077 IEC Recovery = 107.11%							
Mn 257.610†	442217.5	496.08 ug/L	0.366	496.08 ppb	0.366	0.07%	
QC value within limits for Mn 257.610 Recovery = 99.22%							
Mo 202.031†	7633.2	521.40 ug/L	2.221	521.40 ppb	2.221	0.43%	
QC value within limits for Mo 202.031 Recovery = 104.28%							
Na 589.592 Radial†	7955.1	2364.8 ug/L	17.05	2364.8 ppb	17.05	0.72%	
QC value within limits for Na 589.592 Radial Recovery = 94.59%							
Ni 231.604†	19279.4	484.22 ug/L	1.667	484.22 ppb	1.667	0.34%	
QC value within limits for Ni 231.604 Recovery = 96.84%							
P 214.914†	4289.2	2322.6 ug/L	8.91	2322.6 ppb	8.91	0.38%	
QC value within limits for P 214.914 Recovery = 92.90%							
Pb 220.353†	3875.3	488.10 ug/L	2.899	488.10 ppb	2.899	0.59%	
QC value within limits for Pb 220.353 Recovery = 97.62%							
S 181.975 Axial†	1748.3	2406.2 ug/L	0.67	2406.2 ppb	0.67	0.03%	
QC value within limits for S 181.975 Axial Recovery = 96.25%							
Sb 206.836†	1445.4	502.65 ug/L	0.956	502.65 ppb	0.956	0.19%	
QC value within limits for Sb 206.836 Recovery = 100.53%							
Se 196.026†	4270.7	2482.0 ug/L	4.87	2482.0 ppb	4.87	0.20%	
QC value within limits for Se 196.026 Recovery = 99.28%							
Si 251.611†	158015.6	4675.6 ug/L	5.93	4675.6 ppb	5.93	0.13%	
QC value within limits for Si 251.611 Recovery = 93.51%							
Sn 189.927†	2822.7	519.89 ug/L	0.754	519.89 ppb	0.754	0.15%	
QC value within limits for Sn 189.927 Recovery = 103.98%							
Sr 421.552†	81268.6	521.52 ug/L	0.462	521.52 ppb	0.462	0.09%	
QC value within limits for Sr 421.552 Recovery = 104.30%							
Ti 334.940†	322567.8	491.67 ug/L	0.361	491.67 ppb	0.361	0.07%	
QC value within limits for Ti 334.940 Recovery = 98.33%							
Tl 190.801†	1587.3	511.08 ug/L	2.786	511.08 ppb	2.786	0.55%	
QC value within limits for Tl 190.801 Recovery = 102.22%							
U 409.014†	18807.5	468.64 ug/L	0.780	468.64 ppb	0.780	0.17%	
QC value within limits for U 409.014 Recovery = 93.73%							
V 292.402†	79286.1	499.99 ug/L	0.703	499.99 ppb	0.703	0.14%	
QC value within limits for V 292.402 Recovery = 100.00%							
Zn 213.857†	53251.5	491.77 ug/L	0.416	491.77 ppb	0.416	0.08%	
QC value within limits for Zn 213.857 Recovery = 98.35%							
SiO2†	157266.6	9932.1 ug/L	135.90	9932.1 ppb	135.90	1.37%	
QC value within limits for SiO2 Recovery = 92.87%							
All analyte(s) passed QC.							

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 1/26/2010 09:45:19

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5489.0	5489.0	103 %		09:47:12
1	Y RADIAL	5901.6	5901.6	102.5 %		09:47:12
1	Al 396.153Radial†	6.3	-3.0	-2.3087 ug/L	-2.3087 ppb	09:47:32
1	Ca 317.933Radial†	15.2	-5.4	-8.7450 ug/L	-8.7450 ppb	09:47:32
1	Fe 238.204 Radial†	8.4	1.1	9.8996 ug/L	9.8996 ppb	09:47:32
1	K 766.490 Radial†	2308.3	-257.9	-47.084 ug/L	-47.084 ppb	09:47:12
1	Mg 279.077 IEC†	0.9	-0.1	-3.5151 ug/L	-3.5151 ppb	09:47:32
1	Na 589.592 Radial†	-741.9	-174.2	-51.776 ug/L	-51.776 ppb	09:47:12
1	Sr 421.552†	14.4	6.9	0.0445 ug/L	0.0445 ppb	09:47:12
1	Sc 361.383	946678.1	946678.1	105.44 %		09:48:29
1	Y 371.029	838473.7	838473.7	101.87 %		09:48:29
1	Ag 328.068†	341.1	27.5	0.1305 ug/L	0.1305 ppb	09:48:34
1	As 188.979†	-27.8	3.9	1.5843 ug/L	1.5843 ppb	09:48:54
1	B 249.677†	-44.3	198.4	4.3481 ug/L	4.3481 ppb	09:48:54
1	Ba 233.527†	16.4	18.6	0.1498 ug/L	0.1498 ppb	09:48:54
1	Be 313.107†	-5045.4	315.1	0.1113 ug/L	0.1113 ppb	09:48:34
1	Cd 226.502†	-205.0	11.7	0.1285 ug/L	0.1285 ppb	09:48:54
1	Co 228.616†	-56.6	16.3	0.3569 ug/L	0.3569 ppb	09:48:54
1	Cr 267.716†	71.1	-26.5	-0.2816 ug/L	-0.2816 ppb	09:48:54
1	Cu 324.752†	9103.6	-493.8	-1.3796 ug/L	-1.3796 ppb	09:48:34
1	Mn 257.610†	475.0	-39.3	-0.0430 ug/L	-0.0430 ppb	09:48:54
1	Mo 202.031†	28.1	3.0	0.2087 ug/L	0.2087 ppb	09:48:54
1	Ni 231.604†	104.6	5.6	0.1393 ug/L	0.1393 ppb	09:48:54
1	P 214.914†	245.0	-6.4	-3.3430 ug/L	-3.3430 ppb	09:48:54
1	Pb 220.353†	-45.4	17.4	2.1776 ug/L	2.1776 ppb	09:48:54
1	S 181.975 Axial†	56.0	-23.9	-32.868 ug/L	-32.868 ppb	09:48:54
1	Sb 206.836†	39.4	7.2	2.4048 ug/L	2.4048 ppb	09:48:54
1	Se 196.026†	-16.6	2.2	1.2931 ug/L	1.2931 ppb	09:48:54
1	Si 251.611†	508.0	-14.1	-0.4205 ug/L	-0.4205 ppb	09:48:54
1	Sn 189.927†	1.0	1.3	0.2385 ug/L	0.2385 ppb	09:48:54
1	Ti 334.940†	-915.7	38.1	0.0612 ug/L	0.0612 ppb	09:48:34
1	Tl 190.801†	-43.0	-3.8	-1.2350 ug/L	-1.2350 ppb	09:48:54
1	U 409.014†	-1500.9	-360.7	-9.0203 ug/L	-9.0203 ppb	09:48:34
1	V 292.402†	-1260.9	197.7	1.2136 ug/L	1.2136 ppb	09:48:34
1	Zn 213.857†	687.2	-81.6	-0.7600 ug/L	-0.7600 ppb	09:48:54
1	SiO2†	517.1	-22.9	-1.4569 ug/L	-1.4569 ppb	09:50:15
2	Sc Radial	5519.6	5519.6	103 %		09:47:37
2	Y RADIAL	5909.8	5909.8	102.7 %		09:47:37
2	Al 396.153Radial†	6.2	-3.1	-2.3683 ug/L	-2.3683 ppb	09:47:57
2	Ca 317.933Radial†	18.6	-2.3	-3.6376 ug/L	-3.6376 ppb	09:47:57
2	Fe 238.204 Radial†	7.6	0.2	1.4787 ug/L	1.4787 ppb	09:47:57
2	K 766.490 Radial†	2259.3	-317.7	-58.017 ug/L	-58.017 ppb	09:47:37
2	Mg 279.077 IEC†	2.1	1.1	37.955 ug/L	37.955 ppb	09:47:57
2	Na 589.592 Radial†	-766.4	-193.9	-57.629 ug/L	-57.629 ppb	09:47:37
2	Sr 421.552†	24.0	16.2	0.1037 ug/L	0.1037 ppb	09:47:37
2	Sc 361.383	935009.3	935009.3	104.14 %		09:48:59
2	Y 371.029	827735.8	827735.8	100.56 %		09:48:59
2	Ag 328.068†	404.2	92.1	0.3957 ug/L	0.3957 ppb	09:49:04
2	As 188.979†	-25.9	5.3	2.1562 ug/L	2.1562 ppb	09:49:24
2	B 249.677†	-80.7	162.9	3.5714 ug/L	3.5714 ppb	09:49:24
2	Ba 233.527†	-1.3	1.9	0.0159 ug/L	0.0159 ppb	09:49:24
2	Be 313.107†	-5043.7	257.0	0.0908 ug/L	0.0908 ppb	09:49:04
2	Cd 226.502†	-197.2	16.8	0.1855 ug/L	0.1855 ppb	09:49:24
2	Co 228.616†	-62.3	10.1	0.2230 ug/L	0.2230 ppb	09:49:24
2	Cr 267.716†	64.9	-31.6	-0.3379 ug/L	-0.3379 ppb	09:49:24
2	Cu 324.752†	9122.4	-367.9	-1.0261 ug/L	-1.0261 ppb	09:49:04
2	Mn 257.610†	489.6	-19.7	-0.0234 ug/L	-0.0234 ppb	09:49:24
2	Mo 202.031†	29.1	4.3	0.2934 ug/L	0.2934 ppb	09:49:24
2	Ni 231.604†	96.4	-1.1	-0.0270 ug/L	-0.0270 ppb	09:49:24

2	P 214.914†	228.8	-19.0	-10.523 ug/L	-10.523 ppb	09:49:24
2	Pb 220.353†	-60.1	2.7	0.3407 ug/L	0.3407 ppb	09:49:24
2	S 181.975 Axial†	54.0	-25.2	-34.634 ug/L	-34.634 ppb	09:49:24
2	Sb 206.836†	41.2	9.3	3.1237 ug/L	3.1237 ppb	09:49:24
2	Se 196.026†	-17.3	1.4	0.8071 ug/L	0.8071 ppb	09:49:24
2	Si 251.611†	501.1	-14.8	-0.4415 ug/L	-0.4415 ppb	09:49:24
2	Sn 189.927†	0.3	0.6	0.1080 ug/L	0.1080 ppb	09:49:24
2	Ti 334.940†	-895.9	46.2	0.0718 ug/L	0.0718 ppb	09:49:04
2	Tl 190.801†	-32.6	5.5	1.7733 ug/L	1.7733 ppb	09:49:24
2	U 409.014†	-1560.6	-435.7	-10.895 ug/L	-10.895 ppb	09:49:04
2	V 292.402†	-1376.7	71.5	0.4288 ug/L	0.4288 ppb	09:49:04
2	Zn 213.857†	688.6	-72.1	-0.6706 ug/L	-0.6706 ppb	09:49:24
2	SiO2†	525.5	-8.8	-0.5632 ug/L	-0.5632 ppb	09:50:35
3	Sc Radial	5485.5	5485.5	103 %		09:48:02
3	Y RADIAL	5902.8	5902.8	102.5 %		09:48:02
3	Al 396.153Radial†	-0.4	-9.6	-7.2610 ug/L	-7.2610 ppb	09:48:22
3	Ca 317.933Radial†	17.3	-3.4	-5.4770 ug/L	-5.4770 ppb	09:48:22
3	Fe 238.204 Radial†	8.1	0.7	6.6633 ug/L	6.6633 ppb	09:48:22
3	K 766.490 Radial†	2330.9	-234.4	-42.810 ug/L	-42.810 ppb	09:48:02
3	Mg 279.077 IEC†	4.2	3.1	109.43 ug/L	109.43 ppb	09:48:22
3	Na 589.592 Radial†	-712.5	-145.9	-43.385 ug/L	-43.385 ppb	09:48:02
3	Sr 421.552†	-2.2	-9.2	-0.0590 ug/L	-0.0590 ppb	09:48:02
3	Sc 361.383	930868.9	930868.9	103.67 %		09:49:30
3	Y 371.029	824178.7	824178.7	100.13 %		09:49:30
3	Ag 328.068†	419.5	108.6	0.4648 ug/L	0.4648 ppb	09:49:35
3	As 188.979†	-36.0	-4.5	-1.8576 ug/L	-1.8576 ppb	09:49:55
3	B 249.677†	-48.2	193.9	4.2512 ug/L	4.2512 ppb	09:49:55
3	Ba 233.527†	3.1	6.1	0.0493 ug/L	0.0493 ppb	09:49:55
3	Be 313.107†	-4988.4	288.8	0.1020 ug/L	0.1020 ppb	09:49:35
3	Cd 226.502†	-183.0	29.7	0.3293 ug/L	0.3293 ppb	09:49:55
3	Co 228.616†	-75.0	-2.4	-0.0518 ug/L	-0.0518 ppb	09:49:55
3	Cr 267.716†	96.6	-0.8	-0.0039 ug/L	-0.0039 ppb	09:49:55
3	Cu 324.752†	9043.4	-405.2	-1.1317 ug/L	-1.1317 ppb	09:49:35
3	Mn 257.610†	462.4	-43.8	-0.0529 ug/L	-0.0529 ppb	09:49:55
3	Mo 202.031†	26.2	1.7	0.1133 ug/L	0.1133 ppb	09:49:55
3	Ni 231.604†	108.1	10.6	0.2659 ug/L	0.2659 ppb	09:49:55
3	P 214.914†	229.2	-17.7	-9.7421 ug/L	-9.7421 ppb	09:49:55
3	Pb 220.353†	-60.6	1.9	0.2372 ug/L	0.2372 ppb	09:49:55
3	S 181.975 Axial†	54.6	-24.3	-33.504 ug/L	-33.504 ppb	09:49:55
3	Sb 206.836†	33.4	2.0	0.6687 ug/L	0.6687 ppb	09:49:55
3	Se 196.026†	-11.6	6.7	3.9014 ug/L	3.9014 ppb	09:49:55
3	Si 251.611†	506.9	-7.0	-0.2100 ug/L	-0.2100 ppb	09:49:55
3	Sn 189.927†	-0.6	-0.3	-0.0522 ug/L	-0.0522 ppb	09:49:55
3	Ti 334.940†	-913.3	25.6	0.0329 ug/L	0.0329 ppb	09:49:35
3	Tl 190.801†	-33.1	5.0	1.5860 ug/L	1.5860 ppb	09:49:55
3	U 409.014†	-1444.2	-330.2	-8.2563 ug/L	-8.2563 ppb	09:49:35
3	V 292.402†	-1345.2	96.1	0.5845 ug/L	0.5845 ppb	09:49:35
3	Zn 213.857†	690.3	-67.6	-0.6302 ug/L	-0.6302 ppb	09:49:55
3	SiO2†	517.2	-14.5	-0.9220 ug/L	-0.9220 ppb	09:50:55

## Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	937518.8	104.42 %	0.913			0.87%
Sc Radial	5498.1	103 %	0.4			0.34%
Y 371.029	830129.4	100.85 %	0.904			0.90%
Y RADIAL	5904.7	102.6 %	0.08			0.08%
Ag 328.068†	76.1	0.3303 ug/L	0.17648	0.3303 ppb	0.17648	53.43%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-5.2	-3.9793 ug/L	2.84213	-3.9793 ppb	2.84213	71.42%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.5	0.6276 ug/L	2.17119	0.6276 ppb	2.17119	345.95%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	185.1	4.0569 ug/L	0.42321	4.0569 ppb	0.42321	10.43%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	8.9	0.0717 ug/L	0.06971	0.0717 ppb	0.06971	97.25%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	287.0	0.1014 ug/L	0.01025	0.1014 ppb	0.01025	10.11%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-3.7	-5.9532 ug/L	2.58676	-5.9532 ppb	2.58676	43.45%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd	226.502†	19.4	0.2144 ug/L	0.10349	0.2144 ppb	0.10349	48.26%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co	228.616†	8.0	0.1760 ug/L	0.20839	0.1760 ppb	0.20839	118.38%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr	267.716†	-19.6	-0.2078 ug/L	0.17878	-0.2078 ppb	0.17878	86.04%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	-422.3	-1.1791 ug/L	0.18151	-1.1791 ppb	0.18151	15.39%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	0.6	6.0139 ug/L	4.24789	6.0139 ppb	4.24789	70.63%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K	766.490 Radial†	-270.0	-49.304 ug/L	7.8429	-49.304 ppb	7.8429	15.91%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	1.3	47.957 ug/L	57.1337	47.957 ppb	57.1337	119.14%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn	257.610†	-34.3	-0.0398 ug/L	0.01500	-0.0398 ppb	0.01500	37.70%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	3.0	0.2051 ug/L	0.09008	0.2051 ppb	0.09008	43.92%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	-171.3	-50.930 ug/L	7.1595	-50.930 ppb	7.1595	14.06%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	5.0	0.1261 ug/L	0.14693	0.1261 ppb	0.14693	116.56%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	-14.4	-7.8693 ug/L	3.93933	-7.8693 ppb	3.93933	50.06%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	7.3	0.9185 ug/L	1.09162	0.9185 ppb	1.09162	118.85%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	-24.5	-33.669 ug/L	0.8943	-33.669 ppb	0.8943	2.66%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	6.1	2.0657 ug/L	1.26213	2.0657 ppb	1.26213	61.10%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	3.4	2.0005 ug/L	1.66404	2.0005 ppb	1.66404	83.18%
QC value within limits for Se 196.026 Recovery = Not calculated							
Si	251.611†	-12.0	-0.3573 ug/L	0.12803	-0.3573 ppb	0.12803	35.83%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	0.5	0.0981 ug/L	0.14558	0.0981 ppb	0.14558	148.39%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	4.6	0.0297 ug/L	0.08236	0.0297 ppb	0.08236	276.86%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	36.6	0.0553 ug/L	0.02010	0.0553 ppb	0.02010	36.33%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	2.2	0.7081 ug/L	1.68539	0.7081 ppb	1.68539	238.02%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	-375.5	-9.3907 ug/L	1.35796	-9.3907 ppb	1.35796	14.46%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	121.8	0.7423 ug/L	0.41552	0.7423 ppb	0.41552	55.98%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	-73.8	-0.6869 ug/L	0.06642	-0.6869 ppb	0.06642	9.67%
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†		-15.4	-0.9807 ug/L	0.44976	-0.9807 ppb	0.44976	45.86%
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.



Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 1/26/2010 09:53:06

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5473.2	5473.2	102 %		09:54:59
1	Y RADIAL	5918.4	5918.4	102.8 %		09:54:59
1	Al 396.153Radial†	289.1	272.9	206.21 ug/L	206.21 ppb	09:55:19
1	Ca 317.933Radial†	150.6	126.7	203.68 ug/L	203.68 ppb	09:55:19
1	Fe 238.204 Radial†	18.5	10.9	101.99 ug/L	101.99 ppb	09:55:19
1	K 766.490 Radial†	3154.0	573.8	104.65 ug/L	104.65 ppb	09:54:59
1	Mg 279.077 IEC†	12.4	11.1	395.23 ug/L	395.23 ppb	09:55:19
1	Na 589.592 Radial†	219.9	762.2	226.57 ug/L	226.57 ppb	09:54:59
1	Sr 421.552†	823.0	795.9	5.1061 ug/L	5.1061 ppb	09:54:59
1	Sc 361.383	920367.1	920367.1	102.51 %		09:56:16
1	Y 371.029	809322.7	809322.7	98.323 %		09:56:16
1	Ag 328.068†	1516.4	1183.4	4.9461 ug/L	4.9461 ppb	09:56:16
1	As 188.979†	37.7	67.0	27.456 ug/L	27.456 ppb	09:56:36
1	B 249.677†	2097.4	2286.6	50.116 ug/L	50.116 ppb	09:56:16
1	Ba 233.527†	662.9	649.8	5.1362 ug/L	5.1362 ppb	09:56:36
1	Be 313.107†	9361.0	14232.7	5.0326 ug/L	5.0326 ppb	09:56:16
1	Cd 226.502†	257.9	457.8	5.1174 ug/L	5.1174 ppb	09:56:36
1	Co 228.616†	167.9	233.8	5.1374 ug/L	5.1374 ppb	09:56:36
1	Cr 267.716†	588.3	479.9	5.1911 ug/L	5.1911 ppb	09:56:36
1	Cu 324.752†	12745.4	3305.9	9.2497 ug/L	9.2497 ppb	09:56:16
1	Mn 257.610†	9947.8	9214.8	10.325 ug/L	10.325 ppb	09:56:16
1	Mo 202.031†	185.8	157.7	10.773 ug/L	10.773 ppb	09:56:36
1	Ni 231.604†	337.5	235.6	5.9182 ug/L	5.9182 ppb	09:56:36
1	P 214.914†	507.8	256.6	142.92 ug/L	142.92 ppb	09:56:36
1	Pb 220.353†	35.8	95.3	12.019 ug/L	12.019 ppb	09:56:36
1	S 181.975 Axial†	138.9	58.5	80.539 ug/L	80.539 ppb	09:56:36
1	Sb 206.836†	51.7	20.2	7.1200 ug/L	7.1200 ppb	09:56:36
1	Se 196.026†	40.8	57.8	33.699 ug/L	33.699 ppb	09:56:36
1	Si 251.611†	3814.5	3225.3	95.433 ug/L	95.433 ppb	09:56:36
1	Sn 189.927†	51.0	50.1	9.2415 ug/L	9.2415 ppb	09:56:36
1	Ti 334.940†	2592.1	3435.3	5.2076 ug/L	5.2076 ppb	09:56:16
1	Tl 190.801†	28.8	65.0	20.859 ug/L	20.859 ppb	09:56:36
1	U 409.014†	1094.3	2130.4	53.249 ug/L	53.249 ppb	09:56:16
1	V 292.402†	-570.9	836.6	5.4422 ug/L	5.4422 ppb	09:56:16
1	Zn 213.857†	1791.7	1014.5	9.3899 ug/L	9.3899 ppb	09:56:36
1	SiO2†	3944.5	3334.7	210.61 ug/L	210.61 ppb	09:57:32
2	Sc Radial	5481.8	5481.8	103 %		09:55:24
2	Y RADIAL	5873.6	5873.6	102.0 %		09:55:24
2	Al 396.153Radial†	283.5	267.0	201.81 ug/L	201.81 ppb	09:55:44
2	Ca 317.933Radial†	152.7	128.5	206.58 ug/L	206.58 ppb	09:55:44
2	Fe 238.204 Radial†	19.1	11.4	106.77 ug/L	106.77 ppb	09:55:44
2	K 766.490 Radial†	3086.1	502.8	91.668 ug/L	91.668 ppb	09:55:24
2	Mg 279.077 IEC†	11.9	10.7	379.90 ug/L	379.90 ppb	09:55:44
2	Na 589.592 Radial†	257.6	798.6	237.40 ug/L	237.40 ppb	09:55:24
2	Sr 421.552†	835.0	806.3	5.1730 ug/L	5.1730 ppb	09:55:24
2	Sc 361.383	911945.6	911945.6	101.57 %		09:56:42
2	Y 371.029	802802.3	802802.3	97.531 %		09:56:42
2	Ag 328.068†	1577.4	1257.0	5.2526 ug/L	5.2526 ppb	09:56:42
2	As 188.979†	29.8	59.6	24.417 ug/L	24.417 ppb	09:57:02
2	B 249.677†	2098.2	2306.3	50.546 ug/L	50.546 ppb	09:56:42
2	Ba 233.527†	653.6	646.6	5.1113 ug/L	5.1113 ppb	09:57:02
2	Be 313.107†	9377.7	14333.4	5.0678 ug/L	5.0678 ppb	09:56:42
2	Cd 226.502†	243.2	445.6	4.9807 ug/L	4.9807 ppb	09:57:02
2	Co 228.616†	170.7	238.0	5.2280 ug/L	5.2280 ppb	09:57:02
2	Cr 267.716†	544.2	441.9	4.7777 ug/L	4.7777 ppb	09:57:02
2	Cu 324.752†	12645.8	3322.7	9.2960 ug/L	9.2960 ppb	09:56:42
2	Mn 257.610†	9880.5	9238.2	10.353 ug/L	10.353 ppb	09:56:42
2	Mo 202.031†	163.9	137.7	9.4112 ug/L	9.4112 ppb	09:57:02
2	Ni 231.604†	316.5	217.9	5.4734 ug/L	5.4734 ppb	09:57:02

2	P 214.914†	508.2	261.6	145.73 ug/L	145.73 ppb	09:57:02
2	Pb 220.353†	30.5	90.5	11.411 ug/L	11.411 ppb	09:57:02
2	S 181.975 Axial†	125.2	46.2	63.628 ug/L	63.628 ppb	09:57:02
2	Sb 206.836†	69.9	38.6	13.246 ug/L	13.246 ppb	09:57:02
2	Se 196.026†	39.3	56.6	33.061 ug/L	33.061 ppb	09:57:02
2	Si 251.611†	3801.0	3246.4	96.075 ug/L	96.075 ppb	09:57:02
2	Sn 189.927†	49.4	49.0	9.0492 ug/L	9.0492 ppb	09:57:02
2	Ti 334.940†	2475.0	3343.4	5.0684 ug/L	5.0684 ppb	09:56:42
2	Tl 190.801†	28.1	64.6	20.708 ug/L	20.708 ppb	09:57:02
2	U 409.014†	1159.9	2204.9	55.110 ug/L	55.110 ppb	09:56:42
2	V 292.402†	-595.1	807.7	5.2458 ug/L	5.2458 ppb	09:56:42
2	Zn 213.857†	1792.0	1030.9	9.5445 ug/L	9.5445 ppb	09:57:02
2	SiO2†	3920.4	3346.5	211.39 ug/L	211.39 ppb	09:57:38
3	Sc Radial	5498.1	5498.1	103 %		09:55:49
3	Y RADIAL	5877.6	5877.6	102.1 %		09:55:49
3	Al 396.153Radial†	280.2	263.0	198.71 ug/L	198.71 ppb	09:56:09
3	Ca 317.933Radial†	151.6	127.0	204.09 ug/L	204.09 ppb	09:56:09
3	Fe 238.204 Radial†	18.7	11.0	102.62 ug/L	102.62 ppb	09:56:09
3	K 766.490 Radial†	3152.5	558.4	101.84 ug/L	101.84 ppb	09:55:49
3	Mg 279.077 IEC†	11.7	10.4	372.00 ug/L	372.00 ppb	09:56:09
3	Na 589.592 Radial†	254.9	795.2	236.40 ug/L	236.40 ppb	09:55:49
3	Sr 421.552†	826.9	796.0	5.1070 ug/L	5.1070 ppb	09:55:49
3	Sc 361.383	909827.5	909827.5	101.33 %		09:57:07
3	Y 371.029	800430.8	800430.8	97.243 %		09:57:07
3	Ag 328.068†	1472.5	1157.1	4.8366 ug/L	4.8366 ppb	09:57:07
3	As 188.979†	40.3	69.9	28.659 ug/L	28.659 ppb	09:57:27
3	B 249.677†	2041.1	2254.7	49.415 ug/L	49.415 ppb	09:57:07
3	Ba 233.527†	675.3	669.5	5.2927 ug/L	5.2927 ppb	09:57:27
3	Be 313.107†	9250.8	14229.7	5.0313 ug/L	5.0313 ppb	09:57:07
3	Cd 226.502†	263.0	465.7	5.2062 ug/L	5.2062 ppb	09:57:27
3	Co 228.616†	170.0	237.7	5.2234 ug/L	5.2234 ppb	09:57:27
3	Cr 267.716†	576.6	475.1	5.1379 ug/L	5.1379 ppb	09:57:27
3	Cu 324.752†	12690.9	3396.1	9.5018 ug/L	9.5018 ppb	09:57:07
3	Mn 257.610†	9818.0	9199.2	10.309 ug/L	10.309 ppb	09:57:07
3	Mo 202.031†	182.1	156.1	10.666 ug/L	10.666 ppb	09:57:27
3	Ni 231.604†	317.5	219.7	5.5180 ug/L	5.5180 ppb	09:57:27
3	P 214.914†	492.3	247.1	137.52 ug/L	137.52 ppb	09:57:27
3	Pb 220.353†	26.9	86.9	10.971 ug/L	10.971 ppb	09:57:27
3	S 181.975 Axial†	122.8	44.2	60.772 ug/L	60.772 ppb	09:57:27
3	Sb 206.836†	63.7	32.6	11.302 ug/L	11.302 ppb	09:57:27
3	Se 196.026†	27.4	45.0	26.345 ug/L	26.345 ppb	09:57:27
3	Si 251.611†	3813.7	3267.6	96.688 ug/L	96.688 ppb	09:57:27
3	Sn 189.927†	56.4	56.0	10.337 ug/L	10.337 ppb	09:57:27
3	Ti 334.940†	2475.5	3349.5	5.0779 ug/L	5.0779 ppb	09:57:07
3	Tl 190.801†	13.2	49.9	16.024 ug/L	16.024 ppb	09:57:27
3	U 409.014†	1160.5	2208.1	55.190 ug/L	55.190 ppb	09:57:07
3	V 292.402†	-501.3	898.9	5.8312 ug/L	5.8312 ppb	09:57:07
3	Zn 213.857†	1782.7	1025.9	9.4975 ug/L	9.4975 ppb	09:57:27
3	SiO2†	3961.0	3395.6	214.46 ug/L	214.46 ppb	09:57:43

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	914046.8	101.80 %	0.621			0.61%
Sc Radial	5484.4	103 %	0.2			0.23%
Y 371.029	804185.2	97.699 %	0.5594			0.57%
Y RADIAL	5889.9	102.3 %	0.43			0.42%
Ag 328.068†	1199.1	5.0117 ug/L	0.21563	5.0117 ppb	0.21563	4.30%
QC value within limits for Ag 328.068 Recovery = 100.23%						
Al 396.153Radial†	267.6	202.24 ug/L	3.772	202.24 ppb	3.772	1.87%
QC value within limits for Al 396.153Radial Recovery = 101.12%						
As 188.979†	65.5	26.844 ug/L	2.1860	26.844 ppb	2.1860	8.14%
QC value within limits for As 188.979 Recovery = 89.48%						
B 249.677†	2282.5	50.026 ug/L	0.5708	50.026 ppb	0.5708	1.14%
QC value within limits for B 249.677 Recovery = 100.05%						
Ba 233.527†	655.3	5.1801 ug/L	0.09832	5.1801 ppb	0.09832	1.90%
QC value within limits for Ba 233.527 Recovery = 103.60%						
Be 313.107†	14265.3	5.0439 ug/L	0.02072	5.0439 ppb	0.02072	0.41%
QC value within limits for Be 313.107 Recovery = 100.88%						
Ca 317.933Radial†	127.4	204.78 ug/L	1.568	204.78 ppb	1.568	0.77%

QC value within limits for Ca 317.933Radial Recovery = 102.39%							
Cd 226.502†	456.4	5.1014 ug/L	0.11355	5.1014 ppb	0.11355	2.23%	
QC value within limits for Cd 226.502 Recovery = 102.03%							
Co 228.616†	236.5	5.1963 ug/L	0.05108	5.1963 ppb	0.05108	0.98%	
QC value within limits for Co 228.616 Recovery = 103.93%							
Cr 267.716†	465.6	5.0356 ug/L	0.22489	5.0356 ppb	0.22489	4.47%	
QC value within limits for Cr 267.716 Recovery = 100.71%							
Cu 324.752†	3341.5	9.3491 ug/L	0.13419	9.3491 ppb	0.13419	1.44%	
QC value within limits for Cu 324.752 Recovery = 93.49%							
Fe 238.204 Radial†	11.1	103.79 ug/L	2.602	103.79 ppb	2.602	2.51%	
QC value within limits for Fe 238.204 Radial Recovery = 103.79%							
K 766.490 Radial†	545.0	99.385 ug/L	6.8289	99.385 ppb	6.8289	6.87%	
QC value less than the lower limit for K 766.490 Radial Recovery = 66.26%							
Mg 279.077 IEC†	10.7	382.38 ug/L	11.814	382.38 ppb	11.814	3.09%	
QC value within limits for Mg 279.077 IEC Recovery = 127.46%							
Mn 257.610†	9217.4	10.329 ug/L	0.0221	10.329 ppb	0.0221	0.21%	
QC value within limits for Mn 257.610 Recovery = 103.29%							
Mo 202.031†	150.5	10.283 ug/L	0.7570	10.283 ppb	0.7570	7.36%	
QC value within limits for Mo 202.031 Recovery = 102.83%							
Na 589.592 Radial†	785.3	233.46 ug/L	5.988	233.46 ppb	5.988	2.56%	
QC value within limits for Na 589.592 Radial Recovery = 77.82%							
Ni 231.604†	224.4	5.6365 ug/L	0.24496	5.6365 ppb	0.24496	4.35%	
QC value within limits for Ni 231.604 Recovery = 112.73%							
P 214.914†	255.1	142.06 ug/L	4.172	142.06 ppb	4.172	2.94%	
QC value within limits for P 214.914 Recovery = 94.71%							
Pb 220.353†	90.9	11.467 ug/L	0.5264	11.467 ppb	0.5264	4.59%	
QC value within limits for Pb 220.353 Recovery = 114.67%							
S 181.975 Axial†	49.6	68.313 ug/L	10.6838	68.313 ppb	10.6838	15.64%	
QC value less than the lower limit for S 181.975 Axial Recovery = 68.31%							
Sb 206.836†	30.5	10.556 ug/L	3.1304	10.556 ppb	3.1304	29.66%	
QC value within limits for Sb 206.836 Recovery = 105.56%							
Se 196.026†	53.1	31.035 ug/L	4.0738	31.035 ppb	4.0738	13.13%	
QC value within limits for Se 196.026 Recovery = 103.45%							
Si 251.611†	3246.5	96.065 ug/L	0.6276	96.065 ppb	0.6276	0.65%	
QC value within limits for Si 251.611 Recovery = 96.07%							
Sn 189.927†	51.7	9.5424 ug/L	0.69442	9.5424 ppb	0.69442	7.28%	
QC value within limits for Sn 189.927 Recovery = 95.42%							
Sr 421.552†	799.4	5.1287 ug/L	0.03840	5.1287 ppb	0.03840	0.75%	
QC value within limits for Sr 421.552 Recovery = 102.57%							
Ti 334.940†	3376.1	5.1180 ug/L	0.07775	5.1180 ppb	0.07775	1.52%	
QC value within limits for Ti 334.940 Recovery = 102.36%							
Tl 190.801†	59.8	19.197 ug/L	2.7491	19.197 ppb	2.7491	14.32%	
QC value within limits for Tl 190.801 Recovery = 95.99%							
U 409.014†	2181.1	54.516 ug/L	1.0986	54.516 ppb	1.0986	2.02%	
QC value within limits for U 409.014 Recovery = 109.03%							
V 292.402†	847.7	5.5064 ug/L	0.29793	5.5064 ppb	0.29793	5.41%	
QC value within limits for V 292.402 Recovery = 110.13%							
Zn 213.857†	1023.8	9.4773 ug/L	0.07926	9.4773 ppb	0.07926	0.84%	
QC value within limits for Zn 213.857 Recovery = 94.77%							
SiO2†	3358.9	212.15 ug/L	2.036	212.15 ppb	2.036	0.96%	
QC value within limits for SiO2 Recovery = 99.60%							
QC Failed. Continue with analysis.							

Sequence No.: 9

Sample ID: ICSEA

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 13

Date Collected: 1/26/2010 09:59:54

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICSEA

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4967.3	4967.3	93.0 %		10:01:53
1	Y RADIAL	5327.2	5327.2	92.53 %		10:01:53
1	Al 396.153Radial†	627223.9	674282.7	510790 ug/L	510790 ppb	10:01:48
1	Ca 317.933Radial†	274135.2	294686.6	473650 ug/L	473650 ppb	10:01:48
1	Fe 238.204 Radial†	18771.2	20172.7	188520 ug/L	188520 ppb	10:01:53
1	K 766.490 Radial†	2344.2	16.6	-155.38 ug/L	-155.38 ppb	10:01:53
1	Mg 279.077 IEC†	12983.9	13957.2	497650 ug/L	497650 ppb	10:01:53
1	Na 589.592 Radial†	-558.7	-53.0	-15.743 ug/L	-15.743 ppb	10:01:53
1	Sr 421.552†	557.3	592.1	0.2629 ug/L	0.2629 ppb	10:01:53
1	Sc 361.383	803575.0	803575.0	89.498 %		10:02:20
1	Y 371.029	694490.8	694490.8	84.373 %		10:02:20
1	Ag 328.068†	-10512.1	-12041.7	4.4102 ug/L	4.4102 ppb	10:02:20
1	As 188.979†	-96.3	-77.4	12.285 ug/L	12.285 ppb	10:02:41
1	B 249.677†	714.2	1038.5	-7.8439 ug/L	-7.8439 ppb	10:02:20
1	Ba 233.527†	-521.1	-579.2	1.2082 ug/L	1.2082 ppb	10:02:41
1	Be 313.107†	-5374.5	-904.8	-0.3813 ug/L	-0.3813 ppb	10:02:20
1	Cd 226.502†	1427.5	1801.1	0.6534 ug/L	0.6534 ppb	10:02:41
1	Co 228.616†	-17.5	50.4	-1.6008 ug/L	-1.6008 ppb	10:02:41
1	Cr 267.716†	-71.2	-173.5	1.7967 ug/L	1.7967 ppb	10:02:41
1	Cu 324.752†	6271.0	-2121.2	4.0136 ug/L	4.0136 ppb	10:02:20
1	Mn 257.610†	-907.5	-1503.9	-3.4218 ug/L	-3.4218 ppb	10:02:20
1	Mo 202.031†	-192.0	-238.1	4.0180 ug/L	4.0180 ppb	10:02:41
1	Ni 231.604†	191.1	119.9	3.0119 ug/L	3.0119 ppb	10:02:41
1	P 214.914†	161.5	-58.3	-56.873 ug/L	-56.873 ppb	10:02:41
1	Pb 220.353†	-732.4	-758.0	4.8704 ug/L	4.8704 ppb	10:02:41
1	S 181.975 Axial†	94.0	28.1	-57.078 ug/L	-57.078 ppb	10:02:41
1	Sb 206.836†	45.4	20.5	-3.5060 ug/L	-3.5060 ppb	10:02:41
1	Se 196.026†	-990.2	-1088.4	28.011 ug/L	28.011 ppb	10:02:41
1	Si 251.611†	453.7	11.0	0.5251 ug/L	0.5251 ppb	10:02:41
1	Sn 189.927†	-354.3	-395.5	2.4151 ug/L	2.4151 ppb	10:02:41
1	Ti 334.940†	-16876.4	-17950.3	-4.5144 ug/L	-4.5144 ppb	10:02:20
1	Tl 190.801†	-80.6	-53.2	-17.274 ug/L	-17.274 ppb	10:02:41
1	U 409.014†	-6.0	1056.1	4.9202 ug/L	4.9202 ppb	10:02:20
1	V 292.402†	1204.3	2739.2	-0.9575 ug/L	-0.9575 ppb	10:02:41
1	Zn 213.857†	3199.5	2841.6	8.1691 ug/L	8.1691 ppb	10:02:41
1	SiO2†	470.8	12.7	1.2450 ug/L	1.2450 ppb	10:03:37
2	Sc Radial	4805.3	4805.3	90.0 %		10:02:04
2	Y RADIAL	5154.3	5154.3	89.53 %		10:02:04
2	Al 396.153Radial†	638034.9	709025.6	537110 ug/L	537110 ppb	10:01:59
2	Ca 317.933Radial†	277837.7	308735.0	496230 ug/L	496230 ppb	10:01:59
2	Fe 238.204 Radial†	18349.0	20383.7	190500 ug/L	190500 ppb	10:02:04
2	K 766.490 Radial†	2296.2	48.2	-157.16 ug/L	-157.16 ppb	10:02:04
2	Mg 279.077 IEC†	12666.3	14074.9	501840 ug/L	501840 ppb	10:02:04
2	Na 589.592 Radial†	-529.9	-41.2	-12.242 ug/L	-12.242 ppb	10:02:04
2	Sr 421.552†	538.8	591.7	0.0918 ug/L	0.0918 ppb	10:02:04
2	Sc 361.383	796203.6	796203.6	88.677 %		10:02:46
2	Y 371.029	688426.5	688426.5	83.636 %		10:02:46
2	Ag 328.068†	-10223.7	-11825.2	5.6422 ug/L	5.6422 ppb	10:02:46
2	As 188.979†	-101.8	-84.6	9.8181 ug/L	9.8181 ppb	10:03:06
2	B 249.677†	660.6	985.4	-9.3310 ug/L	-9.3310 ppb	10:02:46
2	Ba 233.527†	-511.6	-573.8	1.3095 ug/L	1.3095 ppb	10:03:06
2	Be 313.107†	-5211.7	-776.8	-0.3356 ug/L	-0.3356 ppb	10:02:46
2	Cd 226.502†	1442.8	1833.2	0.8085 ug/L	0.8085 ppb	10:03:06
2	Co 228.616†	7.5	78.4	-1.0172 ug/L	-1.0172 ppb	10:03:06
2	Cr 267.716†	-56.2	-157.3	2.0091 ug/L	2.0091 ppb	10:03:06
2	Cu 324.752†	6058.2	-2296.2	3.6260 ug/L	3.6260 ppb	10:02:46
2	Mn 257.610†	-1005.6	-1623.8	-3.5331 ug/L	-3.5331 ppb	10:02:46
2	Mo 202.031†	-205.9	-255.8	3.2318 ug/L	3.2318 ppb	10:03:06
2	Ni 231.604†	191.9	122.7	3.0836 ug/L	3.0836 ppb	10:03:06

2	P 214.914†	203.4	-9.4	-24.205 ug/L	-24.205 ppb	10:03:06
2	Pb 220.353†	-727.2	-759.7	10.511 ug/L	10.511 ppb	10:03:06
2	S 181.975 Axial†	80.5	13.8	-81.631 ug/L	-81.631 ppb	10:03:06
2	Sb 206.836†	56.4	33.3	0.0791 ug/L	0.0791 ppb	10:03:06
2	Se 196.026†	-989.5	-1097.9	30.741 ug/L	30.741 ppb	10:03:06
2	Si 251.611†	435.0	-5.4	0.0536 ug/L	0.0536 ppb	10:03:06
2	Sn 189.927†	-357.9	-403.2	4.4640 ug/L	4.4640 ppb	10:03:06
2	Ti 334.940†	-16585.3	-17796.6	-1.5952 ug/L	-1.5952 ppb	10:02:46
2	Tl 190.801†	-83.9	-57.7	-18.729 ug/L	-18.729 ppb	10:03:06
2	U 409.014†	60.2	1130.7	6.5597 ug/L	6.5597 ppb	10:02:46
2	V 292.402†	1142.5	2681.9	-1.5332 ug/L	-1.5332 ppb	10:03:06
2	Zn 213.857†	3183.8	2857.0	8.1215 ug/L	8.1215 ppb	10:03:06
2	SiO2†	464.0	9.8	1.0970 ug/L	1.0970 ppb	10:03:42
3	Sc Radial	4958.7	4958.7	92.9 %		10:02:14
3	Y RADIAL	5327.7	5327.7	92.54 %		10:02:14
3	Al 396.153Radial†	637938.3	686986.6	520410 ug/L	520410 ppb	10:02:09
3	Ca 317.933Radial†	277017.0	298299.4	479460 ug/L	479460 ppb	10:02:09
3	Fe 238.204 Radial†	18772.9	20209.4	188870 ug/L	188870 ppb	10:02:14
3	K 766.490 Radial†	2258.1	-71.7	-173.46 ug/L	-173.46 ppb	10:02:14
3	Mg 279.077 IEC†	12977.2	13974.1	498250 ug/L	498250 ppb	10:02:14
3	Na 589.592 Radial†	-535.3	-28.8	-8.5601 ug/L	-8.5601 ppb	10:02:14
3	Sr 421.552†	586.5	624.5	0.4280 ug/L	0.4280 ppb	10:02:14
3	Sc 361.383	803234.6	803234.6	89.460 %		10:03:11
3	Y 371.029	695709.6	695709.6	84.521 %		10:03:11
3	Ag 328.068†	-10403.9	-11925.7	4.9265 ug/L	4.9265 ppb	10:03:11
3	As 188.979†	-71.4	-49.7	23.727 ug/L	23.727 ppb	10:03:31
3	B 249.677†	677.8	998.1	-8.7842 ug/L	-8.7842 ppb	10:03:11
3	Ba 233.527†	-502.1	-558.2	1.3839 ug/L	1.3839 ppb	10:03:31
3	Be 313.107†	-5187.9	-698.7	-0.3089 ug/L	-0.3089 ppb	10:03:11
3	Cd 226.502†	1447.4	1824.1	0.8739 ug/L	0.8739 ppb	10:03:31
3	Co 228.616†	-35.3	30.5	-2.0439 ug/L	-2.0439 ppb	10:03:31
3	Cr 267.716†	-86.7	-190.8	1.6159 ug/L	1.6159 ppb	10:03:31
3	Cu 324.752†	6133.7	-2271.6	3.6103 ug/L	3.6103 ppb	10:03:11
3	Mn 257.610†	-1168.2	-1795.7	-3.7398 ug/L	-3.7398 ppb	10:03:11
3	Mo 202.031†	-212.4	-261.0	2.5516 ug/L	2.5516 ppb	10:03:31
3	Ni 231.604†	196.5	125.9	3.1641 ug/L	3.1641 ppb	10:03:31
3	P 214.914†	193.9	-22.0	-34.176 ug/L	-34.176 ppb	10:03:31
3	Pb 220.353†	-677.2	-696.6	14.705 ug/L	14.705 ppb	10:03:31
3	S 181.975 Axial†	71.8	3.2	-93.093 ug/L	-93.093 ppb	10:03:31
3	Sb 206.836†	70.0	48.0	5.4189 ug/L	5.4189 ppb	10:03:31
3	Se 196.026†	-975.4	-1072.4	39.009 ug/L	39.009 ppb	10:03:31
3	Si 251.611†	460.1	18.3	0.7628 ug/L	0.7628 ppb	10:03:31
3	Sn 189.927†	-361.2	-403.4	1.8639 ug/L	1.8639 ppb	10:03:31
3	Ti 334.940†	-16938.8	-18028.0	-3.9028 ug/L	-3.9028 ppb	10:03:11
3	Tl 190.801†	-91.5	-65.4	-21.184 ug/L	-21.184 ppb	10:03:31
3	U 409.014†	-43.6	1014.1	3.8316 ug/L	3.8316 ppb	10:03:11
3	V 292.402†	1180.8	2713.5	-1.1790 ug/L	-1.1790 ppb	10:03:31
3	Zn 213.857†	3190.5	2833.0	8.0557 ug/L	8.0557 ppb	10:03:31
3	SiO2†	454.6	-5.2	0.1536 ug/L	0.1536 ppb	10:03:47

## Mean Data: ICSCA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	801004.4	89.211 %	0.4634			0.52%
Sc Radial	4910.5	92.0 %	1.71			1.86%
Y 371.029	692875.6	84.177 %	0.4739			0.56%
Y RADIAL	5269.7	91.53 %	1.736			1.90%
Ag 328.068†	-11930.9	4.9930 ug/L	0.61869	4.9930 ppb	0.61869	12.39%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	690098.3	522770 ug/L	13316.8	522770 ppb	13316.8	2.55%
QC value within limits for Al 396.153Radial Recovery = 104.55%						
As 188.979†	-70.6	15.277 ug/L	7.4211	15.277 ppb	7.4211	48.58%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	1007.3	-8.6530 ug/L	0.75218	-8.6530 ppb	0.75218	8.69%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-570.4	1.3005 ug/L	0.08822	1.3005 ppb	0.08822	6.78%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-793.4	-0.3419 ug/L	0.03662	-0.3419 ppb	0.03662	10.71%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	300573.7	483110 ug/L	11725.4	483110 ppb	11725.4	2.43%

QC value within limits for Ca 317.933 Radial Recovery = 96.62%

Cd 226.502†	1819.5	0.7786 ug/L	0.11328	0.7786 ppb	0.11328	14.55%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	53.1	-1.5540 ug/L	0.51493	-1.5540 ppb	0.51493	33.14%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-173.9	1.8072 ug/L	0.19685	1.8072 ppb	0.19685	10.89%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-2229.6	3.7500 ug/L	0.22845	3.7500 ppb	0.22845	6.09%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	20255.3	189300 ug/L	1053.7	189300 ppb	1053.7	0.56%
QC value within limits for Fe 238.204 Radial Recovery = 94.65%						
K 766.490 Radial†	-2.3	-162.00 ug/L	9.967	-162.00 ppb	9.967	6.15%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	14002.1	499250 ug/L	2267.9	499250 ppb	2267.9	0.45%
QC value within limits for Mg 279.077 IEC Recovery = 99.85%						
Mn 257.610†	-1641.2	-3.5649 ug/L	0.16136	-3.5649 ppb	0.16136	4.53%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-251.7	3.2671 ug/L	0.73385	3.2671 ppb	0.73385	22.46%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-41.0	-12.182 ug/L	3.5916	-12.182 ppb	3.5916	29.48%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	122.8	3.0865 ug/L	0.07614	3.0865 ppb	0.07614	2.47%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-29.9	-38.418 ug/L	16.7419	-38.418 ppb	16.7419	43.58%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	-738.1	10.029 ug/L	4.9350	10.029 ppb	4.9350	49.21%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	15.0	-77.267 ug/L	18.3996	-77.267 ppb	18.3996	23.81%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	33.9	0.6640 ug/L	4.49112	0.6640 ppb	4.49112	676.41%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-1086.2	32.587 ug/L	5.7268	32.587 ppb	5.7268	17.57%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	8.0	0.4472 ug/L	0.36099	0.4472 ppb	0.36099	80.73%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-400.7	2.9143 ug/L	1.37005	2.9143 ppb	1.37005	47.01%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	602.8	0.2609 ug/L	0.16808	0.2609 ppb	0.16808	64.43%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-17924.9	-3.3375 ug/L	1.53955	-3.3375 ppb	1.53955	46.13%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-58.7	-19.062 ug/L	1.9761	-19.062 ppb	1.9761	10.37%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	1067.0	5.1038 ug/L	1.37328	5.1038 ppb	1.37328	26.91%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	2711.5	-1.2232 ug/L	0.29041	-1.2232 ppb	0.29041	23.74%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	2843.9	8.1154 ug/L	0.05696	8.1154 ppb	0.05696	0.70%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	5.8	0.8319 ug/L	0.59204	0.8319 ppb	0.59204	71.17%
QC value within limits for SiO2 Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 14

Date Collected: 1/26/2010 10:05:59

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4682.8	4682.8	87.7 %		10:07:56
1	Y RADIAL	5066.7	5066.7	88.01 %		10:07:56
1	Al 396.153Radial†	643486.0	733803.2	555860 ug/L	555860 ppb	10:07:51
1	Ca 317.933Radial†	276930.6	315783.1	507560 ug/L	507560 ppb	10:07:51
1	Fe 238.204 Radial†	18141.6	20681.0	193290 ug/L	193290 ppb	10:07:56
1	K 766.490 Radial†	30165.9	31896.8	5654.3 ug/L	5654.3 ppb	10:07:51
1	Mg 279.077 IEC†	12619.0	14389.4	513060 ug/L	513060 ppb	10:07:56
1	Na 589.592 Radial†	16222.4	19047.2	5662.2 ug/L	5662.2 ppb	10:07:56
1	Sr 421.552†	75006.7	85528.3	545.11 ug/L	545.11 ppb	10:07:51
1	Sc 361.383	810517.8	810517.8	90.271 %		10:08:24
1	Y 371.029	699266.8	699266.8	84.953 %		10:08:24
1	Ag 328.068†	45937.7	50592.7	268.41 ug/L	268.41 ppb	10:08:24
1	As 188.979†	978.8	1114.5	504.25 ug/L	504.25 ppb	10:08:44
1	B 249.677†	21280.1	23814.0	489.62 ug/L	489.62 ppb	10:08:24
1	Ba 233.527†	54181.3	60024.0	480.09 ug/L	480.09 ppb	10:08:24
1	Be 313.107†	592235.6	661165.4	234.31 ug/L	234.31 ppb	10:08:24
1	Cd 226.502†	36417.2	40548.3	433.34 ug/L	433.34 ppb	10:08:44
1	Co 228.616†	18038.6	20052.7	436.89 ug/L	436.89 ppb	10:08:44
1	Cr 267.716†	38282.5	42314.5	462.98 ug/L	462.98 ppb	10:08:24
1	Cu 324.752†	182336.3	192859.9	550.98 ug/L	550.98 ppb	10:08:24
1	Mn 257.610†	375636.6	415631.7	464.10 ug/L	464.10 ppb	10:08:24
1	Mo 202.031†	5964.1	6583.3	470.34 ug/L	470.34 ppb	10:08:44
1	Ni 231.604†	15304.6	16860.4	423.46 ug/L	423.46 ppb	10:08:44
1	P 214.914†	4113.6	4318.2	2314.3 ug/L	2314.3 ppb	10:08:44
1	Pb 220.353†	2482.9	2810.9	463.49 ug/L	463.49 ppb	10:08:44
1	S 181.975 Axial†	1773.8	1887.9	2495.2 ug/L	2495.2 ppb	10:08:44
1	Sb 206.836†	1459.1	1586.1	536.22 ug/L	536.22 ppb	10:08:44
1	Se 196.026†	2870.6	3198.0	2520.4 ug/L	2520.4 ppb	10:08:44
1	Si 251.611†	156650.3	173037.6	5121.5 ug/L	5121.5 ppb	10:08:24
1	Sn 189.927†	1936.3	2145.4	474.88 ug/L	474.88 ppb	10:08:44
1	Ti 334.940†	279825.4	310890.7	499.79 ug/L	499.79 ppb	10:08:24
1	Tl 190.801†	1229.1	1398.5	450.64 ug/L	450.64 ppb	10:08:44
1	U 409.014†	16791.8	19664.4	468.65 ug/L	468.65 ppb	10:08:24
1	V 292.402†	70344.0	79319.1	481.65 ug/L	481.65 ppb	10:08:24
1	Zn 213.857†	49752.3	54381.1	484.35 ug/L	484.35 ppb	10:08:24
1	SiO2†	153831.7	169897.8	10733 ug/L	10733 ppb	10:09:42
2	Sc Radial	4877.2	4877.2	91.3 %		10:08:07
2	Y RADIAL	5274.4	5274.4	91.61 %		10:08:07
2	Al 396.153Radial†	642479.4	703438.4	532850 ug/L	532850 ppb	10:08:01
2	Ca 317.933Radial†	276272.3	302469.0	486160 ug/L	486160 ppb	10:08:01
2	Fe 238.204 Radial†	18461.9	20206.6	188850 ug/L	188850 ppb	10:08:07
2	K 766.490 Radial†	30146.8	30504.1	5407.1 ug/L	5407.1 ppb	10:08:01
2	Mg 279.077 IEC†	12827.9	14044.2	500760 ug/L	500760 ppb	10:08:07
2	Na 589.592 Radial†	16453.0	18561.9	5517.9 ug/L	5517.9 ppb	10:08:07
2	Sr 421.552†	74798.4	81889.3	521.91 ug/L	521.91 ppb	10:08:01
2	Sc 361.383	803590.5	803590.5	89.499 %		10:08:50
2	Y 371.029	693102.3	693102.3	84.204 %		10:08:50
2	Ag 328.068†	45476.7	50516.3	266.96 ug/L	266.96 ppb	10:08:50
2	As 188.979†	979.5	1124.6	507.32 ug/L	507.32 ppb	10:09:10
2	B 249.677†	21099.5	23815.5	490.35 ug/L	490.35 ppb	10:08:50
2	Ba 233.527†	53880.1	60204.8	481.38 ug/L	481.38 ppb	10:08:50
2	Be 313.107†	588080.2	662178.1	234.67 ug/L	234.67 ppb	10:08:50
2	Cd 226.502†	36645.0	41150.6	440.53 ug/L	440.53 ppb	10:09:10
2	Co 228.616†	18184.9	20388.4	444.33 ug/L	444.33 ppb	10:09:10
2	Cr 267.716†	38093.5	42469.0	464.57 ug/L	464.57 ppb	10:08:50
2	Cu 324.752†	180019.1	192012.2	548.37 ug/L	548.37 ppb	10:08:50
2	Mn 257.610†	373055.8	416335.3	464.95 ug/L	464.95 ppb	10:08:50
2	Mo 202.031†	5960.9	6636.7	473.39 ug/L	473.39 ppb	10:09:10
2	Ni 231.604†	15394.4	17106.8	429.65 ug/L	429.65 ppb	10:09:10

2	P 214.914†	4120.7	4365.5	2339.4 ug/L	2339.4 ppb	10:09:10
2	Pb 220.353†	2492.7	2845.6	462.97 ug/L	462.97 ppb	10:09:10
2	S 181.975 Axial†	1783.3	1915.5	2537.4 ug/L	2537.4 ppb	10:09:10
2	Sb 206.836†	1483.3	1627.1	550.68 ug/L	550.68 ppb	10:09:10
2	Se 196.026†	2881.7	3237.8	2527.2 ug/L	2527.2 ppb	10:09:10
2	Si 251.611†	155320.8	173048.1	5121.8 ug/L	5121.8 ppb	10:08:50
2	Sn 189.927†	1965.3	2196.2	480.91 ug/L	480.91 ppb	10:09:10
2	Ti 334.940†	277575.0	311048.5	498.17 ug/L	498.17 ppb	10:08:50
2	Tl 190.801†	1228.2	1409.2	454.05 ug/L	454.05 ppb	10:09:10
2	U 409.014†	16374.9	19359.0	461.52 ug/L	461.52 ppb	10:08:50
2	V 292.402†	70038.4	79649.4	484.15 ug/L	484.15 ppb	10:08:50
2	Zn 213.857†	49406.5	54469.8	485.58 ug/L	485.58 ppb	10:08:50
2	SiO2†	155870.0	173644.3	10970 ug/L	10970 ppb	10:09:47
3	Sc Radial	4934.5	4934.5	92.4 %		10:08:17
3	Y RADIAL	5304.8	5304.8	92.14 %		10:08:17
3	Al 396.153Radial†	626718.7	678215.7	513750 ug/L	513750 ppb	10:08:12
3	Ca 317.933Radial†	271233.6	293504.4	471750 ug/L	471750 ppb	10:08:12
3	Fe 238.204 Radial†	18429.0	19936.5	186330 ug/L	186330 ppb	10:08:17
3	K 766.490 Radial†	29462.0	29379.9	5206.6 ug/L	5206.6 ppb	10:08:12
3	Mg 279.077 IEC†	12818.6	13871.1	494590 ug/L	494590 ppb	10:08:17
3	Na 589.592 Radial†	16552.0	18460.0	5487.6 ug/L	5487.6 ppb	10:08:17
3	Sr 421.552†	72805.7	78782.0	502.08 ug/L	502.08 ppb	10:08:12
3	Sc 361.383	812825.4	812825.4	90.528 %		10:09:16
3	Y 371.029	701381.0	701381.0	85.210 %		10:09:16
3	Ag 328.068†	45984.7	50500.2	266.27 ug/L	266.27 ppb	10:09:16
3	As 188.979†	977.1	1109.5	500.60 ug/L	500.60 ppb	10:09:36
3	B 249.677†	21323.8	23795.3	490.33 ug/L	490.33 ppb	10:09:16
3	Ba 233.527†	54466.0	60167.9	481.01 ug/L	481.01 ppb	10:09:16
3	Be 313.107†	594499.7	661803.9	234.54 ug/L	234.54 ppb	10:09:16
3	Cd 226.502†	36616.5	40654.0	435.24 ug/L	435.24 ppb	10:09:36
3	Co 228.616†	18168.8	20139.8	438.90 ug/L	438.90 ppb	10:09:36
3	Cr 267.716†	38418.7	42344.6	463.17 ug/L	463.17 ppb	10:09:16
3	Cu 324.752†	182676.4	192662.2	550.06 ug/L	550.06 ppb	10:09:16
3	Mn 257.610†	377256.0	416239.2	464.85 ug/L	464.85 ppb	10:09:16
3	Mo 202.031†	5991.3	6594.6	470.14 ug/L	470.14 ppb	10:09:36
3	Ni 231.604†	15451.9	16975.0	426.34 ug/L	426.34 ppb	10:09:36
3	P 214.914†	4132.9	4326.6	2314.3 ug/L	2314.3 ppb	10:09:36
3	Pb 220.353†	2486.2	2806.7	453.96 ug/L	453.96 ppb	10:09:36
3	S 181.975 Axial†	1793.0	1903.6	2524.6 ug/L	2524.6 ppb	10:09:36
3	Sb 206.836†	1466.3	1589.5	538.41 ug/L	538.41 ppb	10:09:36
3	Se 196.026†	2888.7	3208.9	2501.0 ug/L	2501.0 ppb	10:09:36
3	Si 251.611†	157227.3	173182.3	5125.8 ug/L	5125.8 ppb	10:09:16
3	Sn 189.927†	1962.6	2168.2	473.54 ug/L	473.54 ppb	10:09:36
3	Ti 334.940†	281058.1	311372.3	497.23 ug/L	497.23 ppb	10:09:16
3	Tl 190.801†	1227.1	1392.4	448.68 ug/L	448.68 ppb	10:09:36
3	U 409.014†	16728.4	19541.6	466.37 ug/L	466.37 ppb	10:09:16
3	V 292.402†	70744.1	79539.7	483.68 ug/L	483.68 ppb	10:09:16
3	Zn 213.857†	49881.9	54367.8	484.89 ug/L	484.89 ppb	10:09:16
3	SiO2†	155898.0	171696.5	10847 ug/L	10847 ppb	10:09:52

## Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	808977.9	90.099 %	0.5353			0.59%
Sc Radial	4831.5	90.5 %	2.47			2.73%
Y 371.029	697916.7	84.789 %	0.5226			0.62%
Y RADIAL	5215.3	90.59 %	2.252			2.49%
Ag 328.068†	50536.4	267.22 ug/L	1.094	267.22 ppb	1.094	0.41%
QC value within limits for Ag 328.068 Recovery = 106.89%						
Al 396.153Radial†	705152.4	534150 ug/L	21084.6	534150 ppb	21084.6	3.95%
QC value within limits for Al 396.153Radial Recovery = 106.83%						
As 188.979†	1116.2	504.06 ug/L	3.367	504.06 ppb	3.367	0.67%
QC value within limits for As 188.979 Recovery = 100.81%						
B 249.677†	23808.3	490.10 ug/L	0.417	490.10 ppb	0.417	0.09%
QC value within limits for B 249.677 Recovery = 98.02%						
Ba 233.527†	60132.2	480.83 ug/L	0.667	480.83 ppb	0.667	0.14%
QC value within limits for Ba 233.527 Recovery = 96.17%						
Be 313.107†	661715.8	234.50 ug/L	0.181	234.50 ppb	0.181	0.08%
QC value within limits for Be 313.107 Recovery = 93.80%						
Ca 317.933Radial†	303918.8	488490 ug/L	18017.7	488490 ppb	18017.7	3.69%



QC value within limits for Ca 317.933Radial Recovery = 97.70%							
Cd 226.502†	40784.3	436.37 ug/L	3.725	436.37 ppb	3.725	0.85%	
QC value within limits for Cd 226.502 Recovery = 87.27%							
Co 228.616†	20193.6	440.04 ug/L	3.845	440.04 ppb	3.845	0.87%	
QC value within limits for Co 228.616 Recovery = 88.01%							
Cr 267.716†	42376.0	463.57 ug/L	0.870	463.57 ppb	0.870	0.19%	
QC value within limits for Cr 267.716 Recovery = 92.71%							
Cu 324.752†	192511.4	549.80 ug/L	1.323	549.80 ppb	1.323	0.24%	
QC value within limits for Cu 324.752 Recovery = 109.96%							
Fe 238.204 Radial†	20274.7	189490 ug/L	3522.1	189490 ppb	3522.1	1.86%	
QC value within limits for Fe 238.204 Radial Recovery = 94.75%							
K 766.490 Radial†	30593.6	5422.7 ug/L	224.28	5422.7 ppb	224.28	4.14%	
QC value within limits for K 766.490 Radial Recovery = 108.45%							
Mg 279.077 IEC†	14101.6	502800 ug/L	9407.2	502800 ppb	9407.2	1.87%	
QC value within limits for Mg 279.077 IEC Recovery = 100.56%							
Mn 257.610†	416068.8	464.63 ug/L	0.466	464.63 ppb	0.466	0.10%	
QC value within limits for Mn 257.610 Recovery = 92.93%							
Mo 202.031†	6604.9	471.29 ug/L	1.818	471.29 ppb	1.818	0.39%	
QC value within limits for Mo 202.031 Recovery = 94.26%							
Na 589.592 Radial†	18689.7	5555.9 ug/L	93.27	5555.9 ppb	93.27	1.68%	
QC value within limits for Na 589.592 Radial Recovery = 111.12%							
Ni 231.604†	16980.7	426.49 ug/L	3.097	426.49 ppb	3.097	0.73%	
QC value within limits for Ni 231.604 Recovery = 85.30%							
P 214.914†	4336.8	2322.7 ug/L	14.46	2322.7 ppb	14.46	0.62%	
QC value within limits for P 214.914 Recovery = 92.91%							
Pb 220.353†	2821.1	460.14 ug/L	5.357	460.14 ppb	5.357	1.16%	
QC value within limits for Pb 220.353 Recovery = 92.03%							
S 181.975 Axial†	1902.3	2519.1 ug/L	21.66	2519.1 ppb	21.66	0.86%	
QC value within limits for S 181.975 Axial Recovery = 100.76%							
Sb 206.836†	1600.9	541.77 ug/L	7.795	541.77 ppb	7.795	1.44%	
QC value within limits for Sb 206.836 Recovery = 108.35%							
Se 196.026†	3214.9	2516.2 ug/L	13.60	2516.2 ppb	13.60	0.54%	
QC value within limits for Se 196.026 Recovery = 100.65%							
Si 251.611†	173089.3	5123.1 ug/L	2.40	5123.1 ppb	2.40	0.05%	
QC value within limits for Si 251.611 Recovery = 102.46%							
Sn 189.927†	2169.9	476.44 ug/L	3.927	476.44 ppb	3.927	0.82%	
QC value within limits for Sn 189.927 Recovery = 95.29%							
Sr 421.552†	82066.5	523.03 ug/L	21.536	523.03 ppb	21.536	4.12%	
QC value within limits for Sr 421.552 Recovery = 104.61%							
Ti 334.940†	311103.8	498.40 ug/L	1.294	498.40 ppb	1.294	0.26%	
QC value within limits for Ti 334.940 Recovery = 99.68%							
Tl 190.801†	1400.0	451.12 ug/L	2.719	451.12 ppb	2.719	0.60%	
QC value within limits for Tl 190.801 Recovery = 90.22%							
U 409.014†	19521.7	465.51 ug/L	3.645	465.51 ppb	3.645	0.78%	
QC value within limits for U 409.014 Recovery = 93.10%							
V 292.402†	79502.7	483.16 ug/L	1.328	483.16 ppb	1.328	0.27%	
QC value within limits for V 292.402 Recovery = 96.63%							
Zn 213.857†	54406.2	484.94 ug/L	0.612	484.94 ppb	0.612	0.13%	
QC value within limits for Zn 213.857 Recovery = 96.99%							
SiO2†	171746.2	10850 ug/L	118.5	10850 ppb	118.5	1.09%	
QC value within limits for SiO2 Recovery = 101.45%							
All analyte(s) passed QC.							

Sequence No.: 11

Sample ID: LR1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 15

Date Collected: 1/26/2010 10:12:02

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4645.9	4645.9	87.0 %		10:14:00
1	Y RADIAL	5024.7	5024.7	87.28 %		10:14:00
1	Al 396.153Radial†	612943.2	704519.2	533700 ug/L	533700 ppb	10:13:55
1	Ca 317.933Radial†	263608.8	302976.6	486970 ug/L	486970 ppb	10:13:55
1	Fe 238.204 Radial†	40997.7	47116.4	440330 ug/L	440330 ppb	10:14:00
1	K 766.490 Radial†	3429.1	1438.0	-101.18 ug/L	-101.18 ppb	10:14:00
1	Mg 279.077 IEC†	12176.3	13994.7	498720 ug/L	498720 ppb	10:14:00
1	Na 589.592 Radial†	1507847.4	1733695.5	515380 ug/L	515380 ppb	10:13:55
1	Sr 421.552†	747.8	852.4	1.8345 ug/L	1.8345 ppb	10:14:00
1	Sc 361.383	772915.2	772915.2	86.083 %		10:14:28
1	Y 371.029	667874.5	667874.5	81.139 %		10:14:28
1	Ag 328.068†	-24214.7	-28425.5	5.9459 ug/L	5.9459 ppb	10:14:28
1	As 188.979†	-174.8	-172.9	32.271 ug/L	32.271 ppb	10:14:48
1	B 249.677†	1895.6	2442.5	-17.957 ug/L	-17.957 ppb	10:14:28
1	Ba 233.527†	-1435.9	-1665.0	0.3312 ug/L	0.3312 ppb	10:14:48
1	Be 313.107†	-12543.2	-9470.6	-3.4025 ug/L	-3.4025 ppb	10:14:28
1	Cd 226.502†	3612.6	4402.8	6.4501 ug/L	6.4501 ppb	10:14:48
1	Co 228.616†	165.5	262.3	-0.6478 ug/L	-0.6478 ppb	10:14:48
1	Cr 267.716†	92.7	13.7	3.1507 ug/L	3.1507 ppb	10:14:48
1	Cu 324.752†	3140.0	-5480.4	0.1227 ug/L	0.1227 ppb	10:14:28
1	Mn 257.610†	-25492.5	-30103.8	-10.672 ug/L	-10.672 ppb	10:14:28
1	Mo 202.031†	-455.7	-552.9	2.2395 ug/L	2.2395 ppb	10:14:48
1	Ni 231.604†	304.5	260.1	6.5328 ug/L	6.5328 ppb	10:14:48
1	P 214.914†	575.8	430.2	23.277 ug/L	23.277 ppb	10:14:48
1	Pb 220.353†	-490.6	-509.5	17.099 ug/L	17.099 ppb	10:14:48
1	S 181.975 Axial†	113.6	54.9	-24.396 ug/L	-24.396 ppb	10:14:48
1	Sb 206.836†	52.8	31.0	5.1806 ug/L	5.1806 ppb	10:14:48
1	Se 196.026†	-2319.5	-2676.6	-53.978 ug/L	-53.978 ppb	10:14:48
1	Si 251.611†	-336.8	-887.2	-25.823 ug/L	-25.823 ppb	10:14:48
1	Sn 189.927†	-386.1	-448.2	-1.0007 ug/L	-1.0007 ppb	10:14:48
1	Ti 334.940†	-16109.5	-17807.4	-8.8031 ug/L	-8.8031 ppb	10:14:28
1	Tl 190.801†	-115.1	-96.8	-31.432 ug/L	-31.432 ppb	10:14:48
1	U 409.014†	484755.7	564189.4	14057 ug/L	14057 ppb	10:14:28
1	V 292.402†	2453.6	4243.8	-1.6032 ug/L	-1.6032 ppb	10:14:28
1	Zn 213.857†	6099.6	6352.3	16.434 ug/L	16.434 ppb	10:14:48
1	SiO2†	-208.5	-755.6	-46.762 ug/L	-46.762 ppb	10:15:45
2	Sc Radial	4757.3	4757.3	89.1 %		10:14:10
2	Y RADIAL	5166.2	5166.2	89.74 %		10:14:10
2	Al 396.153Radial†	608754.8	683325.3	517640 ug/L	517640 ppb	10:14:05
2	Ca 317.933Radial†	262404.0	294531.4	473400 ug/L	473400 ppb	10:14:05
2	Fe 238.204 Radial†	41753.4	46861.5	437940 ug/L	437940 ppb	10:14:10
2	K 766.490 Radial†	3251.6	1146.4	-143.92 ug/L	-143.92 ppb	10:14:10
2	Mg 279.077 IEC†	12381.3	13897.2	495250 ug/L	495250 ppb	10:14:10
2	Na 589.592 Radial†	1498032.8	1682107.0	500040 ug/L	500040 ppb	10:14:05
2	Sr 421.552†	765.0	851.6	1.9307 ug/L	1.9307 ppb	10:14:10
2	Sc 361.383	772649.8	772649.8	86.053 %		10:14:54
2	Y 371.029	668937.3	668937.3	81.268 %		10:14:54
2	Ag 328.068†	-23940.6	-28116.7	6.6625 ug/L	6.6625 ppb	10:14:54
2	As 188.979†	-181.4	-180.6	28.539 ug/L	28.539 ppb	10:15:14
2	B 249.677†	1756.8	2281.9	-21.093 ug/L	-21.093 ppb	10:14:54
2	Ba 233.527†	-1423.6	-1651.3	0.3679 ug/L	0.3679 ppb	10:15:14
2	Be 313.107†	-12402.2	-9311.8	-3.3458 ug/L	-3.3458 ppb	10:14:54
2	Cd 226.502†	3621.5	4414.6	6.8246 ug/L	6.8246 ppb	10:15:14
2	Co 228.616†	171.7	269.4	-0.4550 ug/L	-0.4550 ppb	10:15:14
2	Cr 267.716†	104.2	27.1	3.2564 ug/L	3.2564 ppb	10:15:14
2	Cu 324.752†	2954.9	-5694.3	-0.5947 ug/L	-0.5947 ppb	10:14:54
2	Mn 257.610†	-25727.5	-30387.0	-11.083 ug/L	-11.083 ppb	10:14:54
2	Mo 202.031†	-446.0	-541.9	2.6479 ug/L	2.6479 ppb	10:15:14
2	Ni 231.604†	321.0	279.4	7.0176 ug/L	7.0176 ppb	10:15:14

2	P 214.914†	595.7	453.5	34.464 ug/L	34.464 ppb	10:15:14
2	Pb 220.353†	-497.5	-517.8	12.602 ug/L	12.602 ppb	10:15:14
2	S 181.975 Axial†	94.2	32.5	-52.286 ug/L	-52.286 ppb	10:15:14
2	Sb 206.836†	46.6	23.9	3.1939 ug/L	3.1939 ppb	10:15:14
2	Se 196.026†	-2317.2	-2674.8	-61.842 ug/L	-61.842 ppb	10:15:14
2	Si 251.611†	-346.3	-898.4	-26.165 ug/L	-26.165 ppb	10:15:14
2	Sn 189.927†	-382.4	-444.0	-2.3452 ug/L	-2.3452 ppb	10:15:14
2	Ti 334.940†	-15941.1	-17618.1	-10.044 ug/L	-10.044 ppb	10:14:54
2	Tl 190.801†	-105.9	-86.2	-28.039 ug/L	-28.039 ppb	10:15:14
2	U 409.014†	484051.8	563564.9	14042 ug/L	14042 ppb	10:14:54
2	V 292.402†	2511.9	4312.6	-0.9154 ug/L	-0.9154 ppb	10:14:54
2	Zn 213.857†	6095.9	6350.4	16.645 ug/L	16.645 ppb	10:15:14
2	SiO2†	-313.0	-877.2	-54.468 ug/L	-54.468 ppb	10:15:50
3	Sc Radial	4765.7	4765.7	89.2 %		10:14:21
3	Y RADIAL	5129.6	5129.6	89.10 %		10:14:21
3	Al 396.153Radial†	612444.6	686252.5	519860 ug/L	519860 ppb	10:14:16
3	Ca 317.933Radial†	263051.2	294736.1	473730 ug/L	473730 ppb	10:14:16
3	Fe 238.204 Radial†	41494.8	46489.0	434460 ug/L	434460 ppb	10:14:21
3	K 766.490 Radial†	3310.7	1206.2	-133.73 ug/L	-133.73 ppb	10:14:21
3	Mg 279.077 IEC†	12335.2	13820.9	492530 ug/L	492530 ppb	10:14:21
3	Na 589.592 Radial†	1505450.7	1687448.1	501630 ug/L	501630 ppb	10:14:16
3	Sr 421.552†	730.3	811.3	1.6691 ug/L	1.6691 ppb	10:14:21
3	Sc 361.383	773612.1	773612.1	86.161 %		10:15:19
3	Y 371.029	669300.1	669300.1	81.312 %		10:15:19
3	Ag 328.068†	-24009.9	-28162.5	5.3114 ug/L	5.3114 ppb	10:15:19
3	As 188.979†	-190.3	-190.7	23.617 ug/L	23.617 ppb	10:15:40
3	B 249.677†	1765.8	2289.9	-20.354 ug/L	-20.354 ppb	10:15:19
3	Ba 233.527†	-1493.6	-1730.4	-0.3626 ug/L	-0.3626 ppb	10:15:40
3	Be 313.107†	-12392.9	-9283.0	-3.3371 ug/L	-3.3371 ppb	10:15:19
3	Cd 226.502†	3643.5	4434.9	7.4175 ug/L	7.4175 ppb	10:15:40
3	Co 228.616†	184.0	283.5	-0.0993 ug/L	-0.0993 ppb	10:15:40
3	Cr 267.716†	92.9	13.9	3.0318 ug/L	3.0318 ppb	10:15:40
3	Cu 324.752†	3245.7	-5361.0	0.1381 ug/L	0.1381 ppb	10:15:19
3	Mn 257.610†	-25660.9	-30272.6	-11.187 ug/L	-11.187 ppb	10:15:19
3	Mo 202.031†	-464.9	-563.2	0.9239 ug/L	0.9239 ppb	10:15:40
3	Ni 231.604†	300.7	255.3	6.4121 ug/L	6.4121 ppb	10:15:40
3	P 214.914†	581.4	436.0	27.787 ug/L	27.787 ppb	10:15:40
3	Pb 220.353†	-459.5	-472.9	19.046 ug/L	19.046 ppb	10:15:40
3	S 181.975 Axial†	93.4	31.4	-54.211 ug/L	-54.211 ppb	10:15:40
3	Sb 206.836†	64.5	44.5	9.9375 ug/L	9.9375 ppb	10:15:40
3	Se 196.026†	-2314.0	-2667.7	-69.116 ug/L	-69.116 ppb	10:15:40
3	Si 251.611†	-397.8	-957.7	-27.902 ug/L	-27.902 ppb	10:15:40
3	Sn 189.927†	-381.1	-442.0	-1.9728 ug/L	-1.9728 ppb	10:15:40
3	Ti 334.940†	-16327.4	-18043.5	-10.440 ug/L	-10.440 ppb	10:15:19
3	Tl 190.801†	-112.0	-93.0	-30.230 ug/L	-30.230 ppb	10:15:40
3	U 409.014†	485762.5	564850.6	14075 ug/L	14075 ppb	10:15:19
3	V 292.402†	2455.5	4243.5	-0.8485 ug/L	-0.8485 ppb	10:15:19
3	Zn 213.857†	6174.3	6432.6	17.751 ug/L	17.751 ppb	10:15:40
3	SiO2†	-468.6	-1057.2	-65.818 ug/L	-65.818 ppb	10:15:55

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	773059.0	86.099 %	0.0554			0.06%
Sc Radial	4722.9	88.4 %	1.25			1.42%
Y 371.029	668703.9	81.240 %	0.0900			0.11%
Y RADIAL	5106.8	88.70 %	1.275			1.44%
Ag 328.068†	-28234.9	5.9733 ug/L	0.67597	5.9733 ppb	0.67597	11.32%
Al 396.153Radial†	691365.7	523730 ug/L	8700.2	523730 ppb	8700.2	1.66%
QC value within limits for Al 396.153Radial Recovery = 104.75%						
As 188.979†	-181.4	28.143 ug/L	4.3405	28.143 ppb	4.3405	15.42%
B 249.677†	2338.1	-19.801 ug/L	1.6392	-19.801 ppb	1.6392	8.28%
Ba 233.527†	-1682.2	0.1122 ug/L	0.41156	0.1122 ppb	0.41156	366.91%
Be 313.107†	-9355.1	-3.3618 ug/L	0.03549	-3.3618 ppb	0.03549	1.06%
Ca 317.933Radial†	297414.7	478030 ug/L	7743.7	478030 ppb	7743.7	1.62%
QC value within limits for Ca 317.933Radial Recovery = 95.61%						
Cd 226.502†	4417.5	6.8974 ug/L	0.48776	6.8974 ppb	0.48776	7.07%
Co 228.616†	271.7	-0.4007 ug/L	0.27821	-0.4007 ppb	0.27821	69.43%
Cr 267.716†	18.2	3.1463 ug/L	0.11239	3.1463 ppb	0.11239	3.57%
Cu 324.752†	-5511.9	-0.1113 ug/L	0.41869	-0.1113 ppb	0.41869	376.20%

Fe 238.204 Radial†	46822.3	437580 ug/L	2948.9	437580 ppb	2948.9	0.67%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 87.52%						
K 766.490 Radial†	1263.5	-126.28 ug/L	22.324	-126.28 ppb	22.324	17.68%
Mg 279.077 IEC†	13904.3	495500 ug/L	3103.9	495500 ppb	3103.9	0.63%
QC value within limits for Mg 279.077 IEC Recovery = 99.10%						
Mn 257.610†	-30254.5	-10.981 ug/L	0.2722	-10.981 ppb	0.2722	2.48%
Mo 202.031†	-552.7	1.9371 ug/L	0.90088	1.9371 ppb	0.90088	46.51%
Na 589.592 Radial†	1701083.5	505680 ug/L	8433.2	505680 ppb	8433.2	1.67%
QC value within limits for Na 589.592 Radial Recovery = 101.14%						
Ni 231.604†	264.9	6.6542 ug/L	0.32049	6.6542 ppb	0.32049	4.82%
P 214.914†	439.9	28.509 ug/L	5.6284	28.509 ppb	5.6284	19.74%
Pb 220.353†	-500.1	16.249 ug/L	3.3049	16.249 ppb	3.3049	20.34%
S 181.975 Axial†	39.6	-43.631 ug/L	16.6859	-43.631 ppb	16.6859	38.24%
Sb 206.836†	33.2	6.1040 ug/L	3.46534	6.1040 ppb	3.46534	56.77%
Se 196.026†	-2673.0	-61.645 ug/L	7.5706	-61.645 ppb	7.5706	12.28%
Si 251.611†	-914.4	-26.630 ug/L	1.1151	-26.630 ppb	1.1151	4.19%
Sn 189.927†	-444.7	-1.7729 ug/L	0.69417	-1.7729 ppb	0.69417	39.15%
Sr 421.552†	838.4	1.8114 ug/L	0.13233	1.8114 ppb	0.13233	7.31%
Ti 334.940†	-17823.0	-9.7626 ug/L	0.85426	-9.7626 ppb	0.85426	8.75%
Tl 190.801†	-92.0	-29.900 ug/L	1.7201	-29.900 ppb	1.7201	5.75%
U 409.014†	564201.6	14058 ug/L	16.3	14058 ppb	16.3	0.12%
QC value within limits for U 409.014 Recovery = 93.72%						
V 292.402†	4266.6	-1.1224 ug/L	0.41775	-1.1224 ppb	0.41775	37.22%
Zn 213.857†	6378.5	16.944 ug/L	0.7074	16.944 ppb	0.7074	4.17%
SiO2†	-896.7	-55.683 ug/L	9.5855	-55.683 ppb	9.5855	17.21%

QC Failed. Continue with analysis.

Sequence No.: 12

Sample ID: LR2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 16

Date Collected: 1/26/2010 10:18:05

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5207.0	5207.0	97.5 %		10:20:03
1	Y RADIAL	5586.5	5586.5	97.03 %		10:20:03
1	Al 396.153Radial†	592.5	598.5	29.601 ug/L	29.601 ppb	10:20:03
1	Ca 317.933Radial†	32.1	12.7	20.420 ug/L	20.420 ppb	10:20:23
1	Fe 238.204 Radial†	-19.6	-27.3	7.5818 ug/L	7.5818 ppb	10:20:23
1	K 766.490 Radial†	1648379.4	1687992.8	308350 ug/L	308350 ppb	10:19:58
1	Mg 279.077 IEC†	-7.3	-8.5	-211.18 ug/L	-211.18 ppb	10:20:23
1	Na 589.592 Radial†	-277.7	262.9	78.147 ug/L	78.147 ppb	10:20:03
1	Sr 421.552†	1549691.8	1589280.1	10200 ug/L	10200 ppb	10:19:58
1	Sc 361.383	874848.0	874848.0	97.436 %		10:21:40
1	Y 371.029	758195.9	758195.9	92.112 %		10:21:40
1	Ag 328.068†	-7176.3	-7661.2	6.4330 ug/L	6.4330 ppb	10:21:46
1	As 188.979†	20253.0	20816.2	8579.6 ug/L	8579.6 ppb	10:21:46
1	B 249.677†	211582.3	217391.3	4742.5 ug/L	4742.5 ppb	10:21:40
1	Ba 233.527†	1688325.3	1732763.2	13679 ug/L	13679 ppb	10:21:40
1	Be 313.107†	7745227.2	7954173.5	2828.1 ug/L	2828.1 ppb	10:21:34
1	Cd 226.502†	807433.6	828890.6	9264.6 ug/L	9264.6 ppb	10:21:40
1	Co 228.616†	389631.2	399955.8	8764.4 ug/L	8764.4 ppb	10:21:46
1	Cr 267.716†	2063525.6	2117741.4	22971 ug/L	22971 ppb	10:21:40
1	Cu 324.752†	6900835.9	7073330.3	19842 ug/L	19842 ppb	10:21:34
1	Mn 257.610†	8084783.9	8297076.6	9302.4 ug/L	9302.4 ppb	10:21:34
1	Mo 202.031†	124785.3	128045.9	8738.9 ug/L	8738.9 ppb	10:21:46
1	Ni 231.604†	337445.5	346233.0	8696.1 ug/L	8696.1 ppb	10:21:46
1	P 214.914†	27588.6	28075.9	11982 ug/L	11982 ppb	10:21:46
1	Pb 220.353†	170940.1	175499.4	22039 ug/L	22039 ppb	10:21:46
1	S 181.975 Axial†	32738.4	33523.0	46155 ug/L	46155 ppb	10:21:46
1	Sb 206.836†	27325.3	28014.2	9705.7 ug/L	9705.7 ppb	10:21:46
1	Se 196.026†	14817.7	15225.7	8808.2 ug/L	8808.2 ppb	10:21:46
1	Si 251.611†	1473739.1	1512030.3	44694 ug/L	44694 ppb	10:21:40
1	Sn 189.927†	50819.6	52157.4	9591.0 ug/L	9591.0 ppb	10:21:46
1	Ti 334.940†	6230699.3	6395590.9	9743.1 ug/L	9743.1 ppb	10:21:34
1	Tl 190.801†	26856.3	27600.0	8897.4 ug/L	8897.4 ppb	10:21:46
1	U 409.014†	77.9	1142.8	-22.771 ug/L	-22.771 ppb	10:21:46
1	V 292.402†	1490666.3	1531292.6	9627.6 ug/L	9627.6 ppb	10:21:40
1	Zn 213.857†	1401987.5	1438152.9	13313 ug/L	13313 ppb	10:21:40
1	SiO2†	1531352.3	1571142.4	99128 ug/L	99128 ppb	10:22:33
2	Sc Radial	5189.5	5189.5	97.2 %		10:20:33
2	Y RADIAL	5560.9	5560.9	96.59 %		10:20:33
2	Al 396.153Radial†	604.8	613.2	1.4686 ug/L	1.4686 ppb	10:20:33
2	Ca 317.933Radial†	27.9	8.5	13.669 ug/L	13.669 ppb	10:20:53
2	Fe 238.204 Radial†	-20.9	-28.7	19.431 ug/L	19.431 ppb	10:20:53
2	K 766.490 Radial†	1622973.2	1667544.4	304620 ug/L	304620 ppb	10:20:28
2	Mg 279.077 IEC†	-5.4	-6.5	-132.53 ug/L	-132.53 ppb	10:20:53
2	Na 589.592 Radial†	-304.9	233.9	69.534 ug/L	69.534 ppb	10:20:33
2	Sr 421.552†	1520045.7	1564127.9	10038 ug/L	10038 ppb	10:20:28
2	Sc 361.383	854709.8	854709.8	95.193 %		10:22:00
2	Y 371.029	740540.6	740540.6	89.967 %		10:22:00
2	Ag 328.068†	-7740.3	-8427.2	4.6708 ug/L	4.6708 ppb	10:22:05
2	As 188.979†	21891.8	23027.5	9483.2 ug/L	9483.2 ppb	10:22:05
2	B 249.677†	214363.9	225429.8	4916.5 ug/L	4916.5 ppb	10:22:00
2	Ba 233.527†	1710841.0	1797242.5	14188 ug/L	14188 ppb	10:22:00
2	Be 313.107†	7647408.3	8038706.8	2858.1 ug/L	2858.1 ppb	10:21:54
2	Cd 226.502†	818865.2	860424.4	9617.3 ug/L	9617.3 ppb	10:22:00
2	Co 228.616†	416796.7	437915.1	9598.0 ug/L	9598.0 ppb	10:22:05
2	Cr 267.716†	2091850.6	2197396.2	23835 ug/L	23835 ppb	10:22:00
2	Cu 324.752†	6819344.2	7154596.6	20070 ug/L	20070 ppb	10:21:54
2	Mn 257.610†	7988964.5	8391921.5	9408.8 ug/L	9408.8 ppb	10:21:54
2	Mo 202.031†	133205.7	139909.0	9548.5 ug/L	9548.5 ppb	10:22:05
2	Ni 231.604†	360437.4	378546.0	9507.7 ug/L	9507.7 ppb	10:22:05

2	P 214.914†	29899.2	31170.4	13690 ug/L	13690 ppb	10:22:05
2	Pb 220.353†	182634.9	191918.4	24102 ug/L	24102 ppb	10:22:05
2	S 181.975 Axial†	35539.6	37257.4	51297 ug/L	51297 ppb	10:22:05
2	Sb 206.836†	29527.6	30988.5	10733 ug/L	10733 ppb	10:22:05
2	Se 196.026†	16270.3	17109.9	9897.5 ug/L	9897.5 ppb	10:22:05
2	Si 251.611†	1493583.0	1568513.8	46357 ug/L	46357 ppb	10:22:00
2	Sn 189.927†	54371.0	57117.1	10503 ug/L	10503 ppb	10:22:05
2	Ti 334.940†	6156000.6	6467788.3	9852.9 ug/L	9852.9 ppb	10:21:54
2	Tl 190.801†	28735.4	30223.5	9733.7 ug/L	9733.7 ppb	10:22:05
2	U 409.014†	155.9	1226.7	-22.606 ug/L	-22.606 ppb	10:22:05
2	V 292.402†	1510862.6	1588555.5	9994.7 ug/L	9994.7 ppb	10:22:00
2	Zn 213.857†	1419289.7	1490231.1	13793 ug/L	13793 ppb	10:22:00
2	SiO2†	1541505.3	1618838.7	102120 ug/L	102120 ppb	10:22:40
3	Sc Radial	5368.9	5368.9	101 %		10:21:04
3	Y RADIAL	5740.0	5740.0	99.70 %		10:21:04
3	Al 396.153Radial†	601.9	589.5	-33.075 ug/L	-33.075 ppb	10:21:04
3	Ca 317.933Radial†	27.9	7.5	12.128 ug/L	12.128 ppb	10:21:24
3	Fe 238.204 Radial†	-23.8	-30.8	9.1186 ug/L	9.1186 ppb	10:21:24
3	K 766.490 Radial†	1640207.1	1628890.9	297560 ug/L	297560 ppb	10:20:59
3	Mg 279.077 IEC†	-5.2	-6.2	-116.63 ug/L	-116.63 ppb	10:21:24
3	Na 589.592 Radial†	-270.1	279.0	82.934 ug/L	82.934 ppb	10:21:04
3	Sr 421.552†	1540648.5	1532363.6	9834.2 ug/L	9834.2 ppb	10:20:59
3	Sc 361.383	846991.1	846991.1	94.333 %		10:22:20
3	Y 371.029	732830.7	732830.7	89.031 %		10:22:20
3	Ag 328.068†	-7897.1	-8667.6	4.1798 ug/L	4.1798 ppb	10:22:25
3	As 188.979†	22637.3	24027.3	9892.5 ug/L	9892.5 ppb	10:22:25
3	B 249.677†	215594.9	228786.9	4989.1 ug/L	4989.1 ppb	10:22:20
3	Ba 233.527†	1718251.9	1821476.9	14379 ug/L	14379 ppb	10:22:20
3	Be 313.107†	7668912.1	8134713.2	2892.3 ug/L	2892.3 ppb	10:22:13
3	Cd 226.502†	823505.8	873183.1	9760.1 ug/L	9760.1 ppb	10:22:20
3	Co 228.616†	427725.6	453490.7	9940.0 ug/L	9940.0 ppb	10:22:25
3	Cr 267.716†	2101234.2	2227369.4	24160 ug/L	24160 ppb	10:22:20
3	Cu 324.752†	6852725.1	7255266.3	20353 ug/L	20353 ppb	10:22:13
3	Mn 257.610†	8015481.1	8496511.6	9526.0 ug/L	9526.0 ppb	10:22:13
3	Mo 202.031†	136735.2	144925.8	9890.9 ug/L	9890.9 ppb	10:22:25
3	Ni 231.604†	369684.2	391798.9	9840.5 ug/L	9840.5 ppb	10:22:25
3	P 214.914†	30656.1	32259.0	14251 ug/L	14251 ppb	10:22:25
3	Pb 220.353†	187366.9	198683.1	24951 ug/L	24951 ppb	10:22:25
3	S 181.975 Axial†	36509.4	38625.7	53181 ug/L	53181 ppb	10:22:25
3	Sb 206.836†	30318.6	32109.7	11121 ug/L	11121 ppb	10:22:25
3	Se 196.026†	16784.5	17810.8	10303 ug/L	10303 ppb	10:22:25
3	Si 251.611†	1501806.8	1591530.1	47035 ug/L	47035 ppb	10:22:20
3	Sn 189.927†	55742.7	59091.7	10866 ug/L	10866 ppb	10:22:25
3	Ti 334.940†	6175380.2	6547265.3	9974.0 ug/L	9974.0 ppb	10:22:13
3	Tl 190.801†	29521.0	31331.3	10088 ug/L	10088 ppb	10:22:25
3	U 409.014†	146.7	1218.4	-23.537 ug/L	-23.537 ppb	10:22:25
3	V 292.402†	1516669.0	1609174.6	10128 ug/L	10128 ppb	10:22:20
3	Zn 213.857†	1427141.7	1512142.1	13995 ug/L	13995 ppb	10:22:20
3	SiO2†	1527675.5	1618935.4	102120 ug/L	102120 ppb	10:22:47

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	858849.6	95.654 %	1.6018			1.67%
Sc Radial	5255.2	98.4 %	1.85			1.88%
Y 371.029	743855.7	90.370 %	1.5798			1.75%
Y RADIAL	5629.2	97.78 %	1.683			1.72%
Ag 328.068†	-8252.0	5.0945 ug/L	1.18484	5.0945 ppb	1.18484	23.26%
Al 396.153Radial†	600.4	-0.6687 ug/L	31.39251	-0.6687 ppb	31.39251	>999.9%
As 188.979†	22623.7	9318.4 ug/L	671.81	9318.4 ppb	671.81	7.21%
QC value within limits for As 188.979 Recovery = 93.18%						
B 249.677†	223869.3	4882.7 ug/L	126.70	4882.7 ppb	126.70	2.59%
QC value within limits for B 249.677 Recovery = 97.65%						
Ba 233.527†	1783827.5	14082 ug/L	362.0	14082 ppb	362.0	2.57%
QC value within limits for Ba 233.527 Recovery = 93.88%						
Be 313.107†	8042531.1	2859.5 ug/L	32.13	2859.5 ppb	32.13	1.12%
QC value within limits for Be 313.107 Recovery = 95.32%						
Ca 317.933Radial†	9.6	15.406 ug/L	4.4101	15.406 ppb	4.4101	28.63%
Cd 226.502†	854166.0	9547.3 ug/L	255.06	9547.3 ppb	255.06	2.67%
QC value within limits for Cd 226.502 Recovery = 95.47%						

Co 228.616†	430453.9	9434.1 ug/L	604.71	9434.1 ppb	604.71	6.41%
QC value within limits for Co 228.616 Recovery = 94.34%						
Cr 267.716†	2180835.7	23656 ug/L	614.6	23656 ppb	614.6	2.60%
QC value within limits for Cr 267.716 Recovery = 94.62%						
Cu 324.752†	7161064.4	20089 ug/L	255.7	20089 ppb	255.7	1.27%
QC value within limits for Cu 324.752 Recovery = 100.44%						
Fe 238.204 Radial†	-28.9	12.044 ug/L	6.4436	12.044 ppb	6.4436	53.50%
K 766.490 Radial†	1661476.0	303510 ug/L	5483.9	303510 ppb	5483.9	1.81%
QC value within limits for K 766.490 Radial Recovery = 101.17%						
Mg 279.077 IEC†	-7.1	-153.44 ug/L	50.626	-153.44 ppb	50.626	32.99%
Mn 257.610†	8395169.9	9412.4 ug/L	111.84	9412.4 ppb	111.84	1.19%
QC value within limits for Mn 257.610 Recovery = 94.12%						
Mo 202.031†	137626.9	9392.7 ug/L	591.59	9392.7 ppb	591.59	6.30%
QC value within limits for Mo 202.031 Recovery = 93.93%						
Na 589.592 Radial†	258.6	76.872 ug/L	6.7903	76.872 ppb	6.7903	8.83%
Ni 231.604†	372192.6	9348.1 ug/L	588.67	9348.1 ppb	588.67	6.30%
QC value within limits for Ni 231.604 Recovery = 93.48%						
P 214.914†	30501.8	13308 ug/L	1182.1	13308 ppb	1182.1	8.88%
QC value less than the lower limit for P 214.914 Recovery = 88.72%						
Pb 220.353†	188700.3	23697 ug/L	1497.8	23697 ppb	1497.8	6.32%
QC value within limits for Pb 220.353 Recovery = 94.79%						
S 181.975 Axial†	36468.7	50211 ug/L	3636.5	50211 ppb	3636.5	7.24%
QC value within limits for S 181.975 Axial Recovery = 100.42%						
Sb 206.836†	30370.8	10520 ug/L	731.5	10520 ppb	731.5	6.95%
QC value within limits for Sb 206.836 Recovery = 105.20%						
Se 196.026†	16715.4	9669.5 ug/L	772.90	9669.5 ppb	772.90	7.99%
QC value within limits for Se 196.026 Recovery = 96.69%						
Si 251.611†	1557358.1	46029 ug/L	1204.8	46029 ppb	1204.8	2.62%
QC value within limits for Si 251.611 Recovery = 92.06%						
Sn 189.927†	56122.1	10320 ug/L	657.0	10320 ppb	657.0	6.37%
QC value within limits for Sn 189.927 Recovery = 103.20%						
Sr 421.552†	1561923.9	10024 ug/L	183.0	10024 ppb	183.0	1.83%
QC value within limits for Sr 421.552 Recovery = 100.24%						
Ti 334.940†	6470214.8	9856.7 ug/L	115.46	9856.7 ppb	115.46	1.17%
QC value within limits for Ti 334.940 Recovery = 98.57%						
Tl 190.801†	29718.3	9573.0 ug/L	611.29	9573.0 ppb	611.29	6.39%
QC value within limits for Tl 190.801 Recovery = 95.73%						
U 409.014†	1196.0	-22.971 ug/L	0.4970	-22.971 ppb	0.4970	2.16%
V 292.402†	1576340.9	9916.6 ug/L	258.96	9916.6 ppb	258.96	2.61%
QC value within limits for V 292.402 Recovery = 99.17%						
Zn 213.857†	1480175.4	13700 ug/L	349.9	13700 ppb	349.9	2.55%
QC value within limits for Zn 213.857 Recovery = 91.34%						
SiO2†	1602972.2	101120 ug/L	1727.9	101120 ppb	1727.9	1.71%
QC value within limits for SiO2 Recovery = 94.51%						
QC Failed. Continue with analysis.						

=====  
Analysis Begun

Start Time: 1/26/2010 10:38:56

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012610.sif

Batch ID:

Results Data Set: 012610

Results Library: C:\pe\Optima3\Results\Results.mdb

=====  
Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/26/2010 09:10:21

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/26/2010 10:38:58

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

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Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5709.5	5709.5	107 %		10:40:50
1	Y RADIAL	6139.2	6139.2	106.6 %		10:40:50
1	Al 396.153Radial†	6542.6	6110.2	4605.4 ug/L	4605.4 ppb	10:40:50



1	Ca 317.933Radial†	3195.2	2968.2	4770.8 ug/L	4770.8 ppb	10:41:10
1	Fe 238.204 Radial†	564.2	520.5	4879.5 ug/L	4879.5 ppb	10:41:10
1	K 766.490 Radial†	30504.7	26027.6	4748.8 ug/L	4748.8 ppb	10:40:50
1	Mg 279.077 IEC†	148.1	137.5	4905.2 ug/L	4905.2 ppb	10:41:10
1	Na 589.592 Radial†	33087.5	31494.4	9362.4 ug/L	9362.4 ppb	10:40:50
1	Sr 421.552†	79318.2	74179.5	476.03 ug/L	476.03 ppb	10:40:50
1	Sc 361.383	938569.5	938569.5	104.53 %		10:42:08
1	Y 371.029	823149.9	823149.9	100.00 %		10:42:08
1	Ag 328.068†	121397.9	115838.0	486.48 ug/L	486.48 ppb	10:42:13
1	As 188.979†	1221.4	1198.6	494.52 ug/L	494.52 ppb	10:42:33
1	B 249.677†	23250.5	22482.7	490.85 ug/L	490.85 ppb	10:42:13
1	Ba 233.527†	64251.2	61468.3	485.72 ug/L	485.72 ppb	10:42:13
1	Be 313.107†	1428011.9	1371193.7	484.80 ug/L	484.80 ppb	10:42:08
1	Cd 226.502†	45340.0	43580.3	486.71 ug/L	486.71 ppb	10:42:13
1	Co 228.616†	23578.3	22625.9	496.07 ug/L	496.07 ppb	10:42:13
1	Cr 267.716†	46813.4	44689.6	485.05 ug/L	485.05 ppb	10:42:13
1	Cu 324.752†	188322.0	171028.4	479.76 ug/L	479.76 ppb	10:42:13
1	Mn 257.610†	449448.4	429470.4	481.79 ug/L	481.79 ppb	10:42:08
1	Mo 202.031†	7360.0	7017.3	479.35 ug/L	479.35 ppb	10:42:33
1	Ni 231.604†	20329.8	19354.6	486.11 ug/L	486.11 ppb	10:42:13
1	P 214.914†	4663.6	4222.6	2287.7 ug/L	2287.7 ppb	10:42:33
1	Pb 220.353†	3960.9	3849.5	484.72 ug/L	484.72 ppb	10:42:33
1	S 181.975 Axial†	789.3	678.1	932.77 ug/L	932.77 ppb	10:42:33
1	Sb 206.836†	1539.2	1442.2	500.17 ug/L	500.17 ppb	10:42:33
1	Se 196.026†	847.4	828.6	495.79 ug/L	495.79 ppb	10:42:33
1	Si 251.611†	86090.8	81861.9	2419.7 ug/L	2419.7 ppb	10:42:13
1	Sn 189.927†	2747.7	2628.9	484.23 ug/L	484.23 ppb	10:42:33
1	Ti 334.940†	329323.4	315950.5	481.58 ug/L	481.58 ppb	10:42:13
1	Tl 190.801†	1504.0	1475.7	475.23 ug/L	475.23 ppb	10:42:33
1	U 409.014†	19231.5	19460.5	484.97 ug/L	484.97 ppb	10:42:13
1	V 292.402†	79895.1	77824.4	490.37 ug/L	490.37 ppb	10:42:13
1	Zn 213.857†	55169.2	52043.7	480.54 ug/L	480.54 ppb	10:42:13
1	SiO2†	85634.8	81408.2	5135.6 ug/L	5135.6 ppb	10:43:40
2	Sc Radial	5189.1	5189.1	97.2 %		10:41:15
2	Y RADIAL	5588.6	5588.6	97.07 %		10:41:15
2	Al 396.153Radial†	6568.7	6750.6	5090.4 ug/L	5090.4 ppb	10:41:15
2	Ca 317.933Radial†	3218.9	3292.3	5291.7 ug/L	5291.7 ppb	10:41:35
2	Fe 238.204 Radial†	568.5	577.9	5415.3 ug/L	5415.3 ppb	10:41:35
2	K 766.490 Radial†	30413.4	28794.7	5253.8 ug/L	5253.8 ppb	10:41:15
2	Mg 279.077 IEC†	152.9	156.4	5578.1 ug/L	5578.1 ppb	10:41:35
2	Na 589.592 Radial†	33068.7	34578.4	10279 ug/L	10279 ppb	10:41:15
2	Sr 421.552†	79365.7	81667.5	524.08 ug/L	524.08 ppb	10:41:15
2	Sc 361.383	933250.2	933250.2	103.94 %		10:42:39
2	Y 371.029	817518.6	817518.6	99.319 %		10:42:39
2	Ag 328.068†	119632.8	114801.8	482.31 ug/L	482.31 ppb	10:42:44
2	As 188.979†	1223.4	1207.2	498.11 ug/L	498.11 ppb	10:43:04
2	B 249.677†	22983.6	22352.7	487.93 ug/L	487.93 ppb	10:42:44
2	Ba 233.527†	63558.5	61152.2	483.24 ug/L	483.24 ppb	10:42:44
2	Be 313.107†	1419124.6	1370429.5	484.52 ug/L	484.52 ppb	10:42:39
2	Cd 226.502†	44945.0	43447.4	485.17 ug/L	485.17 ppb	10:42:44
2	Co 228.616†	23288.3	22475.5	492.78 ug/L	492.78 ppb	10:42:44
2	Cr 267.716†	46456.2	44601.2	484.10 ug/L	484.10 ppb	10:42:44
2	Cu 324.752†	184874.1	168738.0	473.37 ug/L	473.37 ppb	10:42:44
2	Mn 257.610†	447911.4	430442.3	482.91 ug/L	482.91 ppb	10:42:39
2	Mo 202.031†	7368.1	7065.2	482.67 ug/L	482.67 ppb	10:43:04
2	Ni 231.604†	20172.1	19313.8	485.09 ug/L	485.09 ppb	10:42:44
2	P 214.914†	4660.3	4244.9	2301.3 ug/L	2301.3 ppb	10:43:04
2	Pb 220.353†	3938.7	3849.8	484.82 ug/L	484.82 ppb	10:43:04
2	S 181.975 Axial†	792.2	685.2	942.39 ug/L	942.39 ppb	10:43:04
2	Sb 206.836†	1553.4	1464.2	507.62 ug/L	507.62 ppb	10:43:04
2	Se 196.026†	860.3	845.6	507.41 ug/L	507.41 ppb	10:43:04
2	Si 251.611†	85133.5	81410.4	2406.2 ug/L	2406.2 ppb	10:42:44
2	Sn 189.927†	2734.9	2631.6	484.81 ug/L	484.81 ppb	10:43:04
2	Ti 334.940†	324380.2	312990.3	477.09 ug/L	477.09 ppb	10:42:44
2	Tl 190.801†	1521.9	1501.1	483.36 ug/L	483.36 ppb	10:43:04
2	U 409.014†	18714.7	19068.1	475.10 ug/L	475.10 ppb	10:42:44
2	V 292.402†	78768.2	77175.9	486.31 ug/L	486.31 ppb	10:42:44
2	Zn 213.857†	54657.0	51851.7	478.72 ug/L	478.72 ppb	10:42:44
2	SiO2†	84965.4	81231.2	5124.3 ug/L	5124.3 ppb	10:43:45
3	Sc Radial	5417.9	5417.9	101 %		10:41:40
3	Y RADIAL	5821.4	5821.4	101.1 %		10:41:40

3	Al 396.153Radial†	6665.3	6560.4	4946.3 ug/L	4946.3 ppb	10:41:40
3	Ca 317.933Radial†	3192.6	3126.5	5025.2 ug/L	5025.2 ppb	10:42:01
3	Fe 238.204 Radial†	563.2	547.9	5135.6 ug/L	5135.6 ppb	10:42:01
3	K 766.490 Radial†	30739.0	27793.7	5071.2 ug/L	5071.2 ppb	10:41:40
3	Mg 279.077 IEC†	150.2	147.1	5245.0 ug/L	5245.0 ppb	10:42:01
3	Na 589.592 Radial†	33156.2	33227.3	9877.5 ug/L	9877.5 ppb	10:41:40
3	Sr 421.552†	79990.3	78833.7	505.89 ug/L	505.89 ppb	10:41:40
3	Sc 361.383	942206.6	942206.6	104.94 %		10:43:10
3	Y 371.029	824780.8	824780.8	100.20 %		10:43:10
3	Ag 328.068†	121460.3	115449.2	484.94 ug/L	484.94 ppb	10:43:15
3	As 188.979†	1234.2	1206.3	497.70 ug/L	497.70 ppb	10:43:35
3	B 249.677†	23336.6	22478.9	490.73 ug/L	490.73 ppb	10:43:15
3	Ba 233.527†	64474.0	61443.4	485.53 ug/L	485.53 ppb	10:43:15
3	Be 313.107†	1427946.0	1365857.4	482.91 ug/L	482.91 ppb	10:43:10
3	Cd 226.502†	45654.6	43712.6	488.16 ug/L	488.16 ppb	10:43:15
3	Co 228.616†	23646.2	22603.5	495.59 ug/L	495.59 ppb	10:43:15
3	Cr 267.716†	47071.4	44762.6	485.85 ug/L	485.85 ppb	10:43:15
3	Cu 324.752†	187900.9	169931.6	476.71 ug/L	476.71 ppb	10:43:15
3	Mn 257.610†	451278.4	429554.6	481.90 ug/L	481.90 ppb	10:43:10
3	Mo 202.031†	7425.7	7052.7	481.79 ug/L	481.79 ppb	10:43:35
3	Ni 231.604†	20541.6	19481.4	489.30 ug/L	489.30 ppb	10:43:15
3	P 214.914†	4698.8	4239.0	2297.5 ug/L	2297.5 ppb	10:43:35
3	Pb 220.353†	3975.4	3848.7	484.68 ug/L	484.68 ppb	10:43:35
3	S 181.975 Axial†	788.5	674.5	927.67 ug/L	927.67 ppb	10:43:35
3	Sb 206.836†	1559.8	1456.2	504.93 ug/L	504.93 ppb	10:43:35
3	Se 196.026†	852.2	830.1	497.51 ug/L	497.51 ppb	10:43:35
3	Si 251.611†	86396.5	81835.3	2418.8 ug/L	2418.8 ppb	10:43:15
3	Sn 189.927†	2768.0	2638.1	485.96 ug/L	485.96 ppb	10:43:35
3	Ti 334.940†	329592.1	314990.3	480.13 ug/L	480.13 ppb	10:43:15
3	Tl 190.801†	1537.5	1502.0	483.65 ug/L	483.65 ppb	10:43:35
3	U 409.014†	18985.1	19154.6	477.29 ug/L	477.29 ppb	10:43:15
3	V 292.402†	80086.5	77711.8	489.66 ug/L	489.66 ppb	10:43:15
3	Zn 213.857†	55335.0	51997.9	480.08 ug/L	480.08 ppb	10:43:15
3	SiO2†	85189.0	80667.2	5088.6 ug/L	5088.6 ppb	10:43:51

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	938008.8	104.47 %	0.502			0.48%
Sc Radial	5438.8	102 %	4.9			4.80%
Y 371.029	821816.4	99.841 %	0.4629			0.46%
Y RADIAL	5849.7	101.6 %	4.80			4.72%
Ag 328.068†	115363.0	484.57 ug/L	2.107	484.57 ppb	2.107	0.43%
QC value within limits for Ag 328.068 Recovery = 96.91%						
Al 396.153Radial†	6473.7	4880.7 ug/L	249.05	4880.7 ppb	249.05	5.10%
QC value within limits for Al 396.153Radial Recovery = 97.61%						
As 188.979†	1204.0	496.78 ug/L	1.963	496.78 ppb	1.963	0.40%
QC value within limits for As 188.979 Recovery = 99.36%						
B 249.677†	22438.1	489.84 ug/L	1.656	489.84 ppb	1.656	0.34%
QC value within limits for B 249.677 Recovery = 97.97%						
Ba 233.527†	61354.7	484.83 ug/L	1.383	484.83 ppb	1.383	0.29%
QC value within limits for Ba 233.527 Recovery = 96.97%						
Be 313.107†	1369160.2	484.08 ug/L	1.018	484.08 ppb	1.018	0.21%
QC value within limits for Be 313.107 Recovery = 96.82%						
Ca 317.933Radial†	3129.0	5029.2 ug/L	260.49	5029.2 ppb	260.49	5.18%
QC value within limits for Ca 317.933Radial Recovery = 100.58%						
Cd 226.502†	43580.1	486.68 ug/L	1.497	486.68 ppb	1.497	0.31%
QC value within limits for Cd 226.502 Recovery = 97.34%						
Co 228.616†	22568.3	494.81 ug/L	1.775	494.81 ppb	1.775	0.36%
QC value within limits for Co 228.616 Recovery = 98.96%						
Cr 267.716†	44684.5	485.00 ug/L	0.875	485.00 ppb	0.875	0.18%
QC value within limits for Cr 267.716 Recovery = 97.00%						
Cu 324.752†	169899.3	476.61 ug/L	3.197	476.61 ppb	3.197	0.67%
QC value within limits for Cu 324.752 Recovery = 95.32%						
Fe 238.204 Radial†	548.8	5143.4 ug/L	268.00	5143.4 ppb	268.00	5.21%
QC value within limits for Fe 238.204 Radial Recovery = 102.87%						
K 766.490 Radial†	27538.7	5024.6 ug/L	255.69	5024.6 ppb	255.69	5.09%
QC value within limits for K 766.490 Radial Recovery = 100.49%						
Mg 279.077 IEC†	147.0	5242.7 ug/L	336.44	5242.7 ppb	336.44	6.42%
QC value within limits for Mg 279.077 IEC Recovery = 104.85%						

Mn 257.610†	429822.4	482.20 ug/L	0.616	482.20 ppb	0.616	0.13%
QC value within limits for Mn 257.610 Recovery = 96.44%						
Mo 202.031†	7045.1	481.27 ug/L	1.720	481.27 ppb	1.720	0.36%
QC value within limits for Mo 202.031 Recovery = 96.25%						
Na 589.592 Radial†	33100.0	9839.7 ug/L	459.55	9839.7 ppb	459.55	4.67%
QC value within limits for Na 589.592 Radial Recovery = 98.40%						
Ni 231.604†	19383.3	486.83 ug/L	2.197	486.83 ppb	2.197	0.45%
QC value within limits for Ni 231.604 Recovery = 97.37%						
P 214.914†	4235.5	2295.5 ug/L	6.99	2295.5 ppb	6.99	0.30%
QC value within limits for P 214.914 Recovery = 91.82%						
Pb 220.353†	3849.3	484.74 ug/L	0.073	484.74 ppb	0.073	0.02%
QC value within limits for Pb 220.353 Recovery = 96.95%						
S 181.975 Axial†	679.2	934.28 ug/L	7.470	934.28 ppb	7.470	0.80%
QC value within limits for S 181.975 Axial Recovery = 93.43%						
Sb 206.836†	1454.2	504.24 ug/L	3.772	504.24 ppb	3.772	0.75%
QC value within limits for Sb 206.836 Recovery = 100.85%						
Se 196.026†	834.8	500.24 ug/L	6.269	500.24 ppb	6.269	1.25%
QC value within limits for Se 196.026 Recovery = 100.05%						
Si 251.611†	81702.6	2414.9 ug/L	7.52	2414.9 ppb	7.52	0.31%
QC value within limits for Si 251.611 Recovery = 96.60%						
Sn 189.927†	2632.9	485.00 ug/L	0.877	485.00 ppb	0.877	0.18%
QC value within limits for Sn 189.927 Recovery = 97.00%						
Sr 421.552†	78226.9	502.00 ug/L	24.262	502.00 ppb	24.262	4.83%
QC value within limits for Sr 421.552 Recovery = 100.40%						
Ti 334.940†	314643.7	479.60 ug/L	2.293	479.60 ppb	2.293	0.48%
QC value within limits for Ti 334.940 Recovery = 95.92%						
Tl 190.801†	1492.9	480.75 ug/L	4.781	480.75 ppb	4.781	0.99%
QC value within limits for Tl 190.801 Recovery = 96.15%						
U 409.014†	19227.7	479.12 ug/L	5.183	479.12 ppb	5.183	1.08%
QC value within limits for U 409.014 Recovery = 95.82%						
V 292.402†	77570.7	488.78 ug/L	2.171	488.78 ppb	2.171	0.44%
QC value within limits for V 292.402 Recovery = 97.76%						
Zn 213.857†	51964.4	479.78 ug/L	0.948	479.78 ppb	0.948	0.20%
QC value within limits for Zn 213.857 Recovery = 95.96%						
SiO2†	81102.2	5116.2 ug/L	24.50	5116.2 ppb	24.50	0.48%
QC value within limits for SiO2 Recovery = 95.67%						

All analyte(s) passed QC.

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 10:46:01

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5500.4	5500.4	103 %		10:47:53
1	Y RADIAL	5938.0	5938.0	103.1 %		10:47:53
1	Al 396.153Radial†	3.1	-6.1	-4.6271 ug/L	-4.6271 ppb	10:48:13
1	Ca 317.933Radial†	21.4	0.5	0.8113 ug/L	0.8113 ppb	10:48:13
1	Fe 238.204 Radial†	6.9	-0.5	-4.6519 ug/L	-4.6519 ppb	10:48:13
1	K 766.490 Radial†	2596.4	17.3	3.1658 ug/L	3.1658 ppb	10:47:53
1	Mg 279.077 IEC†	0.7	-0.3	-11.957 ug/L	-11.957 ppb	10:48:13
1	Na 589.592 Radial†	-679.9	-112.4	-33.420 ug/L	-33.420 ppb	10:47:53
1	Sr 421.552†	59.1	50.3	0.3225 ug/L	0.3225 ppb	10:47:53
1	Sc 361.383	895964.4	895964.4	99.787 %		10:49:10
1	Y 371.029	821794.6	821794.6	99.839 %		10:49:10
1	Ag 328.068†	381.0	85.8	0.3573 ug/L	0.3573 ppb	10:49:10
1	As 188.979†	-13.5	16.7	6.8113 ug/L	6.8113 ppb	10:49:30
1	B 249.677†	284.9	525.9	11.535 ug/L	11.535 ppb	10:49:30
1	Ba 233.527†	16.3	19.5	0.1538 ug/L	0.1538 ppb	10:49:30
1	Be 313.107†	-4987.3	102.5	0.0359 ug/L	0.0359 ppb	10:49:10
1	Cd 226.502†	-195.3	10.5	0.1180 ug/L	0.1180 ppb	10:49:30
1	Co 228.616†	-72.6	-2.8	-0.0617 ug/L	-0.0617 ppb	10:49:30
1	Cr 267.716†	91.8	-2.0	-0.0212 ug/L	-0.0212 ppb	10:49:30
1	Cu 324.752†	9066.2	-42.5	-0.1193 ug/L	-0.1193 ppb	10:49:10
1	Mn 257.610†	508.7	20.0	0.0224 ug/L	0.0224 ppb	10:49:30
1	Mo 202.031†	21.6	-2.0	-0.1376 ug/L	-0.1376 ppb	10:49:30
1	Ni 231.604†	113.8	20.3	0.5114 ug/L	0.5114 ppb	10:49:30
1	P 214.914†	236.5	-1.7	-0.9137 ug/L	-0.9137 ppb	10:49:30
1	Pb 220.353†	-52.5	7.8	0.9777 ug/L	0.9777 ppb	10:49:30
1	S 181.975 Axial†	46.3	-30.6	-42.105 ug/L	-42.105 ppb	10:49:30
1	Sb 206.836†	41.6	11.5	3.8882 ug/L	3.8882 ppb	10:49:30
1	Se 196.026†	-22.6	-4.7	-2.7190 ug/L	-2.7190 ppb	10:49:30
1	Si 251.611†	502.2	7.3	0.2182 ug/L	0.2182 ppb	10:49:30
1	Sn 189.927†	16.2	16.6	3.0446 ug/L	3.0446 ppb	10:49:30
1	Ti 334.940†	-965.7	-61.2	-0.0922 ug/L	-0.0922 ppb	10:49:10
1	Tl 190.801†	-37.4	-0.5	-0.1739 ug/L	-0.1739 ppb	10:49:30
1	U 409.014†	-1065.4	-4.8	-0.1193 ug/L	-0.1193 ppb	10:49:10
1	V 292.402†	-1357.2	33.5	0.2066 ug/L	0.2066 ppb	10:49:10
1	Zn 213.857†	703.2	-28.7	-0.2699 ug/L	-0.2699 ppb	10:49:30
1	SiO2†	530.2	17.9	1.1374 ug/L	1.1374 ppb	10:50:41
2	Sc Radial	5462.9	5462.9	102 %		10:48:18
2	Y RADIAL	5846.7	5846.7	101.6 %		10:48:18
2	Al 396.153Radial†	8.7	-0.7	-0.5100 ug/L	-0.5100 ppb	10:48:38
2	Ca 317.933Radial†	24.7	3.9	6.2066 ug/L	6.2066 ppb	10:48:38
2	Fe 238.204 Radial†	8.5	1.2	11.151 ug/L	11.151 ppb	10:48:38
2	K 766.490 Radial†	2505.6	-54.2	-9.8962 ug/L	-9.8962 ppb	10:48:18
2	Mg 279.077 IEC†	3.2	2.2	78.437 ug/L	78.437 ppb	10:48:38
2	Na 589.592 Radial†	-690.4	-127.2	-37.826 ug/L	-37.826 ppb	10:48:18
2	Sr 421.552†	51.1	42.9	0.2753 ug/L	0.2753 ppb	10:48:18
2	Sc 361.383	893219.2	893219.2	99.482 %		10:49:35
2	Y 371.029	815151.4	815151.4	99.032 %		10:49:35
2	Ag 328.068†	358.6	64.5	0.2711 ug/L	0.2711 ppb	10:49:35
2	As 188.979†	-18.4	11.7	4.8007 ug/L	4.8007 ppb	10:49:55
2	B 249.677†	281.3	523.1	11.471 ug/L	11.471 ppb	10:49:55
2	Ba 233.527†	-0.5	2.6	0.0210 ug/L	0.0210 ppb	10:49:55
2	Be 313.107†	-5012.5	61.8	0.0213 ug/L	0.0213 ppb	10:49:35
2	Cd 226.502†	-197.3	7.8	0.0866 ug/L	0.0866 ppb	10:49:55
2	Co 228.616†	-70.7	-1.2	-0.0243 ug/L	-0.0243 ppb	10:49:55
2	Cr 267.716†	106.9	13.5	0.1457 ug/L	0.1457 ppb	10:49:55
2	Cu 324.752†	9006.6	-74.5	-0.2093 ug/L	-0.2093 ppb	10:49:35
2	Mn 257.610†	520.5	33.4	0.0353 ug/L	0.0353 ppb	10:49:55
2	Mo 202.031†	28.3	4.9	0.3340 ug/L	0.3340 ppb	10:49:55
2	Ni 231.604†	93.0	-0.2	-0.0047 ug/L	-0.0047 ppb	10:49:55

2	P 214.914†	234.0	-3.5	-1.9175 ug/L	-1.9175 ppb	10:49:55
2	Pb 220.353†	-29.7	30.5	3.8308 ug/L	3.8308 ppb	10:49:55
2	S 181.975 Axial†	51.1	-25.6	-35.242 ug/L	-35.242 ppb	10:49:55
2	Sb 206.836†	50.8	20.8	7.0038 ug/L	7.0038 ppb	10:49:55
2	Se 196.026†	-16.3	1.6	0.9508 ug/L	0.9508 ppb	10:49:55
2	Si 251.611†	544.5	51.4	1.5188 ug/L	1.5188 ppb	10:49:55
2	Sn 189.927†	11.9	12.3	2.2605 ug/L	2.2605 ppb	10:49:55
2	Ti 334.940†	-1051.8	-150.7	-0.2361 ug/L	-0.2361 ppb	10:49:35
2	Tl 190.801†	-33.3	3.4	1.0888 ug/L	1.0888 ppb	10:49:55
2	U 409.014†	-997.0	60.6	1.5146 ug/L	1.5146 ppb	10:49:35
2	V 292.402†	-1396.8	-10.5	-0.0577 ug/L	-0.0577 ppb	10:49:35
2	Zn 213.857†	677.8	-52.1	-0.4861 ug/L	-0.4861 ppb	10:49:55
2	SiO2†	521.7	11.0	0.6885 ug/L	0.6885 ppb	10:51:01
3	Sc Radial	5553.5	5553.5	104 %		10:48:43
3	Y RADIAL	6016.2	6016.2	104.5 %		10:48:43
3	Al 396.153Radial†	9.0	-0.5	-0.3490 ug/L	-0.3490 ppb	10:49:03
3	Ca 317.933Radial†	25.5	4.3	6.9058 ug/L	6.9058 ppb	10:49:03
3	Fe 238.204 Radial†	8.8	1.3	12.233 ug/L	12.233 ppb	10:49:03
3	K 766.490 Radial†	2493.3	-106.0	-19.357 ug/L	-19.357 ppb	10:48:43
3	Mg 279.077 IEC†	3.3	2.2	77.715 ug/L	77.715 ppb	10:49:03
3	Na 589.592 Radial†	-707.0	-132.2	-39.292 ug/L	-39.292 ppb	10:48:43
3	Sr 421.552†	15.2	7.5	0.0482 ug/L	0.0482 ppb	10:48:43
3	Sc 361.383	891232.6	891232.6	99.260 %		10:50:00
3	Y 371.029	812156.4	812156.4	98.668 %		10:50:00
3	Ag 328.068†	321.1	27.4	0.1190 ug/L	0.1190 ppb	10:50:00
3	As 188.979†	-15.0	15.1	6.1770 ug/L	6.1770 ppb	10:50:20
3	B 249.677†	245.5	487.8	10.695 ug/L	10.695 ppb	10:50:20
3	Ba 233.527†	-2.7	0.3	0.0029 ug/L	0.0029 ppb	10:50:20
3	Be 313.107†	-4989.4	73.9	0.0259 ug/L	0.0259 ppb	10:50:00
3	Cd 226.502†	-205.5	-0.9	-0.0113 ug/L	-0.0113 ppb	10:50:20
3	Co 228.616†	-67.9	1.5	0.0322 ug/L	0.0322 ppb	10:50:20
3	Cr 267.716†	83.3	-10.0	-0.1083 ug/L	-0.1083 ppb	10:50:20
3	Cu 324.752†	8878.2	-183.7	-0.5139 ug/L	-0.5139 ppb	10:50:00
3	Mn 257.610†	491.9	5.7	0.0044 ug/L	0.0044 ppb	10:50:20
3	Mo 202.031†	17.0	-6.5	-0.4400 ug/L	-0.4400 ppb	10:50:20
3	Ni 231.604†	112.0	19.1	0.4810 ug/L	0.4810 ppb	10:50:20
3	P 214.914†	241.0	4.0	2.3932 ug/L	2.3932 ppb	10:50:20
3	Pb 220.353†	-39.8	20.3	2.5479 ug/L	2.5479 ppb	10:50:20
3	S 181.975 Axial†	43.6	-33.0	-45.497 ug/L	-45.497 ppb	10:50:20
3	Sb 206.836†	40.5	10.6	3.5552 ug/L	3.5552 ppb	10:50:20
3	Se 196.026†	-22.4	-4.6	-2.6295 ug/L	-2.6295 ppb	10:50:20
3	Si 251.611†	509.2	17.0	0.5098 ug/L	0.5098 ppb	10:50:20
3	Sn 189.927†	9.7	10.1	1.8540 ug/L	1.8540 ppb	10:50:20
3	Ti 334.940†	-935.1	-35.6	-0.0591 ug/L	-0.0591 ppb	10:50:00
3	Tl 190.801†	-40.0	-3.4	-1.0927 ug/L	-1.0927 ppb	10:50:20
3	U 409.014†	-1104.3	-49.7	-1.2427 ug/L	-1.2427 ppb	10:50:00
3	V 292.402†	-1399.1	-15.9	-0.1079 ug/L	-0.1079 ppb	10:50:00
3	Zn 213.857†	676.8	-51.5	-0.4835 ug/L	-0.4835 ppb	10:50:20
3	SiO2†	549.0	39.6	2.5188 ug/L	2.5188 ppb	10:51:21

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	893472.1	99.510 %	0.2646			0.27%
Sc Radial	5505.6	103 %	0.9			0.83%
Y 371.029	816367.5	99.179 %	0.5993			0.60%
Y RADIAL	5933.6	103.1 %	1.47			1.43%
Ag 328.068†	59.2	0.2491 ug/L	0.12069	0.2491 ppb	0.12069	48.44%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-2.4	-1.8287 ug/L	2.42479	-1.8287 ppb	2.42479	132.60%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	14.5	5.9297 ug/L	1.02783	5.9297 ppb	1.02783	17.33%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	512.3	11.234 ug/L	0.4675	11.234 ppb	0.4675	4.16%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	7.5	0.0592 ug/L	0.08240	0.0592 ppb	0.08240	139.11%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	79.4	0.0277 ug/L	0.00749	0.0277 ppb	0.00749	27.01%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	2.9	4.6412 ug/L	3.33521	4.6412 ppb	3.33521	71.86%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	5.8 0.0644 ug/L 0.06743 0.0644 ppb	0.06743	104.69%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	-0.8 -0.0179 ug/L 0.04728 -0.0179 ppb	0.04728	264.22%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	0.5 0.0054 ug/L 0.12908 0.0054 ppb	0.12908	>999.9%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-100.2 -0.2808 ug/L 0.20683 -0.2808 ppb	0.20683	73.65%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	0.7 6.2442 ug/L 9.45182 6.2442 ppb	9.45182	151.37%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	-47.7 -8.6957 ug/L 11.30917 -8.6957 ppb	11.30917	130.06%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	1.3 48.065 ug/L 51.9821 48.065 ppb	51.9821	108.15%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	19.7 0.0207 ug/L 0.01552 0.0207 ppb	0.01552	74.90%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	-1.2 -0.0812 ug/L 0.39010 -0.0812 ppb	0.39010	480.41%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	-123.9 -36.846 ug/L 3.0563 -36.846 ppb	3.0563	8.29%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	13.1 0.3292 ug/L 0.28960 0.3292 ppb	0.28960	87.96%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	-0.4 -0.1460 ug/L 2.25556 -0.1460 ppb	2.25556	>999.9%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	19.5 2.4521 ug/L 1.42899 2.4521 ppb	1.42899	58.28%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	-29.7 -40.948 ug/L 5.2243 -40.948 ppb	5.2243	12.76%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	14.3 4.8158 ug/L 1.90220 4.8158 ppb	1.90220	39.50%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-2.6 -1.4659 ug/L 2.09340 -1.4659 ppb	2.09340	142.81%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	25.2 0.7490 ug/L 0.68248 0.7490 ppb	0.68248	91.12%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	13.0 2.3864 ug/L 0.60523 2.3864 ppb	0.60523	25.36%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	33.6 0.2154 ug/L 0.14664 0.2154 ppb	0.14664	68.09%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-82.5 -0.1291 ug/L 0.09412 -0.1291 ppb	0.09412	72.90%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	-0.2 -0.0593 ug/L 1.09525 -0.0593 ppb	1.09525	>999.9%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	2.1 0.0509 ug/L 1.38652 0.0509 ppb	1.38652	>999.9%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	2.3 0.0136 ug/L 0.16895 0.0136 ppb	0.16895	>999.9%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	-44.1 -0.4132 ug/L 0.12412 -0.4132 ppb	0.12412	30.04%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	22.9 1.4482 ug/L 0.95397 1.4482 ppb	0.95397	65.87%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 3

Sample ID: LR1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 37

Date Collected: 1/26/2010 10:53:32

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5331.5	5331.5	99.8 %		10:55:25
1	Y RADIAL	5743.5	5743.5	99.76 %		10:55:25
1	Al 396.153Radial†	-9.1	-18.3	-12.713 ug/L	-12.713 ppb	10:55:45
1	Ca 317.933Radial†	32.2	12.0	19.322 ug/L	19.322 ppb	10:55:45
1	Fe 238.204 Radial†	40804.6	40863.0	381890 ug/L	381890 ppb	10:55:25
1	K 766.490 Radial†	1969.1	-531.2	-96.996 ug/L	-96.996 ppb	10:55:25
1	Mg 279.077 IEC†	9.8	8.8	-85.328 ug/L	-85.328 ppb	10:55:45
1	Na 589.592 Radial†	-673.5	-126.9	-37.733 ug/L	-37.733 ppb	10:55:25
1	Sr 421.552†	82.7	75.8	0.4860 ug/L	0.4860 ppb	10:55:25
1	Sc 361.383	906081.7	906081.7	100.91 %		10:56:43
1	Y 371.029	797742.4	797742.4	96.917 %		10:56:43
1	Ag 328.068†	-27617.7	-27663.5	8.4117 ug/L	8.4117 ppb	10:56:43
1	As 188.979†	-199.2	-167.2	21.092 ug/L	21.092 ppb	10:57:03
1	B 249.677†	2638.5	2855.1	0.5806 ug/L	0.5806 ppb	10:56:43
1	Ba 233.527†	-1739.3	-1720.5	-1.8216 ug/L	-1.8216 ppb	10:56:43
1	Be 313.107†	-4917.4	227.6	0.0803 ug/L	0.0803 ppb	10:56:43
1	Cd 226.502†	3491.0	3665.6	1.5105 ug/L	1.5105 ppb	10:56:43
1	Co 228.616†	191.4	259.6	0.1169 ug/L	0.1169 ppb	10:57:03
1	Cr 267.716†	-532.5	-621.6	0.7406 ug/L	0.7406 ppb	10:56:43
1	Cu 324.752†	1887.4	-7257.7	-0.1738 ug/L	-0.1738 ppb	10:56:43
1	Mn 257.610†	-36804.5	-36961.0	-3.7350 ug/L	-3.7350 ppb	10:56:43
1	Mo 202.031†	-327.2	-347.8	5.9079 ug/L	5.9079 ppb	10:56:43
1	Ni 231.604†	168.2	72.9	1.8299 ug/L	1.8299 ppb	10:57:03
1	P 214.914†	744.3	498.9	-22.245 ug/L	-22.245 ppb	10:57:03
1	Pb 220.353†	214.8	273.3	-2.2331 ug/L	-2.2331 ppb	10:57:03
1	S 181.975 Axial†	60.1	-17.5	-24.065 ug/L	-24.065 ppb	10:57:03
1	Sb 206.836†	26.9	-3.6	8.0432 ug/L	8.0432 ppb	10:57:03
1	Se 196.026†	-1933.3	-1897.8	168.11 ug/L	168.11 ppb	10:57:03
1	Si 251.611†	-597.2	-1087.7	-31.937 ug/L	-31.937 ppb	10:56:43
1	Sn 189.927†	-11.6	-11.1	4.3774 ug/L	4.3774 ppb	10:57:03
1	Ti 334.940†	-922.9	-8.0	-0.0546 ug/L	-0.0546 ppb	10:56:43
1	Tl 190.801†	-66.2	-28.8	-9.5234 ug/L	-9.5234 ppb	10:57:03
1	U 409.014†	922.4	1976.9	5.9120 ug/L	5.9120 ppb	10:56:43
1	V 292.402†	7477.9	8803.7	-1.1023 ug/L	-1.1023 ppb	10:56:43
1	Zn 213.857†	4800.3	4023.4	0.4469 ug/L	0.4469 ppb	10:57:03
1	SiO2†	-519.1	-1027.9	-64.360 ug/L	-64.360 ppb	10:58:00
2	Sc Radial	5369.1	5369.1	101 %		10:55:50
2	Y RADIAL	5831.7	5831.7	101.3 %		10:55:50
2	Al 396.153Radial†	-21.7	-30.8	-22.209 ug/L	-22.209 ppb	10:56:10
2	Ca 317.933Radial†	34.8	14.4	23.128 ug/L	23.128 ppb	10:56:10
2	Fe 238.204 Radial†	41219.6	40989.9	383070 ug/L	383070 ppb	10:55:50
2	K 766.490 Radial†	2093.1	-421.7	-76.985 ug/L	-76.985 ppb	10:55:50
2	Mg 279.077 IEC†	12.6	11.6	12.481 ug/L	12.481 ppb	10:56:10
2	Na 589.592 Radial†	-690.3	-138.9	-41.301 ug/L	-41.301 ppb	10:55:50
2	Sr 421.552†	96.4	88.8	0.5700 ug/L	0.5700 ppb	10:55:50
2	Sc 361.383	909885.9	909885.9	101.34 %		10:57:09
2	Y 371.029	802891.2	802891.2	97.542 %		10:57:09
2	Ag 328.068†	-27755.5	-27685.0	8.7029 ug/L	8.7029 ppb	10:57:09
2	As 188.979†	-205.1	-172.2	19.325 ug/L	19.325 ppb	10:57:29
2	B 249.677†	2539.3	2746.2	-2.0008 ug/L	-2.0008 ppb	10:57:09
2	Ba 233.527†	-1751.4	-1725.2	-1.8253 ug/L	-1.8253 ppb	10:57:09
2	Be 313.107†	-4938.7	227.0	0.0799 ug/L	0.0799 ppb	10:57:09
2	Cd 226.502†	3490.1	3650.2	1.2158 ug/L	1.2158 ppb	10:57:09
2	Co 228.616†	205.7	272.9	0.3935 ug/L	0.3935 ppb	10:57:29
2	Cr 267.716†	-537.4	-624.2	0.7348 ug/L	0.7348 ppb	10:57:09
2	Cu 324.752†	2027.4	-7127.4	0.2558 ug/L	0.2558 ppb	10:57:09
2	Mn 257.610†	-37179.1	-37178.1	-3.8654 ug/L	-3.8654 ppb	10:57:09
2	Mo 202.031†	-312.3	-331.8	7.0920 ug/L	7.0920 ppb	10:57:09
2	Ni 231.604†	160.3	64.5	1.6166 ug/L	1.6166 ppb	10:57:29

2	P 214.914†	734.1	485.7	-30.705 ug/L	-30.705 ppb	10:57:29
2	Pb 220.353†	216.9	274.5	-2.1980 ug/L	-2.1980 ppb	10:57:29
2	S 181.975 Axial†	61.8	-16.0	-21.981 ug/L	-21.981 ppb	10:57:29
2	Sb 206.836†	14.1	-16.4	3.7916 ug/L	3.7916 ppb	10:57:29
2	Se 196.026†	-1940.0	-1896.5	172.83 ug/L	172.83 ppb	10:57:29
2	Si 251.611†	-549.5	-1038.2	-30.483 ug/L	-30.483 ppb	10:57:09
2	Sn 189.927†	-20.1	-19.5	2.8635 ug/L	2.8635 ppb	10:57:29
2	Ti 334.940†	-977.1	-57.7	-0.1370 ug/L	-0.1370 ppb	10:57:09
2	Tl 190.801†	-59.7	-22.0	-7.3556 ug/L	-7.3556 ppb	10:57:29
2	U 409.014†	843.8	1895.5	3.7415 ug/L	3.7415 ppb	10:57:09
2	V 292.402†	7328.8	8625.6	-2.3692 ug/L	-2.3692 ppb	10:57:09
2	Zn 213.857†	4845.0	4047.7	0.5590 ug/L	0.5590 ppb	10:57:29
2	SiO2†	-491.2	-998.1	-62.509 ug/L	-62.509 ppb	10:58:05
3	Sc Radial	5378.0	5378.0	101 %		10:56:15
3	Y RADIAL	5823.7	5823.7	101.2 %		10:56:15
3	Al 396.153Radial†	-12.3	-21.3	-15.054 ug/L	-15.054 ppb	10:56:35
3	Ca 317.933Radial†	31.2	10.8	17.335 ug/L	17.335 ppb	10:56:35
3	Fe 238.204 Radial†	41130.3	40832.7	381600 ug/L	381600 ppb	10:56:15
3	K 766.490 Radial†	2070.9	-447.2	-81.642 ug/L	-81.642 ppb	10:56:15
3	Mg 279.077 IEC†	12.5	11.4	8.1771 ug/L	8.1771 ppb	10:56:35
3	Na 589.592 Radial†	-663.8	-111.5	-33.143 ug/L	-33.143 ppb	10:56:15
3	Sr 421.552†	96.5	88.7	0.5691 ug/L	0.5691 ppb	10:56:15
3	Sc 361.383	911945.8	911945.8	101.57 %		10:57:35
3	Y 371.029	804967.5	804967.5	97.794 %		10:57:35
3	Ag 328.068†	-27816.4	-27683.2	8.2368 ug/L	8.2368 ppb	10:57:35
3	As 188.979†	-199.6	-166.3	21.412 ug/L	21.412 ppb	10:57:55
3	B 249.677†	2530.0	2731.4	-2.0859 ug/L	-2.0859 ppb	10:57:35
3	Ba 233.527†	-1708.2	-1678.7	-1.5032 ug/L	-1.5032 ppb	10:57:35
3	Be 313.107†	-4842.0	333.2	0.1176 ug/L	0.1176 ppb	10:57:35
3	Cd 226.502†	3498.2	3650.4	1.3691 ug/L	1.3691 ppb	10:57:35
3	Co 228.616†	191.9	258.8	0.1064 ug/L	0.1064 ppb	10:57:55
3	Cr 267.716†	-545.2	-630.7	0.6372 ug/L	0.6372 ppb	10:57:35
3	Cu 324.752†	1747.4	-7407.6	-0.6071 ug/L	-0.6071 ppb	10:57:35
3	Mn 257.610†	-37430.5	-37342.7	-4.1949 ug/L	-4.1949 ppb	10:57:35
3	Mo 202.031†	-316.3	-335.0	6.7581 ug/L	6.7581 ppb	10:57:35
3	Ni 231.604†	164.5	68.3	1.7119 ug/L	1.7119 ppb	10:57:55
3	P 214.914†	755.8	505.4	-18.283 ug/L	-18.283 ppb	10:57:55
3	Pb 220.353†	225.2	282.1	-1.0968 ug/L	-1.0968 ppb	10:57:55
3	S 181.975 Axial†	74.2	-3.9	-5.4029 ug/L	-5.4029 ppb	10:57:55
3	Sb 206.836†	9.5	-20.9	2.2066 ug/L	2.2066 ppb	10:57:55
3	Se 196.026†	-1949.0	-1901.0	165.36 ug/L	165.36 ppb	10:57:55
3	Si 251.611†	-440.0	-929.2	-27.250 ug/L	-27.250 ppb	10:57:35
3	Sn 189.927†	-28.9	-28.1	1.2547 ug/L	1.2547 ppb	10:57:55
3	Ti 334.940†	-888.0	32.3	0.0007 ug/L	0.0007 ppb	10:57:35
3	Tl 190.801†	-53.9	-16.2	-5.5052 ug/L	-5.5052 ppb	10:57:55
3	U 409.014†	772.1	1823.0	2.0958 ug/L	2.0958 ppb	10:57:35
3	V 292.402†	7364.3	8644.2	-2.0464 ug/L	-2.0464 ppb	10:57:35
3	Zn 213.857†	4842.4	4034.3	0.5771 ug/L	0.5771 ppb	10:57:55
3	SiO2†	-508.0	-1013.6	-63.480 ug/L	-63.480 ppb	10:58:10

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	909304.5	101.27 %	0.331			0.33%
Sc Radial	5359.5	100 %	0.5			0.46%
Y 371.029	801867.0	97.418 %	0.4519			0.46%
Y RADIAL	5799.6	100.7 %	0.85			0.84%
Ag 328.068†	-27677.2	8.4504 ug/L	0.23546	8.4504 ppb	0.23546	2.79%
Al 396.153Radial†	-23.5	-16.658 ug/L	4.9471	-16.658 ppb	4.9471	29.70%
As 188.979†	-168.6	20.610 ug/L	1.1240	20.610 ppb	1.1240	5.45%
B 249.677†	2777.5	-1.1687 ug/L	1.51555	-1.1687 ppb	1.51555	129.68%
Ba 233.527†	-1708.1	-1.7167 ug/L	0.18492	-1.7167 ppb	0.18492	10.77%
Be 313.107†	262.6	0.0926 ug/L	0.02169	0.0926 ppb	0.02169	23.43%
Ca 317.933Radial†	12.4	19.928 ug/L	2.9441	19.928 ppb	2.9441	14.77%
Cd 226.502†	3655.4	1.3652 ug/L	0.14738	1.3652 ppb	0.14738	10.80%
Co 228.616†	263.8	0.2056 ug/L	0.16283	0.2056 ppb	0.16283	79.20%
Cr 267.716†	-625.5	0.7042 ug/L	0.05809	0.7042 ppb	0.05809	8.25%
Cu 324.752†	-7264.2	-0.1750 ug/L	0.43142	-0.1750 ppb	0.43142	246.49%
Fe 238.204 Radial†	40895.2	382190 ug/L	779.5	382190 ppb	779.5	0.20%
K 766.490 Radial†	-466.7	-85.208 ug/L	10.4716	-85.208 ppb	10.4716	12.29%



Mg 279.077 IEC†	10.6	-21.557 ug/L	55.2696	-21.557 ppb	55.2696	256.39%
Mn 257.610†	-37160.6	-3.9318 ug/L	0.23701	-3.9318 ppb	0.23701	6.03%
Mo 202.031†	-338.2	6.5860 ug/L	0.61052	6.5860 ppb	0.61052	9.27%
Na 589.592 Radial†	-125.8	-37.392 ug/L	4.0899	-37.392 ppb	4.0899	10.94%
Ni 231.604†	68.6	1.7195 ug/L	0.10686	1.7195 ppb	0.10686	6.21%
P 214.914†	496.6	-23.744 ug/L	6.3449	-23.744 ppb	6.3449	26.72%
Pb 220.353†	276.6	-1.8426 ug/L	0.64619	-1.8426 ppb	0.64619	35.07%
S 181.975 Axial†	-12.5	-17.150 ug/L	10.2263	-17.150 ppb	10.2263	59.63%
Sb 206.836†	-13.6	4.6805 ug/L	3.01816	4.6805 ppb	3.01816	64.48%
Se 196.026†	-1898.4	168.77 ug/L	3.775	168.77 ppb	3.775	2.24%
Si 251.611†	-1018.4	-29.890 ug/L	2.3990	-29.890 ppb	2.3990	8.03%
Sn 189.927†	-19.6	2.8319 ug/L	1.56160	2.8319 ppb	1.56160	55.14%
Sr 421.552†	84.4	0.5417 ug/L	0.04822	0.5417 ppb	0.04822	8.90%
Ti 334.940†	-11.1	-0.0636 ug/L	0.06928	-0.0636 ppb	0.06928	108.89%
Tl 190.801†	-22.3	-7.4614 ug/L	2.01118	-7.4614 ppb	2.01118	26.95%
U 409.014†	1898.5	3.9165 ug/L	1.91408	3.9165 ppb	1.91408	48.87%
V 292.402†	8691.2	-1.8393 ug/L	0.65834	-1.8393 ppb	0.65834	35.79%
Zn 213.857†	4035.1	0.5276 ug/L	0.07052	0.5276 ppb	0.07052	13.36%
SiO2†	-1013.2	-63.449 ug/L	0.9259	-63.449 ppb	0.9259	1.46%

Sequence No.: 4

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 11:00:22

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5476.7	5476.7	103 %		11:02:14
1	Y RADIAL	5888.4	5888.4	102.3 %		11:02:14
1	Al 396.153Radial†	6760.7	6582.9	4964.1 ug/L	4964.1 ppb	11:02:14
1	Ca 317.933Radial†	3177.4	3078.0	4947.2 ug/L	4947.2 ppb	11:02:34
1	Fe 238.204 Radial†	573.6	552.1	5174.1 ug/L	5174.1 ppb	11:02:34
1	K 766.490 Radial†	31043.4	27765.6	5066.0 ug/L	5066.0 ppb	11:02:14
1	Mg 279.077 IEC†	147.9	143.2	5108.7 ug/L	5108.7 ppb	11:02:34
1	Na 589.592 Radial†	34505.2	34192.1	10164 ug/L	10164 ppb	11:02:14
1	Sr 421.552†	82340.4	80279.5	515.17 ug/L	515.17 ppb	11:02:14
1	Sc 361.383	957819.9	957819.9	106.68 %		11:03:32
1	Y 371.029	839308.1	839308.1	101.97 %		11:03:32
1	Ag 328.068†	120581.9	112739.0	473.59 ug/L	473.59 ppb	11:03:37
1	As 188.979†	1199.6	1154.7	476.54 ug/L	476.54 ppb	11:03:57
1	B 249.677†	22675.2	21496.5	469.22 ug/L	469.22 ppb	11:03:37
1	Ba 233.527†	63808.5	59818.1	472.69 ug/L	472.69 ppb	11:03:37
1	Be 313.107†	1403806.0	1321046.8	467.07 ug/L	467.07 ppb	11:03:32
1	Cd 226.502†	45177.7	42556.4	475.23 ug/L	475.23 ppb	11:03:37
1	Co 228.616†	23376.3	21983.2	481.98 ug/L	481.98 ppb	11:03:37
1	Cr 267.716†	46560.1	43552.1	472.72 ug/L	472.72 ppb	11:03:37
1	Cu 324.752†	186092.8	165317.8	463.77 ug/L	463.77 ppb	11:03:37
1	Mn 257.610†	443165.2	414939.1	465.52 ug/L	465.52 ppb	11:03:32
1	Mo 202.031†	7342.2	6859.1	468.58 ug/L	468.58 ppb	11:03:57
1	Ni 231.604†	20232.7	18872.7	474.01 ug/L	474.01 ppb	11:03:37
1	P 214.914†	4678.5	4147.0	2248.0 ug/L	2248.0 ppb	11:03:57
1	Pb 220.353†	3961.4	3773.9	475.26 ug/L	475.26 ppb	11:03:57
1	S 181.975 Axial†	790.3	663.8	913.03 ug/L	913.03 ppb	11:03:57
1	Sb 206.836†	1508.9	1384.2	480.36 ug/L	480.36 ppb	11:03:57
1	Se 196.026†	855.2	819.6	491.56 ug/L	491.56 ppb	11:03:57
1	Si 251.611†	85511.1	79663.2	2354.6 ug/L	2354.6 ppb	11:03:37
1	Sn 189.927†	2731.2	2560.6	471.70 ug/L	471.70 ppb	11:03:57
1	Ti 334.940†	325820.3	306334.8	466.94 ug/L	466.94 ppb	11:03:37
1	Tl 190.801†	1519.7	1461.5	470.59 ug/L	470.59 ppb	11:03:57
1	U 409.014†	18835.8	18719.7	466.45 ug/L	466.45 ppb	11:03:37
1	V 292.402†	79078.1	75522.4	475.85 ug/L	475.85 ppb	11:03:37
1	Zn 213.857†	54836.9	50671.4	467.83 ug/L	467.83 ppb	11:03:37
1	SiO2†	85565.8	79697.1	5027.7 ug/L	5027.7 ppb	11:05:04
2	Sc Radial	5415.3	5415.3	101 %		11:02:39
2	Y RADIAL	5842.0	5842.0	101.5 %		11:02:39
2	Al 396.153Radial†	6591.8	6491.1	4893.9 ug/L	4893.9 ppb	11:02:39
2	Ca 317.933Radial†	3197.3	3132.6	5035.1 ug/L	5035.1 ppb	11:03:00
2	Fe 238.204 Radial†	571.6	556.5	5215.2 ug/L	5215.2 ppb	11:03:00
2	K 766.490 Radial†	30525.9	27598.2	5035.4 ug/L	5035.4 ppb	11:02:39
2	Mg 279.077 IEC†	152.3	149.2	5320.5 ug/L	5320.5 ppb	11:03:00
2	Na 589.592 Radial†	33626.9	33707.3	10020 ug/L	10020 ppb	11:02:39
2	Sr 421.552†	80236.8	79114.7	507.70 ug/L	507.70 ppb	11:02:39
2	Sc 361.383	933724.6	933724.6	103.99 %		11:04:03
2	Y 371.029	818894.9	818894.9	99.486 %		11:04:03
2	Ag 328.068†	119276.4	114400.6	480.57 ug/L	480.57 ppb	11:04:08
2	As 188.979†	1202.3	1186.3	489.50 ug/L	489.50 ppb	11:04:28
2	B 249.677†	22468.7	21846.4	476.86 ug/L	476.86 ppb	11:04:08
2	Ba 233.527†	62960.8	60546.5	478.45 ug/L	478.45 ppb	11:04:08
2	Be 313.107†	1410307.8	1361257.6	481.28 ug/L	481.28 ppb	11:04:03
2	Cd 226.502†	44750.1	43238.0	482.85 ug/L	482.85 ppb	11:04:08
2	Co 228.616†	23168.0	22348.4	490.00 ug/L	490.00 ppb	11:04:08
2	Cr 267.716†	46204.1	44336.1	481.22 ug/L	481.22 ppb	11:04:08
2	Cu 324.752†	183948.1	167757.2	470.61 ug/L	470.61 ppb	11:04:08
2	Mn 257.610†	444815.3	427246.2	479.31 ug/L	479.31 ppb	11:04:03
2	Mo 202.031†	7346.0	7040.4	480.95 ug/L	480.95 ppb	11:04:28
2	Ni 231.604†	20066.7	19202.5	482.29 ug/L	482.29 ppb	11:04:08

2	P 214.914†	4665.4	4247.5	2303.4 ug/L	2303.4 ppb	11:04:28
2	Pb 220.353†	3945.1	3854.0	485.32 ug/L	485.32 ppb	11:04:28
2	S 181.975 Axial†	792.8	685.4	942.70 ug/L	942.70 ppb	11:04:28
2	Sb 206.836†	1524.2	1435.4	497.92 ug/L	497.92 ppb	11:04:28
2	Se 196.026†	844.0	829.5	497.45 ug/L	497.45 ppb	11:04:28
2	Si 251.611†	84548.5	80806.2	2388.4 ug/L	2388.4 ppb	11:04:08
2	Sn 189.927†	2723.0	2618.8	482.41 ug/L	482.41 ppb	11:04:28
2	Ti 334.940†	322456.7	310982.1	474.02 ug/L	474.02 ppb	11:04:08
2	Tl 190.801†	1528.5	1506.7	485.13 ug/L	485.13 ppb	11:04:28
2	U 409.014†	18737.9	19081.2	475.46 ug/L	475.46 ppb	11:04:08
2	V 292.402†	78496.2	76875.8	484.44 ug/L	484.44 ppb	11:04:08
2	Zn 213.857†	54362.4	51541.7	475.87 ug/L	475.87 ppb	11:04:08
2	SiO2†	86284.4	82457.9	5201.9 ug/L	5201.9 ppb	11:05:10
3	Sc Radial	5455.9	5455.9	102 %		11:03:05
3	Y RADIAL	5835.4	5835.4	101.4 %		11:03:05
3	Al 396.153Radial†	6538.8	6390.8	4817.9 ug/L	4817.9 ppb	11:03:05
3	Ca 317.933Radial†	3219.8	3131.2	5032.7 ug/L	5032.7 ppb	11:03:25
3	Fe 238.204 Radial†	574.0	554.7	5198.4 ug/L	5198.4 ppb	11:03:25
3	K 766.490 Radial†	30365.0	27216.7	4965.8 ug/L	4965.8 ppb	11:03:05
3	Mg 279.077 IEC†	151.1	146.9	5240.6 ug/L	5240.6 ppb	11:03:25
3	Na 589.592 Radial†	33220.2	33062.4	9828.5 ug/L	9828.5 ppb	11:03:05
3	Sr 421.552†	79310.9	77619.5	498.10 ug/L	498.10 ppb	11:03:05
3	Sc 361.383	940128.6	940128.6	104.71 %		11:04:34
3	Y 371.029	823950.0	823950.0	100.10 %		11:04:34
3	Ag 328.068†	119785.7	114105.7	479.33 ug/L	479.33 ppb	11:04:39
3	As 188.979†	1212.0	1187.7	490.08 ug/L	490.08 ppb	11:04:59
3	B 249.677†	22492.2	21721.6	474.13 ug/L	474.13 ppb	11:04:39
3	Ba 233.527†	63370.1	60525.0	478.28 ug/L	478.28 ppb	11:04:39
3	Be 313.107†	1421296.0	1362514.0	481.72 ug/L	481.72 ppb	11:04:34
3	Cd 226.502†	44943.5	43129.6	481.64 ug/L	481.64 ppb	11:04:39
3	Co 228.616†	23346.6	22367.2	490.42 ug/L	490.42 ppb	11:04:39
3	Cr 267.716†	46372.1	44193.9	479.68 ug/L	479.68 ppb	11:04:39
3	Cu 324.752†	185130.1	167681.1	470.40 ug/L	470.40 ppb	11:04:39
3	Mn 257.610†	448155.4	427522.5	479.62 ug/L	479.62 ppb	11:04:34
3	Mo 202.031†	7408.6	7052.0	481.75 ug/L	481.75 ppb	11:04:59
3	Ni 231.604†	20160.1	19160.3	481.23 ug/L	481.23 ppb	11:04:39
3	P 214.914†	4711.0	4260.5	2310.8 ug/L	2310.8 ppb	11:04:59
3	Pb 220.353†	3981.9	3863.4	486.48 ug/L	486.48 ppb	11:04:59
3	S 181.975 Axial†	791.9	679.3	934.35 ug/L	934.35 ppb	11:04:59
3	Sb 206.836†	1533.4	1434.3	497.59 ug/L	497.59 ppb	11:04:59
3	Se 196.026†	843.6	823.6	493.98 ug/L	493.98 ppb	11:04:59
3	Si 251.611†	84926.6	80613.5	2382.6 ug/L	2382.6 ppb	11:04:39
3	Sn 189.927†	2760.5	2636.8	485.73 ug/L	485.73 ppb	11:04:59
3	Ti 334.940†	324307.9	310637.9	473.50 ug/L	473.50 ppb	11:04:39
3	Tl 190.801†	1523.3	1491.8	480.34 ug/L	480.34 ppb	11:04:59
3	U 409.014†	18833.7	19050.0	474.69 ug/L	474.69 ppb	11:04:39
3	V 292.402†	78819.7	76670.6	483.18 ug/L	483.18 ppb	11:04:39
3	Zn 213.857†	54571.3	51385.1	474.42 ug/L	474.42 ppb	11:04:39
3	SiO2†	84966.6	80634.2	5086.6 ug/L	5086.6 ppb	11:05:15

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	943891.1	105.13 %	1.390			1.32%
Sc Radial	5449.3	102 %	0.6			0.57%
Y 371.029	827384.3	100.52 %	1.292			1.28%
Y RADIAL	5855.3	101.7 %	0.50			0.49%
Ag 328.068†	113748.4	477.83 ug/L	3.720	477.83 ppb	3.720	0.78%
QC value within limits for Ag 328.068 Recovery = 95.57%						
Al 396.153Radial†	6488.3	4891.9 ug/L	73.10	4891.9 ppb	73.10	1.49%
QC value within limits for Al 396.153Radial Recovery = 97.84%						
As 188.979†	1176.3	485.37 ug/L	7.656	485.37 ppb	7.656	1.58%
QC value within limits for As 188.979 Recovery = 97.07%						
B 249.677†	21688.2	473.40 ug/L	3.874	473.40 ppb	3.874	0.82%
QC value within limits for B 249.677 Recovery = 94.68%						
Ba 233.527†	60296.5	476.47 ug/L	3.278	476.47 ppb	3.278	0.69%
QC value within limits for Ba 233.527 Recovery = 95.29%						
Be 313.107†	1348272.8	476.69 ug/L	8.329	476.69 ppb	8.329	1.75%
QC value within limits for Be 313.107 Recovery = 95.34%						
Ca 317.933Radial†	3113.9	5005.0 ug/L	50.08	5005.0 ppb	50.08	1.00%

QC value within limits for Ca 317.933 Radial Recovery = 100.10%							
Cd 226.502†	42974.7	479.90 ug/L	4.093	479.90 ppb	4.093	0.85%	
QC value within limits for Cd 226.502 Recovery = 95.98%							
Co 228.616†	22232.9	487.47 ug/L	4.754	487.47 ppb	4.754	0.98%	
QC value within limits for Co 228.616 Recovery = 97.49%							
Cr 267.716†	44027.4	477.87 ug/L	4.532	477.87 ppb	4.532	0.95%	
QC value within limits for Cr 267.716 Recovery = 95.57%							
Cu 324.752†	166918.7	468.26 ug/L	3.889	468.26 ppb	3.889	0.83%	
QC value within limits for Cu 324.752 Recovery = 93.65%							
Fe 238.204 Radial†	554.4	5195.9 ug/L	20.62	5195.9 ppb	20.62	0.40%	
QC value within limits for Fe 238.204 Radial Recovery = 103.92%							
K 766.490 Radial†	27526.8	5022.4 ug/L	51.35	5022.4 ppb	51.35	1.02%	
QC value within limits for K 766.490 Radial Recovery = 100.45%							
Mg 279.077 IEC†	146.4	5223.3 ug/L	106.95	5223.3 ppb	106.95	2.05%	
QC value within limits for Mg 279.077 IEC Recovery = 104.47%							
Mn 257.610†	423235.9	474.82 ug/L	8.055	474.82 ppb	8.055	1.70%	
QC value within limits for Mn 257.610 Recovery = 94.96%							
Mo 202.031†	6983.8	477.09 ug/L	7.386	477.09 ppb	7.386	1.55%	
QC value within limits for Mo 202.031 Recovery = 95.42%							
Na 589.592 Radial†	33653.9	10004 ug/L	168.5	10004 ppb	168.5	1.68%	
QC value within limits for Na 589.592 Radial Recovery = 100.04%							
Ni 231.604†	19078.5	479.18 ug/L	4.508	479.18 ppb	4.508	0.94%	
QC value within limits for Ni 231.604 Recovery = 95.84%							
P 214.914†	4218.4	2287.4 ug/L	34.31	2287.4 ppb	34.31	1.50%	
QC value within limits for P 214.914 Recovery = 91.50%							
Pb 220.353†	3830.4	482.36 ug/L	6.174	482.36 ppb	6.174	1.28%	
QC value within limits for Pb 220.353 Recovery = 96.47%							
S 181.975 Axial†	676.2	930.03 ug/L	15.300	930.03 ppb	15.300	1.65%	
QC value within limits for S 181.975 Axial Recovery = 93.00%							
Sb 206.836†	1418.0	491.96 ug/L	10.047	491.96 ppb	10.047	2.04%	
QC value within limits for Sb 206.836 Recovery = 98.39%							
Se 196.026†	824.2	494.33 ug/L	2.958	494.33 ppb	2.958	0.60%	
QC value within limits for Se 196.026 Recovery = 98.87%							
Si 251.611†	80361.0	2375.2 ug/L	18.04	2375.2 ppb	18.04	0.76%	
QC value within limits for Si 251.611 Recovery = 95.01%							
Sn 189.927†	2605.4	479.94 ug/L	7.332	479.94 ppb	7.332	1.53%	
QC value within limits for Sn 189.927 Recovery = 95.99%							
Sr 421.552†	79004.6	506.99 ug/L	8.558	506.99 ppb	8.558	1.69%	
QC value within limits for Sr 421.552 Recovery = 101.40%							
Ti 334.940†	309318.3	471.48 ug/L	3.943	471.48 ppb	3.943	0.84%	
QC value within limits for Ti 334.940 Recovery = 94.30%							
Tl 190.801†	1486.7	478.69 ug/L	7.408	478.69 ppb	7.408	1.55%	
QC value within limits for Tl 190.801 Recovery = 95.74%							
U 409.014†	18950.3	472.20 ug/L	4.996	472.20 ppb	4.996	1.06%	
QC value within limits for U 409.014 Recovery = 94.44%							
V 292.402†	76356.3	481.16 ug/L	4.641	481.16 ppb	4.641	0.96%	
QC value within limits for V 292.402 Recovery = 96.23%							
Zn 213.857†	51199.4	472.71 ug/L	4.285	472.71 ppb	4.285	0.91%	
QC value within limits for Zn 213.857 Recovery = 94.54%							
SiO2†	80929.7	5105.4 ug/L	88.65	5105.4 ppb	88.65	1.74%	
QC value within limits for SiO2 Recovery = 95.47%							
All analyte(s) passed QC.							

Sequence No.: 5

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/26/2010 11:07:24

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5038.9	5038.9	94.4 %		11:09:17
1	Y RADIAL	5462.8	5462.8	94.89 %		11:09:17
1	Al 396.153Radial†	2.4	-6.6	-4.9616 ug/L	-4.9616 ppb	11:09:37
1	Ca 317.933Radial†	14.6	-4.8	-7.6397 ug/L	-7.6397 ppb	11:09:37
1	Fe 238.204 Radial†	7.7	1.0	8.8916 ug/L	8.8916 ppb	11:09:37
1	K 766.490 Radial†	2570.3	220.4	40.293 ug/L	40.293 ppb	11:09:17
1	Mg 279.077 IEC†	0.8	-0.2	-5.8119 ug/L	-5.8119 ppb	11:09:37
1	Na 589.592 Radial†	-739.0	-235.5	-70.014 ug/L	-70.014 ppb	11:09:17
1	Sr 421.552†	10.9	4.4	0.0286 ug/L	0.0286 ppb	11:09:17
1	Sc 361.383	887409.0	887409.0	98.835 %		11:10:34
1	Y 371.029	806255.2	806255.2	97.951 %		11:10:34
1	Ag 328.068†	309.2	16.8	0.0741 ug/L	0.0741 ppb	11:10:34
1	As 188.979†	-16.5	13.5	5.5051 ug/L	5.5051 ppb	11:10:54
1	B 249.677†	36.9	277.7	6.0889 ug/L	6.0889 ppb	11:10:54
1	Ba 233.527†	-6.4	-3.3	-0.0260 ug/L	-0.0260 ppb	11:10:54
1	Be 313.107†	-4929.7	112.6	0.0398 ug/L	0.0398 ppb	11:10:34
1	Cd 226.502†	-194.5	9.4	0.1036 ug/L	0.1036 ppb	11:10:54
1	Co 228.616†	-63.7	5.5	0.1196 ug/L	0.1196 ppb	11:10:54
1	Cr 267.716†	77.0	-16.0	-0.1729 ug/L	-0.1729 ppb	11:10:54
1	Cu 324.752†	8797.6	-226.6	-0.6346 ug/L	-0.6346 ppb	11:10:34
1	Mn 257.610†	491.2	7.1	0.0091 ug/L	0.0091 ppb	11:10:54
1	Mo 202.031†	22.5	-0.9	-0.0583 ug/L	-0.0583 ppb	11:10:54
1	Ni 231.604†	88.5	-4.2	-0.1052 ug/L	-0.1052 ppb	11:10:54
1	P 214.914†	240.7	4.8	2.8188 ug/L	2.8188 ppb	11:10:54
1	Pb 220.353†	-52.1	7.7	0.9623 ug/L	0.9623 ppb	11:10:54
1	S 181.975 Axial†	48.0	-28.4	-39.140 ug/L	-39.140 ppb	11:10:54
1	Sb 206.836†	39.8	10.0	3.3555 ug/L	3.3555 ppb	11:10:54
1	Se 196.026†	-20.2	-2.5	-1.3991 ug/L	-1.3991 ppb	11:10:54
1	Si 251.611†	484.5	-5.7	-0.1695 ug/L	-0.1695 ppb	11:10:54
1	Sn 189.927†	6.7	7.2	1.3144 ug/L	1.3144 ppb	11:10:54
1	Ti 334.940†	-889.4	6.6	0.0101 ug/L	0.0101 ppb	11:10:34
1	Tl 190.801†	-35.3	1.1	0.3618 ug/L	0.3618 ppb	11:10:54
1	U 409.014†	-1095.6	-45.6	-1.1418 ug/L	-1.1418 ppb	11:10:34
1	V 292.402†	-1371.2	6.2	0.0339 ug/L	0.0339 ppb	11:10:34
1	Zn 213.857†	682.8	-42.6	-0.3958 ug/L	-0.3958 ppb	11:10:54
1	SiO2†	513.9	6.5	0.4127 ug/L	0.4127 ppb	11:12:05
2	Sc Radial	5389.5	5389.5	101 %		11:09:42
2	Y RADIAL	5844.1	5844.1	101.5 %		11:09:42
2	Al 396.153Radial†	13.2	3.9	2.9300 ug/L	2.9300 ppb	11:10:02
2	Ca 317.933Radial†	16.8	-3.6	-5.7303 ug/L	-5.7303 ppb	11:10:02
2	Fe 238.204 Radial†	8.7	1.5	13.786 ug/L	13.786 ppb	11:10:02
2	K 766.490 Radial†	2309.9	-214.8	-39.213 ug/L	-39.213 ppb	11:09:42
2	Mg 279.077 IEC†	0.7	-0.3	-10.525 ug/L	-10.525 ppb	11:10:02
2	Na 589.592 Radial†	-736.7	-182.2	-54.177 ug/L	-54.177 ppb	11:09:42
2	Sr 421.552†	50.5	42.9	0.2756 ug/L	0.2756 ppb	11:09:42
2	Sc 361.383	887653.4	887653.4	98.862 %		11:10:59
2	Y 371.029	808770.7	808770.7	98.256 %		11:10:59
2	Ag 328.068†	321.6	29.3	0.1268 ug/L	0.1268 ppb	11:10:59
2	As 188.979†	-33.3	-3.5	-1.4396 ug/L	-1.4396 ppb	11:11:19
2	B 249.677†	31.0	271.8	5.9570 ug/L	5.9570 ppb	11:11:19
2	Ba 233.527†	9.1	12.4	0.0975 ug/L	0.0975 ppb	11:11:19
2	Be 313.107†	-4884.9	159.3	0.0561 ug/L	0.0561 ppb	11:10:59
2	Cd 226.502†	-202.6	1.3	0.0127 ug/L	0.0127 ppb	11:11:19
2	Co 228.616†	-59.4	9.8	0.2163 ug/L	0.2163 ppb	11:11:19
2	Cr 267.716†	88.8	-4.1	-0.0439 ug/L	-0.0439 ppb	11:11:19
2	Cu 324.752†	8903.6	-121.9	-0.3409 ug/L	-0.3409 ppb	11:10:59
2	Mn 257.610†	486.2	1.9	0.0040 ug/L	0.0040 ppb	11:11:19
2	Mo 202.031†	27.9	4.6	0.3171 ug/L	0.3171 ppb	11:11:19
2	Ni 231.604†	103.9	11.4	0.2872 ug/L	0.2872 ppb	11:11:19

2	P 214.914†	217.8	-18.4	-10.316 ug/L	-10.316 ppb	11:11:19
2	Pb 220.353†	-41.3	18.6	2.3398 ug/L	2.3398 ppb	11:11:19
2	S 181.975 Axial†	50.8	-25.6	-35.196 ug/L	-35.196 ppb	11:11:19
2	Sb 206.836†	38.2	8.3	2.8281 ug/L	2.8281 ppb	11:11:19
2	Se 196.026†	-27.0	-9.3	-5.3261 ug/L	-5.3261 ppb	11:11:19
2	Si 251.611†	485.1	-5.3	-0.1595 ug/L	-0.1595 ppb	11:11:19
2	Sn 189.927†	9.4	9.9	1.8146 ug/L	1.8146 ppb	11:11:19
2	Ti 334.940†	-923.0	-27.1	-0.0410 ug/L	-0.0410 ppb	11:10:59
2	Tl 190.801†	-40.8	-4.3	-1.3921 ug/L	-1.3921 ppb	11:11:19
2	U 409.014†	-1067.3	-16.7	-0.4192 ug/L	-0.4192 ppb	11:10:59
2	V 292.402†	-1397.0	-19.6	-0.1201 ug/L	-0.1201 ppb	11:10:59
2	Zn 213.857†	681.0	-44.5	-0.4175 ug/L	-0.4175 ppb	11:11:19
2	SiO2†	541.7	34.5	2.1718 ug/L	2.1718 ppb	11:12:25
3	Sc Radial	5456.3	5456.3	102 %		11:10:07
3	Y RADIAL	5908.8	5908.8	102.6 %		11:10:07
3	Al 396.153Radial†	2.8	-6.4	-4.8295 ug/L	-4.8295 ppb	11:10:27
3	Ca 317.933Radial†	19.1	-1.5	-2.4499 ug/L	-2.4499 ppb	11:10:27
3	Fe 238.204 Radial†	7.4	0.1	0.4792 ug/L	0.4792 ppb	11:10:27
3	K 766.490 Radial†	2457.2	-98.6	-17.999 ug/L	-17.999 ppb	11:10:07
3	Mg 279.077 IEC†	2.9	1.9	66.619 ug/L	66.619 ppb	11:10:27
3	Na 589.592 Radial†	-708.1	-145.4	-43.226 ug/L	-43.226 ppb	11:10:07
3	Sr 421.552†	35.3	27.5	0.1763 ug/L	0.1763 ppb	11:10:07
3	Sc 361.383	889459.6	889459.6	99.063 %		11:11:25
3	Y 371.029	810407.8	810407.8	98.455 %		11:11:25
3	Ag 328.068†	349.7	57.0	0.2372 ug/L	0.2372 ppb	11:11:25
3	As 188.979†	-25.6	4.3	1.7717 ug/L	1.7717 ppb	11:11:45
3	B 249.677†	23.5	264.2	5.7933 ug/L	5.7933 ppb	11:11:45
3	Ba 233.527†	16.9	20.1	0.1585 ug/L	0.1585 ppb	11:11:45
3	Be 313.107†	-4959.8	93.7	0.0331 ug/L	0.0331 ppb	11:11:25
3	Cd 226.502†	-209.5	-5.3	-0.0593 ug/L	-0.0593 ppb	11:11:45
3	Co 228.616†	-62.5	6.8	0.1493 ug/L	0.1493 ppb	11:11:45
3	Cr 267.716†	75.7	-17.5	-0.1896 ug/L	-0.1896 ppb	11:11:45
3	Cu 324.752†	8902.8	-141.0	-0.3956 ug/L	-0.3956 ppb	11:11:25
3	Mn 257.610†	481.0	-4.3	-0.0075 ug/L	-0.0075 ppb	11:11:45
3	Mo 202.031†	20.3	-3.2	-0.2153 ug/L	-0.2153 ppb	11:11:45
3	Ni 231.604†	91.3	-1.5	-0.0375 ug/L	-0.0375 ppb	11:11:45
3	P 214.914†	235.3	-1.2	-0.5519 ug/L	-0.5519 ppb	11:11:45
3	Pb 220.353†	-59.4	0.4	0.0514 ug/L	0.0514 ppb	11:11:45
3	S 181.975 Axial†	44.4	-32.1	-44.241 ug/L	-44.241 ppb	11:11:45
3	Sb 206.836†	41.8	12.0	4.0492 ug/L	4.0492 ppb	11:11:45
3	Se 196.026†	-14.3	3.6	2.0506 ug/L	2.0506 ppb	11:11:45
3	Si 251.611†	492.2	0.9	0.0307 ug/L	0.0307 ppb	11:11:45
3	Sn 189.927†	17.8	18.3	3.3739 ug/L	3.3739 ppb	11:11:45
3	Ti 334.940†	-884.0	14.2	0.0160 ug/L	0.0160 ppb	11:11:25
3	Tl 190.801†	-38.0	-1.5	-0.4719 ug/L	-0.4719 ppb	11:11:45
3	U 409.014†	-1051.2	1.7	0.0419 ug/L	0.0419 ppb	11:11:25
3	V 292.402†	-1406.5	-26.2	-0.1649 ug/L	-0.1649 ppb	11:11:25
3	Zn 213.857†	694.5	-32.3	-0.3004 ug/L	-0.3004 ppb	11:11:45
3	SiO2†	492.3	-16.5	-1.0349 ug/L	-1.0349 ppb	11:12:45

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	888174.0	98.920 %	0.1247			0.13%
Sc Radial	5294.9	99.2 %	4.20			4.23%
Y 371.029	808477.9	98.221 %	0.2541			0.26%
Y RADIAL	5738.6	99.68 %	4.186			4.20%
Ag 328.068†	34.4	0.1460 ug/L	0.08325	0.1460 ppb	0.08325	57.00%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-3.0	-2.2870 ug/L	4.51858	-2.2870 ppb	4.51858	197.57%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	4.8	1.9457 ug/L	3.47563	1.9457 ppb	3.47563	178.63%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	271.2	5.9464 ug/L	0.14807	5.9464 ppb	0.14807	2.49%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	9.7	0.0767 ug/L	0.09401	0.0767 ppb	0.09401	122.63%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	121.9	0.0430 ug/L	0.01183	0.0430 ppb	0.01183	27.53%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-3.3	-5.2733 ug/L	2.62490	-5.2733 ppb	2.62490	49.78%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	1.8	0.0190 ug/L	0.08166	0.0190 ppb	0.08166	429.73%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	7.4	0.1618 ug/L	0.04955	0.1618 ppb	0.04955	30.63%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-12.5	-0.1355 ug/L	0.07975	-0.1355 ppb	0.07975	58.87%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-163.2	-0.4570 ug/L	0.15621	-0.4570 ppb	0.15621	34.18%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.8	7.7189 ug/L	6.73040	7.7189 ppb	6.73040	87.19%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-31.0	-5.6398 ug/L	41.16864	-5.6398 ppb	41.16864	729.96%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.5	16.761 ug/L	43.2432	16.761 ppb	43.2432	258.00%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	1.6	0.0019 ug/L	0.00849	0.0019 ppb	0.00849	456.11%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	0.2	0.0145 ug/L	0.27358	0.0145 ppb	0.27358	>999.9%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-187.7	-55.806 ug/L	13.4680	-55.806 ppb	13.4680	24.13%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	1.9	0.0482 ug/L	0.20978	0.0482 ppb	0.20978	435.37%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-4.9	-2.6831 ug/L	6.82189	-2.6831 ppb	6.82189	254.26%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	8.9	1.1179 ug/L	1.15213	1.1179 ppb	1.15213	103.07%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-28.7	-39.526 ug/L	4.5352	-39.526 ppb	4.5352	11.47%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	10.1	3.4109 ug/L	0.61240	3.4109 ppb	0.61240	17.95%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-2.7	-1.5582 ug/L	3.69089	-1.5582 ppb	3.69089	236.87%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-3.4	-0.0994 ug/L	0.11281	-0.0994 ppb	0.11281	113.44%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	11.8	2.1676 ug/L	1.07419	2.1676 ppb	1.07419	49.56%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	25.0	0.1602 ug/L	0.12431	0.1602 ppb	0.12431	77.60%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-2.1	-0.0050 ug/L	0.03133	-0.0050 ppb	0.03133	628.81%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-1.6	-0.5008 ug/L	0.87732	-0.5008 ppb	0.87732	175.20%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-20.2	-0.5064 ug/L	0.59667	-0.5064 ppb	0.59667	117.83%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-13.2	-0.0837 ug/L	0.10431	-0.0837 ppb	0.10431	124.62%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-39.8	-0.3712 ug/L	0.06231	-0.3712 ppb	0.06231	16.78%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	8.2	0.5165 ug/L	1.60587	0.5165 ppb	1.60587	310.90%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 12:13:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5433.0	5433.0	102 %		12:15:26
1	Y RADIAL	5836.7	5836.7	101.4 %		12:15:26
1	Al 396.153Radial†	6608.6	6486.4	4890.1 ug/L	4890.1 ppb	12:15:26
1	Ca 317.933Radial†	3217.2	3141.9	5049.9 ug/L	5049.9 ppb	12:15:46
1	Fe 238.204 Radial†	578.3	561.3	5260.3 ug/L	5260.3 ppb	12:15:46
1	K 766.490 Radial†	30416.9	27392.9	4997.8 ug/L	4997.8 ppb	12:15:26
1	Mg 279.077 IEC†	151.4	147.9	5274.6 ug/L	5274.6 ppb	12:15:46
1	Na 589.592 Radial†	34421.6	34380.3	10220 ug/L	10220 ppb	12:15:26
1	Sr 421.552†	80987.0	79594.2	510.77 ug/L	510.77 ppb	12:15:26
1	Sc 361.383	923891.8	923891.8	102.90 %		12:16:44
1	Y 371.029	809345.7	809345.7	98.326 %		12:16:44
1	Ag 328.068†	121335.5	117622.4	494.07 ug/L	494.07 ppb	12:16:49
1	As 188.979†	1199.0	1195.4	493.36 ug/L	493.36 ppb	12:17:09
1	B 249.677†	22641.0	22243.8	485.53 ug/L	485.53 ppb	12:16:49
1	Ba 233.527†	64172.8	62368.7	492.84 ug/L	492.84 ppb	12:16:49
1	Be 313.107†	1415559.2	1380794.6	488.20 ug/L	488.20 ppb	12:16:44
1	Cd 226.502†	45558.5	44481.6	496.74 ug/L	496.74 ppb	12:16:49
1	Co 228.616†	23532.9	22940.1	502.96 ug/L	502.96 ppb	12:16:49
1	Cr 267.716†	47042.5	45623.8	495.20 ug/L	495.20 ppb	12:16:49
1	Cu 324.752†	187213.1	172812.8	484.79 ug/L	484.79 ppb	12:16:49
1	Mn 257.610†	447871.5	434768.6	487.75 ug/L	487.75 ppb	12:16:44
1	Mo 202.031†	7347.9	7117.4	486.22 ug/L	486.22 ppb	12:17:09
1	Ni 231.604†	20427.0	19758.1	496.25 ug/L	496.25 ppb	12:16:49
1	P 214.914†	4667.6	4297.5	2328.8 ug/L	2328.8 ppb	12:17:09
1	Pb 220.353†	3954.1	3903.2	491.49 ug/L	491.49 ppb	12:17:09
1	S 181.975 Axial†	794.7	695.4	956.46 ug/L	956.46 ppb	12:17:09
1	Sb 206.836†	1534.4	1460.9	506.67 ug/L	506.67 ppb	12:17:09
1	Se 196.026†	851.5	845.5	506.81 ug/L	506.81 ppb	12:17:09
1	Si 251.611†	86055.6	83136.1	2457.3 ug/L	2457.3 ppb	12:16:49
1	Sn 189.927†	2738.0	2661.2	490.21 ug/L	490.21 ppb	12:17:09
1	Ti 334.940†	328569.8	320223.1	488.10 ug/L	488.10 ppb	12:16:49
1	Tl 190.801†	1517.7	1511.9	486.85 ug/L	486.85 ppb	12:17:09
1	U 409.014†	18951.7	19480.8	485.41 ug/L	485.41 ppb	12:16:49
1	V 292.402†	79772.8	78919.8	497.22 ug/L	497.22 ppb	12:16:49
1	Zn 213.857†	55252.2	52962.7	489.00 ug/L	489.00 ppb	12:16:49
1	SiO2†	86703.2	83748.0	5283.4 ug/L	5283.4 ppb	12:18:17
2	Sc Radial	5434.3	5434.3	102 %		12:15:52
2	Y RADIAL	5854.6	5854.6	101.7 %		12:15:52
2	Al 396.153Radial†	6656.5	6532.0	4924.3 ug/L	4924.3 ppb	12:15:52
2	Ca 317.933Radial†	3208.0	3132.2	5034.3 ug/L	5034.3 ppb	12:16:12
2	Fe 238.204 Radial†	582.4	565.2	5296.7 ug/L	5296.7 ppb	12:16:12
2	K 766.490 Radial†	30709.3	27673.4	5049.0 ug/L	5049.0 ppb	12:15:52
2	Mg 279.077 IEC†	151.8	148.2	5285.6 ug/L	5285.6 ppb	12:16:12
2	Na 589.592 Radial†	34490.0	34439.7	10238 ug/L	10238 ppb	12:15:52
2	Sr 421.552†	81509.8	80089.5	513.95 ug/L	513.95 ppb	12:15:52
2	Sc 361.383	920562.4	920562.4	102.53 %		12:17:15
2	Y 371.029	807595.5	807595.5	98.114 %		12:17:15
2	Ag 328.068†	121078.0	117797.7	494.81 ug/L	494.81 ppb	12:17:20
2	As 188.979†	1211.1	1211.4	499.89 ug/L	499.89 ppb	12:17:40
2	B 249.677†	22650.3	22332.4	487.47 ug/L	487.47 ppb	12:17:20
2	Ba 233.527†	64060.2	62484.4	493.76 ug/L	493.76 ppb	12:17:20
2	Be 313.107†	1412967.1	1383241.8	489.06 ug/L	489.06 ppb	12:17:15
2	Cd 226.502†	45343.5	44432.1	496.19 ug/L	496.19 ppb	12:17:20
2	Co 228.616†	23476.9	22968.2	503.59 ug/L	503.59 ppb	12:17:20
2	Cr 267.716†	46867.3	45618.3	495.14 ug/L	495.14 ppb	12:17:20
2	Cu 324.752†	187165.8	173424.7	486.51 ug/L	486.51 ppb	12:17:20
2	Mn 257.610†	445993.0	434510.7	487.47 ug/L	487.47 ppb	12:17:15
2	Mo 202.031†	7434.2	7227.3	493.72 ug/L	493.72 ppb	12:17:40
2	Ni 231.604†	20378.3	19782.3	496.86 ug/L	496.86 ppb	12:17:20



2	P 214.914†	4714.9	4359.9	2363.7 ug/L	2363.7 ppb	12:17:40
2	Pb 220.353†	3979.0	3941.3	496.30 ug/L	496.30 ppb	12:17:40
2	S 181.975 Axial†	806.2	709.4	975.75 ug/L	975.75 ppb	12:17:40
2	Sb 206.836†	1546.4	1478.0	512.65 ug/L	512.65 ppb	12:17:40
2	Se 196.026†	863.0	859.7	515.15 ug/L	515.15 ppb	12:17:40
2	Si 251.611†	85994.5	83379.0	2464.4 ug/L	2464.4 ppb	12:17:20
2	Sn 189.927†	2764.7	2696.9	496.78 ug/L	496.78 ppb	12:17:40
2	Ti 334.940†	327821.2	320647.9	488.74 ug/L	488.74 ppb	12:17:20
2	Tl 190.801†	1537.6	1536.6	494.76 ug/L	494.76 ppb	12:17:40
2	U 409.014†	19037.6	19631.2	489.17 ug/L	489.17 ppb	12:17:20
2	V 292.402†	79683.0	79112.6	498.53 ug/L	498.53 ppb	12:17:20
2	Zn 213.857†	55143.1	53050.6	489.80 ug/L	489.80 ppb	12:17:20
2	SiO2†	85235.4	82621.2	5211.9 ug/L	5211.9 ppb	12:18:22
3	Sc Radial	5356.7	5356.7	100 %		12:16:17
3	Y RADIAL	5759.6	5759.6	100.0 %		12:16:17
3	Al 396.153Radial†	6629.4	6599.7	4975.9 ug/L	4975.9 ppb	12:16:17
3	Ca 317.933Radial†	3184.6	3154.5	5070.2 ug/L	5070.2 ppb	12:16:37
3	Fe 238.204 Radial†	575.3	566.4	5308.0 ug/L	5308.0 ppb	12:16:37
3	K 766.490 Radial†	30539.8	27941.5	5098.0 ug/L	5098.0 ppb	12:16:17
3	Mg 279.077 IEC†	153.4	151.9	5418.3 ug/L	5418.3 ppb	12:16:37
3	Na 589.592 Radial†	34248.3	34689.6	10312 ug/L	10312 ppb	12:16:17
3	Sr 421.552†	80762.1	80504.2	516.61 ug/L	516.61 ppb	12:16:17
3	Sc 361.383	930593.8	930593.8	103.64 %		12:17:46
3	Y 371.029	815416.9	815416.9	99.064 %		12:17:46
3	Ag 328.068†	121072.6	116519.5	489.46 ug/L	489.46 ppb	12:17:51
3	As 188.979†	1213.6	1201.1	495.64 ug/L	495.64 ppb	12:18:11
3	B 249.677†	22709.1	22151.1	483.50 ug/L	483.50 ppb	12:17:51
3	Ba 233.527†	63920.0	61675.6	487.37 ug/L	487.37 ppb	12:17:51
3	Be 313.107†	1426007.0	1380967.3	488.25 ug/L	488.25 ppb	12:17:46
3	Cd 226.502†	45398.5	44008.4	491.45 ug/L	491.45 ppb	12:17:51
3	Co 228.616†	23511.5	22754.8	498.90 ug/L	498.90 ppb	12:17:51
3	Cr 267.716†	46750.9	45013.2	488.57 ug/L	488.57 ppb	12:17:51
3	Cu 324.752†	187206.1	171495.7	481.10 ug/L	481.10 ppb	12:17:51
3	Mn 257.610†	450718.9	434381.2	487.32 ug/L	487.32 ppb	12:17:46
3	Mo 202.031†	7400.8	7116.9	486.19 ug/L	486.19 ppb	12:18:11
3	Ni 231.604†	20364.4	19554.6	491.14 ug/L	491.14 ppb	12:17:51
3	P 214.914†	4729.9	4324.8	2344.9 ug/L	2344.9 ppb	12:18:11
3	Pb 220.353†	3959.3	3880.4	488.66 ug/L	488.66 ppb	12:18:11
3	S 181.975 Axial†	799.0	693.9	954.42 ug/L	954.42 ppb	12:18:11
3	Sb 206.836†	1528.0	1444.0	501.03 ug/L	501.03 ppb	12:18:11
3	Se 196.026†	851.6	839.6	503.59 ug/L	503.59 ppb	12:18:11
3	Si 251.611†	85986.6	82467.3	2437.5 ug/L	2437.5 ppb	12:17:51
3	Sn 189.927†	2762.1	2665.3	490.98 ug/L	490.98 ppb	12:18:11
3	Ti 334.940†	327580.5	316968.9	483.13 ug/L	483.13 ppb	12:17:51
3	Tl 190.801†	1528.2	1511.4	486.68 ug/L	486.68 ppb	12:18:11
3	U 409.014†	19160.8	19549.9	487.15 ug/L	487.15 ppb	12:17:51
3	V 292.402†	79412.7	78014.1	491.60 ug/L	491.60 ppb	12:17:51
3	Zn 213.857†	55024.7	52356.5	483.38 ug/L	483.38 ppb	12:17:51
3	SiO2†	85738.5	82210.5	5186.1 ug/L	5186.1 ppb	12:18:27

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	925016.0	103.02 %	0.569			0.55%
Sc Radial	5408.0	101 %	0.8			0.82%
Y 371.029	810786.0	98.501 %	0.4987			0.51%
Y RADIAL	5817.0	101.0 %	0.88			0.87%
Ag 328.068†	117313.2	492.78 ug/L	2.902	492.78 ppb	2.902	0.59%
QC value within limits for Ag 328.068 Recovery = 98.56%						
Al 396.153Radial†	6539.4	4930.1 ug/L	43.20	4930.1 ppb	43.20	0.88%
QC value within limits for Al 396.153Radial Recovery = 98.60%						
As 188.979†	1202.6	496.30 ug/L	3.315	496.30 ppb	3.315	0.67%
QC value within limits for As 188.979 Recovery = 99.26%						
B 249.677†	22242.4	485.50 ug/L	1.983	485.50 ppb	1.983	0.41%
QC value within limits for B 249.677 Recovery = 97.10%						
Ba 233.527†	62176.2	491.32 ug/L	3.455	491.32 ppb	3.455	0.70%
QC value within limits for Ba 233.527 Recovery = 98.26%						
Be 313.107†	1381667.9	488.50 ug/L	0.486	488.50 ppb	0.486	0.10%
QC value within limits for Be 313.107 Recovery = 97.70%						
Ca 317.933Radial†	3142.8	5051.5 ug/L	17.96	5051.5 ppb	17.96	0.36%

QC value within limits for Ca 317.933 Radial Recovery = 101.03%							
Cd 226.502†	44307.4	494.79 ug/L	2.909	494.79 ppb	2.909	0.59%	
QC value within limits for Cd 226.502 Recovery = 98.96%							
Co 228.616†	22887.7	501.82 ug/L	2.542	501.82 ppb	2.542	0.51%	
QC value within limits for Co 228.616 Recovery = 100.36%							
Cr 267.716†	45418.4	492.97 ug/L	3.809	492.97 ppb	3.809	0.77%	
QC value within limits for Cr 267.716 Recovery = 98.59%							
Cu 324.752†	172577.7	484.13 ug/L	2.764	484.13 ppb	2.764	0.57%	
QC value within limits for Cu 324.752 Recovery = 96.83%							
Fe 238.204 Radial†	564.3	5288.3 ug/L	24.91	5288.3 ppb	24.91	0.47%	
QC value within limits for Fe 238.204 Radial Recovery = 105.77%							
K 766.490 Radial†	27669.3	5048.3 ug/L	50.09	5048.3 ppb	50.09	0.99%	
QC value within limits for K 766.490 Radial Recovery = 100.97%							
Mg 279.077 IEC†	149.3	5326.1 ug/L	80.00	5326.1 ppb	80.00	1.50%	
QC value within limits for Mg 279.077 IEC Recovery = 106.52%							
Mn 257.610†	434553.5	487.51 ug/L	0.221	487.51 ppb	0.221	0.05%	
QC value within limits for Mn 257.610 Recovery = 97.50%							
Mo 202.031†	7153.9	488.71 ug/L	4.341	488.71 ppb	4.341	0.89%	
QC value within limits for Mo 202.031 Recovery = 97.74%							
Na 589.592 Radial†	34503.2	10257 ug/L	48.8	10257 ppb	48.8	0.48%	
QC value within limits for Na 589.592 Radial Recovery = 102.57%							
Ni 231.604†	19698.4	494.75 ug/L	3.141	494.75 ppb	3.141	0.63%	
QC value within limits for Ni 231.604 Recovery = 98.95%							
P 214.914†	4327.4	2345.8 ug/L	17.49	2345.8 ppb	17.49	0.75%	
QC value within limits for P 214.914 Recovery = 93.83%							
Pb 220.353†	3908.3	492.15 ug/L	3.864	492.15 ppb	3.864	0.79%	
QC value within limits for Pb 220.353 Recovery = 98.43%							
S 181.975 Axial†	699.5	962.21 ug/L	11.770	962.21 ppb	11.770	1.22%	
QC value within limits for S 181.975 Axial Recovery = 96.22%							
Sb 206.836†	1461.0	506.78 ug/L	5.808	506.78 ppb	5.808	1.15%	
QC value within limits for Sb 206.836 Recovery = 101.36%							
Se 196.026†	848.2	508.52 ug/L	5.968	508.52 ppb	5.968	1.17%	
QC value within limits for Se 196.026 Recovery = 101.70%							
Si 251.611†	82994.1	2453.1 ug/L	13.95	2453.1 ppb	13.95	0.57%	
QC value within limits for Si 251.611 Recovery = 98.12%							
Sn 189.927†	2674.5	492.66 ug/L	3.593	492.66 ppb	3.593	0.73%	
QC value within limits for Sn 189.927 Recovery = 98.53%							
Sr 421.552†	80062.7	513.78 ug/L	2.924	513.78 ppb	2.924	0.57%	
QC value within limits for Sr 421.552 Recovery = 102.76%							
Ti 334.940†	319280.0	486.66 ug/L	3.071	486.66 ppb	3.071	0.63%	
QC value within limits for Ti 334.940 Recovery = 97.33%							
Tl 190.801†	1519.9	489.43 ug/L	4.614	489.43 ppb	4.614	0.94%	
QC value within limits for Tl 190.801 Recovery = 97.89%							
U 409.014†	19553.9	487.25 ug/L	1.880	487.25 ppb	1.880	0.39%	
QC value within limits for U 409.014 Recovery = 97.45%							
V 292.402†	78682.2	495.78 ug/L	3.684	495.78 ppb	3.684	0.74%	
QC value within limits for V 292.402 Recovery = 99.16%							
Zn 213.857†	52790.0	487.39 ug/L	3.498	487.39 ppb	3.498	0.72%	
QC value within limits for Zn 213.857 Recovery = 97.48%							
SiO2†	82859.9	5227.1 ug/L	50.38	5227.1 ppb	50.38	0.96%	
QC value within limits for SiO2 Recovery = 97.75%							
All analyte(s) passed QC.							

Sequence No.: 10

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 1/26/2010 12:20:38

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5415.3	5415.3	101 %		12:22:31
1	Y RADIAL	5847.2	5847.2	101.6 %		12:22:31
1	Al 396.153Radial†	275.7	262.8	198.56 ug/L	198.56 ppb	12:22:51
1	Ca 317.933Radial†	152.1	129.8	208.60 ug/L	208.60 ppb	12:22:51
1	Fe 238.204 Radial†	21.1	13.6	127.55 ug/L	127.55 ppb	12:22:51
1	K 766.490 Radial†	3280.7	731.6	133.47 ug/L	133.47 ppb	12:22:31
1	Mg 279.077 IEC†	10.5	9.3	332.93 ug/L	332.93 ppb	12:22:51
1	Na 589.592 Radial†	265.9	809.9	240.75 ug/L	240.75 ppb	12:22:31
1	Sr 421.552†	809.0	790.6	5.0724 ug/L	5.0724 ppb	12:22:31
1	Sc 361.383	890266.9	890266.9	99.153 %		12:23:48
1	Y 371.029	809464.4	809464.4	98.341 %		12:23:48
1	Ag 328.068†	1559.9	1277.2	5.3485 ug/L	5.3485 ppb	12:23:48
1	As 188.979†	41.2	71.8	29.413 ug/L	29.413 ppb	12:24:08
1	B 249.677†	2148.3	2407.1	52.753 ug/L	52.753 ppb	12:23:48
1	Ba 233.527†	649.8	658.4	5.2058 ug/L	5.2058 ppb	12:24:08
1	Be 313.107†	9305.3	14485.2	5.1216 ug/L	5.1216 ppb	12:23:48
1	Cd 226.502†	256.1	464.5	5.1889 ug/L	5.1889 ppb	12:24:08
1	Co 228.616†	158.6	229.9	5.0505 ug/L	5.0505 ppb	12:24:08
1	Cr 267.716†	550.8	461.6	4.9940 ug/L	4.9940 ppb	12:24:08
1	Cu 324.752†	12535.9	3514.9	9.8385 ug/L	9.8385 ppb	12:23:48
1	Mn 257.610†	9867.7	9462.2	10.608 ug/L	10.608 ppb	12:23:48
1	Mo 202.031†	171.6	149.5	10.213 ug/L	10.213 ppb	12:24:08
1	Ni 231.604†	323.2	232.3	5.8342 ug/L	5.8342 ppb	12:24:08
1	P 214.914†	507.0	272.6	151.83 ug/L	151.83 ppb	12:24:08
1	Pb 220.353†	22.8	83.4	10.522 ug/L	10.522 ppb	12:24:08
1	S 181.975 Axial†	132.5	56.7	78.011 ug/L	78.011 ppb	12:24:08
1	Sb 206.836†	71.7	42.0	14.451 ug/L	14.451 ppb	12:24:08
1	Se 196.026†	31.5	49.7	29.135 ug/L	29.135 ppb	12:24:08
1	Si 251.611†	3773.0	3309.3	97.928 ug/L	97.928 ppb	12:24:08
1	Sn 189.927†	60.6	61.4	11.327 ug/L	11.327 ppb	12:24:08
1	Ti 334.940†	2484.5	3412.3	5.1791 ug/L	5.1791 ppb	12:23:48
1	Tl 190.801†	12.6	49.6	15.931 ug/L	15.931 ppb	12:24:08
1	U 409.014†	989.5	2060.7	51.504 ug/L	51.504 ppb	12:23:48
1	V 292.402†	-508.3	881.0	5.7019 ug/L	5.7019 ppb	12:23:48
1	Zn 213.857†	1790.4	1072.3	9.9246 ug/L	9.9246 ppb	12:24:08
1	SiO2†	3998.3	3519.0	222.28 ug/L	222.28 ppb	12:25:04
2	Sc Radial	5401.3	5401.3	101 %		12:22:56
2	Y RADIAL	5831.5	5831.5	101.3 %		12:22:56
2	Al 396.153Radial†	278.3	266.0	201.00 ug/L	201.00 ppb	12:23:16
2	Ca 317.933Radial†	148.3	126.4	203.13 ug/L	203.13 ppb	12:23:16
2	Fe 238.204 Radial†	19.1	11.7	109.83 ug/L	109.83 ppb	12:23:16
2	K 766.490 Radial†	3282.7	742.0	135.37 ug/L	135.37 ppb	12:22:56
2	Mg 279.077 IEC†	9.1	8.0	284.70 ug/L	284.70 ppb	12:23:16
2	Na 589.592 Radial†	292.9	837.2	248.87 ug/L	248.87 ppb	12:22:56
2	Sr 421.552†	826.6	810.2	5.1978 ug/L	5.1978 ppb	12:22:56
2	Sc 361.383	885666.5	885666.5	98.641 %		12:24:13
2	Y 371.029	803756.0	803756.0	97.647 %		12:24:13
2	Ag 328.068†	1580.8	1306.6	5.4645 ug/L	5.4645 ppb	12:24:13
2	As 188.979†	40.0	70.7	28.970 ug/L	28.970 ppb	12:24:33
2	B 249.677†	2033.1	2301.6	50.442 ug/L	50.442 ppb	12:24:13
2	Ba 233.527†	658.7	670.9	5.3023 ug/L	5.3023 ppb	12:24:33
2	Be 313.107†	9253.9	14481.8	5.1206 ug/L	5.1206 ppb	12:24:13
2	Cd 226.502†	283.8	493.9	5.5192 ug/L	5.5192 ppb	12:24:33
2	Co 228.616†	157.8	229.9	5.0515 ug/L	5.0515 ppb	12:24:33
2	Cr 267.716†	564.2	478.0	5.1716 ug/L	5.1716 ppb	12:24:33
2	Cu 324.752†	12388.3	3431.0	9.6030 ug/L	9.6030 ppb	12:24:13
2	Mn 257.610†	9788.9	9434.0	10.576 ug/L	10.576 ppb	12:24:13
2	Mo 202.031†	169.2	148.0	10.108 ug/L	10.108 ppb	12:24:33
2	Ni 231.604†	318.9	229.6	5.7665 ug/L	5.7665 ppb	12:24:33

2	P 214.914†	501.6	269.7	150.28 ug/L	150.28 ppb	12:24:33
2	Pb 220.353†	31.8	92.7	11.687 ug/L	11.687 ppb	12:24:33
2	S 181.975 Axial†	122.6	47.2	65.016 ug/L	65.016 ppb	12:24:33
2	Sb 206.836†	63.3	33.9	11.739 ug/L	11.739 ppb	12:24:33
2	Se 196.026†	29.4	47.7	27.941 ug/L	27.941 ppb	12:24:33
2	Si 251.611†	3808.9	3365.4	99.592 ug/L	99.592 ppb	12:24:33
2	Sn 189.927†	62.9	64.1	11.821 ug/L	11.821 ppb	12:24:33
2	Ti 334.940†	2521.2	3462.5	5.2594 ug/L	5.2594 ppb	12:24:13
2	Tl 190.801†	19.2	56.4	18.088 ug/L	18.088 ppb	12:24:33
2	U 409.014†	924.5	2000.1	49.988 ug/L	49.988 ppb	12:24:13
2	V 292.402†	-584.1	801.4	5.2042 ug/L	5.2042 ppb	12:24:13
2	Zn 213.857†	1797.5	1088.9	10.082 ug/L	10.082 ppb	12:24:33
2	SiO2†	3926.2	3466.9	218.99 ug/L	218.99 ppb	12:25:09
3	Sc Radial	5516.4	5516.4	103 %		12:23:21
3	Y RADIAL	5969.8	5969.8	103.7 %		12:23:21
3	Al 396.153Radial†	278.3	260.2	196.61 ug/L	196.61 ppb	12:23:41
3	Ca 317.933Radial†	146.8	121.8	195.83 ug/L	195.83 ppb	12:23:41
3	Fe 238.204 Radial†	19.0	11.3	105.44 ug/L	105.44 ppb	12:23:41
3	K 766.490 Radial†	3193.2	587.7	107.17 ug/L	107.17 ppb	12:23:21
3	Mg 279.077 IEC†	11.0	9.7	346.79 ug/L	346.79 ppb	12:23:41
3	Na 589.592 Radial†	379.7	915.2	272.07 ug/L	272.07 ppb	12:23:21
3	Sr 421.552†	846.0	811.9	5.2091 ug/L	5.2091 ppb	12:23:21
3	Sc 361.383	894423.6	894423.6	99.616 %		12:24:38
3	Y 371.029	817232.0	817232.0	99.284 %		12:24:38
3	Ag 328.068†	1591.3	1301.4	5.4350 ug/L	5.4350 ppb	12:24:38
3	As 188.979†	40.7	71.0	29.095 ug/L	29.095 ppb	12:24:58
3	B 249.677†	2091.8	2340.3	51.293 ug/L	51.293 ppb	12:24:38
3	Ba 233.527†	648.2	653.8	5.1670 ug/L	5.1670 ppb	12:24:58
3	Be 313.107†	9369.1	14505.6	5.1288 ug/L	5.1288 ppb	12:24:38
3	Cd 226.502†	264.1	471.3	5.2680 ug/L	5.2680 ppb	12:24:58
3	Co 228.616†	164.8	235.3	5.1718 ug/L	5.1718 ppb	12:24:58
3	Cr 267.716†	577.3	485.5	5.2499 ug/L	5.2499 ppb	12:24:58
3	Cu 324.752†	12615.0	3535.7	9.8927 ug/L	9.8927 ppb	12:24:38
3	Mn 257.610†	9931.8	9480.2	10.625 ug/L	10.625 ppb	12:24:38
3	Mo 202.031†	179.1	156.2	10.668 ug/L	10.668 ppb	12:24:58
3	Ni 231.604†	332.8	240.4	6.0376 ug/L	6.0376 ppb	12:24:58
3	P 214.914†	510.8	274.1	152.67 ug/L	152.67 ppb	12:24:58
3	Pb 220.353†	9.4	69.8	8.8204 ug/L	8.8204 ppb	12:24:58
3	S 181.975 Axial†	122.6	46.1	63.375 ug/L	63.375 ppb	12:24:58
3	Sb 206.836†	66.4	36.4	12.598 ug/L	12.598 ppb	12:24:58
3	Se 196.026†	27.2	45.3	26.526 ug/L	26.526 ppb	12:24:58
3	Si 251.611†	3808.4	3327.1	98.451 ug/L	98.451 ppb	12:24:58
3	Sn 189.927†	66.3	66.9	12.324 ug/L	12.324 ppb	12:24:58
3	Ti 334.940†	2490.0	3406.1	5.1645 ug/L	5.1645 ppb	12:24:38
3	Tl 190.801†	30.3	67.3	21.597 ug/L	21.597 ppb	12:24:58
3	U 409.014†	1199.0	2266.5	56.650 ug/L	56.650 ppb	12:24:38
3	V 292.402†	-635.5	755.6	4.9418 ug/L	4.9418 ppb	12:24:38
3	Zn 213.857†	1788.4	1061.9	9.8287 ug/L	9.8287 ppb	12:24:58
3	SiO2†	3913.1	3414.8	215.68 ug/L	215.68 ppb	12:25:14

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	890119.0	99.136 %	0.4879			0.49%
Sc Radial	5444.3	102 %	1.2			1.15%
Y 371.029	810150.8	98.424 %	0.8218			0.83%
Y RADIAL	5882.8	102.2 %	1.32			1.29%
Ag 328.068†	1295.1	5.4160 ug/L	0.06030	5.4160 ppb	0.06030	1.11%
QC value within limits for Ag 328.068 Recovery = 108.32%						
Al 396.153Radial†	263.0	198.72 ug/L	2.195	198.72 ppb	2.195	1.10%
QC value within limits for Al 396.153Radial Recovery = 99.36%						
As 188.979†	71.2	29.159 ug/L	0.2285	29.159 ppb	0.2285	0.78%
QC value within limits for As 188.979 Recovery = 97.20%						
B 249.677†	2349.6	51.496 ug/L	1.1689	51.496 ppb	1.1689	2.27%
QC value within limits for B 249.677 Recovery = 102.99%						
Ba 233.527†	661.0	5.2250 ug/L	0.06968	5.2250 ppb	0.06968	1.33%
QC value within limits for Ba 233.527 Recovery = 104.50%						
Be 313.107†	14490.9	5.1237 ug/L	0.00447	5.1237 ppb	0.00447	0.09%
QC value within limits for Be 313.107 Recovery = 102.47%						
Ca 317.933Radial†	126.0	202.52 ug/L	6.404	202.52 ppb	6.404	3.16%

QC value within limits for Ca 317.933 Radial Recovery = 101.26%

Cd 226.502†	476.5	5.3254 ug/L	0.17250	5.3254 ppb	0.17250	3.24%
QC value within limits for Cd 226.502 Recovery = 106.51%						
Co 228.616†	231.7	5.0913 ug/L	0.06971	5.0913 ppb	0.06971	1.37%
QC value within limits for Co 228.616 Recovery = 101.83%						
Cr 267.716†	475.1	5.1385 ug/L	0.13115	5.1385 ppb	0.13115	2.55%
QC value within limits for Cr 267.716 Recovery = 102.77%						
Cu 324.752†	3493.9	9.7781 ug/L	0.15398	9.7781 ppb	0.15398	1.57%
QC value within limits for Cu 324.752 Recovery = 97.78%						
Fe 238.204 Radial†	12.2	114.27 ug/L	11.708	114.27 ppb	11.708	10.25%
QC value within limits for Fe 238.204 Radial Recovery = 114.27%						
K 766.490 Radial†	687.1	125.34 ug/L	15.761	125.34 ppb	15.761	12.57%
QC value within limits for K 766.490 Radial Recovery = 83.56%						
Mg 279.077 IEC†	9.0	321.48 ug/L	32.589	321.48 ppb	32.589	10.14%
QC value within limits for Mg 279.077 IEC Recovery = 107.16%						
Mn 257.610†	9458.8	10.603 ug/L	0.0248	10.603 ppb	0.0248	0.23%
QC value within limits for Mn 257.610 Recovery = 106.03%						
Mo 202.031†	151.2	10.330 ug/L	0.2973	10.330 ppb	0.2973	2.88%
QC value within limits for Mo 202.031 Recovery = 103.30%						
Na 589.592 Radial†	854.1	253.90 ug/L	16.254	253.90 ppb	16.254	6.40%
QC value within limits for Na 589.592 Radial Recovery = 84.63%						
Ni 231.604†	234.1	5.8794 ug/L	0.14108	5.8794 ppb	0.14108	2.40%
QC value within limits for Ni 231.604 Recovery = 117.59%						
P 214.914†	272.1	151.59 ug/L	1.213	151.59 ppb	1.213	0.80%
QC value within limits for P 214.914 Recovery = 101.06%						
Pb 220.353†	82.0	10.343 ug/L	1.4418	10.343 ppb	1.4418	13.94%
QC value within limits for Pb 220.353 Recovery = 103.43%						
S 181.975 Axial†	50.0	68.801 ug/L	8.0186	68.801 ppb	8.0186	11.65%
QC value less than the lower limit for S 181.975 Axial Recovery = 68.80%						
Sb 206.836†	37.5	12.929 ug/L	1.3861	12.929 ppb	1.3861	10.72%
QC value within limits for Sb 206.836 Recovery = 129.29%						
Se 196.026†	47.6	27.867 ug/L	1.3060	27.867 ppb	1.3060	4.69%
QC value within limits for Se 196.026 Recovery = 92.89%						
Si 251.611†	3333.9	98.657 ug/L	0.8512	98.657 ppb	0.8512	0.86%
QC value within limits for Si 251.611 Recovery = 98.66%						
Sn 189.927†	64.1	11.824 ug/L	0.4988	11.824 ppb	0.4988	4.22%
QC value within limits for Sn 189.927 Recovery = 118.24%						
Sr 421.552†	804.2	5.1598 ug/L	0.07583	5.1598 ppb	0.07583	1.47%
QC value within limits for Sr 421.552 Recovery = 103.20%						
Ti 334.940†	3427.0	5.2010 ug/L	0.05110	5.2010 ppb	0.05110	0.98%
QC value within limits for Ti 334.940 Recovery = 104.02%						
Tl 190.801†	57.8	18.539 ug/L	2.8599	18.539 ppb	2.8599	15.43%
QC value within limits for Tl 190.801 Recovery = 92.69%						
U 409.014†	2109.1	52.714 ug/L	3.4919	52.714 ppb	3.4919	6.62%
QC value within limits for U 409.014 Recovery = 105.43%						
V 292.402†	812.7	5.2826 ug/L	0.38605	5.2826 ppb	0.38605	7.31%
QC value within limits for V 292.402 Recovery = 105.65%						
Zn 213.857†	1074.3	9.9452 ug/L	0.12804	9.9452 ppb	0.12804	1.29%
QC value within limits for Zn 213.857 Recovery = 99.45%						
SiO2†	3466.9	218.98 ug/L	3.303	218.98 ppb	3.303	1.51%
QC value within limits for SiO2 Recovery = 102.81%						

QC Failed. Continue with analysis.

Sequence No.: 11

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 12:27:26

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5457.3	5457.3	102 %		12:29:18
1	Y RADIAL	5882.3	5882.3	102.2 %		12:29:18
1	Al 396.153Radial†	15.3	5.8	4.4091 ug/L	4.4091 ppb	12:29:38
1	Ca 317.933Radial†	18.3	-2.3	-3.6904 ug/L	-3.6904 ppb	12:29:38
1	Fe 238.204 Radial†	9.1	1.7	16.303 ug/L	16.303 ppb	12:29:38
1	K 766.490 Radial†	2332.0	-221.6	-40.456 ug/L	-40.456 ppb	12:29:18
1	Mg 279.077 IEC†	2.4	1.4	48.448 ug/L	48.448 ppb	12:29:38
1	Na 589.592 Radial†	-726.5	-163.3	-48.538 ug/L	-48.538 ppb	12:29:18
1	Sr 421.552†	35.9	28.1	0.1803 ug/L	0.1803 ppb	12:29:18
1	Sc 361.383	931138.2	931138.2	103.70 %		12:30:35
1	Y 371.029	823490.4	823490.4	100.04 %		12:30:35
1	Ag 328.068†	271.8	-33.9	-0.1249 ug/L	-0.1249 ppb	12:30:40
1	As 188.979†	-38.0	-6.4	-2.6215 ug/L	-2.6215 ppb	12:31:00
1	B 249.677†	-245.1	4.1	0.0872 ug/L	0.0872 ppb	12:31:00
1	Ba 233.527†	-2.2	1.0	0.0098 ug/L	0.0098 ppb	12:31:00
1	Be 313.107†	-5022.0	257.9	0.0909 ug/L	0.0909 ppb	12:30:40
1	Cd 226.502†	-206.2	7.3	0.0781 ug/L	0.0781 ppb	12:31:00
1	Co 228.616†	-74.8	-2.2	-0.0476 ug/L	-0.0476 ppb	12:31:00
1	Cr 267.716†	73.4	-23.1	-0.2455 ug/L	-0.2455 ppb	12:31:00
1	Cu 324.752†	8993.0	-456.3	-1.2733 ug/L	-1.2733 ppb	12:30:40
1	Mn 257.610†	492.9	-14.6	-0.0167 ug/L	-0.0167 ppb	12:31:00
1	Mo 202.031†	23.2	-1.2	-0.0805 ug/L	-0.0805 ppb	12:31:00
1	Ni 231.604†	110.0	12.4	0.3118 ug/L	0.3118 ppb	12:31:00
1	P 214.914†	248.2	0.5	0.5603 ug/L	0.5603 ppb	12:31:00
1	Pb 220.353†	-52.9	9.4	1.1792 ug/L	1.1792 ppb	12:31:00
1	S 181.975 Axial†	46.2	-32.5	-44.726 ug/L	-44.726 ppb	12:31:00
1	Sb 206.836†	29.4	-1.9	-0.6305 ug/L	-0.6305 ppb	12:31:00
1	Se 196.026†	-20.3	-1.6	-0.8854 ug/L	-0.8854 ppb	12:31:00
1	Si 251.611†	515.4	1.1	0.0322 ug/L	0.0322 ppb	12:31:00
1	Sn 189.927†	5.8	6.0	1.0998 ug/L	1.0998 ppb	12:31:00
1	Ti 334.940†	-976.2	-34.7	-0.0527 ug/L	-0.0527 ppb	12:30:40
1	Tl 190.801†	-33.7	4.4	1.3911 ug/L	1.3911 ppb	12:31:00
1	U 409.014†	-1543.5	-425.5	-10.642 ug/L	-10.642 ppb	12:30:40
1	V 292.402†	-1334.8	106.5	0.6395 ug/L	0.6395 ppb	12:30:40
1	Zn 213.857†	688.4	-69.6	-0.6499 ug/L	-0.6499 ppb	12:31:00
1	SiO2†	513.6	-18.1	-1.1455 ug/L	-1.1455 ppb	12:32:21
2	Sc Radial	5451.6	5451.6	102 %		12:29:43
2	Y RADIAL	5824.3	5824.3	101.2 %		12:29:43
2	Al 396.153Radial†	17.8	8.3	6.2802 ug/L	6.2802 ppb	12:30:03
2	Ca 317.933Radial†	22.3	1.6	2.6482 ug/L	2.6482 ppb	12:30:03
2	Fe 238.204 Radial†	11.0	3.6	33.550 ug/L	33.550 ppb	12:30:03
2	K 766.490 Radial†	2338.7	-212.7	-38.834 ug/L	-38.834 ppb	12:29:43
2	Mg 279.077 IEC†	3.3	2.3	81.282 ug/L	81.282 ppb	12:30:03
2	Na 589.592 Radial†	-698.5	-136.6	-40.614 ug/L	-40.614 ppb	12:29:43
2	Sr 421.552†	45.6	37.6	0.2412 ug/L	0.2412 ppb	12:29:43
2	Sc 361.383	943443.6	943443.6	105.08 %		12:31:05
2	Y 371.029	835412.7	835412.7	101.49 %		12:31:05
2	Ag 328.068†	279.4	-30.1	-0.1076 ug/L	-0.1076 ppb	12:31:10
2	As 188.979†	-25.7	5.8	2.3664 ug/L	2.3664 ppb	12:31:30
2	B 249.677†	-255.8	-3.0	-0.0720 ug/L	-0.0720 ppb	12:31:30
2	Ba 233.527†	-6.2	-2.8	-0.0202 ug/L	-0.0202 ppb	12:31:30
2	Be 313.107†	-5031.2	312.3	0.1101 ug/L	0.1101 ppb	12:31:10
2	Cd 226.502†	-195.4	20.2	0.2203 ug/L	0.2203 ppb	12:31:30
2	Co 228.616†	-62.3	10.6	0.2321 ug/L	0.2321 ppb	12:31:30
2	Cr 267.716†	80.7	-17.1	-0.1817 ug/L	-0.1817 ppb	12:31:30
2	Cu 324.752†	9012.5	-550.8	-1.5392 ug/L	-1.5392 ppb	12:31:10
2	Mn 257.610†	480.1	-32.9	-0.0369 ug/L	-0.0369 ppb	12:31:30
2	Mo 202.031†	18.7	-5.8	-0.3952 ug/L	-0.3952 ppb	12:31:30
2	Ni 231.604†	86.4	-11.4	-0.2872 ug/L	-0.2872 ppb	12:31:30

2	P 214.914†	239.8	-10.5	-5.6378 ug/L	-5.6378 ppb	12:31:30
2	Pb 220.353†	-49.6	13.2	1.6534 ug/L	1.6534 ppb	12:31:30
2	S 181.975 Axial†	47.2	-32.0	-44.114 ug/L	-44.114 ppb	12:31:30
2	Sb 206.836†	46.5	14.0	4.7134 ug/L	4.7134 ppb	12:31:30
2	Se 196.026†	-22.7	-3.6	-1.9927 ug/L	-1.9927 ppb	12:31:30
2	Si 251.611†	484.4	-35.0	-1.0308 ug/L	-1.0308 ppb	12:31:30
2	Sn 189.927†	10.4	10.3	1.8880 ug/L	1.8880 ppb	12:31:30
2	Ti 334.940†	-980.0	-26.2	-0.0428 ug/L	-0.0428 ppb	12:31:10
2	Tl 190.801†	-28.1	10.1	3.2419 ug/L	3.2419 ppb	12:31:30
2	U 409.014†	-1436.6	-304.4	-7.6138 ug/L	-7.6138 ppb	12:31:10
2	V 292.402†	-1425.7	36.8	0.2052 ug/L	0.2052 ppb	12:31:10
2	Zn 213.857†	704.8	-62.6	-0.5826 ug/L	-0.5826 ppb	12:31:30
2	SiO2†	494.6	-42.7	-2.6888 ug/L	-2.6888 ppb	12:32:41
3	Sc Radial	5389.5	5389.5	101 %		12:30:08
3	Y RADIAL	5799.9	5799.9	100.7 %		12:30:08
3	Al 396.153Radial†	5.8	-3.4	-2.6016 ug/L	-2.6016 ppb	12:30:28
3	Ca 317.933Radial†	23.9	3.4	5.4992 ug/L	5.4992 ppb	12:30:28
3	Fe 238.204 Radial†	8.2	1.0	9.3222 ug/L	9.3222 ppb	12:30:28
3	K 766.490 Radial†	2388.5	-136.9	-24.994 ug/L	-24.994 ppb	12:30:08
3	Mg 279.077 IEC†	2.7	1.7	59.817 ug/L	59.817 ppb	12:30:28
3	Na 589.592 Radial†	-671.1	-117.3	-34.861 ug/L	-34.861 ppb	12:30:08
3	Sr 421.552†	13.8	6.6	0.0423 ug/L	0.0423 ppb	12:30:08
3	Sc 361.383	924987.0	924987.0	103.02 %		12:31:35
3	Y 371.029	817391.7	817391.7	99.304 %		12:31:35
3	Ag 328.068†	271.8	-32.2	-0.1211 ug/L	-0.1211 ppb	12:31:40
3	As 188.979†	-35.5	-4.3	-1.7376 ug/L	-1.7376 ppb	12:32:00
3	B 249.677†	-248.5	-0.7	-0.0182 ug/L	-0.0182 ppb	12:32:00
3	Ba 233.527†	2.9	5.9	0.0476 ug/L	0.0476 ppb	12:32:00
3	Be 313.107†	-5118.1	132.4	0.0467 ug/L	0.0467 ppb	12:31:40
3	Cd 226.502†	-207.5	4.8	0.0501 ug/L	0.0501 ppb	12:32:00
3	Co 228.616†	-67.2	4.7	0.1021 ug/L	0.1021 ppb	12:32:00
3	Cr 267.716†	98.5	1.7	0.0238 ug/L	0.0238 ppb	12:32:00
3	Cu 324.752†	9022.3	-370.2	-1.0317 ug/L	-1.0317 ppb	12:31:40
3	Mn 257.610†	494.8	-9.6	-0.0122 ug/L	-0.0122 ppb	12:32:00
3	Mo 202.031†	24.1	-0.2	-0.0131 ug/L	-0.0131 ppb	12:32:00
3	Ni 231.604†	106.9	10.1	0.2540 ug/L	0.2540 ppb	12:32:00
3	P 214.914†	248.8	2.8	1.7694 ug/L	1.7694 ppb	12:32:00
3	Pb 220.353†	-46.8	15.0	1.8788 ug/L	1.8788 ppb	12:32:00
3	S 181.975 Axial†	50.3	-28.2	-38.792 ug/L	-38.792 ppb	12:32:00
3	Sb 206.836†	42.9	11.4	3.7902 ug/L	3.7902 ppb	12:32:00
3	Se 196.026†	-16.5	2.0	1.1690 ug/L	1.1690 ppb	12:32:00
3	Si 251.611†	466.6	-43.0	-1.2740 ug/L	-1.2740 ppb	12:32:00
3	Sn 189.927†	-4.5	-4.0	-0.7425 ug/L	-0.7425 ppb	12:32:00
3	Ti 334.940†	-923.7	9.9	0.0160 ug/L	0.0160 ppb	12:31:40
3	Tl 190.801†	-32.1	5.7	1.8355 ug/L	1.8355 ppb	12:32:00
3	U 409.014†	-1567.1	-458.3	-11.462 ug/L	-11.462 ppb	12:31:40
3	V 292.402†	-1390.6	43.8	0.2498 ug/L	0.2498 ppb	12:31:40
3	Zn 213.857†	694.7	-59.0	-0.5511 ug/L	-0.5511 ppb	12:32:00
3	SiO2†	507.6	-20.7	-1.3074 ug/L	-1.3074 ppb	12:33:01

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	933189.6	103.93 %	1.047			1.01%
Sc Radial	5432.8	102 %	0.7			0.69%
Y 371.029	825431.6	100.28 %	1.114			1.11%
Y RADIAL	5835.5	101.4 %	0.74			0.73%
Ag 328.068†	-32.1	-0.1178 ug/L	0.00909	-0.1178 ppb	0.00909	7.72%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	3.5	2.6959 ug/L	4.68221	2.6959 ppb	4.68221	173.68%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.6	-0.6642 ug/L	2.66156	-0.6642 ppb	2.66156	400.69%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	0.1	-0.0010 ug/L	0.08101	-0.0010 ppb	0.08101	>999.9%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	1.4	0.0124 ug/L	0.03399	0.0124 ppb	0.03399	273.99%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	234.2	0.0826 ug/L	0.03247	0.0826 ppb	0.03247	39.33%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.9	1.4857 ug/L	4.70382	1.4857 ppb	4.70382	316.61%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	10.7	0.1162 ug/L	0.09126	0.1162 ppb	0.09126	78.56%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	4.4	0.0956 ug/L	0.13997	0.0956 ppb	0.13997	146.48%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-12.9	-0.1345 ug/L	0.14069	-0.1345 ppb	0.14069	104.62%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-459.1	-1.2814 ug/L	0.25387	-1.2814 ppb	0.25387	19.81%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	2.1	19.725 ug/L	12.4713	19.725 ppb	12.4713	63.22%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-190.4	-34.761 ug/L	8.4973	-34.761 ppb	8.4973	24.44%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.8	63.182 ug/L	16.6737	63.182 ppb	16.6737	26.39%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-19.0	-0.0220 ug/L	0.01316	-0.0220 ppb	0.01316	59.90%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-2.4	-0.1629 ug/L	0.20395	-0.1629 ppb	0.20395	125.19%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-139.1	-41.338 ug/L	6.8668	-41.338 ppb	6.8668	16.61%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	3.7	0.0929 ug/L	0.33040	0.0929 ppb	0.33040	355.75%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-2.4	-1.1027 ug/L	3.97373	-1.1027 ppb	3.97373	360.36%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	12.5	1.5705 ug/L	0.35710	1.5705 ppb	0.35710	22.74%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-30.9	-42.544 ug/L	3.2636	-42.544 ppb	3.2636	7.67%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.8	2.6244 ug/L	2.85633	2.6244 ppb	2.85633	108.84%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-1.1	-0.5697 ug/L	1.60435	-0.5697 ppb	1.60435	281.61%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-25.6	-0.7575 ug/L	0.69467	-0.7575 ppb	0.69467	91.70%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	4.1	0.7484 ug/L	1.35003	0.7484 ppb	1.35003	180.38%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	24.1	0.1546 ug/L	0.10190	0.1546 ppb	0.10190	65.92%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-17.0	-0.0265 ug/L	0.03711	-0.0265 ppb	0.03711	140.09%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	6.7	2.1562 ug/L	0.96613	2.1562 ppb	0.96613	44.81%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-396.1	-9.9059 ug/L	2.02696	-9.9059 ppb	2.02696	20.46%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	62.3	0.3648 ug/L	0.23890	0.3648 ppb	0.23890	65.48%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-63.7	-0.5945 ug/L	0.05049	-0.5945 ppb	0.05049	8.49%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-27.2	-1.7139 ug/L	0.84815	-1.7139 ppb	0.84815	49.49%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.



Sequence No.: 16

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 13:02:25

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5409.7	5409.7	101 %		13:04:17
1	Y RADIAL	5794.4	5794.4	100.6 %		13:04:17
1	Al 396.153Radial†	6559.7	6466.2	4875.0 ug/L	4875.0 ppb	13:04:17
1	Ca 317.933Radial†	3166.2	3105.2	4991.0 ug/L	4991.0 ppb	13:04:37
1	Fe 238.204 Radial†	566.6	552.2	5175.3 ug/L	5175.3 ppb	13:04:37
1	K 766.490 Radial†	30135.1	27243.7	4970.6 ug/L	4970.6 ppb	13:04:17
1	Mg 279.077 IEC†	149.5	146.6	5229.4 ug/L	5229.4 ppb	13:04:37
1	Na 589.592 Radial†	33774.4	33887.3	10074 ug/L	10074 ppb	13:04:17
1	Sr 421.552†	79900.3	78864.9	506.09 ug/L	506.09 ppb	13:04:17
1	Sc 361.383	929796.1	929796.1	103.56 %		13:05:35
1	Y 371.029	812299.4	812299.4	98.685 %		13:05:35
1	Ag 328.068†	121543.2	117074.2	491.73 ug/L	491.73 ppb	13:05:40
1	As 188.979†	1192.0	1181.3	487.58 ug/L	487.58 ppb	13:06:00
1	B 249.677†	22409.4	21880.4	477.58 ug/L	477.58 ppb	13:05:40
1	Ba 233.527†	64140.6	61941.6	489.47 ug/L	489.47 ppb	13:05:40
1	Be 313.107†	1399484.3	1356535.7	479.65 ug/L	479.65 ppb	13:05:35
1	Cd 226.502†	45506.7	44150.5	493.05 ug/L	493.05 ppb	13:05:40
1	Co 228.616†	23606.6	22866.1	501.32 ug/L	501.32 ppb	13:05:40
1	Cr 267.716†	46713.6	45015.8	488.60 ug/L	488.60 ppb	13:05:40
1	Cu 324.752†	188075.8	172490.5	483.88 ug/L	483.88 ppb	13:05:40
1	Mn 257.610†	446277.4	430465.3	482.92 ug/L	482.92 ppb	13:05:35
1	Mo 202.031†	7319.5	7044.6	481.24 ug/L	481.24 ppb	13:06:00
1	Ni 231.604†	20306.7	19515.8	490.16 ug/L	490.16 ppb	13:05:40
1	P 214.914†	4659.9	4261.2	2308.5 ug/L	2308.5 ppb	13:06:00
1	Pb 220.353†	4070.8	3991.4	502.56 ug/L	502.56 ppb	13:06:00
1	S 181.975 Axial†	786.9	682.9	939.35 ug/L	939.35 ppb	13:06:00
1	Sb 206.836†	1532.7	1449.8	502.73 ug/L	502.73 ppb	13:06:00
1	Se 196.026†	850.7	839.5	503.07 ug/L	503.07 ppb	13:06:00
1	Si 251.611†	86320.3	82860.7	2449.2 ug/L	2449.2 ppb	13:05:40
1	Sn 189.927†	2723.7	2630.5	484.56 ug/L	484.56 ppb	13:06:00
1	Ti 334.940†	332571.1	322059.4	490.90 ug/L	490.90 ppb	13:05:35
1	Tl 190.801†	1515.9	1500.7	483.31 ug/L	483.31 ppb	13:06:00
1	U 409.014†	19318.1	19717.6	491.36 ug/L	491.36 ppb	13:05:40
1	V 292.402†	79628.3	78287.9	493.24 ug/L	493.24 ppb	13:05:40
1	Zn 213.857†	55169.5	52541.9	485.12 ug/L	485.12 ppb	13:05:40
1	SiO2†	85215.1	81775.9	5158.8 ug/L	5158.8 ppb	13:07:08
2	Sc Radial	5338.6	5338.6	100.0 %		13:04:42
2	Y RADIAL	5707.1	5707.1	99.13 %		13:04:42
2	Al 396.153Radial†	6649.9	6642.6	5008.7 ug/L	5008.7 ppb	13:04:42
2	Ca 317.933Radial†	3176.3	3156.9	5074.1 ug/L	5074.1 ppb	13:05:02
2	Fe 238.204 Radial†	572.0	564.9	5294.7 ug/L	5294.7 ppb	13:05:02
2	K 766.490 Radial†	30673.2	28178.0	5141.2 ug/L	5141.2 ppb	13:04:42
2	Mg 279.077 IEC†	153.2	152.2	5429.4 ug/L	5429.4 ppb	13:05:02
2	Na 589.592 Radial†	34094.6	34651.5	10301 ug/L	10301 ppb	13:04:42
2	Sr 421.552†	81018.9	81033.7	520.01 ug/L	520.01 ppb	13:04:42
2	Sc 361.383	928173.3	928173.3	103.37 %		13:06:06
2	Y 371.029	810603.7	810603.7	98.479 %		13:06:06
2	Ag 328.068†	121045.4	116797.9	490.61 ug/L	490.61 ppb	13:06:11
2	As 188.979†	1175.9	1167.7	482.12 ug/L	482.12 ppb	13:06:31
2	B 249.677†	22436.5	21944.5	478.97 ug/L	478.97 ppb	13:06:11
2	Ba 233.527†	64049.7	61961.9	489.63 ug/L	489.63 ppb	13:06:11
2	Be 313.107†	1409254.8	1368350.1	483.83 ug/L	483.83 ppb	13:06:06
2	Cd 226.502†	45176.9	43908.3	490.33 ug/L	490.33 ppb	13:06:11
2	Co 228.616†	23490.7	22793.8	499.72 ug/L	499.72 ppb	13:06:11
2	Cr 267.716†	46649.5	45032.7	488.78 ug/L	488.78 ppb	13:06:11
2	Cu 324.752†	187321.5	172078.4	482.73 ug/L	482.73 ppb	13:06:11
2	Mn 257.610†	449781.3	434608.3	487.57 ug/L	487.57 ppb	13:06:06
2	Mo 202.031†	7302.6	7040.6	480.98 ug/L	480.98 ppb	13:06:31
2	Ni 231.604†	20274.7	19519.2	490.25 ug/L	490.25 ppb	13:06:11

2	P 214.914†	4659.2	4268.3	2312.6 ug/L	2312.6 ppb	13:06:31
2	Pb 220.353†	4023.2	3952.2	497.66 ug/L	497.66 ppb	13:06:31
2	S 181.975 Axial†	785.1	682.5	938.69 ug/L	938.69 ppb	13:06:31
2	Sb 206.836†	1516.4	1436.4	498.24 ug/L	498.24 ppb	13:06:31
2	Se 196.026†	839.4	830.0	497.99 ug/L	497.99 ppb	13:06:31
2	Si 251.611†	85943.2	82641.6	2442.7 ug/L	2442.7 ppb	13:06:11
2	Sn 189.927†	2700.6	2612.8	481.31 ug/L	481.31 ppb	13:06:31
2	Ti 334.940†	335526.9	325480.1	496.11 ug/L	496.11 ppb	13:06:06
2	Tl 190.801†	1512.3	1499.9	483.10 ug/L	483.10 ppb	13:06:31
2	U 409.014†	19412.0	19841.1	494.43 ug/L	494.43 ppb	13:06:11
2	V 292.402†	79182.2	77990.9	491.38 ug/L	491.38 ppb	13:06:11
2	Zn 213.857†	54851.4	52327.4	483.12 ug/L	483.12 ppb	13:06:11
2	SiO2†	86471.8	83135.5	5244.8 ug/L	5244.8 ppb	13:07:13
3	Sc Radial	5457.3	5457.3	102 %		13:05:07
3	Y RADIAL	5842.5	5842.5	101.5 %		13:05:07
3	Al 396.153Radial†	6605.0	6453.9	4865.6 ug/L	4865.6 ppb	13:05:07
3	Ca 317.933Radial†	3177.9	3089.4	4965.6 ug/L	4965.6 ppb	13:05:27
3	Fe 238.204 Radial†	571.9	552.4	5177.9 ug/L	5177.9 ppb	13:05:27
3	K 766.490 Radial†	30413.8	27257.0	4973.1 ug/L	4973.1 ppb	13:05:07
3	Mg 279.077 IEC†	152.0	147.8	5271.6 ug/L	5271.6 ppb	13:05:27
3	Na 589.592 Radial†	33913.5	33732.6	10028 ug/L	10028 ppb	13:05:07
3	Sr 421.552†	80702.5	78961.8	506.72 ug/L	506.72 ppb	13:05:07
3	Sc 361.383	927620.9	927620.9	103.31 %		13:06:37
3	Y 371.029	812561.6	812561.6	98.717 %		13:06:37
3	Ag 328.068†	121460.2	117269.1	492.55 ug/L	492.55 ppb	13:06:42
3	As 188.979†	1193.6	1185.5	489.31 ug/L	489.31 ppb	13:07:02
3	B 249.677†	22512.9	22031.4	480.90 ug/L	480.90 ppb	13:06:42
3	Ba 233.527†	63968.3	61920.0	489.30 ug/L	489.30 ppb	13:06:42
3	Be 313.107†	1400314.6	1360508.4	481.05 ug/L	481.05 ppb	13:06:37
3	Cd 226.502†	45183.7	43940.8	490.71 ug/L	490.71 ppb	13:06:42
3	Co 228.616†	23510.9	22826.9	500.47 ug/L	500.47 ppb	13:06:42
3	Cr 267.716†	46717.5	45125.4	489.79 ug/L	489.79 ppb	13:06:42
3	Cu 324.752†	187714.3	172566.5	484.09 ug/L	484.09 ppb	13:06:42
3	Mn 257.610†	443797.9	429075.9	481.36 ug/L	481.36 ppb	13:06:37
3	Mo 202.031†	7354.9	7095.4	484.71 ug/L	484.71 ppb	13:07:02
3	Ni 231.604†	20310.5	19565.4	491.41 ug/L	491.41 ppb	13:06:42
3	P 214.914†	4693.5	4304.3	2332.8 ug/L	2332.8 ppb	13:07:02
3	Pb 220.353†	4071.3	4001.1	503.78 ug/L	503.78 ppb	13:07:02
3	S 181.975 Axial†	794.1	691.6	951.34 ug/L	951.34 ppb	13:07:02
3	Sb 206.836†	1505.6	1427.1	495.24 ug/L	495.24 ppb	13:07:02
3	Se 196.026†	843.2	834.1	499.97 ug/L	499.97 ppb	13:07:02
3	Si 251.611†	85970.5	82717.6	2444.9 ug/L	2444.9 ppb	13:06:42
3	Sn 189.927†	2727.6	2640.5	486.39 ug/L	486.39 ppb	13:07:02
3	Ti 334.940†	331298.6	321580.8	490.16 ug/L	490.16 ppb	13:06:37
3	Tl 190.801†	1514.7	1503.0	484.02 ug/L	484.02 ppb	13:07:02
3	U 409.014†	19260.9	19706.1	491.07 ug/L	491.07 ppb	13:06:42
3	V 292.402†	79463.5	78308.7	493.42 ug/L	493.42 ppb	13:06:42
3	Zn 213.857†	55061.3	52562.2	485.30 ug/L	485.30 ppb	13:06:42
3	SiO2†	85667.4	82406.8	5198.6 ug/L	5198.6 ppb	13:07:18

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	928530.1	103.41 %	0.126			0.12%
Sc Radial	5401.9	101 %	1.1			1.11%
Y 371.029	811821.6	98.627 %	0.1291			0.13%
Y RADIAL	5781.3	100.4 %	1.19			1.19%
Ag 328.068†	117047.1	491.63 ug/L	0.975	491.63 ppb	0.975	0.20%
QC value within limits for Ag 328.068 Recovery = 98.33%						
Al 396.153Radial†	6520.9	4916.4 ug/L	80.03	4916.4 ppb	80.03	1.63%
QC value within limits for Al 396.153Radial Recovery = 98.33%						
As 188.979†	1178.2	486.34 ug/L	3.754	486.34 ppb	3.754	0.77%
QC value within limits for As 188.979 Recovery = 97.27%						
B 249.677†	21952.1	479.15 ug/L	1.664	479.15 ppb	1.664	0.35%
QC value within limits for B 249.677 Recovery = 95.83%						
Ba 233.527†	61941.2	489.46 ug/L	0.165	489.46 ppb	0.165	0.03%
QC value within limits for Ba 233.527 Recovery = 97.89%						
Be 313.107†	1361798.1	481.51 ug/L	2.127	481.51 ppb	2.127	0.44%
QC value within limits for Be 313.107 Recovery = 96.30%						
Ca 317.933Radial†	3117.2	5010.2 ug/L	56.78	5010.2 ppb	56.78	1.13%

QC value within limits for Ca 317.933 Radial Recovery = 100.20%							
Cd 226.502†	43999.9	491.37 ug/L	1.473	491.37 ppb	1.473	0.30%	
QC value within limits for Cd 226.502 Recovery = 98.27%							
Co 228.616†	22828.9	500.50 ug/L	0.800	500.50 ppb	0.800	0.16%	
QC value within limits for Co 228.616 Recovery = 100.10%							
Cr 267.716†	45058.0	489.05 ug/L	0.640	489.05 ppb	0.640	0.13%	
QC value within limits for Cr 267.716 Recovery = 97.81%							
Cu 324.752†	172378.5	483.57 ug/L	0.734	483.57 ppb	0.734	0.15%	
QC value within limits for Cu 324.752 Recovery = 96.71%							
Fe 238.204 Radial†	556.5	5215.9 ug/L	68.19	5215.9 ppb	68.19	1.31%	
QC value within limits for Fe 238.204 Radial Recovery = 104.32%							
K 766.490 Radial†	27559.6	5028.3 ug/L	97.77	5028.3 ppb	97.77	1.94%	
QC value within limits for K 766.490 Radial Recovery = 100.57%							
Mg 279.077 IEC†	148.9	5310.1 ug/L	105.44	5310.1 ppb	105.44	1.99%	
QC value within limits for Mg 279.077 IEC Recovery = 106.20%							
Mn 257.610†	431383.2	483.95 ug/L	3.230	483.95 ppb	3.230	0.67%	
QC value within limits for Mn 257.610 Recovery = 96.79%							
Mo 202.031†	7060.2	482.31 ug/L	2.082	482.31 ppb	2.082	0.43%	
QC value within limits for Mo 202.031 Recovery = 96.46%							
Na 589.592 Radial†	34090.5	10134 ug/L	146.2	10134 ppb	146.2	1.44%	
QC value within limits for Na 589.592 Radial Recovery = 101.34%							
Ni 231.604†	19533.5	490.60 ug/L	0.697	490.60 ppb	0.697	0.14%	
QC value within limits for Ni 231.604 Recovery = 98.12%							
P 214.914†	4277.9	2318.0 ug/L	12.98	2318.0 ppb	12.98	0.56%	
QC value within limits for P 214.914 Recovery = 92.72%							
Pb 220.353†	3981.6	501.34 ug/L	3.240	501.34 ppb	3.240	0.65%	
QC value within limits for Pb 220.353 Recovery = 100.27%							
S 181.975 Axial†	685.7	943.13 ug/L	7.121	943.13 ppb	7.121	0.76%	
QC value within limits for S 181.975 Axial Recovery = 94.31%							
Sb 206.836†	1437.8	498.74 ug/L	3.772	498.74 ppb	3.772	0.76%	
QC value within limits for Sb 206.836 Recovery = 99.75%							
Se 196.026†	834.5	500.34 ug/L	2.562	500.34 ppb	2.562	0.51%	
QC value within limits for Se 196.026 Recovery = 100.07%							
Si 251.611†	82739.9	2445.6 ug/L	3.30	2445.6 ppb	3.30	0.13%	
QC value within limits for Si 251.611 Recovery = 97.83%							
Sn 189.927†	2627.9	484.09 ug/L	2.572	484.09 ppb	2.572	0.53%	
QC value within limits for Sn 189.927 Recovery = 96.82%							
Sr 421.552†	79620.1	510.94 ug/L	7.862	510.94 ppb	7.862	1.54%	
QC value within limits for Sr 421.552 Recovery = 102.19%							
Ti 334.940†	323040.1	492.39 ug/L	3.241	492.39 ppb	3.241	0.66%	
QC value within limits for Ti 334.940 Recovery = 98.48%							
Tl 190.801†	1501.2	483.48 ug/L	0.481	483.48 ppb	0.481	0.10%	
QC value within limits for Tl 190.801 Recovery = 96.70%							
U 409.014†	19754.9	492.29 ug/L	1.864	492.29 ppb	1.864	0.38%	
QC value within limits for U 409.014 Recovery = 98.46%							
V 292.402†	78195.9	492.68 ug/L	1.131	492.68 ppb	1.131	0.23%	
QC value within limits for V 292.402 Recovery = 98.54%							
Zn 213.857†	52477.2	484.51 ug/L	1.215	484.51 ppb	1.215	0.25%	
QC value within limits for Zn 213.857 Recovery = 96.90%							
SiO2†	82439.4	5200.7 ug/L	43.04	5200.7 ppb	43.04	0.83%	
QC value within limits for SiO2 Recovery = 97.26%							
All analyte(s) passed QC.							

Sequence No.: 17

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 13:09:29

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5358.7	5358.7	100 %		13:11:22
1	Y RADIAL	5787.1	5787.1	100.5 %		13:11:22
1	Al 396.153Radial†	10.1	0.9	0.6540 ug/L	0.6540 ppb	13:11:42
1	Ca 317.933Radial†	20.7	0.4	0.6949 ug/L	0.6949 ppb	13:11:42
1	Fe 238.204 Radial†	8.6	1.4	13.425 ug/L	13.425 ppb	13:11:42
1	K 766.490 Radial†	2284.5	-226.9	-41.440 ug/L	-41.440 ppb	13:11:22
1	Mg 279.077 IEC†	3.5	2.6	91.174 ug/L	91.174 ppb	13:11:42
1	Na 589.592 Radial†	-697.0	-146.9	-43.679 ug/L	-43.679 ppb	13:11:22
1	Sr 421.552†	14.4	7.3	0.0469 ug/L	0.0469 ppb	13:11:22
1	Sc 361.383	906281.3	906281.3	100.94 %		13:12:38
1	Y 371.029	798201.9	798201.9	96.972 %		13:12:38
1	Ag 328.068†	273.1	-25.4	-0.1009 ug/L	-0.1009 ppb	13:12:38
1	As 188.979†	-30.4	0.0	0.0134 ug/L	0.0134 ppb	13:12:58
1	B 249.677†	-210.1	32.3	0.7064 ug/L	0.7064 ppb	13:12:58
1	Ba 233.527†	-13.2	-10.0	-0.0779 ug/L	-0.0779 ppb	13:12:58
1	Be 313.107†	-4998.3	148.5	0.0522 ug/L	0.0522 ppb	13:12:38
1	Cd 226.502†	-190.5	17.4	0.1928 ug/L	0.1928 ppb	13:12:58
1	Co 228.616†	-69.3	1.3	0.0293 ug/L	0.0293 ppb	13:12:58
1	Cr 267.716†	93.7	-1.1	-0.0109 ug/L	-0.0109 ppb	13:12:58
1	Cu 324.752†	8874.3	-336.1	-0.9420 ug/L	-0.9420 ppb	13:12:38
1	Mn 257.610†	486.9	-7.5	-0.0108 ug/L	-0.0108 ppb	13:12:58
1	Mo 202.031†	26.3	2.5	0.1688 ug/L	0.1688 ppb	13:12:58
1	Ni 231.604†	71.2	-23.1	-0.5806 ug/L	-0.5806 ppb	13:12:58
1	P 214.914†	245.9	4.9	2.9309 ug/L	2.9309 ppb	13:12:58
1	Pb 220.353†	40.3	100.3	12.593 ug/L	12.593 ppb	13:12:58
1	S 181.975 Axial†	40.7	-36.7	-50.525 ug/L	-50.525 ppb	13:12:58
1	Sb 206.836†	41.2	10.5	3.5460 ug/L	3.5460 ppb	13:12:58
1	Se 196.026†	-9.4	8.6	5.0282 ug/L	5.0282 ppb	13:12:58
1	Si 251.611†	469.9	-30.4	-0.9021 ug/L	-0.9021 ppb	13:12:58
1	Sn 189.927†	7.8	8.1	1.4834 ug/L	1.4834 ppb	13:12:58
1	Ti 334.940†	-960.1	-44.6	-0.0753 ug/L	-0.0753 ppb	13:12:38
1	Tl 190.801†	-35.8	1.5	0.4636 ug/L	0.4636 ppb	13:12:58
1	U 409.014†	-1080.6	-7.7	-0.1946 ug/L	-0.1946 ppb	13:12:38
1	V 292.402†	-1380.9	25.5	0.1604 ug/L	0.1604 ppb	13:12:38
1	Zn 213.857†	682.8	-56.9	-0.5264 ug/L	-0.5264 ppb	13:12:58
1	SiO2†	481.3	-36.6	-2.3197 ug/L	-2.3197 ppb	13:14:09
2	Sc Radial	5391.4	5391.4	101 %		13:11:47
2	Y RADIAL	5829.7	5829.7	101.3 %		13:11:47
2	Al 396.153Radial†	0.5	-8.7	-6.5539 ug/L	-6.5539 ppb	13:12:07
2	Ca 317.933Radial†	16.8	-3.6	-5.8156 ug/L	-5.8156 ppb	13:12:07
2	Fe 238.204 Radial†	7.0	-0.2	-2.2305 ug/L	-2.2305 ppb	13:12:07
2	K 766.490 Radial†	2343.4	-182.4	-33.308 ug/L	-33.308 ppb	13:11:47
2	Mg 279.077 IEC†	4.2	3.2	112.56 ug/L	112.56 ppb	13:12:07
2	Na 589.592 Radial†	-682.4	-128.3	-38.131 ug/L	-38.131 ppb	13:11:47
2	Sr 421.552†	19.8	12.6	0.0807 ug/L	0.0807 ppb	13:11:47
2	Sc 361.383	908925.0	908925.0	101.23 %		13:13:04
2	Y 371.029	801255.6	801255.6	97.343 %		13:13:04
2	Ag 328.068†	156.8	-141.1	-0.5896 ug/L	-0.5896 ppb	13:13:04
2	As 188.979†	-30.5	0.1	0.0293 ug/L	0.0293 ppb	13:13:24
2	B 249.677†	-207.2	35.8	0.7852 ug/L	0.7852 ppb	13:13:24
2	Ba 233.527†	-0.5	2.6	0.0209 ug/L	0.0209 ppb	13:13:24
2	Be 313.107†	-4946.8	213.8	0.0752 ug/L	0.0752 ppb	13:13:04
2	Cd 226.502†	-198.9	9.7	0.1090 ug/L	0.1090 ppb	13:13:24
2	Co 228.616†	-74.4	-3.5	-0.0772 ug/L	-0.0772 ppb	13:13:24
2	Cr 267.716†	84.5	-10.5	-0.1141 ug/L	-0.1141 ppb	13:13:24
2	Cu 324.752†	8876.5	-359.5	-1.0095 ug/L	-1.0095 ppb	13:13:04
2	Mn 257.610†	481.7	-14.0	-0.0205 ug/L	-0.0205 ppb	13:13:24
2	Mo 202.031†	22.9	-1.0	-0.0657 ug/L	-0.0657 ppb	13:13:24
2	Ni 231.604†	77.7	-16.9	-0.4246 ug/L	-0.4246 ppb	13:13:24

2	P 214.914†	244.6	2.9	1.8714 ug/L	1.8714 ppb	13:13:24
2	Pb 220.353†	42.2	102.1	12.817 ug/L	12.817 ppb	13:13:24
2	S 181.975 Axial†	43.5	-34.0	-46.836 ug/L	-46.836 ppb	13:13:24
2	Sb 206.836†	50.6	19.7	6.6260 ug/L	6.6260 ppb	13:13:24
2	Se 196.026†	-9.9	8.2	4.7131 ug/L	4.7131 ppb	13:13:24
2	Si 251.611†	486.9	-14.9	-0.4419 ug/L	-0.4419 ppb	13:13:24
2	Sn 189.927†	12.0	12.2	2.2497 ug/L	2.2497 ppb	13:13:24
2	Ti 334.940†	-974.5	-56.1	-0.0962 ug/L	-0.0962 ppb	13:13:04
2	Tl 190.801†	-34.9	2.4	0.7708 ug/L	0.7708 ppb	13:13:24
2	U 409.014†	-1007.1	68.0	1.7014 ug/L	1.7014 ppb	13:13:04
2	V 292.402†	-1362.6	47.6	0.3007 ug/L	0.3007 ppb	13:13:04
2	Zn 213.857†	691.3	-50.5	-0.4658 ug/L	-0.4658 ppb	13:13:24
2	SiO2†	480.0	-39.2	-2.4782 ug/L	-2.4782 ppb	13:14:29
3	Sc Radial	5363.8	5363.8	100 %		13:12:12
3	Y RADIAL	5794.6	5794.6	100.7 %		13:12:12
3	Al 396.153Radial†	17.3	8.1	6.1125 ug/L	6.1125 ppb	13:12:32
3	Ca 317.933Radial†	21.8	1.5	2.4110 ug/L	2.4110 ppb	13:12:32
3	Fe 238.204 Radial†	8.2	1.0	9.4466 ug/L	9.4466 ppb	13:12:32
3	K 766.490 Radial†	2265.0	-248.5	-45.374 ug/L	-45.374 ppb	13:12:12
3	Mg 279.077 IEC†	1.3	0.3	10.353 ug/L	10.353 ppb	13:12:32
3	Na 589.592 Radial†	-708.7	-157.9	-46.949 ug/L	-46.949 ppb	13:12:12
3	Sr 421.552†	21.9	14.8	0.0947 ug/L	0.0947 ppb	13:12:12
3	Sc 361.383	905694.6	905694.6	100.87 %		13:13:29
3	Y 371.029	798812.2	798812.2	97.047 %		13:13:29
3	Ag 328.068†	271.1	-27.2	-0.1113 ug/L	-0.1113 ppb	13:13:29
3	As 188.979†	-23.0	7.3	3.0049 ug/L	3.0049 ppb	13:13:49
3	B 249.677†	-212.8	29.4	0.6437 ug/L	0.6437 ppb	13:13:49
3	Ba 233.527†	-12.7	-9.5	-0.0743 ug/L	-0.0743 ppb	13:13:49
3	Be 313.107†	-4964.0	179.3	0.0633 ug/L	0.0633 ppb	13:13:29
3	Cd 226.502†	-192.2	15.7	0.1744 ug/L	0.1744 ppb	13:13:49
3	Co 228.616†	-68.2	2.3	0.0509 ug/L	0.0509 ppb	13:13:49
3	Cr 267.716†	102.2	7.3	0.0795 ug/L	0.0795 ppb	13:13:49
3	Cu 324.752†	8831.8	-372.5	-1.0448 ug/L	-1.0448 ppb	13:13:29
3	Mn 257.610†	497.9	3.8	0.0047 ug/L	0.0047 ppb	13:13:49
3	Mo 202.031†	25.3	1.5	0.1033 ug/L	0.1033 ppb	13:13:49
3	Ni 231.604†	97.9	3.3	0.0839 ug/L	0.0839 ppb	13:13:49
3	P 214.914†	246.6	5.8	3.4554 ug/L	3.4554 ppb	13:13:49
3	Pb 220.353†	53.0	112.9	14.175 ug/L	14.175 ppb	13:13:49
3	S 181.975 Axial†	46.2	-31.2	-42.970 ug/L	-42.970 ppb	13:13:49
3	Sb 206.836†	38.6	8.1	2.7015 ug/L	2.7015 ppb	13:13:49
3	Se 196.026†	-19.3	-1.2	-0.6689 ug/L	-0.6689 ppb	13:13:49
3	Si 251.611†	468.6	-31.4	-0.9303 ug/L	-0.9303 ppb	13:13:49
3	Sn 189.927†	0.7	1.0	0.1906 ug/L	0.1906 ppb	13:13:49
3	Ti 334.940†	-900.7	13.6	0.0198 ug/L	0.0198 ppb	13:13:29
3	Tl 190.801†	-36.9	0.3	0.1040 ug/L	0.1040 ppb	13:13:49
3	U 409.014†	-1036.3	35.5	0.8865 ug/L	0.8865 ppb	13:13:29
3	V 292.402†	-1403.9	1.8	0.0129 ug/L	0.0129 ppb	13:13:29
3	Zn 213.857†	664.8	-74.3	-0.6922 ug/L	-0.6922 ppb	13:13:49
3	SiO2†	467.8	-49.6	-3.1427 ug/L	-3.1427 ppb	13:14:49

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	906967.0	101.01 %	0.192			0.19%
Sc Radial	5371.3	101 %	0.3			0.33%
Y 371.029	799423.2	97.121 %	0.1963			0.20%
Y RADIAL	5803.8	100.8 %	0.39			0.39%
Ag 328.068†	-64.6	-0.2673 ug/L	0.27915	-0.2673 ppb	0.27915	104.44%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	0.1	0.0709 ug/L	6.35328	0.0709 ppb	6.35328	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.5	1.0159 ug/L	1.72258	1.0159 ppb	1.72258	169.56%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	32.5	0.7118 ug/L	0.07088	0.7118 ppb	0.07088	9.96%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-5.6	-0.0438 ug/L	0.05602	-0.0438 ppb	0.05602	127.96%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	180.6	0.0636 ug/L	0.01150	0.0636 ppb	0.01150	18.09%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-0.6	-0.9032 ug/L	4.33987	-0.9032 ppb	4.33987	480.48%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	14.3	0.1587 ug/L	0.04402	0.1587 ppb	0.04402	27.73%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	0.0	0.0010 ug/L	0.06855	0.0010 ppb	0.06855	>999.9%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-1.4	-0.0152 ug/L	0.09687	-0.0152 ppb	0.09687	638.17%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-356.0	-0.9988 ug/L	0.05225	-0.9988 ppb	0.05225	5.23%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.7	6.8803 ug/L	8.13701	6.8803 ppb	8.13701	118.27%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-219.3	-40.040 ug/L	6.1533	-40.040 ppb	6.1533	15.37%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.0	71.361 ug/L	53.9060	71.361 ppb	53.9060	75.54%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-5.9	-0.0089 ug/L	0.01274	-0.0089 ppb	0.01274	143.55%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	1.0	0.0688 ug/L	0.12099	0.0688 ppb	0.12099	175.79%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-144.4	-42.920 ug/L	4.4578	-42.920 ppb	4.4578	10.39%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-12.2	-0.3071 ug/L	0.34747	-0.3071 ppb	0.34747	113.14%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	4.5	2.7525 ug/L	0.80692	2.7525 ppb	0.80692	29.32%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	105.1	13.195 ug/L	0.8563	13.195 ppb	0.8563	6.49%	
QC value greater than the upper limit for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-34.0	-46.777 ug/L	3.7775	-46.777 ppb	3.7775	8.08%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	12.8	4.2912 ug/L	2.06567	4.2912 ppb	2.06567	48.14%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	5.2	3.0241 ug/L	3.20212	3.0241 ppb	3.20212	105.89%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-25.6	-0.7581 ug/L	0.27423	-0.7581 ppb	0.27423	36.17%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	7.1	1.3079 ug/L	1.04073	1.3079 ppb	1.04073	79.57%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	11.5	0.0741 ug/L	0.02457	0.0741 ppb	0.02457	33.17%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-29.0	-0.0506 ug/L	0.06185	-0.0506 ppb	0.06185	122.27%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.4	0.4461 ug/L	0.33376	0.4461 ppb	0.33376	74.81%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	31.9	0.7978 ug/L	0.95111	0.7978 ppb	0.95111	119.22%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	24.9	0.1580 ug/L	0.14389	0.1580 ppb	0.14389	91.06%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-60.6	-0.5615 ug/L	0.11718	-0.5615 ppb	0.11718	20.87%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-41.8	-2.6469 ug/L	0.43669	-2.6469 ppb	0.43669	16.50%	
QC value within limits for SiO2 Recovery = Not calculated							
QC Failed. Continue with analysis.							

Sequence No.: 3

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 13:39:53

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5327.2	5327.2	99.8 %		13:41:46
1	Y RADIAL	5721.6	5721.6	99.38 %		13:41:46
1	Al 396.153Radial†	6703.3	6710.3	5059.8 ug/L	5059.8 ppb	13:41:46
1	Ca 317.933Radial†	3218.7	3206.2	5153.3 ug/L	5153.3 ppb	13:42:06
1	Fe 238.204 Radial†	584.4	578.6	5422.8 ug/L	5422.8 ppb	13:42:06
1	K 766.490 Radial†	30737.0	28307.7	5164.5 ug/L	5164.5 ppb	13:41:46
1	Mg 279.077 IEC†	158.0	157.4	5613.4 ug/L	5613.4 ppb	13:42:06
1	Na 589.592 Radial†	36530.0	37165.7	11048 ug/L	11048 ppb	13:41:46
1	Sr 421.552†	83885.7	84080.9	539.57 ug/L	539.57 ppb	13:41:46
1	Sc 361.383	929779.9	929779.9	103.55 %		13:43:03
1	Y 371.029	812452.1	812452.1	98.704 %		13:43:03
1	Ag 328.068†	121501.0	117035.4	491.65 ug/L	491.65 ppb	13:43:08
1	As 188.979†	1195.9	1185.0	489.12 ug/L	489.12 ppb	13:43:28
1	B 249.677†	22494.0	21962.5	479.34 ug/L	479.34 ppb	13:43:08
1	Ba 233.527†	64225.9	62025.0	490.13 ug/L	490.13 ppb	13:43:08
1	Be 313.107†	1419405.0	1375796.3	486.43 ug/L	486.43 ppb	13:43:03
1	Cd 226.502†	45567.0	44209.4	493.69 ug/L	493.69 ppb	13:43:08
1	Co 228.616†	23673.7	22931.2	502.76 ug/L	502.76 ppb	13:43:08
1	Cr 267.716†	46862.1	45160.0	490.17 ug/L	490.17 ppb	13:43:08
1	Cu 324.752†	188101.7	172518.7	483.97 ug/L	483.97 ppb	13:43:08
1	Mn 257.610†	451524.7	435540.0	488.62 ug/L	488.62 ppb	13:43:03
1	Mo 202.031†	7373.2	7096.6	484.81 ug/L	484.81 ppb	13:43:28
1	Ni 231.604†	20400.5	19606.8	492.45 ug/L	492.45 ppb	13:43:08
1	P 214.914†	4709.4	4309.1	2335.4 ug/L	2335.4 ppb	13:43:28
1	Pb 220.353†	3986.6	3910.2	492.39 ug/L	492.39 ppb	13:43:28
1	S 181.975 Axial†	801.1	696.6	958.11 ug/L	958.11 ppb	13:43:28
1	Sb 206.836†	1536.2	1453.2	504.03 ug/L	504.03 ppb	13:43:28
1	Se 196.026†	862.0	850.4	510.19 ug/L	510.19 ppb	13:43:28
1	Si 251.611†	86295.8	82838.4	2448.5 ug/L	2448.5 ppb	13:43:08
1	Sn 189.927†	2743.2	2649.4	488.06 ug/L	488.06 ppb	13:43:28
1	Ti 334.940†	329670.6	319264.0	486.62 ug/L	486.62 ppb	13:43:08
1	Tl 190.801†	1528.8	1513.3	487.30 ug/L	487.30 ppb	13:43:28
1	U 409.014†	19377.3	19775.2	492.77 ug/L	492.77 ppb	13:43:08
1	V 292.402†	79796.0	78451.3	494.29 ug/L	494.29 ppb	13:43:08
1	Zn 213.857†	55352.7	52719.8	486.74 ug/L	486.74 ppb	13:43:08
1	SiO2†	85873.2	82412.9	5199.0 ug/L	5199.0 ppb	13:44:36
2	Sc Radial	5393.0	5393.0	101 %		13:42:11
2	Y RADIAL	5768.1	5768.1	100.2 %		13:42:11
2	Al 396.153Radial†	6540.8	6467.5	4876.0 ug/L	4876.0 ppb	13:42:11
2	Ca 317.933Radial†	3144.7	3093.6	4972.4 ug/L	4972.4 ppb	13:42:31
2	Fe 238.204 Radial†	574.7	561.9	5266.0 ug/L	5266.0 ppb	13:42:31
2	K 766.490 Radial†	30206.3	27406.6	5000.1 ug/L	5000.1 ppb	13:42:11
2	Mg 279.077 IEC†	148.5	146.1	5209.3 ug/L	5209.3 ppb	13:42:31
2	Na 589.592 Radial†	35798.8	35995.4	10700 ug/L	10700 ppb	13:42:11
2	Sr 421.552†	82097.4	81285.2	521.63 ug/L	521.63 ppb	13:42:11
2	Sc 361.383	934913.7	934913.7	104.13 %		13:43:34
2	Y 371.029	817652.1	817652.1	99.335 %		13:43:34
2	Ag 328.068†	120064.5	115011.7	483.13 ug/L	483.13 ppb	13:43:39
2	As 188.979†	1187.0	1170.1	482.93 ug/L	482.93 ppb	13:43:59
2	B 249.677†	22201.9	21562.7	470.62 ug/L	470.62 ppb	13:43:39
2	Ba 233.527†	63420.1	60910.5	481.32 ug/L	481.32 ppb	13:43:39
2	Be 313.107†	1426424.3	1375010.8	486.14 ug/L	486.14 ppb	13:43:34
2	Cd 226.502†	44943.8	43369.4	484.31 ug/L	484.31 ppb	13:43:39
2	Co 228.616†	23328.6	22474.2	492.76 ug/L	492.76 ppb	13:43:39
2	Cr 267.716†	46254.3	44327.8	481.13 ug/L	481.13 ppb	13:43:39
2	Cu 324.752†	185518.3	169040.2	474.21 ug/L	474.21 ppb	13:43:39
2	Mn 257.610†	453481.7	435025.2	488.04 ug/L	488.04 ppb	13:43:34
2	Mo 202.031†	7364.4	7049.1	481.55 ug/L	481.55 ppb	13:43:59
2	Ni 231.604†	20115.3	19224.6	482.85 ug/L	482.85 ppb	13:43:39

2	P 214.914†	4695.2	4270.4	2315.5 ug/L	2315.5 ppb	13:43:59
2	Pb 220.353†	3977.5	3880.3	488.61 ug/L	488.61 ppb	13:43:59
2	S 181.975 Axial†	788.4	680.1	935.51 ug/L	935.51 ppb	13:43:59
2	Sb 206.836†	1534.8	1443.7	500.69 ug/L	500.69 ppb	13:43:59
2	Se 196.026†	847.6	832.0	499.07 ug/L	499.07 ppb	13:43:59
2	Si 251.611†	85114.9	81246.7	2401.4 ug/L	2401.4 ppb	13:43:39
2	Sn 189.927†	2726.5	2618.9	482.42 ug/L	482.42 ppb	13:43:59
2	Ti 334.940†	325305.6	313323.8	477.58 ug/L	477.58 ppb	13:43:39
2	Tl 190.801†	1514.5	1491.4	480.28 ug/L	480.28 ppb	13:43:59
2	U 409.014†	19113.3	19418.8	483.90 ug/L	483.90 ppb	13:43:39
2	V 292.402†	78652.5	76929.9	484.79 ug/L	484.79 ppb	13:43:39
2	Zn 213.857†	54607.0	51710.1	477.43 ug/L	477.43 ppb	13:43:39
2	SiO2†	85386.5	81490.2	5140.7 ug/L	5140.7 ppb	13:44:41
3	Sc Radial	5448.6	5448.6	102 %		13:42:36
3	Y RADIAL	5817.8	5817.8	101.1 %		13:42:36
3	Al 396.153Radial†	6598.4	6457.9	4868.3 ug/L	4868.3 ppb	13:42:36
3	Ca 317.933Radial†	3244.9	3160.0	5079.1 ug/L	5079.1 ppb	13:42:56
3	Fe 238.204 Radial†	597.7	578.7	5423.0 ug/L	5423.0 ppb	13:42:56
3	K 766.490 Radial†	30404.8	27295.9	4979.9 ug/L	4979.9 ppb	13:42:36
3	Mg 279.077 IEC†	152.9	148.8	5308.8 ug/L	5308.8 ppb	13:42:56
3	Na 589.592 Radial†	35940.2	35772.2	10634 ug/L	10634 ppb	13:42:36
3	Sr 421.552†	82466.8	80817.8	518.63 ug/L	518.63 ppb	13:42:36
3	Sc 361.383	921952.0	921952.0	102.68 %		13:44:05
3	Y 371.029	807764.9	807764.9	98.134 %		13:44:05
3	Ag 328.068†	121154.1	117693.9	494.41 ug/L	494.41 ppb	13:44:10
3	As 188.979†	1202.7	1201.5	495.88 ug/L	495.88 ppb	13:44:30
3	B 249.677†	22587.9	22238.4	485.38 ug/L	485.38 ppb	13:44:10
3	Ba 233.527†	63793.3	62130.3	490.97 ug/L	490.97 ppb	13:44:10
3	Be 313.107†	1409215.0	1377510.5	487.04 ug/L	487.04 ppb	13:44:05
3	Cd 226.502†	45205.3	44230.9	493.93 ug/L	493.93 ppb	13:44:10
3	Co 228.616†	23547.8	23002.7	504.33 ug/L	504.33 ppb	13:44:10
3	Cr 267.716†	46620.2	45308.7	491.78 ug/L	491.78 ppb	13:44:10
3	Cu 324.752†	187862.7	173828.2	487.64 ug/L	487.64 ppb	13:44:10
3	Mn 257.610†	446717.2	434560.3	487.53 ug/L	487.53 ppb	13:44:05
3	Mo 202.031†	7385.1	7168.6	489.73 ug/L	489.73 ppb	13:44:30
3	Ni 231.604†	20291.4	19667.7	493.98 ug/L	493.98 ppb	13:44:10
3	P 214.914†	4711.6	4349.8	2357.6 ug/L	2357.6 ppb	13:44:30
3	Pb 220.353†	3985.1	3941.5	496.29 ug/L	496.29 ppb	13:44:30
3	S 181.975 Axial†	790.6	692.9	953.12 ug/L	953.12 ppb	13:44:30
3	Sb 206.836†	1536.4	1466.1	508.54 ug/L	508.54 ppb	13:44:30
3	Se 196.026†	859.3	854.8	512.76 ug/L	512.76 ppb	13:44:30
3	Si 251.611†	85918.4	83178.5	2458.5 ug/L	2458.5 ppb	13:44:10
3	Sn 189.927†	2756.9	2685.3	494.65 ug/L	494.65 ppb	13:44:30
3	Ti 334.940†	328431.2	320760.0	488.92 ug/L	488.92 ppb	13:44:10
3	Tl 190.801†	1536.5	1533.3	493.71 ug/L	493.71 ppb	13:44:30
3	U 409.014†	19295.0	19853.9	494.73 ug/L	494.73 ppb	13:44:10
3	V 292.402†	79483.5	78801.2	496.53 ug/L	496.53 ppb	13:44:10
3	Zn 213.857†	54995.2	52825.5	487.71 ug/L	487.71 ppb	13:44:10
3	SiO2†	86703.8	83925.9	5294.5 ug/L	5294.5 ppb	13:44:46

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	928881.8	103.45 %	0.727			0.70%
Sc Radial	5389.6	101 %	1.1			1.13%
Y 371.029	812623.0	98.724 %	0.6009			0.61%
Y RADIAL	5769.2	100.2 %	0.84			0.83%
Ag 328.068†	116580.3	489.73 ug/L	5.881	489.73 ppb	5.881	1.20%
QC value within limits for Ag 328.068 Recovery = 97.95%						
Al 396.153Radial†	6545.2	4934.7 ug/L	108.38	4934.7 ppb	108.38	2.20%
QC value within limits for Al 396.153Radial Recovery = 98.69%						
As 188.979†	1185.5	489.31 ug/L	6.475	489.31 ppb	6.475	1.32%
QC value within limits for As 188.979 Recovery = 97.86%						
B 249.677†	21921.2	478.45 ug/L	7.420	478.45 ppb	7.420	1.55%
QC value within limits for B 249.677 Recovery = 95.69%						
Ba 233.527†	61688.6	487.47 ug/L	5.344	487.47 ppb	5.344	1.10%
QC value within limits for Ba 233.527 Recovery = 97.49%						
Be 313.107†	1376105.9	486.54 ug/L	0.463	486.54 ppb	0.463	0.10%
QC value within limits for Be 313.107 Recovery = 97.31%						
Ca 317.933Radial†	3153.3	5068.3 ug/L	90.95	5068.3 ppb	90.95	1.79%



QC value within limits for Ca 317.933 Radial Recovery = 101.37%						
Cd 226.502†	43936.6	490.64 ug/L	5.484	490.64 ppb	5.484	1.12%
QC value within limits for Cd 226.502 Recovery = 98.13%						
Co 228.616†	22802.7	499.95 ug/L	6.280	499.95 ppb	6.280	1.26%
QC value within limits for Co 228.616 Recovery = 99.99%						
Cr 267.716†	44932.2	487.69 ug/L	5.739	487.69 ppb	5.739	1.18%
QC value within limits for Cr 267.716 Recovery = 97.54%						
Cu 324.752†	171795.7	481.94 ug/L	6.943	481.94 ppb	6.943	1.44%
QC value within limits for Cu 324.752 Recovery = 96.39%						
Fe 238.204 Radial†	573.1	5370.6 ug/L	90.59	5370.6 ppb	90.59	1.69%
QC value within limits for Fe 238.204 Radial Recovery = 107.41%						
K 766.490 Radial†	27670.1	5048.2 ug/L	101.27	5048.2 ppb	101.27	2.01%
QC value within limits for K 766.490 Radial Recovery = 100.96%						
Mg 279.077 IEC†	150.8	5377.1 ug/L	210.55	5377.1 ppb	210.55	3.92%
QC value within limits for Mg 279.077 IEC Recovery = 107.54%						
Mn 257.610†	435041.8	488.07 ug/L	0.543	488.07 ppb	0.543	0.11%
QC value within limits for Mn 257.610 Recovery = 97.61%						
Mo 202.031†	7104.8	485.36 ug/L	4.116	485.36 ppb	4.116	0.85%
QC value within limits for Mo 202.031 Recovery = 97.07%						
Na 589.592 Radial†	36311.1	10794 ug/L	222.5	10794 ppb	222.5	2.06%
QC value within limits for Na 589.592 Radial Recovery = 107.94%						
Ni 231.604†	19499.7	489.76 ug/L	6.032	489.76 ppb	6.032	1.23%
QC value within limits for Ni 231.604 Recovery = 97.95%						
P 214.914†	4309.8	2336.2 ug/L	21.06	2336.2 ppb	21.06	0.90%
QC value within limits for P 214.914 Recovery = 93.45%						
Pb 220.353†	3910.6	492.43 ug/L	3.837	492.43 ppb	3.837	0.78%
QC value within limits for Pb 220.353 Recovery = 98.49%						
S 181.975 Axial†	689.9	948.91 ug/L	11.874	948.91 ppb	11.874	1.25%
QC value within limits for S 181.975 Axial Recovery = 94.89%						
Sb 206.836†	1454.3	504.42 ug/L	3.940	504.42 ppb	3.940	0.78%
QC value within limits for Sb 206.836 Recovery = 100.88%						
Se 196.026†	845.7	507.34 ug/L	7.278	507.34 ppb	7.278	1.43%
QC value within limits for Se 196.026 Recovery = 101.47%						
Si 251.611†	82421.2	2436.2 ug/L	30.51	2436.2 ppb	30.51	1.25%
QC value within limits for Si 251.611 Recovery = 97.45%						
Sn 189.927†	2651.2	488.38 ug/L	6.121	488.38 ppb	6.121	1.25%
QC value within limits for Sn 189.927 Recovery = 97.68%						
Sr 421.552†	82061.3	526.61 ug/L	11.324	526.61 ppb	11.324	2.15%
QC value within limits for Sr 421.552 Recovery = 105.32%						
Ti 334.940†	317782.6	484.37 ug/L	5.993	484.37 ppb	5.993	1.24%
QC value within limits for Ti 334.940 Recovery = 96.87%						
Tl 190.801†	1512.7	487.10 ug/L	6.718	487.10 ppb	6.718	1.38%
QC value within limits for Tl 190.801 Recovery = 97.42%						
U 409.014†	19682.6	490.47 ug/L	5.774	490.47 ppb	5.774	1.18%
QC value within limits for U 409.014 Recovery = 98.09%						
V 292.402†	78060.8	491.87 ug/L	6.231	491.87 ppb	6.231	1.27%
QC value within limits for V 292.402 Recovery = 98.37%						
Zn 213.857†	52418.5	483.96 ug/L	5.679	483.96 ppb	5.679	1.17%
QC value within limits for Zn 213.857 Recovery = 96.79%						
SiO2†	82609.7	5211.4 ug/L	77.66	5211.4 ppb	77.66	1.49%
QC value within limits for SiO2 Recovery = 97.45%						
All analyte(s) passed QC.						

Sequence No.: 4

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 13:46:57

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5502.8	5502.8	103 %		13:48:50
1	Y RADIAL	5974.5	5974.5	103.8 %		13:48:50
1	Al 396.153Radial†	13.3	3.7	2.8216 ug/L	2.8216 ppb	13:49:10
1	Ca 317.933Radial†	21.9	1.1	1.7031 ug/L	1.7031 ppb	13:49:10
1	Fe 238.204 Radial†	8.1	0.7	6.7191 ug/L	6.7191 ppb	13:49:10
1	K 766.490 Radial†	2275.4	-295.4	-53.955 ug/L	-53.955 ppb	13:48:50
1	Mg 279.077 IEC†	1.4	0.4	14.680 ug/L	14.680 ppb	13:49:10
1	Na 589.592 Radial†	-696.9	-128.6	-38.239 ug/L	-38.239 ppb	13:48:50
1	Sr 421.552†	40.5	32.2	0.2067 ug/L	0.2067 ppb	13:48:50
1	Sc 361.383	914086.5	914086.5	101.81 %		13:50:06
1	Y 371.029	804471.0	804471.0	97.734 %		13:50:06
1	Ag 328.068†	300.7	-0.7	-0.0001 ug/L	-0.0001 ppb	13:50:06
1	As 188.979†	-28.2	2.4	1.0017 ug/L	1.0017 ppb	13:50:26
1	B 249.677†	-230.5	14.0	0.3050 ug/L	0.3050 ppb	13:50:26
1	Ba 233.527†	-17.4	-14.0	-0.1090 ug/L	-0.1090 ppb	13:50:26
1	Be 313.107†	-5100.1	90.8	0.0320 ug/L	0.0320 ppb	13:50:06
1	Cd 226.502†	-204.9	4.9	0.0543 ug/L	0.0543 ppb	13:50:26
1	Co 228.616†	-65.1	6.0	0.1305 ug/L	0.1305 ppb	13:50:26
1	Cr 267.716†	88.2	-7.3	-0.0787 ug/L	-0.0787 ppb	13:50:26
1	Cu 324.752†	8875.1	-410.3	-1.1516 ug/L	-1.1516 ppb	13:50:06
1	Mn 257.610†	506.5	7.7	0.0086 ug/L	0.0086 ppb	13:50:26
1	Mo 202.031†	25.0	1.0	0.0668 ug/L	0.0668 ppb	13:50:26
1	Ni 231.604†	98.7	3.2	0.0812 ug/L	0.0812 ppb	13:50:26
1	P 214.914†	238.6	-4.3	-2.2005 ug/L	-2.2005 ppb	13:50:26
1	Pb 220.353†	-35.5	25.5	3.2068 ug/L	3.2068 ppb	13:50:26
1	S 181.975 Axial†	53.5	-24.4	-33.595 ug/L	-33.595 ppb	13:50:26
1	Sb 206.836†	35.8	4.9	1.6619 ug/L	1.6619 ppb	13:50:26
1	Se 196.026†	-20.0	-1.7	-0.9428 ug/L	-0.9428 ppb	13:50:26
1	Si 251.611†	481.8	-22.7	-0.6737 ug/L	-0.6737 ppb	13:50:26
1	Sn 189.927†	11.2	11.4	2.0944 ug/L	2.0944 ppb	13:50:26
1	Ti 334.940†	-930.9	-7.8	-0.0136 ug/L	-0.0136 ppb	13:50:06
1	Tl 190.801†	-40.6	-2.9	-0.9418 ug/L	-0.9418 ppb	13:50:26
1	U 409.014†	-1016.1	64.8	1.6197 ug/L	1.6197 ppb	13:50:06
1	V 292.402†	-1340.6	76.8	0.4807 ug/L	0.4807 ppb	13:50:06
1	Zn 213.857†	713.3	-32.8	-0.3052 ug/L	-0.3052 ppb	13:50:26
1	SiO2†	487.5	-34.6	-2.1894 ug/L	-2.1894 ppb	13:51:37
2	Sc Radial	5401.7	5401.7	101 %		13:49:15
2	Y RADIAL	5835.8	5835.8	101.4 %		13:49:15
2	Al 396.153Radial†	2.3	-6.9	-5.2210 ug/L	-5.2210 ppb	13:49:35
2	Ca 317.933Radial†	21.8	1.3	2.1032 ug/L	2.1032 ppb	13:49:35
2	Fe 238.204 Radial†	10.1	2.8	26.145 ug/L	26.145 ppb	13:49:35
2	K 766.490 Radial†	2271.0	-258.4	-47.189 ug/L	-47.189 ppb	13:49:15
2	Mg 279.077 IEC†	1.0	-0.0	-0.6395 ug/L	-0.6395 ppb	13:49:35
2	Na 589.592 Radial†	-723.5	-167.7	-49.840 ug/L	-49.840 ppb	13:49:15
2	Sr 421.552†	24.3	16.9	0.1086 ug/L	0.1086 ppb	13:49:15
2	Sc 361.383	909949.5	909949.5	101.35 %		13:50:32
2	Y 371.029	801794.3	801794.3	97.409 %		13:50:32
2	Ag 328.068†	341.5	40.9	0.1803 ug/L	0.1803 ppb	13:50:32
2	As 188.979†	-32.3	-1.6	-0.6638 ug/L	-0.6638 ppb	13:50:52
2	B 249.677†	-244.2	-0.5	-0.0156 ug/L	-0.0156 ppb	13:50:52
2	Ba 233.527†	4.0	7.1	0.0572 ug/L	0.0572 ppb	13:50:52
2	Be 313.107†	-5034.9	132.4	0.0468 ug/L	0.0468 ppb	13:50:32
2	Cd 226.502†	-212.3	-3.3	-0.0398 ug/L	-0.0398 ppb	13:50:52
2	Co 228.616†	-65.3	5.5	0.1200 ug/L	0.1200 ppb	13:50:52
2	Cr 267.716†	100.5	5.2	0.0571 ug/L	0.0571 ppb	13:50:52
2	Cu 324.752†	8920.7	-325.7	-0.9127 ug/L	-0.9127 ppb	13:50:32
2	Mn 257.610†	495.5	-1.0	0.0015 ug/L	0.0015 ppb	13:50:52
2	Mo 202.031†	24.6	0.7	0.0475 ug/L	0.0475 ppb	13:50:52
2	Ni 231.604†	103.7	8.6	0.2159 ug/L	0.2159 ppb	13:50:52

2	P 214.914†	245.5	3.5	2.1684 ug/L	2.1684 ppb	13:50:52
2	Pb 220.353†	-34.9	26.0	3.2600 ug/L	3.2600 ppb	13:50:52
2	S 181.975 Axial†	49.3	-28.3	-38.999 ug/L	-38.999 ppb	13:50:52
2	Sb 206.836†	37.0	6.2	2.1206 ug/L	2.1206 ppb	13:50:52
2	Se 196.026†	-8.3	9.8	5.7168 ug/L	5.7168 ppb	13:50:52
2	Si 251.611†	471.9	-30.3	-0.8997 ug/L	-0.8997 ppb	13:50:52
2	Sn 189.927†	9.1	9.3	1.7078 ug/L	1.7078 ppb	13:50:52
2	Ti 334.940†	-882.4	35.8	0.0547 ug/L	0.0547 ppb	13:50:32
2	Tl 190.801†	-42.5	-5.0	-1.6097 ug/L	-1.6097 ppb	13:50:52
2	U 409.014†	-1053.6	23.2	0.5782 ug/L	0.5782 ppb	13:50:32
2	V 292.402†	-1350.8	60.7	0.3753 ug/L	0.3753 ppb	13:50:32
2	Zn 213.857†	714.8	-28.1	-0.2647 ug/L	-0.2647 ppb	13:50:52
2	SiO2†	494.8	-25.2	-1.5953 ug/L	-1.5953 ppb	13:51:57
3	Sc Radial	5421.1	5421.1	102 %		13:49:40
3	Y RADIAL	5839.3	5839.3	101.4 %		13:49:40
3	Al 396.153Radial†	9.4	0.1	0.0666 ug/L	0.0666 ppb	13:50:00
3	Ca 317.933Radial†	19.9	-0.6	-1.0380 ug/L	-1.0380 ppb	13:50:00
3	Fe 238.204 Radial†	7.3	0.1	0.6454 ug/L	0.6454 ppb	13:50:00
3	K 766.490 Radial†	2330.8	-207.5	-37.899 ug/L	-37.899 ppb	13:49:40
3	Mg 279.077 IEC†	1.2	0.2	6.8873 ug/L	6.8873 ppb	13:50:00
3	Na 589.592 Radial†	-673.4	-115.7	-34.381 ug/L	-34.381 ppb	13:49:40
3	Sr 421.552†	31.5	24.0	0.1539 ug/L	0.1539 ppb	13:49:40
3	Sc 361.383	917057.8	917057.8	102.14 %		13:50:57
3	Y 371.029	807599.7	807599.7	98.114 %		13:50:57
3	Ag 328.068†	340.4	37.3	0.1574 ug/L	0.1574 ppb	13:50:57
3	As 188.979†	-26.5	4.2	1.7148 ug/L	1.7148 ppb	13:51:17
3	B 249.677†	-235.3	10.0	0.2189 ug/L	0.2189 ppb	13:51:17
3	Ba 233.527†	2.9	6.0	0.0484 ug/L	0.0484 ppb	13:51:17
3	Be 313.107†	-4960.4	243.8	0.0860 ug/L	0.0860 ppb	13:50:57
3	Cd 226.502†	-201.8	8.6	0.0959 ug/L	0.0959 ppb	13:51:17
3	Co 228.616†	-64.4	6.9	0.1532 ug/L	0.1532 ppb	13:51:17
3	Cr 267.716†	84.4	-11.3	-0.1226 ug/L	-0.1226 ppb	13:51:17
3	Cu 324.752†	8880.0	-433.7	-1.2172 ug/L	-1.2172 ppb	13:50:57
3	Mn 257.610†	485.8	-14.2	-0.0161 ug/L	-0.0161 ppb	13:51:17
3	Mo 202.031†	32.5	8.2	0.5593 ug/L	0.5593 ppb	13:51:17
3	Ni 231.604†	85.5	-10.0	-0.2514 ug/L	-0.2514 ppb	13:51:17
3	P 214.914†	242.9	-1.0	-0.2837 ug/L	-0.2837 ppb	13:51:17
3	Pb 220.353†	-4.5	56.0	7.0347 ug/L	7.0347 ppb	13:51:17
3	S 181.975 Axial†	48.9	-29.1	-40.108 ug/L	-40.108 ppb	13:51:17
3	Sb 206.836†	27.9	-2.9	-0.9294 ug/L	-0.9294 ppb	13:51:17
3	Se 196.026†	-22.8	-4.4	-2.5404 ug/L	-2.5404 ppb	13:51:17
3	Si 251.611†	458.6	-46.9	-1.3968 ug/L	-1.3968 ppb	13:51:17
3	Sn 189.927†	9.4	9.5	1.7489 ug/L	1.7489 ppb	13:51:17
3	Ti 334.940†	-921.7	4.2	0.0053 ug/L	0.0053 ppb	13:50:57
3	Tl 190.801†	-36.2	1.5	0.4733 ug/L	0.4733 ppb	13:51:17
3	U 409.014†	-1046.5	38.2	0.9557 ug/L	0.9557 ppb	13:50:57
3	V 292.402†	-1328.9	92.5	0.5848 ug/L	0.5848 ppb	13:50:57
3	Zn 213.857†	712.3	-36.0	-0.3324 ug/L	-0.3324 ppb	13:51:17
3	SiO2†	472.1	-51.1	-3.2499 ug/L	-3.2499 ppb	13:52:17

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913697.9	101.76 %	0.398			0.39%
Sc Radial	5441.9	102 %	1.0			0.99%
Y 371.029	804621.7	97.752 %	0.3530			0.36%
Y RADIAL	5883.2	102.2 %	1.37			1.34%
Ag 328.068†	25.8	0.1125 ug/L	0.09820	0.1125 ppb	0.09820	87.29%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-1.0	-0.7776 ug/L	4.08724	-0.7776 ppb	4.08724	525.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.7	0.6842 ug/L	1.22064	0.6842 ppb	1.22064	178.39%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	7.8	0.1694 ug/L	0.16592	0.1694 ppb	0.16592	97.93%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-0.3	-0.0011 ug/L	0.09353	-0.0011 ppb	0.09353	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	155.7	0.0550 ug/L	0.02790	0.0550 ppb	0.02790	50.78%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.6	0.9228 ug/L	1.70981	0.9228 ppb	1.70981	185.29%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	3.4	0.0368 ug/L	0.06951	0.0368 ppb	0.06951	188.94%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	6.1	0.1346 ug/L	0.01697	0.1346 ppb	0.01697	12.61%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-4.5	-0.0481 ug/L	0.09367	-0.0481 ppb	0.09367	194.89%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-389.9	-1.0938 ug/L	0.16027	-1.0938 ppb	0.16027	14.65%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	1.2	11.170 ug/L	13.3194	11.170 ppb	13.3194	119.25%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-253.8	-46.348 ug/L	8.0607	-46.348 ppb	8.0607	17.39%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.2	6.9760 ug/L	7.66032	6.9760 ppb	7.66032	109.81%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-2.5	-0.0020 ug/L	0.01276	-0.0020 ppb	0.01276	639.66%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	3.3	0.2245 ug/L	0.29006	0.2245 ppb	0.29006	129.19%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-137.3	-40.820 ug/L	8.0463	-40.820 ppb	8.0463	19.71%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	0.6	0.0152 ug/L	0.24054	0.0152 ppb	0.24054	>999.9%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-0.6	-0.1053 ug/L	2.18991	-0.1053 ppb	2.18991	>999.9%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	35.9	4.5005 ug/L	2.19481	4.5005 ppb	2.19481	48.77%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-27.3	-37.567 ug/L	3.4845	-37.567 ppb	3.4845	9.28%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	2.7	0.9510 ug/L	1.64458	0.9510 ppb	1.64458	172.93%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	1.2	0.7445 ug/L	4.37955	0.7445 ppb	4.37955	588.24%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-33.3	-0.9900 ug/L	0.36996	-0.9900 ppb	0.36996	37.37%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	10.1	1.8504 ug/L	0.21237	1.8504 ppb	0.21237	11.48%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	24.4	0.1564 ug/L	0.04909	0.1564 ppb	0.04909	31.39%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	10.7	0.0155 ug/L	0.03526	0.0155 ppb	0.03526	227.88%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-2.2	-0.6927 ug/L	1.06361	-0.6927 ppb	1.06361	153.54%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	42.1	1.0512 ug/L	0.52729	1.0512 ppb	0.52729	50.16%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	76.6	0.4803 ug/L	0.10473	0.4803 ppb	0.10473	21.81%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-32.3	-0.3007 ug/L	0.03406	-0.3007 ppb	0.03406	11.33%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-37.0	-2.3449 ug/L	0.83818	-2.3449 ppb	0.83818	35.75%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 13

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 14:50:29

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5288.7	5288.7	99.0 %		14:52:21
1	Y RADIAL	5671.7	5671.7	98.52 %		14:52:21
1	Al 396.153Radial†	6479.9	6533.7	4926.7 ug/L	4926.7 ppb	14:52:21
1	Ca 317.933Radial†	3112.5	3122.5	5018.7 ug/L	5018.7 ppb	14:52:41
1	Fe 238.204 Radial†	560.0	558.3	5231.9 ug/L	5231.9 ppb	14:52:41
1	K 766.490 Radial†	29735.5	27521.0	5021.3 ug/L	5021.3 ppb	14:52:21
1	Mg 279.077 IEC†	148.6	149.1	5316.9 ug/L	5316.9 ppb	14:52:41
1	Na 589.592 Radial†	32957.6	33825.6	10055 ug/L	10055 ppb	14:52:21
1	Sr 421.552†	78604.6	79361.4	509.28 ug/L	509.28 ppb	14:52:21
1	Sc 361.383	938731.1	938731.1	104.55 %		14:53:39
1	Y 371.029	822827.6	822827.6	99.964 %		14:53:39
1	Ag 328.068†	118903.4	113432.1	476.51 ug/L	476.51 ppb	14:53:44
1	As 188.979†	1159.0	1138.8	470.07 ug/L	470.07 ppb	14:54:04
1	B 249.677†	22100.0	21378.5	466.62 ug/L	466.62 ppb	14:53:44
1	Ba 233.527†	62665.6	59941.2	473.67 ug/L	473.67 ppb	14:53:44
1	Be 313.107†	1394002.7	1338429.5	473.22 ug/L	473.22 ppb	14:53:39
1	Cd 226.502†	44461.1	42732.1	477.19 ug/L	477.19 ppb	14:53:44
1	Co 228.616†	23009.4	22077.9	484.05 ug/L	484.05 ppb	14:53:44
1	Cr 267.716†	45795.3	43708.1	474.41 ug/L	474.41 ppb	14:53:44
1	Cu 324.752†	183775.2	166648.4	467.50 ug/L	467.50 ppb	14:53:44
1	Mn 257.610†	442114.3	422381.5	473.86 ug/L	473.86 ppb	14:53:39
1	Mo 202.031†	7231.3	6892.9	470.89 ug/L	470.89 ppb	14:54:04
1	Ni 231.604†	19875.1	18916.3	475.10 ug/L	475.10 ppb	14:53:44
1	P 214.914†	4567.9	4130.4	2237.8 ug/L	2237.8 ppb	14:54:04
1	Pb 220.353†	3883.1	3774.4	475.32 ug/L	475.32 ppb	14:54:04
1	S 181.975 Axial†	778.4	667.5	918.15 ug/L	918.15 ppb	14:54:04
1	Sb 206.836†	1505.6	1409.8	488.96 ug/L	488.96 ppb	14:54:04
1	Se 196.026†	826.6	808.6	485.40 ug/L	485.40 ppb	14:54:04
1	Si 251.611†	84433.6	80262.7	2372.4 ug/L	2372.4 ppb	14:53:44
1	Sn 189.927†	2674.0	2557.9	471.22 ug/L	471.22 ppb	14:54:04
1	Ti 334.940†	322609.8	309474.8	471.72 ug/L	471.72 ppb	14:53:44
1	Tl 190.801†	1490.2	1462.2	470.88 ug/L	470.88 ppb	14:54:04
1	U 409.014†	18632.1	18883.9	470.54 ug/L	470.54 ppb	14:53:44
1	V 292.402†	77910.2	75912.7	478.31 ug/L	478.31 ppb	14:53:44
1	Zn 213.857†	53777.1	50703.0	468.11 ug/L	468.11 ppb	14:53:44
1	SiO2†	84053.3	79881.5	5039.3 ug/L	5039.3 ppb	14:55:11
2	Sc Radial	5373.3	5373.3	101 %		14:52:46
2	Y RADIAL	5778.0	5778.0	100.4 %		14:52:46
2	Al 396.153Radial†	6395.3	6346.6	4784.5 ug/L	4784.5 ppb	14:52:46
2	Ca 317.933Radial†	3094.2	3054.8	4910.0 ug/L	4910.0 ppb	14:53:06
2	Fe 238.204 Radial†	547.2	536.7	5030.1 ug/L	5030.1 ppb	14:53:06
2	K 766.490 Radial†	29588.3	26901.8	4908.3 ug/L	4908.3 ppb	14:52:46
2	Mg 279.077 IEC†	144.7	142.8	5094.6 ug/L	5094.6 ppb	14:53:06
2	Na 589.592 Radial†	32768.3	33113.3	9843.6 ug/L	9843.6 ppb	14:52:46
2	Sr 421.552†	77962.5	77473.3	497.16 ug/L	497.16 ppb	14:52:46
2	Sc 361.383	919503.5	919503.5	102.41 %		14:54:10
2	Y 371.029	804779.4	804779.4	97.772 %		14:54:10
2	Ag 328.068†	117506.6	114446.4	480.69 ug/L	480.69 ppb	14:54:15
2	As 188.979†	1159.0	1162.0	479.52 ug/L	479.52 ppb	14:54:35
2	B 249.677†	21749.3	21478.1	468.82 ug/L	468.82 ppb	14:54:15
2	Ba 233.527†	61978.0	60523.2	478.26 ug/L	478.26 ppb	14:54:15
2	Be 313.107†	1365150.6	1338137.2	473.12 ug/L	473.12 ppb	14:54:10
2	Cd 226.502†	43888.6	43062.4	480.90 ug/L	480.90 ppb	14:54:15
2	Co 228.616†	22787.8	22321.7	489.41 ug/L	489.41 ppb	14:54:15
2	Cr 267.716†	45221.4	44063.7	478.26 ug/L	478.26 ppb	14:54:15
2	Cu 324.752†	181173.8	167783.9	470.68 ug/L	470.68 ppb	14:54:15
2	Mn 257.610†	433737.5	423044.4	474.59 ug/L	474.59 ppb	14:54:10
2	Mo 202.031†	7210.0	7016.8	479.33 ug/L	479.33 ppb	14:54:35
2	Ni 231.604†	19664.6	19108.3	479.93 ug/L	479.93 ppb	14:54:15

2	P 214.914†	4554.7	4208.8	2281.6 ug/L	2281.6 ppb	14:54:35
2	Pb 220.353†	3839.6	3809.7	479.75 ug/L	479.75 ppb	14:54:35
2	S 181.975 Axial†	771.9	676.8	930.88 ug/L	930.88 ppb	14:54:35
2	Sb 206.836†	1481.7	1416.6	491.54 ug/L	491.54 ppb	14:54:35
2	Se 196.026†	818.9	817.6	489.96 ug/L	489.96 ppb	14:54:35
2	Si 251.611†	83568.6	81106.8	2397.3 ug/L	2397.3 ppb	14:54:15
2	Sn 189.927†	2670.1	2607.7	480.34 ug/L	480.34 ppb	14:54:35
2	Ti 334.940†	318960.9	312364.2	476.12 ug/L	476.12 ppb	14:54:15
2	Tl 190.801†	1489.8	1491.6	480.31 ug/L	480.31 ppb	14:54:35
2	U 409.014†	18517.6	19144.8	477.08 ug/L	477.08 ppb	14:54:15
2	V 292.402†	76876.0	76461.1	481.87 ug/L	481.87 ppb	14:54:15
2	Zn 213.857†	53183.7	51199.2	472.71 ug/L	472.71 ppb	14:54:15
2	SiO2†	84095.9	81604.2	5148.0 ug/L	5148.0 ppb	14:55:16
3	Sc Radial	5352.8	5352.8	100 %		14:53:11
3	Y RADIAL	5721.4	5721.4	99.38 %		14:53:11
3	Al 396.153Radial†	6361.7	6337.4	4778.0 ug/L	4778.0 ppb	14:53:11
3	Ca 317.933Radial†	3089.2	3061.6	4920.9 ug/L	4920.9 ppb	14:53:31
3	Fe 238.204 Radial†	553.9	545.5	5112.1 ug/L	5112.1 ppb	14:53:31
3	K 766.490 Radial†	29479.9	26906.4	4909.2 ug/L	4909.2 ppb	14:53:11
3	Mg 279.077 IEC†	145.2	143.9	5132.6 ug/L	5132.6 ppb	14:53:31
3	Na 589.592 Radial†	32225.5	32696.5	9719.8 ug/L	9719.8 ppb	14:53:11
3	Sr 421.552†	77129.1	76938.8	493.73 ug/L	493.73 ppb	14:53:11
3	Sc 361.383	931169.9	931169.9	103.71 %		14:54:41
3	Y 371.029	815789.7	815789.7	99.109 %		14:54:41
3	Ag 328.068†	118925.2	114376.6	480.42 ug/L	480.42 ppb	14:54:46
3	As 188.979†	1154.5	1143.4	471.96 ug/L	471.96 ppb	14:55:06
3	B 249.677†	22063.4	21514.8	469.62 ug/L	469.62 ppb	14:54:46
3	Ba 233.527†	62378.3	60150.9	475.32 ug/L	475.32 ppb	14:54:46
3	Be 313.107†	1384417.8	1340014.1	473.78 ug/L	473.78 ppb	14:54:41
3	Cd 226.502†	44263.5	42886.9	478.93 ug/L	478.93 ppb	14:54:46
3	Co 228.616†	22957.0	22206.0	486.86 ug/L	486.86 ppb	14:54:46
3	Cr 267.716†	45642.1	43916.1	476.66 ug/L	476.66 ppb	14:54:46
3	Cu 324.752†	183677.5	167981.5	471.23 ug/L	471.23 ppb	14:54:46
3	Mn 257.610†	439156.5	422963.3	474.51 ug/L	474.51 ppb	14:54:41
3	Mo 202.031†	7181.4	6901.0	471.43 ug/L	471.43 ppb	14:55:06
3	Ni 231.604†	19847.0	19043.6	478.30 ug/L	478.30 ppb	14:54:46
3	P 214.914†	4544.2	4143.0	2244.3 ug/L	2244.3 ppb	14:55:06
3	Pb 220.353†	3832.5	3755.9	472.96 ug/L	472.96 ppb	14:55:06
3	S 181.975 Axial†	770.2	665.6	915.57 ug/L	915.57 ppb	14:55:06
3	Sb 206.836†	1460.1	1377.7	478.24 ug/L	478.24 ppb	14:55:06
3	Se 196.026†	810.9	799.8	479.96 ug/L	479.96 ppb	14:55:06
3	Si 251.611†	84294.5	80784.3	2387.8 ug/L	2387.8 ppb	14:54:46
3	Sn 189.927†	2663.3	2568.4	473.13 ug/L	473.13 ppb	14:55:06
3	Ti 334.940†	322161.8	311548.4	474.88 ug/L	474.88 ppb	14:54:46
3	Tl 190.801†	1487.8	1471.4	473.85 ug/L	473.85 ppb	14:55:06
3	U 409.014†	18887.6	19275.1	480.33 ug/L	480.33 ppb	14:54:46
3	V 292.402†	77843.4	76453.4	481.70 ug/L	481.70 ppb	14:54:46
3	Zn 213.857†	53666.2	51013.8	470.99 ug/L	470.99 ppb	14:54:46
3	SiO2†	83783.5	80274.1	5064.1 ug/L	5064.1 ppb	14:55:21

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	929801.5	103.56 %	1.079			1.04%
Sc Radial	5338.3	100.0 %	0.83			0.83%
Y 371.029	814465.6	98.948 %	1.1051			1.12%
Y RADIAL	5723.7	99.42 %	0.924			0.93%
Ag 328.068†	114085.0	479.21 ug/L	2.338	479.21 ppb	2.338	0.49%
QC value within limits for Ag 328.068 Recovery = 95.84%						
Al 396.153Radial†	6405.9	4829.7 ug/L	84.04	4829.7 ppb	84.04	1.74%
QC value within limits for Al 396.153Radial Recovery = 96.59%						
As 188.979†	1148.1	473.85 ug/L	5.004	473.85 ppb	5.004	1.06%
QC value within limits for As 188.979 Recovery = 94.77%						
B 249.677†	21457.2	468.35 ug/L	1.554	468.35 ppb	1.554	0.33%
QC value within limits for B 249.677 Recovery = 93.67%						
Ba 233.527†	60205.1	475.75 ug/L	2.324	475.75 ppb	2.324	0.49%
QC value within limits for Ba 233.527 Recovery = 95.15%						
Be 313.107†	1338860.3	473.38 ug/L	0.357	473.38 ppb	0.357	0.08%
QC value within limits for Be 313.107 Recovery = 94.68%						
Ca 317.933Radial†	3079.6	4949.9 ug/L	59.88	4949.9 ppb	59.88	1.21%

QC value within limits for Ca 317.933 Radial Recovery = 99.00%							
Cd 226.502†	42893.8	479.01 ug/L	1.858	479.01 ppb	1.858	0.39%	
QC value within limits for Cd 226.502 Recovery = 95.80%							
Co 228.616†	22201.9	486.77 ug/L	2.680	486.77 ppb	2.680	0.55%	
QC value within limits for Co 228.616 Recovery = 97.35%							
Cr 267.716†	43896.0	476.44 ug/L	1.936	476.44 ppb	1.936	0.41%	
QC value within limits for Cr 267.716 Recovery = 95.29%							
Cu 324.752†	167471.3	469.80 ug/L	2.011	469.80 ppb	2.011	0.43%	
QC value within limits for Cu 324.752 Recovery = 93.96%							
Fe 238.204 Radial†	546.8	5124.7 ug/L	101.52	5124.7 ppb	101.52	1.98%	
QC value within limits for Fe 238.204 Radial Recovery = 102.49%							
K 766.490 Radial†	27109.7	4946.3 ug/L	64.99	4946.3 ppb	64.99	1.31%	
QC value within limits for K 766.490 Radial Recovery = 98.93%							
Mg 279.077 IEC†	145.3	5181.4 ug/L	118.93	5181.4 ppb	118.93	2.30%	
QC value within limits for Mg 279.077 IEC Recovery = 103.63%							
Mn 257.610†	422796.4	474.32 ug/L	0.401	474.32 ppb	0.401	0.08%	
QC value within limits for Mn 257.610 Recovery = 94.86%							
Mo 202.031†	6936.9	473.89 ug/L	4.723	473.89 ppb	4.723	1.00%	
QC value within limits for Mo 202.031 Recovery = 94.78%							
Na 589.592 Radial†	33211.8	9872.9 ug/L	169.72	9872.9 ppb	169.72	1.72%	
QC value within limits for Na 589.592 Radial Recovery = 98.73%							
Ni 231.604†	19022.8	477.78 ug/L	2.453	477.78 ppb	2.453	0.51%	
QC value within limits for Ni 231.604 Recovery = 95.56%							
P 214.914†	4160.7	2254.6 ug/L	23.65	2254.6 ppb	23.65	1.05%	
QC value within limits for P 214.914 Recovery = 90.18%							
Pb 220.353†	3780.0	476.01 ug/L	3.443	476.01 ppb	3.443	0.72%	
QC value within limits for Pb 220.353 Recovery = 95.20%							
S 181.975 Axial†	670.0	921.53 ug/L	8.195	921.53 ppb	8.195	0.89%	
QC value within limits for S 181.975 Axial Recovery = 92.15%							
Sb 206.836†	1401.4	486.24 ug/L	7.053	486.24 ppb	7.053	1.45%	
QC value within limits for Sb 206.836 Recovery = 97.25%							
Se 196.026†	808.7	485.11 ug/L	5.007	485.11 ppb	5.007	1.03%	
QC value within limits for Se 196.026 Recovery = 97.02%							
Si 251.611†	80717.9	2385.8 ug/L	12.57	2385.8 ppb	12.57	0.53%	
QC value within limits for Si 251.611 Recovery = 95.43%							
Sn 189.927†	2578.0	474.90 ug/L	4.813	474.90 ppb	4.813	1.01%	
QC value within limits for Sn 189.927 Recovery = 94.98%							
Sr 421.552†	77924.5	500.06 ug/L	8.168	500.06 ppb	8.168	1.63%	
QC value within limits for Sr 421.552 Recovery = 100.01%							
Ti 334.940†	311129.2	474.24 ug/L	2.271	474.24 ppb	2.271	0.48%	
QC value within limits for Ti 334.940 Recovery = 94.85%							
Tl 190.801†	1475.1	475.01 ug/L	4.822	475.01 ppb	4.822	1.02%	
QC value within limits for Tl 190.801 Recovery = 95.00%							
U 409.014†	19101.3	475.98 ug/L	4.985	475.98 ppb	4.985	1.05%	
QC value within limits for U 409.014 Recovery = 95.20%							
V 292.402†	76275.8	480.63 ug/L	2.011	480.63 ppb	2.011	0.42%	
QC value within limits for V 292.402 Recovery = 96.13%							
Zn 213.857†	50972.0	470.60 ug/L	2.327	470.60 ppb	2.327	0.49%	
QC value within limits for Zn 213.857 Recovery = 94.12%							
SiO2†	80586.6	5083.8 ug/L	56.97	5083.8 ppb	56.97	1.12%	
QC value within limits for SiO2 Recovery = 95.07%							
All analyte(s) passed QC.							

Sequence No.: 14

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 1/26/2010 14:57:31

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5466.8	5466.8	102 %		14:59:24
1	Y RADIAL	5869.4	5869.4	101.9 %		14:59:24
1	Al 396.153Radial†	279.6	264.0	199.52 ug/L	199.52 ppb	14:59:45
1	Ca 317.933Radial†	145.9	122.3	196.50 ug/L	196.50 ppb	14:59:45
1	Fe 238.204 Radial†	19.4	11.8	110.07 ug/L	110.07 ppb	14:59:45
1	K 766.490 Radial†	3024.8	451.2	82.242 ug/L	82.242 ppb	14:59:24
1	Mg 279.077 IEC†	9.8	8.6	305.27 ug/L	305.27 ppb	14:59:45
1	Na 589.592 Radial†	358.2	897.6	266.82 ug/L	266.82 ppb	14:59:24
1	Sr 421.552†	851.2	824.4	5.2892 ug/L	5.2892 ppb	14:59:24
1	Sc 361.383	915476.5	915476.5	101.96 %		15:00:41
1	Y 371.029	805899.9	805899.9	97.908 %		15:00:41
1	Ag 328.068†	1485.0	1160.4	4.8535 ug/L	4.8535 ppb	15:00:41
1	As 188.979†	41.2	70.6	28.912 ug/L	28.912 ppb	15:01:01
1	B 249.677†	2044.5	2245.6	49.216 ug/L	49.216 ppb	15:00:41
1	Ba 233.527†	622.7	613.8	4.8529 ug/L	4.8529 ppb	15:01:01
1	Be 313.107†	9187.6	14111.3	4.9896 ug/L	4.9896 ppb	15:00:41
1	Cd 226.502†	260.7	461.9	5.1615 ug/L	5.1615 ppb	15:01:01
1	Co 228.616†	160.3	227.1	4.9904 ug/L	4.9904 ppb	15:01:01
1	Cr 267.716†	553.0	448.5	4.8504 ug/L	4.8504 ppb	15:01:01
1	Cu 324.752†	12452.8	3085.4	8.6322 ug/L	8.6322 ppb	15:00:41
1	Mn 257.610†	9908.5	9228.1	10.345 ug/L	10.345 ppb	15:00:41
1	Mo 202.031†	171.7	144.8	9.8940 ug/L	9.8940 ppb	15:01:01
1	Ni 231.604†	310.0	210.4	5.2842 ug/L	5.2842 ppb	15:01:01
1	P 214.914†	511.1	262.5	146.38 ug/L	146.38 ppb	15:01:01
1	Pb 220.353†	27.3	87.1	10.993 ug/L	10.993 ppb	15:01:01
1	S 181.975 Axial†	123.6	44.2	60.815 ug/L	60.815 ppb	15:01:01
1	Sb 206.836†	65.7	34.2	11.819 ug/L	11.819 ppb	15:01:01
1	Se 196.026†	41.5	58.7	34.250 ug/L	34.250 ppb	15:01:01
1	Si 251.611†	3748.5	3180.5	94.116 ug/L	94.116 ppb	15:01:01
1	Sn 189.927†	64.3	63.4	11.684 ug/L	11.684 ppb	15:01:01
1	Ti 334.940†	2521.9	3379.9	5.1302 ug/L	5.1302 ppb	15:00:41
1	Tl 190.801†	26.4	62.8	20.140 ug/L	20.140 ppb	15:01:01
1	U 409.014†	1041.5	2084.3	52.094 ug/L	52.094 ppb	15:00:41
1	V 292.402†	-585.9	819.0	5.3151 ug/L	5.3151 ppb	15:00:41
1	Zn 213.857†	1787.6	1019.8	9.4427 ug/L	9.4427 ppb	15:01:01
1	SiO2†	3926.3	3337.3	210.80 ug/L	210.80 ppb	15:01:58
2	Sc Radial	5383.3	5383.3	101 %		14:59:50
2	Y RADIAL	5822.6	5822.6	101.1 %		14:59:50
2	Al 396.153Radial†	288.7	277.3	209.58 ug/L	209.58 ppb	15:00:10
2	Ca 317.933Radial†	148.7	127.2	204.53 ug/L	204.53 ppb	15:00:10
2	Fe 238.204 Radial†	19.8	12.5	117.05 ug/L	117.05 ppb	15:00:10
2	K 766.490 Radial†	3208.6	679.3	123.92 ug/L	123.92 ppb	14:59:50
2	Mg 279.077 IEC†	13.0	11.9	425.10 ug/L	425.10 ppb	15:00:10
2	Na 589.592 Radial†	306.6	851.8	253.22 ug/L	253.22 ppb	14:59:50
2	Sr 421.552†	825.0	811.3	5.2051 ug/L	5.2051 ppb	14:59:50
2	Sc 361.383	911011.3	911011.3	101.46 %		15:01:07
2	Y 371.029	802353.5	802353.5	97.477 %		15:01:07
2	Ag 328.068†	1591.5	1272.6	5.3246 ug/L	5.3246 ppb	15:01:07
2	As 188.979†	39.6	69.3	28.387 ug/L	28.387 ppb	15:01:27
2	B 249.677†	2050.3	2261.1	49.554 ug/L	49.554 ppb	15:01:07
2	Ba 233.527†	633.9	627.9	4.9641 ug/L	4.9641 ppb	15:01:27
2	Be 313.107†	9054.3	14024.2	4.9589 ug/L	4.9589 ppb	15:01:07
2	Cd 226.502†	247.1	449.7	5.0251 ug/L	5.0251 ppb	15:01:27
2	Co 228.616†	165.8	233.3	5.1244 ug/L	5.1244 ppb	15:01:27
2	Cr 267.716†	547.5	445.7	4.8207 ug/L	4.8207 ppb	15:01:27
2	Cu 324.752†	12456.7	3149.0	8.8115 ug/L	8.8115 ppb	15:01:07
2	Mn 257.610†	9825.3	9193.7	10.302 ug/L	10.302 ppb	15:01:07
2	Mo 202.031†	161.7	135.7	9.2749 ug/L	9.2749 ppb	15:01:27
2	Ni 231.604†	310.7	212.5	5.3371 ug/L	5.3371 ppb	15:01:27



2	P 214.914†	513.8	267.7	149.27 ug/L	149.27 ppb	15:01:27
2	Pb 220.353†	46.2	105.9	13.347 ug/L	13.347 ppb	15:01:27
2	S 181.975 Axial†	124.7	45.9	63.125 ug/L	63.125 ppb	15:01:27
2	Sb 206.836†	79.8	48.4	16.590 ug/L	16.590 ppb	15:01:27
2	Se 196.026†	33.4	50.8	29.751 ug/L	29.751 ppb	15:01:27
2	Si 251.611†	3729.1	3179.4	94.090 ug/L	94.090 ppb	15:01:27
2	Sn 189.927†	69.8	69.1	12.741 ug/L	12.741 ppb	15:01:27
2	Ti 334.940†	2514.0	3384.3	5.1285 ug/L	5.1285 ppb	15:01:07
2	Tl 190.801†	18.4	55.1	17.671 ug/L	17.671 ppb	15:01:27
2	U 409.014†	1005.9	2054.2	51.341 ug/L	51.341 ppb	15:01:07
2	V 292.402†	-571.8	830.1	5.3751 ug/L	5.3751 ppb	15:01:07
2	Zn 213.857†	1774.3	1015.3	9.3996 ug/L	9.3996 ppb	15:01:27
2	SiO2†	3943.3	3373.0	213.07 ug/L	213.07 ppb	15:02:03
3	Sc Radial	5232.6	5232.6	98.0 %		15:00:15
3	Y RADIAL	5665.9	5665.9	98.41 %		15:00:15
3	Al 396.153Radial†	306.3	303.4	229.34 ug/L	229.34 ppb	15:00:35
3	Ca 317.933Radial†	140.6	123.3	198.15 ug/L	198.15 ppb	15:00:35
3	Fe 238.204 Radial†	19.6	12.8	120.17 ug/L	120.17 ppb	15:00:35
3	K 766.490 Radial†	3108.0	668.4	121.92 ug/L	121.92 ppb	15:00:15
3	Mg 279.077 IEC†	10.5	9.7	346.78 ug/L	346.78 ppb	15:00:35
3	Na 589.592 Radial†	302.5	856.3	254.57 ug/L	254.57 ppb	15:00:15
3	Sr 421.552†	782.3	791.2	5.0765 ug/L	5.0765 ppb	15:00:15
3	Sc 361.383	914033.0	914033.0	101.80 %		15:01:32
3	Y 371.029	804583.4	804583.4	97.748 %		15:01:32
3	Ag 328.068†	1571.8	1248.0	5.2224 ug/L	5.2224 ppb	15:01:32
3	As 188.979†	30.3	59.9	24.571 ug/L	24.571 ppb	15:01:52
3	B 249.677†	2057.7	2261.8	49.568 ug/L	49.568 ppb	15:01:32
3	Ba 233.527†	627.9	619.9	4.9020 ug/L	4.9020 ppb	15:01:52
3	Be 313.107†	9158.6	14097.2	4.9847 ug/L	4.9847 ppb	15:01:32
3	Cd 226.502†	248.9	450.7	5.0356 ug/L	5.0356 ppb	15:01:52
3	Co 228.616†	157.5	224.7	4.9373 ug/L	4.9373 ppb	15:01:52
3	Cr 267.716†	561.9	458.1	4.9547 ug/L	4.9547 ppb	15:01:52
3	Cu 324.752†	12555.7	3205.7	8.9695 ug/L	8.9695 ppb	15:01:32
3	Mn 257.610†	9820.8	9157.3	10.265 ug/L	10.265 ppb	15:01:32
3	Mo 202.031†	177.8	151.0	10.320 ug/L	10.320 ppb	15:01:52
3	Ni 231.604†	324.2	224.7	5.6451 ug/L	5.6451 ppb	15:01:52
3	P 214.914†	499.3	251.7	140.22 ug/L	140.22 ppb	15:01:52
3	Pb 220.353†	43.5	103.1	13.005 ug/L	13.005 ppb	15:01:52
3	S 181.975 Axial†	121.1	42.0	57.727 ug/L	57.727 ppb	15:01:52
3	Sb 206.836†	73.5	42.0	14.422 ug/L	14.422 ppb	15:01:52
3	Se 196.026†	27.5	44.9	26.366 ug/L	26.366 ppb	15:01:52
3	Si 251.611†	3740.3	3178.2	94.042 ug/L	94.042 ppb	15:01:52
3	Sn 189.927†	58.2	57.5	10.604 ug/L	10.604 ppb	15:01:52
3	Ti 334.940†	2524.8	3386.7	5.1367 ug/L	5.1367 ppb	15:01:32
3	Tl 190.801†	24.3	60.7	19.490 ug/L	19.490 ppb	15:01:52
3	U 409.014†	1089.9	2133.4	53.322 ug/L	53.322 ppb	15:01:32
3	V 292.402†	-532.8	870.2	5.6411 ug/L	5.6411 ppb	15:01:32
3	Zn 213.857†	1774.4	1009.6	9.3445 ug/L	9.3445 ppb	15:01:52
3	SiO2†	3891.2	3309.0	209.00 ug/L	209.00 ppb	15:02:08

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913506.9	101.74 %	0.254			0.25%
Sc Radial	5360.9	100 %	2.2			2.21%
Y 371.029	804278.9	97.711 %	0.2178			0.22%
Y RADIAL	5786.0	100.5 %	1.85			1.84%
Ag 328.068†	1227.0	5.1335 ug/L	0.24779	5.1335 ppb	0.24779	4.83%
QC value within limits for Ag 328.068 Recovery = 102.67%						
Al 396.153Radial†	281.6	212.81 ug/L	15.172	212.81 ppb	15.172	7.13%
QC value within limits for Al 396.153Radial Recovery = 106.41%						
As 188.979†	66.6	27.290 ug/L	2.3691	27.290 ppb	2.3691	8.68%
QC value within limits for As 188.979 Recovery = 90.97%						
B 249.677†	2256.2	49.446 ug/L	0.1993	49.446 ppb	0.1993	0.40%
QC value within limits for B 249.677 Recovery = 98.89%						
Ba 233.527†	620.6	4.9063 ug/L	0.05575	4.9063 ppb	0.05575	1.14%
QC value within limits for Ba 233.527 Recovery = 98.13%						
Be 313.107†	14077.6	4.9777 ug/L	0.01650	4.9777 ppb	0.01650	0.33%
QC value within limits for Be 313.107 Recovery = 99.55%						
Ca 317.933Radial†	124.3	199.73 ug/L	4.239	199.73 ppb	4.239	2.12%

QC value within limits for Ca 317.933 Radial Recovery = 99.86%							
Cd	226.502†	454.1	5.0741 ug/L	0.07589	5.0741 ppb	0.07589	1.50%
QC value within limits for Cd 226.502 Recovery = 101.48%							
Co	228.616†	228.4	5.0174 ug/L	0.09646	5.0174 ppb	0.09646	1.92%
QC value within limits for Co 228.616 Recovery = 100.35%							
Cr	267.716†	450.7	4.8753 ug/L	0.07035	4.8753 ppb	0.07035	1.44%
QC value within limits for Cr 267.716 Recovery = 97.51%							
Cu	324.752†	3146.7	8.8044 ug/L	0.16874	8.8044 ppb	0.16874	1.92%
QC value within limits for Cu 324.752 Recovery = 88.04%							
Fe	238.204 Radial†	12.4	115.76 ug/L	5.171	115.76 ppb	5.171	4.47%
QC value within limits for Fe 238.204 Radial Recovery = 115.76%							
K	766.490 Radial†	599.6	109.36 ug/L	23.507	109.36 ppb	23.507	21.50%
QC value within limits for K 766.490 Radial Recovery = 72.91%							
Mg	279.077 IEC†	10.1	359.05 ug/L	60.849	359.05 ppb	60.849	16.95%
QC value within limits for Mg 279.077 IEC Recovery = 119.68%							
Mn	257.610†	9193.0	10.304 ug/L	0.0401	10.304 ppb	0.0401	0.39%
QC value within limits for Mn 257.610 Recovery = 103.04%							
Mo	202.031†	143.9	9.8295 ug/L	0.52531	9.8295 ppb	0.52531	5.34%
QC value within limits for Mo 202.031 Recovery = 98.30%							
Na	589.592 Radial†	868.6	258.20 ug/L	7.492	258.20 ppb	7.492	2.90%
QC value within limits for Na 589.592 Radial Recovery = 86.07%							
Ni	231.604†	215.9	5.4222 ug/L	0.19487	5.4222 ppb	0.19487	3.59%
QC value within limits for Ni 231.604 Recovery = 108.44%							
P	214.914†	260.6	145.29 ug/L	4.624	145.29 ppb	4.624	3.18%
QC value within limits for P 214.914 Recovery = 96.86%							
Pb	220.353†	98.7	12.448 ug/L	1.2720	12.448 ppb	1.2720	10.22%
QC value within limits for Pb 220.353 Recovery = 124.48%							
S	181.975 Axial†	44.0	60.555 ug/L	2.7085	60.555 ppb	2.7085	4.47%
QC value less than the lower limit for S 181.975 Axial Recovery = 60.56%							
Sb	206.836†	41.5	14.277 ug/L	2.3890	14.277 ppb	2.3890	16.73%
QC value greater than the upper limit for Sb 206.836 Recovery = 142.77%							
Se	196.026†	51.5	30.122 ug/L	3.9551	30.122 ppb	3.9551	13.13%
QC value within limits for Se 196.026 Recovery = 100.41%							
Si	251.611†	3179.3	94.083 ug/L	0.0374	94.083 ppb	0.0374	0.04%
QC value within limits for Si 251.611 Recovery = 94.08%							
Sn	189.927†	63.3	11.676 ug/L	1.0682	11.676 ppb	1.0682	9.15%
QC value within limits for Sn 189.927 Recovery = 116.76%							
Sr	421.552†	809.0	5.1903 ug/L	0.10715	5.1903 ppb	0.10715	2.06%
QC value within limits for Sr 421.552 Recovery = 103.81%							
Ti	334.940†	3383.6	5.1318 ug/L	0.00434	5.1318 ppb	0.00434	0.08%
QC value within limits for Ti 334.940 Recovery = 102.64%							
Tl	190.801†	59.5	19.100 ug/L	1.2796	19.100 ppb	1.2796	6.70%
QC value within limits for Tl 190.801 Recovery = 95.50%							
U	409.014†	2090.6	52.253 ug/L	0.9997	52.253 ppb	0.9997	1.91%
QC value within limits for U 409.014 Recovery = 104.51%							
V	292.402†	839.7	5.4438 ug/L	0.17354	5.4438 ppb	0.17354	3.19%
QC value within limits for V 292.402 Recovery = 108.88%							
Zn	213.857†	1014.9	9.3956 ug/L	0.04926	9.3956 ppb	0.04926	0.52%
QC value within limits for Zn 213.857 Recovery = 93.96%							
SiO2†		3339.8	210.96 ug/L	2.043	210.96 ppb	2.043	0.97%
QC value within limits for SiO2 Recovery = 99.04%							
QC Failed. Continue with analysis.							

Sequence No.: 15

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 15:04:19

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5472.0	5472.0	102 %		15:06:11
1	Y RADIAL	5876.1	5876.1	102.1 %		15:06:11
1	Al 396.153Radial†	10.5	1.1	0.7686 ug/L	0.7686 ppb	15:06:31
1	Ca 317.933Radial†	23.2	2.4	3.8210 ug/L	3.8210 ppb	15:06:31
1	Fe 238.204 Radial†	6.6	-0.8	-7.0459 ug/L	-7.0459 ppb	15:06:31
1	K 766.490 Radial†	2348.4	-211.7	-38.664 ug/L	-38.664 ppb	15:06:11
1	Mg 279.077 IEC†	1.1	0.1	3.9059 ug/L	3.9059 ppb	15:06:31
1	Na 589.592 Radial†	-671.6	-107.8	-32.050 ug/L	-32.050 ppb	15:06:11
1	Sr 421.552†	4.7	-2.5	-0.0159 ug/L	-0.0159 ppb	15:06:11
1	Sc 361.383	924855.8	924855.8	103.01 %		15:07:28
1	Y 371.029	818551.5	818551.5	99.445 %		15:07:28
1	Ag 328.068†	199.0	-102.8	-0.4219 ug/L	-0.4219 ppb	15:07:33
1	As 188.979†	-37.2	-5.9	-2.4310 ug/L	-2.4310 ppb	15:07:53
1	B 249.677†	-255.5	-7.6	-0.1666 ug/L	-0.1666 ppb	15:07:53
1	Ba 233.527†	-1.7	1.4	0.0119 ug/L	0.0119 ppb	15:07:53
1	Be 313.107†	-5071.6	176.9	0.0623 ug/L	0.0623 ppb	15:07:33
1	Cd 226.502†	-196.0	15.9	0.1766 ug/L	0.1766 ppb	15:07:53
1	Co 228.616†	-62.6	9.1	0.2027 ug/L	0.2027 ppb	15:07:53
1	Cr 267.716†	86.9	-9.6	-0.1000 ug/L	-0.1000 ppb	15:07:53
1	Cu 324.752†	8959.2	-430.2	-1.2021 ug/L	-1.2021 ppb	15:07:33
1	Mn 257.610†	497.0	-7.4	-0.0091 ug/L	-0.0091 ppb	15:07:53
1	Mo 202.031†	37.3	12.6	0.8590 ug/L	0.8590 ppb	15:07:53
1	Ni 231.604†	89.7	-6.6	-0.1664 ug/L	-0.1664 ppb	15:07:53
1	P 214.914†	241.5	-4.3	-2.1660 ug/L	-2.1660 ppb	15:07:53
1	Pb 220.353†	-49.9	12.0	1.5064 ug/L	1.5064 ppb	15:07:53
1	S 181.975 Axial†	42.2	-36.0	-49.588 ug/L	-49.588 ppb	15:07:53
1	Sb 206.836†	47.8	16.2	5.4534 ug/L	5.4534 ppb	15:07:53
1	Se 196.026†	-23.4	-4.7	-2.7572 ug/L	-2.7572 ppb	15:07:53
1	Si 251.611†	486.3	-23.9	-0.7173 ug/L	-0.7173 ppb	15:07:53
1	Sn 189.927†	6.8	6.9	1.2694 ug/L	1.2694 ppb	15:07:53
1	Ti 334.940†	-962.5	-27.9	-0.0381 ug/L	-0.0381 ppb	15:07:33
1	Tl 190.801†	-36.6	1.3	0.4201 ug/L	0.4201 ppb	15:07:53
1	U 409.014†	-1483.1	-377.0	-9.4257 ug/L	-9.4257 ppb	15:07:33
1	V 292.402†	-1360.9	72.4	0.4454 ug/L	0.4454 ppb	15:07:33
1	Zn 213.857†	702.1	-51.8	-0.4787 ug/L	-0.4787 ppb	15:07:53
1	SiO2†	510.2	-18.1	-1.1669 ug/L	-1.1669 ppb	15:09:14
2	Sc Radial	5243.7	5243.7	98.2 %		15:06:36
2	Y RADIAL	5652.8	5652.8	98.19 %		15:06:36
2	Al 396.153Radial†	4.7	-4.3	-3.2647 ug/L	-3.2647 ppb	15:06:56
2	Ca 317.933Radial†	23.8	4.0	6.3563 ug/L	6.3563 ppb	15:06:56
2	Fe 238.204 Radial†	7.0	-0.1	-0.5032 ug/L	-0.5032 ppb	15:06:56
2	K 766.490 Radial†	2220.4	-242.3	-44.247 ug/L	-44.247 ppb	15:06:36
2	Mg 279.077 IEC†	0.6	-0.3	-12.125 ug/L	-12.125 ppb	15:06:56
2	Na 589.592 Radial†	-641.4	-105.6	-31.389 ug/L	-31.389 ppb	15:06:36
2	Sr 421.552†	-0.2	-7.3	-0.0472 ug/L	-0.0472 ppb	15:06:36
2	Sc 361.383	930124.5	930124.5	103.59 %		15:07:58
2	Y 371.029	821671.2	821671.2	99.824 %		15:07:58
2	Ag 328.068†	351.3	43.1	0.1892 ug/L	0.1892 ppb	15:08:03
2	As 188.979†	-25.2	5.9	2.3945 ug/L	2.3945 ppb	15:08:23
2	B 249.677†	-251.0	-1.9	-0.0411 ug/L	-0.0411 ppb	15:08:23
2	Ba 233.527†	-13.5	-9.9	-0.0768 ug/L	-0.0768 ppb	15:08:23
2	Be 313.107†	-5059.3	216.6	0.0764 ug/L	0.0764 ppb	15:08:03
2	Cd 226.502†	-197.6	15.4	0.1705 ug/L	0.1705 ppb	15:08:23
2	Co 228.616†	-73.0	-0.5	-0.0121 ug/L	-0.0121 ppb	15:08:23
2	Cr 267.716†	98.8	1.5	0.0202 ug/L	0.0202 ppb	15:08:23
2	Cu 324.752†	8852.9	-582.1	-1.6285 ug/L	-1.6285 ppb	15:08:03
2	Mn 257.610†	488.9	-17.9	-0.0196 ug/L	-0.0196 ppb	15:08:23
2	Mo 202.031†	20.2	-4.1	-0.2800 ug/L	-0.2800 ppb	15:08:23
2	Ni 231.604†	98.7	1.6	0.0399 ug/L	0.0399 ppb	15:08:23

2	P 214.914†	237.3	-9.6	-5.1042 ug/L	-5.1042 ppb	15:08:23
2	Pb 220.353†	-53.0	9.2	1.1559 ug/L	1.1559 ppb	15:08:23
2	S 181.975 Axial†	47.5	-31.1	-42.866 ug/L	-42.866 ppb	15:08:23
2	Sb 206.836†	35.6	4.1	1.3743 ug/L	1.3743 ppb	15:08:23
2	Se 196.026†	-18.4	0.2	0.1159 ug/L	0.1159 ppb	15:08:23
2	Si 251.611†	479.7	-32.9	-0.9699 ug/L	-0.9699 ppb	15:08:23
2	Sn 189.927†	2.7	2.9	0.5420 ug/L	0.5420 ppb	15:08:23
2	Ti 334.940†	-948.9	-9.5	-0.0091 ug/L	-0.0091 ppb	15:08:03
2	Tl 190.801†	-32.0	6.0	1.9202 ug/L	1.9202 ppb	15:08:23
2	U 409.014†	-1435.0	-322.4	-8.0617 ug/L	-8.0617 ppb	15:08:03
2	V 292.402†	-1325.5	114.0	0.6897 ug/L	0.6897 ppb	15:08:03
2	Zn 213.857†	699.5	-58.2	-0.5401 ug/L	-0.5401 ppb	15:08:23
2	SiO2†	522.0	-9.5	-0.5957 ug/L	-0.5957 ppb	15:09:34
3	Sc Radial	5356.1	5356.1	100 %		15:07:01
3	Y RADIAL	5779.0	5779.0	100.4 %		15:07:01
3	Al 396.153Radial†	-3.2	-12.3	-9.3374 ug/L	-9.3374 ppb	15:07:21
3	Ca 317.933Radial†	19.0	-1.3	-2.0191 ug/L	-2.0191 ppb	15:07:21
3	Fe 238.204 Radial†	6.9	-0.3	-2.5493 ug/L	-2.5493 ppb	15:07:21
3	K 766.490 Radial†	2304.6	-205.8	-37.572 ug/L	-37.572 ppb	15:07:01
3	Mg 279.077 IEC†	-0.2	-1.2	-41.291 ug/L	-41.291 ppb	15:07:21
3	Na 589.592 Radial†	-688.2	-138.5	-41.183 ug/L	-41.183 ppb	15:07:01
3	Sr 421.552†	18.1	11.0	0.0706 ug/L	0.0706 ppb	15:07:01
3	Sc 361.383	923472.4	923472.4	102.85 %		15:08:28
3	Y 371.029	818650.7	818650.7	99.457 %		15:08:28
3	Ag 328.068†	374.2	67.8	0.2917 ug/L	0.2917 ppb	15:08:33
3	As 188.979†	-32.4	-1.3	-0.5276 ug/L	-0.5276 ppb	15:08:53
3	B 249.677†	-257.9	-10.3	-0.2267 ug/L	-0.2267 ppb	15:08:53
3	Ba 233.527†	2.8	5.8	0.0465 ug/L	0.0465 ppb	15:08:53
3	Be 313.107†	-5044.2	196.1	0.0690 ug/L	0.0690 ppb	15:08:33
3	Cd 226.502†	-194.4	17.2	0.1902 ug/L	0.1902 ppb	15:08:53
3	Co 228.616†	-59.4	12.2	0.2680 ug/L	0.2680 ppb	15:08:53
3	Cr 267.716†	102.6	5.8	0.0673 ug/L	0.0673 ppb	15:08:53
3	Cu 324.752†	8998.4	-379.1	-1.0578 ug/L	-1.0578 ppb	15:08:33
3	Mn 257.610†	482.2	-21.0	-0.0221 ug/L	-0.0221 ppb	15:08:53
3	Mo 202.031†	25.1	0.8	0.0514 ug/L	0.0514 ppb	15:08:53
3	Ni 231.604†	103.1	6.5	0.1642 ug/L	0.1642 ppb	15:08:53
3	P 214.914†	247.3	1.7	1.1533 ug/L	1.1533 ppb	15:08:53
3	Pb 220.353†	-40.3	21.2	2.6653 ug/L	2.6653 ppb	15:08:53
3	S 181.975 Axial†	47.1	-31.1	-42.885 ug/L	-42.885 ppb	15:08:53
3	Sb 206.836†	33.8	2.6	0.8967 ug/L	0.8967 ppb	15:08:53
3	Se 196.026†	-17.4	1.0	0.5763 ug/L	0.5763 ppb	15:08:53
3	Si 251.611†	479.8	-29.5	-0.8732 ug/L	-0.8732 ppb	15:08:53
3	Sn 189.927†	2.3	2.6	0.4705 ug/L	0.4705 ppb	15:08:53
3	Ti 334.940†	-991.7	-57.7	-0.0804 ug/L	-0.0804 ppb	15:08:33
3	Tl 190.801†	-38.3	-0.4	-0.1232 ug/L	-0.1232 ppb	15:08:53
3	U 409.014†	-1515.4	-410.6	-10.267 ug/L	-10.267 ppb	15:08:33
3	V 292.402†	-1385.4	46.6	0.2706 ug/L	0.2706 ppb	15:08:33
3	Zn 213.857†	703.5	-49.4	-0.4599 ug/L	-0.4599 ppb	15:08:53
3	SiO2†	489.7	-37.3	-2.3610 ug/L	-2.3610 ppb	15:09:54

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	926150.9	103.15 %	0.391			0.38%
Sc Radial	5357.2	100 %	2.1			2.13%
Y 371.029	819624.5	99.575 %	0.2154			0.22%
Y RADIAL	5769.3	100.2 %	1.95			1.94%
Ag 328.068†	2.7	0.0197 ug/L	0.38582	0.0197 ppb	0.38582	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-5.2	-3.9445 ug/L	5.08721	-3.9445 ppb	5.08721	128.97%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-0.5	-0.1881 ug/L	2.43060	-0.1881 ppb	2.43060	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-6.6	-0.1448 ug/L	0.09473	-0.1448 ppb	0.09473	65.42%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-0.9	-0.0061 ug/L	0.06358	-0.0061 ppb	0.06358	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	196.5	0.0692 ug/L	0.00704	0.0692 ppb	0.00704	10.17%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.7	2.7194 ug/L	4.29499	2.7194 ppb	4.29499	157.94%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	16.2	0.1791 ug/L	0.01011	0.1791 ppb	0.01011	5.64%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	6.9	0.1529 ug/L	0.14651	0.1529 ppb	0.14651	95.85%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-0.8	-0.0041 ug/L	0.08628	-0.0041 ppb	0.08628	>999.9%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-463.8	-1.2961 ug/L	0.29674	-1.2961 ppb	0.29674	22.89%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-0.4	-3.3661 ug/L	3.34697	-3.3661 ppb	3.34697	99.43%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-219.9	-40.161 ug/L	3.5803	-40.161 ppb	3.5803	8.91%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	-0.5	-16.503 ug/L	22.9145	-16.503 ppb	22.9145	138.85%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-15.4	-0.0169 ug/L	0.00690	-0.0169 ppb	0.00690	40.68%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	3.1	0.2101 ug/L	0.58583	0.2101 ppb	0.58583	278.78%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-117.3	-34.874 ug/L	5.4738	-34.874 ppb	5.4738	15.70%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	0.5	0.0126 ug/L	0.16701	0.0126 ppb	0.16701	>999.9%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-4.1	-2.0390 ug/L	3.13071	-2.0390 ppb	3.13071	153.54%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	14.1	1.7759 ug/L	0.78995	1.7759 ppb	0.78995	44.48%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-32.8	-45.113 ug/L	3.8758	-45.113 ppb	3.8758	8.59%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.6	2.5748 ug/L	2.50433	2.5748 ppb	2.50433	97.26%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-1.2	-0.6883 ug/L	1.80640	-0.6883 ppb	1.80640	262.44%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-28.7	-0.8535 ug/L	0.12748	-0.8535 ppb	0.12748	14.94%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	4.1	0.7606 ug/L	0.44205	0.7606 ppb	0.44205	58.12%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	0.4	0.0025 ug/L	0.06100	0.0025 ppb	0.06100	>999.9%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-31.7	-0.0425 ug/L	0.03586	-0.0425 ppb	0.03586	84.38%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	2.3	0.7391 ug/L	1.05839	0.7391 ppb	1.05839	143.21%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-370.0	-9.2515 ug/L	1.11296	-9.2515 ppb	1.11296	12.03%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	77.7	0.4686 ug/L	0.21050	0.4686 ppb	0.21050	44.93%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-53.1	-0.4929 ug/L	0.04197	-0.4929 ppb	0.04197	8.51%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-21.6	-1.3745 ug/L	0.90078	-1.3745 ppb	0.90078	65.53%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

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Analysis Begun

Start Time: 1/26/2010 15:38:39

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012610A.sif

Batch ID:

Results Data Set: 012610

Results Library: C:\pe\Optima3\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/26/2010 15:38:40

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

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Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5349.6	5349.6	100 %		15:40:32
1	Y RADIAL	5716.3	5716.3	99.29 %		15:40:32
1	Al 396.153Radial†	6385.3	6364.8	4798.5 ug/L	4798.5 ppb	15:40:32
1	Ca 317.933Radial†	3093.2	3067.5	4930.3 ug/L	4930.3 ppb	15:40:52
1	Fe 238.204 Radial†	560.5	552.4	5176.7 ug/L	5176.7 ppb	15:40:52
1	K 766.490 Radial†	29390.2	26834.5	4895.9 ug/L	4895.9 ppb	15:40:32
1	Mg 279.077 IEC†	148.1	146.9	5239.6 ug/L	5239.6 ppb	15:40:52
1	Na 589.592 Radial†	33214.0	33702.7	10019 ug/L	10019 ppb	15:40:32
1	Sr 421.552†	78263.1	78117.0	501.29 ug/L	501.29 ppb	15:40:32
1	Sc 361.383	927647.7	927647.7	103.32 %		15:41:50
1	Y 371.029	811568.1	811568.1	98.596 %		15:41:50
1	Ag 328.068†	118279.7	114187.3	479.65 ug/L	479.65 ppb	15:41:55
1	As 188.979†	1157.1	1150.2	474.83 ug/L	474.83 ppb	15:42:15
1	B 249.677†	21715.1	21258.6	463.98 ug/L	463.98 ppb	15:41:55
1	Ba 233.527†	62364.5	60365.9	477.02 ug/L	477.02 ppb	15:41:55
1	Be 313.107†	1382970.1	1343681.4	475.10 ug/L	475.10 ppb	15:41:50
1	Cd 226.502†	44113.7	42904.0	479.12 ug/L	479.12 ppb	15:41:55
1	Co 228.616†	22948.4	22281.7	488.50 ug/L	488.50 ppb	15:41:55
1	Cr 267.716†	45484.6	43930.8	476.82 ug/L	476.82 ppb	15:41:55
1	Cu 324.752†	182306.2	167326.7	469.40 ug/L	469.40 ppb	15:41:55
1	Mn 257.610†	439125.2	424540.8	476.28 ug/L	476.28 ppb	15:41:50
1	Mo 202.031†	7214.7	6959.5	475.43 ug/L	475.43 ppb	15:42:15
1	Ni 231.604†	19779.1	19050.6	478.48 ug/L	478.48 ppb	15:41:55
1	P 214.914†	4604.6	4218.0	2286.9 ug/L	2286.9 ppb	15:42:15
1	Pb 220.353†	3865.5	3801.8	478.74 ug/L	478.74 ppb	15:42:15
1	S 181.975 Axial†	770.0	668.3	919.26 ug/L	919.26 ppb	15:42:15
1	Sb 206.836†	1490.1	1412.0	489.83 ug/L	489.83 ppb	15:42:15
1	Se 196.026†	822.5	814.1	488.41 ug/L	488.41 ppb	15:42:15
1	Si 251.611†	83951.9	80761.3	2387.1 ug/L	2387.1 ppb	15:41:55
1	Sn 189.927†	2676.9	2591.4	477.35 ug/L	477.35 ppb	15:42:15
1	Ti 334.940†	328377.9	318744.5	485.84 ug/L	485.84 ppb	15:41:50
1	Tl 190.801†	1492.7	1481.7	477.22 ug/L	477.22 ppb	15:42:15
1	U 409.014†	18724.2	19186.1	478.10 ug/L	478.10 ppb	15:41:55
1	V 292.402†	77396.8	76306.2	480.82 ug/L	480.82 ppb	15:41:55
1	Zn 213.857†	53494.7	51044.3	471.27 ug/L	471.27 ppb	15:41:55
1	SiO2†	84835.3	81599.0	5147.7 ug/L	5147.7 ppb	15:43:23
2	Sc Radial	5402.9	5402.9	101 %		15:40:57
2	Y RADIAL	5778.6	5778.6	100.4 %		15:40:57
2	Al 396.153Radial†	6422.6	6338.8	4778.9 ug/L	4778.9 ppb	15:40:57
2	Ca 317.933Radial†	3094.0	3037.8	4882.7 ug/L	4882.7 ppb	15:41:17
2	Fe 238.204 Radial†	554.8	541.2	5071.8 ug/L	5071.8 ppb	15:41:17
2	K 766.490 Radial†	29782.0	26932.3	4913.8 ug/L	4913.8 ppb	15:40:57
2	Mg 279.077 IEC†	147.0	144.3	5145.7 ug/L	5145.7 ppb	15:41:17
2	Na 589.592 Radial†	33364.3	33524.0	9965.8 ug/L	9965.8 ppb	15:40:57
2	Sr 421.552†	78809.9	77886.5	499.82 ug/L	499.82 ppb	15:40:57
2	Sc 361.383	930884.6	930884.6	103.68 %		15:42:21
2	Y 371.029	814937.8	814937.8	99.006 %		15:42:21

2	Ag 328.068†	117990.2	113509.9	476.78 ug/L	476.78 ppb	15:42:26
2	As 188.979†	1154.2	1143.4	472.05 ug/L	472.05 ppb	15:42:46
2	B 249.677†	21641.4	21114.4	460.85 ug/L	460.85 ppb	15:42:26
2	Ba 233.527†	62083.9	59885.4	473.22 ug/L	473.22 ppb	15:42:26
2	Be 313.107†	1385302.6	1341276.7	474.25 ug/L	474.25 ppb	15:42:21
2	Cd 226.502†	44031.1	42675.8	476.58 ug/L	476.58 ppb	15:42:26
2	Co 228.616†	22803.0	22064.2	483.73 ug/L	483.73 ppb	15:42:26
2	Cr 267.716†	45324.3	43623.0	473.48 ug/L	473.48 ppb	15:42:26
2	Cu 324.752†	181385.9	165825.5	465.19 ug/L	465.19 ppb	15:42:26
2	Mn 257.610†	439898.2	423808.4	475.45 ug/L	475.45 ppb	15:42:21
2	Mo 202.031†	7198.7	6919.8	472.71 ug/L	472.71 ppb	15:42:46
2	Ni 231.604†	19767.9	18973.2	476.53 ug/L	476.53 ppb	15:42:26
2	P 214.914†	4572.6	4171.7	2261.7 ug/L	2261.7 ppb	15:42:46
2	Pb 220.353†	3839.6	3763.8	473.97 ug/L	473.97 ppb	15:42:46
2	S 181.975 Axial†	777.7	673.1	925.83 ug/L	925.83 ppb	15:42:46
2	Sb 206.836†	1475.5	1392.9	483.33 ug/L	483.33 ppb	15:42:46
2	Se 196.026†	822.8	811.6	486.63 ug/L	486.63 ppb	15:42:46
2	Si 251.611†	83476.2	80019.9	2365.2 ug/L	2365.2 ppb	15:42:26
2	Sn 189.927†	2675.1	2580.5	475.35 ug/L	475.35 ppb	15:42:46
2	Ti 334.940†	329456.8	318679.9	485.75 ug/L	485.75 ppb	15:42:21
2	Tl 190.801†	1476.6	1461.1	470.67 ug/L	470.67 ppb	15:42:46
2	U 409.014†	18584.8	18988.6	473.18 ug/L	473.18 ppb	15:42:26
2	V 292.402†	77165.2	75822.3	477.78 ug/L	477.78 ppb	15:42:26
2	Zn 213.857†	53399.1	50772.0	468.76 ug/L	468.76 ppb	15:42:26
2	SiO2†	84786.0	81265.8	5126.8 ug/L	5126.8 ppb	15:43:28
3	Sc Radial	5417.9	5417.9	101 %		15:41:22
3	Y RADIAL	5815.8	5815.8	101.0 %		15:41:22
3	Al 396.153Radial†	6423.6	6322.2	4766.3 ug/L	4766.3 ppb	15:41:22
3	Ca 317.933Radial†	3102.0	3037.2	4881.7 ug/L	4881.7 ppb	15:41:42
3	Fe 238.204 Radial†	557.2	542.0	5080.0 ug/L	5080.0 ppb	15:41:42
3	K 766.490 Radial†	29721.5	26791.2	4888.1 ug/L	4888.1 ppb	15:41:22
3	Mg 279.077 IEC†	145.6	142.5	5083.1 ug/L	5083.1 ppb	15:41:42
3	Na 589.592 Radial†	33391.4	33459.6	9946.6 ug/L	9946.6 ppb	15:41:22
3	Sr 421.552†	78985.5	77844.4	499.55 ug/L	499.55 ppb	15:41:22
3	Sc 361.383	931013.9	931013.9	103.69 %		15:42:52
3	Y 371.029	814850.4	814850.4	98.995 %		15:42:52
3	Ag 328.068†	117952.5	113457.8	476.56 ug/L	476.56 ppb	15:42:57
3	As 188.979†	1178.2	1166.4	481.45 ug/L	481.45 ppb	15:43:18
3	B 249.677†	21627.3	21097.9	460.48 ug/L	460.48 ppb	15:42:57
3	Ba 233.527†	62112.9	59905.0	473.38 ug/L	473.38 ppb	15:42:57
3	Be 313.107†	1383031.9	1338901.2	473.41 ug/L	473.41 ppb	15:42:52
3	Cd 226.502†	43959.1	42600.5	475.74 ug/L	475.74 ppb	15:42:57
3	Co 228.616†	22903.6	22158.2	485.80 ug/L	485.80 ppb	15:42:57
3	Cr 267.716†	45349.5	43641.3	473.68 ug/L	473.68 ppb	15:42:57
3	Cu 324.752†	181782.0	166183.1	466.19 ug/L	466.19 ppb	15:42:57
3	Mn 257.610†	439073.0	422953.7	474.50 ug/L	474.50 ppb	15:42:52
3	Mo 202.031†	7226.1	6945.2	474.45 ug/L	474.45 ppb	15:43:18
3	Ni 231.604†	19710.3	18915.0	475.07 ug/L	475.07 ppb	15:42:57
3	P 214.914†	4573.8	4172.3	2261.8 ug/L	2261.8 ppb	15:43:18
3	Pb 220.353†	3870.6	3793.2	477.67 ug/L	477.67 ppb	15:43:18
3	S 181.975 Axial†	780.8	676.1	929.91 ug/L	929.91 ppb	15:43:18
3	Sb 206.836†	1476.8	1394.0	483.75 ug/L	483.75 ppb	15:43:18
3	Se 196.026†	833.8	822.1	492.68 ug/L	492.68 ppb	15:43:18
3	Si 251.611†	83722.9	80246.7	2371.9 ug/L	2371.9 ppb	15:42:57
3	Sn 189.927†	2676.2	2581.2	475.48 ug/L	475.48 ppb	15:43:18
3	Ti 334.940†	328877.3	318076.9	484.83 ug/L	484.83 ppb	15:42:52
3	Tl 190.801†	1491.3	1475.1	475.12 ug/L	475.12 ppb	15:43:18
3	U 409.014†	18724.4	19120.8	476.48 ug/L	476.48 ppb	15:42:57
3	V 292.402†	77216.9	75861.8	478.06 ug/L	478.06 ppb	15:42:57
3	Zn 213.857†	53234.5	50606.1	467.22 ug/L	467.22 ppb	15:42:57
3	SiO2†	83293.1	79814.7	5034.9 ug/L	5034.9 ppb	15:43:33

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	929848.7	103.56 %	0.212			0.21%
Sc Radial	5390.1	101 %	0.7			0.67%
Y 371.029	813785.4	98.866 %	0.2334			0.24%
Y RADIAL	5770.2	100.2 %	0.87			0.87%
Ag 328.068†	113718.3	477.66 ug/L	1.722	477.66 ppb	1.722	0.36%

QC value within limits for Ag 328.068 Recovery = 95.53%							
Al 396.153Radial†	6341.9	4781.2 ug/L	16.25	4781.2 ppb	16.25	0.34%	
QC value within limits for Al 396.153Radial Recovery = 95.62%							
As 188.979†	1153.3	476.11 ug/L	4.828	476.11 ppb	4.828	1.01%	
QC value within limits for As 188.979 Recovery = 95.22%							
B 249.677†	21156.9	461.77 ug/L	1.923	461.77 ppb	1.923	0.42%	
QC value within limits for B 249.677 Recovery = 92.35%							
Ba 233.527†	60052.1	474.54 ug/L	2.149	474.54 ppb	2.149	0.45%	
QC value within limits for Ba 233.527 Recovery = 94.91%							
Be 313.107†	1341286.4	474.26 ug/L	0.844	474.26 ppb	0.844	0.18%	
QC value within limits for Be 313.107 Recovery = 94.85%							
Ca 317.933Radial†	3047.5	4898.2 ug/L	27.82	4898.2 ppb	27.82	0.57%	
QC value within limits for Ca 317.933Radial Recovery = 97.96%							
Cd 226.502†	42726.8	477.14 ug/L	1.761	477.14 ppb	1.761	0.37%	
QC value within limits for Cd 226.502 Recovery = 95.43%							
Co 228.616†	22168.1	486.01 ug/L	2.394	486.01 ppb	2.394	0.49%	
QC value within limits for Co 228.616 Recovery = 97.20%							
Cr 267.716†	43731.7	474.66 ug/L	1.874	474.66 ppb	1.874	0.39%	
QC value within limits for Cr 267.716 Recovery = 94.93%							
Cu 324.752†	166445.1	466.92 ug/L	2.201	466.92 ppb	2.201	0.47%	
QC value within limits for Cu 324.752 Recovery = 93.38%							
Fe 238.204 Radial†	545.2	5109.5 ug/L	58.32	5109.5 ppb	58.32	1.14%	
QC value within limits for Fe 238.204 Radial Recovery = 102.19%							
K 766.490 Radial†	26852.7	4899.3 ug/L	13.20	4899.3 ppb	13.20	0.27%	
QC value within limits for K 766.490 Radial Recovery = 97.99%							
Mg 279.077 IEC†	144.6	5156.1 ug/L	78.78	5156.1 ppb	78.78	1.53%	
QC value within limits for Mg 279.077 IEC Recovery = 103.12%							
Mn 257.610†	423767.6	475.41 ug/L	0.892	475.41 ppb	0.892	0.19%	
QC value within limits for Mn 257.610 Recovery = 95.08%							
Mo 202.031†	6941.5	474.20 ug/L	1.379	474.20 ppb	1.379	0.29%	
QC value within limits for Mo 202.031 Recovery = 94.84%							
Na 589.592 Radial†	33562.1	9977.1 ug/L	37.44	9977.1 ppb	37.44	0.38%	
QC value within limits for Na 589.592 Radial Recovery = 99.77%							
Ni 231.604†	18979.6	476.69 ug/L	1.709	476.69 ppb	1.709	0.36%	
QC value within limits for Ni 231.604 Recovery = 95.34%							
P 214.914†	4187.3	2270.2 ug/L	14.54	2270.2 ppb	14.54	0.64%	
QC value within limits for P 214.914 Recovery = 90.81%							
Pb 220.353†	3786.3	476.79 ug/L	2.501	476.79 ppb	2.501	0.52%	
QC value within limits for Pb 220.353 Recovery = 95.36%							
S 181.975 Axial†	672.5	925.00 ug/L	5.372	925.00 ppb	5.372	0.58%	
QC value within limits for S 181.975 Axial Recovery = 92.50%							
Sb 206.836†	1399.6	485.64 ug/L	3.636	485.64 ppb	3.636	0.75%	
QC value within limits for Sb 206.836 Recovery = 97.13%							
Se 196.026†	815.9	489.24 ug/L	3.112	489.24 ppb	3.112	0.64%	
QC value within limits for Se 196.026 Recovery = 97.85%							
Si 251.611†	80342.7	2374.7 ug/L	11.24	2374.7 ppb	11.24	0.47%	
QC value within limits for Si 251.611 Recovery = 94.99%							
Sn 189.927†	2584.4	476.06 ug/L	1.120	476.06 ppb	1.120	0.24%	
QC value within limits for Sn 189.927 Recovery = 95.21%							
Sr 421.552†	77949.3	500.22 ug/L	0.942	500.22 ppb	0.942	0.19%	
QC value within limits for Sr 421.552 Recovery = 100.04%							
Ti 334.940†	318500.5	485.48 ug/L	0.558	485.48 ppb	0.558	0.11%	
QC value within limits for Ti 334.940 Recovery = 97.10%							
Tl 190.801†	1472.6	474.34 ug/L	3.345	474.34 ppb	3.345	0.71%	
QC value within limits for Tl 190.801 Recovery = 94.87%							
U 409.014†	19098.5	475.92 ug/L	2.507	475.92 ppb	2.507	0.53%	
QC value within limits for U 409.014 Recovery = 95.18%							
V 292.402†	75996.8	478.89 ug/L	1.683	478.89 ppb	1.683	0.35%	
QC value within limits for V 292.402 Recovery = 95.78%							
Zn 213.857†	50807.5	469.08 ug/L	2.042	469.08 ppb	2.042	0.44%	
QC value within limits for Zn 213.857 Recovery = 93.82%							
SiO2†	80893.2	5103.1 ug/L	60.00	5103.1 ppb	60.00	1.18%	
QC value within limits for SiO2 Recovery = 95.43%							
All analyte(s) passed QC.							



Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 15:45:44

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5055.4	5055.4	94.7 %		15:47:37
1	Y RADIAL	5423.2	5423.2	94.20 %		15:47:37
1	Al 396.153Radial†	4.6	-4.3	-3.2555 ug/L	-3.2555 ppb	15:47:57
1	Ca 317.933Radial†	24.4	5.6	8.9546 ug/L	8.9546 ppb	15:47:57
1	Fe 238.204 Radial†	6.1	-0.7	-6.2166 ug/L	-6.2166 ppb	15:47:57
1	K 766.490 Radial†	2358.3	-12.4	-2.2489 ug/L	-2.2489 ppb	15:47:37
1	Mg 279.077 IEC†	3.6	2.9	102.27 ug/L	102.27 ppb	15:47:57
1	Na 589.592 Radial†	-681.0	-171.7	-51.051 ug/L	-51.051 ppb	15:47:37
1	Sr 421.552†	18.3	12.2	0.0783 ug/L	0.0783 ppb	15:47:37
1	Sc 361.383	935233.3	935233.3	104.16 %		15:48:53
1	Y 371.029	827186.0	827186.0	100.49 %		15:48:53
1	Ag 328.068†	257.7	-48.6	-0.1929 ug/L	-0.1929 ppb	15:48:58
1	As 188.979†	-27.4	3.9	1.5941 ug/L	1.5941 ppb	15:49:18
1	B 249.677†	-247.9	2.4	0.0542 ug/L	0.0542 ppb	15:49:18
1	Ba 233.527†	-13.1	-9.5	-0.0736 ug/L	-0.0736 ppb	15:49:18
1	Be 313.107†	-4977.5	321.8	0.1135 ug/L	0.1135 ppb	15:48:58
1	Cd 226.502†	-188.7	25.0	0.2783 ug/L	0.2783 ppb	15:49:18
1	Co 228.616†	-76.1	-3.1	-0.0677 ug/L	-0.0677 ppb	15:49:18
1	Cr 267.716†	69.8	-26.9	-0.2863 ug/L	-0.2863 ppb	15:49:18
1	Cu 324.752†	8962.5	-523.5	-1.4627 ug/L	-1.4627 ppb	15:48:58
1	Mn 257.610†	491.6	-17.9	-0.0249 ug/L	-0.0249 ppb	15:49:18
1	Mo 202.031†	25.2	0.6	0.0394 ug/L	0.0394 ppb	15:49:18
1	Ni 231.604†	99.9	2.3	0.0566 ug/L	0.0566 ppb	15:49:18
1	P 214.914†	239.6	-8.7	-4.6112 ug/L	-4.6112 ppb	15:49:18
1	Pb 220.353†	-50.9	11.5	1.4437 ug/L	1.4437 ppb	15:49:18
1	S 181.975 Axial†	44.3	-34.4	-47.405 ug/L	-47.405 ppb	15:49:18
1	Sb 206.836†	36.3	4.6	1.5463 ug/L	1.5463 ppb	15:49:18
1	Se 196.026†	-19.3	-0.6	-0.3685 ug/L	-0.3685 ppb	15:49:18
1	Si 251.611†	487.6	-27.8	-0.8251 ug/L	-0.8251 ppb	15:49:18
1	Sn 189.927†	0.5	0.9	0.1613 ug/L	0.1613 ppb	15:49:18
1	Ti 334.940†	-949.6	-5.1	-0.0099 ug/L	-0.0099 ppb	15:48:58
1	Tl 190.801†	-39.2	-0.8	-0.2431 ug/L	-0.2431 ppb	15:49:18
1	U 409.014†	-1570.1	-444.5	-11.114 ug/L	-11.114 ppb	15:48:58
1	V 292.402†	-1323.0	123.4	0.7499 ug/L	0.7499 ppb	15:48:58
1	Zn 213.857†	702.8	-58.7	-0.5441 ug/L	-0.5441 ppb	15:49:18
1	SiO2†	468.5	-63.7	-4.0273 ug/L	-4.0273 ppb	15:50:39
2	Sc Radial	5389.8	5389.8	101 %		15:48:02
2	Y RADIAL	5787.5	5787.5	100.5 %		15:48:02
2	Al 396.153Radial†	6.0	-3.2	-2.4025 ug/L	-2.4025 ppb	15:48:22
2	Ca 317.933Radial†	19.6	-0.8	-1.3266 ug/L	-1.3266 ppb	15:48:22
2	Fe 238.204 Radial†	6.9	-0.3	-2.6454 ug/L	-2.6454 ppb	15:48:22
2	K 766.490 Radial†	2319.8	-205.1	-37.440 ug/L	-37.440 ppb	15:48:02
2	Mg 279.077 IEC†	2.8	1.8	63.531 ug/L	63.531 ppb	15:48:22
2	Na 589.592 Radial†	-713.5	-159.3	-47.353 ug/L	-47.353 ppb	15:48:02
2	Sr 421.552†	39.8	32.3	0.2076 ug/L	0.2076 ppb	15:48:02
2	Sc 361.383	936244.1	936244.1	104.27 %		15:49:23
2	Y 371.029	827401.7	827401.7	100.52 %		15:49:23
2	Ag 328.068†	344.2	34.1	0.1505 ug/L	0.1505 ppb	15:49:29
2	As 188.979†	-25.4	5.8	2.3856 ug/L	2.3856 ppb	15:49:49
2	B 249.677†	-194.1	54.2	1.1896 ug/L	1.1896 ppb	15:49:49
2	Ba 233.527†	20.5	22.7	0.1800 ug/L	0.1800 ppb	15:49:49
2	Be 313.107†	-4919.0	383.0	0.1354 ug/L	0.1354 ppb	15:49:29
2	Cd 226.502†	-192.1	21.9	0.2431 ug/L	0.2431 ppb	15:49:49
2	Co 228.616†	-66.4	6.2	0.1354 ug/L	0.1354 ppb	15:49:49
2	Cr 267.716†	94.4	-3.4	-0.0331 ug/L	-0.0331 ppb	15:49:49
2	Cu 324.752†	8866.5	-624.9	-1.7480 ug/L	-1.7480 ppb	15:49:29
2	Mn 257.610†	578.6	65.0	0.0700 ug/L	0.0700 ppb	15:49:49
2	Mo 202.031†	16.3	-7.9	-0.5424 ug/L	-0.5424 ppb	15:49:49
2	Ni 231.604†	102.2	4.4	0.1095 ug/L	0.1095 ppb	15:49:49

2	P 214.914†	232.6	-15.7	-8.4993 ug/L	-8.4993 ppb	15:49:49
2	Pb 220.353†	-29.7	31.9	4.0019 ug/L	4.0019 ppb	15:49:49
2	S 181.975 Axial†	52.0	-27.1	-37.305 ug/L	-37.305 ppb	15:49:49
2	Sb 206.836†	47.1	14.9	4.9902 ug/L	4.9902 ppb	15:49:49
2	Se 196.026†	-19.8	-1.0	-0.6087 ug/L	-0.6087 ppb	15:49:49
2	Si 251.611†	540.1	22.1	0.6601 ug/L	0.6601 ppb	15:49:49
2	Sn 189.927†	-0.5	-0.1	-0.0266 ug/L	-0.0266 ppb	15:49:49
2	Ti 334.940†	-863.8	78.1	0.1179 ug/L	0.1179 ppb	15:49:29
2	Tl 190.801†	-48.3	-9.4	-3.0051 ug/L	-3.0051 ppb	15:49:49
2	U 409.014†	-1499.1	-374.9	-9.3729 ug/L	-9.3729 ppb	15:49:29
2	V 292.402†	-1395.8	54.9	0.3176 ug/L	0.3176 ppb	15:49:29
2	Zn 213.857†	744.1	-19.8	-0.1829 ug/L	-0.1829 ppb	15:49:49
2	SiO2†	479.4	-53.7	-3.3808 ug/L	-3.3808 ppb	15:50:59
3	Sc Radial	5423.9	5423.9	102 %		15:48:27
3	Y RADIAL	5862.1	5862.1	101.8 %		15:48:27
3	Al 396.153Radial†	11.7	2.4	1.8213 ug/L	1.8213 ppb	15:48:47
3	Ca 317.933Radial†	19.6	-0.9	-1.4384 ug/L	-1.4384 ppb	15:48:47
3	Fe 238.204 Radial†	5.0	-2.2	-21.020 ug/L	-21.020 ppb	15:48:47
3	K 766.490 Radial†	2257.0	-281.3	-51.379 ug/L	-51.379 ppb	15:48:27
3	Mg 279.077 IEC†	0.2	-0.8	-26.766 ug/L	-26.766 ppb	15:48:47
3	Na 589.592 Radial†	-681.1	-122.9	-36.544 ug/L	-36.544 ppb	15:48:27
3	Sr 421.552†	51.6	43.7	0.2803 ug/L	0.2803 ppb	15:48:27
3	Sc 361.383	942414.5	942414.5	104.96 %		15:49:54
3	Y 371.029	834912.8	834912.8	101.43 %		15:49:54
3	Ag 328.068†	375.4	61.6	0.2599 ug/L	0.2599 ppb	15:49:59
3	As 188.979†	-25.2	6.1	2.5071 ug/L	2.5071 ppb	15:50:19
3	B 249.677†	-269.4	-16.3	-0.3524 ug/L	-0.3524 ppb	15:50:19
3	Ba 233.527†	-1.6	1.6	0.0129 ug/L	0.0129 ppb	15:50:19
3	Be 313.107†	-4953.6	381.0	0.1344 ug/L	0.1344 ppb	15:49:59
3	Cd 226.502†	-196.1	19.4	0.2168 ug/L	0.2168 ppb	15:50:19
3	Co 228.616†	-86.0	-12.0	-0.2636 ug/L	-0.2636 ppb	15:50:19
3	Cr 267.716†	70.8	-26.5	-0.2829 ug/L	-0.2829 ppb	15:50:19
3	Cu 324.752†	8995.8	-557.4	-1.5593 ug/L	-1.5593 ppb	15:49:59
3	Mn 257.610†	504.2	-9.5	-0.0116 ug/L	-0.0116 ppb	15:50:19
3	Mo 202.031†	23.3	-1.4	-0.0987 ug/L	-0.0987 ppb	15:50:19
3	Ni 231.604†	106.0	7.3	0.1835 ug/L	0.1835 ppb	15:50:19
3	P 214.914†	238.2	-11.8	-6.3348 ug/L	-6.3348 ppb	15:50:19
3	Pb 220.353†	-42.8	19.6	2.4614 ug/L	2.4614 ppb	15:50:19
3	S 181.975 Axial†	44.9	-34.2	-47.150 ug/L	-47.150 ppb	15:50:19
3	Sb 206.836†	28.7	-2.9	-0.9716 ug/L	-0.9716 ppb	15:50:19
3	Se 196.026†	-19.7	-0.8	-0.5186 ug/L	-0.5186 ppb	15:50:19
3	Si 251.611†	462.7	-55.1	-1.6309 ug/L	-1.6309 ppb	15:50:19
3	Sn 189.927†	2.1	2.3	0.4302 ug/L	0.4302 ppb	15:50:19
3	Ti 334.940†	-933.8	16.8	0.0321 ug/L	0.0321 ppb	15:49:59
3	Tl 190.801†	-34.8	3.7	1.1815 ug/L	1.1815 ppb	15:50:19
3	U 409.014†	-1528.3	-393.2	-9.8291 ug/L	-9.8291 ppb	15:49:59
3	V 292.402†	-1393.9	65.5	0.3898 ug/L	0.3898 ppb	15:49:59
3	Zn 213.857†	708.3	-58.6	-0.5429 ug/L	-0.5429 ppb	15:50:19
3	SiO2†	486.4	-50.0	-3.1623 ug/L	-3.1623 ppb	15:51:19

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	937964.0	104.47 %	0.433			0.41%
Sc Radial	5289.7	99.1 %	3.81			3.85%
Y 371.029	829833.5	100.82 %	0.535			0.53%
Y RADIAL	5690.9	98.85 %	4.080			4.13%
Ag 328.068†	15.7	0.0725 ug/L	0.23628	0.0725 ppb	0.23628	325.84%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-1.7	-1.2789 ug/L	2.71851	-1.2789 ppb	2.71851	212.56%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	5.3	2.1623 ug/L	0.49578	2.1623 ppb	0.49578	22.93%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	13.5	0.2971 ug/L	0.79917	0.2971 ppb	0.79917	268.95%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.9	0.0398 ug/L	0.12889	0.0398 ppb	0.12889	324.14%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	361.9	0.1278 ug/L	0.01238	0.1278 ppb	0.01238	9.69%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.3	2.0632 ug/L	5.96837	2.0632 ppb	5.96837	289.28%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	22.1	0.2460 ug/L	0.03086	0.2460 ppb	0.03086	12.54%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-3.0	-0.0653 ug/L	0.19950	-0.0653 ppb	0.19950	305.49%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-18.9	-0.2008 ug/L	0.14521	-0.2008 ppb	0.14521	72.32%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-568.6	-1.5900 ug/L	0.14506	-1.5900 ppb	0.14506	9.12%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-1.1	-9.9606 ug/L	9.74262	-9.9606 ppb	9.74262	97.81%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-166.3	-30.356 ug/L	25.3196	-30.356 ppb	25.3196	83.41%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.3	46.346 ug/L	66.2135	46.346 ppb	66.2135	142.87%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	12.5	0.0112 ug/L	0.05141	0.0112 ppb	0.05141	459.55%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-2.9	-0.2006 ug/L	0.30399	-0.2006 ppb	0.30399	151.57%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-151.3	-44.982 ug/L	7.5386	-44.982 ppb	7.5386	16.76%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	4.6	0.1165 ug/L	0.06374	0.1165 ppb	0.06374	54.69%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-12.1	-6.4817 ug/L	1.94824	-6.4817 ppb	1.94824	30.06%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	21.0	2.6356 ug/L	1.28797	2.6356 ppb	1.28797	48.87%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-31.9	-43.953 ug/L	5.7590	-43.953 ppb	5.7590	13.10%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	5.5	1.8550 ug/L	2.99289	1.8550 ppb	2.99289	161.34%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-0.8	-0.4986 ug/L	0.12133	-0.4986 ppb	0.12133	24.33%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-20.3	-0.5986 ug/L	1.16219	-0.5986 ppb	1.16219	194.14%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.0	0.1883 ug/L	0.22960	0.1883 ppb	0.22960	121.93%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	29.4	0.1887 ug/L	0.10233	0.1887 ppb	0.10233	54.22%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	30.0	0.0467 ug/L	0.06516	0.0467 ppb	0.06516	139.58%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-2.2	-0.6889 ug/L	2.12861	-0.6889 ppb	2.12861	309.00%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-404.2	-10.105 ug/L	0.9026	-10.105 ppb	0.9026	8.93%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	81.3	0.4858 ug/L	0.23158	0.4858 ppb	0.23158	47.67%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-45.7	-0.4233 ug/L	0.20819	-0.4233 ppb	0.20819	49.19%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-55.8	-3.5235 ug/L	0.44978	-3.5235 ppb	0.44978	12.77%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 3  
 Sample ID: 1202017559|942466|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 38  
 Date Collected: 1/26/2010 15:53:30  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 1202017559|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5419.9	5419.9	101 %		15:55:23
1	Y RADIAL	5819.8	5819.8	101.1 %		15:55:23
1	Al 396.153Radial†	13.8	4.5	3.3762 ug/L	3.3762 ppb	15:55:43
1	Ca 317.933Radial†	18.1	-2.4	-3.8131 ug/L	-3.8131 ppb	15:55:43
1	Fe 238.204 Radial†	8.2	0.9	8.5370 ug/L	8.5370 ppb	15:55:43
1	K 766.490 Radial†	2258.7	-278.0	-50.773 ug/L	-50.773 ppb	15:55:23
1	Mg 279.077 IEC†	0.1	-0.9	-30.418 ug/L	-30.418 ppb	15:55:43
1	Na 589.592 Radial†	-711.9	-153.8	-45.719 ug/L	-45.719 ppb	15:55:23
1	Sr 421.552†	41.0	33.3	0.2139 ug/L	0.2139 ppb	15:55:23
1	Sc 361.383	914819.3	914819.3	101.89 %		15:56:39
1	Y 371.029	804951.1	804951.1	97.792 %		15:56:39
1	Ag 328.068†	280.0	-21.2	-0.0868 ug/L	-0.0868 ppb	15:56:39
1	As 188.979†	-32.5	-1.7	-0.6817 ug/L	-0.6817 ppb	15:56:59
1	B 249.677†	-315.1	-68.9	-1.5116 ug/L	-1.5116 ppb	15:56:59
1	Ba 233.527†	-18.6	-15.2	-0.1191 ug/L	-0.1191 ppb	15:56:59
1	Be 313.107†	-5023.5	170.0	0.0604 ug/L	0.0604 ppb	15:56:39
1	Cd 226.502†	-208.6	1.4	0.0157 ug/L	0.0157 ppb	15:56:59
1	Co 228.616†	-75.4	-4.0	-0.0888 ug/L	-0.0888 ppb	15:56:59
1	Cr 267.716†	81.7	-13.8	-0.1495 ug/L	-0.1495 ppb	15:56:59
1	Cu 324.752†	8865.7	-426.5	-1.1972 ug/L	-1.1972 ppb	15:56:39
1	Mn 257.610†	518.9	19.4	0.0238 ug/L	0.0238 ppb	15:56:59
1	Mo 202.031†	25.1	1.0	0.0701 ug/L	0.0701 ppb	15:56:59
1	Ni 231.604†	102.0	6.5	0.1623 ug/L	0.1623 ppb	15:56:59
1	P 214.914†	250.2	6.8	4.1073 ug/L	4.1073 ppb	15:56:59
1	Pb 220.353†	-48.3	13.0	1.6278 ug/L	1.6278 ppb	15:56:59
1	S 181.975 Axial†	42.8	-35.0	-48.162 ug/L	-48.162 ppb	15:56:59
1	Sb 206.836†	45.8	14.7	4.9638 ug/L	4.9638 ppb	15:56:59
1	Se 196.026†	-16.0	2.3	1.3322 ug/L	1.3322 ppb	15:56:59
1	Si 251.611†	549.3	43.2	1.2795 ug/L	1.2795 ppb	15:56:59
1	Sn 189.927†	9.6	9.8	1.8024 ug/L	1.8024 ppb	15:56:59
1	Ti 334.940†	-793.4	127.9	0.1960 ug/L	0.1960 ppb	15:56:39
1	Tl 190.801†	-32.6	4.9	1.5770 ug/L	1.5770 ppb	15:56:59
1	U 409.014†	-992.7	88.5	2.2134 ug/L	2.2134 ppb	15:56:39
1	V 292.402†	-1390.1	29.2	0.1850 ug/L	0.1850 ppb	15:56:39
1	Zn 213.857†	821.5	72.9	0.6786 ug/L	0.6786 ppb	15:56:59
1	SiO2†	560.7	36.9	2.3331 ug/L	2.3331 ppb	15:57:55
2	Sc Radial	5503.3	5503.3	103 %		15:55:48
2	Y RADIAL	5902.9	5902.9	102.5 %		15:55:48
2	Al 396.153Radial†	11.1	1.6	1.2540 ug/L	1.2540 ppb	15:56:08
2	Ca 317.933Radial†	19.7	-1.1	-1.8380 ug/L	-1.8380 ppb	15:56:08
2	Fe 238.204 Radial†	8.5	1.1	9.9744 ug/L	9.9744 ppb	15:56:08
2	K 766.490 Radial†	2168.2	-399.6	-72.987 ug/L	-72.987 ppb	15:55:48
2	Mg 279.077 IEC†	1.2	0.2	6.6405 ug/L	6.6405 ppb	15:56:08
2	Na 589.592 Radial†	-666.8	-99.4	-29.544 ug/L	-29.544 ppb	15:55:48
2	Sr 421.552†	31.4	23.4	0.1503 ug/L	0.1503 ppb	15:55:48
2	Sc 361.383	921862.2	921862.2	102.67 %		15:57:05
2	Y 371.029	810216.9	810216.9	98.432 %		15:57:05
2	Ag 328.068†	316.6	12.4	0.0548 ug/L	0.0548 ppb	15:57:05
2	As 188.979†	-37.1	-6.0	-2.4425 ug/L	-2.4425 ppb	15:57:25
2	B 249.677†	-313.9	-65.3	-1.4355 ug/L	-1.4355 ppb	15:57:25
2	Ba 233.527†	-15.8	-12.2	-0.0962 ug/L	-0.0962 ppb	15:57:25
2	Be 313.107†	-5011.3	219.5	0.0778 ug/L	0.0778 ppb	15:57:05
2	Cd 226.502†	-200.4	11.0	0.1213 ug/L	0.1213 ppb	15:57:25
2	Co 228.616†	-60.2	11.3	0.2476 ug/L	0.2476 ppb	15:57:25
2	Cr 267.716†	97.3	0.8	0.0088 ug/L	0.0088 ppb	15:57:25
2	Cu 324.752†	8867.2	-491.6	-1.3786 ug/L	-1.3786 ppb	15:57:05
2	Mn 257.610†	536.2	32.4	0.0371 ug/L	0.0371 ppb	15:57:25
2	Mo 202.031†	20.0	-4.1	-0.2799 ug/L	-0.2799 ppb	15:57:25
2	Ni 231.604†	84.3	-11.6	-0.2917 ug/L	-0.2917 ppb	15:57:25

2	P 214.914†	251.3	6.0	3.6659 ug/L	3.6659 ppb	15:57:25
2	Pb 220.353†	-50.7	11.1	1.3874 ug/L	1.3874 ppb	15:57:25
2	S 181.975 Axial†	46.8	-31.4	-43.236 ug/L	-43.236 ppb	15:57:25
2	Sb 206.836†	46.9	15.5	5.1689 ug/L	5.1689 ppb	15:57:25
2	Se 196.026†	-20.3	-1.8	-1.0105 ug/L	-1.0105 ppb	15:57:25
2	Si 251.611†	563.2	52.6	1.5620 ug/L	1.5620 ppb	15:57:25
2	Sn 189.927†	0.5	0.8	0.1531 ug/L	0.1531 ppb	15:57:25
2	Ti 334.940†	-829.1	99.1	0.1501 ug/L	0.1501 ppb	15:57:05
2	Tl 190.801†	-38.1	-0.2	-0.0633 ug/L	-0.0633 ppb	15:57:25
2	U 409.014†	-1078.5	12.4	0.3081 ug/L	0.3081 ppb	15:57:05
2	V 292.402†	-1425.2	5.5	0.0293 ug/L	0.0293 ppb	15:57:05
2	Zn 213.857†	822.5	67.7	0.6331 ug/L	0.6331 ppb	15:57:25
2	SiO2†	596.7	67.7	4.2910 ug/L	4.2910 ppb	15:58:00
3	Sc Radial	5503.0	5503.0	103 %		15:56:13
3	Y RADIAL	5914.8	5914.8	102.7 %		15:56:13
3	Al 396.153Radial†	-2.0	-11.1	-8.4032 ug/L	-8.4032 ppb	15:56:33
3	Ca 317.933Radial†	19.1	-1.7	-2.7542 ug/L	-2.7542 ppb	15:56:33
3	Fe 238.204 Radial†	8.6	1.2	11.526 ug/L	11.526 ppb	15:56:33
3	K 766.490 Radial†	2204.5	-364.3	-66.540 ug/L	-66.540 ppb	15:56:13
3	Mg 279.077 IEC†	4.4	3.3	118.71 ug/L	118.71 ppb	15:56:33
3	Na 589.592 Radial†	-682.8	-115.0	-34.175 ug/L	-34.175 ppb	15:56:13
3	Sr 421.552†	21.1	13.4	0.0857 ug/L	0.0857 ppb	15:56:13
3	Sc 361.383	878464.9	878464.9	97.838 %		15:57:30
3	Y 371.029	776152.0	776152.0	94.294 %		15:57:30
3	Ag 328.068†	299.2	9.8	0.0439 ug/L	0.0439 ppb	15:57:30
3	As 188.979†	-32.7	-3.3	-1.3375 ug/L	-1.3375 ppb	15:57:50
3	B 249.677†	-312.2	-78.7	-1.7282 ug/L	-1.7282 ppb	15:57:50
3	Ba 233.527†	-15.2	-12.5	-0.0985 ug/L	-0.0985 ppb	15:57:50
3	Be 313.107†	-5133.5	-146.5	-0.0515 ug/L	-0.0515 ppb	15:57:30
3	Cd 226.502†	-200.1	1.7	0.0177 ug/L	0.0177 ppb	15:57:50
3	Co 228.616†	-61.4	7.2	0.1581 ug/L	0.1581 ppb	15:57:50
3	Cr 267.716†	80.2	-12.0	-0.1300 ug/L	-0.1300 ppb	15:57:50
3	Cu 324.752†	8851.2	-81.2	-0.2271 ug/L	-0.2271 ppb	15:57:30
3	Mn 257.610†	501.8	23.0	0.0221 ug/L	0.0221 ppb	15:57:50
3	Mo 202.031†	22.4	-0.7	-0.0476 ug/L	-0.0476 ppb	15:57:50
3	Ni 231.604†	102.8	11.4	0.2853 ug/L	0.2853 ppb	15:57:50
3	P 214.914†	258.7	25.6	14.502 ug/L	14.502 ppb	15:57:50
3	Pb 220.353†	-46.0	13.3	1.6709 ug/L	1.6709 ppb	15:57:50
3	S 181.975 Axial†	41.7	-34.3	-47.255 ug/L	-47.255 ppb	15:57:50
3	Sb 206.836†	34.6	5.1	1.7231 ug/L	1.7231 ppb	15:57:50
3	Se 196.026†	-12.3	5.4	3.1454 ug/L	3.1454 ppb	15:57:50
3	Si 251.611†	557.1	73.5	2.1782 ug/L	2.1782 ppb	15:57:50
3	Sn 189.927†	4.8	5.3	0.9689 ug/L	0.9689 ppb	15:57:50
3	Ti 334.940†	-844.8	43.1	0.0559 ug/L	0.0559 ppb	15:57:30
3	Tl 190.801†	-42.4	-6.5	-2.0709 ug/L	-2.0709 ppb	15:57:50
3	U 409.014†	-1056.1	-16.6	-0.4155 ug/L	-0.4155 ppb	15:57:30
3	V 292.402†	-1397.6	-34.9	-0.2177 ug/L	-0.2177 ppb	15:57:30
3	Zn 213.857†	827.6	112.5	1.0453 ug/L	1.0453 ppb	15:57:50
3	SiO2†	607.2	107.2	6.7837 ug/L	6.7837 ppb	15:58:05

Mean Data: 1202017559|942466|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	905048.8	100.80	%	2.594			2.57%
Sc Radial	5475.4	103	%	0.9			0.88%
Y 371.029	797106.7	96.839	%	2.2278			2.30%
Y RADIAL	5879.2	102.1	%	0.90			0.88%
Ag 328.068†	0.3	0.0040	ug/L	0.07879	0.0040 ppb	0.07879	>999.9%
Al 396.153Radial†	-1.7	-1.2577	ug/L	6.27852	-1.2577 ppb	6.27852	499.22%
As 188.979†	-3.6	-1.4873	ug/L	0.88989	-1.4873 ppb	0.88989	59.83%
B 249.677†	-71.0	-1.5584	ug/L	0.15186	-1.5584 ppb	0.15186	9.74%
Ba 233.527†	-13.3	-0.1046	ug/L	0.01264	-0.1046 ppb	0.01264	12.08%
Be 313.107†	81.0	0.0289	ug/L	0.07017	0.0289 ppb	0.07017	242.91%
Ca 317.933Radial†	-1.7	-2.8017	ug/L	0.98841	-2.8017 ppb	0.98841	35.28%
Cd 226.502†	4.7	0.0516	ug/L	0.06041	0.0516 ppb	0.06041	117.09%
Co 228.616†	4.8	0.1057	ug/L	0.17426	0.1057 ppb	0.17426	164.93%
Cr 267.716†	-8.3	-0.0902	ug/L	0.08636	-0.0902 ppb	0.08636	95.71%
Cu 324.752†	-333.1	-0.9343	ug/L	0.61917	-0.9343 ppb	0.61917	66.27%
Fe 238.204 Radial†	1.1	10.013	ug/L	1.4950	10.013 ppb	1.4950	14.93%
K 766.490 Radial†	-347.3	-63.433	ug/L	11.4283	-63.433 ppb	11.4283	18.02%

Mg 279.077 IEC†	0.9	31.646 ug/L	77.6465	31.646 ppb	77.6465	245.36%
Mn 257.610†	25.0	0.0277 ug/L	0.00818	0.0277 ppb	0.00818	29.57%
Mo 202.031†	-1.3	-0.0858 ug/L	0.17810	-0.0858 ppb	0.17810	207.60%
Na 589.592 Radial†	-122.7	-36.480 ug/L	8.3302	-36.480 ppb	8.3302	22.84%
Ni 231.604†	2.1	0.0520 ug/L	0.30391	0.0520 ppb	0.30391	584.56%
P 214.914†	12.8	7.4251 ug/L	6.13283	7.4251 ppb	6.13283	82.60%
Pb 220.353†	12.5	1.5620 ug/L	0.15274	1.5620 ppb	0.15274	9.78%
S 181.975 Axial†	-33.6	-46.217 ug/L	2.6219	-46.217 ppb	2.6219	5.67%
Sb 206.836†	11.8	3.9519 ug/L	1.93293	3.9519 ppb	1.93293	48.91%
Se 196.026†	1.9	1.1557 ug/L	2.08357	1.1557 ppb	2.08357	180.29%
Si 251.611†	56.4	1.6732 ug/L	0.45953	1.6732 ppb	0.45953	27.46%
Sn 189.927†	5.3	0.9748 ug/L	0.82467	0.9748 ppb	0.82467	84.60%
Sr 421.552†	23.4	0.1500 ug/L	0.06409	0.1500 ppb	0.06409	42.73%
Ti 334.940†	90.0	0.1340 ug/L	0.07142	0.1340 ppb	0.07142	53.29%
Tl 190.801†	-0.6	-0.1857 ug/L	1.82699	-0.1857 ppb	1.82699	983.63%
U 409.014†	28.1	0.7020 ug/L	1.35799	0.7020 ppb	1.35799	193.46%
V 292.402†	-0.0	-0.0011 ug/L	0.20306	-0.0011 ppb	0.20306	>999.9%
Zn 213.857†	84.4	0.7857 ug/L	0.22595	0.7857 ppb	0.22595	28.76%
SiO2†	70.6	4.4692 ug/L	2.23063	4.4692 ppb	2.23063	49.91%

Sequence No.: 4

Autosampler Location: 39

Sample ID: 1202017560|942466|1

Date Collected: 1/26/2010 16:00:16

Analyst: HSC

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Replicate Data: 1202017560|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5389.1	5389.1	101 %		16:02:09
1	Y RADIAL	5807.6	5807.6	100.9 %		16:02:09
1	Al 396.153Radial†	6590.9	6521.8	4918.0 ug/L	4918.0 ppb	16:02:09
1	Ca 317.933Radial†	3159.4	3110.5	4999.4 ug/L	4999.4 ppb	16:02:29
1	Fe 238.204 Radial†	565.3	553.0	5182.0 ug/L	5182.0 ppb	16:02:29
1	K 766.490 Radial†	30205.8	27427.4	5006.2 ug/L	5006.2 ppb	16:02:09
1	Mg 279.077 IEC†	150.2	147.8	5272.0 ug/L	5272.0 ppb	16:02:29
1	Na 589.592 Radial†	16012.9	16414.9	4879.7 ug/L	4879.7 ppb	16:02:09
1	Sr 421.552†	78926.2	78201.0	501.83 ug/L	501.83 ppb	16:02:09
1	Sc 361.383	942617.3	942617.3	104.98 %		16:03:28
1	Y 371.029	825920.7	825920.7	100.34 %		16:03:28
1	Ag 328.068†	118964.3	113021.2	474.78 ug/L	474.78 ppb	16:03:28
1	As 188.979†	1178.2	1152.4	475.77 ug/L	475.77 ppb	16:03:48
1	B 249.677†	22147.5	21336.6	465.74 ug/L	465.74 ppb	16:03:28
1	Ba 233.527†	64134.4	61093.1	482.75 ug/L	482.75 ppb	16:03:28
1	Be 313.107†	1409573.4	1347764.1	476.54 ug/L	476.54 ppb	16:03:28
1	Cd 226.502†	43105.5	41265.5	460.81 ug/L	460.81 ppb	16:03:48
1	Co 228.616†	22557.9	21557.1	472.60 ug/L	472.60 ppb	16:03:48
1	Cr 267.716†	45759.2	43493.2	472.08 ug/L	472.08 ppb	16:03:28
1	Cu 324.752†	188374.5	170304.7	477.75 ug/L	477.75 ppb	16:03:28
1	Mn 257.610†	443850.2	422291.6	473.76 ug/L	473.76 ppb	16:03:28
1	Mo 202.031†	7157.5	6794.2	464.15 ug/L	464.15 ppb	16:03:48
1	Ni 231.604†	19805.6	18771.8	471.48 ug/L	471.48 ppb	16:03:48
1	P 214.914†	1249.8	951.7	443.53 ug/L	443.53 ppb	16:03:48
1	Pb 220.353†	3917.3	3791.8	477.47 ug/L	477.47 ppb	16:03:48
1	S 181.975 Axial†	3716.8	3463.4	4767.5 ug/L	4767.5 ppb	16:03:48
1	Sb 206.836†	1572.8	1467.8	508.56 ug/L	508.56 ppb	16:03:48
1	Se 196.026†	802.8	782.7	470.26 ug/L	470.26 ppb	16:03:48
1	Si 251.611†	164403.0	156103.2	4619.6 ug/L	4619.6 ppb	16:03:28
1	Sn 189.927†	2821.2	2687.6	495.06 ug/L	495.06 ppb	16:03:48
1	Ti 334.940†	332860.0	317966.3	484.67 ug/L	484.67 ppb	16:03:28
1	Tl 190.801†	1482.7	1449.2	466.87 ug/L	466.87 ppb	16:03:48
1	U 409.014†	19031.5	19190.9	478.23 ug/L	478.23 ppb	16:03:28
1	V 292.402†	78711.8	76369.0	481.06 ug/L	481.06 ppb	16:03:28
1	Zn 213.857†	53558.7	50283.0	464.21 ug/L	464.21 ppb	16:03:28
1	SiO2†	163320.1	155054.2	9793.7 ug/L	9793.7 ppb	16:04:48
2	Sc Radial	5416.4	5416.4	101 %		16:02:34
2	Y RADIAL	5805.9	5805.9	100.8 %		16:02:34
2	Al 396.153Radial†	6579.7	6477.9	4884.4 ug/L	4884.4 ppb	16:02:34
2	Ca 317.933Radial†	3158.3	3093.6	4972.3 ug/L	4972.3 ppb	16:02:54
2	Fe 238.204 Radial†	564.6	549.5	5149.4 ug/L	5149.4 ppb	16:02:54
2	K 766.490 Radial†	30068.8	27141.9	4954.1 ug/L	4954.1 ppb	16:02:34
2	Mg 279.077 IEC†	149.2	146.2	5213.5 ug/L	5213.5 ppb	16:02:54
2	Na 589.592 Radial†	15951.7	16274.7	4838.0 ug/L	4838.0 ppb	16:02:34
2	Sr 421.552†	78601.1	77487.0	497.25 ug/L	497.25 ppb	16:02:34
2	Sc 361.383	941670.4	941670.4	104.88 %		16:03:55
2	Y 371.029	825746.2	825746.2	100.32 %		16:03:55
2	Ag 328.068†	118872.8	113048.0	474.89 ug/L	474.89 ppb	16:03:55
2	As 188.979†	1187.2	1162.2	479.72 ug/L	479.72 ppb	16:04:15
2	B 249.677†	22081.8	21295.2	464.82 ug/L	464.82 ppb	16:03:55
2	Ba 233.527†	64240.4	61255.7	484.03 ug/L	484.03 ppb	16:03:55
2	Be 313.107†	1411603.9	1351050.2	477.70 ug/L	477.70 ppb	16:03:55
2	Cd 226.502†	43583.8	41762.8	466.37 ug/L	466.37 ppb	16:04:15
2	Co 228.616†	22828.3	21836.5	478.74 ug/L	478.74 ppb	16:04:15
2	Cr 267.716†	45795.5	43571.6	472.93 ug/L	472.93 ppb	16:03:55
2	Cu 324.752†	187857.1	169991.8	476.88 ug/L	476.88 ppb	16:03:55
2	Mn 257.610†	443553.6	422434.0	473.92 ug/L	473.92 ppb	16:03:55
2	Mo 202.031†	7242.0	6881.6	470.11 ug/L	470.11 ppb	16:04:15
2	Ni 231.604†	20025.4	19000.4	477.22 ug/L	477.22 ppb	16:04:15

2	P 214.914†	1260.6	963.2	450.22 ug/L	450.22 ppb	16:04:15
2	Pb 220.353†	3971.7	3847.4	484.47 ug/L	484.47 ppb	16:04:15
2	S 181.975 Axial†	3757.1	3505.4	4825.4 ug/L	4825.4 ppb	16:04:15
2	Sb 206.836†	1608.0	1503.0	520.52 ug/L	520.52 ppb	16:04:15
2	Se 196.026†	815.8	795.8	477.74 ug/L	477.74 ppb	16:04:15
2	Si 251.611†	164028.4	155903.4	4613.6 ug/L	4613.6 ppb	16:03:55
2	Sn 189.927†	2843.0	2711.1	499.37 ug/L	499.37 ppb	16:04:15
2	Ti 334.940†	332181.5	317638.2	484.17 ug/L	484.17 ppb	16:03:55
2	Tl 190.801†	1499.1	1466.2	472.29 ug/L	472.29 ppb	16:04:15
2	U 409.014†	18991.0	19170.6	477.72 ug/L	477.72 ppb	16:03:55
2	V 292.402†	78746.0	76477.0	481.82 ug/L	481.82 ppb	16:03:55
2	Zn 213.857†	53570.5	50345.5	464.76 ug/L	464.76 ppb	16:03:55
2	SiO2†	163789.7	155658.3	9831.7 ug/L	9831.7 ppb	16:04:53
3	Sc Radial	5490.2	5490.2	103 %		16:02:59
3	Y RADIAL	5904.0	5904.0	102.5 %		16:02:59
3	Al 396.153Radial†	6625.5	6435.1	4852.1 ug/L	4852.1 ppb	16:02:59
3	Ca 317.933Radial†	3163.5	3056.8	4913.2 ug/L	4913.2 ppb	16:03:19
3	Fe 238.204 Radial†	562.9	540.3	5064.0 ug/L	5064.0 ppb	16:03:19
3	K 766.490 Radial†	30432.2	27096.4	4945.8 ug/L	4945.8 ppb	16:02:59
3	Mg 279.077 IEC†	148.3	143.3	5110.3 ug/L	5110.3 ppb	16:03:19
3	Na 589.592 Radial†	16226.2	16330.1	4854.5 ug/L	4854.5 ppb	16:02:59
3	Sr 421.552†	79903.6	77711.3	498.69 ug/L	498.69 ppb	16:02:59
3	Sc 361.383	939002.4	939002.4	104.58 %		16:04:22
3	Y 371.029	822056.2	822056.2	99.870 %		16:04:22
3	Ag 328.068†	118529.4	113041.7	474.84 ug/L	474.84 ppb	16:04:22
3	As 188.979†	1182.6	1161.0	479.24 ug/L	479.24 ppb	16:04:43
3	B 249.677†	22204.7	21472.5	468.72 ug/L	468.72 ppb	16:04:22
3	Ba 233.527†	64160.9	61353.6	484.80 ug/L	484.80 ppb	16:04:22
3	Be 313.107†	1407177.8	1350642.3	477.56 ug/L	477.56 ppb	16:04:22
3	Cd 226.502†	43379.4	41685.5	465.52 ug/L	465.52 ppb	16:04:43
3	Co 228.616†	22758.5	21831.6	478.63 ug/L	478.63 ppb	16:04:43
3	Cr 267.716†	45699.7	43604.0	473.28 ug/L	473.28 ppb	16:04:22
3	Cu 324.752†	187447.8	170109.4	477.20 ug/L	477.20 ppb	16:04:22
3	Mn 257.610†	443078.4	423181.2	474.75 ug/L	474.75 ppb	16:04:22
3	Mo 202.031†	7208.6	6869.3	469.26 ug/L	469.26 ppb	16:04:43
3	Ni 231.604†	19928.9	18962.3	476.26 ug/L	476.26 ppb	16:04:43
3	P 214.914†	1265.2	971.0	454.63 ug/L	454.63 ppb	16:04:43
3	Pb 220.353†	3967.0	3853.6	485.25 ug/L	485.25 ppb	16:04:43
3	S 181.975 Axial†	3751.3	3510.0	4831.8 ug/L	4831.8 ppb	16:04:43
3	Sb 206.836†	1600.6	1500.3	519.58 ug/L	519.58 ppb	16:04:43
3	Se 196.026†	814.0	796.3	477.75 ug/L	477.75 ppb	16:04:43
3	Si 251.611†	163938.6	156261.9	4624.2 ug/L	4624.2 ppb	16:04:22
3	Sn 189.927†	2832.9	2709.2	499.01 ug/L	499.01 ppb	16:04:43
3	Ti 334.940†	331733.0	318109.3	484.88 ug/L	484.88 ppb	16:04:22
3	Tl 190.801†	1494.4	1465.8	472.18 ug/L	472.18 ppb	16:04:43
3	U 409.014†	19014.5	19244.5	479.58 ug/L	479.58 ppb	16:04:22
3	V 292.402†	78566.9	76519.1	482.08 ug/L	482.08 ppb	16:04:22
3	Zn 213.857†	53502.0	50425.1	465.52 ug/L	465.52 ppb	16:04:22
3	SiO2†	161637.3	154044.0	9729.7 ug/L	9729.7 ppb	16:04:59

Mean Data: 1202017560|942466|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	941096.7	104.81 %	0.209			0.20%
Sc Radial	5431.9	102 %	1.0			0.96%
Y 371.029	824574.4	100.18 %	0.265			0.26%
Y RADIAL	5839.2	101.4 %	0.97			0.96%
Ag 328.068†	113037.0	474.84 ug/L	0.052	474.84 ppb	0.052	0.01%
Al 396.153Radial†	6478.3	4884.8 ug/L	32.97	4884.8 ppb	32.97	0.67%
As 188.979†	1158.5	478.24 ug/L	2.153	478.24 ppb	2.153	0.45%
B 249.677†	21368.1	466.42 ug/L	2.040	466.42 ppb	2.040	0.44%
Ba 233.527†	61234.1	483.86 ug/L	1.036	483.86 ppb	1.036	0.21%
Be 313.107†	1349818.8	477.26 ug/L	0.632	477.26 ppb	0.632	0.13%
Ca 317.933Radial†	3086.9	4961.6 ug/L	44.11	4961.6 ppb	44.11	0.89%
Cd 226.502†	41571.3	464.23 ug/L	2.995	464.23 ppb	2.995	0.65%
Co 228.616†	21741.7	476.66 ug/L	3.514	476.66 ppb	3.514	0.74%
Cr 267.716†	43556.3	472.76 ug/L	0.617	472.76 ppb	0.617	0.13%
Cu 324.752†	170135.3	477.28 ug/L	0.445	477.28 ppb	0.445	0.09%
Fe 238.204 Radial†	547.6	5131.8 ug/L	60.95	5131.8 ppb	60.95	1.19%
K 766.490 Radial†	27221.9	4968.7 ug/L	32.76	4968.7 ppb	32.76	0.66%



Mg 279.077 IEC†	145.8	5198.6 ug/L	81.88	5198.6 ppb	81.88	1.58%
Mn 257.610†	422635.6	474.14 ug/L	0.533	474.14 ppb	0.533	0.11%
Mo 202.031†	6848.3	467.84 ug/L	3.225	467.84 ppb	3.225	0.69%
Na 589.592 Radial†	16339.9	4857.4 ug/L	20.99	4857.4 ppb	20.99	0.43%
Ni 231.604†	18911.5	474.99 ug/L	3.075	474.99 ppb	3.075	0.65%
P 214.914†	962.0	449.46 ug/L	5.592	449.46 ppb	5.592	1.24%
Pb 220.353†	3830.9	482.40 ug/L	4.281	482.40 ppb	4.281	0.89%
S 181.975 Axial†	3492.9	4808.2 ug/L	35.39	4808.2 ppb	35.39	0.74%
Sb 206.836†	1490.4	516.22 ug/L	6.649	516.22 ppb	6.649	1.29%
Se 196.026†	791.6	475.25 ug/L	4.320	475.25 ppb	4.320	0.91%
Si 251.611†	156089.5	4619.2 ug/L	5.33	4619.2 ppb	5.33	0.12%
Sn 189.927†	2702.6	497.82 ug/L	2.389	497.82 ppb	2.389	0.48%
Sr 421.552†	77799.8	499.26 ug/L	2.343	499.26 ppb	2.343	0.47%
Ti 334.940†	317904.6	484.57 ug/L	0.368	484.57 ppb	0.368	0.08%
Tl 190.801†	1460.4	470.45 ug/L	3.102	470.45 ppb	3.102	0.66%
U 409.014†	19202.0	478.51 ug/L	0.959	478.51 ppb	0.959	0.20%
V 292.402†	76455.1	481.65 ug/L	0.531	481.65 ppb	0.531	0.11%
Zn 213.857†	50351.2	464.83 ug/L	0.656	464.83 ppb	0.656	0.14%
SiO2†	154918.8	9785.0 ug/L	51.59	9785.0 ppb	51.59	0.53%

Sequence No.: 12

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 16:55:39

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5404.1	5404.1	101 %		16:57:31
1	Y RADIAL	5813.1	5813.1	101.0 %		16:57:31
1	Al 396.153Radial†	6596.0	6508.7	4907.1 ug/L	4907.1 ppb	16:57:31
1	Ca 317.933Radial†	3156.1	3098.5	4980.2 ug/L	4980.2 ppb	16:57:51
1	Fe 238.204 Radial†	558.8	545.1	5108.5 ug/L	5108.5 ppb	16:57:51
1	K 766.490 Radial†	30060.1	27200.3	4962.8 ug/L	4962.8 ppb	16:57:31
1	Mg 279.077 IEC†	146.5	143.8	5127.5 ug/L	5127.5 ppb	16:57:51
1	Na 589.592 Radial†	32863.9	33022.0	9816.5 ug/L	9816.5 ppb	16:57:31
1	Sr 421.552†	79011.1	78067.5	500.98 ug/L	500.98 ppb	16:57:31
1	Sc 361.383	933459.5	933459.5	103.96 %		16:58:49
1	Y 371.029	816613.7	816613.7	99.209 %		16:58:49
1	Ag 328.068†	119809.4	114945.9	482.80 ug/L	482.80 ppb	16:58:54
1	As 188.979†	1192.2	1176.9	485.77 ug/L	485.77 ppb	16:59:14
1	B 249.677†	22006.1	21407.6	467.26 ug/L	467.26 ppb	16:58:54
1	Ba 233.527†	63064.8	60663.7	479.37 ug/L	479.37 ppb	16:58:54
1	Be 313.107†	1405050.3	1356585.8	479.67 ug/L	479.67 ppb	16:58:49
1	Cd 226.502†	44607.2	43112.8	481.46 ug/L	481.46 ppb	16:58:54
1	Co 228.616†	23169.0	22355.7	490.13 ug/L	490.13 ppb	16:58:54
1	Cr 267.716†	46082.0	44231.2	480.08 ug/L	480.08 ppb	16:58:54
1	Cu 324.752†	185253.1	169062.7	474.26 ug/L	474.26 ppb	16:58:54
1	Mn 257.610†	446312.1	428807.4	481.06 ug/L	481.06 ppb	16:58:49
1	Mo 202.031†	7383.8	7078.7	483.56 ug/L	483.56 ppb	16:59:14
1	Ni 231.604†	20043.5	19185.7	481.87 ug/L	481.87 ppb	16:58:54
1	P 214.914†	4669.2	4252.5	2305.6 ug/L	2305.6 ppb	16:59:14
1	Pb 220.353†	3941.6	3851.7	485.05 ug/L	485.05 ppb	16:59:14
1	S 181.975 Axial†	789.3	682.2	938.41 ug/L	938.41 ppb	16:59:14
1	Sb 206.836†	1536.7	1447.8	502.14 ug/L	502.14 ppb	16:59:14
1	Se 196.026†	834.8	821.0	492.18 ug/L	492.18 ppb	16:59:14
1	Si 251.611†	85090.0	81350.2	2404.4 ug/L	2404.4 ppb	16:58:54
1	Sn 189.927†	2752.0	2647.4	487.67 ug/L	487.67 ppb	16:59:14
1	Ti 334.940†	333773.7	321955.7	490.75 ug/L	490.75 ppb	16:58:49
1	Tl 190.801†	1513.2	1492.4	480.69 ug/L	480.69 ppb	16:59:14
1	U 409.014†	19016.4	19354.3	482.30 ug/L	482.30 ppb	16:58:54
1	V 292.402†	78414.0	76818.2	484.13 ug/L	484.13 ppb	16:58:54
1	Zn 213.857†	54192.3	51392.9	474.49 ug/L	474.49 ppb	16:58:54
1	SiO2†	85733.7	81951.9	5169.8 ug/L	5169.8 ppb	17:00:22
2	Sc Radial	5464.4	5464.4	102 %		16:57:57
2	Y RADIAL	5854.8	5854.8	101.7 %		16:57:57
2	Al 396.153Radial†	6607.0	6447.5	4861.0 ug/L	4861.0 ppb	16:57:57
2	Ca 317.933Radial†	3114.7	3023.6	4859.7 ug/L	4859.7 ppb	16:58:17
2	Fe 238.204 Radial†	551.7	532.0	4986.7 ug/L	4986.7 ppb	16:58:17
2	K 766.490 Radial†	30113.7	26924.8	4912.6 ug/L	4912.6 ppb	16:57:57
2	Mg 279.077 IEC†	149.8	145.4	5186.7 ug/L	5186.7 ppb	16:58:17
2	Na 589.592 Radial†	32632.4	32437.4	9642.7 ug/L	9642.7 ppb	16:57:57
2	Sr 421.552†	78996.9	77191.8	495.36 ug/L	495.36 ppb	16:57:57
2	Sc 361.383	937520.1	937520.1	104.42 %		16:59:20
2	Y 371.029	819542.3	819542.3	99.565 %		16:59:20
2	Ag 328.068†	119741.6	114381.8	480.40 ug/L	480.40 ppb	16:59:26
2	As 188.979†	1188.9	1168.8	482.47 ug/L	482.47 ppb	16:59:46
2	B 249.677†	22032.5	21341.2	465.83 ug/L	465.83 ppb	16:59:26
2	Ba 233.527†	62932.0	60273.7	476.29 ug/L	476.29 ppb	16:59:26
2	Be 313.107†	1415446.5	1360688.7	481.12 ug/L	481.12 ppb	16:59:20
2	Cd 226.502†	44490.8	42815.5	478.15 ug/L	478.15 ppb	16:59:26
2	Co 228.616†	23118.9	22211.2	486.95 ug/L	486.95 ppb	16:59:26
2	Cr 267.716†	45947.6	43910.6	476.60 ug/L	476.60 ppb	16:59:26
2	Cu 324.752†	185148.5	168190.6	471.81 ug/L	471.81 ppb	16:59:26
2	Mn 257.610†	449866.5	430352.1	482.78 ug/L	482.78 ppb	16:59:20
2	Mo 202.031†	7330.8	6997.2	477.99 ug/L	477.99 ppb	16:59:46
2	Ni 231.604†	19941.2	19004.2	477.31 ug/L	477.31 ppb	16:59:26

2	P 214.914†	4638.9	4203.9	2278.7 ug/L	2278.7 ppb	16:59:46
2	Pb 220.353†	3914.4	3809.2	479.71 ug/L	479.71 ppb	16:59:46
2	S 181.975 Axial†	777.8	667.9	918.64 ug/L	918.64 ppb	16:59:46
2	Sb 206.836†	1527.0	1432.1	496.67 ug/L	496.67 ppb	16:59:46
2	Se 196.026†	841.1	823.4	493.18 ug/L	493.18 ppb	16:59:46
2	Si 251.611†	84970.0	80880.7	2390.6 ug/L	2390.6 ppb	16:59:26
2	Sn 189.927†	2735.5	2620.2	482.64 ug/L	482.64 ppb	16:59:46
2	Ti 334.940†	336981.7	323637.5	493.30 ug/L	493.30 ppb	16:59:20
2	Tl 190.801†	1515.1	1487.9	479.32 ug/L	479.32 ppb	16:59:46
2	U 409.014†	18862.1	19127.3	476.65 ug/L	476.65 ppb	16:59:26
2	V 292.402†	78246.7	76331.3	481.03 ug/L	481.03 ppb	16:59:26
2	Zn 213.857†	54088.3	51067.5	471.51 ug/L	471.51 ppb	16:59:26
2	SiO2†	85093.4	80981.4	5108.6 ug/L	5108.6 ppb	17:00:27
3	Sc Radial	5318.4	5318.4	99.6 %		16:58:22
3	Y RADIAL	5730.9	5730.9	99.54 %		16:58:22
3	Al 396.153Radial†	6474.1	6491.4	4894.0 ug/L	4894.0 ppb	16:58:22
3	Ca 317.933Radial†	3156.9	3149.5	5062.2 ug/L	5062.2 ppb	16:58:42
3	Fe 238.204 Radial†	560.5	555.6	5207.1 ug/L	5207.1 ppb	16:58:42
3	K 766.490 Radial†	29759.8	27377.7	4995.2 ug/L	4995.2 ppb	16:58:22
3	Mg 279.077 IEC†	149.8	149.5	5331.4 ug/L	5331.4 ppb	16:58:42
3	Na 589.592 Radial†	31935.3	32613.1	9695.0 ug/L	9695.0 ppb	16:58:22
3	Sr 421.552†	77533.5	77842.6	499.53 ug/L	499.53 ppb	16:58:22
3	Sc 361.383	927787.5	927787.5	103.33 %		16:59:52
3	Y 371.029	812798.3	812798.3	98.746 %		16:59:52
3	Ag 328.068†	120774.2	116584.1	489.69 ug/L	489.69 ppb	16:59:57
3	As 188.979†	1188.1	1180.0	487.07 ug/L	487.07 ppb	17:00:17
3	B 249.677†	22301.4	21822.8	476.33 ug/L	476.33 ppb	16:59:57
3	Ba 233.527†	63594.5	61547.1	486.35 ug/L	486.35 ppb	16:59:57
3	Be 313.107†	1402066.6	1361960.4	481.57 ug/L	481.57 ppb	16:59:52
3	Cd 226.502†	44852.4	43612.4	487.04 ug/L	487.04 ppb	16:59:57
3	Co 228.616†	23282.3	22601.6	495.52 ug/L	495.52 ppb	16:59:57
3	Cr 267.716†	46420.8	44830.1	486.58 ug/L	486.58 ppb	16:59:57
3	Cu 324.752†	187305.0	172137.7	482.89 ug/L	482.89 ppb	16:59:57
3	Mn 257.610†	444250.0	429436.2	481.77 ug/L	481.77 ppb	16:59:52
3	Mo 202.031†	7320.5	7060.8	482.35 ug/L	482.35 ppb	17:00:17
3	Ni 231.604†	20169.0	19425.0	487.88 ug/L	487.88 ppb	16:59:57
3	P 214.914†	4632.8	4244.7	2299.4 ug/L	2299.4 ppb	17:00:17
3	Pb 220.353†	3913.1	3847.4	484.49 ug/L	484.49 ppb	17:00:17
3	S 181.975 Axial†	779.6	677.5	931.83 ug/L	931.83 ppb	17:00:17
3	Sb 206.836†	1534.3	1454.6	504.36 ug/L	504.36 ppb	17:00:17
3	Se 196.026†	837.8	828.7	496.98 ug/L	496.98 ppb	17:00:17
3	Si 251.611†	85819.4	82556.3	2440.2 ug/L	2440.2 ppb	16:59:57
3	Sn 189.927†	2722.3	2634.8	485.37 ug/L	485.37 ppb	17:00:17
3	Ti 334.940†	333068.8	323236.3	492.69 ug/L	492.69 ppb	16:59:52
3	Tl 190.801†	1503.4	1491.8	480.50 ug/L	480.50 ppb	17:00:17
3	U 409.014†	19251.8	19693.9	490.77 ug/L	490.77 ppb	16:59:57
3	V 292.402†	79080.8	77924.6	491.00 ug/L	491.00 ppb	16:59:57
3	Zn 213.857†	54509.8	52018.9	480.26 ug/L	480.26 ppb	16:59:57
3	SiO2†	85048.9	81793.2	5159.8 ug/L	5159.8 ppb	17:00:32

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	932922.4	103.90 %	0.544			0.52%
Sc Radial	5395.7	101 %	1.4			1.36%
Y 371.029	816318.1	99.173 %	0.4108			0.41%
Y RADIAL	5799.6	100.7 %	1.10			1.09%
Ag 328.068†	115303.9	484.30 ug/L	4.821	484.30 ppb	4.821	1.00%
QC value within limits for Ag 328.068 Recovery = 96.86%						
Al 396.153Radial†	6482.5	4887.4 ug/L	23.75	4887.4 ppb	23.75	0.49%
QC value within limits for Al 396.153Radial Recovery = 97.75%						
As 188.979†	1175.2	485.11 ug/L	2.372	485.11 ppb	2.372	0.49%
QC value within limits for As 188.979 Recovery = 97.02%						
B 249.677†	21523.8	469.80 ug/L	5.696	469.80 ppb	5.696	1.21%
QC value within limits for B 249.677 Recovery = 93.96%						
Ba 233.527†	60828.2	480.67 ug/L	5.157	480.67 ppb	5.157	1.07%
QC value within limits for Ba 233.527 Recovery = 96.13%						
Be 313.107†	1359745.0	480.78 ug/L	0.994	480.78 ppb	0.994	0.21%
QC value within limits for Be 313.107 Recovery = 96.16%						
Ca 317.933Radial†	3090.5	4967.4 ug/L	101.86	4967.4 ppb	101.86	2.05%

QC value within limits for Ca 317.933 Radial Recovery = 99.35%							
Cd 226.502†	43180.2	482.21 ug/L	4.492	482.21 ppb	4.492	0.93%	
QC value within limits for Cd 226.502 Recovery = 96.44%							
Co 228.616†	22389.5	490.87 ug/L	4.330	490.87 ppb	4.330	0.88%	
QC value within limits for Co 228.616 Recovery = 98.17%							
Cr 267.716†	44324.0	481.09 ug/L	5.066	481.09 ppb	5.066	1.05%	
QC value within limits for Cr 267.716 Recovery = 96.22%							
Cu 324.752†	169797.0	476.32 ug/L	5.818	476.32 ppb	5.818	1.22%	
QC value within limits for Cu 324.752 Recovery = 95.26%							
Fe 238.204 Radial†	544.2	5100.8 ug/L	110.41	5100.8 ppb	110.41	2.16%	
QC value within limits for Fe 238.204 Radial Recovery = 102.02%							
K 766.490 Radial†	27167.6	4956.9 ug/L	41.64	4956.9 ppb	41.64	0.84%	
QC value within limits for K 766.490 Radial Recovery = 99.14%							
Mg 279.077 IEC†	146.2	5215.2 ug/L	104.90	5215.2 ppb	104.90	2.01%	
QC value within limits for Mg 279.077 IEC Recovery = 104.30%							
Mn 257.610†	429531.9	481.87 ug/L	0.863	481.87 ppb	0.863	0.18%	
QC value within limits for Mn 257.610 Recovery = 96.37%							
Mo 202.031†	7045.6	481.30 ug/L	2.933	481.30 ppb	2.933	0.61%	
QC value within limits for Mo 202.031 Recovery = 96.26%							
Na 589.592 Radial†	32690.8	9718.1 ug/L	89.17	9718.1 ppb	89.17	0.92%	
QC value within limits for Na 589.592 Radial Recovery = 97.18%							
Ni 231.604†	19205.0	482.36 ug/L	5.302	482.36 ppb	5.302	1.10%	
QC value within limits for Ni 231.604 Recovery = 96.47%							
P 214.914†	4233.7	2294.6 ug/L	14.05	2294.6 ppb	14.05	0.61%	
QC value within limits for P 214.914 Recovery = 91.78%							
Pb 220.353†	3836.1	483.08 ug/L	2.937	483.08 ppb	2.937	0.61%	
QC value within limits for Pb 220.353 Recovery = 96.62%							
S 181.975 Axial†	675.9	929.62 ug/L	10.068	929.62 ppb	10.068	1.08%	
QC value within limits for S 181.975 Axial Recovery = 92.96%							
Sb 206.836†	1444.8	501.06 ug/L	3.955	501.06 ppb	3.955	0.79%	
QC value within limits for Sb 206.836 Recovery = 100.21%							
Se 196.026†	824.4	494.11 ug/L	2.530	494.11 ppb	2.530	0.51%	
QC value within limits for Se 196.026 Recovery = 98.82%							
Si 251.611†	81595.7	2411.8 ug/L	25.59	2411.8 ppb	25.59	1.06%	
QC value within limits for Si 251.611 Recovery = 96.47%							
Sn 189.927†	2634.1	485.22 ug/L	2.517	485.22 ppb	2.517	0.52%	
QC value within limits for Sn 189.927 Recovery = 97.04%							
Sr 421.552†	77700.7	498.62 ug/L	2.918	498.62 ppb	2.918	0.59%	
QC value within limits for Sr 421.552 Recovery = 99.72%							
Ti 334.940†	322943.2	492.25 ug/L	1.330	492.25 ppb	1.330	0.27%	
QC value within limits for Ti 334.940 Recovery = 98.45%							
Tl 190.801†	1490.7	480.17 ug/L	0.741	480.17 ppb	0.741	0.15%	
QC value within limits for Tl 190.801 Recovery = 96.03%							
U 409.014†	19391.8	483.24 ug/L	7.108	483.24 ppb	7.108	1.47%	
QC value within limits for U 409.014 Recovery = 96.65%							
V 292.402†	77024.7	485.39 ug/L	5.100	485.39 ppb	5.100	1.05%	
QC value within limits for V 292.402 Recovery = 97.08%							
Zn 213.857†	51493.1	475.42 ug/L	4.452	475.42 ppb	4.452	0.94%	
QC value within limits for Zn 213.857 Recovery = 95.08%							
SiO2†	81575.5	5146.1 ug/L	32.84	5146.1 ppb	32.84	0.64%	
QC value within limits for SiO2 Recovery = 96.23%							
All analyte(s) passed QC.							

Sequence No.: 13

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 17:02:43

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5295.7	5295.7	99.2 %		17:04:36
1	Y RADIAL	5703.6	5703.6	99.07 %		17:04:36
1	Al 396.153Radial†	8.7	-0.4	-0.3165 ug/L	-0.3165 ppb	17:04:56
1	Ca 317.933Radial†	26.1	6.1	9.7644 ug/L	9.7644 ppb	17:04:56
1	Fe 238.204 Radial†	8.0	1.0	8.9563 ug/L	8.9563 ppb	17:04:56
1	K 766.490 Radial†	2160.1	-325.3	-59.418 ug/L	-59.418 ppb	17:04:36
1	Mg 279.077 IEC†	1.9	1.0	34.293 ug/L	34.293 ppb	17:04:56
1	Na 589.592 Radial†	-707.3	-165.6	-49.235 ug/L	-49.235 ppb	17:04:36
1	Sr 421.552†	35.8	29.0	0.1861 ug/L	0.1861 ppb	17:04:36
1	Sc 361.383	903875.2	903875.2	100.67 %		17:05:52
1	Y 371.029	795336.9	795336.9	96.624 %		17:05:52
1	Ag 328.068†	342.0	43.7	0.1899 ug/L	0.1899 ppb	17:05:52
1	As 188.979†	-26.0	4.3	1.7762 ug/L	1.7762 ppb	17:06:12
1	B 249.677†	-263.2	-21.1	-0.4638 ug/L	-0.4638 ppb	17:06:12
1	Ba 233.527†	-7.5	-4.3	-0.0326 ug/L	-0.0326 ppb	17:06:12
1	Be 313.107†	-5006.7	127.0	0.0449 ug/L	0.0449 ppb	17:05:52
1	Cd 226.502†	-205.3	2.2	0.0232 ug/L	0.0232 ppb	17:06:12
1	Co 228.616†	-67.8	2.6	0.0562 ug/L	0.0562 ppb	17:06:12
1	Cr 267.716†	96.6	2.0	0.0242 ug/L	0.0242 ppb	17:06:12
1	Cu 324.752†	8877.4	-309.6	-0.8661 ug/L	-0.8661 ppb	17:05:52
1	Mn 257.610†	516.4	23.1	0.0254 ug/L	0.0254 ppb	17:06:12
1	Mo 202.031†	24.6	0.8	0.0577 ug/L	0.0577 ppb	17:06:12
1	Ni 231.604†	98.4	4.1	0.1023 ug/L	0.1023 ppb	17:06:12
1	P 214.914†	247.7	7.3	4.3184 ug/L	4.3184 ppb	17:06:12
1	Pb 220.353†	-56.1	4.7	0.5870 ug/L	0.5870 ppb	17:06:12
1	S 181.975 Axial†	49.0	-28.3	-38.996 ug/L	-38.996 ppb	17:06:12
1	Sb 206.836†	53.0	22.4	7.5215 ug/L	7.5215 ppb	17:06:12
1	Se 196.026†	-21.6	-3.5	-2.0027 ug/L	-2.0027 ppb	17:06:12
1	Si 251.611†	527.7	28.3	0.8364 ug/L	0.8364 ppb	17:06:12
1	Sn 189.927†	6.3	6.6	1.2065 ug/L	1.2065 ppb	17:06:12
1	Ti 334.940†	-891.8	20.7	0.0315 ug/L	0.0315 ppb	17:05:52
1	Tl 190.801†	-44.2	-7.0	-2.2451 ug/L	-2.2451 ppb	17:06:12
1	U 409.014†	-1201.2	-130.4	-3.2608 ug/L	-3.2608 ppb	17:05:52
1	V 292.402†	-1323.0	79.4	0.4875 ug/L	0.4875 ppb	17:05:52
1	Zn 213.857†	727.9	-10.3	-0.0966 ug/L	-0.0966 ppb	17:06:12
1	SiO2†	541.1	24.0	1.5192 ug/L	1.5192 ppb	17:07:23
2	Sc Radial	5415.0	5415.0	101 %		17:05:01
2	Y RADIAL	5882.2	5882.2	102.2 %		17:05:01
2	Al 396.153Radial†	4.3	-4.9	-3.6707 ug/L	-3.6707 ppb	17:05:21
2	Ca 317.933Radial†	24.9	4.3	6.8654 ug/L	6.8654 ppb	17:05:21
2	Fe 238.204 Radial†	7.9	0.6	5.4460 ug/L	5.4460 ppb	17:05:21
2	K 766.490 Radial†	2320.8	-214.8	-39.226 ug/L	-39.226 ppb	17:05:01
2	Mg 279.077 IEC†	0.6	-0.3	-12.259 ug/L	-12.259 ppb	17:05:21
2	Na 589.592 Radial†	-762.3	-204.1	-60.676 ug/L	-60.676 ppb	17:05:01
2	Sr 421.552†	10.1	2.9	0.0183 ug/L	0.0183 ppb	17:05:01
2	Sc 361.383	921318.5	921318.5	102.61 %		17:06:18
2	Y 371.029	809656.2	809656.2	98.364 %		17:06:18
2	Ag 328.068†	291.2	-12.2	-0.0431 ug/L	-0.0431 ppb	17:06:18
2	As 188.979†	-21.7	9.1	3.7078 ug/L	3.7078 ppb	17:06:38
2	B 249.677†	-236.3	10.2	0.2215 ug/L	0.2215 ppb	17:06:38
2	Ba 233.527†	-0.6	2.5	0.0216 ug/L	0.0216 ppb	17:06:38
2	Be 313.107†	-5015.9	212.1	0.0750 ug/L	0.0750 ppb	17:06:18
2	Cd 226.502†	-199.4	11.8	0.1309 ug/L	0.1309 ppb	17:06:38
2	Co 228.616†	-65.3	6.3	0.1372 ug/L	0.1372 ppb	17:06:38
2	Cr 267.716†	91.4	-4.8	-0.0495 ug/L	-0.0495 ppb	17:06:38
2	Cu 324.752†	9048.2	-310.1	-0.8671 ug/L	-0.8671 ppb	17:06:18
2	Mn 257.610†	517.6	14.6	0.0174 ug/L	0.0174 ppb	17:06:38
2	Mo 202.031†	18.6	-5.5	-0.3757 ug/L	-0.3757 ppb	17:06:38
2	Ni 231.604†	103.6	7.3	0.1831 ug/L	0.1831 ppb	17:06:38

2	P 214.914†	240.8	-4.1	-2.1204 ug/L	-2.1204 ppb	17:06:38
2	Pb 220.353†	-62.1	-0.1	-0.0146 ug/L	-0.0146 ppb	17:06:38
2	S 181.975 Axial†	45.0	-33.1	-45.630 ug/L	-45.630 ppb	17:06:38
2	Sb 206.836†	38.0	6.8	2.2872 ug/L	2.2872 ppb	17:06:38
2	Se 196.026†	-24.1	-5.6	-3.1979 ug/L	-3.1979 ppb	17:06:38
2	Si 251.611†	529.2	19.8	0.5906 ug/L	0.5906 ppb	17:06:38
2	Sn 189.927†	4.2	4.4	0.8191 ug/L	0.8191 ppb	17:06:38
2	Ti 334.940†	-882.6	46.4	0.0746 ug/L	0.0746 ppb	17:06:18
2	Tl 190.801†	-37.8	0.1	0.0208 ug/L	0.0208 ppb	17:06:38
2	U 409.014†	-1272.6	-177.3	-4.4350 ug/L	-4.4350 ppb	17:06:18
2	V 292.402†	-1324.4	102.9	0.6249 ug/L	0.6249 ppb	17:06:18
2	Zn 213.857†	723.6	-28.2	-0.2634 ug/L	-0.2634 ppb	17:06:38
2	SiO2†	549.0	21.6	1.3762 ug/L	1.3762 ppb	17:07:44
3	Sc Radial	5411.0	5411.0	101 %		17:05:26
3	Y RADIAL	5850.4	5850.4	101.6 %		17:05:26
3	Al 396.153Radial†	15.2	5.9	4.4738 ug/L	4.4738 ppb	17:05:46
3	Ca 317.933Radial†	20.3	-0.2	-0.2757 ug/L	-0.2757 ppb	17:05:46
3	Fe 238.204 Radial†	7.3	0.1	0.4720 ug/L	0.4720 ppb	17:05:46
3	K 766.490 Radial†	2343.5	-190.7	-34.833 ug/L	-34.833 ppb	17:05:26
3	Mg 279.077 IEC†	1.3	0.3	10.439 ug/L	10.439 ppb	17:05:46
3	Na 589.592 Radial†	-667.7	-111.3	-33.083 ug/L	-33.083 ppb	17:05:26
3	Sr 421.552†	1.4	-5.7	-0.0365 ug/L	-0.0365 ppb	17:05:26
3	Sc 361.383	915253.9	915253.9	101.94 %		17:06:43
3	Y 371.029	804714.4	804714.4	97.764 %		17:06:43
3	Ag 328.068†	313.2	11.3	0.0479 ug/L	0.0479 ppb	17:06:43
3	As 188.979†	-24.4	6.2	2.5504 ug/L	2.5504 ppb	17:07:03
3	B 249.677†	-265.6	-20.2	-0.4425 ug/L	-0.4425 ppb	17:07:03
3	Ba 233.527†	-16.0	-12.6	-0.0990 ug/L	-0.0990 ppb	17:07:03
3	Be 313.107†	-5010.8	184.8	0.0652 ug/L	0.0652 ppb	17:06:43
3	Cd 226.502†	-208.5	1.7	0.0186 ug/L	0.0186 ppb	17:07:03
3	Co 228.616†	-70.0	1.3	0.0287 ug/L	0.0287 ppb	17:07:03
3	Cr 267.716†	85.6	-9.9	-0.1075 ug/L	-0.1075 ppb	17:07:03
3	Cu 324.752†	8977.2	-321.3	-0.9012 ug/L	-0.9012 ppb	17:06:43
3	Mn 257.610†	513.8	14.1	0.0155 ug/L	0.0155 ppb	17:07:03
3	Mo 202.031†	22.7	-1.3	-0.0882 ug/L	-0.0882 ppb	17:07:03
3	Ni 231.604†	96.2	0.7	0.0179 ug/L	0.0179 ppb	17:07:03
3	P 214.914†	240.0	-3.3	-1.6913 ug/L	-1.6913 ppb	17:07:03
3	Pb 220.353†	-45.4	15.8	1.9863 ug/L	1.9863 ppb	17:07:03
3	S 181.975 Axial†	45.3	-32.5	-44.797 ug/L	-44.797 ppb	17:07:03
3	Sb 206.836†	42.2	11.1	3.7340 ug/L	3.7340 ppb	17:07:03
3	Se 196.026†	-24.5	-6.1	-3.5188 ug/L	-3.5188 ppb	17:07:03
3	Si 251.611†	518.0	12.2	0.3629 ug/L	0.3629 ppb	17:07:03
3	Sn 189.927†	7.1	7.3	1.3401 ug/L	1.3401 ppb	17:07:03
3	Ti 334.940†	-910.1	13.7	0.0201 ug/L	0.0201 ppb	17:06:43
3	Tl 190.801†	-43.6	-5.9	-1.8844 ug/L	-1.8844 ppb	17:07:03
3	U 409.014†	-1090.9	-7.4	-0.1841 ug/L	-0.1841 ppb	17:06:43
3	V 292.402†	-1395.0	25.0	0.1542 ug/L	0.1542 ppb	17:06:43
3	Zn 213.857†	725.8	-21.4	-0.1980 ug/L	-0.1980 ppb	17:07:03
3	SiO2†	552.2	28.3	1.7920 ug/L	1.7920 ppb	17:08:04

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913482.5	101.74 %	0.986			0.97%
Sc Radial	5373.9	101 %	1.3			1.26%
Y 371.029	803235.8	97.584 %	0.8836			0.91%
Y RADIAL	5812.1	101.0 %	1.66			1.64%
Ag 328.068†	14.3	0.0649 ug/L	0.11742	0.0649 ppb	0.11742	180.97%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	0.2	0.1622 ug/L	4.09327	0.1622 ppb	4.09327	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	6.5	2.6782 ug/L	0.97210	2.6782 ppb	0.97210	36.30%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-10.4	-0.2283 ug/L	0.38965	-0.2283 ppb	0.38965	170.70%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-4.8	-0.0367 ug/L	0.06043	-0.0367 ppb	0.06043	164.85%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	174.6	0.0617 ug/L	0.01538	0.0617 ppb	0.01538	24.92%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	3.4	5.4514 ug/L	5.16727	5.4514 ppb	5.16727	94.79%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	5.2	0.0576 ug/L	0.06354	0.0576 ppb	0.06354	110.35%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	3.4	0.0740 ug/L	0.05642	0.0740 ppb	0.05642	76.22%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-4.2	-0.0442 ug/L	0.06599	-0.0442 ppb	0.06599	149.20%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-313.6	-0.8781 ug/L	0.02000	-0.8781 ppb	0.02000	2.28%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.5	4.9581 ug/L	4.26317	4.9581 ppb	4.26317	85.98%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-243.6	-44.492 ug/L	13.1117	-44.492 ppb	13.1117	29.47%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.3	10.825 ug/L	23.2784	10.825 ppb	23.2784	215.05%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	17.3	0.0194 ug/L	0.00525	0.0194 ppb	0.00525	27.06%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-2.0	-0.1354 ug/L	0.22054	-0.1354 ppb	0.22054	162.86%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-160.3	-47.664 ug/L	13.8633	-47.664 ppb	13.8633	29.09%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	4.0	0.1011 ug/L	0.08260	0.1011 ppb	0.08260	81.71%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-0.0	0.1689 ug/L	3.59995	0.1689 ppb	3.59995	>999.9%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	6.8	0.8529 ug/L	1.02660	0.8529 ppb	1.02660	120.37%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-31.3	-43.141 ug/L	3.6142	-43.141 ppb	3.6142	8.38%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	13.4	4.5142 ug/L	2.70297	4.5142 ppb	2.70297	59.88%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-5.1	-2.9064 ug/L	0.79897	-2.9064 ppb	0.79897	27.49%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	20.1	0.5966 ug/L	0.23684	0.5966 ppb	0.23684	39.70%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	6.1	1.1219 ug/L	0.27063	1.1219 ppb	0.27063	24.12%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	8.7	0.0560 ug/L	0.11601	0.0560 ppb	0.11601	207.25%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	26.9	0.0421 ug/L	0.02876	0.0421 ppb	0.02876	68.38%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-4.3	-1.3695 ug/L	1.21751	-1.3695 ppb	1.21751	88.90%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-105.0	-2.6266 ug/L	2.19531	-2.6266 ppb	2.19531	83.58%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	69.1	0.4222 ug/L	0.24203	0.4222 ppb	0.24203	57.33%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-20.0	-0.1860 ug/L	0.08405	-0.1860 ppb	0.08405	45.19%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	24.6	1.5625 ug/L	0.21124	1.5625 ppb	0.21124	13.52%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 15

Sample ID: 244849001|942466|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 48

Date Collected: 1/26/2010 17:17:03

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 244849001|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5517.8	5517.8	103 %		17:18:56
1	Y RADIAL	5922.5	5922.5	102.9 %		17:18:56
1	Al 396.153Radial†	27.0	17.0	12.897 ug/L	12.897 ppb	17:19:17
1	Ca 317.933Radial†	37.1	15.6	25.124 ug/L	25.124 ppb	17:19:17
1	Fe 238.204 Radial†	10.8	3.3	30.661 ug/L	30.661 ppb	17:19:17
1	K 766.490 Radial†	3309.9	699.9	127.82 ug/L	127.82 ppb	17:18:56
1	Mg 279.077 IEC†	0.9	-0.1	-5.1452 ug/L	-5.1452 ppb	17:19:17
1	Na 589.592 Radial†	-373.5	186.2	55.351 ug/L	55.351 ppb	17:18:56
1	Sr 421.552†	46.4	37.8	0.2427 ug/L	0.2427 ppb	17:18:56
1	Sc 361.383	947519.4	947519.4	105.53 %		17:20:13
1	Y 371.029	837071.4	837071.4	101.69 %		17:20:13
1	Ag 328.068†	340.7	26.9	0.1318 ug/L	0.1318 ppb	17:20:18
1	As 188.979†	-36.0	-3.9	-1.5770 ug/L	-1.5770 ppb	17:20:38
1	B 249.677†	443.1	660.3	14.476 ug/L	14.476 ppb	17:20:38
1	Ba 233.527†	54.9	55.1	0.4370 ug/L	0.4370 ppb	17:20:38
1	Be 313.107†	-5127.7	241.4	0.0866 ug/L	0.0866 ppb	17:20:18
1	Cd 226.502†	-204.1	12.8	0.1381 ug/L	0.1381 ppb	17:20:38
1	Co 228.616†	-81.0	-6.8	-0.1514 ug/L	-0.1514 ppb	17:20:38
1	Cr 267.716†	99.7	0.5	0.0106 ug/L	0.0106 ppb	17:20:38
1	Cu 324.752†	9090.8	-513.5	-1.4342 ug/L	-1.4342 ppb	17:20:18
1	Mn 257.610†	1520.1	950.6	1.0690 ug/L	1.0690 ppb	17:20:38
1	Mo 202.031†	24.4	-0.5	-0.0290 ug/L	-0.0290 ppb	17:20:38
1	Ni 231.604†	91.5	-7.0	-0.1751 ug/L	-0.1751 ppb	17:20:38
1	P 214.914†	251.0	-0.9	-0.2335 ug/L	-0.2335 ppb	17:20:38
1	Pb 220.353†	-43.6	19.1	2.4003 ug/L	2.4003 ppb	17:20:38
1	S 181.975 Axial†	75.2	-5.8	-7.9269 ug/L	-7.9269 ppb	17:20:38
1	Sb 206.836†	41.8	9.4	3.1436 ug/L	3.1436 ppb	17:20:38
1	Se 196.026†	-16.8	2.1	1.2866 ug/L	1.2866 ppb	17:20:38
1	Si 251.611†	45588.8	42704.1	1265.3 ug/L	1265.3 ppb	17:20:18
1	Sn 189.927†	3.5	3.7	0.6758 ug/L	0.6758 ppb	17:20:38
1	Ti 334.940†	-528.3	405.9	0.6264 ug/L	0.6264 ppb	17:20:18
1	Tl 190.801†	-35.4	3.3	1.0767 ug/L	1.0767 ppb	17:20:38
1	U 409.014†	-1484.9	-344.2	-8.6115 ug/L	-8.6115 ppb	17:20:18
1	V 292.402†	-1342.6	121.3	0.7322 ug/L	0.7322 ppb	17:20:18
1	Zn 213.857†	977.6	193.0	1.7976 ug/L	1.7976 ppb	17:20:38
1	SiO2†	45808.4	42894.8	2712.9 ug/L	2712.9 ppb	17:21:44
2	Sc Radial	5474.2	5474.2	103 %		17:19:22
2	Y RADIAL	5935.9	5935.9	103.1 %		17:19:22
2	Al 396.153Radial†	31.1	21.2	16.031 ug/L	16.031 ppb	17:19:42
2	Ca 317.933Radial†	28.3	7.3	11.766 ug/L	11.766 ppb	17:19:42
2	Fe 238.204 Radial†	10.2	2.8	26.481 ug/L	26.481 ppb	17:19:42
2	K 766.490 Radial†	3283.4	699.4	127.75 ug/L	127.75 ppb	17:19:22
2	Mg 279.077 IEC†	0.5	-0.5	-18.269 ug/L	-18.269 ppb	17:19:42
2	Na 589.592 Radial†	-406.0	151.6	45.074 ug/L	45.074 ppb	17:19:22
2	Sr 421.552†	68.3	59.5	0.3820 ug/L	0.3820 ppb	17:19:22
2	Sc 361.383	936701.4	936701.4	104.32 %		17:20:43
2	Y 371.029	827051.5	827051.5	100.48 %		17:20:43
2	Ag 328.068†	301.5	-7.0	-0.0121 ug/L	-0.0121 ppb	17:20:48
2	As 188.979†	-37.6	-5.8	-2.3770 ug/L	-2.3770 ppb	17:21:09
2	B 249.677†	432.3	654.8	14.356 ug/L	14.356 ppb	17:21:09
2	Ba 233.527†	70.2	70.4	0.5571 ug/L	0.5571 ppb	17:21:09
2	Be 313.107†	-5181.2	134.0	0.0488 ug/L	0.0488 ppb	17:20:48
2	Cd 226.502†	-213.0	2.0	0.0179 ug/L	0.0179 ppb	17:21:09
2	Co 228.616†	-80.1	-6.9	-0.1507 ug/L	-0.1507 ppb	17:21:09
2	Cr 267.716†	91.7	-6.0	-0.0611 ug/L	-0.0611 ppb	17:21:09
2	Cu 324.752†	9171.8	-336.4	-0.9382 ug/L	-0.9382 ppb	17:20:48
2	Mn 257.610†	1535.6	982.1	1.1044 ug/L	1.1044 ppb	17:21:09
2	Mo 202.031†	30.7	5.8	0.3983 ug/L	0.3983 ppb	17:21:09
2	Ni 231.604†	107.6	9.4	0.2374 ug/L	0.2374 ppb	17:21:09



2	P 214.914†	250.8	1.6	1.1087 ug/L	1.1087 ppb	17:21:09
2	Pb 220.353†	-38.2	23.8	2.9915 ug/L	2.9915 ppb	17:21:09
2	S 181.975 Axial†	75.7	-4.4	-6.1052 ug/L	-6.1052 ppb	17:21:09
2	Sb 206.836†	37.4	5.6	1.9333 ug/L	1.9333 ppb	17:21:09
2	Se 196.026†	-14.2	4.4	2.6210 ug/L	2.6210 ppb	17:21:09
2	Si 251.611†	46069.7	43664.1	1293.8 ug/L	1293.8 ppb	17:20:48
2	Sn 189.927†	13.4	13.1	2.4202 ug/L	2.4202 ppb	17:21:09
2	Ti 334.940†	-488.3	438.5	0.6748 ug/L	0.6748 ppb	17:20:48
2	Tl 190.801†	-39.7	-1.2	-0.3637 ug/L	-0.3637 ppb	17:21:09
2	U 409.014†	-1408.7	-287.4	-7.1904 ug/L	-7.1904 ppb	17:20:48
2	V 292.402†	-1336.8	112.2	0.6847 ug/L	0.6847 ppb	17:20:48
2	Zn 213.857†	977.3	203.3	1.8913 ug/L	1.8913 ppb	17:21:09
2	SiO2†	45458.2	43060.4	2723.3 ug/L	2723.3 ppb	17:21:49
3	Sc Radial	5519.2	5519.2	103 %		17:19:47
3	Y RADIAL	5922.2	5922.2	102.9 %		17:19:47
3	Al 396.153Radial†	27.3	17.3	13.117 ug/L	13.117 ppb	17:20:07
3	Ca 317.933Radial†	34.8	13.4	21.595 ug/L	21.595 ppb	17:20:07
3	Fe 238.204 Radial†	9.2	1.8	16.357 ug/L	16.357 ppb	17:20:07
3	K 766.490 Radial†	3215.4	607.6	110.98 ug/L	110.98 ppb	17:19:47
3	Mg 279.077 IEC†	4.4	3.3	116.00 ug/L	116.00 ppb	17:20:07
3	Na 589.592 Radial†	-423.4	137.9	41.005 ug/L	41.005 ppb	17:19:47
3	Sr 421.552†	47.1	38.5	0.2470 ug/L	0.2470 ppb	17:19:47
3	Sc 361.383	948598.8	948598.8	105.65 %		17:21:14
3	Y 371.029	837096.7	837096.7	101.70 %		17:21:14
3	Ag 328.068†	346.4	31.8	0.1473 ug/L	0.1473 ppb	17:21:19
3	As 188.979†	-30.6	1.2	0.5077 ug/L	0.5077 ppb	17:21:39
3	B 249.677†	428.8	646.3	14.170 ug/L	14.170 ppb	17:21:39
3	Ba 233.527†	63.1	62.9	0.4976 ug/L	0.4976 ppb	17:21:39
3	Be 313.107†	-5207.6	171.3	0.0619 ug/L	0.0619 ppb	17:21:19
3	Cd 226.502†	-208.4	8.9	0.0966 ug/L	0.0966 ppb	17:21:39
3	Co 228.616†	-71.8	2.0	0.0411 ug/L	0.0411 ppb	17:21:39
3	Cr 267.716†	98.7	-0.5	-0.0011 ug/L	-0.0011 ppb	17:21:39
3	Cu 324.752†	9067.8	-545.1	-1.5237 ug/L	-1.5237 ppb	17:21:19
3	Mn 257.610†	1539.1	966.9	1.0810 ug/L	1.0810 ppb	17:21:39
3	Mo 202.031†	12.3	-12.0	-0.8183 ug/L	-0.8183 ppb	17:21:39
3	Ni 231.604†	105.5	6.2	0.1555 ug/L	0.1555 ppb	17:21:39
3	P 214.914†	255.2	2.8	1.8973 ug/L	1.8973 ppb	17:21:39
3	Pb 220.353†	-28.7	33.2	4.1713 ug/L	4.1713 ppb	17:21:39
3	S 181.975 Axial†	74.6	-6.4	-8.7808 ug/L	-8.7808 ppb	17:21:39
3	Sb 206.836†	31.1	-0.8	-0.2721 ug/L	-0.2721 ppb	17:21:39
3	Se 196.026†	-21.2	-2.1	-1.1515 ug/L	-1.1515 ppb	17:21:39
3	Si 251.611†	46286.7	43315.6	1283.4 ug/L	1283.4 ppb	17:21:19
3	Sn 189.927†	8.3	8.2	1.5197 ug/L	1.5197 ppb	17:21:39
3	Ti 334.940†	-514.2	419.8	0.6372 ug/L	0.6372 ppb	17:21:19
3	Tl 190.801†	-50.2	-10.6	-3.3890 ug/L	-3.3890 ppb	17:21:39
3	U 409.014†	-1469.6	-328.2	-8.2083 ug/L	-8.2083 ppb	17:21:19
3	V 292.402†	-1357.2	108.9	0.6494 ug/L	0.6494 ppb	17:21:19
3	Zn 213.857†	983.7	197.6	1.8405 ug/L	1.8405 ppb	17:21:39
3	SiO2†	45581.8	42630.9	2696.2 ug/L	2696.2 ppb	17:21:54

Mean Data: 244849001|942466|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	944273.2	105.17 %	0.733			0.70%
Sc Radial	5503.7	103 %	0.5			0.46%
Y 371.029	833739.9	101.29 %	0.704			0.69%
Y RADIAL	5926.8	102.9 %	0.14			0.13%
Ag 328.068†	17.2	0.0890 ug/L	0.08788	0.0890 ppb	0.08788	98.73%
Al 396.153Radial†	18.5	14.015 ug/L	1.7492	14.015 ppb	1.7492	12.48%
As 188.979†	-2.8	-1.1488 ug/L	1.48929	-1.1488 ppb	1.48929	129.64%
B 249.677†	653.8	14.334 ug/L	0.1540	14.334 ppb	0.1540	1.07%
Ba 233.527†	62.8	0.4972 ug/L	0.06008	0.4972 ppb	0.06008	12.08%
Be 313.107†	182.3	0.0658 ug/L	0.01918	0.0658 ppb	0.01918	29.17%
Ca 317.933Radial†	12.1	19.495 ug/L	6.9219	19.495 ppb	6.9219	35.51%
Cd 226.502†	7.9	0.0842 ug/L	0.06101	0.0842 ppb	0.06101	72.47%
Co 228.616†	-3.9	-0.0870 ug/L	0.11095	-0.0870 ppb	0.11095	127.55%
Cr 267.716†	-2.0	-0.0172 ug/L	0.03845	-0.0172 ppb	0.03845	223.68%
Cu 324.752†	-465.0	-1.2987 ug/L	0.31541	-1.2987 ppb	0.31541	24.29%
Fe 238.204 Radial†	2.6	24.499 ug/L	7.3552	24.499 ppb	7.3552	30.02%
K 766.490 Radial†	669.0	122.18 ug/L	9.705	122.18 ppb	9.705	7.94%

Mg 279.077 IEC†	0.9	30.862 ug/L	74.0234	30.862 ppb	74.0234	239.85%
Mn 257.610†	966.5	1.0848 ug/L	0.01803	1.0848 ppb	0.01803	1.66%
Mo 202.031†	-2.2	-0.1497 ug/L	0.61721	-0.1497 ppb	0.61721	412.33%
Na 589.592 Radial†	158.6	47.143 ug/L	7.3937	47.143 ppb	7.3937	15.68%
Ni 231.604†	2.9	0.0726 ug/L	0.21841	0.0726 ppb	0.21841	300.93%
P 214.914†	1.2	0.9241 ug/L	1.07731	0.9241 ppb	1.07731	116.57%
Pb 220.353†	25.4	3.1877 ug/L	0.90165	3.1877 ppb	0.90165	28.29%
S 181.975 Axial†	-5.5	-7.6043 ug/L	1.36664	-7.6043 ppb	1.36664	17.97%
Sb 206.836†	4.7	1.6016 ug/L	1.73188	1.6016 ppb	1.73188	108.13%
Se 196.026†	1.5	0.9187 ug/L	1.91299	0.9187 ppb	1.91299	208.23%
Si 251.611†	43227.9	1280.8 ug/L	14.40	1280.8 ppb	14.40	1.12%
Sn 189.927†	8.3	1.5385 ug/L	0.87236	1.5385 ppb	0.87236	56.70%
Sr 421.552†	45.3	0.2906 ug/L	0.07921	0.2906 ppb	0.07921	27.26%
Ti 334.940†	421.4	0.6461 ug/L	0.02543	0.6461 ppb	0.02543	3.94%
Tl 190.801†	-2.8	-0.8920 ug/L	2.27922	-0.8920 ppb	2.27922	255.52%
U 409.014†	-320.0	-8.0034 ug/L	0.73236	-8.0034 ppb	0.73236	9.15%
V 292.402†	114.1	0.6888 ug/L	0.04155	0.6888 ppb	0.04155	6.03%
Zn 213.857†	198.0	1.8431 ug/L	0.04688	1.8431 ppb	0.04688	2.54%
SiO2†	42862.0	2710.8 ug/L	13.68	2710.8 ppb	13.68	0.50%

Sequence No.: 23

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 1/26/2010 18:12:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5569.9	5569.9	104 %		18:14:27
1	Y RADIAL	5977.3	5977.3	103.8 %		18:14:27
1	Al 396.153Radial†	6615.6	6333.5	4774.3 ug/L	4774.3 ppb	18:14:27
1	Ca 317.933Radial†	3229.3	3075.8	4943.7 ug/L	4943.7 ppb	18:14:47
1	Fe 238.204 Radial†	581.1	549.9	5154.2 ug/L	5154.2 ppb	18:14:47
1	K 766.490 Radial†	30244.3	26492.8	4833.4 ug/L	4833.4 ppb	18:14:27
1	Mg 279.077 IEC†	153.1	145.8	5201.0 ug/L	5201.0 ppb	18:14:47
1	Na 589.592 Radial†	34927.7	34034.1	10117 ug/L	10117 ppb	18:14:27
1	Sr 421.552†	81821.1	78437.9	503.35 ug/L	503.35 ppb	18:14:27
1	Sc 361.383	936626.4	936626.4	104.32 %		18:15:44
1	Y 371.029	818866.9	818866.9	99.483 %		18:15:44
1	Ag 328.068†	120728.0	115436.8	484.87 ug/L	484.87 ppb	18:15:50
1	As 188.979†	1205.1	1185.4	489.17 ug/L	489.17 ppb	18:16:10
1	B 249.677†	22866.7	22161.0	483.76 ug/L	483.76 ppb	18:15:50
1	Ba 233.527†	63707.9	61075.1	482.62 ug/L	482.62 ppb	18:15:50
1	Be 313.107†	1419153.9	1365536.1	482.80 ug/L	482.80 ppb	18:15:44
1	Cd 226.502†	44928.9	43276.1	483.28 ug/L	483.28 ppb	18:15:50
1	Co 228.616†	23402.0	22503.6	493.40 ug/L	493.40 ppb	18:15:50
1	Cr 267.716†	46426.3	44411.4	482.04 ug/L	482.04 ppb	18:15:50
1	Cu 324.752†	188180.1	171266.1	480.45 ug/L	480.45 ppb	18:15:50
1	Mn 257.610†	449551.0	430460.8	482.92 ug/L	482.92 ppb	18:15:44
1	Mo 202.031†	7422.6	7091.9	484.47 ug/L	484.47 ppb	18:16:10
1	Ni 231.604†	20312.5	19378.4	486.71 ug/L	486.71 ppb	18:15:50
1	P 214.914†	4676.2	4244.0	2299.5 ug/L	2299.5 ppb	18:16:10
1	Pb 220.353†	3949.8	3846.8	484.40 ug/L	484.40 ppb	18:16:10
1	S 181.975 Axial†	798.4	688.4	946.84 ug/L	946.84 ppb	18:16:10
1	Sb 206.836†	1541.6	1447.6	502.14 ug/L	502.14 ppb	18:16:10
1	Se 196.026†	841.9	825.0	494.64 ug/L	494.64 ppb	18:16:10
1	Si 251.611†	85599.3	81561.7	2410.7 ug/L	2410.7 ppb	18:15:50
1	Sn 189.927†	2767.6	2653.4	488.76 ug/L	488.76 ppb	18:16:10
1	Ti 334.940†	327922.6	315261.2	480.53 ug/L	480.53 ppb	18:15:50
1	Tl 190.801†	1520.2	1494.2	481.16 ug/L	481.16 ppb	18:16:10
1	U 409.014†	19088.3	19361.4	482.47 ug/L	482.47 ppb	18:15:50
1	V 292.402†	79087.9	77209.2	486.58 ug/L	486.58 ppb	18:15:50
1	Zn 213.857†	54759.1	51760.1	477.87 ug/L	477.87 ppb	18:15:50
1	SiO2†	85110.1	81075.2	5114.4 ug/L	5114.4 ppb	18:17:17
2	Sc Radial	5552.4	5552.4	104 %		18:14:52
2	Y RADIAL	5966.5	5966.5	103.6 %		18:14:52
2	Al 396.153Radial†	6678.3	6413.7	4835.2 ug/L	4835.2 ppb	18:14:52
2	Ca 317.933Radial†	3214.5	3071.3	4936.5 ug/L	4936.5 ppb	18:15:12
2	Fe 238.204 Radial†	584.7	555.2	5203.2 ug/L	5203.2 ppb	18:15:12
2	K 766.490 Radial†	30676.1	26999.3	4926.0 ug/L	4926.0 ppb	18:14:52
2	Mg 279.077 IEC†	152.0	145.2	5179.3 ug/L	5179.3 ppb	18:15:12
2	Na 589.592 Radial†	35017.5	34225.8	10174 ug/L	10174 ppb	18:14:52
2	Sr 421.552†	82187.9	79037.4	507.20 ug/L	507.20 ppb	18:14:52
2	Sc 361.383	940530.3	940530.3	104.75 %		18:16:15
2	Y 371.029	824263.5	824263.5	100.14 %		18:16:15
2	Ag 328.068†	121450.6	115646.3	485.77 ug/L	485.77 ppb	18:16:21
2	As 188.979†	1192.7	1168.8	482.38 ug/L	482.38 ppb	18:16:41
2	B 249.677†	23132.6	22323.9	487.33 ug/L	487.33 ppb	18:16:21
2	Ba 233.527†	63953.3	61055.8	482.47 ug/L	482.47 ppb	18:16:21
2	Be 313.107†	1433413.1	1373501.9	485.61 ug/L	485.61 ppb	18:16:15
2	Cd 226.502†	45112.0	43272.1	483.23 ug/L	483.23 ppb	18:16:21
2	Co 228.616†	23504.1	22508.0	493.49 ug/L	493.49 ppb	18:16:21
2	Cr 267.716†	46703.3	44491.2	482.91 ug/L	482.91 ppb	18:16:21
2	Cu 324.752†	188868.6	171174.6	480.19 ug/L	480.19 ppb	18:16:21
2	Mn 257.610†	452511.0	431497.8	484.08 ug/L	484.08 ppb	18:16:15
2	Mo 202.031†	7411.1	7051.4	481.71 ug/L	481.71 ppb	18:16:41
2	Ni 231.604†	20348.8	19332.2	485.55 ug/L	485.55 ppb	18:16:21

2	P 214.914†	4681.7	4230.6	2291.9 ug/L	2291.9 ppb	18:16:41
2	Pb 220.353†	3958.2	3839.0	483.43 ug/L	483.43 ppb	18:16:41
2	S 181.975 Axial†	795.1	682.0	938.14 ug/L	938.14 ppb	18:16:41
2	Sb 206.836†	1531.7	1431.9	496.76 ug/L	496.76 ppb	18:16:41
2	Se 196.026†	838.5	818.4	491.01 ug/L	491.01 ppb	18:16:41
2	Si 251.611†	86009.9	81613.0	2412.3 ug/L	2412.3 ppb	18:16:21
2	Sn 189.927†	2744.2	2620.1	482.64 ug/L	482.64 ppb	18:16:41
2	Ti 334.940†	329683.4	315637.3	481.11 ug/L	481.11 ppb	18:16:21
2	Tl 190.801†	1532.9	1500.3	483.13 ug/L	483.13 ppb	18:16:41
2	U 409.014†	19217.0	19408.2	483.63 ug/L	483.63 ppb	18:16:21
2	V 292.402†	79766.1	77541.9	488.60 ug/L	488.60 ppb	18:16:21
2	Zn 213.857†	55055.7	51825.3	478.48 ug/L	478.48 ppb	18:16:21
2	SiO2†	86087.3	81669.4	5152.0 ug/L	5152.0 ppb	18:17:22
3	Sc Radial	5484.8	5484.8	103 %		18:15:17
3	Y RADIAL	5916.9	5916.9	102.8 %		18:15:17
3	Al 396.153Radial†	6642.3	6457.9	4868.5 ug/L	4868.5 ppb	18:15:17
3	Ca 317.933Radial†	3230.5	3125.1	5022.9 ug/L	5022.9 ppb	18:15:37
3	Fe 238.204 Radial†	587.6	565.0	5294.8 ug/L	5294.8 ppb	18:15:37
3	K 766.490 Radial†	30532.3	27223.3	4966.8 ug/L	4966.8 ppb	18:15:17
3	Mg 279.077 IEC†	152.7	147.7	5269.4 ug/L	5269.4 ppb	18:15:37
3	Na 589.592 Radial†	34866.3	34494.0	10254 ug/L	10254 ppb	18:15:17
3	Sr 421.552†	81761.9	79597.6	510.80 ug/L	510.80 ppb	18:15:17
3	Sc 361.383	930460.1	930460.1	103.63 %		18:16:46
3	Y 371.029	814593.4	814593.4	98.964 %		18:16:46
3	Ag 328.068†	120875.5	116346.1	488.73 ug/L	488.73 ppb	18:16:52
3	As 188.979†	1187.4	1176.0	485.36 ug/L	485.36 ppb	18:17:12
3	B 249.677†	23060.7	22493.4	491.02 ug/L	491.02 ppb	18:16:52
3	Ba 233.527†	63827.8	61595.5	486.74 ug/L	486.74 ppb	18:16:52
3	Be 313.107†	1417049.1	1372521.0	485.27 ug/L	485.27 ppb	18:16:46
3	Cd 226.502†	45037.3	43666.2	487.63 ug/L	487.63 ppb	18:16:52
3	Co 228.616†	23492.6	22739.8	498.57 ug/L	498.57 ppb	18:16:52
3	Cr 267.716†	46609.4	44883.0	487.16 ug/L	487.16 ppb	18:16:52
3	Cu 324.752†	187500.7	171805.9	481.97 ug/L	481.97 ppb	18:16:52
3	Mn 257.610†	447975.3	431796.3	484.42 ug/L	484.42 ppb	18:16:46
3	Mo 202.031†	7397.2	7114.6	486.02 ug/L	486.02 ppb	18:17:12
3	Ni 231.604†	20291.4	19487.1	489.44 ug/L	489.44 ppb	18:16:52
3	P 214.914†	4679.3	4276.7	2317.5 ug/L	2317.5 ppb	18:17:12
3	Pb 220.353†	3950.8	3872.9	487.68 ug/L	487.68 ppb	18:17:12
3	S 181.975 Axial†	790.6	685.9	943.46 ug/L	943.46 ppb	18:17:12
3	Sb 206.836†	1552.6	1468.0	509.03 ug/L	509.03 ppb	18:17:12
3	Se 196.026†	837.3	826.0	495.69 ug/L	495.69 ppb	18:17:12
3	Si 251.611†	85764.2	82264.6	2431.5 ug/L	2431.5 ppb	18:16:52
3	Sn 189.927†	2757.6	2661.4	490.25 ug/L	490.25 ppb	18:17:12
3	Ti 334.940†	328021.8	317440.2	483.86 ug/L	483.86 ppb	18:16:52
3	Tl 190.801†	1542.6	1525.4	491.17 ug/L	491.17 ppb	18:17:12
3	U 409.014†	19033.2	19429.5	484.15 ug/L	484.15 ppb	18:16:52
3	V 292.402†	79407.3	78019.8	491.62 ug/L	491.62 ppb	18:16:52
3	Zn 213.857†	54717.4	52067.7	480.70 ug/L	480.70 ppb	18:16:52
3	SiO2†	85324.6	81822.9	5161.6 ug/L	5161.6 ppb	18:17:27

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	935872.3	104.23 %	0.565			0.54%
Sc Radial	5535.7	104 %	0.8			0.81%
Y 371.029	819241.3	99.528 %	0.5887			0.59%
Y RADIAL	5953.6	103.4 %	0.56			0.54%
Ag 328.068†	115809.7	486.46 ug/L	2.019	486.46 ppb	2.019	0.42%
QC value within limits for Ag 328.068 Recovery = 97.29%						
Al 396.153Radial†	6401.7	4826.0 ug/L	47.75	4826.0 ppb	47.75	0.99%
QC value within limits for Al 396.153Radial Recovery = 96.52%						
As 188.979†	1176.7	485.64 ug/L	3.403	485.64 ppb	3.403	0.70%
QC value within limits for As 188.979 Recovery = 97.13%						
B 249.677†	22326.1	487.37 ug/L	3.627	487.37 ppb	3.627	0.74%
QC value within limits for B 249.677 Recovery = 97.47%						
Ba 233.527†	61242.1	483.94 ug/L	2.420	483.94 ppb	2.420	0.50%
QC value within limits for Ba 233.527 Recovery = 96.79%						
Be 313.107†	1370519.7	484.56 ug/L	1.534	484.56 ppb	1.534	0.32%
QC value within limits for Be 313.107 Recovery = 96.91%						
Ca 317.933Radial†	3090.7	4967.7 ug/L	47.95	4967.7 ppb	47.95	0.97%

QC value within limits for Ca 317.933 Radial Recovery = 99.35%

Cd 226.502†	43404.8	484.71 ug/L	2.523	484.71 ppb	2.523	0.52%
QC value within limits for Cd 226.502 Recovery = 96.94%						
Co 228.616†	22583.8	495.16 ug/L	2.961	495.16 ppb	2.961	0.60%
QC value within limits for Co 228.616 Recovery = 99.03%						
Cr 267.716†	44595.2	484.04 ug/L	2.741	484.04 ppb	2.741	0.57%
QC value within limits for Cr 267.716 Recovery = 96.81%						
Cu 324.752†	171415.5	480.87 ug/L	0.960	480.87 ppb	0.960	0.20%
QC value within limits for Cu 324.752 Recovery = 96.17%						
Fe 238.204 Radial†	556.7	5217.4 ug/L	71.38	5217.4 ppb	71.38	1.37%
QC value within limits for Fe 238.204 Radial Recovery = 104.35%						
K 766.490 Radial†	26905.1	4908.7 ug/L	68.33	4908.7 ppb	68.33	1.39%
QC value within limits for K 766.490 Radial Recovery = 98.17%						
Mg 279.077 IEC†	146.3	5216.6 ug/L	47.03	5216.6 ppb	47.03	0.90%
QC value within limits for Mg 279.077 IEC Recovery = 104.33%						
Mn 257.610†	431251.6	483.81 ug/L	0.791	483.81 ppb	0.791	0.16%
QC value within limits for Mn 257.610 Recovery = 96.76%						
Mo 202.031†	7086.0	484.07 ug/L	2.187	484.07 ppb	2.187	0.45%
QC value within limits for Mo 202.031 Recovery = 96.81%						
Na 589.592 Radial†	34251.3	10182 ug/L	68.7	10182 ppb	68.7	0.67%
QC value within limits for Na 589.592 Radial Recovery = 101.82%						
Ni 231.604†	19399.2	487.23 ug/L	1.997	487.23 ppb	1.997	0.41%
QC value within limits for Ni 231.604 Recovery = 97.45%						
P 214.914†	4250.4	2303.0 ug/L	13.16	2303.0 ppb	13.16	0.57%
QC value within limits for P 214.914 Recovery = 92.12%						
Pb 220.353†	3852.9	485.17 ug/L	2.230	485.17 ppb	2.230	0.46%
QC value within limits for Pb 220.353 Recovery = 97.03%						
S 181.975 Axial†	685.4	942.81 ug/L	4.387	942.81 ppb	4.387	0.47%
QC value within limits for S 181.975 Axial Recovery = 94.28%						
Sb 206.836†	1449.2	502.64 ug/L	6.154	502.64 ppb	6.154	1.22%
QC value within limits for Sb 206.836 Recovery = 100.53%						
Se 196.026†	823.1	493.78 ug/L	2.457	493.78 ppb	2.457	0.50%
QC value within limits for Se 196.026 Recovery = 98.76%						
Si 251.611†	81813.1	2418.2 ug/L	11.59	2418.2 ppb	11.59	0.48%
QC value within limits for Si 251.611 Recovery = 96.73%						
Sn 189.927†	2645.0	487.22 ug/L	4.033	487.22 ppb	4.033	0.83%
QC value within limits for Sn 189.927 Recovery = 97.44%						
Sr 421.552†	79024.3	507.12 ug/L	3.722	507.12 ppb	3.722	0.73%
QC value within limits for Sr 421.552 Recovery = 101.42%						
Ti 334.940†	316112.9	481.83 ug/L	1.777	481.83 ppb	1.777	0.37%
QC value within limits for Ti 334.940 Recovery = 96.37%						
Tl 190.801†	1506.6	485.16 ug/L	5.303	485.16 ppb	5.303	1.09%
QC value within limits for Tl 190.801 Recovery = 97.03%						
U 409.014†	19399.7	483.42 ug/L	0.859	483.42 ppb	0.859	0.18%
QC value within limits for U 409.014 Recovery = 96.68%						
V 292.402†	77590.3	488.94 ug/L	2.537	488.94 ppb	2.537	0.52%
QC value within limits for V 292.402 Recovery = 97.79%						
Zn 213.857†	51884.3	479.02 ug/L	1.491	479.02 ppb	1.491	0.31%
QC value within limits for Zn 213.857 Recovery = 95.80%						
SiO2†	81522.5	5142.7 ug/L	24.97	5142.7 ppb	24.97	0.49%
QC value within limits for SiO2 Recovery = 96.17%						

All analyte(s) passed QC.

Sequence No.: 24

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 1/26/2010 18:19:37

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5441.5	5441.5	102 %		18:21:29
1	Y RADIAL	5854.4	5854.4	101.7 %		18:21:29
1	Al 396.153Radial†	-2.8	-11.9	-8.9932 ug/L	-8.9932 ppb	18:21:49
1	Ca 317.933Radial†	19.1	-1.5	-2.4436 ug/L	-2.4436 ppb	18:21:49
1	Fe 238.204 Radial†	5.6	-1.7	-15.847 ug/L	-15.847 ppb	18:21:49
1	K 766.490 Radial†	2272.4	-273.4	-49.926 ug/L	-49.926 ppb	18:21:29
1	Mg 279.077 IEC†	3.2	2.2	77.442 ug/L	77.442 ppb	18:21:49
1	Na 589.592 Radial†	-747.7	-186.1	-55.317 ug/L	-55.317 ppb	18:21:29
1	Sr 421.552†	22.7	15.2	0.0973 ug/L	0.0973 ppb	18:21:29
1	Sc 361.383	951804.2	951804.2	106.01 %		18:22:46
1	Y 371.029	841748.5	841748.5	102.26 %		18:22:46
1	Ag 328.068†	230.7	-78.4	-0.3222 ug/L	-0.3222 ppb	18:22:51
1	As 188.979†	-27.7	4.1	1.6523 ug/L	1.6523 ppb	18:23:11
1	B 249.677†	346.0	566.8	12.434 ug/L	12.434 ppb	18:23:11
1	Ba 233.527†	-4.0	-0.6	-0.0045 ug/L	-0.0045 ppb	18:23:11
1	Be 313.107†	-4974.6	407.7	0.1437 ug/L	0.1437 ppb	18:22:51
1	Cd 226.502†	-199.0	18.5	0.2063 ug/L	0.2063 ppb	18:23:11
1	Co 228.616†	-70.4	3.5	0.0779 ug/L	0.0779 ppb	18:23:11
1	Cr 267.716†	64.2	-33.4	-0.3578 ug/L	-0.3578 ppb	18:23:11
1	Cu 324.752†	8814.5	-813.0	-2.2759 ug/L	-2.2759 ppb	18:22:51
1	Mn 257.610†	497.5	-20.5	-0.0277 ug/L	-0.0277 ppb	18:23:11
1	Mo 202.031†	28.6	3.4	0.2303 ug/L	0.2303 ppb	18:23:11
1	Ni 231.604†	105.0	5.4	0.1347 ug/L	0.1347 ppb	18:23:11
1	P 214.914†	227.2	-24.4	-13.285 ug/L	-13.285 ppb	18:23:11
1	Pb 220.353†	-45.8	17.2	2.1599 ug/L	2.1599 ppb	18:23:11
1	S 181.975 Axial†	38.1	-41.1	-56.541 ug/L	-56.541 ppb	18:23:11
1	Sb 206.836†	39.2	6.8	2.2867 ug/L	2.2867 ppb	18:23:11
1	Se 196.026†	-16.1	2.7	1.5329 ug/L	1.5329 ppb	18:23:11
1	Si 251.611†	473.1	-49.7	-1.4750 ug/L	-1.4750 ppb	18:23:11
1	Sn 189.927†	6.3	6.2	1.1486 ug/L	1.1486 ppb	18:23:11
1	Ti 334.940†	-1010.6	-46.8	-0.0735 ug/L	-0.0735 ppb	18:22:51
1	Tl 190.801†	-39.3	-0.2	-0.0557 ug/L	-0.0557 ppb	18:23:11
1	U 409.014†	-1552.6	-401.8	-10.043 ug/L	-10.043 ppb	18:22:51
1	V 292.402†	-1398.8	74.0	0.4485 ug/L	0.4485 ppb	18:22:51
1	Zn 213.857†	678.3	-93.5	-0.8675 ug/L	-0.8675 ppb	18:23:11
1	SiO2†	481.0	-59.6	-3.7784 ug/L	-3.7784 ppb	18:24:32
2	Sc Radial	5535.8	5535.8	104 %		18:21:54
2	Y RADIAL	5952.0	5952.0	103.4 %		18:21:54
2	Al 396.153Radial†	5.0	-4.3	-3.2815 ug/L	-3.2815 ppb	18:22:14
2	Ca 317.933Radial†	21.2	0.2	0.3784 ug/L	0.3784 ppb	18:22:14
2	Fe 238.204 Radial†	6.4	-1.0	-9.1324 ug/L	-9.1324 ppb	18:22:14
2	K 766.490 Radial†	2249.9	-333.2	-60.846 ug/L	-60.846 ppb	18:21:54
2	Mg 279.077 IEC†	1.9	0.9	31.198 ug/L	31.198 ppb	18:22:14
2	Na 589.592 Radial†	-800.8	-224.8	-66.840 ug/L	-66.840 ppb	18:21:54
2	Sr 421.552†	36.3	27.9	0.1790 ug/L	0.1790 ppb	18:21:54
2	Sc 361.383	943560.9	943560.9	105.09 %		18:23:16
2	Y 371.029	834278.1	834278.1	101.36 %		18:23:16
2	Ag 328.068†	265.6	-43.3	-0.1742 ug/L	-0.1742 ppb	18:23:21
2	As 188.979†	-24.7	6.7	2.7286 ug/L	2.7286 ppb	18:23:41
2	B 249.677†	359.1	582.1	12.768 ug/L	12.768 ppb	18:23:41
2	Ba 233.527†	-10.0	-6.4	-0.0499 ug/L	-0.0499 ppb	18:23:41
2	Be 313.107†	-5059.7	285.7	0.1011 ug/L	0.1011 ppb	18:23:21
2	Cd 226.502†	-178.3	36.5	0.4066 ug/L	0.4066 ppb	18:23:41
2	Co 228.616†	-70.4	3.0	0.0662 ug/L	0.0662 ppb	18:23:41
2	Cr 267.716†	81.4	-16.5	-0.1745 ug/L	-0.1745 ppb	18:23:41
2	Cu 324.752†	8860.9	-696.2	-1.9486 ug/L	-1.9486 ppb	18:23:21
2	Mn 257.610†	493.4	-20.4	-0.0250 ug/L	-0.0250 ppb	18:23:41
2	Mo 202.031†	29.6	4.6	0.3101 ug/L	0.3101 ppb	18:23:41
2	Ni 231.604†	99.5	1.0	0.0261 ug/L	0.0261 ppb	18:23:41

2	P 214.914†	226.3	-23.4	-12.814 ug/L	-12.814 ppb	18:23:41
2	Pb 220.353†	-53.2	9.7	1.2229 ug/L	1.2229 ppb	18:23:41
2	S 181.975 Axial†	47.8	-31.5	-43.424 ug/L	-43.424 ppb	18:23:41
2	Sb 206.836†	36.6	4.6	1.5412 ug/L	1.5412 ppb	18:23:41
2	Se 196.026†	-20.9	-1.9	-1.1471 ug/L	-1.1471 ppb	18:23:41
2	Si 251.611†	491.7	-28.1	-0.8359 ug/L	-0.8359 ppb	18:23:41
2	Sn 189.927†	1.8	2.0	0.3698 ug/L	0.3698 ppb	18:23:41
2	Ti 334.940†	-846.7	100.8	0.1552 ug/L	0.1552 ppb	18:23:21
2	Tl 190.801†	-34.8	3.7	1.1972 ug/L	1.1972 ppb	18:23:41
2	U 409.014†	-1491.2	-356.1	-8.9034 ug/L	-8.9034 ppb	18:23:21
2	V 292.402†	-1372.0	88.0	0.5364 ug/L	0.5364 ppb	18:23:21
2	Zn 213.857†	678.3	-87.9	-0.8158 ug/L	-0.8158 ppb	18:23:41
2	SiO2†	460.8	-74.9	-4.7464 ug/L	-4.7464 ppb	18:24:52
3	Sc Radial	5334.3	5334.3	99.9 %		18:22:19
3	Y RADIAL	5763.8	5763.8	100.1 %		18:22:19
3	Al 396.153Radial†	11.8	2.7	1.9930 ug/L	1.9930 ppb	18:22:39
3	Ca 317.933Radial†	19.7	-0.6	-0.9033 ug/L	-0.9033 ppb	18:22:39
3	Fe 238.204 Radial†	5.2	-2.0	-18.237 ug/L	-18.237 ppb	18:22:39
3	K 766.490 Radial†	2341.9	-159.1	-29.029 ug/L	-29.029 ppb	18:22:19
3	Mg 279.077 IEC†	1.9	0.9	32.584 ug/L	32.584 ppb	18:22:39
3	Na 589.592 Radial†	-798.5	-251.7	-74.826 ug/L	-74.826 ppb	18:22:19
3	Sr 421.552†	17.3	10.3	0.0658 ug/L	0.0658 ppb	18:22:19
3	Sc 361.383	942574.3	942574.3	104.98 %		18:23:46
3	Y 371.029	833350.1	833350.1	101.24 %		18:23:46
3	Ag 328.068†	320.1	8.9	0.0424 ug/L	0.0424 ppb	18:23:51
3	As 188.979†	-35.7	-3.8	-1.5690 ug/L	-1.5690 ppb	18:24:11
3	B 249.677†	300.2	526.4	11.547 ug/L	11.547 ppb	18:24:11
3	Ba 233.527†	4.9	7.8	0.0628 ug/L	0.0628 ppb	18:24:11
3	Be 313.107†	-4884.3	447.8	0.1581 ug/L	0.1581 ppb	18:23:51
3	Cd 226.502†	-193.5	21.9	0.2441 ug/L	0.2441 ppb	18:24:11
3	Co 228.616†	-69.8	3.4	0.0759 ug/L	0.0759 ppb	18:24:11
3	Cr 267.716†	72.8	-24.6	-0.2622 ug/L	-0.2622 ppb	18:24:11
3	Cu 324.752†	8813.0	-732.9	-2.0521 ug/L	-2.0521 ppb	18:23:51
3	Mn 257.610†	490.7	-22.4	-0.0283 ug/L	-0.0283 ppb	18:24:11
3	Mo 202.031†	29.8	4.7	0.3217 ug/L	0.3217 ppb	18:24:11
3	Ni 231.604†	85.3	-12.4	-0.3118 ug/L	-0.3118 ppb	18:24:11
3	P 214.914†	242.8	-7.4	-3.7755 ug/L	-3.7755 ppb	18:24:11
3	Pb 220.353†	-57.3	5.8	0.7364 ug/L	0.7364 ppb	18:24:11
3	S 181.975 Axial†	45.7	-33.4	-46.022 ug/L	-46.022 ppb	18:24:11
3	Sb 206.836†	36.6	4.6	1.5476 ug/L	1.5476 ppb	18:24:11
3	Se 196.026†	-8.7	9.7	5.5321 ug/L	5.5321 ppb	18:24:11
3	Si 251.611†	493.8	-25.6	-0.7613 ug/L	-0.7613 ppb	18:24:11
3	Sn 189.927†	-3.1	-2.6	-0.4821 ug/L	-0.4821 ppb	18:24:11
3	Ti 334.940†	-901.3	48.0	0.0744 ug/L	0.0744 ppb	18:23:51
3	Tl 190.801†	-38.8	-0.0	-0.0146 ug/L	-0.0146 ppb	18:24:11
3	U 409.014†	-1483.6	-350.4	-8.7596 ug/L	-8.7596 ppb	18:23:51
3	V 292.402†	-1288.7	166.0	1.0234 ug/L	1.0234 ppb	18:23:51
3	Zn 213.857†	676.5	-89.0	-0.8223 ug/L	-0.8223 ppb	18:24:11
3	SiO2†	491.0	-45.7	-2.8960 ug/L	-2.8960 ppb	18:25:12

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	945979.8	105.36 %	0.564			0.54%
Sc Radial	5437.2	102 %	1.9			1.85%
Y 371.029	836458.9	101.62 %	0.559			0.55%
Y RADIAL	5856.8	101.7 %	1.64			1.61%
Ag 328.068†	-37.6	-0.1513 ug/L	0.18335	-0.1513 ppb	0.18335	121.18%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-4.5	-3.4273 ug/L	5.49454	-3.4273 ppb	5.49454	160.32%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.3	0.9373 ug/L	2.23623	0.9373 ppb	2.23623	238.58%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	558.5	12.250 ug/L	0.6306	12.250 ppb	0.6306	5.15%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.2	0.0028 ug/L	0.05670	0.0028 ppb	0.05670	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	380.4	0.1343 ug/L	0.02963	0.1343 ppb	0.02963	22.06%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-0.6	-0.9895 ug/L	1.41301	-0.9895 ppb	1.41301	142.80%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	25.6	0.2857 ug/L	0.10642	0.2857 ppb	0.10642	37.26%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	3.3	0.0733 ug/L	0.00625	0.0733 ppb	0.00625	8.52%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-24.8	-0.2649 ug/L	0.09165	-0.2649 ppb	0.09165	34.60%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-747.4	-2.0922 ug/L	0.16728	-2.0922 ppb	0.16728	8.00%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-1.5	-14.406 ug/L	4.7204	-14.406 ppb	4.7204	32.77%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-255.2	-46.600 ug/L	16.1672	-46.600 ppb	16.1672	34.69%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.3	47.075 ug/L	26.3079	47.075 ppb	26.3079	55.89%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-21.1	-0.0270 ug/L	0.00173	-0.0270 ppb	0.00173	6.41%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	4.2	0.2874 ug/L	0.04977	0.2874 ppb	0.04977	17.32%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-220.9	-65.661 ug/L	9.8077	-65.661 ppb	9.8077	14.94%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-2.0	-0.0503 ug/L	0.23286	-0.0503 ppb	0.23286	462.57%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-18.4	-9.9581 ug/L	5.35947	-9.9581 ppb	5.35947	53.82%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	10.9	1.3731 ug/L	0.72353	1.3731 ppb	0.72353	52.69%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-35.3	-48.662 ug/L	6.9456	-48.662 ppb	6.9456	14.27%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	5.3	1.7918 ug/L	0.42857	1.7918 ppb	0.42857	23.92%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	3.5	1.9726 ug/L	3.36125	1.9726 ppb	3.36125	170.39%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-34.4	-1.0241 ug/L	0.39226	-1.0241 ppb	0.39226	38.30%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.9	0.3455 ug/L	0.81560	0.3455 ppb	0.81560	236.10%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	17.8	0.1140 ug/L	0.05843	0.1140 ppb	0.05843	51.24%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	34.0	0.0520 ug/L	0.11596	0.0520 ppb	0.11596	222.80%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.2	0.3756 ug/L	0.71179	0.3756 ppb	0.71179	189.50%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-369.4	-9.2355 ug/L	0.70333	-9.2355 ppb	0.70333	7.62%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	109.3	0.6694 ug/L	0.30967	0.6694 ppb	0.30967	46.26%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-90.2	-0.8352 ug/L	0.02814	-0.8352 ppb	0.02814	3.37%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-60.1	-3.8070 ug/L	0.92554	-3.8070 ppb	0.92554	24.31%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							



Sequence No.: 29

Sample ID: 1202017561|942466|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 60

Date Collected: 1/26/2010 18:55:00

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202017561|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5718.6	5718.6	107 %		18:56:53
1	Y RADIAL	6164.7	6164.7	107.1 %		18:56:53
1	Al 396.153Radial†	454.3	415.1	314.42 ug/L	314.42 ppb	18:56:53
1	Ca 317.933Radial†	91.9	65.6	105.47 ug/L	105.47 ppb	18:57:13
1	Fe 238.204 Radial†	30.2	21.0	196.65 ug/L	196.65 ppb	18:57:13
1	K 766.490 Radial†	4214.2	1431.7	261.40 ug/L	261.40 ppb	18:56:53
1	Mg 279.077 IEC†	2.9	1.7	61.544 ug/L	61.544 ppb	18:57:13
1	Na 589.592 Radial†	517.9	1031.3	306.58 ug/L	306.58 ppb	18:56:53
1	Sr 421.552†	159.3	141.6	0.9082 ug/L	0.9082 ppb	18:56:53
1	Sc 361.383	961823.3	961823.3	107.12 %		18:58:09
1	Y 371.029	849400.9	849400.9	103.19 %		18:58:09
1	Ag 328.068†	209.3	-100.7	-0.3449 ug/L	-0.3449 ppb	18:58:15
1	As 188.979†	-28.2	3.8	1.6801 ug/L	1.6801 ppb	18:58:35
1	B 249.677†	1580.8	1716.1	37.601 ug/L	37.601 ppb	18:58:15
1	Ba 233.527†	568.3	533.6	4.2148 ug/L	4.2148 ppb	18:58:35
1	Be 313.107†	-5223.1	224.6	0.0962 ug/L	0.0962 ppb	18:58:15
1	Cd 226.502†	-196.6	22.7	0.2317 ug/L	0.2317 ppb	18:58:35
1	Co 228.616†	-49.5	23.7	0.5027 ug/L	0.5027 ppb	18:58:35
1	Cr 267.716†	192.0	85.3	0.9342 ug/L	0.9342 ppb	18:58:35
1	Cu 324.752†	10427.4	606.1	1.7160 ug/L	1.7160 ppb	18:58:15
1	Mn 257.610†	4533.6	3742.3	4.2126 ug/L	4.2126 ppb	18:58:15
1	Mo 202.031†	25.0	-0.3	-0.0044 ug/L	-0.0044 ppb	18:58:35
1	Ni 231.604†	154.8	50.8	1.2763 ug/L	1.2763 ppb	18:58:35
1	P 214.914†	274.8	17.8	9.5984 ug/L	9.5984 ppb	18:58:35
1	Pb 220.353†	-44.4	19.0	2.4324 ug/L	2.4324 ppb	18:58:35
1	S 181.975 Axial†	101.6	17.9	24.518 ug/L	24.518 ppb	18:58:35
1	Sb 206.836†	22.1	-9.6	-3.2606 ug/L	-3.2606 ppb	18:58:35
1	Se 196.026†	-22.2	-2.7	-0.9155 ug/L	-0.9155 ppb	18:58:35
1	Si 251.611†	101120.0	93900.7	2782.3 ug/L	2782.3 ppb	18:58:15
1	Sn 189.927†	-6.2	-5.4	-0.9813 ug/L	-0.9813 ppb	18:58:35
1	Ti 334.940†	4291.8	4913.0	7.5039 ug/L	7.5039 ppb	18:58:15
1	Tl 190.801†	-37.5	1.9	0.6720 ug/L	0.6720 ppb	18:58:35
1	U 409.014†	-1548.6	-382.8	-9.5969 ug/L	-9.5969 ppb	18:58:15
1	V 292.402†	-1274.0	204.3	1.2161 ug/L	1.2161 ppb	18:58:15
1	Zn 213.857†	1081.6	276.3	2.5442 ug/L	2.5442 ppb	18:58:35
1	SiO2†	102124.9	94821.4	5996.9 ug/L	5996.9 ppb	18:59:41
2	Sc Radial	5731.2	5731.2	107 %		18:57:18
2	Y RADIAL	6181.0	6181.0	107.4 %		18:57:18
2	Al 396.153Radial†	435.6	396.7	300.54 ug/L	300.54 ppb	18:57:18
2	Ca 317.933Radial†	85.9	59.8	96.158 ug/L	96.158 ppb	18:57:38
2	Fe 238.204 Radial†	29.2	20.0	186.97 ug/L	186.97 ppb	18:57:38
2	K 766.490 Radial†	4198.2	1408.2	257.10 ug/L	257.10 ppb	18:57:18
2	Mg 279.077 IEC†	3.0	1.8	64.230 ug/L	64.230 ppb	18:57:38
2	Na 589.592 Radial†	552.8	1062.8	315.93 ug/L	315.93 ppb	18:57:18
2	Sr 421.552†	151.1	133.7	0.8574 ug/L	0.8574 ppb	18:57:18
2	Sc 361.383	974003.0	974003.0	108.48 %		18:58:40
2	Y 371.029	860875.4	860875.4	104.59 %		18:58:40
2	Ag 328.068†	388.1	61.7	0.3256 ug/L	0.3256 ppb	18:58:45
2	As 188.979†	-32.8	-0.0	0.1053 ug/L	0.1053 ppb	18:59:05
2	B 249.677†	1548.4	1667.8	36.543 ug/L	36.543 ppb	18:58:45
2	Ba 233.527†	585.4	542.8	4.2858 ug/L	4.2858 ppb	18:59:05
2	Be 313.107†	-5210.8	296.9	0.1216 ug/L	0.1216 ppb	18:58:45
2	Cd 226.502†	-194.7	26.7	0.2786 ug/L	0.2786 ppb	18:59:05
2	Co 228.616†	-50.4	23.5	0.4983 ug/L	0.4983 ppb	18:59:05
2	Cr 267.716†	173.2	65.7	0.7195 ug/L	0.7195 ppb	18:59:05
2	Cu 324.752†	10496.1	547.7	1.5500 ug/L	1.5500 ppb	18:58:45
2	Mn 257.610†	4537.0	3692.5	4.1558 ug/L	4.1558 ppb	18:58:45
2	Mo 202.031†	23.4	-2.1	-0.1260 ug/L	-0.1260 ppb	18:59:05
2	Ni 231.604†	148.5	43.2	1.0852 ug/L	1.0852 ppb	18:59:05

2	P 214.914†	266.4	6.9	3.4854 ug/L	3.4854 ppb	18:59:05
2	Pb 220.353†	-41.3	22.3	2.8479 ug/L	2.8479 ppb	18:59:05
2	S 181.975 Axial†	100.2	15.4	21.080 ug/L	21.080 ppb	18:59:05
2	Sb 206.836†	20.9	-11.0	-3.7144 ug/L	-3.7144 ppb	18:59:05
2	Se 196.026†	-16.9	2.4	2.0034 ug/L	2.0034 ppb	18:59:05
2	Si 251.611†	101003.8	92613.2	2744.1 ug/L	2744.1 ppb	18:58:45
2	Sn 189.927†	-1.2	-0.7	-0.1199 ug/L	-0.1199 ppb	18:59:05
2	Ti 334.940†	4299.5	4870.0	7.4357 ug/L	7.4357 ppb	18:58:45
2	Tl 190.801†	-36.2	3.5	1.2083 ug/L	1.2083 ppb	18:59:05
2	U 409.014†	-1447.9	-271.9	-6.8207 ug/L	-6.8207 ppb	18:58:45
2	V 292.402†	-1369.9	130.7	0.7639 ug/L	0.7639 ppb	18:58:45
2	Zn 213.857†	1065.5	248.8	2.2905 ug/L	2.2905 ppb	18:59:05
2	SiO2†	103777.3	95152.4	6017.9 ug/L	6017.9 ppb	18:59:46
3	Sc Radial	5717.9	5717.9	107 %		18:57:43
3	Y RADIAL	6165.6	6165.6	107.1 %		18:57:43
3	Al 396.153Radial†	467.5	427.5	323.82 ug/L	323.82 ppb	18:57:43
3	Ca 317.933Radial†	88.3	62.3	100.09 ug/L	100.09 ppb	18:58:03
3	Fe 238.204 Radial†	29.3	20.3	189.26 ug/L	189.26 ppb	18:58:03
3	K 766.490 Radial†	4209.2	1427.6	260.64 ug/L	260.64 ppb	18:57:43
3	Mg 279.077 IEC†	2.4	1.3	46.281 ug/L	46.281 ppb	18:58:03
3	Na 589.592 Radial†	523.8	1036.8	308.22 ug/L	308.22 ppb	18:57:43
3	Sr 421.552†	131.6	115.8	0.7427 ug/L	0.7427 ppb	18:57:43
3	Sc 361.383	979621.6	979621.6	109.10 %		18:59:10
3	Y 371.029	865645.2	865645.2	105.17 %		18:59:10
3	Ag 328.068†	371.8	44.8	0.2555 ug/L	0.2555 ppb	18:59:15
3	As 188.979†	-35.6	-2.5	-0.8992 ug/L	-0.8992 ppb	18:59:35
3	B 249.677†	1617.6	1723.1	37.757 ug/L	37.757 ppb	18:59:15
3	Ba 233.527†	579.8	534.5	4.2216 ug/L	4.2216 ppb	18:59:35
3	Be 313.107†	-5164.2	367.2	0.1462 ug/L	0.1462 ppb	18:59:15
3	Cd 226.502†	-207.5	16.0	0.1592 ug/L	0.1592 ppb	18:59:35
3	Co 228.616†	-68.8	6.9	0.1339 ug/L	0.1339 ppb	18:59:35
3	Cr 267.716†	182.3	73.1	0.7998 ug/L	0.7998 ppb	18:59:35
3	Cu 324.752†	10482.9	480.1	1.3597 ug/L	1.3597 ppb	18:59:15
3	Mn 257.610†	4494.0	3629.1	4.0857 ug/L	4.0857 ppb	18:59:15
3	Mo 202.031†	21.9	-3.5	-0.2239 ug/L	-0.2239 ppb	18:59:35
3	Ni 231.604†	160.1	53.1	1.3333 ug/L	1.3333 ppb	18:59:35
3	P 214.914†	259.0	-1.4	-1.1198 ug/L	-1.1198 ppb	18:59:35
3	Pb 220.353†	-50.4	14.2	1.8311 ug/L	1.8311 ppb	18:59:35
3	S 181.975 Axial†	100.9	15.5	21.324 ug/L	21.324 ppb	18:59:35
3	Sb 206.836†	32.4	-0.5	-0.2157 ug/L	-0.2157 ppb	18:59:35
3	Se 196.026†	-18.9	0.7	1.0290 ug/L	1.0290 ppb	18:59:35
3	Si 251.611†	101353.6	92399.8	2737.8 ug/L	2737.8 ppb	18:59:15
3	Sn 189.927†	-4.6	-3.9	-0.6939 ug/L	-0.6939 ppb	18:59:35
3	Ti 334.940†	4270.8	4821.0	7.3622 ug/L	7.3622 ppb	18:59:15
3	Tl 190.801†	-41.7	-1.3	-0.3350 ug/L	-0.3350 ppb	18:59:35
3	U 409.014†	-1384.2	-205.9	-5.1710 ug/L	-5.1710 ppb	18:59:15
3	V 292.402†	-1329.9	174.7	1.0383 ug/L	1.0383 ppb	18:59:15
3	Zn 213.857†	1095.3	270.5	2.4908 ug/L	2.4908 ppb	18:59:35
3	SiO2†	101613.8	92620.8	5857.8 ug/L	5857.8 ppb	18:59:51

Mean Data: 1202017561|942466|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	971816.0	108.24 %	1.013			0.94%
Sc Radial	5722.6	107 %	0.1			0.13%
Y 371.029	858640.5	104.32 %	1.014			0.97%
Y RADIAL	6170.4	107.2 %	0.16			0.15%
Ag 328.068†	1.9	0.0787 ug/L	0.36856	0.0787 ppb	0.36856	468.29%
Al 396.153Radial†	413.1	312.92 ug/L	11.712	312.92 ppb	11.712	3.74%
As 188.979†	0.5	0.2954 ug/L	1.30009	0.2954 ppb	1.30009	440.12%
B 249.677†	1702.3	37.300 ug/L	0.6604	37.300 ppb	0.6604	1.77%
Ba 233.527†	537.0	4.2407 ug/L	0.03919	4.2407 ppb	0.03919	0.92%
Be 313.107†	296.3	0.1214 ug/L	0.02500	0.1214 ppb	0.02500	20.60%
Ca 317.933Radial†	62.6	100.57 ug/L	4.675	100.57 ppb	4.675	4.65%
Cd 226.502†	21.8	0.2232 ug/L	0.06014	0.2232 ppb	0.06014	26.95%
Co 228.616†	18.0	0.3783 ug/L	0.21166	0.3783 ppb	0.21166	55.95%
Cr 267.716†	74.7	0.8178 ug/L	0.10844	0.8178 ppb	0.10844	13.26%
Cu 324.752†	544.6	1.5419 ug/L	0.17828	1.5419 ppb	0.17828	11.56%
Fe 238.204 Radial†	20.4	190.96 ug/L	5.056	190.96 ppb	5.056	2.65%
K 766.490 Radial†	1422.5	259.71 ug/L	2.296	259.71 ppb	2.296	0.88%

Mg 279.077 IEC†	1.6	57.352 ug/L	9.6811	57.352 ppb	9.6811	16.88%
Mn 257.610†	3688.0	4.1514 ug/L	0.06360	4.1514 ppb	0.06360	1.53%
Mo 202.031†	-2.0	-0.1181 ug/L	0.10994	-0.1181 ppb	0.10994	93.11%
Na 589.592 Radial†	1043.6	310.24 ug/L	4.993	310.24 ppb	4.993	1.61%
Ni 231.604†	49.0	1.2316 ug/L	0.12994	1.2316 ppb	0.12994	10.55%
P 214.914†	7.8	3.9880 ug/L	5.37676	3.9880 ppb	5.37676	134.82%
Pb 220.353†	18.5	2.3705 ug/L	0.51121	2.3705 ppb	0.51121	21.57%
S 181.975 Axial†	16.2	22.307 ug/L	1.9183	22.307 ppb	1.9183	8.60%
Sb 206.836†	-7.1	-2.3969 ug/L	1.90252	-2.3969 ppb	1.90252	79.37%
Se 196.026†	0.1	0.7056 ug/L	1.48610	0.7056 ppb	1.48610	210.61%
Si 251.611†	92971.2	2754.7 ug/L	24.06	2754.7 ppb	24.06	0.87%
Sn 189.927†	-3.4	-0.5984 ug/L	0.43859	-0.5984 ppb	0.43859	73.30%
Sr 421.552†	130.4	0.8361 ug/L	0.08476	0.8361 ppb	0.08476	10.14%
Ti 334.940†	4868.0	7.4339 ug/L	0.07086	7.4339 ppb	0.07086	0.95%
Tl 190.801†	1.4	0.5151 ug/L	0.78351	0.5151 ppb	0.78351	152.11%
U 409.014†	-286.8	-7.1962 ug/L	2.23671	-7.1962 ppb	2.23671	31.08%
V 292.402†	169.9	1.0061 ug/L	0.22780	1.0061 ppb	0.22780	22.64%
Zn 213.857†	265.2	2.4418 ug/L	0.13370	2.4418 ppb	0.13370	5.48%
SiO2†	94198.2	5957.5 ug/L	87.03	5957.5 ppb	87.03	1.46%

Sequence No.: 30

Sample ID: 1202017562|942466|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 61

Date Collected: 1/26/2010 19:02:02

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202017562|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5694.1	5694.1	107 %		19:03:55
1	Y RADIAL	6107.1	6107.1	106.1 %		19:03:55
1	Al 396.153Radial†	6901.6	6463.4	4877.7 ug/L	4877.7 ppb	19:03:55
1	Ca 317.933Radial†	3059.2	2848.8	4578.9 ug/L	4578.9 ppb	19:04:15
1	Fe 238.204 Radial†	564.4	522.2	4893.0 ug/L	4893.0 ppb	19:04:15
1	K 766.490 Radial†	31013.5	26581.9	4852.0 ug/L	4852.0 ppb	19:03:55
1	Mg 279.077 IEC†	143.7	133.8	4770.4 ug/L	4770.4 ppb	19:04:15
1	Na 589.592 Radial†	17323.6	16794.3	4992.5 ug/L	4992.5 ppb	19:03:55
1	Sr 421.552†	77800.5	72956.6	468.18 ug/L	468.18 ppb	19:03:55
1	Sc 361.383	977453.7	977453.7	108.86 %		19:05:14
1	Y 371.029	856007.4	856007.4	104.00 %		19:05:14
1	Ag 328.068†	113238.6	103723.1	435.64 ug/L	435.64 ppb	19:05:14
1	As 188.979†	1065.2	1008.7	416.44 ug/L	416.44 ppb	19:05:34
1	B 249.677†	22496.5	20905.4	456.45 ug/L	456.45 ppb	19:05:14
1	Ba 233.527†	61441.7	56442.4	445.91 ug/L	445.91 ppb	19:05:14
1	Be 313.107†	1295454.8	1195084.2	422.51 ug/L	422.51 ppb	19:05:14
1	Cd 226.502†	40218.6	37150.3	414.80 ug/L	414.80 ppb	19:05:34
1	Co 228.616†	21223.0	19565.1	428.92 ug/L	428.92 ppb	19:05:34
1	Cr 267.716†	39443.9	36138.6	392.27 ug/L	392.27 ppb	19:05:14
1	Cu 324.752†	166255.3	143591.4	402.85 ug/L	402.85 ppb	19:05:14
1	Mn 257.610†	387457.3	355422.1	398.78 ug/L	398.78 ppb	19:05:14
1	Mo 202.031†	6119.7	5597.9	382.48 ug/L	382.48 ppb	19:05:34
1	Ni 231.604†	17017.0	15537.8	390.23 ug/L	390.23 ppb	19:05:34
1	P 214.914†	1152.8	820.2	383.65 ug/L	383.65 ppb	19:05:34
1	Pb 220.353†	3691.5	3451.4	434.60 ug/L	434.60 ppb	19:05:34
1	S 181.975 Axial†	3256.1	2914.0	4011.2 ug/L	4011.2 ppb	19:05:34
1	Sb 206.836†	1311.0	1174.0	407.17 ug/L	407.17 ppb	19:05:34
1	Se 196.026†	669.8	633.2	382.87 ug/L	382.87 ppb	19:05:34
1	Si 251.611†	253597.4	232454.5	6882.9 ug/L	6882.9 ppb	19:05:14
1	Sn 189.927†	2420.8	2224.1	409.76 ug/L	409.76 ppb	19:05:34
1	Ti 334.940†	291698.5	268856.1	409.84 ug/L	409.84 ppb	19:05:14
1	Tl 190.801†	1279.3	1212.1	390.39 ug/L	390.39 ppb	19:05:34
1	U 409.014†	16086.2	15839.4	394.63 ug/L	394.63 ppb	19:05:14
1	V 292.402†	67748.5	63626.3	400.64 ug/L	400.64 ppb	19:05:14
1	Zn 213.857†	46626.1	42096.6	388.60 ug/L	388.60 ppb	19:05:14
1	SiO2†	250139.4	229260.6	14489 ug/L	14489 ppb	19:06:34
2	Sc Radial	5723.0	5723.0	107 %		19:04:20
2	Y RADIAL	6156.5	6156.5	106.9 %		19:04:20
2	Al 396.153Radial†	6903.4	6432.3	4854.0 ug/L	4854.0 ppb	19:04:20
2	Ca 317.933Radial†	3108.1	2879.9	4628.9 ug/L	4628.9 ppb	19:04:40
2	Fe 238.204 Radial†	573.4	527.9	4946.6 ug/L	4946.6 ppb	19:04:40
2	K 766.490 Radial†	30961.9	26386.8	4816.3 ug/L	4816.3 ppb	19:04:20
2	Mg 279.077 IEC†	146.7	135.9	4847.8 ug/L	4847.8 ppb	19:04:40
2	Na 589.592 Radial†	17396.1	16779.8	4988.2 ug/L	4988.2 ppb	19:04:20
2	Sr 421.552†	78114.7	72881.0	467.69 ug/L	467.69 ppb	19:04:20
2	Sc 361.383	974685.0	974685.0	108.55 %		19:05:41
2	Y 371.029	855306.6	855306.6	103.91 %		19:05:41
2	Ag 328.068†	113047.5	103842.6	436.16 ug/L	436.16 ppb	19:05:41
2	As 188.979†	1078.0	1023.3	422.40 ug/L	422.40 ppb	19:06:01
2	B 249.677†	22512.6	20978.8	458.04 ug/L	458.04 ppb	19:05:41
2	Ba 233.527†	60971.9	56169.9	443.76 ug/L	443.76 ppb	19:05:41
2	Be 313.107†	1293167.7	1196357.5	422.96 ug/L	422.96 ppb	19:05:41
2	Cd 226.502†	40399.4	37421.8	417.83 ug/L	417.83 ppb	19:06:01
2	Co 228.616†	21382.2	19767.1	433.36 ug/L	433.36 ppb	19:06:01
2	Cr 267.716†	39306.9	36115.3	392.01 ug/L	392.01 ppb	19:05:41
2	Cu 324.752†	165753.8	143563.2	402.77 ug/L	402.77 ppb	19:05:41
2	Mn 257.610†	385053.4	354218.6	397.43 ug/L	397.43 ppb	19:05:41
2	Mo 202.031†	6166.1	5656.6	386.49 ug/L	386.49 ppb	19:06:01
2	Ni 231.604†	17115.1	15672.7	393.62 ug/L	393.62 ppb	19:06:01

2	P 214.914†	1162.4	832.1	390.33 ug/L	390.33 ppb	19:06:01
2	Pb 220.353†	3705.1	3473.5	437.37 ug/L	437.37 ppb	19:06:01
2	S 181.975 Axial†	3263.8	2929.6	4032.7 ug/L	4032.7 ppb	19:06:01
2	Sb 206.836†	1319.5	1185.3	411.07 ug/L	411.07 ppb	19:06:01
2	Se 196.026†	681.7	646.0	390.41 ug/L	390.41 ppb	19:06:01
2	Si 251.611†	252051.6	231692.2	6860.3 ug/L	6860.3 ppb	19:05:41
2	Sn 189.927†	2429.0	2237.9	412.31 ug/L	412.31 ppb	19:06:01
2	Ti 334.940†	290173.7	268212.5	408.86 ug/L	408.86 ppb	19:05:41
2	Tl 190.801†	1287.8	1223.2	393.90 ug/L	393.90 ppb	19:06:01
2	U 409.014†	16069.7	15866.2	395.30 ug/L	395.30 ppb	19:05:41
2	V 292.402†	67506.4	63580.0	400.40 ug/L	400.40 ppb	19:05:41
2	Zn 213.857†	46398.3	42008.3	387.76 ug/L	387.76 ppb	19:05:41
2	SiO2†	251930.3	231563.0	14635 ug/L	14635 ppb	19:06:40
3	Sc Radial	5701.3	5701.3	107 %		19:04:45
3	Y RADIAL	6128.2	6128.2	106.4 %		19:04:45
3	Al 396.153Radial†	6950.3	6500.7	4905.6 ug/L	4905.6 ppb	19:04:45
3	Ca 317.933Radial†	3068.3	2853.6	4586.6 ug/L	4586.6 ppb	19:05:05
3	Fe 238.204 Radial†	569.7	526.5	4933.2 ug/L	4933.2 ppb	19:05:05
3	K 766.490 Radial†	31041.0	26570.6	4849.9 ug/L	4849.9 ppb	19:04:45
3	Mg 279.077 IEC†	146.4	136.2	4856.2 ug/L	4856.2 ppb	19:05:05
3	Na 589.592 Radial†	17451.5	16893.3	5021.9 ug/L	5021.9 ppb	19:04:45
3	Sr 421.552†	78143.2	73184.5	469.64 ug/L	469.64 ppb	19:04:45
3	Sc 361.383	967493.7	967493.7	107.75 %		19:06:09
3	Y 371.029	848994.6	848994.6	103.14 %		19:06:09
3	Ag 328.068†	112269.9	103894.9	436.37 ug/L	436.37 ppb	19:06:09
3	As 188.979†	1084.6	1036.7	427.91 ug/L	427.91 ppb	19:06:29
3	B 249.677†	22371.6	21002.1	458.55 ug/L	458.55 ppb	19:06:09
3	Ba 233.527†	60625.1	56265.6	444.52 ug/L	444.52 ppb	19:06:09
3	Be 313.107†	1284694.5	1197348.5	423.31 ug/L	423.31 ppb	19:06:09
3	Cd 226.502†	40454.2	37749.3	421.50 ug/L	421.50 ppb	19:06:29
3	Co 228.616†	21373.3	19905.3	436.39 ug/L	436.39 ppb	19:06:29
3	Cr 267.716†	39067.5	36162.3	392.52 ug/L	392.52 ppb	19:06:09
3	Cu 324.752†	164192.6	143249.3	401.89 ug/L	401.89 ppb	19:06:09
3	Mn 257.610†	383052.7	354998.5	398.30 ug/L	398.30 ppb	19:06:09
3	Mo 202.031†	6161.4	5694.4	389.07 ug/L	389.07 ppb	19:06:29
3	Ni 231.604†	17136.1	15809.3	397.05 ug/L	397.05 ppb	19:06:29
3	P 214.914†	1173.6	850.4	400.90 ug/L	400.90 ppb	19:06:29
3	Pb 220.353†	3718.5	3511.3	442.14 ug/L	442.14 ppb	19:06:29
3	S 181.975 Axial†	3264.6	2952.7	4064.4 ug/L	4064.4 ppb	19:06:29
3	Sb 206.836†	1323.8	1198.3	415.52 ug/L	415.52 ppb	19:06:29
3	Se 196.026†	671.4	641.1	387.55 ug/L	387.55 ppb	19:06:29
3	Si 251.611†	250519.1	231995.8	6869.2 ug/L	6869.2 ppb	19:06:09
3	Sn 189.927†	2429.5	2255.0	415.45 ug/L	415.45 ppb	19:06:29
3	Ti 334.940†	288206.0	268373.3	409.09 ug/L	409.09 ppb	19:06:09
3	Tl 190.801†	1287.2	1231.4	396.54 ug/L	396.54 ppb	19:06:29
3	U 409.014†	16048.3	15956.3	397.55 ug/L	397.55 ppb	19:06:09
3	V 292.402†	67081.7	63648.1	400.87 ug/L	400.87 ppb	19:06:09
3	Zn 213.857†	46156.7	42101.9	388.61 ug/L	388.61 ppb	19:06:09
3	SiO2†	250923.9	232354.1	14685 ug/L	14685 ppb	19:06:45

Mean Data: 1202017562|942466|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	973210.8	108.39 %	0.573			0.53%
Sc Radial	5706.1	107 %	0.3			0.26%
Y 371.029	853436.2	103.68 %	0.469			0.45%
Y RADIAL	6130.6	106.5 %	0.43			0.40%
Ag 328.068†	103820.2	436.06 ug/L	0.374	436.06 ppb	0.374	0.09%
Al 396.153Radial†	6465.5	4879.1 ug/L	25.87	4879.1 ppb	25.87	0.53%
As 188.979†	1022.9	422.25 ug/L	5.736	422.25 ppb	5.736	1.36%
B 249.677†	20962.1	457.68 ug/L	1.093	457.68 ppb	1.093	0.24%
Ba 233.527†	56292.7	444.73 ug/L	1.089	444.73 ppb	1.089	0.24%
Be 313.107†	1196263.4	422.92 ug/L	0.400	422.92 ppb	0.400	0.09%
Ca 317.933Radial†	2860.8	4598.1 ug/L	26.91	4598.1 ppb	26.91	0.59%
Cd 226.502†	37440.5	418.04 ug/L	3.351	418.04 ppb	3.351	0.80%
Co 228.616†	19745.8	432.89 ug/L	3.759	432.89 ppb	3.759	0.87%
Cr 267.716†	36138.7	392.27 ug/L	0.255	392.27 ppb	0.255	0.06%
Cu 324.752†	143468.0	402.50 ug/L	0.533	402.50 ppb	0.533	0.13%
Fe 238.204 Radial†	525.5	4924.3 ug/L	27.88	4924.3 ppb	27.88	0.57%
K 766.490 Radial†	26513.1	4839.4 ug/L	20.01	4839.4 ppb	20.01	0.41%

Mg 279.077 IEC†	135.3	4824.8 ug/L	47.30	4824.8 ppb	47.30	0.98%
Mn 257.610†	354879.7	398.17 ug/L	0.683	398.17 ppb	0.683	0.17%
Mo 202.031†	5649.6	386.01 ug/L	3.322	386.01 ppb	3.322	0.86%
Na 589.592 Radial†	16822.5	5000.8 ug/L	18.37	5000.8 ppb	18.37	0.37%
Ni 231.604†	15673.3	393.63 ug/L	3.409	393.63 ppb	3.409	0.87%
P 214.914†	834.2	391.62 ug/L	8.698	391.62 ppb	8.698	2.22%
Pb 220.353†	3478.7	438.04 ug/L	3.816	438.04 ppb	3.816	0.87%
S 181.975 Axial†	2932.1	4036.1 ug/L	26.79	4036.1 ppb	26.79	0.66%
Sb 206.836†	1185.8	411.26 ug/L	4.178	411.26 ppb	4.178	1.02%
Se 196.026†	640.1	386.94 ug/L	3.807	386.94 ppb	3.807	0.98%
Si 251.611†	232047.5	6870.8 ug/L	11.40	6870.8 ppb	11.40	0.17%
Sn 189.927†	2239.0	412.51 ug/L	2.852	412.51 ppb	2.852	0.69%
Sr 421.552†	73007.4	468.50 ug/L	1.014	468.50 ppb	1.014	0.22%
Ti 334.940†	268480.6	409.26 ug/L	0.512	409.26 ppb	0.512	0.13%
Tl 190.801†	1222.2	393.61 ug/L	3.087	393.61 ppb	3.087	0.78%
U 409.014†	15887.3	395.83 ug/L	1.530	395.83 ppb	1.530	0.39%
V 292.402†	63618.1	400.64 ug/L	0.233	400.64 ppb	0.233	0.06%
Zn 213.857†	42068.9	388.32 ug/L	0.491	388.32 ppb	0.491	0.13%
SiO2†	231059.2	14603 ug/L	101.6	14603 ppb	101.6	0.70%

Sequence No.: 31  
 Sample ID: 1202017563|942466|5  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 62  
 Date Collected: 1/26/2010 19:08:56  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: 1202017563|942466|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5447.8	5447.8	102 %		19:10:49
1	Y RADIAL	5859.0	5859.0	101.8 %		19:10:49
1	Al 396.153Radial†	131.5	119.8	90.717 ug/L	90.717 ppb	19:11:09
1	Ca 317.933Radial†	35.1	14.2	22.776 ug/L	22.776 ppb	19:11:09
1	Fe 238.204 Radial†	12.8	5.4	50.659 ug/L	50.659 ppb	19:11:09
1	K 766.490 Radial†	2701.7	144.7	26.424 ug/L	26.424 ppb	19:10:49
1	Mg 279.077 IEC†	0.6	-0.4	-13.959 ug/L	-13.959 ppb	19:11:09
1	Na 589.592 Radial†	-466.9	90.0	26.759 ug/L	26.759 ppb	19:10:49
1	Sr 421.552†	61.2	52.9	0.3395 ug/L	0.3395 ppb	19:10:49
1	Sc 361.383	915026.4	915026.4	101.91 %		19:12:06
1	Y 371.029	803873.1	803873.1	97.661 %		19:12:06
1	Ag 328.068†	315.4	13.4	0.0733 ug/L	0.0733 ppb	19:12:06
1	As 188.979†	-28.6	2.1	0.9005 ug/L	0.9005 ppb	19:12:26
1	B 249.677†	249.6	485.3	10.635 ug/L	10.635 ppb	19:12:26
1	Ba 233.527†	132.8	133.4	1.0541 ug/L	1.0541 ppb	19:12:26
1	Be 313.107†	-4982.8	211.1	0.0792 ug/L	0.0792 ppb	19:12:06
1	Cd 226.502†	-187.6	22.1	0.2419 ug/L	0.2419 ppb	19:12:26
1	Co 228.616†	-68.2	3.0	0.0623 ug/L	0.0623 ppb	19:12:26
1	Cr 267.716†	98.4	2.6	0.0295 ug/L	0.0295 ppb	19:12:26
1	Cu 324.752†	9193.9	-106.4	-0.2964 ug/L	-0.2964 ppb	19:12:06
1	Mn 257.610†	1347.7	832.5	0.9390 ug/L	0.9390 ppb	19:12:26
1	Mo 202.031†	29.5	5.3	0.3691 ug/L	0.3691 ppb	19:12:26
1	Ni 231.604†	99.1	3.5	0.0891 ug/L	0.0891 ppb	19:12:26
1	P 214.914†	238.8	-4.4	-2.4278 ug/L	-2.4278 ppb	19:12:26
1	Pb 220.353†	-54.8	6.7	0.8515 ug/L	0.8515 ppb	19:12:26
1	S 181.975 Axial†	57.1	-20.9	-28.837 ug/L	-28.837 ppb	19:12:26
1	Sb 206.836†	38.5	7.5	2.5296 ug/L	2.5296 ppb	19:12:26
1	Se 196.026†	-21.1	-2.8	-1.4188 ug/L	-1.4188 ppb	19:12:26
1	Si 251.611†	22354.5	21439.5	635.24 ug/L	635.24 ppb	19:12:06
1	Sn 189.927†	2.7	3.0	0.5502 ug/L	0.5502 ppb	19:12:26
1	Ti 334.940†	460.0	1357.9	2.0742 ug/L	2.0742 ppb	19:12:06
1	Tl 190.801†	-39.8	-2.2	-0.6789 ug/L	-0.6789 ppb	19:12:26
1	U 409.014†	-1044.9	37.5	0.9317 ug/L	0.9317 ppb	19:12:06
1	V 292.402†	-1341.2	77.6	0.4794 ug/L	0.4794 ppb	19:12:06
1	Zn 213.857†	833.6	84.6	0.7825 ug/L	0.7825 ppb	19:12:26
1	SiO2†	22404.3	21470.9	1357.9 ug/L	1357.9 ppb	19:13:22
2	Sc Radial	5470.9	5470.9	102 %		19:11:14
2	Y RADIAL	5882.2	5882.2	102.2 %		19:11:14
2	Al 396.153Radial†	127.0	114.9	86.975 ug/L	86.975 ppb	19:11:34
2	Ca 317.933Radial†	38.1	17.0	27.287 ug/L	27.287 ppb	19:11:34
2	Fe 238.204 Radial†	14.0	6.5	60.981 ug/L	60.981 ppb	19:11:34
2	K 766.490 Radial†	2704.2	136.0	24.841 ug/L	24.841 ppb	19:11:14
2	Mg 279.077 IEC†	2.0	0.9	33.382 ug/L	33.382 ppb	19:11:34
2	Na 589.592 Radial†	-579.6	-18.1	-5.3740 ug/L	-5.3740 ppb	19:11:14
2	Sr 421.552†	46.9	38.7	0.2482 ug/L	0.2482 ppb	19:11:14
2	Sc 361.383	918903.9	918903.9	102.34 %		19:12:31
2	Y 371.029	806986.5	806986.5	98.040 %		19:12:31
2	Ag 328.068†	256.4	-45.5	-0.1708 ug/L	-0.1708 ppb	19:12:31
2	As 188.979†	-27.4	3.4	1.4340 ug/L	1.4340 ppb	19:12:51
2	B 249.677†	216.1	451.6	9.8934 ug/L	9.8934 ppb	19:12:51
2	Ba 233.527†	134.9	134.9	1.0661 ug/L	1.0661 ppb	19:12:51
2	Be 313.107†	-4962.6	251.4	0.0935 ug/L	0.0935 ppb	19:12:31
2	Cd 226.502†	-195.2	15.4	0.1670 ug/L	0.1670 ppb	19:12:51
2	Co 228.616†	-71.4	0.2	0.0007 ug/L	0.0007 ppb	19:12:51
2	Cr 267.716†	103.8	7.5	0.0823 ug/L	0.0823 ppb	19:12:51
2	Cu 324.752†	9317.4	-23.9	-0.0654 ug/L	-0.0654 ppb	19:12:31
2	Mn 257.610†	1333.4	813.1	0.9162 ug/L	0.9162 ppb	19:12:51
2	Mo 202.031†	36.3	11.9	0.8148 ug/L	0.8148 ppb	19:12:51
2	Ni 231.604†	112.5	16.2	0.4078 ug/L	0.4078 ppb	19:12:51

2	P 214.914†	244.7	0.3	0.1731 ug/L	0.1731 ppb	19:12:51
2	Pb 220.353†	-45.7	15.8	1.9928 ug/L	1.9928 ppb	19:12:51
2	S 181.975 Axial†	60.6	-17.8	-24.550 ug/L	-24.550 ppb	19:12:51
2	Sb 206.836†	31.7	0.8	0.2765 ug/L	0.2765 ppb	19:12:51
2	Se 196.026†	-23.1	-4.7	-2.4799 ug/L	-2.4799 ppb	19:12:51
2	Si 251.611†	22374.7	21366.7	633.08 ug/L	633.08 ppb	19:12:31
2	Sn 189.927†	4.4	4.6	0.8533 ug/L	0.8533 ppb	19:12:51
2	Ti 334.940†	501.5	1396.6	2.1290 ug/L	2.1290 ppb	19:12:31
2	Tl 190.801†	-34.9	2.8	0.9008 ug/L	0.9008 ppb	19:12:51
2	U 409.014†	-969.0	116.0	2.8928 ug/L	2.8928 ppb	19:12:31
2	V 292.402†	-1348.2	76.2	0.4805 ug/L	0.4805 ppb	19:12:31
2	Zn 213.857†	821.8	69.6	0.6399 ug/L	0.6399 ppb	19:12:51
2	SiO2†	22443.1	21416.1	1354.4 ug/L	1354.4 ppb	19:13:27
3	Sc Radial	5381.4	5381.4	101 %		19:11:39
3	Y RADIAL	5785.2	5785.2	100.5 %		19:11:39
3	Al 396.153Radial†	143.0	132.8	100.54 ug/L	100.54 ppb	19:11:59
3	Ca 317.933Radial†	36.3	15.7	25.302 ug/L	25.302 ppb	19:11:59
3	Fe 238.204 Radial†	13.0	5.7	53.429 ug/L	53.429 ppb	19:11:59
3	K 766.490 Radial†	2734.3	209.8	38.313 ug/L	38.313 ppb	19:11:39
3	Mg 279.077 IEC†	5.2	4.2	148.23 ug/L	148.23 ppb	19:11:59
3	Na 589.592 Radial†	-554.2	-2.3	-0.6768 ug/L	-0.6768 ppb	19:11:39
3	Sr 421.552†	61.5	53.9	0.3458 ug/L	0.3458 ppb	19:11:39
3	Sc 361.383	918432.6	918432.6	102.29 %		19:12:57
3	Y 371.029	806074.3	806074.3	97.929 %		19:12:57
3	Ag 328.068†	348.1	44.3	0.1988 ug/L	0.1988 ppb	19:12:57
3	As 188.979†	-38.0	-7.0	-2.8228 ug/L	-2.8228 ppb	19:13:17
3	B 249.677†	218.0	453.5	9.9365 ug/L	9.9365 ppb	19:13:17
3	Ba 233.527†	129.5	129.7	1.0245 ug/L	1.0245 ppb	19:13:17
3	Be 313.107†	-4930.9	279.9	0.1034 ug/L	0.1034 ppb	19:12:57
3	Cd 226.502†	-188.3	22.1	0.2423 ug/L	0.2423 ppb	19:13:17
3	Co 228.616†	-64.7	6.7	0.1425 ug/L	0.1425 ppb	19:13:17
3	Cr 267.716†	84.3	-11.6	-0.1257 ug/L	-0.1257 ppb	19:13:17
3	Cu 324.752†	9205.2	-128.8	-0.3608 ug/L	-0.3608 ppb	19:12:57
3	Mn 257.610†	1323.1	803.6	0.9002 ug/L	0.9002 ppb	19:13:17
3	Mo 202.031†	31.9	7.5	0.5196 ug/L	0.5196 ppb	19:13:17
3	Ni 231.604†	111.6	15.4	0.3865 ug/L	0.3865 ppb	19:13:17
3	P 214.914†	245.1	0.8	0.5216 ug/L	0.5216 ppb	19:13:17
3	Pb 220.353†	-44.8	16.6	2.0968 ug/L	2.0968 ppb	19:13:17
3	S 181.975 Axial†	56.6	-21.7	-29.898 ug/L	-29.898 ppb	19:13:17
3	Sb 206.836†	38.0	6.9	2.3209 ug/L	2.3209 ppb	19:13:17
3	Se 196.026†	-22.2	-3.8	-1.9959 ug/L	-1.9959 ppb	19:13:17
3	Si 251.611†	22403.9	21406.4	634.26 ug/L	634.26 ppb	19:12:57
3	Sn 189.927†	-2.1	-1.7	-0.3084 ug/L	-0.3084 ppb	19:13:17
3	Ti 334.940†	466.6	1362.7	2.0673 ug/L	2.0673 ppb	19:12:57
3	Tl 190.801†	-40.3	-2.5	-0.7911 ug/L	-0.7911 ppb	19:13:17
3	U 409.014†	-925.8	157.7	3.9384 ug/L	3.9384 ppb	19:12:57
3	V 292.402†	-1409.4	15.7	0.1053 ug/L	0.1053 ppb	19:12:57
3	Zn 213.857†	819.3	67.6	0.6224 ug/L	0.6224 ppb	19:13:17
3	SiO2†	22266.0	21254.2	1344.2 ug/L	1344.2 ppb	19:13:32

## Mean Data: 1202017563|942466|5

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	917454.3	102.18 %	0.236			0.23%
Sc Radial	5433.4	102 %	0.9			0.86%
Y 371.029	805644.6	97.877 %	0.1945			0.20%
Y RADIAL	5842.1	101.5 %	0.88			0.87%
Ag 328.068†	4.1	0.0338 ug/L	0.18795	0.0338 ppb	0.18795	556.32%
Al 396.153Radial†	122.5	92.745 ug/L	7.0072	92.745 ppb	7.0072	7.56%
As 188.979†	-0.5	-0.1628 ug/L	2.31902	-0.1628 ppb	2.31902	>999.9%
B 249.677†	463.5	10.155 ug/L	0.4160	10.155 ppb	0.4160	4.10%
Ba 233.527†	132.7	1.0482 ug/L	0.02146	1.0482 ppb	0.02146	2.05%
Be 313.107†	247.5	0.0920 ug/L	0.01221	0.0920 ppb	0.01221	13.26%
Ca 317.933Radial†	15.6	25.122 ug/L	2.2609	25.122 ppb	2.2609	9.00%
Cd 226.502†	19.9	0.2171 ug/L	0.04338	0.2171 ppb	0.04338	19.99%
Co 228.616†	3.3	0.0685 ug/L	0.07112	0.0685 ppb	0.07112	103.85%
Cr 267.716†	-0.5	-0.0046 ug/L	0.10815	-0.0046 ppb	0.10815	>999.9%
Cu 324.752†	-86.4	-0.2409 ug/L	0.15534	-0.2409 ppb	0.15534	64.50%
Fe 238.204 Radial†	5.9	55.023 ug/L	5.3426	55.023 ppb	5.3426	9.71%
K 766.490 Radial†	163.5	29.859 ug/L	7.3639	29.859 ppb	7.3639	24.66%



Mg 279.077 IEC†	1.6	55.886 ug/L	83.4054	55.886 ppb	83.4054	149.24%
Mn 257.610†	816.4	0.9185 ug/L	0.01947	0.9185 ppb	0.01947	2.12%
Mo 202.031†	8.3	0.5678 ug/L	0.22673	0.5678 ppb	0.22673	39.93%
Na 589.592 Radial†	23.2	6.9028 ug/L	17.35570	6.9028 ppb	17.35570	251.43%
Ni 231.604†	11.7	0.2945 ug/L	0.17813	0.2945 ppb	0.17813	60.49%
P 214.914†	-1.1	-0.5777 ug/L	1.61171	-0.5777 ppb	1.61171	278.99%
Pb 220.353†	13.0	1.6470 ug/L	0.69092	1.6470 ppb	0.69092	41.95%
S 181.975 Axial†	-20.2	-27.762 ug/L	2.8316	-27.762 ppb	2.8316	10.20%
Sb 206.836†	5.1	1.7090 ug/L	1.24494	1.7090 ppb	1.24494	72.85%
Se 196.026†	-3.7	-1.9648 ug/L	0.53123	-1.9648 ppb	0.53123	27.04%
Si 251.611†	21404.2	634.20 ug/L	1.083	634.20 ppb	1.083	0.17%
Sn 189.927†	2.0	0.3650 ug/L	0.60259	0.3650 ppb	0.60259	165.07%
Sr 421.552†	48.5	0.3112 ug/L	0.05461	0.3112 ppb	0.05461	17.55%
Ti 334.940†	1372.4	2.0902 ug/L	0.03384	2.0902 ppb	0.03384	1.62%
Tl 190.801†	-0.7	-0.1897 ug/L	0.94609	-0.1897 ppb	0.94609	498.62%
U 409.014†	103.7	2.5876 ug/L	1.52638	2.5876 ppb	1.52638	58.99%
V 292.402†	56.5	0.3551 ug/L	0.21629	0.3551 ppb	0.21629	60.91%
Zn 213.857†	73.9	0.6816 ug/L	0.08782	0.6816 ppb	0.08782	12.88%
SiO2†	21380.4	1352.2 ug/L	7.13	1352.2 ppb	7.13	0.53%

Sequence No.: 33

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 1/26/2010 19:22:53

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5428.8	5428.8	102 %		19:24:45
1	Y RADIAL	5838.3	5838.3	101.4 %		19:24:45
1	Al 396.153Radial†	6771.3	6651.5	5015.1 ug/L	5015.1 ppb	19:24:45
1	Ca 317.933Radial†	3213.1	3140.3	5047.5 ug/L	5047.5 ppb	19:25:05
1	Fe 238.204 Radial†	571.2	554.7	5198.8 ug/L	5198.8 ppb	19:25:05
1	K 766.490 Radial†	30694.7	27689.5	5052.2 ug/L	5052.2 ppb	19:24:45
1	Mg 279.077 IEC†	151.0	147.6	5263.8 ug/L	5263.8 ppb	19:25:05
1	Na 589.592 Radial†	32853.5	32864.2	9769.6 ug/L	9769.6 ppb	19:24:45
1	Sr 421.552†	80682.6	79356.8	509.25 ug/L	509.25 ppb	19:24:45
1	Sc 361.383	932362.2	932362.2	103.84 %		19:26:02
1	Y 371.029	817818.1	817818.1	99.356 %		19:26:02
1	Ag 328.068†	122271.0	117452.0	493.33 ug/L	493.33 ppb	19:26:08
1	As 188.979†	1200.0	1185.8	489.42 ug/L	489.42 ppb	19:26:28
1	B 249.677†	22865.8	22260.4	485.91 ug/L	485.91 ppb	19:26:08
1	Ba 233.527†	64346.9	61969.8	489.70 ug/L	489.70 ppb	19:26:08
1	Be 313.107†	1423895.6	1376324.5	486.62 ug/L	486.62 ppb	19:26:02
1	Cd 226.502†	45499.2	44022.3	491.62 ug/L	491.62 ppb	19:26:08
1	Co 228.616†	23628.7	22824.6	500.43 ug/L	500.43 ppb	19:26:08
1	Cr 267.716†	47235.9	45394.6	492.71 ug/L	492.71 ppb	19:26:08
1	Cu 324.752†	189180.4	173054.4	485.46 ug/L	485.46 ppb	19:26:08
1	Mn 257.610†	448525.6	431444.3	484.02 ug/L	484.02 ppb	19:26:02
1	Mo 202.031†	7418.6	7120.6	486.43 ug/L	486.43 ppb	19:26:28
1	Ni 231.604†	20425.0	19575.8	491.67 ug/L	491.67 ppb	19:26:08
1	P 214.914†	4651.8	4241.0	2296.9 ug/L	2296.9 ppb	19:26:28
1	Pb 220.353†	3966.2	3879.9	488.60 ug/L	488.60 ppb	19:26:28
1	S 181.975 Axial†	792.1	685.8	943.27 ug/L	943.27 ppb	19:26:28
1	Sb 206.836†	1545.0	1457.6	505.55 ug/L	505.55 ppb	19:26:28
1	Se 196.026†	845.3	832.0	498.83 ug/L	498.83 ppb	19:26:28
1	Si 251.611†	86832.3	83124.3	2457.0 ug/L	2457.0 ppb	19:26:08
1	Sn 189.927†	2762.5	2660.7	490.11 ug/L	490.11 ppb	19:26:28
1	Ti 334.940†	331572.5	320213.8	488.09 ug/L	488.09 ppb	19:26:08
1	Tl 190.801†	1498.2	1479.7	476.56 ug/L	476.56 ppb	19:26:28
1	U 409.014†	19186.9	19540.0	486.91 ug/L	486.91 ppb	19:26:08
1	V 292.402†	80369.2	78789.8	496.43 ug/L	496.43 ppb	19:26:08
1	Zn 213.857†	55370.8	52589.1	485.55 ug/L	485.55 ppb	19:26:08
1	SiO2†	86637.3	82919.1	5230.9 ug/L	5230.9 ppb	19:27:35
2	Sc Radial	5266.7	5266.7	98.6 %		19:25:10
2	Y RADIAL	5668.8	5668.8	98.46 %		19:25:10
2	Al 396.153Radial†	6543.0	6625.0	4995.0 ug/L	4995.0 ppb	19:25:10
2	Ca 317.933Radial†	3193.2	3217.4	5171.3 ug/L	5171.3 ppb	19:25:30
2	Fe 238.204 Radial†	565.6	566.3	5307.8 ug/L	5307.8 ppb	19:25:30
2	K 766.490 Radial†	29779.6	27691.0	5052.4 ug/L	5052.4 ppb	19:25:10
2	Mg 279.077 IEC†	148.8	149.9	5346.5 ug/L	5346.5 ppb	19:25:30
2	Na 589.592 Radial†	31534.9	32521.8	9667.8 ug/L	9667.8 ppb	19:25:10
2	Sr 421.552†	77425.8	78497.3	503.73 ug/L	503.73 ppb	19:25:10
2	Sc 361.383	930628.1	930628.1	103.65 %		19:26:33
2	Y 371.029	815853.6	815853.6	99.117 %		19:26:33
2	Ag 328.068†	122700.9	118086.3	496.02 ug/L	496.02 ppb	19:26:39
2	As 188.979†	1187.5	1175.9	485.41 ug/L	485.41 ppb	19:26:59
2	B 249.677†	22981.9	22413.5	489.24 ug/L	489.24 ppb	19:26:39
2	Ba 233.527†	64753.6	62477.5	493.71 ug/L	493.71 ppb	19:26:39
2	Be 313.107†	1423009.1	1378024.4	487.23 ug/L	487.23 ppb	19:26:33
2	Cd 226.502†	45720.0	44317.0	494.90 ug/L	494.90 ppb	19:26:39
2	Co 228.616†	23730.3	22965.0	503.50 ug/L	503.50 ppb	19:26:39
2	Cr 267.716†	47294.6	45536.1	494.25 ug/L	494.25 ppb	19:26:39
2	Cu 324.752†	190054.8	174237.5	488.78 ug/L	488.78 ppb	19:26:39
2	Mn 257.610†	448212.9	431947.4	484.59 ug/L	484.59 ppb	19:26:33
2	Mo 202.031†	7426.9	7141.9	487.89 ug/L	487.89 ppb	19:26:59
2	Ni 231.604†	20560.4	19743.1	495.87 ug/L	495.87 ppb	19:26:39

2	P 214.914†	4686.1	4282.5	2319.5 ug/L	2319.5 ppb	19:26:59
2	Pb 220.353†	3968.9	3889.6	489.81 ug/L	489.81 ppb	19:26:59
2	S 181.975 Axial†	790.7	685.9	943.39 ug/L	943.39 ppb	19:26:59
2	Sb 206.836†	1563.3	1478.0	512.44 ug/L	512.44 ppb	19:26:59
2	Se 196.026†	833.3	821.9	493.39 ug/L	493.39 ppb	19:26:59
2	Si 251.611†	87174.0	83609.8	2471.3 ug/L	2471.3 ppb	19:26:39
2	Sn 189.927†	2768.2	2671.1	492.06 ug/L	492.06 ppb	19:26:59
2	Ti 334.940†	333473.9	322643.2	491.80 ug/L	491.80 ppb	19:26:39
2	Tl 190.801†	1512.2	1495.9	481.76 ug/L	481.76 ppb	19:26:59
2	U 409.014†	19443.9	19822.4	493.95 ug/L	493.95 ppb	19:26:39
2	V 292.402†	80616.6	79172.8	498.83 ug/L	498.83 ppb	19:26:39
2	Zn 213.857†	55655.0	52962.7	488.99 ug/L	488.99 ppb	19:26:39
2	SiO2†	85843.9	82309.0	5192.3 ug/L	5192.3 ppb	19:27:40
3	Sc Radial	6022.1	6022.1	113 %		19:25:35
3	Y RADIAL	6490.1	6490.1	112.7 %		19:25:35
3	Al 396.153Radial†	6495.3	5750.5	4332.6 ug/L	4332.6 ppb	19:25:35
3	Ca 317.933Radial†	3160.4	2782.3	4471.9 ug/L	4471.9 ppb	19:25:55
3	Fe 238.204 Radial†	561.7	491.0	4603.2 ug/L	4603.2 ppb	19:25:55
3	K 766.490 Radial†	29809.0	23929.5	4366.0 ug/L	4366.0 ppb	19:25:35
3	Mg 279.077 IEC†	149.2	131.3	4683.9 ug/L	4683.9 ppb	19:25:55
3	Na 589.592 Radial†	31334.7	28333.6	8422.8 ug/L	8422.8 ppb	19:25:35
3	Sr 421.552†	76882.8	68168.5	437.45 ug/L	437.45 ppb	19:25:35
3	Sc 361.383	931108.5	931108.5	103.70 %		19:27:04
3	Y 371.029	815501.5	815501.5	99.074 %		19:27:04
3	Ag 328.068†	122018.0	117366.6	492.78 ug/L	492.78 ppb	19:27:10
3	As 188.979†	1212.5	1199.4	494.82 ug/L	494.82 ppb	19:27:30
3	B 249.677†	22891.2	22314.5	487.20 ug/L	487.20 ppb	19:27:10
3	Ba 233.527†	64161.2	61874.1	488.92 ug/L	488.92 ppb	19:27:10
3	Be 313.107†	1420909.4	1375291.2	486.25 ug/L	486.25 ppb	19:27:04
3	Cd 226.502†	45352.7	43940.0	490.76 ug/L	490.76 ppb	19:27:10
3	Co 228.616†	23528.1	22758.2	498.99 ug/L	498.99 ppb	19:27:10
3	Cr 267.716†	46854.6	45088.2	489.37 ug/L	489.37 ppb	19:27:10
3	Cu 324.752†	188570.8	172711.9	484.47 ug/L	484.47 ppb	19:27:10
3	Mn 257.610†	448969.0	432453.4	485.12 ug/L	485.12 ppb	19:27:04
3	Mo 202.031†	7423.0	7134.4	487.32 ug/L	487.32 ppb	19:27:30
3	Ni 231.604†	20397.2	19575.4	491.66 ug/L	491.66 ppb	19:27:10
3	P 214.914†	4694.3	4288.0	2323.9 ug/L	2323.9 ppb	19:27:30
3	Pb 220.353†	3970.3	3889.0	489.65 ug/L	489.65 ppb	19:27:30
3	S 181.975 Axial†	793.2	687.9	946.30 ug/L	946.30 ppb	19:27:30
3	Sb 206.836†	1543.8	1458.5	505.91 ug/L	505.91 ppb	19:27:30
3	Se 196.026†	835.5	823.7	492.04 ug/L	492.04 ppb	19:27:30
3	Si 251.611†	86462.4	82880.2	2449.7 ug/L	2449.7 ppb	19:27:10
3	Sn 189.927†	2773.1	2674.5	492.56 ug/L	492.56 ppb	19:27:30
3	Ti 334.940†	330185.4	319306.1	486.68 ug/L	486.68 ppb	19:27:10
3	Tl 190.801†	1505.8	1489.0	479.53 ug/L	479.53 ppb	19:27:30
3	U 409.014†	19161.8	19540.7	487.00 ug/L	487.00 ppb	19:27:10
3	V 292.402†	79846.5	78390.0	494.03 ug/L	494.03 ppb	19:27:10
3	Zn 213.857†	55042.7	52344.6	483.33 ug/L	483.33 ppb	19:27:10
3	SiO2†	86429.8	82831.3	5225.4 ug/L	5225.4 ppb	19:27:45

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	931366.3	103.73 %	0.100			0.10%
Sc Radial	5572.5	104 %	7.4			7.14%
Y 371.029	816391.1	99.182 %	0.1517			0.15%
Y RADIAL	5999.0	104.2 %	7.53			7.23%
Ag 328.068†	117634.9	494.04 ug/L	1.731	494.04 ppb	1.731	0.35%
QC value within limits for Ag 328.068 Recovery = 98.81%						
Al 396.153Radial†	6342.4	4780.9 ug/L	388.39	4780.9 ppb	388.39	8.12%
QC value within limits for Al 396.153Radial Recovery = 95.62%						
As 188.979†	1187.1	489.88 ug/L	4.722	489.88 ppb	4.722	0.96%
QC value within limits for As 188.979 Recovery = 97.98%						
B 249.677†	22329.5	487.45 ug/L	1.679	487.45 ppb	1.679	0.34%
QC value within limits for B 249.677 Recovery = 97.49%						
Ba 233.527†	62107.1	490.77 ug/L	2.570	490.77 ppb	2.570	0.52%
QC value within limits for Ba 233.527 Recovery = 98.15%						
Be 313.107†	1376546.7	486.70 ug/L	0.493	486.70 ppb	0.493	0.10%
QC value within limits for Be 313.107 Recovery = 97.34%						
Ca 317.933Radial†	3046.7	4896.9 ug/L	373.23	4896.9 ppb	373.23	7.62%

QC value within limits for Ca 317.933 Radial Recovery = 97.94%							
Cd 226.502†	44093.1	492.43 ug/L	2.186	492.43 ppb	2.186	0.44%	
QC value within limits for Cd 226.502 Recovery = 98.49%							
Co 228.616†	22849.3	500.97 ug/L	2.305	500.97 ppb	2.305	0.46%	
QC value within limits for Co 228.616 Recovery = 100.19%							
Cr 267.716†	45339.6	492.11 ug/L	2.491	492.11 ppb	2.491	0.51%	
QC value within limits for Cr 267.716 Recovery = 98.42%							
Cu 324.752†	173334.6	486.24 ug/L	2.259	486.24 ppb	2.259	0.46%	
QC value within limits for Cu 324.752 Recovery = 97.25%							
Fe 238.204 Radial†	537.3	5036.6 ug/L	379.25	5036.6 ppb	379.25	7.53%	
QC value within limits for Fe 238.204 Radial Recovery = 100.73%							
K 766.490 Radial†	26436.7	4823.5 ug/L	396.24	4823.5 ppb	396.24	8.21%	
QC value within limits for K 766.490 Radial Recovery = 96.47%							
Mg 279.077 IEC†	142.9	5098.1 ug/L	361.03	5098.1 ppb	361.03	7.08%	
QC value within limits for Mg 279.077 IEC Recovery = 101.96%							
Mn 257.610†	431948.4	484.58 ug/L	0.548	484.58 ppb	0.548	0.11%	
QC value within limits for Mn 257.610 Recovery = 96.92%							
Mo 202.031†	7132.3	487.21 ug/L	0.739	487.21 ppb	0.739	0.15%	
QC value within limits for Mo 202.031 Recovery = 97.44%							
Na 589.592 Radial†	31239.9	9286.7 ug/L	749.93	9286.7 ppb	749.93	8.08%	
QC value within limits for Na 589.592 Radial Recovery = 92.87%							
Ni 231.604†	19631.4	493.07 ug/L	2.428	493.07 ppb	2.428	0.49%	
QC value within limits for Ni 231.604 Recovery = 98.61%							
P 214.914†	4270.5	2313.4 ug/L	14.50	2313.4 ppb	14.50	0.63%	
QC value within limits for P 214.914 Recovery = 92.54%							
Pb 220.353†	3886.1	489.35 ug/L	0.657	489.35 ppb	0.657	0.13%	
QC value within limits for Pb 220.353 Recovery = 97.87%							
S 181.975 Axial†	686.5	944.32 ug/L	1.714	944.32 ppb	1.714	0.18%	
QC value within limits for S 181.975 Axial Recovery = 94.43%							
Sb 206.836†	1464.7	507.97 ug/L	3.877	507.97 ppb	3.877	0.76%	
QC value within limits for Sb 206.836 Recovery = 101.59%							
Se 196.026†	825.8	494.75 ug/L	3.594	494.75 ppb	3.594	0.73%	
QC value within limits for Se 196.026 Recovery = 98.95%							
Si 251.611†	83204.8	2459.4 ug/L	11.00	2459.4 ppb	11.00	0.45%	
QC value within limits for Si 251.611 Recovery = 98.37%							
Sn 189.927†	2668.8	491.58 ug/L	1.291	491.58 ppb	1.291	0.26%	
QC value within limits for Sn 189.927 Recovery = 98.32%							
Sr 421.552†	75340.9	483.48 ug/L	39.956	483.48 ppb	39.956	8.26%	
QC value within limits for Sr 421.552 Recovery = 96.70%							
Ti 334.940†	320721.0	488.85 ug/L	2.646	488.85 ppb	2.646	0.54%	
QC value within limits for Ti 334.940 Recovery = 97.77%							
Tl 190.801†	1488.2	479.28 ug/L	2.607	479.28 ppb	2.607	0.54%	
QC value within limits for Tl 190.801 Recovery = 95.86%							
U 409.014†	19634.3	489.29 ug/L	4.041	489.29 ppb	4.041	0.83%	
QC value within limits for U 409.014 Recovery = 97.86%							
V 292.402†	78784.2	496.43 ug/L	2.396	496.43 ppb	2.396	0.48%	
QC value within limits for V 292.402 Recovery = 99.29%							
Zn 213.857†	52632.2	485.96 ug/L	2.850	485.96 ppb	2.850	0.59%	
QC value within limits for Zn 213.857 Recovery = 97.19%							
SiO2†	82686.5	5216.2 ug/L	20.88	5216.2 ppb	20.88	0.40%	
QC value within limits for SiO2 Recovery = 97.54%							
All analyte(s) passed QC.							

Sequence No.: 34

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 1/26/2010 19:29:56

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5428.5	5428.5	102 %		19:31:47
1	Y RADIAL	5877.7	5877.7	102.1 %		19:31:47
1	Al 396.153Radial†	10.8	1.5	1.1418 ug/L	1.1418 ppb	19:32:07
1	Ca 317.933Radial†	15.1	-5.4	-8.7282 ug/L	-8.7282 ppb	19:32:07
1	Fe 238.204 Radial†	5.9	-1.3	-12.322 ug/L	-12.322 ppb	19:32:07
1	K 766.490 Radial†	2384.3	-158.1	-28.843 ug/L	-28.843 ppb	19:31:47
1	Mg 279.077 IEC†	-1.5	-2.4	-86.408 ug/L	-86.408 ppb	19:32:07
1	Na 589.592 Radial†	-829.4	-268.2	-79.742 ug/L	-79.742 ppb	19:31:47
1	Sr 421.552†	38.6	30.8	0.1980 ug/L	0.1980 ppb	19:31:47
1	Sc 361.383	917685.8	917685.8	102.21 %		19:33:04
1	Y 371.029	806622.3	806622.3	97.995 %		19:33:04
1	Ag 328.068†	411.7	106.7	0.4441 ug/L	0.4441 ppb	19:33:04
1	As 188.979†	-21.3	9.4	3.8243 ug/L	3.8243 ppb	19:33:24
1	B 249.677†	-49.2	192.3	4.2201 ug/L	4.2201 ppb	19:33:24
1	Ba 233.527†	-3.3	-0.1	-0.0007 ug/L	-0.0007 ppb	19:33:24
1	Be 313.107†	-4993.5	214.7	0.0757 ug/L	0.0757 ppb	19:33:04
1	Cd 226.502†	-193.7	16.7	0.1875 ug/L	0.1875 ppb	19:33:24
1	Co 228.616†	-77.4	-5.7	-0.1249 ug/L	-0.1249 ppb	19:33:24
1	Cr 267.716†	95.0	-1.0	-0.0101 ug/L	-0.0101 ppb	19:33:24
1	Cu 324.752†	9042.5	-280.8	-0.7875 ug/L	-0.7875 ppb	19:33:04
1	Mn 257.610†	488.9	-11.5	-0.0106 ug/L	-0.0106 ppb	19:33:24
1	Mo 202.031†	29.4	5.2	0.3518 ug/L	0.3518 ppb	19:33:24
1	Ni 231.604†	101.8	5.9	0.1476 ug/L	0.1476 ppb	19:33:24
1	P 214.914†	241.2	-2.7	-1.3616 ug/L	-1.3616 ppb	19:33:24
1	Pb 220.353†	-36.5	24.7	3.1020 ug/L	3.1020 ppb	19:33:24
1	S 181.975 Axial†	44.3	-33.7	-46.385 ug/L	-46.385 ppb	19:33:24
1	Sb 206.836†	40.3	9.2	3.0770 ug/L	3.0770 ppb	19:33:24
1	Se 196.026†	-24.7	-6.2	-3.6440 ug/L	-3.6440 ppb	19:33:24
1	Si 251.611†	533.9	26.4	0.7774 ug/L	0.7774 ppb	19:33:24
1	Sn 189.927†	1.8	2.1	0.3788 ug/L	0.3788 ppb	19:33:24
1	Ti 334.940†	-928.8	-2.2	0.0032 ug/L	0.0032 ppb	19:33:04
1	Tl 190.801†	-46.1	-8.2	-2.6150 ug/L	-2.6150 ppb	19:33:24
1	U 409.014†	-1141.2	-53.7	-1.3426 ug/L	-1.3426 ppb	19:33:04
1	V 292.402†	-1367.7	55.4	0.3473 ug/L	0.3473 ppb	19:33:04
1	Zn 213.857†	687.7	-60.6	-0.5629 ug/L	-0.5629 ppb	19:33:24
1	SiO2†	541.0	16.0	0.9995 ug/L	0.9995 ppb	19:34:35
2	Sc Radial	5727.5	5727.5	107 %		19:32:12
2	Y RADIAL	6158.4	6158.4	107.0 %		19:32:12
2	Al 396.153Radial†	1.4	-7.8	-5.8944 ug/L	-5.8944 ppb	19:32:32
2	Ca 317.933Radial†	17.8	-3.6	-5.8334 ug/L	-5.8334 ppb	19:32:32
2	Fe 238.204 Radial†	8.5	0.8	7.3524 ug/L	7.3524 ppb	19:32:32
2	K 766.490 Radial†	2335.5	-326.0	-59.526 ug/L	-59.526 ppb	19:32:12
2	Mg 279.077 IEC†	1.5	0.4	13.732 ug/L	13.732 ppb	19:32:32
2	Na 589.592 Radial†	-753.0	-154.4	-45.905 ug/L	-45.905 ppb	19:32:12
2	Sr 421.552†	2.8	-4.5	-0.0289 ug/L	-0.0289 ppb	19:32:12
2	Sc 361.383	909084.1	909084.1	101.25 %		19:33:29
2	Y 371.029	798999.4	798999.4	97.069 %		19:33:29
2	Ag 328.068†	350.9	50.5	0.2162 ug/L	0.2162 ppb	19:33:29
2	As 188.979†	-25.7	4.8	1.9789 ug/L	1.9789 ppb	19:33:50
2	B 249.677†	-57.6	183.6	4.0244 ug/L	4.0244 ppb	19:33:50
2	Ba 233.527†	8.7	11.7	0.0928 ug/L	0.0928 ppb	19:33:50
2	Be 313.107†	-4921.2	239.9	0.0847 ug/L	0.0847 ppb	19:33:29
2	Cd 226.502†	-205.7	3.0	0.0324 ug/L	0.0324 ppb	19:33:50
2	Co 228.616†	-67.3	3.4	0.0743 ug/L	0.0743 ppb	19:33:50
2	Cr 267.716†	95.0	-0.1	0.0002 ug/L	0.0002 ppb	19:33:50
2	Cu 324.752†	8934.2	-303.9	-0.8506 ug/L	-0.8506 ppb	19:33:29
2	Mn 257.610†	463.6	-31.9	-0.0356 ug/L	-0.0356 ppb	19:33:50
2	Mo 202.031†	19.4	-4.4	-0.3025 ug/L	-0.3025 ppb	19:33:50
2	Ni 231.604†	102.1	7.2	0.1798 ug/L	0.1798 ppb	19:33:50

2	P 214.914†	231.7	-9.9	-5.4325 ug/L	-5.4325 ppb	19:33:50
2	Pb 220.353†	-40.2	20.7	2.5986 ug/L	2.5986 ppb	19:33:50
2	S 181.975 Axial†	41.0	-36.5	-50.288 ug/L	-50.288 ppb	19:33:50
2	Sb 206.836†	35.5	4.8	1.5909 ug/L	1.5909 ppb	19:33:50
2	Se 196.026†	-12.2	5.9	3.4478 ug/L	3.4478 ppb	19:33:50
2	Si 251.611†	536.1	33.6	0.9984 ug/L	0.9984 ppb	19:33:50
2	Sn 189.927†	-0.1	0.3	0.0456 ug/L	0.0456 ppb	19:33:50
2	Ti 334.940†	-887.2	30.2	0.0455 ug/L	0.0455 ppb	19:33:29
2	Tl 190.801†	-29.5	7.7	2.4773 ug/L	2.4773 ppb	19:33:50
2	U 409.014†	-1199.4	-121.7	-3.0447 ug/L	-3.0447 ppb	19:33:29
2	V 292.402†	-1393.3	17.4	0.0975 ug/L	0.0975 ppb	19:33:29
2	Zn 213.857†	702.1	-39.9	-0.3727 ug/L	-0.3727 ppb	19:33:50
2	SiO2†	550.2	30.0	1.9084 ug/L	1.9084 ppb	19:34:55
3	Sc Radial	5518.7	5518.7	103 %		19:32:37
3	Y RADIAL	5956.4	5956.4	103.5 %		19:32:37
3	Al 396.153Radial†	-16.0	-24.7	-18.663 ug/L	-18.663 ppb	19:32:58
3	Ca 317.933Radial†	16.1	-4.6	-7.4572 ug/L	-7.4572 ppb	19:32:58
3	Fe 238.204 Radial†	9.6	2.2	20.284 ug/L	20.284 ppb	19:32:58
3	K 766.490 Radial†	2476.0	-107.6	-19.630 ug/L	-19.630 ppb	19:32:37
3	Mg 279.077 IEC†	2.2	1.2	42.605 ug/L	42.605 ppb	19:32:58
3	Na 589.592 Radial†	-830.5	-256.0	-76.094 ug/L	-76.094 ppb	19:32:37
3	Sr 421.552†	13.2	5.7	0.0367 ug/L	0.0367 ppb	19:32:37
3	Sc 361.383	911535.1	911535.1	101.52 %		19:33:55
3	Y 371.029	801306.1	801306.1	97.350 %		19:33:55
3	Ag 328.068†	366.2	64.7	0.2759 ug/L	0.2759 ppb	19:33:55
3	As 188.979†	-29.4	1.2	0.5114 ug/L	0.5114 ppb	19:34:15
3	B 249.677†	-70.7	170.8	3.7429 ug/L	3.7429 ppb	19:34:15
3	Ba 233.527†	-10.2	-7.0	-0.0542 ug/L	-0.0542 ppb	19:34:15
3	Be 313.107†	-4939.8	234.7	0.0828 ug/L	0.0828 ppb	19:33:55
3	Cd 226.502†	-203.8	5.4	0.0588 ug/L	0.0588 ppb	19:34:15
3	Co 228.616†	-70.6	0.4	0.0083 ug/L	0.0083 ppb	19:34:15
3	Cr 267.716†	80.7	-14.4	-0.1563 ug/L	-0.1563 ppb	19:34:15
3	Cu 324.752†	8845.9	-414.7	-1.1629 ug/L	-1.1629 ppb	19:33:55
3	Mn 257.610†	497.0	-0.3	-0.0001 ug/L	-0.0001 ppb	19:34:15
3	Mo 202.031†	18.9	-5.0	-0.3416 ug/L	-0.3416 ppb	19:34:15
3	Ni 231.604†	106.6	11.4	0.2855 ug/L	0.2855 ppb	19:34:15
3	P 214.914†	255.9	13.3	7.7282 ug/L	7.7282 ppb	19:34:15
3	Pb 220.353†	-36.3	24.6	3.0867 ug/L	3.0867 ppb	19:34:15
3	S 181.975 Axial†	40.3	-37.3	-51.350 ug/L	-51.350 ppb	19:34:15
3	Sb 206.836†	46.3	15.4	5.1528 ug/L	5.1528 ppb	19:34:15
3	Se 196.026†	-14.3	3.9	2.3078 ug/L	2.3078 ppb	19:34:15
3	Si 251.611†	517.3	13.6	0.4070 ug/L	0.4070 ppb	19:34:15
3	Sn 189.927†	1.5	1.8	0.3306 ug/L	0.3306 ppb	19:34:15
3	Ti 334.940†	-920.0	0.3	-0.0044 ug/L	-0.0044 ppb	19:33:55
3	Tl 190.801†	-32.4	5.0	1.5910 ug/L	1.5910 ppb	19:34:15
3	U 409.014†	-1034.4	43.9	1.0959 ug/L	1.0959 ppb	19:33:55
3	V 292.402†	-1417.5	-2.7	-0.0216 ug/L	-0.0216 ppb	19:33:55
3	Zn 213.857†	675.4	-68.1	-0.6364 ug/L	-0.6364 ppb	19:34:15
3	SiO2†	523.1	1.9	0.1271 ug/L	0.1271 ppb	19:35:15

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	912768.3	101.66 %	0.494			0.49%
Sc Radial	5558.2	104 %	2.9			2.76%
Y 371.029	802309.2	97.471 %	0.4749			0.49%
Y RADIAL	5997.5	104.2 %	2.52			2.41%
Ag 328.068†	74.0	0.3121 ug/L	0.11816	0.3121 ppb	0.11816	37.86%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-10.3	-7.8052 ug/L	10.03973	-7.8052 ppb	10.03973	128.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	5.1	2.1049 ug/L	1.66004	2.1049 ppb	1.66004	78.87%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	182.2	3.9958 ug/L	0.23991	3.9958 ppb	0.23991	6.00%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	1.5	0.0126 ug/L	0.07442	0.0126 ppb	0.07442	588.46%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	229.8	0.0811 ug/L	0.00473	0.0811 ppb	0.00473	5.83%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-4.6	-7.3396 ug/L	1.45103	-7.3396 ppb	1.45103	19.77%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	8.4	0.0929 ug/L	0.08299	0.0929 ppb	0.08299	89.34%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-0.6	-0.0141 ug/L	0.10149	-0.0141 ppb	0.10149	719.21%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-5.2	-0.0554 ug/L	0.08752	-0.0554 ppb	0.08752	158.02%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-333.1	-0.9337 ug/L	0.20104	-0.9337 ppb	0.20104	21.53%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.5	5.1047 ug/L	16.41880	5.1047 ppb	16.41880	321.64%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-197.2	-36.000 ug/L	20.8884	-36.000 ppb	20.8884	58.02%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	-0.3	-10.024 ug/L	67.7075	-10.024 ppb	67.7075	675.49%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-14.6	-0.0154 ug/L	0.01826	-0.0154 ppb	0.01826	118.24%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-1.4	-0.0974 ug/L	0.38952	-0.0974 ppb	0.38952	399.81%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-226.2	-67.247 ug/L	18.5721	-67.247 ppb	18.5721	27.62%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	8.1	0.2043 ug/L	0.07213	0.2043 ppb	0.07213	35.30%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	0.2	0.3114 ug/L	6.73795	0.3114 ppb	6.73795	>999.9%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	23.4	2.9291 ug/L	0.28632	2.9291 ppb	0.28632	9.77%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-35.8	-49.341 ug/L	2.6148	-49.341 ppb	2.6148	5.30%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	9.8	3.2736 ug/L	1.78907	3.2736 ppb	1.78907	54.65%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	1.2	0.7039 ug/L	3.80824	0.7039 ppb	3.80824	541.05%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	24.5	0.7276 ug/L	0.29884	0.7276 ppb	0.29884	41.07%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.4	0.2517 ug/L	0.18006	0.2517 ppb	0.18006	71.55%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	10.7	0.0686 ug/L	0.11676	0.0686 ppb	0.11676	170.26%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	9.5	0.0148 ug/L	0.02692	0.0148 ppb	0.02692	182.30%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.5	0.4845 ug/L	2.72054	0.4845 ppb	2.72054	561.56%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-43.9	-1.0971 ug/L	2.08114	-1.0971 ppb	2.08114	189.69%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	23.4	0.1411 ug/L	0.18830	0.1411 ppb	0.18830	133.49%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-56.2	-0.5240 ug/L	0.13608	-0.5240 ppb	0.13608	25.97%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	16.0	1.0117 ug/L	0.89071	1.0117 ppb	0.89071	88.04%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

## Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Monday, January 25, 2010 10:15:21

Sample Description:

Method File: c:\elandata\Method\daily2.mth

Dataset File: c:\elandata\Dataset\090811\Sample.365

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	279.6	279.603	7.232	2.6
Mg	24.0	6551.7	6551.703	224.316	3.4
Co	58.9	19524.1	19524.133	162.594	0.8
Rh	102.9	43393.0	43393.008	419.775	1.0
In	114.9	59564.7	59564.726	455.300	0.8
Pb	208.0	24383.4	24383.392	43.598	0.2
[> Ba	137.9	49039.4	49039.405	331.258	0.7
[ Ba++	69.0	663.8	0.014	0.000	2.5
[> Ce	139.9	58114.6	58114.574	541.645	0.9
[ CeO	155.9	1381.1	0.024	0.000	1.8
Bkgd	220.0	2.7	2.700	0.908	33.6

### Current Optimization File Data

Current Value	Description
0.86	Nebulizer Gas Flow
9.00	Lens Voltage
1000.00	ICP RF Power
-1875.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	8.3	526.7
Co	59	17	9.8	17606.2
In	115	17	11.3	44925.9



## ICPMS #4 TUNING REPORT

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	605	2060	0.712
Be	9.0	9.1	2032	2045	0.713
Mg	24.0	24.0	5651	2075	0.629
Mg	25.0	25.0	5961	2080	0.752
Mg	26.0	26.1	6122	2085	0.671
Co	58.9	58.9	14167	2140	0.679
Rh	102.9	102.8	24853	2230	0.691
In	114.9	114.9	27767	2255	0.695
Ce	139.9	139.8	33839	2310	0.669
Pb	206.0	206.0	49932	2500	0.664
Pb	207.0	207.0	50113	2380	0.688
Pb	208.0	208.0	50436	2570	0.658
U	238.1	238.1	57690	2510	0.703

## ICPMS#4 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, January 25, 2010 10:48:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\Blank.001

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		70562	
[	U	238	ug/L		7	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Simple Linear	
U	238Simple Linear	

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu	175				
[	U	238				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Blank

Report Date/Time: Monday, January 25, 2010 10:48:19

Page 1

## ICPMS#4 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, January 25, 2010 10:50:17

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\Standard 1.002

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		71229	71228.552
[	U 238	10.000	ug/L	0.948	60117	0.844

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175					
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, January 25, 2010 10:52:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\Standard 2.003

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		71370	71369.580
[	U 238	99.975	ug/L	2.548	587354	8.231

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175					
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, January 25, 2010 10:54:36

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 1.004

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		70364	70363.907
[	U 238	52.666	ug/L	1.699	305082	4.336

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.7		
[	U 238	105.331				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, January 25, 2010 10:56:48

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 2.005

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		67652	67651.830
[	U 238	0.019	ug/L	7.663	115	0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			95.9		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, January 25, 2010 10:59:01

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 3.006

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		70012	70012.214
[	U 238	0.228	ug/L	1.188	1323	0.019

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.2		
[	U 238	114.119				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, January 25, 2010 11:01:11

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 4.007

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		66109	66108.971
[	U 238	0.003	ug/L	24.116	25	0.000

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			93.7		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, January 25, 2010 11:03:23

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 5.008

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		64803	64802.658
[	U 238	20.513	ug/L	1.294	109445	1.689

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			91.8		
[	U 238	102.565				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:05:35

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.009

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		66608	66607.627
[	U 238	50.864	ug/L	0.662	278958	4.188

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			94.4		
[	U 238	101.727				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:07:48

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.010

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		66809	66808.564
[	U 238	0.017	ug/L	18.292	99	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			94.7		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:25:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.018

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		65297	65296.542
[	U 238	49.814	ug/L	2.164	267815	4.101

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			92.5		
[	U 238	99.628				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:27:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.019

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		63567	63567.105
[ U 238	0.014	ug/L	10.045	79	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175		90.1			
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:40:59

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.025

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		63507	63507.227
[	U 238	49.378	ug/L	0.462	258205	4.065

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			90.0		
[	U 238	98.757				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:43:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.026

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		63466	63466.300
[	U 238	0.018	ug/L	6.189	98	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			89.9		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202017705

Sample Date/Time: Monday, January 25, 2010 11:55:33

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017705.027

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		58764	58763.904
[	U 238	0.007	ug/L	9.995	41	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			83.3		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: 1202017706

Sample Date/Time: Monday, January 25, 2010 11:57:44

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017706.028

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		59049	59048.727
[ U 238	47.958	ug/L	0.687	233169	3.948

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			83.7		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:13:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.035

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		62728	62728.079
[	U 238	48.343	ug/L	0.986	249655	3.980

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			88.9		
[	U 238	96.687				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:15:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.036

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		62171	62171.281
[	U 238	0.016	ug/L	8.139	87	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			88.1		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 244849001

Sample Date/Time: Monday, January 25, 2010 12:22:05

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\244849001.039

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		57962	57961.932
[ U 238	0.005	ug/L	18.694	31	0.000

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			82.1		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:37:37

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.046

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		63250	63250.012
[	U 238	48.488	ug/L	0.840	252503	3.992

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			89.6		
[	U 238	96.976				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:39:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.047

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		62741	62741.102
[	U 238	0.016	ug/L	14.527	91	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			88.9		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202017707

Sample Date/Time: Monday, January 25, 2010 12:53:15

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017707.053

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		61403	61403.305
[	U 238	2.903	ug/L	1.645	14680	0.239

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			87.0		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202017708

Sample Date/Time: Monday, January 25, 2010 12:55:28

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017708.054

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		59852	59852.387
[	U 238	49.292	ug/L	1.323	242919	4.058

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			84.8		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: 1202017709

Sample Date/Time: Monday, January 25, 2010 12:57:43

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942514|5|skj

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017709.055

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		57742	57742.392
[	U 238	0.619	ug/L	2.234	2947	0.051

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			81.8		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:59:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.056

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		57970	57969.997
[	U 238	48.429	ug/L	0.708	231150	3.987

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			82.2		
[	U 238	96.858				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 13:02:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\u only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.057

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		56905	56904.726
[	U 238	0.017	ug/L	4.984	85	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			80.6		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Sunday, January 24, 2010 12:32:20

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1744

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	2517.0	2517.022	73.747	2.9
Mg	24.0	37608.2	37608.248	590.113	1.6
Co	58.9	75402.3	75402.282	688.003	0.9
Rh	102.9	139404.7	139404.691	734.179	0.5
In	114.9	194564.7	194564.664	1769.852	0.9
Pb	208.0	211131.0	211131.027	1912.120	0.9
[> Ba	137.9	183368.7	183368.743	2127.934	1.2
[ Ba++	69.0	2810.4	0.015	0.000	0.7
[> Ce	139.9	223045.8	223045.814	1616.742	0.7
[ CeO	155.9	4848.4	0.022	0.000	2.2
Bkgd	220.0	15.8	15.800	2.168	13.7

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
8.75	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	19	8.8	4557.4
Co	59	19	10.0	76159.8
In	115	19	11.3	194713.0

## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	590	2050	0.622
Be	9.0	9.0	2062	2070	0.601
Mg	24.0	24.0	5691	2070	0.592
Mg	25.0	24.9	5931	2070	0.623
Mg	26.0	26.0	6160	2070	0.612
Co	58.9	58.9	14185	2105	0.595
Rh	102.9	102.9	24882	2165	0.603
In	114.9	114.9	27796	2185	0.590
Ce	139.9	139.9	33868	2200	0.613
Pb	206.0	206.0	49948	2270	0.636
Pb	207.0	207.0	50171	2235	0.668
Pb	208.0	208.0	50439	2260	0.696
U	238.1	238.0	57726	2260	0.743

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Sunday, January 24, 2010 14:44:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\Blank.071

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7		ug/L		75	
Be	9		ug/L		14	
B	11		ug/L		332	
Na	23		ug/L		30032	
Mg	24		ug/L		7669	
Al	27		ug/L		8336	
P	31		ug/L		4692	
K	39		ug/L		464780	
Ca	43		ug/L		193	
> Sc	45		ug/L		923650	
Ti	47		ug/L		272	
V	51		ug/L		-1043	
Cr	52		ug/L		-810	
Cr	53		ug/L		68039	
Mn	55		ug/L		1178	
Fe	57		ug/L		4741	
Co	59		ug/L		158	
Ni	60		ug/L		147	
Cu	63		ug/L		2178	
Cu	65		ug/L		1058	
Zn	66		ug/L		1645	
Zn	67		ug/L		7432	
Zn	68		ug/L		1740	
> Ge	74		ug/L		348609	
As	75		ug/L		-293	
Se	77		ug/L		3933	
Se	82		ug/L		-2	
Kr	83		ug/L		85	
Sr	88		ug/L		229	
Y	89		ug/L		63	
Mo	98		ug/L		84	
Ag	107		ug/L		52	
Cd	111		ug/L		16	
Cd	114		ug/L		49	
> In	115		ug/L		234860	
Sn	120		ug/L		1271	
Sb	121		ug/L		492	
Sb	123		ug/L		391	
Ba	135		ug/L		46	
Ba	137		ug/L		71	
Ho	165		ug/L		20	
> Lu	175		ug/L		505775	
Tl	205		ug/L		574	
Pb	208		ug/L		1063	
Bi	209		ug/L		110	
Th	232		ug/L		816	
U	238		ug/L		621	

Sample ID: Blank

Report Date/Time: Sunday, January 24, 2010 14:47:34

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Simple Linear	
Be	9Simple Linear	
B	11Simple Linear	
Na	23Simple Linear	
Mg	24Simple Linear	
Al	27Simple Linear	
P	31Simple Linear	
K	39Simple Linear	
Ca	43Simple Linear	
Sc	45Simple Linear	
Ti	47Simple Linear	
V	51Simple Linear	
Cr	52Simple Linear	
Cr	53Simple Linear	
Mn	55Simple Linear	
Fe	57Simple Linear	
Co	59Simple Linear	
Ni	60Simple Linear	
Cu	63Simple Linear	
Cu	65Simple Linear	
Zn	66Simple Linear	
Zn	67Simple Linear	
Zn	68Simple Linear	
Ge	74Simple Linear	
As	75Simple Linear	
Se	77Simple Linear	
Se	82Simple Linear	
Kr	83Simple Linear	
Sr	88Simple Linear	
Y	89Simple Linear	
Mo	98Simple Linear	
Ag	107Simple Linear	
Cd	111Simple Linear	
Cd	114Simple Linear	
In	115Simple Linear	
Sn	120Simple Linear	
Sb	121Simple Linear	
Sb	123Simple Linear	
Ba	135Simple Linear	
Ba	137Simple Linear	
Ho	165Simple Linear	
Lu	175Linear Thru Zero	
Tl	205Simple Linear	
Pb	208Simple Linear	
Bi	209Simple Linear	
Th	232Simple Linear	
U	238Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Li	7						
	Be	9						
	B	11						
	Na	23						
	Mg	24						
	Al	27						
	P	31						
	K	39						
	Ca	43						
>	Sc	45						
	Ti	47						
	V	51						
	Cr	52						
	Cr	53						
	Mn	55						
	Fe	57						
	Co	59						
	Ni	60						
	Cu	63						
	Cu	65						
[	Zn	66						
	Zn	67						
	Zn	68						
>	Ge	74						
	As	75						
	Se	77						
	Se	82						
	Kr	83						
[	Sr	88						
	Y	89						
	Mo	98						
	Ag	107						
	Cd	111						
	Cd	114						
>	In	115						
	Sn	120						
	Sb	121						
	Sb	123						
[	Ba	135						
	Ba	137						
	Ho	165						
>	Lu	175						
	Tl	205						
	Pb	208						
	Bi	209						
	Th	232						
	U	238						

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits	Message
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## QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Sunday, January 24, 2010 14:50:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\Standard 1.072

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.000	ug/L	3.008	11835	0.013
Be	9	10.000	ug/L	2.317	3784	0.004
B	11	20.000	ug/L	2.732	7498	0.008
Na	23	1000.000	ug/L	5.567	4353033	4.623
Mg	24	1000.000	ug/L	5.815	2933997	3.126
Al	27	1000.000	ug/L	3.212	4071620	4.342
P	31	1000.000	ug/L	2.312	225479	0.236
K	39	1000.000	ug/L	8.407	5285458	5.149
Ca	43	1000.000	ug/L	2.142	11890	0.013
> Sc	45		ug/L		935507	935507.422
Ti	47	10.000	ug/L	0.397	5481	0.006
V	51	10.000	ug/L	2.239	58660	0.064
Cr	52	10.000	ug/L	1.707	46673	0.051
Cr	53		ug/L		75415	0.007
Mn	55	10.000	ug/L	1.900	83546	0.088
Fe	57	1000.000	ug/L	2.105	172446	0.179
Co	59	10.000	ug/L	0.346	63836	0.068
Ni	60	10.000	ug/L	2.614	13904	0.015
Cu	63		ug/L		34888	0.035
Cu	65	10.000	ug/L	0.566	16918	0.017
Zn	66	10.000	ug/L	1.250	12342	0.030
Zn	67		ug/L		9108	0.004
Zn	68		ug/L		9047	0.021
> Ge	74		ug/L		353919	353918.972
As	75	10.000	ug/L	1.568	10421	0.030
Se	77		ug/L		4935	0.003
Se	82	10.000	ug/L	3.316	1024	0.003
Kr	83		ug/L		91	0.000
Sr	88	10.000	ug/L	1.454	122599	0.515
Y	89		ug/L		81	0.000
Mo	98	10.000	ug/L	0.343	29400	0.123
Ag	107	10.000	ug/L	0.984	53144	0.224
Cd	111	10.000	ug/L	1.897	13366	0.056
Cd	114		ug/L		32955	0.139
> In	115		ug/L		237432	237432.146
Sn	120	10.000	ug/L	1.393	60153	0.248
Sb	121	10.000	ug/L	9.608	46862	0.195
Sb	123		ug/L		36610	0.152
Ba	135		ug/L		14370	0.028
Ba	137	10.000	ug/L	1.823	25229	0.050
Ho	165		ug/L		20	-0.000
> Lu	175		ug/L		504295	504294.966
Tl	205	10.000	ug/L	1.794	237998	0.471
Pb	208	10.000	ug/L	0.979	364226	0.720
Bi	209		ug/L		135	0.000
Th	232	10.000	ug/L	1.667	493577	0.977
U	238	10.000	ug/L	0.659	537405	1.064

Sample ID: Standard 1

Report Date/Time: Sunday, January 24, 2010 14:53:38

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits	Message
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## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Sunday, January 24, 2010 14:57:00

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\Standard 2.073

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	99.946	ug/L	4.854	113803	0.119
Be	9	99.926	ug/L	1.781	35756	0.037
B	11	199.970	ug/L	1.360	72242	0.075
Na	23	9999.612	ug/L	1.505	43939341	46.051
Mg	24	10007.913	ug/L	9.965	32410614	33.973
Al	27	10007.725	ug/L	6.250	44922045	47.097
P	31	9994.841	ug/L	3.094	2143402	2.243
K	39	10004.508	ug/L	4.621	51916199	53.950
Ca	43	9999.716	ug/L	3.105	119067	0.125
> Sc	45		ug/L		953518	953518.474
Ti	47	99.999	ug/L	1.282	53287	0.056
V	51	100.016	ug/L	1.954	618023	0.649
Cr	52	99.990	ug/L	1.665	478400	0.503
Cr	53		ug/L		132356	0.065
Mn	55	99.941	ug/L	0.986	793804	0.831
Fe	57	9988.789	ug/L	2.711	1540018	1.610
Co	59	99.957	ug/L	2.894	622186	0.652
Ni	60	99.968	ug/L	1.732	135984	0.142
Cu	63		ug/L		327250	0.341
Cu	65	99.980	ug/L	1.940	159368	0.166
Zn	66	99.986	ug/L	0.891	108650	0.297
Zn	67		ug/L		24434	0.047
Zn	68		ug/L		75827	0.206
> Ge	74		ug/L		359604	359603.674
As	75	99.963	ug/L	0.255	104687	0.292
Se	77		ug/L		12614	0.024
Se	82	100.003	ug/L	1.327	10452	0.029
Kr	83		ug/L		112	0.000
Sr	88	99.965	ug/L	0.701	1160379	4.977
Y	89		ug/L		165	0.000
Mo	98	100.022	ug/L	1.600	294353	1.262
Ag	107	99.986	ug/L	1.782	513882	2.204
Cd	111	100.016	ug/L	0.730	133203	0.571
Cd	114		ug/L		319829	1.372
> In	115		ug/L		233093	233093.051
Sn	120	99.988	ug/L	1.726	572186	2.449
Sb	121	100.031	ug/L	5.024	470480	2.016
Sb	123		ug/L		371842	1.593
Ba	135		ug/L		142216	0.288
Ba	137	100.006	ug/L	2.797	247803	0.502
Ho	165		ug/L		26	0.000
> Lu	175		ug/L		493449	493449.218
Tl	205	99.826	ug/L	1.671	1975095	4.002
Pb	208	99.898	ug/L	1.615	3223401	6.531
Bi	209		ug/L		394	0.001
Th	232	99.836	ug/L	2.850	4135575	8.380
U	238	99.825	ug/L	2.135	4461465	9.042

Sample ID: Standard 2

Report Date/Time: Sunday, January 24, 2010 14:59:42

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits	Message
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## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Sunday, January 24, 2010 15:03:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 1.074

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	49.683	ug/L	3.164	58042	0.059
Be	9	51.126	ug/L	1.302	18758	0.019
B	11	105.782	ug/L	2.344	39334	0.040
Na	23	5122.100	ug/L	12.004	23060363	23.589
Mg	24	4938.586	ug/L	1.713	16392869	16.765
Al	27	4419.208	ug/L	4.309	20341319	20.797
P	31	5119.191	ug/L	2.293	1127567	1.149
K	39	5427.686	ug/L	7.851	29123722	29.269
Ca	43	5032.081	ug/L	2.536	61512	0.063
> Sc	45		ug/L		977438	977437.715
Ti	47	50.525	ug/L	2.195	27735	0.028
V	51	49.725	ug/L	3.862	314298	0.323
Cr	52	51.799	ug/L	2.330	253574	0.260
Cr	53		ug/L		110395	0.039
Mn	55	52.864	ug/L	1.452	430931	0.440
Fe	57	5273.052	ug/L	2.525	835495	0.850
Co	59	50.530	ug/L	2.554	322422	0.330
Ni	60	52.491	ug/L	1.268	73261	0.075
Cu	63		ug/L		173740	0.175
Cu	65	51.594	ug/L	1.438	84830	0.086
Zn	66	52.079	ug/L	2.491	59270	0.155
Zn	67		ug/L		16988	0.024
Zn	68		ug/L		41468	0.107
> Ge	74		ug/L		371389	371389.341
As	75	47.686	ug/L	2.677	51403	0.139
Se	77		ug/L		9277	0.014
Se	82	48.922	ug/L	0.467	5280	0.014
Kr	83		ug/L		95	0.000
Sr	88	52.718	ug/L	1.592	626882	2.625
Y	89		ug/L		98	0.000
Mo	98	50.055	ug/L	1.576	150922	0.632
Ag	107	51.225	ug/L	1.861	269686	1.129
Cd	111	50.804	ug/L	1.423	69311	0.290
Cd	114		ug/L		166076	0.695
> In	115		ug/L		238765	238764.697
Sn	120	50.649	ug/L	0.964	297498	1.241
Sb	121	50.346	ug/L	6.700	242717	1.015
Sb	123		ug/L		192487	0.805
Ba	135		ug/L		73788	0.148
Ba	137	51.071	ug/L	0.526	128205	0.256
Ho	165		ug/L		51	0.000
> Lu	175		ug/L		499671	499671.051
Tl	205	53.657	ug/L	1.100	1075424	2.151
Pb	208	53.556	ug/L	0.304	1750556	3.501
Bi	209		ug/L		424	0.001
Th	232	50.376	ug/L	0.062	2113737	4.229
U	238	52.279	ug/L	0.524	2366696	4.735

Sample ID: QC Std 1

Report Date/Time: Sunday, January 24, 2010 15:05:47

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	99.366				
Be	9	102.252				
B	11	105.782				
Na	23	102.442				
Mg	24	98.772				
Al	27	87.509				
P	31	102.384				
K	39	108.554				
Ca	43	100.642				
> Sc	45		105.8			
Ti	47	101.049				
V	51	99.451				
Cr	52	103.597				
Cr	53					
Mn	55	105.729				
Fe	57	105.461				
Co	59	101.060				
Ni	60	104.981				
Cu	63					
Cu	65	103.188				
Zn	66	104.157				
Zn	67					
Zn	68					
> Ge	74		106.5			
As	75	95.372				
Se	77					
Se	82	97.843				
Kr	83					
Sr	88	105.436				
Y	89					
Mo	98	100.110				
Ag	107	102.451				
Cd	111	101.608				
Cd	114					
> In	115		101.7			
Sn	120	101.299				
Sb	121	100.693				
Sb	123					
Ba	135					
Ba	137	102.143				
Ho	165					
> Lu	175		98.8			
Tl	205	107.314				
Pb	208	107.112				
Bi	209					
Th	232	100.752				
U	238	104.558				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Al	27	ICV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Sunday, January 24, 2010 15:09:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 2.075

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.001	ug/L	573.967	82	0.000
Be	9	-0.003	ug/L	439.932	14	-0.000
B	11	3.805	ug/L	23.149	1774	0.001
Na	23	-1.495	ug/L	76.476	25356	-0.007
Mg	24	-0.064	ug/L	942.433	8002	-0.000
Al	27	-0.417	ug/L	154.290	7002	-0.002
P	31	-0.108	ug/L	739.865	5006	-0.000
K	39	17.026	ug/L	35.893	589263	0.092
Ca	43	3.038	ug/L	77.152	245	0.000
> Sc	45		ug/L		990428	990428.008
Ti	47	-0.055	ug/L	90.177	261	-0.000
V	51	0.262	ug/L	171.559	582	0.002
Cr	52	0.407	ug/L	12.582	1160	0.002
Cr	53		ug/L		80375	0.008
Mn	55	-0.023	ug/L	14.746	1077	-0.000
Fe	57	4.478	ug/L	13.200	5799	0.001
Co	59	0.002	ug/L	83.803	181	0.000
Ni	60	0.014	ug/L	160.945	176	0.000
Cu	63		ug/L		2330	-0.000
Cu	65	0.021	ug/L	98.247	1168	0.000
Zn	66	-0.247	ug/L	7.999	1485	-0.001
Zn	67		ug/L		7958	0.000
Zn	68		ug/L		1627	-0.001
> Ge	74		ug/L		372843	372843.406
As	75	0.034	ug/L	410.674	-277	0.000
Se	77		ug/L		5326	0.003
Se	82	-0.079	ug/L	371.865	-11	-0.000
Kr	83		ug/L		110	0.000
Sr	88	0.000	ug/L	549.338	241	0.000
Y	89		ug/L		58	-0.000
Mo	98	0.041	ug/L	23.389	211	0.001
Ag	107	0.002	ug/L	3.817	64	0.000
Cd	111	0.007	ug/L	35.165	26	0.000
Cd	114		ug/L		44	-0.000
> In	115		ug/L		242879	242879.139
Sn	120	0.152	ug/L	16.906	2221	0.004
Sb	121	0.939	ug/L	23.263	5105	0.019
Sb	123		ug/L		4046	0.015
Ba	135		ug/L		40	-0.000
Ba	137	-0.000	ug/L	188.979	69	-0.000
Ho	165		ug/L		22	0.000
> Lu	175		ug/L		497307	497306.895
Tl	205	0.006	ug/L	66.310	686	0.000
Pb	208	0.003	ug/L	35.393	1152	0.000
Bi	209		ug/L		107	-0.000
Th	232	0.046	ug/L	15.703	2718	0.004
U	238	0.006	ug/L	27.366	862	0.001

Sample ID: QC Std 2

Report Date/Time: Sunday, January 24, 2010 15:11:56

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		107.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		107.0			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		103.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		98.3			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Sunday, January 24, 2010 15:15:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 3.076

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.909	ug/L	5.250	12807	0.013
Be	9	0.592	ug/L	2.846	232	0.000
B	11	16.845	ug/L	3.036	6561	0.006
Na	23	294.646	ug/L	12.988	1358230	1.357
Mg	24	15.767	ug/L	36.468	60470	0.054
Al	27	31.082	ug/L	8.867	151806	0.146
P	31	59.276	ug/L	2.565	17970	0.013
K	39	316.866	ug/L	6.433	2162233	1.709
Ca	43	225.134	ug/L	6.622	2948	0.003
> Sc	45		ug/L		977603	977603.080
Ti	47	9.440	ug/L	1.158	5418	0.005
V	51	11.659	ug/L	2.810	72888	0.076
Cr	52	11.406	ug/L	2.643	55188	0.057
Cr	53		ug/L		88320	0.017
Mn	55	5.999	ug/L	1.371	50025	0.050
Fe	57	126.300	ug/L	2.079	24918	0.020
Co	59	1.121	ug/L	1.386	7322	0.007
Ni	60	2.227	ug/L	1.764	3257	0.003
Cu	63		ug/L		6176	0.004
Cu	65	1.147	ug/L	2.090	2981	0.002
Zn	66	10.965	ug/L	1.126	13779	0.033
Zn	67		ug/L		9998	0.006
Zn	68		ug/L		9967	0.022
> Ge	74		ug/L		369146	369146.311
As	75	5.684	ug/L	6.882	5821	0.017
Se	77		ug/L		5771	0.004
Se	82	5.508	ug/L	5.202	588	0.002
Kr	83		ug/L		104	0.000
Sr	88	11.522	ug/L	2.918	140443	0.574
Y	89		ug/L		50	-0.000
Mo	98	0.546	ug/L	4.162	1772	0.007
Ag	107	1.057	ug/L	1.828	5752	0.023
Cd	111	1.091	ug/L	3.327	1541	0.006
Cd	114		ug/L		3619	0.015
> In	115		ug/L		244449	244448.718
Sn	120	5.403	ug/L	1.649	33680	0.132
Sb	121	3.279	ug/L	8.040	16676	0.066
Sb	123		ug/L		13141	0.052
Ba	135		ug/L		3268	0.006
Ba	137	2.235	ug/L	2.561	5705	0.011
Ho	165		ug/L		19	-0.000
> Lu	175		ug/L		502235	502234.533
Tl	205	1.243	ug/L	1.110	25602	0.050
Pb	208	2.418	ug/L	0.712	80441	0.158
Bi	209		ug/L		115	0.000
Th	232	1.334	ug/L	1.184	57036	0.112
U	238	0.276	ug/L	0.711	13174	0.025

Sample ID: QC Std 3

Report Date/Time: Sunday, January 24, 2010 15:18:02

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	109.088				
Be	9	118.460				
B	11	112.297				
Na	23	117.858				
Mg	24	105.112				
Al	27	103.607				
P	31	118.552				
K	39	105.622				
Ca	43	112.567				
> Sc	45		105.8			
Ti	47	94.400				
V	51	116.589				
Cr	52	114.058				
Cr	53					
Mn	55	119.983				
Fe	57	126.300				
Co	59	112.140				
Ni	60	111.330				
Cu	63					
Cu	65	114.696				
Zn	66	109.646				
Zn	67					
Zn	68					
> Ge	74		105.9			
As	75	113.682				
Se	77					
Se	82	110.163				
Kr	83					
Sr	88	115.222				
Y	89					
Mo	98	109.152				
Ag	107	105.739				
Cd	111	109.135				
Cd	114					
> In	115		104.1			
Sn	120	108.068				
Sb	121	109.306				
Sb	123					
Ba	135					
Ba	137	111.726				
Ho	165					
> Lu	175		99.3			
Tl	205	124.317				
Pb	208	120.889				
Bi	209					
Th	232	133.376				
U	238	138.029				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Th	232	CRDL is out of limits
QC Std 3	U	238	CRDL is out of limits

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Sunday, January 24, 2010 15:21:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 4.077

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.136	ug/L	16.297	225	0.000
Be	9	0.051	ug/L	34.744	32	0.000
B	11	1.298	ug/L	21.984	784	0.000
Na	23	103517.766	ug/L	5.039	439860848	476.729
Mg	24	97004.475	ug/L	1.723	303870945	329.293
Al	27	94091.943	ug/L	5.515	408593736	442.803
P	31	98463.237	ug/L	2.502	20390353	22.096
K	39	100908.416	ug/L	6.063	502338973	544.154
Ca	43	93272.449	ug/L	1.543	1073166	1.163
> Sc	45		ug/L		922747	922746.814
Ti	47	1477.120	ug/L	1.399	757893	0.821
V	51	0.859	ug/L	55.785	4078	0.006
Cr	52	2.643	ug/L	2.160	11446	0.013
Cr	53		ug/L		71042	0.003
Mn	55	6.054	ug/L	2.041	47628	0.050
Fe	57	95137.944	ug/L	2.395	14151679	15.334
Co	59	0.301	ug/L	3.891	1969	0.002
Ni	60	2.904	ug/L	2.807	3964	0.004
Cu	63		ug/L		8015	0.006
Cu	65	2.387	ug/L	4.441	4713	0.004
Zn	66	2.977	ug/L	4.467	4627	0.009
Zn	67		ug/L		7794	0.002
Zn	68		ug/L		2194	0.001
> Ge	74		ug/L		340993	340993.007
As	75	0.457	ug/L	15.240	168	0.001
Se	77		ug/L		7508	0.011
Se	82	-0.698	ug/L	35.112	-72	-0.000
Kr	83		ug/L		227	0.000
Sr	88	1.262	ug/L	2.074	13880	0.063
Y	89		ug/L		431	0.002
Mo	98	1985.806	ug/L	1.499	5452670	25.064
Ag	107	0.064	ug/L	8.926	354	0.001
Cd	111	0.453	ug/L	16.226	579	0.003
Cd	114		ug/L		7485	0.034
> In	115		ug/L		217545	217545.288
Sn	120	0.101	ug/L	7.995	1715	0.002
Sb	121	0.200	ug/L	21.823	1331	0.004
Sb	123		ug/L		1057	0.003
Ba	135		ug/L		1131	0.002
Ba	137	0.884	ug/L	1.828	2005	0.004
Ho	165		ug/L		1050	0.002
> Lu	175		ug/L		437717	437716.845
Tl	205	0.009	ug/L	5.396	659	0.000
Pb	208	0.202	ug/L	1.909	6690	0.013
Bi	209		ug/L		1226	0.003
Th	232	0.046	ug/L	33.982	2410	0.004
U	238	0.000	ug/L	265.365	542	0.000

Sample ID: QC Std 4

Report Date/Time: Sunday, January 24, 2010 15:24:08

Page 1



# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23	103.518				
Mg	24	97.004				
Al	27	94.092				
P	31	98.463				
K	39	100.908				
Ca	43	93.272				
> Sc	45		99.9			
Ti	47	73.856				
V	51					
Cr	52	71.423				
Cr	53					
Mn	55	104.373				
Fe	57	95.138				
Co	59	120.322				
Ni	60	107.545				
Cu	63					
Cu	65	82.327				
Zn	66	82.686				
Zn	67					
Zn	68					
> Ge	74		97.8			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88	105.153				
Y	89					
Mo	98	99.290				
Ag	107					
Cd	111	113.360				
Cd	114					
> In	115		92.6			
Sn	120					
Sb	121	199.605				
Sb	123					
Ba	135					
Ba	137	131.946				
Ho	165					
> Lu	175		86.5			
Tl	205					
Pb	208	100.832				
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Ti	47	ICSA is out of limits

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Sunday, January 24, 2010 15:27:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 5.078

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	20.247	ug/L	4.582	21838	0.024
Be	9	18.971	ug/L	2.404	6424	0.007
B	11	19.681	ug/L	1.205	7009	0.007
Na	23	106395.057	ug/L	3.845	441418981	489.980
Mg	24	104279.605	ug/L	6.773	318961601	353.989
Al	27	89950.695	ug/L	4.613	381389948	423.314
P	31	99417.120	ug/L	1.314	20103701	22.310
K	39	100661.716	ug/L	2.444	489495592	542.824
Ca	43	95621.967	ug/L	0.532	1074221	1.192
> Sc	45		ug/L		900883	900883.124
Ti	47	1481.323	ug/L	0.975	742114	0.823
V	51	21.357	ug/L	1.104	123887	0.139
Cr	52	23.280	ug/L	0.804	104626	0.117
Cr	53		ug/L		78525	0.014
Mn	55	27.087	ug/L	0.358	204103	0.225
Fe	57	97575.842	ug/L	1.739	14172039	15.727
Co	59	20.241	ug/L	1.232	119158	0.132
Ni	60	22.146	ug/L	2.581	28572	0.032
Cu	63		ug/L		66110	0.071
Cu	65	21.427	ug/L	0.908	33078	0.036
Zn	66	21.701	ug/L	2.876	23277	0.065
Zn	67		ug/L		10663	0.010
Zn	68		ug/L		15204	0.040
> Ge	74		ug/L		336079	336079.356
As	75	20.368	ug/L	2.644	19709	0.059
Se	77		ug/L		8194	0.013
Se	82	19.209	ug/L	2.542	1874	0.006
Kr	83		ug/L		244	0.000
Sr	88	24.183	ug/L	0.902	257260	1.204
Y	89		ug/L		408	0.002
Mo	98	2034.706	ug/L	1.576	5482415	25.681
Ag	107	20.277	ug/L	0.563	95490	0.447
Cd	111	20.227	ug/L	1.024	24685	0.116
Cd	114		ug/L		65368	0.306
> In	115		ug/L		213494	213494.286
Sn	120	20.827	ug/L	0.306	110067	0.510
Sb	121	22.372	ug/L	2.021	96704	0.451
Sb	123		ug/L		75497	0.352
Ba	135		ug/L		26909	0.062
Ba	137	21.494	ug/L	0.470	47041	0.108
Ho	165		ug/L		1079	0.002
> Lu	175		ug/L		435293	435293.481
Tl	205	22.631	ug/L	2.369	395408	0.907
Pb	208	21.800	ug/L	0.362	621314	1.425
Bi	209		ug/L		1613	0.003
Th	232	24.396	ug/L	1.508	892080	2.048
U	238	24.732	ug/L	0.885	975622	2.240

Sample ID: QC Std 5

Report Date/Time: Sunday, January 24, 2010 15:30:15

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovt	Dilution % Dil	Duplicate Rel. % Difference
Li	7	101.236				
Be	9	94.854				
B	11	98.407				
Na	23	106.395				
Mg	24	104.280				
Al	27	89.951				
P	31	99.417				
K	39	100.662				
Ca	43	95.622				
> Sc	45		97.5			
Ti	47	74.066				
V	51	106.787				
Cr	52	98.228				
Cr	53					
Mn	55	104.989				
Fe	57	97.576				
Co	59	99.955				
Ni	60	97.561				
Cu	63					
Cu	65	93.566				
Zn	66	91.954				
Zn	67					
Zn	68					
> Ge	74		96.4			
As	75	101.838				
Se	77					
Se	82	96.044				
Kr	83					
Sr	88	114.072				
Y	89					
Mo	98	101.735				
Ag	107	101.387				
Cd	111	99.153				
Cd	114					
> In	115		90.9			
Sn	120	104.133				
Sb	121	111.306				
Sb	123					
Ba	135					
Ba	137	103.988				
Ho	165					
> Lu	175		86.1			
Tl	205	113.157				
Pb	208	107.923				
Bi	209					
Th	232	121.979				
U	238	123.662				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Ti	47	ICSAB is out of limits
QC Std 5	Th	232	ICSAB is out of limits
QC Std 5	U	238	ICSAB is out of limits

## QC Action

Sample ID: QC Std 5  
Report Date/Time: Sunday, January 24, 2010 15:30:15  
Page 3

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Sunday, January 24, 2010 15:33:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 6.079

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	48.588	ug/L	7.478	56100	0.058
Be	9	49.650	ug/L	4.874	18013	0.019
B	11	97.157	ug/L	2.807	35759	0.037
Na	23	5277.724	ug/L	6.434	23527803	24.305
Mg	24	4800.171	ug/L	2.636	15763198	16.295
Al	27	4664.435	ug/L	1.612	21233384	21.951
P	31	5117.575	ug/L	1.272	1115232	1.148
K	39	5181.371	ug/L	1.874	27495687	27.941
Ca	43	4998.650	ug/L	1.762	60465	0.062
> Sc	45		ug/L		966799	966798.907
Ti	47	51.922	ug/L	2.508	28187	0.029
V	51	50.529	ug/L	1.414	316021	0.328
Cr	52	51.194	ug/L	0.195	247932	0.257
Cr	53		ug/L		111262	0.041
Mn	55	52.523	ug/L	2.476	423475	0.437
Fe	57	5286.483	ug/L	1.968	828547	0.852
Co	59	50.810	ug/L	1.937	320703	0.332
Ni	60	52.345	ug/L	2.205	72255	0.075
Cu	63		ug/L		171796	0.175
Cu	65	50.572	ug/L	2.492	82259	0.084
Zn	66	51.257	ug/L	0.674	57658	0.152
Zn	67		ug/L		16518	0.024
Zn	68		ug/L		40007	0.104
> Ge	74		ug/L		366843	366843.136
As	75	47.725	ug/L	1.231	50824	0.139
Se	77		ug/L		10114	0.016
Se	82	49.253	ug/L	2.644	5251	0.014
Kr	83		ug/L		90	-0.000
Sr	88	51.306	ug/L	1.316	610804	2.554
Y	89		ug/L		117	0.000
Mo	98	48.844	ug/L	2.027	147414	0.616
Ag	107	51.019	ug/L	1.035	268920	1.125
Cd	111	49.589	ug/L	2.004	67719	0.283
Cd	114		ug/L		163729	0.685
> In	115		ug/L		239018	239018.012
Sn	120	49.713	ug/L	2.736	292285	1.218
Sb	121	48.078	ug/L	7.133	232025	0.969
Sb	123		ug/L		182786	0.763
Ba	135		ug/L		71799	0.145
Ba	137	50.581	ug/L	0.833	125605	0.254
Ho	165		ug/L		46	0.000
> Lu	175		ug/L		494266	494266.017
Tl	205	53.341	ug/L	1.189	1057505	2.138
Pb	208	52.927	ug/L	0.572	1711293	3.460
Bi	209		ug/L		419	0.001
Th	232	51.345	ug/L	1.742	2131049	4.310
U	238	52.638	ug/L	0.993	2357079	4.768

Sample ID: QC Std 6

Report Date/Time: Sunday, January 24, 2010 15:36:22

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	97.175				
Be	9	99.300				
B	11	97.157				
Na	23	105.554				
Mg	24	96.003				
Al	27	92.365				
P	31	102.352				
K	39	103.627				
Ca	43	99.973				
> Sc	45		104.7			
Ti	47	103.843				
V	51	101.059				
Cr	52	102.388				
Cr	53					
Mn	55	105.047				
Fe	57	105.730				
Co	59	101.619				
Ni	60	104.691				
Cu	63					
Cu	65	101.143				
Zn	66	102.514				
Zn	67					
Zn	68					
> Ge	74		105.2			
As	75	95.450				
Se	77					
Se	82	98.507				
Kr	83					
Sr	88	102.612				
Y	89					
Mo	98	97.688				
Ag	107	102.038				
Cd	111	99.178				
Cd	114					
> In	115		101.8			
Sn	120	99.427				
Sb	121	96.156				
Sb	123					
Ba	135					
Ba	137	101.162				
Ho	165					
> Lu	175		97.7			
Tl	205	106.683				
Pb	208	105.854				
Bi	209					
Th	232	102.689				
U	238	105.275				

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Sunday, January 24, 2010 15:39:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 7.080

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.015	ug/L	46.487	96	0.000
Be	9	0.014	ug/L	74.401	20	0.000
B	11	2.379	ug/L	22.238	1210	0.001
Na	23	0.838	ug/L	67.367	35043	0.004
Mg	24	0.408	ug/L	186.551	9337	0.001
Al	27	1.319	ug/L	41.725	14674	0.006
P	31	0.092	ug/L	1569.212	4912	0.000
K	39	13.383	ug/L	25.486	554220	0.072
Ca	43	3.083	ug/L	61.960	239	0.000
> Sc	45		ug/L		963219	963218.666
Ti	47	0.183	ug/L	14.920	381	0.000
V	51	0.407	ug/L	52.131	1460	0.003
Cr	52	0.301	ug/L	11.390	614	0.002
Cr	53		ug/L		83521	0.013
Mn	55	-0.026	ug/L	6.507	1024	-0.000
Fe	57	8.144	ug/L	14.349	6209	0.001
Co	59	0.000	ug/L	376.990	168	0.000
Ni	60	0.020	ug/L	39.261	181	0.000
Cu	63		ug/L		2265	-0.000
Cu	65	0.007	ug/L	114.438	1115	0.000
Zn	66	-0.403	ug/L	8.301	1295	-0.001
Zn	67		ug/L		7813	-0.000
Zn	68		ug/L		1499	-0.001
> Ge	74		ug/L		368119	368118.892
As	75	-0.022	ug/L	1058.670	-332	-0.000
Se	77		ug/L		6184	0.006
Se	82	0.016	ug/L	1093.427	-1	0.000
Kr	83		ug/L		90	-0.000
Sr	88	0.001	ug/L	318.896	243	0.000
Y	89		ug/L		44	-0.000
Mo	98	0.102	ug/L	16.626	398	0.001
Ag	107	0.003	ug/L	46.741	71	0.000
Cd	111	0.011	ug/L	50.857	32	0.000
Cd	114		ug/L		55	0.000
> In	115		ug/L		241294	241294.299
Sn	120	0.078	ug/L	41.749	1767	0.002
Sb	121	0.749	ug/L	24.779	4148	0.015
Sb	123		ug/L		3310	0.012
Ba	135		ug/L		52	0.000
Ba	137	0.004	ug/L	50.959	78	0.000
Ho	165		ug/L		23	0.000
> Lu	175		ug/L		492339	492339.206
Tl	205	0.015	ug/L	42.483	849	0.001
Pb	208	0.002	ug/L	54.008	1103	0.000
Bi	209		ug/L		105	-0.000
Th	232	0.044	ug/L	14.106	2609	0.004
U	238	0.005	ug/L	7.361	820	0.000

Sample ID: QC Std 7

Report Date/Time: Sunday, January 24, 2010 15:42:31

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		104.3			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		105.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		102.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		97.3			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Sunday, January 24, 2010 15:45:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 10.081

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	916.934	ug/L	5.917	960504	1.094
Be	9	954.984	ug/L	3.180	314355	0.358
B	11	0.838	ug/L	21.997	593	0.000
Na	23	50774.149	ug/L	1.728	205206070	233.829
Mg	24	48486.391	ug/L	3.218	144390144	164.593
Al	27	49412.765	ug/L	7.763	204028409	232.540
P	31	25413.554	ug/L	2.277	5007356	5.703
K	39	52787.059	ug/L	1.505	250174577	284.657
Ca	43	48533.021	ug/L	1.279	531044	0.605
> Sc	45		ug/L		877397	877396.698
Ti	47	39.831	ug/L	3.838	19684	0.022
V	51	929.542	ug/L	2.191	5292796	6.035
Cr	52	935.113	ug/L	1.612	4122830	4.700
Cr	53		ug/L		590499	0.599
Mn	55	924.083	ug/L	0.658	6744107	7.686
Fe	57	49855.031	ug/L	1.511	7053897	8.035
Co	59	890.927	ug/L	1.739	5101361	5.815
Ni	60	885.134	ug/L	1.900	1106703	1.261
Cu	63		ug/L		2675407	3.047
Cu	65	857.180	ug/L	1.132	1249581	1.423
Zn	66	2127.247	ug/L	9.039	2107460	6.327
Zn	67		ug/L		351145	1.034
Zn	68		ug/L		1444793	4.338
> Ge	74		ug/L		332685	332685.177
As	75	878.854	ug/L	0.291	853662	2.567
Se	77		ug/L		38405	0.104
Se	82	464.254	ug/L	0.193	44902	0.135
Kr	83		ug/L		153	0.000
Sr	88	976.205	ug/L	1.419	10132490	48.605
Y	89		ug/L		411	0.002
Mo	98	1049.270	ug/L	2.883	2760196	13.244
Ag	107	236.948	ug/L	1.934	1088937	5.224
Cd	111	912.882	ug/L	1.660	1087101	5.215
Cd	114		ug/L		2717907	13.041
> In	115		ug/L		208492	208491.585
Sn	120	967.476	ug/L	2.458	4940251	23.698
Sb	121	237.401	ug/L	7.143	996991	4.784
Sb	123		ug/L		795788	3.819
Ba	135		ug/L		1202103	2.692
Ba	137	864.453	ug/L	0.694	1938621	4.341
Ho	165		ug/L		347	0.001
> Lu	175		ug/L		446627	446627.417
Tl	205	468.454	ug/L	1.070	8387864	18.781
Pb	208	4847.450	ug/L	1.070	141533712	316.915
Bi	209		ug/L		4072	0.009
Th	232	2626.592	ug/L	0.637	98477423	220.480
U	238	5374.484	ug/L	2.063	217387867	486.799

Sample ID: QC Std 10

Report Date/Time: Sunday, January 24, 2010 15:48:36

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Li	7	91.693				
Be	9	95.498				
B	11					
Na	23	101.548				
Mg	24	96.973				
Al	27	98.826				
P	31	101.654				
K	39	105.574				
Ca	43	97.066				
> Sc	45		95.0			
Ti	47					
V	51	92.954				
Cr	52	93.511				
Cr	53					
Mn	55	92.408				
Fe	57	99.710				
Co	59	89.093				
Ni	60	88.513				
Cu	63					
Cu	65	85.718				
Zn	66	85.090				
Zn	67					
Zn	68					
> Ge	74		95.4			
As	75	87.885				
Se	77					
Se	82	92.851				
Kr	83					
Sr	88	97.620				
Y	89					
Mo	98	104.927				
Ag	107	94.779				
Cd	111	91.288				
Cd	114					
> In	115		88.8			
Sn	120	96.748				
Sb	121	94.960				
Sb	123					
Ba	135					
Ba	137	86.445				
Ho	165					
> Lu	175		88.3			
Tl	205	93.691				
Pb	208	96.949				
Bi	209					
Th	232	105.064				
U	238	107.490				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 10	Co	59LRS	is out of limits (+/- 10%)
QC Std 10	Ni	60LRS	is out of limits (+/- 10%)
QC Std 10	Cu	65LRS	is out of limits (+/- 10%)
QC Std 10	Zn	66LRS	is out of limits (+/- 10%)
QC Std 10	As	75LRS	is out of limits (+/- 10%)
QC Std 10	Ba	137LRS	is out of limits (+/- 10%)

Sample ID: QC Std 10

Report Date/Time: Sunday, January 24, 2010 15:48:36

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## QC Action

QC Action Line: Continue



## ICPMS#5 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Sunday, January 24, 2010 15:51:59

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 11.082

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	47.887	ug/L	7.761	52894	0.057
Be	9	48.176	ug/L	3.255	16717	0.018
B	11	97.837	ug/L	1.985	34433	0.037
Na	23	5562.174	ug/L	9.674	23703093	25.615
Mg	24	5642.483	ug/L	11.860	17708478	19.154
Al	27	4828.053	ug/L	4.480	21009669	22.721
P	31	5189.396	ug/L	1.657	1081201	1.165
K	39	5167.390	ug/L	6.246	26229439	27.865
Ca	43	5031.800	ug/L	0.328	58186	0.063
> Sc	45		ug/L		924404	924404.426
Ti	47	51.004	ug/L	2.182	26481	0.028
V	51	50.921	ug/L	1.568	304547	0.331
Cr	52	51.869	ug/L	0.875	240196	0.261
Cr	53		ug/L		103862	0.039
Mn	55	53.194	ug/L	1.524	410138	0.442
Fe	57	5311.644	ug/L	0.668	796124	0.856
Co	59	50.988	ug/L	1.419	307785	0.333
Ni	60	52.378	ug/L	1.071	69147	0.075
Cu	63		ug/L		166437	0.178
Cu	65	51.233	ug/L	1.822	79679	0.085
Zn	66	50.952	ug/L	1.307	55299	0.152
Zn	67		ug/L		16171	0.024
Zn	68		ug/L		39174	0.106
> Ge	74		ug/L		353884	353883.538
As	75	48.416	ug/L	1.456	49746	0.141
Se	77		ug/L		8717	0.013
Se	82	48.877	ug/L	0.864	5027	0.014
Kr	83		ug/L		91	0.000
Sr	88	51.607	ug/L	1.562	597519	2.569
Y	89		ug/L		73	0.000
Mo	98	49.479	ug/L	2.479	145246	0.625
Ag	107	50.472	ug/L	1.061	258724	1.113
Cd	111	49.913	ug/L	0.247	66300	0.285
Cd	114		ug/L		159925	0.688
> In	115		ug/L		232451	232451.201
Sn	120	52.490	ug/L	1.770	300118	1.286
Sb	121	51.543	ug/L	5.602	241942	1.039
Sb	123		ug/L		189536	0.814
Ba	135		ug/L		70902	0.145
Ba	137	50.180	ug/L	1.709	122950	0.252
Ho	165		ug/L		41	0.000
> Lu	175		ug/L		487745	487745.346
Tl	205	53.879	ug/L	2.507	1053862	2.160
Pb	208	53.249	ug/L	1.417	1698809	3.481
Bi	209		ug/L		433	0.001
Th	232	52.674	ug/L	1.837	2157078	4.422
U	238	54.083	ug/L	2.575	2389334	4.899

Sample ID: QC Std 11

Report Date/Time: Sunday, January 24, 2010 15:54:41

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	95.773				
Be	9	96.352				
B	11	97.837				
Na	23	111.243				
Mg	24	112.850				
Al	27	95.605				
P	31	103.788				
K	39	103.348				
Ca	43	100.636				
> Sc	45		100.1			
Ti	47	102.007				
V	51	101.842				
Cr	52	103.738				
Cr	53					
Mn	55	106.389				
Fe	57	106.233				
Co	59	101.976				
Ni	60	104.756				
Cu	63					
Cu	65	102.465				
Zn	66	101.904				
Zn	67					
Zn	68					
> Ge	74		101.5			
As	75	96.833				
Se	77					
Se	82	97.754				
Kr	83					
Sr	88	103.214				
Y	89					
Mo	98	98.959				
Ag	107	100.943				
Cd	111	99.826				
Cd	114					
> In	115		99.0			
Sn	120	104.980				
Sb	121	103.087				
Sb	123					
Ba	135					
Ba	137	100.361				
Ho	165					
> Lu	175		96.4			
Tl	205	107.758				
Pb	208	106.498				
Bi	209					
Th	232	105.349				
U	238	108.166				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	Na	23	CCV is out of limits (+/- 10%)
QC Std 11	Mg	24	CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Sunday, January 24, 2010 15:58:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 12.083

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.075	ug/L	31.488	162	0.000
Be	9	0.002	ug/L	413.389	15	0.000
B	11	2.337	ug/L	24.929	1175	0.001
Na	23	-0.333	ug/L	556.246	29365	-0.002
Mg	24	-0.166	ug/L	287.072	7335	-0.001
Al	27	-0.123	ug/L	186.184	8002	-0.001
P	31	0.118	ug/L	1104.990	4839	0.000
K	39	20.770	ug/L	10.308	582995	0.112
Ca	43	1.666	ug/L	84.023	218	0.000
> Sc	45		ug/L		947614	947613.851
Ti	47	-0.036	ug/L	75.768	260	-0.000
V	51	0.192	ug/L	229.555	108	0.001
Cr	52	0.275	ug/L	9.837	479	0.001
Cr	53		ug/L		77647	0.008
Mn	55	-0.018	ug/L	15.353	1068	-0.000
Fe	57	3.479	ug/L	4.734	5396	0.001
Co	59	0.016	ug/L	25.651	259	0.000
Ni	60	0.010	ug/L	114.280	164	0.000
Cu	63		ug/L		2282	0.000
Cu	65	0.027	ug/L	155.510	1128	0.000
Zn	66	-0.473	ug/L	9.416	1176	-0.001
Zn	67		ug/L		7696	0.000
Zn	68		ug/L		1440	-0.001
> Ge	74		ug/L		355071	355071.079
As	75	0.159	ug/L	171.147	-134	0.000
Se	77		ug/L		5422	0.004
Se	82	-0.042	ug/L	49.325	-7	-0.000
Kr	83		ug/L		87	0.000
Sr	88	0.003	ug/L	55.150	261	0.000
Y	89		ug/L		52	-0.000
Mo	98	0.131	ug/L	16.374	477	0.002
Ag	107	0.004	ug/L	61.190	75	0.000
Cd	111	0.014	ug/L	26.967	35	0.000
Cd	114		ug/L		66	0.000
> In	115		ug/L		237091	237090.804
Sn	120	0.850	ug/L	13.079	6212	0.021
Sb	121	1.497	ug/L	19.896	7633	0.030
Sb	123		ug/L		5882	0.023
Ba	135		ug/L		59	0.000
Ba	137	0.001	ug/L	175.186	74	0.000
Ho	165		ug/L		19	-0.000
> Lu	175		ug/L		500724	500724.334
Tl	205	0.030	ug/L	20.883	1173	0.001
Pb	208	0.013	ug/L	27.074	1475	0.001
Bi	209		ug/L		99	-0.000
Th	232	0.103	ug/L	10.858	5142	0.009
U	238	0.049	ug/L	15.790	2833	0.004

Sample ID: QC Std 12

Report Date/Time: Sunday, January 24, 2010 16:00:50

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Li	7						
	Be	9						
	B	11						
	Na	23						
	Mg	24						
	Al	27						
	P	31						
	K	39						
	Ca	43						
>	Sc	45		102.6				
	Ti	47						
	V	51						
	Cr	52						
	Cr	53						
	Mn	55						
	Fe	57						
	Co	59						
	Ni	60						
	Cu	63						
	Cu	65						
[	Zn	66						
	Zn	67						
	Zn	68						
>	Ge	74		101.9				
	As	75						
	Se	77						
	Se	82						
	Kr	83						
[	Sr	88						
	Y	89						
	Mo	98						
	Ag	107						
	Cd	111						
	Cd	114						
>	In	115		100.9				
	Sn	120						
	Sb	121						
	Sb	123						
[	Ba	135						
	Ba	137						
	Ho	165						
>	Lu	175		99.0				
	Tl	205						
	Pb	208						
	Bi	209						
	Th	232						
	U	238						

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits	Message
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## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017705

Sample Date/Time: Sunday, January 24, 2010 16:04:15

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017705.084

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.123	ug/L	11.793	207	0.000
Be	9	-0.000	ug/L	307.900	14	-0.000
B	11	0.959	ug/L	14.599	656	0.000
Na	23	1.517	ug/L	147.034	36048	0.007
Mg	24	-1.264	ug/L	52.473	3667	-0.004
Al	27	0.885	ug/L	55.809	12005	0.004
P	31	0.446	ug/L	104.318	4720	0.000
K	39	33.023	ug/L	24.225	620918	0.178
Ca	43	11.571	ug/L	28.089	322	0.000
> Sc	45		ug/L		911040	911040.017
Ti	47	0.203	ug/L	26.878	371	0.000
V	51	-1.894	ug/L	36.200	-12245	-0.012
Cr	52	0.218	ug/L	10.288	199	0.001
Cr	53		ug/L		183647	0.128
Mn	55	0.081	ug/L	7.178	1773	0.001
Fe	57	9.529	ug/L	1.843	6076	0.002
Co	59	0.006	ug/L	22.743	194	0.000
Ni	60	0.015	ug/L	61.543	164	0.000
Cu	63		ug/L		2437	0.000
Cu	65	0.096	ug/L	50.938	1187	0.000
Zn	66	0.499	ug/L	6.750	2157	0.001
Zn	67		ug/L		27905	0.059
Zn	68		ug/L		3037	0.004
> Ge	74		ug/L		347696	347696.338
As	75	-0.228	ug/L	76.104	-524	-0.001
Se	77		ug/L		15047	0.032
Se	82	0.073	ug/L	189.641	5	0.000
Kr	83		ug/L		81	-0.000
Sr	88	0.020	ug/L	11.082	441	0.001
Y	89		ug/L		49	-0.000
Mo	98	0.058	ug/L	4.274	241	0.001
Ag	107	0.000	ug/L	811.234	50	0.000
Cd	111	0.015	ug/L	60.394	34	0.000
Cd	114		ug/L		9	-0.000
> In	115		ug/L		221463	221462.777
Sn	120	1.813	ug/L	39.884	11028	0.044
Sb	121	0.796	ug/L	23.659	4015	0.016
Sb	123		ug/L		3159	0.013
Ba	135		ug/L		75	0.000
Ba	137	0.020	ug/L	9.753	112	0.000
Ho	165		ug/L		22	0.000
> Lu	175		ug/L		468060	468060.172
Tl	205	-0.003	ug/L	24.252	474	-0.000
Pb	208	0.005	ug/L	23.478	1129	0.000
Bi	209		ug/L		98	-0.000
Th	232	0.125	ug/L	14.429	5650	0.010
U	238	0.012	ug/L	11.928	1067	0.001

Sample ID: 1202017705

Report Date/Time: Sunday, January 24, 2010 16:06:59

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		98.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		94.3			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		92.5			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017706

Sample Date/Time: Sunday, January 24, 2010 16:10:24

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017706.085

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	47.068	ug/L	7.272	51535	0.056
Be	9	52.755	ug/L	1.805	18148	0.020
B	11	110.561	ug/L	0.122	38536	0.042
Na	23	2102.917	ug/L	6.957	8903267	9.685
Mg	24	2102.112	ug/L	6.360	6548573	7.136
Al	27	1874.623	ug/L	7.459	8095700	8.822
P	31	2140.055	ug/L	0.563	444776	0.480
K	39	2003.364	ug/L	10.370	10361759	10.803
Ca	43	1991.886	ug/L	0.457	22951	0.025
> Sc	45		ug/L		916434	916434.217
Ti	47	46.339	ug/L	2.141	23874	0.026
V	51	46.496	ug/L	1.364	275568	0.302
Cr	52	50.765	ug/L	1.304	233051	0.255
Cr	53		ug/L		219903	0.166
Mn	55	52.231	ug/L	1.828	399231	0.434
Fe	57	2176.940	ug/L	0.971	326259	0.351
Co	59	50.508	ug/L	0.325	302253	0.330
Ni	60	51.084	ug/L	0.429	66858	0.073
Cu	63		ug/L		162416	0.175
Cu	65	51.011	ug/L	1.852	78652	0.085
Zn	66	50.843	ug/L	0.937	54140	0.151
Zn	67		ug/L		39380	0.092
Zn	68		ug/L		38692	0.106
> Ge	74		ug/L		347169	347168.537
As	75	49.266	ug/L	0.767	49662	0.144
Se	77		ug/L		19221	0.044
Se	82	50.662	ug/L	1.743	5111	0.015
Kr	83		ug/L		96	0.000
Sr	88	52.558	ug/L	0.241	577159	2.617
Y	89		ug/L		73	0.000
Mo	98	50.555	ug/L	1.219	140757	0.638
Ag	107	52.497	ug/L	0.746	255233	1.157
Cd	111	49.979	ug/L	1.667	62963	0.286
Cd	114		ug/L		153142	0.694
> In	115		ug/L		220474	220473.831
Sn	120	52.036	ug/L	0.586	282212	1.275
Sb	121	56.081	ug/L	1.220	249635	1.130
Sb	123		ug/L		195422	0.885
Ba	135		ug/L		66367	0.141
Ba	137	49.266	ug/L	3.029	116227	0.247
Ho	165		ug/L		35	0.000
> Lu	175		ug/L		469724	469724.476
Tl	205	51.689	ug/L	2.227	973722	2.072
Pb	208	53.443	ug/L	1.899	1641867	3.494
Bi	209		ug/L		1305756	2.780
Th	232	51.118	ug/L	2.392	2015837	4.291
U	238	52.656	ug/L	3.651	2239982	4.769

Sample ID: 1202017706

Report Date/Time: Sunday, January 24, 2010 16:13:08

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		99.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		93.9			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		92.9			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 16:47:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.091

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	55.532	ug/L	5.107	59217	0.066
Be	9	55.569	ug/L	2.834	18619	0.021
B	11	106.623	ug/L	1.303	36213	0.040
Na	23	4768.437	ug/L	0.932	19632471	21.960
Mg	24	4909.861	ug/L	3.159	14889698	16.667
Al	27	4556.610	ug/L	1.703	19150035	21.444
P	31	5012.287	ug/L	0.895	1008620	1.125
K	39	5095.009	ug/L	10.527	24963190	27.475
Ca	43	4976.074	ug/L	0.832	55575	0.062
> Sc	45		ug/L		892740	892739.722
Ti	47	50.039	ug/L	2.957	25092	0.028
V	51	50.117	ug/L	1.110	289433	0.325
Cr	52	50.932	ug/L	0.790	227759	0.256
Cr	53		ug/L		110605	0.050
Mn	55	52.930	ug/L	1.153	394114	0.440
Fe	57	5370.968	ug/L	1.231	777333	0.866
Co	59	50.948	ug/L	1.440	296995	0.333
Ni	60	51.894	ug/L	1.129	66159	0.074
Cu	63		ug/L		158504	0.175
Cu	65	50.443	ug/L	0.749	75781	0.084
Zn	66	51.506	ug/L	2.262	53462	0.153
Zn	67		ug/L		16653	0.028
Zn	68		ug/L		37489	0.106
> Ge	74		ug/L		338600	338600.128
As	75	47.632	ug/L	1.837	46820	0.139
Se	77		ug/L		9624	0.017
Se	82	49.316	ug/L	1.422	4852	0.014
Kr	83		ug/L		99	0.000
Sr	88	51.925	ug/L	1.441	583529	2.585
Y	89		ug/L		114	0.000
Mo	98	49.341	ug/L	0.421	140597	0.623
Ag	107	49.986	ug/L	0.666	248708	1.102
Cd	111	49.987	ug/L	0.764	64451	0.286
Cd	114		ug/L		156232	0.692
> In	115		ug/L		225631	225630.804
Sn	120	50.895	ug/L	1.604	282519	1.247
Sb	121	47.815	ug/L	8.578	217946	0.964
Sb	123		ug/L		170819	0.755
Ba	135		ug/L		70201	0.143
Ba	137	49.118	ug/L	1.338	121321	0.247
Ho	165		ug/L		50	0.000
> Lu	175		ug/L		491708	491708.149
Tl	205	53.990	ug/L	1.485	1064651	2.164
Pb	208	52.930	ug/L	2.085	1702106	3.460
Bi	209		ug/L		416	0.001
Th	232	50.198	ug/L	1.673	2072219	4.214
U	238	51.827	ug/L	2.639	2308015	4.694

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 16:50:04

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	111.064				
Be	9	111.138				
B	11	106.623				
Na	23	95.369				
Mg	24	98.197				
Al	27	90.230				
P	31	100.246				
K	39	101.900				
Ca	43	99.521				
> Sc	45		96.7			
Ti	47	100.078				
V	51	100.235				
Cr	52	101.865				
Cr	53					
Mn	55	105.861				
Fe	57	107.419				
Co	59	101.896				
Ni	60	103.787				
Cu	63					
Cu	65	100.885				
Zn	66	103.012				
Zn	67					
Zn	68					
> Ge	74		97.1			
As	75	95.263				
Se	77					
Se	82	98.632				
Kr	83					
Sr	88	103.850				
Y	89					
Mo	98	98.682				
Ag	107	99.971				
Cd	111	99.973				
Cd	114					
> In	115		96.1			
Sn	120	101.789				
Sb	121	95.631				
Sb	123					
Ba	135					
Ba	137	98.235				
Ho	165					
> Lu	175		97.2			
Tl	205	107.980				
Pb	208	105.859				
Bi	209					
Th	232	100.396				
U	238	103.654				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Li	7	7CCV is out of limits (+/- 10%)
QC Std 8	Be	9	9CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 16:53:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.092

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.002	ug/L	540.321	75	0.000
Be	9	0.005	ug/L	256.726	15	0.000
B	11	2.428	ug/L	26.094	1157	0.001
Na	23	0.843	ug/L	76.113	33038	0.004
Mg	24	-0.713	ug/L	95.559	5334	-0.002
Al	27	-0.279	ug/L	167.968	7002	-0.001
P	31	0.091	ug/L	1440.603	4631	0.000
K	39	8.104	ug/L	18.995	496482	0.044
Ca	43	0.699	ug/L	361.534	198	0.000
> Sc	45		ug/L		907773	907772.729
Ti	47	-0.063	ug/L	21.433	235	-0.000
V	51	-0.111	ug/L	113.503	-1675	-0.001
Cr	52	0.488	ug/L	12.774	1430	0.002
Cr	53		ug/L		80317	0.015
Mn	55	-0.011	ug/L	64.462	1077	-0.000
Fe	57	3.366	ug/L	15.885	5152	0.001
Co	59	0.004	ug/L	58.337	180	0.000
Ni	60	0.006	ug/L	239.510	151	0.000
Cu	63		ug/L		2107	-0.000
Cu	65	-0.006	ug/L	108.449	1030	-0.000
Zn	66	-0.532	ug/L	5.862	1082	-0.002
Zn	67		ug/L		7698	0.001
Zn	68		ug/L		1383	-0.001
> Ge	74		ug/L		345092	345092.355
As	75	-0.055	ug/L	591.706	-347	-0.000
Se	77		ug/L		5803	0.006
Se	82	-0.120	ug/L	63.387	-14	-0.000
Kr	83		ug/L		86	0.000
Sr	88	0.001	ug/L	109.003	237	0.000
Y	89		ug/L		49	-0.000
Mo	98	0.030	ug/L	23.856	169	0.000
Ag	107	0.003	ug/L	90.897	67	0.000
Cd	111	0.001	ug/L	295.268	18	0.000
Cd	114		ug/L		68	0.000
> In	115		ug/L		230148	230147.883
Sn	120	0.051	ug/L	52.884	1534	0.001
Sb	121	0.784	ug/L	26.723	4124	0.016
Sb	123		ug/L		3271	0.013
Ba	135		ug/L		48	0.000
Ba	137	-0.001	ug/L	81.614	67	-0.000
Ho	165		ug/L		20	-0.000
> Lu	175		ug/L		497399	497398.840
Tl	205	0.048	ug/L	13.392	1526	0.002
Pb	208	0.005	ug/L	33.149	1216	0.000
Bi	209		ug/L		91	-0.000
Th	232	0.048	ug/L	18.822	2793	0.004
U	238	0.009	ug/L	24.448	1014	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 16:56:13

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Li	7						
	Be	9						
	B	11						
	Na	23						
	Mg	24						
	Al	27						
	P	31						
	K	39						
	Ca	43						
>	Sc	45		98.3				
	Ti	47						
	V	51						
	Cr	52						
	Cr	53						
	Mn	55						
	Fe	57						
	Co	59						
	Ni	60						
	Cu	63						
	Cu	65						
[	Zn	66						
	Zn	67						
	Zn	68						
>	Ge	74		99.0				
	As	75						
	Se	77						
	Se	82						
	Kr	83						
[	Sr	88						
	Y	89						
	Mo	98						
	Ag	107						
	Cd	111						
	Cd	114						
>	In	115		98.0				
	Sn	120						
	Sb	121						
	Sb	123						
[	Ba	135						
	Ba	137						
	Ho	165						
>	Lu	175		98.3				
	Tl	205						
	Pb	208						
	Bi	209						
	Th	232						
	U	238						

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244849001

Sample Date/Time: Sunday, January 24, 2010 17:18:09

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\244849001.096

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.149	ug/L	8.750	243	0.000
Be	9	-0.002	ug/L	1025.809	14	-0.000
B	11	20.817	ug/L	2.976	7728	0.008
Na	23	85.014	ug/L	14.390	399584	0.392
Mg	24	4.229	ug/L	42.756	21350	0.014
Al	27	15.115	ug/L	11.825	75534	0.071
P	31	0.826	ug/L	123.366	4957	0.000
K	39	184.497	ug/L	3.361	1410753	0.995
Ca	43	32.489	ug/L	6.788	579	0.000
> Sc	45		ug/L		941585	941585.462
Ti	47	0.721	ug/L	12.423	655	0.000
V	51	-3.185	ug/L	36.758	-20474	-0.021
Cr	52	1.456	ug/L	5.429	6064	0.007
Cr	53		ug/L		256348	0.199
Mn	55	1.273	ug/L	3.568	11169	0.011
Fe	57	22.147	ug/L	5.847	8194	0.004
Co	59	0.000	ug/L	5759.364	162	0.000
Ni	60	0.097	ug/L	4.701	280	0.000
Cu	63		ug/L		2967	0.001
Cu	65	0.232	ug/L	7.996	1441	0.000
Zn	66	0.801	ug/L	7.964	2532	0.002
Zn	67		ug/L		33270	0.072
Zn	68		ug/L		3384	0.004
> Ge	74		ug/L		356742	356741.886
As	75	-0.134	ug/L	533.410	-444	-0.000
Se	77		ug/L		25403	0.060
Se	82	-0.010	ug/L	872.381	-3	-0.000
Kr	83		ug/L		92	0.000
Sr	88	0.151	ug/L	1.993	1928	0.008
Y	89		ug/L		251	0.001
Mo	98	0.019	ug/L	8.839	135	0.000
Ag	107	-0.001	ug/L	93.646	46	-0.000
Cd	111	0.007	ug/L	87.260	25	0.000
Cd	114		ug/L		30	-0.000
> In	115		ug/L		227151	227151.208
Sn	120	1.633	ug/L	0.558	10317	0.040
Sb	121	-0.027	ug/L	10.814	352	-0.001
Sb	123		ug/L		298	-0.000
Ba	135		ug/L		599	0.001
Ba	137	0.395	ug/L	6.657	1044	0.002
Ho	165		ug/L		28	0.000
> Lu	175		ug/L		491952	491952.146
Tl	205	-0.003	ug/L	54.667	490	-0.000
Pb	208	0.032	ug/L	4.705	2077	0.002
Bi	209		ug/L		130	0.000
Th	232	-0.000	ug/L	143.576	777	-0.000
U	238	-0.007	ug/L	2.866	274	-0.001

Sample ID: 244849001

Report Date/Time: Sunday, January 24, 2010 17:20:54

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		101.9			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		102.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		96.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		97.3			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 17:42:48

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.100

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	50.730	ug/L	3.965	57307	0.061
Be	9	51.510	ug/L	1.385	18274	0.019
B	11	101.410	ug/L	3.102	36467	0.038
Na	23	5543.014	ug/L	6.075	24151056	25.527
Mg	24	5004.982	ug/L	6.526	16057937	16.990
Al	27	4784.768	ug/L	13.732	21255756	22.517
P	31	5078.160	ug/L	2.758	1081421	1.140
K	39	4912.889	ug/L	4.915	25505868	26.493
Ca	43	5015.841	ug/L	2.294	59290	0.063
> Sc	45		ug/L		945067	945066.701
Ti	47	50.579	ug/L	2.251	26843	0.028
V	51	49.899	ug/L	4.663	304919	0.324
Cr	52	50.846	ug/L	2.774	240630	0.256
Cr	53		ug/L		124077	0.058
Mn	55	52.826	ug/L	1.428	416396	0.439
Fe	57	5243.904	ug/L	1.853	803469	0.845
Co	59	50.274	ug/L	3.000	310141	0.328
Ni	60	51.155	ug/L	2.303	69027	0.073
Cu	63		ug/L		165564	0.173
Cu	65	50.491	ug/L	2.203	80285	0.084
Zn	66	51.626	ug/L	2.913	56367	0.154
Zn	67		ug/L		17796	0.029
Zn	68		ug/L		39358	0.106
> Ge	74		ug/L		356245	356244.841
As	75	47.675	ug/L	1.236	49296	0.139
Se	77		ug/L		11162	0.020
Se	82	50.108	ug/L	2.913	5186	0.015
Kr	83		ug/L		99	0.000
Sr	88	52.298	ug/L	1.262	605456	2.604
Y	89		ug/L		105	0.000
Mo	98	48.871	ug/L	2.586	143437	0.617
Ag	107	50.641	ug/L	2.272	259538	1.117
Cd	111	49.827	ug/L	2.132	66175	0.285
Cd	114		ug/L		160455	0.690
> In	115		ug/L		232450	232449.902
Sn	120	50.663	ug/L	3.156	289676	1.241
Sb	121	46.798	ug/L	8.514	219670	0.943
Sb	123		ug/L		172800	0.742
Ba	135		ug/L		70952	0.143
Ba	137	49.744	ug/L	0.865	123617	0.250
Ho	165		ug/L		45	0.000
> Lu	175		ug/L		494618	494617.558
Tl	205	53.496	ug/L	1.027	1061329	2.145
Pb	208	52.971	ug/L	1.772	1713891	3.463
Bi	209		ug/L		431	0.001
Th	232	50.935	ug/L	1.340	2115486	4.276
U	238	52.112	ug/L	0.410	2335239	4.720

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 17:45:31

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	101.461				
Be	9	103.020				
B	11	101.410				
Na	23	110.860				
Mg	24	100.100				
Al	27	94.748				
P	31	101.563				
K	39	98.258				
Ca	43	100.317				
> Sc	45		102.3			
Ti	47	101.157				
V	51	99.798				
Cr	52	101.691				
Cr	53					
Mn	55	105.653				
Fe	57	104.878				
Co	59	100.549				
Ni	60	102.309				
Cu	63					
Cu	65	100.983				
Zn	66	103.252				
Zn	67					
Zn	68					
> Ge	74		102.2			
As	75	95.350				
Se	77					
Se	82	100.215				
Kr	83					
Sr	88	104.597				
Y	89					
Mo	98	97.742				
Ag	107	101.282				
Cd	111	99.655				
Cd	114					
> In	115		99.0			
Sn	120	101.326				
Sb	121	93.595				
Sb	123					
Ba	135					
Ba	137	99.488				
Ho	165					
> Lu	175		97.8			
Tl	205	106.992				
Pb	208	105.942				
Bi	209					
Th	232	101.870				
U	238	104.224				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Na	23	CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue



## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 17:48:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.101

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	-0.006	ug/L	110.468	69	-0.000
Be	9	-0.001	ug/L	310.885	14	-0.000
B	11	2.441	ug/L	20.296	1209	0.001
Na	23	-0.473	ug/L	381.772	28697	-0.002
Mg	24	-0.053	ug/L	354.923	7669	-0.000
Al	27	1.163	ug/L	70.010	13673	0.005
P	31	0.299	ug/L	734.557	4858	0.000
K	39	6.921	ug/L	69.098	510298	0.037
Ca	43	-0.363	ug/L	525.266	193	-0.000
> Sc	45		ug/L		944263	944263.379
Ti	47	-0.079	ug/L	65.892	236	-0.000
V	51	0.293	ug/L	75.125	720	0.002
Cr	52	0.453	ug/L	6.131	1323	0.002
Cr	53		ug/L		89366	0.021
Mn	55	-0.008	ug/L	53.325	1145	-0.000
Fe	57	3.957	ug/L	13.440	5449	0.001
Co	59	0.001	ug/L	101.200	170	0.000
Ni	60	0.001	ug/L	290.617	152	0.000
Cu	63		ug/L		2134	-0.000
Cu	65	0.013	ug/L	259.143	1102	0.000
Zn	66	-0.540	ug/L	8.044	1113	-0.002
Zn	67		ug/L		8172	0.002
Zn	68		ug/L		1448	-0.001
> Ge	74		ug/L		358000	358000.404
As	75	0.136	ug/L	280.777	-161	0.000
Se	77		ug/L		6781	0.008
Se	82	-0.070	ug/L	239.232	-10	-0.000
Kr	83		ug/L		94	0.000
Sr	88	0.002	ug/L	68.394	256	0.000
Y	89		ug/L		48	-0.000
Mo	98	0.026	ug/L	16.696	163	0.000
Ag	107	0.004	ug/L	47.964	75	0.000
Cd	111	0.011	ug/L	69.179	31	0.000
Cd	114		ug/L		47	-0.000
> In	115		ug/L		236338	236337.766
Sn	120	0.021	ug/L	154.581	1403	0.001
Sb	121	0.776	ug/L	28.499	4198	0.016
Sb	123		ug/L		3252	0.012
Ba	135		ug/L		41	-0.000
Ba	137	-0.004	ug/L	66.812	61	-0.000
Ho	165		ug/L		18	-0.000
> Lu	175		ug/L		498701	498700.930
Tl	205	0.045	ug/L	21.704	1467	0.002
Pb	208	0.005	ug/L	37.735	1197	0.000
Bi	209		ug/L		98	-0.000
Th	232	0.049	ug/L	18.023	2857	0.004
U	238	0.008	ug/L	11.543	969	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 17:51:41

Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		102.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		102.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		100.6			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		98.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 18:32:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.108

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	53.421	ug/L	4.511	59114	0.064
Be	9	53.051	ug/L	3.377	18443	0.020
B	11	104.954	ug/L	0.809	36995	0.040
Na	23	5248.080	ug/L	5.703	22437110	24.169
Mg	24	5012.975	ug/L	2.687	15768557	17.017
Al	27	4720.982	ug/L	2.776	20590203	22.217
P	31	5038.821	ug/L	2.241	1052161	1.131
K	39	5014.210	ug/L	9.969	25505868	27.039
Ca	43	5050.612	ug/L	2.191	58520	0.063
> Sc	45		ug/L		926473	926472.637
Ti	47	50.291	ug/L	1.632	26169	0.028
V	51	49.609	ug/L	3.262	297217	0.322
Cr	52	51.233	ug/L	2.475	237716	0.258
Cr	53		ug/L		107037	0.042
Mn	55	53.605	ug/L	1.841	414150	0.446
Fe	57	5296.932	ug/L	2.065	795529	0.854
Co	59	50.462	ug/L	1.890	305213	0.329
Ni	60	51.429	ug/L	1.738	68035	0.073
Cu	63		ug/L		163281	0.174
Cu	65	50.369	ug/L	1.319	78530	0.084
Zn	66	50.698	ug/L	1.280	54665	0.151
Zn	67		ug/L		15167	0.022
Zn	68		ug/L		38725	0.105
> Ge	74		ug/L		351530	351529.571
As	75	47.748	ug/L	1.228	48729	0.139
Se	77		ug/L		10064	0.017
Se	82	48.970	ug/L	1.028	5002	0.014
Kr	83		ug/L		107	0.000
Sr	88	52.743	ug/L	1.037	606533	2.626
Y	89		ug/L		121	0.000
Mo	98	48.968	ug/L	1.853	142771	0.618
Ag	107	50.198	ug/L	1.153	255580	1.107
Cd	111	49.701	ug/L	0.648	65578	0.284
Cd	114		ug/L		158385	0.686
> In	115		ug/L		230905	230905.107
Sn	120	50.724	ug/L	3.046	288062	1.242
Sb	121	47.054	ug/L	7.222	219550	0.948
Sb	123		ug/L		173907	0.751
Ba	135		ug/L		70774	0.143
Ba	137	49.320	ug/L	1.916	122371	0.248
Ho	165		ug/L		46	0.000
> Lu	175		ug/L		493911	493911.194
Tl	205	53.042	ug/L	1.356	1050763	2.126
Pb	208	52.765	ug/L	0.836	1704763	3.450
Bi	209		ug/L		480	0.001
Th	232	49.617	ug/L	1.022	2057793	4.165
U	238	51.025	ug/L	1.457	2283079	4.622

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 18:34:53

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	106.841				
Be	9	106.102				
B	11	104.954				
Na	23	104.962				
Mg	24	100.260				
Al	27	93.485				
P	31	100.776				
K	39	100.284				
Ca	43	101.012				
> Sc	45		100.3			
Ti	47	100.582				
V	51	99.219				
Cr	52	102.466				
Cr	53					
Mn	55	107.210				
Fe	57	105.939				
Co	59	100.924				
Ni	60	102.858				
Cu	63					
Cu	65	100.739				
Zn	66	101.396				
Zn	67					
Zn	68					
> Ge	74		100.8			
As	75	95.496				
Se	77					
Se	82	97.941				
Kr	83					
Sr	88	105.486				
Y	89					
Mo	98	97.936				
Ag	107	100.396				
Cd	111	99.403				
Cd	114					
> In	115		98.3			
Sn	120	101.448				
Sb	121	94.108				
Sb	123					
Ba	135					
Ba	137	98.641				
Ho	165					
> Lu	175		97.7			
Tl	205	106.085				
Pb	208	105.530				
Bi	209					
Th	232	99.235				
U	238	102.051				

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 18:38:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.109

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	-0.016	ug/L	71.831	57	-0.000
Be	9	0.017	ug/L	56.126	20	0.000
B	11	2.697	ug/L	21.097	1254	0.001
Na	23	-0.467	ug/L	141.637	27694	-0.002
Mg	24	0.354	ug/L	138.545	8669	0.001
Al	27	0.337	ug/L	263.902	9670	0.002
P	31	2.812	ug/L	40.289	5207	0.001
K	39	13.816	ug/L	107.912	526646	0.075
Ca	43	-0.249	ug/L	398.675	188	-0.000
> Sc	45		ug/L		911858	911858.024
Ti	47	-0.073	ug/L	10.895	231	-0.000
V	51	-0.048	ug/L	505.108	-1318	-0.000
Cr	52	0.509	ug/L	8.484	1531	0.003
Cr	53		ug/L		79688	0.014
Mn	55	-0.023	ug/L	24.603	992	-0.000
Fe	57	4.126	ug/L	21.831	5287	0.001
Co	59	0.002	ug/L	155.390	167	0.000
Ni	60	0.006	ug/L	219.716	153	0.000
Cu	63		ug/L		2234	0.000
Cu	65	0.020	ug/L	182.406	1075	0.000
Zn	66	-0.598	ug/L	12.014	1018	-0.002
Zn	67		ug/L		7070	-0.001
Zn	68		ug/L		1293	-0.001
> Ge	74		ug/L		346185	346184.841
As	75	-0.082	ug/L	329.573	-375	-0.000
Se	77		ug/L		6147	0.006
Se	82	0.073	ug/L	170.750	5	0.000
Kr	83		ug/L		84	-0.000
Sr	88	0.001	ug/L	24.351	242	0.000
Y	89		ug/L		48	-0.000
Mo	98	0.037	ug/L	27.953	192	0.000
Ag	107	0.004	ug/L	67.091	71	0.000
Cd	111	0.004	ug/L	108.474	22	0.000
Cd	114		ug/L		54	0.000
> In	115		ug/L		233090	233090.088
Sn	120	0.015	ug/L	180.058	1346	0.000
Sb	121	0.793	ug/L	26.907	4209	0.016
Sb	123		ug/L		3294	0.012
Ba	135		ug/L		45	0.000
Ba	137	-0.002	ug/L	266.049	67	-0.000
Ho	165		ug/L		15	-0.000
> Lu	175		ug/L		501511	501510.937
Tl	205	0.060	ug/L	13.562	1769	0.002
Pb	208	0.004	ug/L	64.349	1174	0.000
Bi	209		ug/L		113	0.000
Th	232	0.046	ug/L	20.765	2735	0.004
U	238	0.008	ug/L	8.368	993	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 18:41:02

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		98.7			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		99.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		99.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017707

Sample Date/Time: Sunday, January 24, 2010 18:50:39

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017707.111

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	56.750	ug/L	5.807	69311	0.068
Be	9	0.901	ug/L	3.831	361	0.000
B	11	507.503	ug/L	3.498	195915	0.191
Na	23	35409.156	ug/L	1.733	166720194	163.069
Mg	24	7357.779	ug/L	14.167	25551225	24.977
Al	27	9601.135	ug/L	5.257	46174851	45.184
P	31	574.637	ug/L	2.885	136982	0.129
K	39	4633.990	ug/L	4.575	26048546	24.989
Ca	43	23782.599	ug/L	0.772	303269	0.297
> Sc	45		ug/L		1022114	1022114.008
Ti	47	72.407	ug/L	2.144	41436	0.040
V	51	13.295	ug/L	3.506	87050	0.086
Cr	52	9.972	ug/L	1.906	50333	0.050
Cr	53		ug/L		38806	-0.036
Mn	55	217.888	ug/L	1.856	1853274	1.812
Fe	57	7905.570	ug/L	2.372	1307355	1.274
Co	59	8.043	ug/L	0.879	53827	0.052
Ni	60	18.081	ug/L	3.134	26496	0.026
Cu	63		ug/L		705015	0.687
Cu	65	207.049	ug/L	2.132	352456	0.344
Zn	66	1339.930	ug/L	0.989	1414195	3.986
Zn	67		ug/L		231011	0.631
Zn	68		ug/L		1017296	2.865
> Ge	74		ug/L		354421	354420.617
As	75	3.682	ug/L	2.022	3513	0.011
Se	77		ug/L		2056	-0.005
Se	82	0.301	ug/L	6.485	29	0.000
Kr	83		ug/L		125	0.000
Sr	88	148.773	ug/L	0.719	1731975	7.407
Y	89		ug/L		93412	0.399
Mo	98	14.309	ug/L	0.335	42302	0.181
Ag	107	0.082	ug/L	4.347	475	0.002
Cd	111	0.228	ug/L	3.397	320	0.001
Cd	114		ug/L		544	0.002
> In	115		ug/L		233775	233775.085
Sn	120	0.313	ug/L	1.511	3054	0.008
Sb	121	0.486	ug/L	3.194	2781	0.010
Sb	123		ug/L		2212	0.008
Ba	135		ug/L		96186	0.189
Ba	137	65.646	ug/L	1.413	168121	0.330
Ho	165		ug/L		8297	0.016
> Lu	175		ug/L		509818	509817.539
Tl	205	0.094	ug/L	7.646	2510	0.004
Pb	208	7.676	ug/L	0.758	256915	0.502
Bi	209		ug/L		7007	0.014
Th	232	9.369	ug/L	0.980	401766	0.786
U	238	3.712	ug/L	2.016	172027	0.336

Sample ID: 1202017707

Report Date/Time: Sunday, January 24, 2010 18:53:24

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		110.7			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		99.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	B	11	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017708

Sample Date/Time: Sunday, January 24, 2010 18:56:51

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017708.112

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	108.564	ug/L	6.549	135348	0.130
Be	9	45.895	ug/L	1.912	17995	0.017
B	11	603.325	ug/L	1.636	238028	0.228
Na	23	37605.337	ug/L	3.348	180899201	173.183
Mg	24	9425.259	ug/L	4.444	33439523	31.995
Al	27	15178.887	ug/L	4.604	74631444	71.433
P	31	2341.275	ug/L	1.762	554166	0.525
K	39	6457.532	ug/L	1.709	36902107	34.823
Ca	43	25696.923	ug/L	3.018	334901	0.320
> Sc	45		ug/L		1044538	1044537.542
Ti	47	128.272	ug/L	0.494	74786	0.071
V	51	57.494	ug/L	0.215	388688	0.373
Cr	52	53.341	ug/L	0.815	279137	0.268
Cr	53		ug/L		65557	-0.011
Mn	55	260.385	ug/L	0.293	2263351	2.166
Fe	57	10475.259	ug/L	1.438	1769054	1.688
Co	59	49.671	ug/L	0.673	338774	0.324
Ni	60	60.072	ug/L	1.330	89580	0.086
Cu	63		ug/L		862152	0.823
Cu	65	250.179	ug/L	1.459	434995	0.415
Zn	66	1410.817	ug/L	0.572	1490183	4.196
Zn	67		ug/L		245447	0.671
Zn	68		ug/L		1070003	3.012
> Ge	74		ug/L		354721	354720.546
As	75	77.390	ug/L	1.262	79875	0.226
Se	77		ug/L		3373	-0.002
Se	82	19.106	ug/L	2.456	1968	0.006
Kr	83		ug/L		139	0.000
Sr	88	197.372	ug/L	0.679	2281628	9.827
Y	89		ug/L		99280	0.427
Mo	98	65.207	ug/L	1.249	191153	0.823
Ag	107	46.881	ug/L	0.388	240016	1.034
Cd	111	9.692	ug/L	1.472	12871	0.055
Cd	114		ug/L		31024	0.133
> In	115		ug/L		232159	232158.608
Sn	120	3.927	ug/L	1.699	23586	0.096
Sb	121	47.799	ug/L	4.352	224120	0.963
Sb	123		ug/L		177531	0.763
Ba	135		ug/L		167078	0.330
Ba	137	114.019	ug/L	2.145	289788	0.573
Ho	165		ug/L		8991	0.018
> Lu	175		ug/L		506043	506043.474
Tl	205	91.923	ug/L	0.934	1865472	3.685
Pb	208	38.403	ug/L	1.196	1271557	2.511
Bi	209		ug/L		8249	0.016
Th	232	55.729	ug/L	0.728	2368061	4.678
U	238	52.367	ug/L	2.014	2400874	4.743

Sample ID: 1202017708

Report Date/Time: Sunday, January 24, 2010 18:59:36

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		113.1			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.8			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.1			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	B	11	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017709

Sample Date/Time: Sunday, January 24, 2010 19:03:03

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942514|5|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017709.113

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	12.118	ug/L	4.382	14055	0.014
Be	9	0.232	ug/L	19.692	99	0.000
B	11	126.495	ug/L	3.414	46444	0.048
Na	23	7590.397	ug/L	3.358	33811479	34.956
Mg	24	1613.726	ug/L	7.399	5302629	5.478
Al	27	2115.996	ug/L	5.326	9633743	9.958
P	31	130.645	ug/L	2.842	33244	0.029
K	39	991.347	ug/L	1.237	5652896	5.346
Ca	43	5300.154	ug/L	1.010	64068	0.066
> Sc	45		ug/L		966467	966466.614
Ti	47	16.270	ug/L	1.586	9025	0.009
V	51	3.589	ug/L	10.491	21427	0.023
Cr	52	2.589	ug/L	2.247	11731	0.013
Cr	53		ug/L		60045	-0.012
Mn	55	53.757	ug/L	2.243	433306	0.447
Fe	57	1851.586	ug/L	1.816	293370	0.298
Co	59	1.751	ug/L	1.608	11210	0.011
Ni	60	4.109	ug/L	4.488	5812	0.006
Cu	63		ug/L		159459	0.163
Cu	65	48.093	ug/L	1.891	78268	0.080
Zn	66	311.205	ug/L	1.644	330103	0.926
Zn	67		ug/L		54298	0.132
Zn	68		ug/L		228969	0.640
> Ge	74		ug/L		354794	354794.257
As	75	0.989	ug/L	35.182	727	0.003
Se	77		ug/L		4177	0.000
Se	82	0.175	ug/L	76.030	16	0.000
Kr	83		ug/L		84	-0.000
Sr	88	34.222	ug/L	1.176	400630	1.704
Y	89		ug/L		19698	0.084
Mo	98	2.922	ug/L	1.218	8751	0.037
Ag	107	0.016	ug/L	14.702	134	0.000
Cd	111	0.046	ug/L	44.264	77	0.000
Cd	114		ug/L		126	0.000
> In	115		ug/L		235005	235004.583
Sn	120	-0.014	ug/L	161.382	1191	-0.000
Sb	121	0.487	ug/L	23.653	2797	0.010
Sb	123		ug/L		2216	0.008
Ba	135		ug/L		20418	0.040
Ba	137	13.980	ug/L	2.179	35551	0.070
Ho	165		ug/L		1713	0.003
> Lu	175		ug/L		505537	505536.549
Tl	205	0.007	ug/L	31.448	718	0.000
Pb	208	1.714	ug/L	2.580	57707	0.112
Bi	209		ug/L		1609	0.003
Th	232	2.066	ug/L	2.565	88475	0.173
U	238	0.766	ug/L	1.591	35668	0.069

Sample ID: 1202017709

Report Date/Time: Sunday, January 24, 2010 19:05:49

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		104.6			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
[	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		101.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		100.1			
	Sn	120					
	Sb	121					
	Sb	123					
[	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		100.0			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 19:09:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.114

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	53.758	ug/L	5.649	60845	0.064
Be	9	52.724	ug/L	4.609	18750	0.020
B	11	112.417	ug/L	3.786	40507	0.042
Na	23	5022.886	ug/L	4.609	21969670	23.132
Mg	24	5218.088	ug/L	4.794	16800145	17.713
Al	27	4581.754	ug/L	3.299	20450380	21.562
P	31	5080.099	ug/L	1.886	1085350	1.140
K	39	5176.286	ug/L	16.837	26953009	27.913
Ca	43	4956.876	ug/L	2.413	58765	0.062
> Sc	45		ug/L		947917	947917.296
Ti	47	49.789	ug/L	0.808	26515	0.028
V	51	50.853	ug/L	2.043	311800	0.330
Cr	52	51.340	ug/L	0.694	243766	0.258
Cr	53		ug/L		98942	0.031
Mn	55	52.207	ug/L	1.170	412780	0.434
Fe	57	5196.695	ug/L	2.110	798672	0.838
Co	59	49.338	ug/L	1.345	305343	0.322
Ni	60	50.254	ug/L	1.423	68023	0.072
Cu	63		ug/L		161214	0.168
Cu	65	49.116	ug/L	0.405	78384	0.082
Zn	66	50.989	ug/L	1.245	55451	0.152
Zn	67		ug/L		15533	0.022
Zn	68		ug/L		39470	0.106
> Ge	74		ug/L		354631	354630.514
As	75	46.827	ug/L	2.368	48191	0.137
Se	77		ug/L		8631	0.013
Se	82	48.319	ug/L	1.587	4979	0.014
Kr	83		ug/L		113	0.000
Sr	88	53.647	ug/L	1.495	614868	2.671
Y	89		ug/L		125	0.000
Mo	98	50.081	ug/L	1.684	145518	0.632
Ag	107	49.816	ug/L	1.035	252784	1.098
Cd	111	49.744	ug/L	1.874	65401	0.284
Cd	114		ug/L		158177	0.687
> In	115		ug/L		230092	230092.383
Sn	120	50.550	ug/L	0.527	286142	1.238
Sb	121	47.535	ug/L	8.061	221032	0.958
Sb	123		ug/L		175988	0.763
Ba	135		ug/L		72641	0.145
Ba	137	50.312	ug/L	3.114	126961	0.253
Ho	165		ug/L		39	0.000
> Lu	175		ug/L		502408	502407.597
Tl	205	54.249	ug/L	0.885	1093164	2.175
Pb	208	53.741	ug/L	1.473	1766125	3.513
Bi	209		ug/L		477	0.001
Th	232	50.155	ug/L	1.379	2115801	4.210
U	238	51.404	ug/L	1.618	2339540	4.656

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 19:11:56

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	107.516				
Be	9	105.449				
B	11	112.417				
Na	23	100.458				
Mg	24	104.362				
Al	27	90.728				
P	31	101.602				
K	39	103.526				
Ca	43	99.138				
> Sc	45		102.6			
Ti	47	99.578				
V	51	101.705				
Cr	52	102.679				
Cr	53					
Mn	55	104.413				
Fe	57	103.934				
Co	59	98.676				
Ni	60	100.508				
Cu	63					
Cu	65	98.233				
Zn	66	101.978				
Zn	67					
Zn	68					
> Ge	74		101.7			
As	75	93.654				
Se	77					
Se	82	96.637				
Kr	83					
Sr	88	107.294				
Y	89					
Mo	98	100.161				
Ag	107	99.632				
Cd	111	99.488				
Cd	114					
> In	115		98.0			
Sn	120	101.101				
Sb	121	95.070				
Sb	123					
Ba	135					
Ba	137	100.624				
Ho	165					
> Lu	175		99.3			
Tl	205	108.498				
Pb	208	107.482				
Bi	209					
Th	232	100.311				
U	238	102.807				

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message  
 QC Std 8 B 11CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 19:15:21

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.115

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.008	ug/L	195.505	86	0.000
Be	9	0.005	ug/L	162.042	16	0.000
B	11	6.695	ug/L	15.508	2719	0.003
Na	23	1.241	ug/L	55.777	36046	0.006
Mg	24	-0.886	ug/L	69.620	5001	-0.003
Al	27	0.332	ug/L	174.450	10004	0.002
P	31	-0.145	ug/L	1335.733	4759	-0.000
K	39	8.445	ug/L	124.036	517605	0.046
Ca	43	3.456	ug/L	74.274	238	0.000
> Sc	45		ug/L		943374	943373.656
Ti	47	0.035	ug/L	101.251	296	0.000
V	51	0.478	ug/L	74.461	1849	0.003
Cr	52	0.440	ug/L	10.739	1257	0.002
Cr	53		ug/L		72841	0.004
Mn	55	-0.019	ug/L	6.096	1056	-0.000
Fe	57	-0.305	ug/L	235.607	4796	-0.000
Co	59	0.001	ug/L	296.955	167	0.000
Ni	60	-0.015	ug/L	80.829	130	-0.000
Cu	63		ug/L		2269	0.000
Cu	65	0.002	ug/L	2421.007	1082	0.000
Zn	66	-0.609	ug/L	5.172	1030	-0.002
Zn	67		ug/L		7250	-0.001
Zn	68		ug/L		1253	-0.001
> Ge	74		ug/L		354354	354354.170
As	75	0.312	ug/L	57.570	24	0.001
Se	77		ug/L		4870	0.002
Se	82	-0.250	ug/L	43.530	-28	-0.000
Kr	83		ug/L		97	0.000
Sr	88	0.002	ug/L	48.275	253	0.000
Y	89		ug/L		57	-0.000
Mo	98	0.040	ug/L	14.769	202	0.001
Ag	107	0.004	ug/L	17.970	73	0.000
Cd	111	0.002	ug/L	484.194	19	0.000
Cd	114		ug/L		42	-0.000
> In	115		ug/L		233453	233453.236
Sn	120	0.024	ug/L	122.323	1399	0.001
Sb	121	0.818	ug/L	25.985	4336	0.016
Sb	123		ug/L		3491	0.013
Ba	135		ug/L		41	-0.000
Ba	137	-0.000	ug/L	3680.186	71	-0.000
Ho	165		ug/L		14	-0.000
> Lu	175		ug/L		504817	504816.539
Tl	205	0.050	ug/L	24.267	1577	0.002
Pb	208	0.005	ug/L	43.279	1220	0.000
Bi	209		ug/L		121	0.000
Th	232	0.051	ug/L	18.607	2961	0.004
U	238	0.009	ug/L	14.441	1043	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 19:18:05

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		102.1			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		99.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		99.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected



## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Monday, January 25, 2010 10:06:01

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1750

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	3797.9	3797.905	55.830	1.5
Mg	24.0	41866.7	41866.664	413.504	1.0
Co	58.9	89574.0	89573.957	663.666	0.7
Rh	102.9	166042.0	166041.981	567.518	0.3
In	114.9	222043.5	222043.538	1016.649	0.5
Pb	208.0	242059.8	242059.850	2131.441	0.9
[> Ba	137.9	227089.5	227089.518	838.861	0.4
[ Ba++	69.0	4144.4	0.018	0.000	1.2
[> Ce	139.9	278563.8	278563.808	2005.002	0.7
[ CeO	155.9	6175.5	0.022	0.000	1.6
Bkgd	220.0	15.5	15.500	1.225	7.9

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
8.75	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	23	10.3	4722.4
Co	59	23	11.0	89272.7
In	115	23	12.3	230319.1

## ICPMS #5 Instrument Tuning Report

File Name: 100125.tun  
File Path: C:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	590	2050	0.661
Be	9.0	9.1	2059	2070	0.641
Mg	24.0	24.0	5689	2070	0.614
Mg	25.0	25.0	5941	2070	0.625
Mg	26.0	26.0	6164	2070	0.651
Co	58.9	58.9	14182	2105	0.614
Rh	102.9	102.9	24875	2165	0.614
In	114.9	114.9	27789	2185	0.615
Ce	139.9	139.9	33873	2200	0.633
Pb	206.0	206.0	49948	2270	0.673
Pb	207.0	207.0	50159	2235	0.664
Pb	208.0	208.0	50451	2260	0.722
U	238.1	238.1	57726	2275	0.736

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, January 25, 2010 11:15:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\Blank.035

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9		ug/L			14
Sc	45		ug/L			748784

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, January 25, 2010 11:16:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\Standard 1.036

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	10.000	ug/L	2.980	4807	0.006
Sc	45		ug/L		738365	738364.708	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
Sc	45						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, January 25, 2010 11:18:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\Standard 2.037

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	99.936	ug/L	1.737	46143	0.061
Sc	45		ug/L		756172	756172.490

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, January 25, 2010 11:20:03

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 1.038

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	49.931	ug/L	0.957	23658	0.030
Sc	45		ug/L		775711	775711.095

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	99.863				
Sc	45		103.6			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 1

Report Date/Time: Monday, January 25, 2010 11:20:13

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, January 25, 2010 11:21:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 2.039

### Concentration Results

	Analyte	Mass	Conc.	Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
┌	Be	9	0.002		ug/L	517.822	15	0.000
└>	Sc	45			ug/L		768990	768990.371

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
┌	Be	9					
└>	Sc	45		102.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, January 25, 2010 11:23:23

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 3.040

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.568	ug/L	2.703	278	0.000
Sc	45		ug/L		761305	761304.629

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	113.527				
Sc	45		101.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, January 25, 2010 11:25:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 4.041

### Concentration Results

	Analyte	Mass	Conc.	Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.054		ug/L	10.603	39	0.000
Sc	45			ug/L		749608	749608.008	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
Sc	45		100.1				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, January 25, 2010 11:26:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 5.042

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	17.411	ug/L	1.458	8006	0.011
Sc	45		ug/L		751828	751827.544

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	87.055				
Sc	45		100.4			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:28:21

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.043

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	49.149	ug/L	2.485	23303	0.030
Sc	45		ug/L		776319	776318.799

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	98.298				
Sc	45		103.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:30:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.044

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.013	ug/L	22.989	21	0.000
Sc	45		ug/L		806730	806730.442

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		107.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 11:30:14

Page 1

## ICPMS#5 - Summary Report

Sample ID: 1202017705

Sample Date/Time: Monday, January 25, 2010 11:31:43

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017705.045

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.002	ug/L	319.291	14	-0.000
Sc	45		ug/L		803023	803023.060

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		107.2			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017706

Sample Date/Time: Monday, January 25, 2010 11:33:25

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017706.046

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	51.406	ug/L	0.498	24930	0.031
Sc	45		ug/L		793950	793950.214

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		106.0			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:41:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.051

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	47.168	ug/L	0.571	23413	0.029
Sc	45		ug/L		812626	812625.765	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9	94.335				
Sc	45		108.5				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:43:38

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.052

### Concentration Results

	Analyte	Mass	Conc.	Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.012		ug/L	69.529	22	0.000
Sc	45			ug/L		825486	825485.590	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
Sc	45		110.2				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 11:43:50

Page 1



## ICPMS#5 - Summary Report

Sample ID: 244849001

Sample Date/Time: Monday, January 25, 2010 11:46:38

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\244849001.053

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
┌	Be	9	-0.004	ug/L	93.999	13	-0.000
└>	Sc	45		ug/L		803474	803474.093

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
┌	Be	9					
└>	Sc	45		107.3			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:58:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.060

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	45.275	ug/L	0.342	22403	0.028
Sc	45		ug/L		810051	810050.738

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	90.549				
Sc	45		108.2			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:00:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.061

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.007	ug/L	114.524	19	0.000
Sc	45		ug/L		816834	816834.148

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		109.1			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 12:00:32

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:07:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.065

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	47.068	ug/L	1.721	22837	0.029
Sc	45		ug/L		794356	794356.063	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9	94.136				
Sc	45		106.1				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:08:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.066

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.014	ug/L	41.321	22	0.000
Sc	45		ug/L		795691	795690.900

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		106.3			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 12:09:06

Page 1

## ICPMS#5 - Summary Report

Sample ID: 1202017707

Sample Date/Time: Monday, January 25, 2010 12:12:20

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017707.068

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.928	ug/L	4.640	472	0.001
Sc	45		ug/L		806418	806418.048

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		107.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017708

Sample Date/Time: Monday, January 25, 2010 12:14:05

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017708.069

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	44.653	ug/L	2.604	21931	0.027
Sc	45		ug/L		804098	804098.247

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		107.4			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017709

Sample Date/Time: Monday, January 25, 2010 12:15:49

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942514|5|baj

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017709.070

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.201	ug/L	5.948	101	0.000
Sc	45		ug/L		717220	717219.618

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		95.8			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:17:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.071

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	51.920	ug/L	1.731	22606	0.032
Sc	45		ug/L		712913	712913.330	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9	103.840				
Sc	45		95.2				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:19:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.072

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.016	ug/L	52.966	20	0.000
Sc	45		ug/L		705695	705695.474

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		94.2			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Wednesday, January 27, 2010 10:01:35

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1759

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	3087.9	3087.934	102.308	3.3
Mg	24.0	43506.8	43506.755	472.576	1.1
Co	58.9	90532.6	90532.583	922.047	1.0
Rh	102.9	164177.8	164177.826	711.277	0.4
In	114.9	219828.5	219828.487	1233.124	0.6
Pb	208.0	228297.1	228297.121	2676.890	1.2
[> Ba	137.9	216842.8	216842.850	2692.980	1.2
[ Ba++	69.0	5124.6	0.024	0.000	1.1
[> Ce	139.9	265739.6	265739.576	3528.800	1.3
[ CeO	155.9	6319.2	0.024	0.001	2.2
Bkgd	220.0	23.6	23.600	3.324	14.1

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
11.00	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	10.0	5387.0
Co	59	17	11.0	83338.7
In	115	17	12.5	220648.3

## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	586	2050	0.653
Be	9.0	9.0	2034	2070	0.659
Mg	24.0	23.9	5683	2070	0.662
Mg	25.0	25.0	5947	2070	0.718
Mg	26.0	26.0	6147	2070	0.671
Co	58.9	59.0	14188	2105	0.637
Rh	102.9	102.9	24878	2165	0.625
In	114.9	114.9	27792	2185	0.632
Ce	139.9	139.9	33864	2200	0.638
Pb	206.0	206.0	49948	2270	0.691
Pb	207.0	207.0	50159	2235	0.674
Pb	208.0	208.0	50451	2260	0.722
U	238.1	238.1	57732	2275	0.725

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Thursday, January 28, 2010 07:25:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\Blank.301

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		184558	
	Sb	121		ug/L		831	
	Sb	123		ug/L		708	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115					
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Thursday, January 28, 2010 07:28:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\Standard 1.302

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		207201	207201.453
	Sb	121	10.000	ug/L	11.258	38837	0.184
	Sb	123		ug/L		30647	0.145

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115					
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Thursday, January 28, 2010 07:30:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\Standard 2.303

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		192081	192081.340
	Sb	121	100.148	ug/L	11.308	414043	2.159
	Sb	123		ug/L		325312	1.697

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115					
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Thursday, January 28, 2010 07:32:45

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 1.304

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		199138	199137.722
	Sb	121	50.936	ug/L	9.740	219014	1.098
	Sb	123		ug/L		172181	0.863

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		107.9				
	Sb	121	101.873					
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 1

Report Date/Time: Thursday, January 28, 2010 07:33:05

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## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Thursday, January 28, 2010 07:35:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 2.305

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		189644	189643.763
	Sb	121	0.370	ug/L	13.829	2360	0.008
	Sb	123		ug/L		1903	0.006

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		102.8				
	Sb	121						
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Thursday, January 28, 2010 07:35:26

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## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Thursday, January 28, 2010 07:37:24

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 3.306

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		197837	197836.599
	Sb	121	2.844	ug/L	11.862	12967	0.061
	Sb	123		ug/L		10231	0.048

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		107.2				
	Sb	121	94.813					
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Thursday, January 28, 2010 07:39:42

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 4.307

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		174837	174837.022
	Sb	121	0.227	ug/L	14.543	1638	0.005
	Sb	123		ug/L		1332	0.004

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
>	In	115		94.7			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Thursday, January 28, 2010 07:42:00

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 5.308

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		166014	166013.822
	Sb	121	24.003	ug/L	11.003	86293	0.518
	Sb	123		ug/L		67733	0.406

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike	% Recov	Dilution	% Dil	Duplicate	Rel. % Difference
>	In	115					90.0					
	Sb	121		120.017								
	Sb	123										

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Sb	121	ICSAB is out of limits

### QC Action

QC Action Line: Continue

Sample ID: QC Std 5

Report Date/Time: Thursday, January 28, 2010 07:42:20

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 07:44:19

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.309

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		193209	193208.961
	Sb	121	51.584	ug/L	8.712	215239	1.112
	Sb	123		ug/L		169431	0.876

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		104.7				
	Sb	121	103.169					
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 07:46:40

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.310

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		183682	183682.133
	Sb	121	0.191	ug/L	19.195	1579	0.004
	Sb	123		ug/L		1290	0.003

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115		99.5			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 07:47:01

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## ICPMS#5 - Summary Report

Sample ID: 1202026084

Sample Date/Time: Thursday, January 28, 2010 07:49:02

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 945922|1|baj

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026084.311

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		174055	174054.853
	Sb	121	0.258	ug/L	13.495	1747	0.006
	Sb	123		ug/L		1365	0.004

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
>	In	115		94.3			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202026085

Sample Date/Time: Thursday, January 28, 2010 07:51:23

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 945922|1|baj

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026085.312

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		172887	172886.936
	Sb	121	55.133	ug/L	15.191	204628	1.189
	Sb	123		ug/L		164458	0.954

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115		93.7			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 08:07:52

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.319

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		184498	184498.204
	Sb	121	49.352	ug/L	13.812	195951	1.064
	Sb	123		ug/L		156470	0.849

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		100.0				
	Sb	121	98.703					
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 08:10:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.320

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		179429	179429.049
	Sb	121	0.148	ug/L	34.218	1370	0.003
	Sb	123		ug/L		1043	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
>	In	115		97.2			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 08:10:34

Page 1

## ICPMS#5 - Summary Report

Sample ID: 244849001

Sample Date/Time: Thursday, January 28, 2010 08:19:27

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 945922|1|baj

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\244849001.323

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		185508	185507.543
	Sb	121	-0.106	ug/L	7.365	411	-0.002
	Sb	123		ug/L		405	-0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115		100.5			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244849001

Report Date/Time: Thursday, January 28, 2010 08:19:48

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 08:21:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.324

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		195714	195714.229
	Sb	121	50.411	ug/L	12.486	212341	1.087
	Sb	123		ug/L		171093	0.876

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115		106.0			
	Sb	121	100.822				
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 08:24:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.325

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		210842	210842.027
	Sb	121	0.120	ug/L	28.992	1490	0.003
	Sb	123		ug/L		1139	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115		114.2			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 08:24:29

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 08:43:03

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.333

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		195328	195328.229
	Sb	121	48.202	ug/L	12.842	202871	1.039
	Sb	123		ug/L		163587	0.837

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		105.8				
	Sb	121	96.404					
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 08:45:24

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.334

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		196974	196973.776
	Sb	121	0.126	ug/L	29.281	1417	0.003
	Sb	123		ug/L		1162	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		106.7				
	Sb	121						
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 08:45:45

Page 1

## ICPMS#5 - Summary Report

Sample ID: 1202026086

Sample Date/Time: Thursday, January 28, 2010 08:57:20

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 945922|1|baj

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026086.339

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		177770	177769.544
	Sb	121	0.804	ug/L	18.160	3857	0.017
	Sb	123		ug/L		3197	0.014

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115		96.3			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 1202026087

Sample Date/Time: Thursday, January 28, 2010 08:59:45

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 945922|1|baj

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026087.340

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		177148	177147.521
	Sb	121	158.013	ug/L	13.060	600719	3.407
	Sb	123		ug/L		484497	2.746

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		96.0				
	Sb	121						
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202026087

Report Date/Time: Thursday, January 28, 2010 09:00:09

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## ICPMS#5 - Summary Report

Sample ID: 1202026088

Sample Date/Time: Thursday, January 28, 2010 09:02:09

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 945922|5|baj

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026088.341

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		186524	186523.850
	Sb	121	0.041	ug/L	61.449	1001	0.001
	Sb	123		ug/L		826	0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	In	115		101.1			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 09:04:30

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.342

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		188955	188954.709
	Sb	121	49.425	ug/L	11.020	201433	1.066
	Sb	123		ug/L		159671	0.845

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
>	In	115		102.4				
	Sb	121	98.850					
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 09:06:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.343

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		192987	192986.528
	Sb	121	0.115	ug/L	30.707	1343	0.002
	Sb	123		ug/L		1087	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
>	In	115		104.6			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 09:07:12

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Method Name: WATER  
 Method Description: 7470A, 245.2, ILM04 ANALYST ETL  
 Element: Hg

Date: 01/20/2010  
 Technique: FI-MHS  
 Calibration Type:  
 Hg, Calc. Intercept : Linear  
 Wavelength: 253.7 nm  
 Sample Info Name: 012010W1.SIF

Results Data Set Name: 012010W1

Element: Hg Seq. No.: 1 AS Loc.: 1 Date: 01/20/2010  
 Sample ID: Calib Blank

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0018	0.0018	09:41:11	No
2			0.0019	0.0019	09:41:46	No
Mean:			0.0019			
SD :			0.0001			
%RSD:			5.5435			

Auto-zero performed.

Element: Hg Seq. No.: 2 AS Loc.: 2 Date: 01/20/2010  
 Sample ID: S0.2

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0020	0.0038	09:43:08	No
2			0.0019	0.0037	09:43:43	No
Mean:			0.0019			
SD :			0.0001			
%RSD:			4.6731			

[Hg] Standard number 1 applied. [0.200]  
 Correlation Coefficient: 1.00000 Slope: 0.00963  
 Intercept : 0.00000

Element: Hg Seq. No.: 3 AS Loc.: 3 Date: 01/20/2010  
 Sample ID: S0.5

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0050	0.0069	09:45:06	No
2			0.0049	0.0068	09:45:40	No
Mean:			0.0050			
SD :			0.0000			
%RSD:			0.8734			

[Hg] Standard number 2 applied. [0.500]  
 Correlation Coefficient: 0.99989 Slope: 0.00998  
 Intercept : -0.00003

Element: Hg Seq. No.: 4 AS Loc.: 4 Date: 01/20/2010  
 Sample ID: S2.0

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0195	0.0214	09:47:05	No
2			0.0193	0.0212	09:47:40	No
Mean:			0.0194			
SD :			0.0001			
%RSD:			0.5747			

[Hg] Standard number 3 applied. [2.000]

Correlation Coefficient: 0.99997  
Intercept : 0.00003

Slope: 0.00971

=====

Element: Hg Seq. No.: 5 AS Loc.: 5 Date: 01/20/2010  
Sample ID: S5.0

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1			0.0463	0.0481	09:49:05	No
2			0.0472	0.0490	09:49:40	No
Mean:			0.0467			
SD :			0.0006			
%RSD:			1.3718			

[Hg] Standard number 4 applied. [5.000]  
Correlation Coefficient: 0.99987  
Intercept : 0.00023

Slope: 0.00934

=====

Element: Hg Seq. No.: 6 AS Loc.: 6 Date: 01/20/2010  
Sample ID: S10

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1			0.0952	0.0971	09:51:06	No
2			0.0946	0.0965	09:51:40	No
Mean:			0.0949			
SD :			0.0004			
%RSD:			0.4649			

[Hg] Standard number 5 applied. [10.00]  
Correlation Coefficient: 0.99995  
Intercept : 0.00009

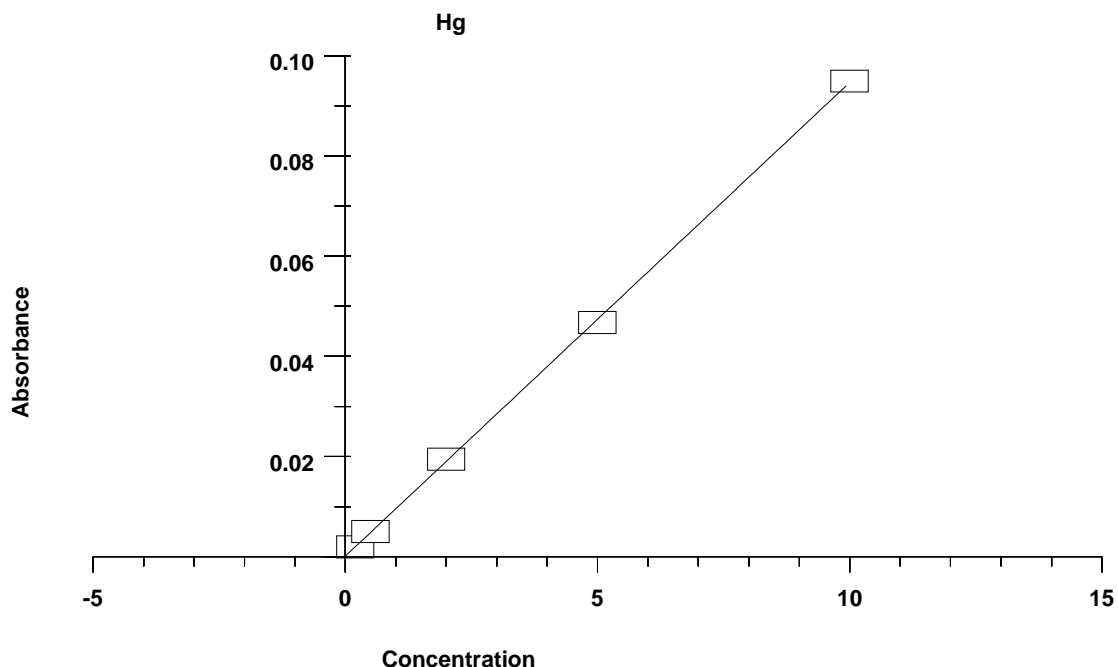
Slope: 0.00946

-----

#### Calibration data for Hg

Standard ID	Mean Signal (Pk Height)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.0019	---	----	----	----
S0.2	0.0019	0.200	0.194	0.0001	4.7
S0.5	0.0050	0.500	0.517	0.0000	0.9
S2.0	0.0194	2.000	2.044	0.0001	0.6
S5.0	0.0467	5.000	4.929	0.0006	1.4
S10	0.0949	10.000	10.03	0.0004	0.5
Correlation Coefficient: 0.99995		Slope:	0.00946	Intercept: 0.0001	

-----



=====  
 Element: Hg Seq. No.: 7 AS Loc.: 9 Date: 01/20/2010  
 Sample ID: ICV

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.086	5.086	0.0482	0.0500	09:53:10	No
2	4.880	4.880	0.0462	0.0481	09:53:45	No
Mean:	4.983	4.983	0.0472			
SD :	0.1457	0.1457	0.0014			
%RSD:	2.9	2.9	2.9174			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 8 AS Loc.: 10 Date: 01/20/2010  
 Sample ID: ICB

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.024	0.024	0.0003	0.0022	09:55:07	No
2	0.016	0.016	0.0002	0.0021	09:55:42	No
Mean:	0.020	0.020	0.0003			
SD :	0.0055	0.0055	0.0001			
%RSD:	27.6	27.6	18.5133			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 9 AS Loc.: 11 Date: 01/20/2010  
 Sample ID: CRDL

Repl #	SampleConc µg/L	StdConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.262	0.262	0.0026	0.0044	09:57:05	No
2	0.261	0.261	0.0026	0.0044	09:57:40	No
Mean:	0.261	0.261	0.0026			
SD :	0.0005	0.0005	0.0000			
%RSD:	0.2	0.2	0.1780			

QC value within specified limits.

=====

Element: Hg Seq. No.: 10 AS Loc.: 7 Date: 01/20/2010  
 Sample ID: CCV

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	4.845	4.845	0.0459	0.0478	09:59:05	No
2	4.970	4.970	0.0471	0.0489	09:59:40	No
Mean:	4.907	4.907	0.0465			
SD :	0.0881	0.0881	0.0008			
%RSD:	1.8	1.8	1.7908			

QC value within specified limits.

=====

Element: Hg Seq. No.: 11 AS Loc.: 8 Date: 01/20/2010  
 Sample ID: CCB

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.027	0.027	0.0004	0.0022	10:01:08	No
2	0.040	0.040	0.0005	0.0023	10:01:43	No
Mean:	0.034	0.034	0.0004			
SD :	0.0086	0.0086	0.0001			
%RSD:	25.7	25.7	19.9234			

QC value within specified limits.

=====

Element: Hg Seq. No.: 12 AS Loc.: 12 Date: 01/20/2010  
 Sample ID: 1202019104|i||943059|MB

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.026	-0.026	-0.0002	0.0017	10:03:09	No
2	-0.027	-0.027	-0.0002	0.0017	10:03:45	No
Mean:	-0.026	-0.026	-0.0002			
SD :	0.0005	0.0005	0.0000			
%RSD:	2.0	2.0	3.1383			

=====

Element: Hg Seq. No.: 13 AS Loc.: 13 Date: 01/20/2010  
 Sample ID: 1202019105|i||LCS

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	2.001	2.001	0.0190	0.0209	10:05:09	No
2	1.990	1.990	0.0189	0.0208	10:05:43	No
Mean:	1.995	1.995	0.0190			
SD :	0.0077	0.0077	0.0001			
%RSD:	0.4	0.4	0.3863			

=====

Element: Hg Seq. No.: 14 AS Loc.: 14 Date: 01/20/2010  
 Sample ID: 244960001|i|||

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.003	0.003	0.0001	0.0020	10:07:09	No
2	-0.008	-0.008	0.0000	0.0019	10:07:44	No
Mean:	-0.002	-0.002	0.0001			
SD :	0.0078	0.0078	0.0001			
%RSD:	332.1	332.1	104.5106			

=====

Element: Hg Seq. No.: 15 AS Loc.: 15 Date: 01/20/2010  
 Sample ID: 1202019106|i|||DUP



%RSD: 7.7 7.7 10.8541

=====  
 Element: Hg Seq. No.: 21 AS Loc.: 21 Date: 01/20/2010  
 Sample ID: 1202019182|i||943087|MB

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.015	-0.015	-0.0001	0.0018	10:20:59	No
2	-0.034	-0.034	-0.0002	0.0016	10:21:34	No
Mean:	-0.024	-0.024	-0.0001			
SD :	0.0131	0.0131	0.0001			
%RSD:	53.8	53.8	89.6560			

=====  
 Element: Hg Seq. No.: 22 AS Loc.: 7 Date: 01/20/2010  
 Sample ID: CCV

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	4.832	4.832	0.0458	0.0476	10:22:59	No
2	4.829	4.829	0.0458	0.0476	10:23:34	No
Mean:	4.830	4.830	0.0458			
SD :	0.0015	0.0015	0.0000			
%RSD:						

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 23 AS Loc.: 8 Date: 01/20/2010  
 Sample ID: CCB

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	0.023	0.023	0.0003	0.0022	10:25:02	No
2	0.015	0.015	0.0002	0.0021	10:25:38	No
Mean:	0.019	0.019	0.0003			
SD :	0.0057	0.0057	0.0001			
%RSD:	29.7	29.7	19.7396			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 24 AS Loc.: 22 Date: 01/20/2010  
 Sample ID: 1202019183|i||LCS

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	2.057	2.057	0.0195	0.0214	10:27:03	No
2	1.992	1.992	0.0189	0.0208	10:27:38	No
Mean:	2.024	2.024	0.0192			
SD :	0.0460	0.0460	0.0004			
%RSD:	2.3	2.3	2.2598			

=====  
 Element: Hg Seq. No.: 25 AS Loc.: 23 Date: 01/20/2010  
 Sample ID: 244849001|i|||

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.032	-0.032	-0.0002	0.0016	10:29:02	No
2	-0.043	-0.043	-0.0003	0.0015	10:29:37	No
Mean:	-0.038	-0.038	-0.0003			
SD :	0.0077	0.0077	0.0001			
%RSD:	20.4	20.4	27.5068			

=====  
 Element: Hg Seq. No.: 26 AS Loc.: 24 Date: 01/20/2010  
 Sample ID: 244880001|i|||

%RSD: 14.6 14.6 20.3504

=====  
 Element: Hg Seq. No.: 32 AS Loc.: 30 Date: 01/20/2010  
 Sample ID: 1202019184|i|||DUP

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0018	10:43:04	No
2	-0.030	-0.030	-0.0002	0.0017	10:43:39	No
Mean:	-0.022	-0.022	-0.0001			
SD :	0.0110	0.0110	0.0001			
%RSD:	49.4	49.4	88.0200			

=====  
 Element: Hg Seq. No.: 33 AS Loc.: 31 Date: 01/20/2010  
 Sample ID: 1202019185|i|||MS

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	1.975	1.975	0.0188	0.0206	10:45:06	No
2	1.935	1.935	0.0184	0.0203	10:45:41	No
Mean:	1.955	1.955	0.0186			
SD :	0.0284	0.0284	0.0003			
%RSD:	1.5	1.5	1.4428			

=====  
 Element: Hg Seq. No.: 34 AS Loc.: 7 Date: 01/20/2010  
 Sample ID: CCV

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	4.807	4.807	0.0456	0.0474	10:47:08	No
2	4.763	4.763	0.0451	0.0470	10:47:44	No
Mean:	4.785	4.785	0.0453			
SD :	0.0314	0.0314	0.0003			
%RSD:	0.7	0.7	0.6546			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 35 AS Loc.: 8 Date: 01/20/2010  
 Sample ID: CCB

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.003	-0.003	0.0001	0.0019	10:49:11	No
2	0.017	0.017	0.0003	0.0021	10:49:46	No
Mean:	0.007	0.007	0.0002			
SD :	0.0136	0.0136	0.0001			
%RSD:	192.5	192.5	80.7319			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 36 AS Loc.: 32 Date: 01/20/2010  
 Sample ID: 1202019186|i|5||SDILT

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.044	-0.044	-0.0003	0.0015	10:51:10	No
2	-0.045	-0.045	-0.0003	0.0015	10:51:45	No
Mean:	-0.044	-0.044	-0.0003			
SD :	0.0009	0.0009	0.0000			
%RSD:	2.1	2.1	2.6704			

=====  
 Element: Hg Seq. No.: 37 AS Loc.: 33 Date: 01/20/2010  
 Sample ID: 1202017112|i||942702|TB

%RSD: 0.5 0.5 0.5060

=====  
 Element: Hg Seq. No.: 43 AS Loc.: 39 Date: 01/20/2010  
 Sample ID: 1202018240|i|5|SDILT

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.047	-0.047	-0.0004	0.0015	11:04:44	No
2	-0.061	-0.061	-0.0005	0.0014	11:05:19	No
Mean:	-0.054	-0.054	-0.0004			
SD :	0.0099	0.0099	0.0001			
%RSD:	18.4	18.4	22.4861			

=====  
 Element: Hg Seq. No.: 44 AS Loc.: 40 Date: 01/20/2010  
 Sample ID: 1202019163|i||943078|MB

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0018	11:06:43	No
2	-0.008	-0.008	0.0000	0.0019	11:07:18	No
Mean:	-0.011	-0.011	0.0000			
SD :	0.0044	0.0044	0.0000			
%RSD:	39.8	39.8	340.3022			

=====  
 Element: Hg Seq. No.: 45 AS Loc.: 41 Date: 01/20/2010  
 Sample ID: 1202019164|i||LCS

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	2.005	2.005	0.0191	0.0209	11:08:42	No
2	2.047	2.047	0.0195	0.0213	11:09:16	No
Mean:	2.026	2.026	0.0193			
SD :	0.0300	0.0300	0.0003			
%RSD:	1.5	1.5	1.4719			

=====  
 Element: Hg Seq. No.: 46 AS Loc.: 7 Date: 01/20/2010  
 Sample ID: CCV

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	4.940	4.940	0.0468	0.0487	11:10:41	No
2	4.865	4.865	0.0461	0.0480	11:11:17	No
Mean:	4.902	4.902	0.0465			
SD :	0.0535	0.0535	0.0005			
%RSD:	1.1	1.1	1.0888			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 47 AS Loc.: 8 Date: 01/20/2010  
 Sample ID: CCB

Repl #	SampleConc µg/L	StdConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.009	-0.009	0.0000	0.0019	11:12:45	No
2	-0.017	-0.017	-0.0001	0.0018	11:13:19	No
Mean:	-0.013	-0.013	0.0000			
SD :	0.0056	0.0056	0.0001			
%RSD:	43.0	43.0	176.2390			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 48 AS Loc.: 42 Date: 01/20/2010  
 Sample ID: 244937001|i|||

# Miscellaneous

# Prep LogBook

Analyst: FGA      Verified by: \_\_\_\_\_

Batch: 942449

Lab SOP: GL-MA-E-006 REV# 9

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202017560	UI091216-01	.25	mL
LCS	1202017560	UI091216-06	.25	mL
MS	1202017562	UI091216-01	.25	mL
MS	1202017562	UI091216-06	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202017559		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
LCS	1202017560		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244844001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244849001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244880001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244893001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244895002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244912001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244919001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244922001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
DUP	1202017561	244922001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
MS	1202017562	244922001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SDILT	1202017563	244922001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244925001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
1252838	2.5 mL	HYDROCHLORIC ACID
1252836	1 mL	Nitric Acid CONC.

Comments:

# Prep LogBook

Analyst: FGA      Verified by: \_\_\_\_\_  
 Batch: 942490  
 Lab SOP: GL-MA-E-006 REV# 9

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202017706	UI1246651-A	.5	mL
LCS	1202017706	UI1246654-B	.5	mL
MS	1202017708	UI090828-A	.5	mL
MS	1202017708	UI090828-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202017705		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
LCS	1202017706		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244844001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244849001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244880001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244893001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244895002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244912001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244919001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244922001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244925001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
DUP	1202017707	244925001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
MS	1202017708	244925001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SDILT	1202017709	244925001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
1252838	2.5 mL	HYDROCHLORIC ACID
1252836	1 mL	Nitric Acid CONC.

Comments:

# Prep LogBook

Analyst: TXB3      Verified by: \_\_\_\_\_  
 Batch: 943086  
 Lab SOP: GL-MA-E-010 REV# 23

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202019183	WHG100119-13	.2	mL
MS	1202019185	WHG100119-13	.2	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202019182		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
LCS	1202019183		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SAMPLE	244849001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SAMPLE	244880001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SAMPLE	244904001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SAMPLE	244904002		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SAMPLE	244904003		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SAMPLE	244904004		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SAMPLE	244922001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
DUP	1202019184	244922001	SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
MS	1202019185	244922001	SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER
SDILT	1202019186	244922001	SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
1176183	1 mL	Sulfuric Acid, Concentrated
1240182-1	.5 mL	NITRIC ACID
1234385-C	1.5 mL	5% Potassium Persulfate
1255535-C	3 mL	5% KMnO4 solution
1255532-C	1 mL	Hg reducing agent
WHG100119-06	500 uL	Mercury Working 2nd Source 5.0/ICV
WHG100119-01a	20 uL	Mercury Working 1st Source CAL 0.2/CRA
WHG100119-02	50 uL	Mercury Working 1st Source CAL 0.5
WHG100119-05	1 mL	Mercury Working 1st Source CAL 10.0
WHG100119-03	200 uL	Mercury Working 1st Source CAL 2.0
WHG100119-04	500 uL	Mercury Working 1st Source CAL 5.0/CCV

Comments: Digestion Start Date: 19-JAN-10 12:45  
 Digestion End Date: 19-JAN-10 14:45

# Prep LogBook

Analyst: AXG2      Verified by: \_\_\_\_\_  
 Batch: 945920  
 Lab SOP: GL-MA-E-006 REV# 9

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202026085	UI1246651-A	.25	mL
LCS	1202026085	UI1246654-B	.25	mL
MS	1202026087	UI090930-A	.25	mL
MS	1202026087	UI090930-B	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202026084		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
LCS	1202026085		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244829001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244829002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244829003		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244829004		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244844001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER
SAMPLE	244844002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER
SAMPLE	244844003		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER
SAMPLE	244844004		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER
SAMPLE	244849001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244880001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244893001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244895002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244904001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244904002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244904003		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244904004		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244912001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244919001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244922001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SAMPLE	244925001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
DUP	1202026086	244925001	SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
MS	1202026087	244925001	SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER
SDILT	1202026088	244925001	SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
1252838	1.25 mL	HYDROCHLORIC ACID
1234886	.5 mL	Nitric Acid CONC.

Comments:



# Standard Logbook

**Serial ID:** UHG1167639-01      **Opened:** 13-AUG-09      **Amount :** 125 mL  
**Name:** MHGSTOCK1      **Received:** 13-AUG-09      **Catalog Number :** PLHG4-2Y  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 15-37HG  
**Employee:** Bryan Davis      **Solvent :** 10% HNO3  
**Supplier:** Spex  
**Description:** Mercury Source Standard #1 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

**Serial ID:** UHG1167641-02      **Opened:** 13-AUG-09      **Amount :** 100 mL  
**Name:** MHGSTOCK2      **Received:** 13-AUG-09      **Catalog Number :** AHG1KN-100  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 4905530  
**Employee:** Bryan Davis      **Solvent :** 3% HNO3  
**Supplier:** Ricca Chemical Company  
**Description:** Mercury Source Standard #2 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

**Serial ID:** UI090422-40      **Opened:** 04-MAY-09      **Amount :** 500 mL  
**Name:** TRACE ICP ICSA SOLN A      **Received:** 22-APR-09      **Catalog Number :** 160005-01-03  
**Type:** Source Material      **Expires:** 04-MAY-10      **Lot Number :** 1013357  
**Employee:** Helen Camello      **Solvent :** 5%HNO3  
**Supplier:** o2si  
**Description:** TRACE ICP ICSA SOLN A mg/L+/-0.5%IN5%HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

**Serial ID:** UI090610-03      **Opened:** 10-JUN-09      **Catalog Number :** 060074-06-01  
**Name:** ICPMS Tungsten - 10mg/L      **Received:** 10-JUN-09      **Lot Number :** 1016338  
**Type:** Source Material      **Expires:** 10-JUN-10      **Solvent :** 2% HNO3  
**Employee:** Paul Boyd  
**Supplier:** O2SI  
**Description:** ICPMS Tungsten standard SPIKE - 10mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

# Standard Logbook

**Serial ID:** UI090701-09      **Opened:** 01-JUL-09      **Amount :** 250 mL  
**Name:** ICP-MS CRDL Master #1      **Received:** 01-JUL-09      **Catalog Number :** 160044-09-02  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016477  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% IN 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS CRDL Master Soln #1  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

**Serial ID:** UI090701-10      **Opened:** 01-JUL-09      **Amount :** 250 mL  
**Name:** ICP-MS CRDL Master #2      **Received:** 01-JUL-09      **Catalog Number :** 160044-08-02  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016476  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% IN 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS CRDL Soln #2  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI090701-40      **Opened:** 01-JUL-09      **Amount :** 500 mL  
**Name:** TRACE ICP Stock PQL Str      **Received:** 30-JUN-09      **Catalog Number :** 160543-01-03  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016475  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3+TrHF  
**Supplier:** 02si  
**Description:** TRACE ICP Stock PQL Standard  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
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# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

**Serial ID:** UI090828-42      **Opened:** 16-SEP-09      **Amount :** 500 mL  
**Name:** TRACE ICP Na-1000SOUR      **Received:** 27-AUG-09      **Catalog Number :** 060011-02-03  
**Type:** Source Material      **Expires:** 16-SEP-10      **Lot Number :** 1017098  
**Employee:** Helen Camello      **Solvent :** 1%HNO3  
**Supplier:** O2Si  
**Description:** Sodium 1000 +/- 3 ug/mL in 1% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

**Serial ID:** UI090828-A      **Opened:** 28-AUG-09      **Catalog Number :** 160067-02  
**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 27-AUG-09      **Lot Number :** 1017141  
**Type:** Source Material      **Expires:** 28-AUG-10  
**Employee:** Francena Armstrong      **Verified:** 21-NOV-08  
**Supplier:** O2Si  
**Description:** ICP-MS DOE liquid Spike Solution A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	4 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Silicon	200 mg/L
Sodium	200 mg/L	Strontium	5 mg/L
Thallium	10 mg/L	Thorium	5 mg/L
Total Uranium	5 mg/L	Uranium	5 mg/L
Uranium-235	.0364 mg/L	Uranium-238	4.96 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

**Serial ID:** UI090828-B      **Opened:** 28-AUG-09      **Catalog Number :** 160067-02  
**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 27-AUG-09      **Lot Number :** 1017141  
**Type:** Source Material      **Expires:** 28-AUG-10  
**Employee:** Francena Armstrong      **Verified:** 21-NOV-08  
**Supplier:** O2Si  
**Description:** ICP-MS DOE Liquid Spike Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UI090925-40      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX38-500N  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909129  
**Employee:** Helen Camello      **Solvent :** 5%HNO3  
**Supplier:** SPECTRO PURE  
**Description:** SECOND SOURCE STD #1A 5%HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

**Serial ID:** UI090925-41      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX39-500B  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909130  
**Employee:** Helen Camello      **Solvent :** 5%HNO3,TR.HF  
**Supplier:** SPECTRO PURE

# Standard Logbook

**Description:** SECOND SOURCE STD #1B

**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

**Serial ID:** UI090930-A      **Opened:** 30-SEP-09      **Catalog Number :** 160067-02

**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 28-SEP-09      **Lot Number :** 1017141

**Type:** Source Material      **Expires:** 30-SEP-10

**Employee:** Francena Armstrong      **Verified:** 21-NOV-08

**Supplier:** O2Si

**Description:** ICP-MS DOE liquid Spike Solution A

**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	4 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Silicon	200 mg/L
Sodium	200 mg/L	Strontium	5 mg/L
Thallium	10 mg/L	Thorium	5 mg/L
Total Uranium	5 mg/L	Uranium	5 mg/L
Uranium-235	.0364 mg/L	Uranium-238	4.96 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

**Serial ID:** UI090930-B      **Opened:** 30-SEP-09      **Catalog Number :** 160067-02

**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 28-SEP-09      **Lot Number :** 1017141

**Type:** Source Material      **Expires:** 30-SEP-10

**Employee:** Francena Armstrong      **Verified:** 21-NOV-08

**Supplier:** O2Si

**Description:** ICP-MS DOE Liquid Spike Solution B

**Comments:** None

Analyte	Concentration	Analyte	Concentration
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# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UI091015-42      **Opened:** 28-OCT-09      **Amount :** 500 mL  
**Name:** SI 1000mg/L      **Received:** 15-OCT-09      **Catalog Number :** 060014-02-03  
**Type:** Source Material      **Expires:** 28-OCT-10      **Lot Number :** 1017581  
**Employee:** Helen Camello      **Solvent :** 0.3%H2O(NH4)2SiF6  
**Supplier:** o2si  
**Description:** Silicon 1000mg/L+/-0.3%in H2O(NH4)2SiF6  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI091102-40      **Opened:** 16-NOV-09      **Amount :** 500 mL  
**Name:** TRACE CALSTD#1A SOUR      **Received:** 02-NOV-09      **Catalog Number :** HP2270-1-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number :** 0930215  
**Employee:** Helen Camello      **Solvent :** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Std #1A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

**Serial ID:** UI091102-41      **Opened:** 16-NOV-09      **Amount :** 500 mL  
**Name:** TRACE CALSTD#1B SOUR      **Received:** 02-NOV-09      **Catalog Number :** HP2270-2-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number :** 0930216  
**Employee:** Helen Camello      **Solvent :** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Standard #1B  
**Comments:** None

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L
Tin	200 mg/L	Titanium	200 mg/L

**Serial ID:** UI091102-42      **Opened:** 17-NOV-09      **Amount :** 200 mL  
**Name:** SILICON      **Received:** 02-NOV-09      **Catalog Number :** HP100050-4F  
**Type:** Source Material      **Expires:** 17-NOV-10      **Lot Number :** 0921924  
**Employee:** Helen Camello      **Solvent :** H2O/tr HF  
**Supplier:** ENVIRNMENTAL EXPRESS  
**Description:** SILICON 1000mg/L H2O/tr HF  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI091212-11      **Opened:** 12-DEC-09      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 12-DEC-09      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1015303  
**Employee:** Paul Boyd      **Solvent :** 2% HNO3  
**Supplier:** O2SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

**Serial ID:** UI091212-60      **Opened:** 12-DEC-09      **Amount :** .5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

**Serial ID:** UI091212-61      **Opened:** 12-DEC-09      **Amount :** .5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

**Serial ID:** UI091216-01      **Opened:** 16-DEC-09      **Lot Number :** 1018095  
**Name:** METALSPIKE-1      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix I  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL



# Standard Logbook

**Serial ID:** UI091216-06      **Opened:** 16-DEC-09      **Lot Number :** 1018096  
**Name:** METALSPIKE-2      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix II  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

**Serial ID:** UI091217-06      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master A      **Received:** 17-DEC-09      **Catalog Number :** 160055-01  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018209  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV SOLN A - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

**Serial ID:** UI091217-07      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master B      **Received:** 17-DEC-09      **Catalog Number :** 160054-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018210  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln B - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

**Serial ID:** UI091217-08      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master C      **Received:** 17-DEC-09      **Catalog Number :** 160054-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018211  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln C - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

**Serial ID:** UI091217-12      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master B      **Received:** 17-DEC-09      **Catalog Number :** 160033-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018212  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

# Standard Logbook

**Serial ID:** UI091217-13      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master C      **Received:** 17-DEC-09      **Catalog Number :** 160033-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1016926  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI100114-40      **Opened:** 14-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD-A      **Received:** 14-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 14-JAN-11      **Lot Number :** 1018160  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

**Serial ID:** UI100114-41      **Opened:** 14-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD B      **Received:** 14-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 14-JAN-11      **Lot Number :** 1018160  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

**Serial ID:** UI100114-48      **Opened:** 22-JAN-10      **Amount :** 1000 mL  
**Name:** Trace ICP ICSA      **Received:** 18-JAN-10      **Catalog Number :** 160005-02  
**Type:** Source Material      **Expires:** 22-JAN-11      **Lot Number :** 1018466  
**Employee:** Helen Camello      **Solvent :** 3% HCl + 1% HNO3  
**Supplier:** o2si  
**Description:** Trace ICP Interferent Check Standard A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L
Iron	200000 UG/L	Magnesium	500000 UG/L

**Serial ID:** UI100126-11      **Opened:** 26-JAN-10      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 26-JAN-10      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 26-JAN-11      **Lot Number :** 1018321  
**Employee:** Elizabeth Janssen      **Solvent :** 2% HNO3  
**Supplier:** 02SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

**Serial ID:** UI1246651-A      **Opened:** 23-DEC-09      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 23-DEC-09      **Lot Number :** 1018097  
**Type:** Source Material      **Expires:** 23-DEC-10  
**Employee:** Bryan Davis  
**Supplier:** O2si  
**Description:** ICP-MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution A).  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	5 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Bismuth	5 mg/L	Boron	10 mg/L
Cadmium	5 mg/L	Calcium	200 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Cesium	5 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	5 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorous	200 mg/L	Potassium	200 mg/L
Selenium	5 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	5 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

**Serial ID:** UI1246654-B      **Opened:** 23-DEC-09      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 23-DEC-09      **Lot Number :** 1017644  
**Type:** Source Material      **Expires:** 23-DEC-10  
**Employee:** Bryan Davis  
**Supplier:** O2si  
**Description:** MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution B).  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	5 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UMS090303-01      **Opened:** 03-MAR-09      **Amount :** 250 mL  
**Name:** ICPMSCalSPIKEB      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-100-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 14-81JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

# Standard Logbook

**Serial ID:** UMS090303-02      **Opened:** 03-MAR-09      **Catalog Number :** ZGEL-102-250  
**Name:** ICPMSCalSPIKEA      **Received:** 03-MAR-09      **Lot Number :** 14-83JB  
**Type:** Source Material      **Expires:** 28-FEB-10  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

**Serial ID:** UMS090303-03      **Opened:** 03-MAR-09      **Amount :** 250 ml  
**Name:** ICPMSCalSPIKEC      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-101-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 15-199JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

**Serial ID:** IHG100119-01      **Opened:** 19-JAN-10      **Instrument Id :** Mercury  
**Name:** MHGINTER1      **Received:** 19-JAN-10      **Pipet Id :** Minou1  
**Type:** Intermediate      **Expires:** 20-JAN-10      **Solvent :** 1mL HNO3 + TypeI H2O  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 1st Source 200 ug/L  
**Comments:** Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** IHG100119-02      **Opened:** 19-JAN-10      **Pipet Id :** Minou1  
**Name:** MHGINTER2      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Intermediate      **Expires:** 20-JAN-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 2nd Source 200 ug/L  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** WHG100119-01a      **Opened:** 19-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL0.2CRA      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 26-JAN-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 0.2/CRA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	20 uL	20 mL	.2 ug/L

**Serial ID:** WHG100119-02      **Opened:** 19-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL0.5      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 26-JAN-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 0.5  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	50 uL	20 mL	.5 ug/L

**Serial ID:** WHG100119-03      **Opened:** 19-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL2.0      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 26-JAN-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 2.0  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	200 uL	20 mL	2 ug/L

**Serial ID:** WHG100119-04      **Opened:** 19-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL5.0CCV      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 26-JAN-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 5.0/CCV  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

**Serial ID:** WHG100119-05      **Opened:** 19-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL10.0      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 26-JAN-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 10.0  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	1 mL	20 mL	10 ug/L

**Serial ID:** WHG100119-06      **Opened:** 19-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORK5.0ICV      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 26-JAN-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Working 2nd Source 5.0/ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100119-02	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

**Serial ID:** WHG100119-13      **Opened:** 19-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGLIQLCSMSSPIKE      **Received:** 19-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 26-JAN-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury working intermediate standard for LCS/MS  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** WI100126-42      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.1 PPM STD.      **Received:** 02-NOV-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL and 1%HNO3 -1259494  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP 0.1 PPM CALIBRATION STD.  
**Comments:** None



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100126-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100126-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100126-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100126-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100126-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

**Serial ID:** WI100126-43      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.5/CCV STD.      **Received:** 02-NOV-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL and 1%HNO3 -1259494  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP 0.5/CCV CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI091102-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L

**Serial ID:** W100126-44      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP SCAL 1.0      **Received:** 02-NOV-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL and 1 %HNO3-1259494  
**Employee:** Helen Camello  
**Supplier:** o2si  
**Description:** Trace ICP Calibration Standard 1.0ppm  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

**Serial ID:** WI100126-45      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP S-10 STD      **Received:** 22-APR-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL and 1%HNO3 -1259494  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP S-10 CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

# Standard Logbook

**Serial ID:** WI100126-46      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** ICP TRACE ICV      **Received:** 25-SEP-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL AND 1%HNO3-1259494  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** Initial Calibration Verification ICP Trace Metals  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

# Standard Logbook

**Serial ID:** WI100126-47      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** PQL Working Standard      **Received:** 30-JUN-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL &1%HNO3-1259494  
**Employee:** Helen Camello  
**Supplier:** 02si  
**Description:** PQL Working Standard  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

**Serial ID:** WMS100124-04      **Opened:** 24-JAN-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 24-JAN-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 25-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl-1256053  
**Supplier:** GEL

# Standard Logbook

**Description:** ICPMS Calibration Standard (100 ppb)

**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

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**Serial ID:** WMS100124-04A      **Opened:** 24-JAN-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 24-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1256053  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100124-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100124-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100124-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100124-05      **Opened:** 24-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 24-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1256053  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100124-06      **Opened:** 24-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 24-JAN-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1256053  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

**Serial ID:** WMS100124-07      **Opened:** 24-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 24-JAN-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 25-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl - 1256053  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100124-08      **Opened:** 24-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 24-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1256053  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

**Serial ID:** WMS100124-70      **Opened:** 24-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS LINEAR RANGE ST      **Received:** 24-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1253206  
**Employee:** Elizabeth Janssen  
**Supplier:** 02SI  
**Description:** ICPMS LINEAR RANGE STANDARD  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

**Serial ID:** WMS100125-04      **Opened:** 25-JAN-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 25-JAN-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 26-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl-1259290  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (100 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

**Serial ID:** WMS100125-04A      **Opened:** 25-JAN-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 25-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100125-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100125-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100125-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

# Standard Logbook

**Serial ID:** WMS100125-05      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 25-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

# Standard Logbook

**Serial ID:** WMS100125-06      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 25-JAN-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

# Standard Logbook

**Serial ID:** WMS100125-07      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 25-JAN-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 26-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100125-08      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 25-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

**Serial ID:** WMS100127-04      **Opened:** 27-JAN-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 27-JAN-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 28-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl-1259290  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (100 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

**Serial ID:** WMS100127-04A      **Opened:** 27-JAN-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 27-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 28-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100127-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100127-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100127-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100127-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100127-05      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 27-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 28-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100127-06      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 27-JAN-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 28-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

**Serial ID:** WMS100127-07      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 27-JAN-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 28-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100127-08      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 27-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 28-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

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**Serial ID:** 1156689-A      **Opened:** 20-JUL-09      **Lot Number :** 41226920  
**Name:** B-KMnO4(VWR)-MER      **Received:** 20-JUL-09  
**Type:** Reagent/Solvent      **Expires:** 20-JUL-10  
**Employee:** Tara Griffin      **Verified:** 07-AUG-07  
**Supplier:** VWR  
**Description:** Potassium Permanganate  
**Comments:** None

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# Standard Logbook

**Serial ID:** 1176183      **Opened:** 24-AUG-09      **Lot Number :** H20001  
**Name:** B-H2SO4-MER      **Received:** 24-AUG-09  
**Type:** Reagent/Solvent      **Expires:** 24-AUG-10  
**Employee:** Tara Griffin  
**Supplier:** Mallinckrodt  
**Description:** Sulfuric Acid, Concentrated  
**Comments:** None

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**Serial ID:** 1215906      **Opened:** 06-NOV-09      **Lot Number :** H44465  
**Name:** B-K2S2O8S-MER      **Received:** 06-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 06-NOV-10  
**Employee:** Tara Griffin  
**Supplier:** J.T BAKER  
**Description:** Potassium Persulfate Concentrate.  
**Comments:** None

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**Serial ID:** 1228372-A      **Opened:** 12-NOV-09      **Lot Number :** 49215936  
**Name:** B-NH2OH.HCl-MER      **Received:** 12-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 12-NOV-10  
**Employee:** Tara Griffin  
**Supplier:** Fisher Scientific  
**Description:** Hydroxylamine Hydrochloride  
**Comments:** None

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**Serial ID:** 1234385-C      **Opened:** 25-NOV-09      **Balance Id :** BAL-002  
**Name:** B-K2S2O8-MER      **Received:** 25-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 25-MAY-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** 5% Potassium Persulfate  
**Comments:** None

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Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1215906	B-K2S2O8S-MER	N/A	50 g	1000 mL	N/A

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**Serial ID:** 1234886      **Opened:** 27-NOV-09      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 27-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 27-NOV-10  
**Employee:** Bryan Davis  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

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# Standard Logbook

**Serial ID:** 1238345      **Opened:** 04-DEC-09      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 04-DEC-09  
**Type:** Reagent/Solvent      **Expires:** 04-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

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**Serial ID:** 1240182-1      **Opened:** 09-DEC-09      **Instrument Id :** MERCURY  
**Name:** B-HNO3-MER      **Received:** 09-DEC-09      **Lot Number :** H34040  
**Type:** Reagent/Solvent      **Expires:** 09-DEC-10  
**Employee:** Tara Griffin  
**Supplier:** Mallinckrodt Chemicals  
**Description:** NITRIC ACID  
**Comments:** None

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**Serial ID:** 1244970      **Opened:** 18-DEC-09      **Lot Number :** H41032  
**Name:** I-HCL      **Received:** 18-DEC-09      **Preservative\_Id :** 5 none  
**Type:** Reagent/Solvent      **Expires:** 18-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** J.T. BAKER  
**Description:** HYDROCHLORIC ACID  
**Comments:** None

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**Serial ID:** 1252836      **Opened:** 08-JAN-10      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 08-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 08-JAN-11  
**Employee:** Francena Armstrong  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

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**Serial ID:** 1252838      **Opened:** 08-JAN-10      **Lot Number :** H41032  
**Name:** I-HCL      **Received:** 08-JAN-10      **Preservative\_Id :** 5 none  
**Type:** Reagent/Solvent      **Expires:** 08-JAN-11  
**Employee:** Francena Armstrong  
**Supplier:** J.T. BAKER  
**Description:** HYDROCHLORIC ACID  
**Comments:** None

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# Standard Logbook

**Serial ID:** 1255532-C      **Opened:** 15-JAN-10      **Balance Id :** BAL-002  
**Name:** B-NaCl.NH2OH.HCl-MER      **Received:** 15-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 15-JUL-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Hg reducing agent  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

**Serial ID:** 1255535-C      **Opened:** 15-JAN-10      **Balance Id :** BAL-002  
**Name:** B-KMnO4-MER      **Received:** 15-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 15-JUL-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** 5% KMnO4 solution  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

**Serial ID:** 1256053      **Opened:** 18-JAN-10      **Solvent :** Type I Water  
**Name:** B-2%HNO3/1%HCl-ICPMS      **Received:** 18-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 25-JAN-10  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** 2%HNO3/1%HCl Solution (Type I Water)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

**Serial ID:** 1259290      **Opened:** 25-JAN-10      **Solvent :** Type I Water  
**Name:** B-2%HNO3/1%HCl-ICPMS      **Received:** 25-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 01-FEB-10  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** 2%HNO3/1%HCl Solution (Type I Water)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1252836	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1252838	I-HCL	36.5-38.0	90 mL	9 l	N/A

# Standard Logbook

**Serial ID:** 1259494      **Opened:** 25-JAN-10      **Amount :** 20 L  
**Name:** B-ICP-RINSE SOLN      **Received:** 28-DEC-10      **Lot Number :** H04040+G34050  
**Type:** Reagent/Solvent      **Expires:** 31-JAN-10      **Solvent :** 3%HCL+1%HNO3  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** 3%HCL+1%HNO3 RINSE SOLN.  
**Comments:** None

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# **General Chemistry**

## **Analysis**

# Case Narrative

**General Chemistry Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262**

**Method/Analysis Information**

**Product:** Cyanide, Total

**Analytical Batch:** 942457      **Method:** SW846 9012A

**Prep Batch :** 942455      **Method:** SW846 9010B Prep

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202017527	Method Blank (MB)
1202017528	244847001(RE12-10-7272) Sample Duplicate (DUP)
1202017529	244847002(RE12-10-7273) Sample Duplicate (DUP)
1202017530	244847001(RE12-10-7272) Matrix Spike (MS)
1202017531	244847002(RE12-10-7273) Matrix Spike (MS)
1202017532	244847001(RE12-10-7272) Matrix Spike Duplicate (MSD)
1202017533	244847002(RE12-10-7273) Matrix Spike Duplicate (MSD)
1202017534	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 12.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC, and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

The following samples were selected for QC analysis: 244847001 (RE12-10-7272) and 244847002 (RE12-10-7273).

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries for this sample set were within the required acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPDs between the spike and spike duplicate met the acceptance limits.

**Duplicate Relative Percent Difference (RPD) Statement**

The values for the sample and duplicate are less than the Practical Quantitation Limit (PQL); therefore, the RPD is not applicable. 1202017528 (RE12-10-7272) and 244847001 (RE12-10-7272).

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Preservation/Integrity**

All the samples from this sample group met the preservation and integrity requirements of the method.

**Sample Dilutions**

The following sample in this sample group was diluted due to high concentration: 1202017534 (LCS).

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

### **Miscellaneous Information**

#### **Data Exception (DER) Documentation**

A DER was not required for this SDG.

#### **Additional Comments**

Additional comments were not required for this SDG.

#### **Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

### **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

### **Review Validation:**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

**The following data validator verified the information presented in this case narrative:**

Reviewer:  Date: 05Feb10



# Sample Data Summary

## GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis Report for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1262 GEL Work Order: 244847

**The Qualifiers in this report are defined as follows:**

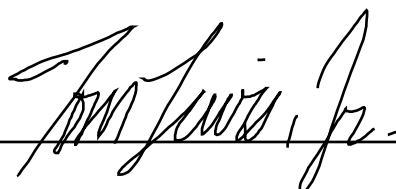
- \* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- \*\* Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

A handwritten signature in black ink, appearing to read "Tom Lewis, Jr.", is written over a horizontal line.

# GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company : Los Alamos National Laboratory

Address : PO Box 1663

TA-03, SM271, Drop Pt. 02U, Rm111

Los Alamos, New Mexico 87545

Contact: Ms. Joylene Valdez

Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7272  
Sample ID: 244847001  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 12.6%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	68.2	251	ug/kg	1	AXC2	01/18/10	1531	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

# GEL LABORATORIES LLC

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## Certificate of Analysis

Company : Los Alamos National Laboratory

Address : PO Box 1663

TA-03, SM271, Drop Pt. 02U, Rm111

Los Alamos, New Mexico 87545

Contact: Ms. Joylene Valdez

Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7273  
Sample ID: 244847002  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 13.3%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	72.6	267	ug/kg	1	AXC2	01/18/10	1555	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Los Alamos, New Mexico 87545

Contact: Ms. Joylene Valdez

Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7274  
Sample ID: 244847003  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 15.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	73.2	269	ug/kg	1	AXC2	01/18/10	1558	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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## Certificate of Analysis

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Los Alamos, New Mexico 87545

Contact: Ms. Joylene Valdez

Project: **LANL ER Project**

Report Date: February 1, 2010

Client SDG: 10-1262

Client Sample ID: RE12-10-7281  
Sample ID: 244847004  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 9.89%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	71.2	262	ug/kg	1	AXC2	01/18/10	1559	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

# **Quality Control Summary**

# GEL LABORATORIES LLC

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## QC Summary

Report Date: February 1, 2010  
Page 1 of 2

Los Alamos National Laboratory  
PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm111  
Los Alamos, New Mexico  
Ms. Joylene Valdez

Contact:

Workorder: 244847

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Flow Injection Analysis											
Batch	942457										
QC1202017528	244847001	DUP									
Cyanide, Total		U	ND	J	82.6	ug/kg	200	(+/-265)	AXC2	01/18/10	15:32
QC1202017529	244847002	DUP									
Cyanide, Total		U	ND	U	ND	ug/kg	N/A			01/18/10	15:55
QC1202017534	LCS										
Cyanide, Total		67900			71500	ug/kg	105	(46%-145%)		01/18/10	15:25
QC1202017527	MB										
Cyanide, Total			U		250	ug/kg				01/18/10	15:24
QC1202017530	244847001	MS									
Cyanide, Total		5610	U	ND	5150	ug/kg	91.8	(50%-130%)		01/18/10	15:53
QC1202017531	244847002	MS									
Cyanide, Total		5650	U	ND	4930	ug/kg	87.1	(50%-130%)		01/18/10	15:56
QC1202017532	244847001	MSD									
Cyanide, Total		5300	U	ND	4690	ug/kg	9.26	88.6	(0%-30%)	01/18/10	15:54
QC1202017533	244847002	MSD									
Cyanide, Total		5770	U	ND	4780	ug/kg	2.96	82.9	(0%-30%)	01/18/10	15:57

### Notes:

RER is calculated at the 95% confidence level (2-sigma).

The Qualifiers in this report are defined as follows:

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

E Organics--Concentration of the target analyte exceeds the instrument calibration range

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based



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**Workorder: 244847**

Page 2 of 2

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

# **Instrument QC Data Summary**

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 01-FEB-2010 14:48

**GEL Laboratories LLC**

**Contract: LANL01004**

**SDG #: 10-1262**

Flow Injection Analysis

Method: SW846 9012A

Concentration Units:ug/L

Instrument: Lachat QuickChem FIA+ 8000 Series

Parmname: Cyanide, Total

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
<b>ICV</b>	<b>18-JAN-2010 12:46:12</b>	<b>OM_1-18-2010_12-35-44</b>	<b>156</b>	<b>150</b>	<b>104</b>	<b>(90%-110%)</b>	<b>Yes</b>
CCV	18-JAN-2010 15:20:51	OM_1-18-2010_15-20-05	105	100	105	(90%-110%)	Yes
CCV	18-JAN-2010 15:33:18	OM_1-18-2010_15-20-05	107	100	107	(90%-110%)	Yes
CCV	18-JAN-2010 15:48:49	OM_1-18-2010_15-47-18	102	100	102	(90%-110%)	Yes
CCV	18-JAN-2010 16:01:14	OM_1-18-2010_15-47-18	102	100	102	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
<b>ICB</b>	<b>18-JAN-2010 12:48:02</b>	<b>OM_1-18-2010_12-35-44</b>	<b>-3.54</b>	<b>5</b>	<b>Yes</b>
CCB	18-JAN-2010 15:22:41	OM_1-18-2010_15-20-05	-3.73	5	Yes
CCB	18-JAN-2010 15:35:09	OM_1-18-2010_15-20-05	-3.64	5	Yes
CCB	18-JAN-2010 15:50:40	OM_1-18-2010_15-47-18	-3.5	5	Yes
CCB	18-JAN-2010 16:03:05	OM_1-18-2010_15-47-18	-3.61	5	Yes

# Cyanide, Total

# Prep LogBook

Analyst: AXS5      Verified by: \_\_\_\_\_  
 Batch: 942455  
 Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202017534	URF1200957-01	.25	g
MS	1202017530	URF1184831-02	.025	mL
MS	1202017531	URF1184831-02	.025	mL
MSD	1202017532	URF1184831-02	.025	mL
MSD	1202017533	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202017527		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.5 g	25 mL	50	SOIL
LCS	1202017534		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.25 g	25 mL	100	SOIL
SAMPLE	244721009		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244721010		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244721011		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244721012		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.57 g	25 mL	43.85965	SOIL
SAMPLE	244721013		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244810001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.567 g	25 mL	44.09171	MISC SOLID
SAMPLE	244847001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.57 g	25 mL	43.85965	SOIL
DUP	1202017528	244847001	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963	SOIL
MS	1202017530	244847001	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961	SOIL
MSD	1202017532	244847001	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244847002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963	SOIL
DUP	1202017529	244847002	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455	SOIL
MS	1202017531	244847002	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961	SOIL
MSD	1202017533	244847002	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244847003		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244847004		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.53 g	25 mL	47.16981	SOIL
SAMPLE	244852001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.53 g	25 mL	47.16981	SOIL
SAMPLE	244852002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244852003		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244852004		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.56 g	25 mL	44.64286	SOIL
SAMPLE	244881001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244881002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244881003		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244881004		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244921001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244921002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692	SOIL

# Prep LogBook

Reagent/Solvent Lot ID	Amount	Description	Comments
091211-C	25 mL	0.25N Sodium Hydroxide Solution	
WCN100118-07	.0375 mL	150 ppb CN Distilled ICV Standard	
1176724-C	1.25 mL	0.8N H3NO3S	
1238146-C	2.5 mL	50% H2SO4 CN Prep	
1176778-C	1 mL	51% MgCl2 Soln	
1238142-C	1.25 mL	Bismuth Nitrate Solution	

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/18/2010 12:39:03	OM_1-18-2010_12-35-44
150 ppb		1	axc2	1/18/2010 12:39:55	OM_1-18-2010_12-35-44
100 ppb		1	axc2	1/18/2010 12:40:48	OM_1-18-2010_12-35-44
50 ppb		1	axc2	1/18/2010 12:41:40	OM_1-18-2010_12-35-44
10 ppb		1	axc2	1/18/2010 12:42:34	OM_1-18-2010_12-35-44
CRDL 5.0 ppb		1	axc2	1/18/2010 12:43:27	OM_1-18-2010_12-35-44
ICAL-00		1	axc2	1/18/2010 12:44:21	OM_1-18-2010_12-35-44
ICV		1	axc2	1/18/2010 12:46:12	OM_1-18-2010_12-35-44
ICB		1	axc2	1/18/2010 12:48:02	OM_1-18-2010_12-35-44
CRDL		1	axc2	1/18/2010 12:49:52	OM_1-18-2010_12-35-44
1202013064	940627	1	axc2	1/18/2010 12:51:41	OM_1-18-2010_12-35-44
1202013071	940627	1	axc2	1/18/2010 12:52:35	OM_1-18-2010_12-35-44
244226001	940627	1	axc2	1/18/2010 12:53:28	OM_1-18-2010_12-35-44
1202013065	940627	1	axc2	1/18/2010 12:54:21	OM_1-18-2010_12-35-44
1202013067	940627	1	axc2	1/18/2010 12:55:14	OM_1-18-2010_12-35-44
1202013069	940627	1	axc2	1/18/2010 12:56:07	OM_1-18-2010_12-35-44
244226002	940627	1	axc2	1/18/2010 12:57:00	OM_1-18-2010_12-35-44
244236001	940627	1	axc2	1/18/2010 12:57:52	OM_1-18-2010_12-35-44
1202013066	940627	1	axc2	1/18/2010 12:58:45	OM_1-18-2010_12-35-44
1202013068	940627	1	axc2	1/18/2010 12:59:37	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:00:29	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:02:19	OM_1-18-2010_12-35-44
1202013070	940627	1	axc2	1/18/2010 13:04:08	OM_1-18-2010_12-35-44
244236004	940627	1	axc2	1/18/2010 13:05:00	OM_1-18-2010_12-35-44
244240002	940627	1	axc2	1/18/2010 13:05:51	OM_1-18-2010_12-35-44
244243001	940627	1	axc2	1/18/2010 13:06:43	OM_1-18-2010_12-35-44
244243002	940627	1	axc2	1/18/2010 13:07:35	OM_1-18-2010_12-35-44
244243003	940627	1	axc2	1/18/2010 13:08:28	OM_1-18-2010_12-35-44
244243004	940627	1	axc2	1/18/2010 13:09:22	OM_1-18-2010_12-35-44
244516001	940627	1	axc2	1/18/2010 13:10:16	OM_1-18-2010_12-35-44
244516002	940627	1	axc2	1/18/2010 13:11:09	OM_1-18-2010_12-35-44
244523001	940627	1	axc2	1/18/2010 13:12:02	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:12:54	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:14:44	OM_1-18-2010_12-35-44
244525001	940627	1	axc2	1/18/2010 13:16:33	OM_1-18-2010_12-35-44
244525003	940627	1	axc2	1/18/2010 13:17:26	OM_1-18-2010_12-35-44
244532001	940627	1	axc2	1/18/2010 13:18:19	OM_1-18-2010_12-35-44
244537001	940627	1	axc2	1/18/2010 13:19:11	OM_1-18-2010_12-35-44
244574001	940627	1	axc2	1/18/2010 13:20:04	OM_1-18-2010_12-35-44
244580001	940627	1	axc2	1/18/2010 13:20:56	OM_1-18-2010_12-35-44
244583001	940627	1	axc2	1/18/2010 13:21:49	OM_1-18-2010_12-35-44
244609005	940627	1	axc2	1/18/2010 13:22:40	OM_1-18-2010_12-35-44
1202016420	941969	1	axc2	1/18/2010 13:23:32	OM_1-18-2010_12-35-44
1202016427	941969	25	axc2	1/18/2010 13:24:24	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:25:17	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:27:07	OM_1-18-2010_12-35-44
244622003	941969	1	axc2	1/18/2010 13:28:58	OM_1-18-2010_12-35-44
1202016421	941969	1	axc2	1/18/2010 13:29:52	OM_1-18-2010_12-35-44
1202016423	941969	1	axc2	1/18/2010 13:30:45	OM_1-18-2010_12-35-44
1202016425	941969	1	axc2	1/18/2010 13:31:38	OM_1-18-2010_12-35-44
244622004	941969	1	axc2	1/18/2010 13:32:31	OM_1-18-2010_12-35-44
244622005	941969	1	axc2	1/18/2010 13:33:24	OM_1-18-2010_12-35-44
244622006	941969	1	axc2	1/18/2010 13:34:17	OM_1-18-2010_12-35-44
244622007	941969	1	axc2	1/18/2010 13:35:10	OM_1-18-2010_12-35-44
244622008	941969	1	axc2	1/18/2010 13:36:04	OM_1-18-2010_12-35-44
244768001	941969	1	axc2	1/18/2010 13:36:56	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:37:49	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:39:38	OM_1-18-2010_12-35-44

244768002	941969	1	axc2	1/18/2010	13:41:27	OM_1-18-2010_12-35-44
244768003	941969	1	axc2	1/18/2010	13:42:19	OM_1-18-2010_12-35-44
244768004	941969	1	axc2	1/18/2010	13:43:12	OM_1-18-2010_12-35-44
244768005	941969	1	axc2	1/18/2010	13:44:03	OM_1-18-2010_12-35-44
244768006	941969	1	axc2	1/18/2010	13:44:55	OM_1-18-2010_12-35-44
244768007	941969	1	axc2	1/18/2010	13:45:50	OM_1-18-2010_12-35-44
244768008	941969	1	axc2	1/18/2010	13:46:44	OM_1-18-2010_12-35-44
244768009	941969	1	axc2	1/18/2010	13:47:37	OM_1-18-2010_12-35-44
244768010	941969	1	axc2	1/18/2010	13:48:31	OM_1-18-2010_12-35-44
244773001	941969	1	axc2	1/18/2010	13:49:24	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	13:50:17	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	13:52:07	OM_1-18-2010_12-35-44
1202016422	941969	1	axc2	1/18/2010	13:53:57	OM_1-18-2010_12-35-44
1202016424	941969	1	axc2	1/18/2010	13:54:50	OM_1-18-2010_12-35-44
1202016426	941969	1	axc2	1/18/2010	13:55:43	OM_1-18-2010_12-35-44
244773002	941969	1	axc2	1/18/2010	13:56:36	OM_1-18-2010_12-35-44
244773003	941969	1	axc2	1/18/2010	13:57:28	OM_1-18-2010_12-35-44
244773004	941969	1	axc2	1/18/2010	13:58:21	OM_1-18-2010_12-35-44
244609005	940627	5	axc2	1/18/2010	13:59:14	OM_1-18-2010_12-35-44
1202017519	942453	1	axc2	1/18/2010	14:00:07	OM_1-18-2010_12-35-44
1202017520	942453	1	axc2	1/18/2010	14:01:01	OM_1-18-2010_12-35-44
1202017521	942453	1	axc2	1/18/2010	14:01:56	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:02:47	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:04:37	OM_1-18-2010_12-35-44
244810001	942453	1	axc2	1/18/2010	14:06:27	OM_1-18-2010_12-35-44
1202012091*	940249	1	axc2	1/18/2010	14:07:21	OM_1-18-2010_12-35-44
1202012098*	940249	25	axc2	1/18/2010	14:08:12	OM_1-18-2010_12-35-44
244228002	940249	1	axc2	1/18/2010	14:09:04	OM_1-18-2010_12-35-44
1202012096	940249	1	axc2	1/18/2010	14:09:56	OM_1-18-2010_12-35-44
1202012094	940249	1	axc2	1/18/2010	14:10:51	OM_1-18-2010_12-35-44
1202012092	940249	1	axc2	1/18/2010	14:11:45	OM_1-18-2010_12-35-44
244228003	940249	1	axc2	1/18/2010	14:12:39	OM_1-18-2010_12-35-44
1202012093	940249	1	axc2	1/18/2010	14:13:33	OM_1-18-2010_12-35-44
1202012095	940249	1	axc2	1/18/2010	14:14:26	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:15:18	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:17:09	OM_1-18-2010_12-35-44
1202012091	940249	1	axc2	1/18/2010	14:18:58	OM_1-18-2010_12-35-44
1202012098	940249	25	axc2	1/18/2010	14:19:51	OM_1-18-2010_12-35-44
1202012097	940249	1	axc2	1/18/2010	14:20:44	OM_1-18-2010_12-35-44
244228004	940249	1	axc2	1/18/2010	14:21:37	OM_1-18-2010_12-35-44
244228005	940249	1	axc2	1/18/2010	14:22:30	OM_1-18-2010_12-35-44
244228006	940249	1	axc2	1/18/2010	14:23:23	OM_1-18-2010_12-35-44
244242001	940249	1	axc2	1/18/2010	14:24:17	OM_1-18-2010_12-35-44
244242002	940249	1	axc2	1/18/2010	14:25:09	OM_1-18-2010_12-35-44
244242003	940249	1	axc2	1/18/2010	14:26:02	OM_1-18-2010_12-35-44
244242004	940249	1	axc2	1/18/2010	14:26:54	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:27:47	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:29:37	OM_1-18-2010_12-35-44
244242005	940249	1	axc2	1/18/2010	14:31:26	OM_1-18-2010_12-35-44
244242006	940249	1	axc2	1/18/2010	14:32:18	OM_1-18-2010_12-35-44
244242007	940249	1	axc2	1/18/2010	14:33:12	OM_1-18-2010_12-35-44
244242008	940249	1	axc2	1/18/2010	14:34:06	OM_1-18-2010_12-35-44
244242009	940249	1	axc2	1/18/2010	14:35:01	OM_1-18-2010_12-35-44
244242010	940249	1	axc2	1/18/2010	14:35:55	OM_1-18-2010_12-35-44
244242011	940249	1	axc2	1/18/2010	14:36:48	OM_1-18-2010_12-35-44
244242012	940249	1	axc2	1/18/2010	14:37:42	OM_1-18-2010_12-35-44
244242013	940249	1	axc2	1/18/2010	14:38:36	OM_1-18-2010_12-35-44
244242014	940249	1	axc2	1/18/2010	14:39:29	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:40:21	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:42:12	OM_1-18-2010_12-35-44



1202012065	940244	1	axc2	1/18/2010	14:44:01	OM_1-18-2010_12-35-44
1202012072	940244	25	axc2	1/18/2010	14:44:54	OM_1-18-2010_12-35-44
244139009	940244	1	axc2	1/18/2010	14:45:47	OM_1-18-2010_12-35-44
1202012066	940244	1	axc2	1/18/2010	14:46:40	OM_1-18-2010_12-35-44
1202012068	940244	1	axc2	1/18/2010	14:47:32	OM_1-18-2010_12-35-44
1202012070	940244	1	axc2	1/18/2010	14:48:25	OM_1-18-2010_12-35-44
244139010	940244	1	axc2	1/18/2010	14:49:18	OM_1-18-2010_12-35-44
1202012067	940244	1	axc2	1/18/2010	14:50:12	OM_1-18-2010_12-35-44
1202012069	940244	1	axc2	1/18/2010	14:51:07	OM_1-18-2010_12-35-44
1202012071	940244	1	axc2	1/18/2010	14:52:01	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:52:53	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:54:43	OM_1-18-2010_12-35-44
244139011	940244	1	axc2	1/18/2010	14:56:34	OM_1-18-2010_12-35-44
244139012	940244	1	axc2	1/18/2010	14:57:28	OM_1-18-2010_12-35-44
244227001	940244	1	axc2	1/18/2010	14:58:22	OM_1-18-2010_12-35-44
244227002	940244	1	axc2	1/18/2010	14:59:16	OM_1-18-2010_12-35-44
244227003	940244	1	axc2	1/18/2010	15:00:09	OM_1-18-2010_12-35-44
244227004	940244	1	axc2	1/18/2010	15:01:03	OM_1-18-2010_12-35-44
244227005	940244	1	axc2	1/18/2010	15:01:56	OM_1-18-2010_12-35-44
244227006	940244	1	axc2	1/18/2010	15:02:50	OM_1-18-2010_12-35-44
244227007	940244	1	axc2	1/18/2010	15:03:43	OM_1-18-2010_12-35-44
244227008	940244	1	axc2	1/18/2010	15:04:35	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	15:05:28	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	15:07:18	OM_1-18-2010_12-35-44
244227009	940244	1	axc2	1/18/2010	15:09:08	OM_1-18-2010_12-35-44
244227010	940244	1	axc2	1/18/2010	15:10:00	OM_1-18-2010_12-35-44
244227011	940244	1	axc2	1/18/2010	15:10:55	OM_1-18-2010_12-35-44
244227012	940244	1	axc2	1/18/2010	15:11:50	OM_1-18-2010_12-35-44
244227013	940244	1	axc2	1/18/2010	15:12:44	OM_1-18-2010_12-35-44
244227014	940244	1	axc2	1/18/2010	15:13:38	OM_1-18-2010_12-35-44
244227015	940244	1	axc2	1/18/2010	15:14:33	OM_1-18-2010_12-35-44
244228001	940244	1	axc2	1/18/2010	15:15:27	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	15:16:19	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	15:18:10	OM_1-18-2010_12-35-44

Original Run Filename: OM\_1-18-2010\_12-35-44.OMN created 1/18/2010 12:35:44  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-18-2010\_12-35-44.OMN last modified 1/18/2010 15:19:15  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1		Detection Time	ADF	MDF	Description
			TCYANIDE					
			Conc. (ug/L)	Area (Vs)				
WCN100118-01	1	S1	200	6.39	1/18/2010@12:39:03			200 ppb
WCN100118-02	1	S2	150	4.99	1/18/2010@12:39:55			150 ppb
WCN100118-03	1	S3	100	3.39	1/18/2010@12:40:48			100 ppb
WCN100118-04	1	S4	50.0	1.78	1/18/2010@12:41:40			50 ppb
WCN100118-05	1	S5	10.0	0.425	1/18/2010@12:42:34			10 ppb
WCN100118-06	1	S6	5.00	0.276	1/18/2010@12:43:27			CRDL 5.0 ppb
WCN100118-08	1	S7	0.00	0.0116	1/18/2010@12:44:21			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99944 > 0.99500					
Message			Pass					
Action			Continue					
WCN100118-07	1	S8	156	5.09	1/18/2010@12:46:12			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			3.7 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			3.7 < 10.0					
Message			ICV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.54	-0.00105	1/18/2010@12:48:02			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.54 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.54 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100118-06	1	S6	4.85	0.267	1/18/2010@12:49:52			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			4.85 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			4.85 > 2.50					
Message			Pass					
Action			None					
1202013064 940627 MB	1	1	-2.14	0.0438	1/18/2010@12:51:41			
1202013071  LCS	1	2	53.9	1.84	1/18/2010@12:52:35			
244226001	1	3	-2.70	0.0257	1/18/2010@12:53:28			
1202013065  DUP	1	4	-2.50	0.0320	1/18/2010@12:54:21			
1202013067  MS	1	5	99.5	3.30	1/18/2010@12:55:14			
1202013069  MSD	1	6	108	3.56	1/18/2010@12:56:07			
244226002	1	7	-2.72	0.0251	1/18/2010@12:57:00			
244236001	1	8	-2.86	0.0207	1/18/2010@12:57:52			
1202013066  DUP	1	9	-2.28	0.0393	1/18/2010@12:58:45			
1202013068  MS	1	10	105	3.46	1/18/2010@12:59:37			
WCN100118-03	1	S3	109	3.59	1/18/2010@13:00:29			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			8.8 < 10.0					
Message			CCV Passed					
Action			Continue					

DQM Test: < - Percent Relative Difference							
Result:			8.8 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100118-08	1	S7	-2.87	0.0203	1/18/2010@13:02:19		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-2.87 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-2.87 > -5.00				
Message			CCB Passed				
Action			Continue				
1202013070 MSD	1	11	105	3.49	1/18/2010@13:04:08		
244236004	1	12	-2.08	0.0457	1/18/2010@13:05:00		
244240002	1	13	-3.50	-8.65e-6	1/18/2010@13:05:51		
244243001	1	14	-3.66	-0.00508	1/18/2010@13:06:43		
244243002	1	15	-2.84	0.0212	1/18/2010@13:07:35		
244243003	1	16	-2.79	0.0230	1/18/2010@13:08:28		
244243004	1	17	-2.27	0.0396	1/18/2010@13:09:22		
244516001	1	18	-2.40	0.0353	1/18/2010@13:10:16		
244516002	1	19	-2.08	0.0457	1/18/2010@13:11:09		
244523001	1	20	-3.86	-0.0114	1/18/2010@13:12:02		
WCN100118-03	1	S3	109	3.60	1/18/2010@13:12:54		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			9.0 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			9.0 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100118-08	1	S7	-4.31	-0.0257	1/18/2010@13:14:44		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-4.31 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-4.31 > -5.00				
Message			CCB Passed				
Action			Continue				
244525001	1	21	-2.34	0.0371	1/18/2010@13:16:33		
244525003	1	22	-2.43	0.0342	1/18/2010@13:17:26		
244532001	1	23	7.91	0.365	1/18/2010@13:18:19		
244537001	1	24	-1.03	0.0790	1/18/2010@13:19:11		
244574001	1	25	-0.528	0.0952	1/18/2010@13:20:04		
244580001	1	26	-1.41	0.0669	1/18/2010@13:20:56		
244583001	1	27	10.8	0.459	1/18/2010@13:21:49		
244609005	1	28	328	10.6	1/18/2010@13:22:40		
1202016420 941969 MB	1	29	-1.71	0.0574	1/18/2010@13:23:32		
1202016427 LCS	1	30	27.2	0.982	1/18/2010@13:24:24	25.00	
WCN100118-03	1	S3	109	3.59	1/18/2010@13:25:17		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			8.6 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			8.6 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100118-08	1	S7	-1.95	0.0499	1/18/2010@13:27:07		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-1.95 < 5.00				

Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-1.95 > -5.00					
Message			CCB Passed					
Action			Continue					
244622003	1	31	-1.57	0.0620	1/18/2010@13:28:58			
1202016421  DUP	1	32	-2.30	0.0384	1/18/2010@13:29:52			
1202016423  MS	1	33	102	3.36	1/18/2010@13:30:45			
1202016425  MSD	1	34	105	3.46	1/18/2010@13:31:38			
244622004	1	35	-2.58	0.0297	1/18/2010@13:32:31			
244622005	1	36	-2.62	0.0283	1/18/2010@13:33:24			
244622006	1	37	-2.32	0.0379	1/18/2010@13:34:17			
244622007	1	38	-2.27	0.0394	1/18/2010@13:35:10			
244622008	1	39	-1.49	0.0644	1/18/2010@13:36:04			
244768001	1	40	5.61	0.292	1/18/2010@13:36:56			
WCN100118-03	1	S3	108	3.58	1/18/2010@13:37:49			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			8.5 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			8.5 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.50	-1.72e-6	1/18/2010@13:39:38			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.50 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.50 > -5.00					
Message			CCB Passed					
Action			Continue					
244768002	1	41	-2.73	0.0249	1/18/2010@13:41:27			
244768003	1	42	-2.84	0.0214	1/18/2010@13:42:19			
244768004	1	43	-2.54	0.0309	1/18/2010@13:43:12			
244768005	1	44	-1.22	0.0731	1/18/2010@13:44:03			
244768006	1	45	-2.45	0.0337	1/18/2010@13:44:55			
244768007	1	46	-2.55	0.0307	1/18/2010@13:45:50			
244768008	1	47	-2.10	0.0449	1/18/2010@13:46:44			
244768009	1	48	-1.29	0.0708	1/18/2010@13:47:37			
244768010	1	49	-1.30	0.0706	1/18/2010@13:48:31			
244773001	1	50	-2.37	0.0364	1/18/2010@13:49:24			
WCN100118-03	1	S3	108	3.56	1/18/2010@13:50:17			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			7.8 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			7.8 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.12	0.0122	1/18/2010@13:52:07			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.12 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.12 > -5.00					
Message			CCB Passed					
Action			Continue					
1202016422  DUP	1	51	-2.60	0.0290	1/18/2010@13:53:57			
1202016424  MS	1	52	93.1	3.09	1/18/2010@13:54:50			

1202016426  MSD	1	53	95.7	3.18	1/18/2010@13:55:43			
244773002	1	54	-2.43	0.0343	1/18/2010@13:56:36			
244773003	1	55	-1.87	0.0522	1/18/2010@13:57:28			
244773004	1	56	-2.08	0.0457	1/18/2010@13:58:21			
244609005 940627	1	28	60.8	2.06	1/18/2010@13:59:14		5.00	
1202017519 942453 MB	1	112	-2.32	0.0378	1/18/2010@14:00:07			
1202017520  LCS	1	113	-2.48	0.0329	1/18/2010@14:01:01			
1202017521  LCSD	1	114	-3.68	-0.00553	1/18/2010@14:01:56			
WCN100118-03	1	S3	107	3.55	1/18/2010@14:02:47			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			7.5 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			7.5 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.63	-0.00401	1/18/2010@14:04:37			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.63 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.63 > -5.00					
Message			CCB Passed					
Action			Continue					
244810001	1	115	162	5.31	1/18/2010@14:06:27			
1202012091 940249 MB	1	57	615	19.8	1/18/2010@14:07:21			
1202012098  LCS	1	58	-1.60	0.0610	1/18/2010@14:08:12		25.00	
244228002	1	59	0.0437	0.114	1/18/2010@14:09:04			
1202012096  MSD	1	60	90.3	3.00	1/18/2010@14:09:56			
1202012094  MS	1	61	83.7	2.79	1/18/2010@14:10:51			
1202012092  DUP	1	62	-0.800	0.0865	1/18/2010@14:11:45			
244228003	1	63	-2.62	0.0284	1/18/2010@14:12:39			
1202012093  DUP	1	64	-2.57	0.0299	1/18/2010@14:13:33			
1202012095  MS	1	65	96.3	3.19	1/18/2010@14:14:26			
WCN100118-03	1	S3	108	3.57	1/18/2010@14:15:18			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			8.2 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			8.2 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.71	-0.00665	1/18/2010@14:17:09			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.71 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.71 > -5.00					
Message			CCB Passed					
Action			Continue					
1202012091  MB	1	57	-3.73	-0.00710	1/18/2010@14:18:58			
1202012098  LCS	1	58	27.7	0.999	1/18/2010@14:19:51		25.00	
1202012097  MSD	1	66	99.3	3.29	1/18/2010@14:20:44			
244228004	1	67	-1.50	0.0642	1/18/2010@14:21:37			
244228005	1	68	-1.84	0.0532	1/18/2010@14:22:30			
244228006	1	69	-0.258	0.104	1/18/2010@14:23:23			
244242001	1	70	-2.38	0.0359	1/18/2010@14:24:17			
244242002	1	71	0.545	0.130	1/18/2010@14:25:09			
244242003	1	72	-2.36	0.0365	1/18/2010@14:26:02			
244242004	1	73	-2.40	0.0354	1/18/2010@14:26:54			

WCN100118-03	1	S3	107	3.54	1/18/2010@14:27:47			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			7.0 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			7.0 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.74	-0.00766	1/18/2010@14:29:37			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.74 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.74 > -5.00					
Message			CCB Passed					
Action			Continue					
244242005	1	74	-2.53	0.0310	1/18/2010@14:31:26			
244242006	1	75	-2.02	0.0476	1/18/2010@14:32:18			
244242007	1	76	-1.48	0.0646	1/18/2010@14:33:12			
244242008	1	77	-0.969	0.0811	1/18/2010@14:34:06			
244242009	1	78	1.92	0.173	1/18/2010@14:35:01			
244242010	1	79	-0.972	0.0810	1/18/2010@14:35:55			
244242011	1	80	2.46	0.191	1/18/2010@14:36:48			
244242012	1	81	-2.33	0.0374	1/18/2010@14:37:42			
244242013	1	82	-1.94	0.0501	1/18/2010@14:38:36			
244242014	1	83	-4.40	-0.0288	1/18/2010@14:39:29			
WCN100118-03	1	S3	105	3.48	1/18/2010@14:40:21			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			5.1 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			5.1 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.70	-0.00617	1/18/2010@14:42:12			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.70 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.70 > -5.00					
Message			CCB Passed					
Action			Continue					
1202012065 940244 MB	1	84	-1.88	0.0518	1/18/2010@14:44:01			
1202012072  LCS	1	85	28.4	1.02	1/18/2010@14:44:54		25.00	
244139009	1	86	-2.18	0.0422	1/18/2010@14:45:47			
1202012066  DUP	1	87	-1.68	0.0582	1/18/2010@14:46:40			
1202012068  MS	1	88	109	3.61	1/18/2010@14:47:32			
1202012070  MSD	1	89	92.7	3.08	1/18/2010@14:48:25			
244139010	1	90	-1.82	0.0540	1/18/2010@14:49:18			
1202012067  DUP	1	91	-2.24	0.0405	1/18/2010@14:50:12			
1202012069  MS	1	92	103	3.41	1/18/2010@14:51:07			
1202012071  MSD	1	93	111	3.67	1/18/2010@14:52:01			
WCN100118-03	1	S3	107	3.55	1/18/2010@14:52:53			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			7.4 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			7.4 < 10.0					

Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.08	0.0137	1/18/2010@14:54:43			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.08 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.08 > -5.00					
Message			CCB Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
244139011	1	94	-1.12	0.0764	1/18/2010@14:56:34			
244139012	1	95	-4.10	-0.0191	1/18/2010@14:57:28			
244227001	1	96	-2.47	0.0332	1/18/2010@14:58:22			
244227002	1	97	-2.52	0.0315	1/18/2010@14:59:16			
244227003	1	98	-3.51	-3.03e-4	1/18/2010@15:00:09			
244227004	1	99	-1.79	0.0547	1/18/2010@15:01:03			
244227005	1	100	-1.73	0.0568	1/18/2010@15:01:56			
244227006	1	101	-2.49	0.0323	1/18/2010@15:02:50			
244227007	1	102	9.40	0.413	1/18/2010@15:03:43			
244227008	1	103	-0.858	0.0847	1/18/2010@15:04:35			
WCN100118-03	1	S3	106	3.50	1/18/2010@15:05:28			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			5.8 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			5.8 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-2.72	0.0249	1/18/2010@15:07:18			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-2.72 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-2.72 > -5.00					
Message			CCB Passed					
Action			Continue					
244227009	1	104	-0.336	0.101	1/18/2010@15:09:08			
244227010	1	105	-2.18	0.0424	1/18/2010@15:10:00			
244227011	1	106	-1.74	0.0564	1/18/2010@15:10:55			
244227012	1	107	-2.46	0.0332	1/18/2010@15:11:50			
244227013	1	108	-1.71	0.0574	1/18/2010@15:12:44			
244227014	1	109	-2.04	0.0468	1/18/2010@15:13:38			
244227015	1	110	-0.817	0.0860	1/18/2010@15:14:33			
244228001	1	111	-3.51	-3.21e-4	1/18/2010@15:15:27			
WCN100118-03	1	S3	105	3.48	1/18/2010@15:16:19			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			5.3 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			5.3 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.64	-0.00439	1/18/2010@15:18:10			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.64 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								

Result:	-3.64 > -5.00				
Message	CCB Passed				
Action	Continue				

Analyte Properties Table for OM\_1-18-2010\_12-35-44.OMN

Property	Channel 1 TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

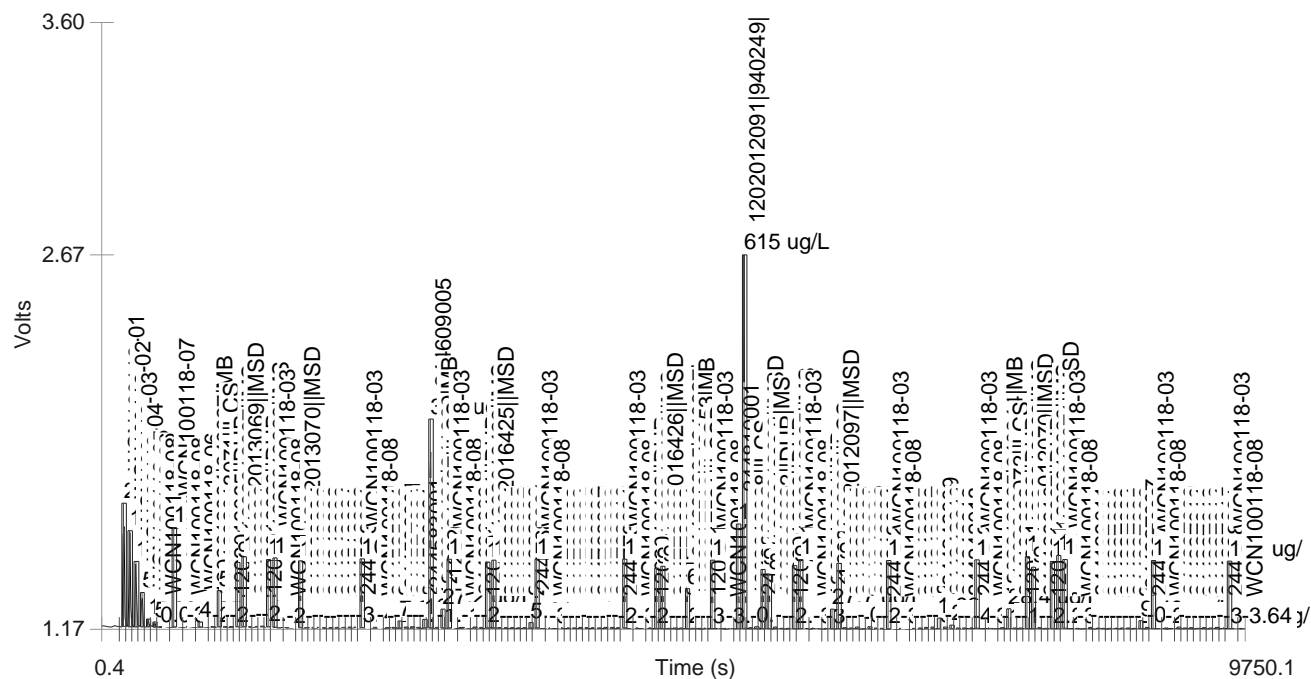
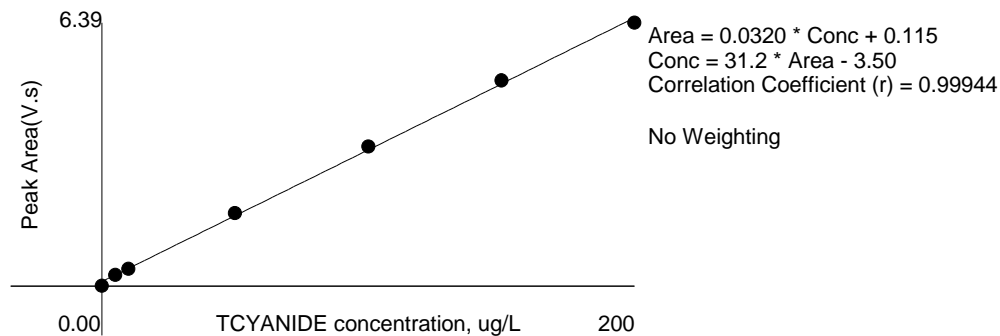




Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	6.39	0.494	1.8	1/18/2010	12:40:06
2	150	1	4.99	0.384	-1.7	1/18/2010	12:40:58
3	100	1	3.39	0.261	-2.5	1/18/2010	12:41:50
4	50.0	1	1.78	0.137	-3.8	1/18/2010	12:42:43
5	10.0	1	0.425	0.0315	2.3	1/18/2010	12:43:37
6	5.00	1	0.276	0.0199	-0.6	1/18/2010	12:44:30
7	0.00	1	0.0116	3.98e-4		1/18/2010	12:45:24

Figure 1: TCYANIDE



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	axc2	1/18/2010 15:20:51	OM_1-18-2010_15-20-05
CCB		1	axc2	1/18/2010 15:22:41	OM_1-18-2010_15-20-05
1202017527	942457	1	axc2	1/18/2010 15:24:30	OM_1-18-2010_15-20-05
1202017534	942457	25	axc2	1/18/2010 15:25:24	OM_1-18-2010_15-20-05
244721009	942457	1	axc2	1/18/2010 15:26:17	OM_1-18-2010_15-20-05
244721010	942457	1	axc2	1/18/2010 15:27:10	OM_1-18-2010_15-20-05
244721011	942457	1	axc2	1/18/2010 15:28:03	OM_1-18-2010_15-20-05
244721012	942457	1	axc2	1/18/2010 15:28:56	OM_1-18-2010_15-20-05
244721013*	942457	1	axc2	1/18/2010 15:29:48	OM_1-18-2010_15-20-05
244810001	942457	1	axc2	1/18/2010 15:30:41	OM_1-18-2010_15-20-05
244847001	942457	1	axc2	1/18/2010 15:31:33	OM_1-18-2010_15-20-05
1202017528	942457	1	axc2	1/18/2010 15:32:26	OM_1-18-2010_15-20-05
CCV		1	axc2	1/18/2010 15:33:18	OM_1-18-2010_15-20-05
CCB		1	axc2	1/18/2010 15:35:09	OM_1-18-2010_15-20-05

Original Run Filename: OM\_1-18-2010\_15-20-05.OMN created 1/18/2010 15:20:05  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-18-2010\_15-20-05.OMN last modified 1/18/2010 15:37:53  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1		Detection Time	ADF	MDF	Description
			TCYANIDE					
			Conc. (ug/L)	Area (Vs)				
WCN100118-03	1	S3	105	3.46	1/18/2010@15:20:51			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			4.5 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			4.5 < 10.0					
Message			CCV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100118-08	1	S7	-3.73	-0.00723	1/18/2010@15:22:41			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.73 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.73 > -5.00					
Message			CCB Passed					
Action			Continue					
1202017527 942457 MB	1	1	-3.72	-0.00685	1/18/2010@15:24:30			
1202017534  LCS	1	2	28.6	1.03	1/18/2010@15:25:24		25.00	
244721009	1	3	0.955	0.143	1/18/2010@15:26:17			
244721010	1	4	-1.79	0.0548	1/18/2010@15:27:10			
244721011	1	5	-1.45	0.0658	1/18/2010@15:28:03			
244721012	1	6	-2.08	0.0456	1/18/2010@15:28:56			
244721013	1	7	11.8	0.490	1/18/2010@15:29:48			
244810001	1	8	148	4.86	1/18/2010@15:30:41			
244847001	1	9	-1.68	0.0584	1/18/2010@15:31:33			
1202017528  DUP	1	10	1.56	0.162	1/18/2010@15:32:26			
WCN100118-03	1	S3	107	3.53	1/18/2010@15:33:18			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			6.7 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			6.7 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.64	-0.00431	1/18/2010@15:35:09			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.64 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.64 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM\_1-18-2010\_15-20-05.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L

Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

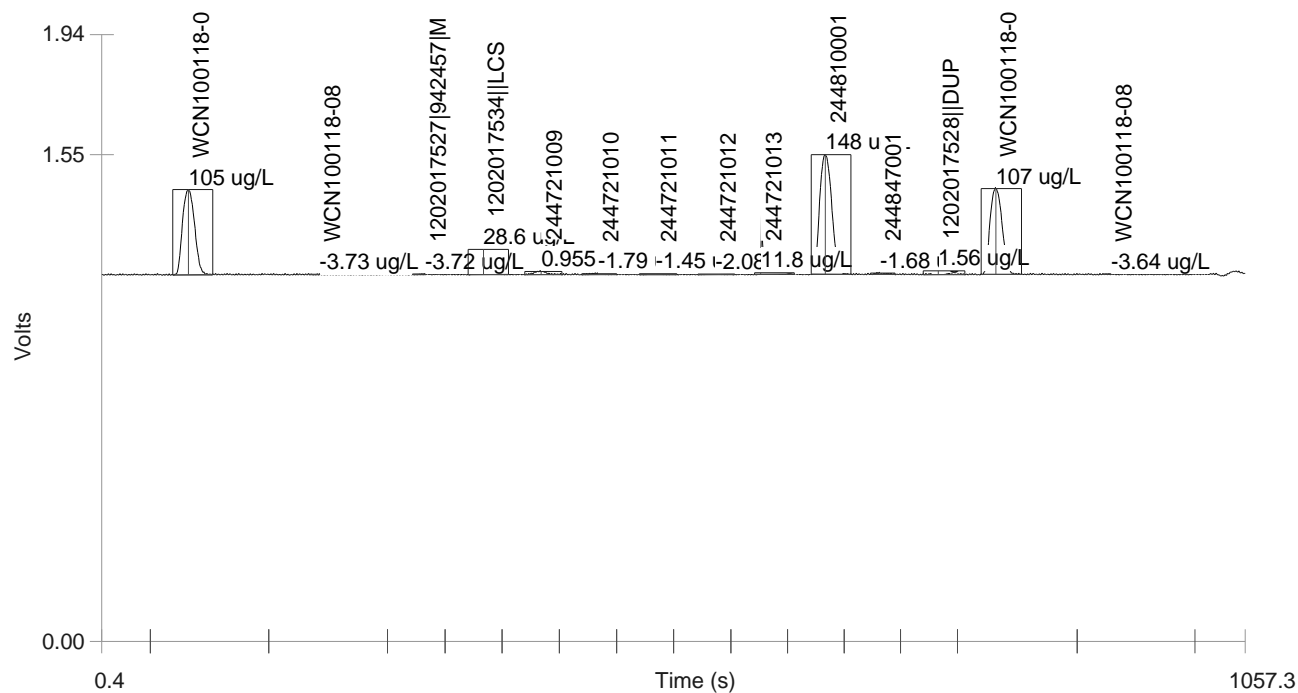
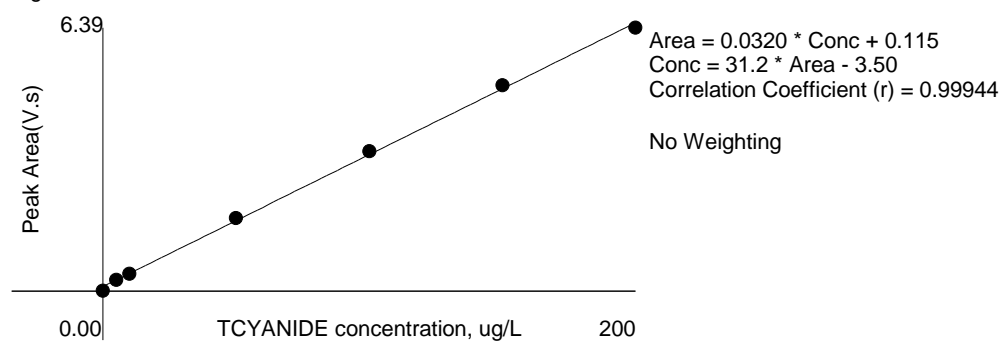


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	6.39	0.494	1.8	1/18/2010	12:40:06
2	150	1	4.99	0.384	-1.7	1/18/2010	12:40:58
3	100	1	3.39	0.261	-2.5	1/18/2010	12:41:50
4	50.0	1	1.78	0.137	-3.8	1/18/2010	12:42:43
5	10.0	1	0.425	0.0315	2.3	1/18/2010	12:43:37
6	5.00	1	0.276	0.0199	-0.6	1/18/2010	12:44:30
7	0.00	1	0.0116	3.98e-4		1/18/2010	12:45:24

Figure 1: TCYANIDE



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	axc2	1/18/2010 15:48:49	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 15:50:40	OM_1-18-2010_15-47-18
244721013	942457	1	axc2	1/18/2010 15:52:28	OM_1-18-2010_15-47-18
1202017530	942457	1	axc2	1/18/2010 15:53:21	OM_1-18-2010_15-47-18
1202017532	942457	1	axc2	1/18/2010 15:54:13	OM_1-18-2010_15-47-18
244847002	942457	1	axc2	1/18/2010 15:55:04	OM_1-18-2010_15-47-18
1202017529	942457	1	axc2	1/18/2010 15:55:56	OM_1-18-2010_15-47-18
1202017531	942457	1	axc2	1/18/2010 15:56:48	OM_1-18-2010_15-47-18
1202017533	942457	1	axc2	1/18/2010 15:57:41	OM_1-18-2010_15-47-18
244847003	942457	1	axc2	1/18/2010 15:58:35	OM_1-18-2010_15-47-18
244847004	942457	1	axc2	1/18/2010 15:59:29	OM_1-18-2010_15-47-18
244852001	942457	1	axc2	1/18/2010 16:00:22	OM_1-18-2010_15-47-18
CCV		1	axc2	1/18/2010 16:01:14	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 16:03:05	OM_1-18-2010_15-47-18
244852002	942457	1	axc2	1/18/2010 16:04:54	OM_1-18-2010_15-47-18
244852003	942457	1	axc2	1/18/2010 16:05:47	OM_1-18-2010_15-47-18
244852004	942457	1	axc2	1/18/2010 16:06:40	OM_1-18-2010_15-47-18
244881001	942457	1	axc2	1/18/2010 16:07:33	OM_1-18-2010_15-47-18
244881002	942457	1	axc2	1/18/2010 16:08:25	OM_1-18-2010_15-47-18
244881003	942457	1	axc2	1/18/2010 16:09:18	OM_1-18-2010_15-47-18
244881004	942457	1	axc2	1/18/2010 16:10:11	OM_1-18-2010_15-47-18
244921001	942457	1	axc2	1/18/2010 16:11:03	OM_1-18-2010_15-47-18
244921002	942457	1	axc2	1/18/2010 16:11:55	OM_1-18-2010_15-47-18
1202015123	941495	1	axc2	1/18/2010 16:12:47	OM_1-18-2010_15-47-18
CCV		1	axc2	1/18/2010 16:13:39	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 16:15:30	OM_1-18-2010_15-47-18
1202015125	941495	1	axc2	1/18/2010 16:17:17	OM_1-18-2010_15-47-18
244447003	941495	1	axc2	1/18/2010 16:18:11	OM_1-18-2010_15-47-18
1202015124	941495	1	axc2	1/18/2010 16:19:06	OM_1-18-2010_15-47-18
244580001	941495	1	axc2	1/18/2010 16:19:59	OM_1-18-2010_15-47-18
CCV		1	axc2	1/18/2010 16:20:52	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 16:22:42	OM_1-18-2010_15-47-18

Original Run Filename: OM\_1-18-2010\_15-47-18.OMN created 1/18/2010 15:47:18  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-18-2010\_15-47-18.OMN last modified 1/18/2010 16:23:46  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1		Detection Time	ADF	MDF	Description
			TCYANIDE					
			Conc. (ug/L)	Area (Vs)				
WCN100118-03	1	S3	102	3.38	1/18/2010@15:48:49			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			2.0 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			2.0 < 10.0					
Message			CCV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100118-08	1	S7	-3.50	-4.33e-5	1/18/2010@15:50:40			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.50 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.50 > -5.00					
Message			CCB Passed					
Action			Continue					
244721013	1	7	-0.687	0.0901	1/18/2010@15:52:28			
1202017530  MS	1	11	91.8	3.05	1/18/2010@15:53:21			
1202017532  MSD	1	12	88.6	2.95	1/18/2010@15:54:13			
244847002	1	13	-0.466	0.0972	1/18/2010@15:55:04			
1202017529  DUP	1	14	-0.415	0.0988	1/18/2010@15:55:56			
1202017531  MS	1	15	87.1	2.90	1/18/2010@15:56:48			
1202017533  MSD	1	16	82.9	2.77	1/18/2010@15:57:41			
244847003	1	17	-0.641	0.0916	1/18/2010@15:58:35			
244847004	1	18	-1.31	0.0702	1/18/2010@15:59:29			
244852001	1	19	-1.17	0.0745	1/18/2010@16:00:22			
WCN100118-03	1	S3	102	3.39	1/18/2010@16:01:14			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			2.5 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			2.5 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.61	-0.00342	1/18/2010@16:03:05			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.61 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.61 > -5.00					
Message			CCB Passed					
Action			Continue					
244852002	1	20	1.27	0.153	1/18/2010@16:04:54			
244852003	1	21	-0.425	0.0985	1/18/2010@16:05:47			
244852004	1	22	1.35	0.155	1/18/2010@16:06:40			
244881001	1	23	-0.769	0.0875	1/18/2010@16:07:33			
244881002	1	24	-1.07	0.0778	1/18/2010@16:08:25			
244881003	1	25	-0.237	0.105	1/18/2010@16:09:18			

244881004	1	26	-0.741	0.0884	1/18/2010@16:10:11			
244921001	1	27	-0.433	0.0982	1/18/2010@16:11:03			
244921002	1	28	3.85	0.235	1/18/2010@16:11:55			
1202015123 941495 MB	1	29	-2.04	0.0469	1/18/2010@16:12:47			
WCN100118-03	1	S3	103	3.41	1/18/2010@16:13:39			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			3.1 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			3.1 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	2.41	0.189	1/18/2010@16:15:30			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			2.41 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			2.41 > -5.00					
Message			CCB Passed					
Action			Continue					
1202015125  LCS	1	30	-0.207	0.105	1/18/2010@16:17:17			
244447003	1	31	-2.15	0.0434	1/18/2010@16:18:11			
1202015124  DUP	1	32	-0.178	0.106	1/18/2010@16:19:06			
244580001	1	33	-2.04	0.0470	1/18/2010@16:19:59			
WCN100118-03	1	S3	95.9	3.18	1/18/2010@16:20:52			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-4.1 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-4.1 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	0.552	0.130	1/18/2010@16:22:42			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.552 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.552 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM\_1-18-2010\_15-47-18.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39



	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	6.39	0.494	1.8	1/18/2010	12:40:06
2	150	1	4.99	0.384	-1.7	1/18/2010	12:40:58
3	100	1	3.39	0.261	-2.5	1/18/2010	12:41:50
4	50.0	1	1.78	0.137	-3.8	1/18/2010	12:42:43
5	10.0	1	0.425	0.0315	2.3	1/18/2010	12:43:37
6	5.00	1	0.276	0.0199	-0.6	1/18/2010	12:44:30
7	0.00	1	0.0116	3.98e-4		1/18/2010	12:45:24

Area = 0.0320 \* Conc + 0.115  
Conc = 31.2 \* Area - 3.50  
Correlation Coefficient (r) = 0.99944  
No Weighting

TCYANIDE concentration, ug/L	Peak Area (V.s)
0.00	0.00
10.00	0.10
20.00	0.20
100.00	1.00
200.00	2.00

# **General Chemistry**

## **Analysis**

# Case Narrative

**General Chemistry Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262-1**

**Method/Analysis Information**

**Product:** Cyanide, Total

**Analytical Batch:** 942459      **Method:** SW9012A Cyanide and Total

**Prep Batch :** 942458      **Method:** SSW846 9010B Prep

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

<b>Sample ID</b>	<b>Client ID</b>
244849001	RE12-10-7286
1202017535	Method Blank (MB)
1202017536	244849001(RE12-10-7286) Sample Duplicate (DUP)
1202017537	244844001(CALA-10-9157) Sample Duplicate (DUP)
1202017538	244849001(RE12-10-7286) Matrix Spike (MS)
1202017539	244844001(CALA-10-9157) Matrix Spike (MS)
1202017540	244849001(RE12-10-7286) Matrix Spike Duplicate (MSD)
1202017541	244844001(CALA-10-9157) Matrix Spike Duplicate (MSD)
1202017542	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 12.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information****Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

The following samples were selected for QC analysis: 244844001 (CALA-10-9157) and 244849001 (RE12-10-7286).

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries for this sample set were within the required acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPDs between the spike and spike duplicate met the acceptance limits.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Preservation/Integrity**

All the samples from this sample group met the preservation and integrity requirements of the method.

**Sample Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information****Data Exception (DER) Documentation**

A DER was not required for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

### **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

### **Review Validation:**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

**The following data validator verified the information presented in this case narrative:**

Reviewer:  Date: 08Feb10

# **Sample Data Summary**



## GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis Report for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1262-1 GEL Work Order: 244849

**The Qualifiers in this report are defined as follows:**

\* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.


\*\* Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

A handwritten signature in black ink, appearing to read "Tom Lewis, Jr.", is written over a horizontal line.

# GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company : Los Alamos National Laboratory

Address : PO Box 1663

TA-03, SM271, Drop Pt. 02U, Rm111

Los Alamos, New Mexico 87545

Contact: Ms. Joylene Valdez

Project: **LANL ER Project**

Report Date: February 4, 2010

Client SDG: 10-1262-1

Client Sample ID: RE12-10-7286  
Sample ID: 244849001  
Matrix: W  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "As Received"

Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2	01/22/10	1023	942459	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/21/10	1600	942458

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

# **Quality Control Summary**

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: February 4, 2010

Page 1 of 2

Los Alamos National Laboratory  
PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm111  
Los Alamos, New Mexico  
Ms. Joylene Valdez

Contact:

Workorder: 244849

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Flow Injection Analysis</b>											
Batch	942459										
QC1202017536	244849001	DUP									
Cyanide, Total		U	ND	U	ND	ug/L	N/A		AXC2	01/22/10	10:23
QC1202017537	244844001	DUP									
Cyanide, Total		U	ND	U	ND	ug/L	N/A			01/22/10	10:19
QC1202017542	LCS										
Cyanide, Total	50.0				47.5	ug/L	95	(90%-110%)		01/22/10	10:05
QC1202017535	MB										
Cyanide, Total			U		5.00	ug/L				01/22/10	10:04
QC1202017538	244849001	MS									
Cyanide, Total	100	U	ND		107	ug/L	107	(60%-127%)		01/22/10	10:24
QC1202017539	244844001	MS									
Cyanide, Total	100	U	ND		103	ug/L	103	(60%-127%)		01/22/10	10:20
QC1202017540	244849001	MSD									
Cyanide, Total	100	U	ND		99.8	ug/L	6.96	99.8	(0%-20%)	01/22/10	10:29
QC1202017541	244844001	MSD									
Cyanide, Total	100	U	ND		99.1	ug/L	3.86	99.1	(0%-20%)	01/22/10	10:21

### Notes:

RER is calculated at the 95% confidence level (2-sigma).

The Qualifiers in this report are defined as follows:

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

E Organics--Concentration of the target analyte exceeds the instrument calibration range

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M Matrix Related Failure

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 244849

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	QC Samples were not spiked with this compound										
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
d	5-day BOD--The 2:1 depletion requirement was not met for this sample										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

# **Instrument QC Data Summary**

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 04-FEB-2010 16:38

**GEL Laboratories LLC**

**Contract: LANL01004**

**SDG #: 10-1262-1**

Flow Injection Analysis

Method: SW846 9012A

Concentration Units:ug/L

Instrument: Lachat QuickChem FIA+ 8000 Series

Parmname: Cyanide, Total

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
<b>ICV</b>	<b>22-JAN-2010 09:58:58</b>	<b>OM_1-22-2010_09-50-18</b>	<b>147</b>	<b>150</b>	<b>98</b>	<b>(90%-110%)</b>	<b>Yes</b>
CCV	22-JAN-2010 10:13:15	OM_1-22-2010_09-50-18	95.4	100	95	(90%-110%)	Yes
CCV	22-JAN-2010 10:25:40	OM_1-22-2010_09-50-18	96.3	100	96	(90%-110%)	Yes
CCV	22-JAN-2010 10:38:05	OM_1-22-2010_09-50-18	96.3	100	96	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
<b>ICB</b>	<b>22-JAN-2010 10:00:48</b>	<b>OM_1-22-2010_09-50-18</b>	<b>-0.809</b>	<b>5</b>	<b>Yes</b>
CCB	22-JAN-2010 10:15:05	OM_1-22-2010_09-50-18	-0.874	5	Yes
CCB	22-JAN-2010 10:27:31	OM_1-22-2010_09-50-18	-1.14	5	Yes
CCB	22-JAN-2010 10:39:55	OM_1-22-2010_09-50-18	-0.776	5	Yes

# Cyanide, Total



# Prep LogBook

Analyst: AXS5      Verified by: \_\_\_\_\_  
 Batch: 942458  
 Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202017542	URF1184831-02	.0125	mL
MS	1202017538	URF1184831-02	.025	mL
MS	1202017539	URF1184831-02	.025	mL
MSD	1202017540	URF1184831-02	.025	mL
MSD	1202017541	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202017535		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
LCS	1202017542		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244722001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244722002		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244722003		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244722004		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244807011		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WASTE WATER
SAMPLE	244807014		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WASTE WATER
SAMPLE	244829001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244829002		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244829003		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244829004		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244844001		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER
DUP	1202017537	244844001	EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER
MS	1202017539	244844001	EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER
MSD	1202017541	244844001	EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER
SAMPLE	244844003		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER
SAMPLE	244849001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
DUP	1202017536	244849001	SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
MS	1202017538	244849001	SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
MSD	1202017540	244849001	SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244880001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244904001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244904002		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244904003		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244904004		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244922001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER
SAMPLE	244925001		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER

Prep LogBook

Reagent/Solvent Lot ID	Amount	Description	Comments
091211-C	25 mL	0.25N Sodium Hydroxide Solution	
WCN100121-07	.0375 mL	150 ppb CN Distilled ICV Standard	
1176724-C	1.25 mL	0.8N H3NO3S	
1238146-C	2.5 mL	50% H2SO4 CN Prep	
1176778-C	1 mL	51% MgCl2 Soln	
1238142-C	1.25 mL	Bismuth Nitrate Solution	

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/22/2010 9:51:49	OM_1-22-2010_09-50-18
150 ppb		1	axc2	1/22/2010 9:52:41	OM_1-22-2010_09-50-18
100 ppb		1	axc2	1/22/2010 9:53:33	OM_1-22-2010_09-50-18
50 ppb		1	axc2	1/22/2010 9:54:27	OM_1-22-2010_09-50-18
10 ppb		1	axc2	1/22/2010 9:55:19	OM_1-22-2010_09-50-18
CRDL 5.0 ppb		1	axc2	1/22/2010 9:56:14	OM_1-22-2010_09-50-18
ICAL-00		1	axc2	1/22/2010 9:57:07	OM_1-22-2010_09-50-18
ICV		1	axc2	1/22/2010 9:58:58	OM_1-22-2010_09-50-18
ICB		1	axc2	1/22/2010 10:00:48	OM_1-22-2010_09-50-18
CRDL		1	axc2	1/22/2010 10:02:38	OM_1-22-2010_09-50-18
1202017535	942459	1	axc2	1/22/2010 10:04:27	OM_1-22-2010_09-50-18
1202017542	942459	1	axc2	1/22/2010 10:05:21	OM_1-22-2010_09-50-18
244722001	942459	1	axc2	1/22/2010 10:06:14	OM_1-22-2010_09-50-18
244722002	942459	1	axc2	1/22/2010 10:07:07	OM_1-22-2010_09-50-18
244722003	942459	1	axc2	1/22/2010 10:08:00	OM_1-22-2010_09-50-18
244722004	942459	1	axc2	1/22/2010 10:08:53	OM_1-22-2010_09-50-18
244807011	942459	1	axc2	1/22/2010 10:09:46	OM_1-22-2010_09-50-18
244807014	942459	1	axc2	1/22/2010 10:10:38	OM_1-22-2010_09-50-18
244829001	942459	1	axc2	1/22/2010 10:11:31	OM_1-22-2010_09-50-18
244829002	942459	1	axc2	1/22/2010 10:12:23	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:13:15	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:15:05	OM_1-22-2010_09-50-18
244829003	942459	1	axc2	1/22/2010 10:16:54	OM_1-22-2010_09-50-18
244829004	942459	1	axc2	1/22/2010 10:17:46	OM_1-22-2010_09-50-18
244844001	942459	1	axc2	1/22/2010 10:18:38	OM_1-22-2010_09-50-18
1202017537	942459	1	axc2	1/22/2010 10:19:29	OM_1-22-2010_09-50-18
1202017539	942459	1	axc2	1/22/2010 10:20:21	OM_1-22-2010_09-50-18
1202017541	942459	1	axc2	1/22/2010 10:21:15	OM_1-22-2010_09-50-18
244844003	942459	1	axc2	1/22/2010 10:22:09	OM_1-22-2010_09-50-18
244849001	942459	1	axc2	1/22/2010 10:23:02	OM_1-22-2010_09-50-18
1202017536	942459	1	axc2	1/22/2010 10:23:55	OM_1-22-2010_09-50-18
1202017538	942459	1	axc2	1/22/2010 10:24:48	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:25:40	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:27:31	OM_1-22-2010_09-50-18
1202017540	942459	1	axc2	1/22/2010 10:29:21	OM_1-22-2010_09-50-18
244880001	942459	1	axc2	1/22/2010 10:30:13	OM_1-22-2010_09-50-18
244904001	942459	1	axc2	1/22/2010 10:31:06	OM_1-22-2010_09-50-18
244904002	942459	1	axc2	1/22/2010 10:31:58	OM_1-22-2010_09-50-18
244904003	942459	1	axc2	1/22/2010 10:32:51	OM_1-22-2010_09-50-18
244904004	942459	1	axc2	1/22/2010 10:33:43	OM_1-22-2010_09-50-18
244922001	942459	1	axc2	1/22/2010 10:34:36	OM_1-22-2010_09-50-18
244925001	942459	1	axc2	1/22/2010 10:35:27	OM_1-22-2010_09-50-18
1202020316	943575	1	axc2	1/22/2010 10:36:20	OM_1-22-2010_09-50-18
1202020318	943575	250	axc2	1/22/2010 10:37:12	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:38:05	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:39:55	OM_1-22-2010_09-50-18
244953006	943575	1	axc2	1/22/2010 10:41:45	OM_1-22-2010_09-50-18
1202020317	943575	1	axc2	1/22/2010 10:42:39	OM_1-22-2010_09-50-18
244855001	942468	1	axc2	1/22/2010 10:43:33	OM_1-22-2010_09-50-18
1202017567	942468	1	axc2	1/22/2010 10:44:28	OM_1-22-2010_09-50-18
1202017570	942468	1	axc2	1/22/2010 10:45:22	OM_1-22-2010_09-50-18
1202017573	942468	1	axc2	1/22/2010 10:46:16	OM_1-22-2010_09-50-18
244855003	942468	1	axc2	1/22/2010 10:47:11	OM_1-22-2010_09-50-18
244874001	942468	1	axc2	1/22/2010 10:48:05	OM_1-22-2010_09-50-18
244879003	942468	1	axc2	1/22/2010 10:48:58	OM_1-22-2010_09-50-18
1202017568	942468	1	axc2	1/22/2010 10:49:52	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:50:44	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:52:35	OM_1-22-2010_09-50-18

1202017571	942468	1	axc2	1/22/2010	10:54:24	OM_1-22-2010_09-50-18
1202017574	942468	1	axc2	1/22/2010	10:55:19	OM_1-22-2010_09-50-18
244896001	942468	1	axc2	1/22/2010	10:56:12	OM_1-22-2010_09-50-18
1202017569	942468	1	axc2	1/22/2010	10:57:04	OM_1-22-2010_09-50-18
1202017572	942468	1	axc2	1/22/2010	10:57:57	OM_1-22-2010_09-50-18
1202017575	942468	1	axc2	1/22/2010	10:58:50	OM_1-22-2010_09-50-18
244901001	942468	1	axc2	1/22/2010	10:59:43	OM_1-22-2010_09-50-18
244901002*	942468	1	axc2	1/22/2010	11:00:37	OM_1-22-2010_09-50-18
244903001	942468	1	axc2	1/22/2010	11:01:32	OM_1-22-2010_09-50-18
244937001	942468	1	axc2	1/22/2010	11:02:26	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010	11:03:19	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010	11:05:10	OM_1-22-2010_09-50-18
1202018979	942468	1	axc2	1/22/2010	11:06:59	OM_1-22-2010_09-50-18
1202018980	942468	1	axc2	1/22/2010	11:07:54	OM_1-22-2010_09-50-18
1202018981	942468	1	axc2	1/22/2010	11:08:48	OM_1-22-2010_09-50-18
244937002	942468	1	axc2	1/22/2010	11:09:42	OM_1-22-2010_09-50-18
244960001	942468	1	axc2	1/22/2010	11:10:36	OM_1-22-2010_09-50-18
244960003	942468	1	axc2	1/22/2010	11:11:30	OM_1-22-2010_09-50-18
244901002	942468	1	axc2	1/22/2010	11:12:24	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010	11:13:17	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010	11:15:07	OM_1-22-2010_09-50-18

Original Run Filename: OM\_1-22-2010\_09-50-18.OMN created 1/22/2010 09:50:18  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-22-2010\_09-50-18.OMN last modified 1/22/2010 11:16:11  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1		Detection Time	ADF	MDF	Description
			TCYANIDE Conc. (ug/L)	Area (Vs)				
WCN100122-01	1	S1	200	7.56	1/22/2010@09:51:49			200 ppb
WCN100122-02	1	S2	150	5.80	1/22/2010@09:52:41			150 ppb
WCN100122-03	1	S3	100	3.66	1/22/2010@09:53:33			100 ppb
WCN100122-04	1	S4	50.0	2.02	1/22/2010@09:54:27			50 ppb
WCN100122-05	1	S5	10.0	0.470	1/22/2010@09:55:19			10 ppb
WCN100122-06	1	S6	5.00	0.297	1/22/2010@09:56:14			CRDL 5.0 ppb
WCN100122-08	1	S7	0.00	0.0439	1/22/2010@09:57:07			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99958 > 0.99500					
Message			Pass					
Action			Continue					
WCN100122-07	1	S8	147	5.59	1/22/2010@09:58:58			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			-1.9 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-1.9 < 10.0					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100122-08	1	S7	-0.809	0.0467	1/22/2010@10:00:48			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.809 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.809 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100122-06	1	S6	5.72	0.292	1/22/2010@10:02:38			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			5.72 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			5.72 > 2.50					
Message			Pass					
Action			None					
1202017535 942459 MB	1	1	-1.57	0.0180	1/22/2010@10:04:27			
1202017542  LCS	1	2	47.5	1.86	1/22/2010@10:05:21			
244722001	1	3	-1.14	0.0343	1/22/2010@10:06:14			
244722002	1	4	-1.81	0.00896	1/22/2010@10:07:07			
244722003	1	5	-1.36	0.0260	1/22/2010@10:08:00			
244722004	1	6	3.41	0.205	1/22/2010@10:08:53			
244807011	1	7	-0.652	0.0526	1/22/2010@10:09:46			
244807014	1	8	1.04	0.116	1/22/2010@10:10:38			
244829001	1	9	-2.05	0.00	1/22/2010@10:11:31			
244829002	1	10	-1.42	0.0236	1/22/2010@10:12:23			
WCN100122-03	1	S3	95.4	3.65	1/22/2010@10:13:15			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-4.6 < 10.0					
Message			CCV Passed					

Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			-4.6 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100122-08	1	S7	-0.874	0.0442	1/22/2010@10:15:05		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-0.874 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-0.874 > -5.00				
Message			CCB Passed				
Action			Continue				
244829003	1	11	-1.38	0.0253	1/22/2010@10:16:54		
244829004	1	12	-1.37	0.0255	1/22/2010@10:17:46		
244844001	1	13	-2.56	-0.0189	1/22/2010@10:18:38		
1202017537  DUP	1	14	-2.35	-0.0111	1/22/2010@10:19:29		
1202017539  MS	1	15	103	3.94	1/22/2010@10:20:21		
1202017541  MSD	1	16	99.1	3.79	1/22/2010@10:21:15		
244844003	1	17	-0.977	0.0404	1/22/2010@10:22:09		
244849001	1	18	-1.40	0.0246	1/22/2010@10:23:02		
1202017536  DUP	1	19	-1.50	0.0208	1/22/2010@10:23:55		
1202017538  MS	1	20	107	4.08	1/22/2010@10:24:48		
WCN100122-03	1	S3	96.3	3.69	1/22/2010@10:25:40		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			-3.7 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			-3.7 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100122-08	1	S7	-1.14	0.0343	1/22/2010@10:27:31		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-1.14 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-1.14 > -5.00				
Message			CCB Passed				
Action			Continue				
1202017540  MSD	1	21	99.8	3.82	1/22/2010@10:29:21		
244880001	1	22	-1.41	0.0241	1/22/2010@10:30:13		
244904001	1	23	-1.73	0.0122	1/22/2010@10:31:06		
244904002	1	24	-2.06	-3.75e-4	1/22/2010@10:31:58		
244904003	1	25	-1.93	0.00454	1/22/2010@10:32:51		
244904004	1	26	-1.44	0.0231	1/22/2010@10:33:43		
244922001	1	27	-1.74	0.0117	1/22/2010@10:34:36		
244925001	1	28	2.78	0.181	1/22/2010@10:35:27		
1202020316 943575 MB	1	29	-1.73	0.0122	1/22/2010@10:36:20		
1202020318  LCS	1	30	145	5.53	1/22/2010@10:37:12	250.00	
WCN100122-03	1	S3	96.3	3.69	1/22/2010@10:38:05		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			-3.7 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			-3.7 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100122-08	1	S7	-0.776	0.0479	1/22/2010@10:39:55		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							

Result:			-0.776 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-0.776 > -5.00				
Message			CCB Passed				
Action			Continue				
244953006	1	31	-2.08	-9.47e-4	1/22/2010@10:41:45		
1202020317  DUP	1	32	-1.83	0.00854	1/22/2010@10:42:39		
244855001 942468	1	91	-0.500	0.0582	1/22/2010@10:43:33		
1202017567  DUP	1	92	-0.685	0.0513	1/22/2010@10:44:28		
1202017570  MS	1	93	96.6	3.70	1/22/2010@10:45:22		
1202017573  MSD	1	94	98.9	3.78	1/22/2010@10:46:16		
244855003	1	95	-0.122	0.0724	1/22/2010@10:47:11		
244874001	1	96	5.49	0.283	1/22/2010@10:48:05		
244879003	1	97	0.538	0.0971	1/22/2010@10:48:58		
1202017568  DUP	1	98	0.476	0.0948	1/22/2010@10:49:52		
WCN100122-03	1	S3	96.6	3.70	1/22/2010@10:50:44		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			-3.4 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			-3.4 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100122-08	1	S7	-0.824	0.0461	1/22/2010@10:52:35		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-0.824 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-0.824 > -5.00				
Message			CCB Passed				
Action			Continue				
1202017571  MS	1	99	100	3.84	1/22/2010@10:54:24		
1202017574  MSD	1	100	106	4.04	1/22/2010@10:55:19		
244896001	1	101	-1.17	0.0331	1/22/2010@10:56:12		
1202017569  DUP	1	102	-1.10	0.0357	1/22/2010@10:57:04		
1202017572  MS	1	103	93.4	3.58	1/22/2010@10:57:57		
1202017575  MSD	1	104	96.3	3.69	1/22/2010@10:58:50		
244901001	1	105	2.39	0.167	1/22/2010@10:59:43		
244901002	1	106	-11.8	-0.364	1/22/2010@11:00:37		
244903001	1	107	-2.54	-0.0181	1/22/2010@11:01:32		
244937001	1	108	-1.23	0.0307	1/22/2010@11:02:26		
WCN100122-03	1	S3	95.9	3.67	1/22/2010@11:03:19		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			-4.1 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			-4.1 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100122-08	1	S7	-0.987	0.0400	1/22/2010@11:05:10		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-0.987 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-0.987 > -5.00				
Message			CCB Passed				
Action			Continue				
1202018979  DUP	1	109	-1.03	0.0385	1/22/2010@11:06:59		

1202018980  MS	1	110	96.3	3.69	1/22/2010@11:07:54			
1202018981  MSD	1	111	99.4	3.80	1/22/2010@11:08:48			
244937002	1	112	-0.764	0.0483	1/22/2010@11:09:42			
244960001	1	113	17.1	0.719	1/22/2010@11:10:36			
244960003	1	114	-0.769	0.0482	1/22/2010@11:11:30			
244901002	1	106	0.799	0.107	1/22/2010@11:12:24			
WCN100122-03	1	S3	95.2	3.65	1/22/2010@11:13:17			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-4.8 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-4.8 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100122-08	1	S7	-0.784	0.0476	1/22/2010@11:15:07			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.784 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.784 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM\_1-22-2010\_09-50-18.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39



	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.56	0.563	0.1	1/22/2010	09:52:52
2	150	1	5.80	0.432	-1.8	1/22/2010	09:53:44
3	100	1	3.66	0.272	4.3	1/22/2010	09:54:36
4	50.0	1	2.02	0.150	-3.2	1/22/2010	09:55:29
5	10.0	1	0.470	0.0337	-3.6	1/22/2010	09:56:22
6	5.00	1	0.297	0.0217	-11.4	1/22/2010	09:57:16
7	0.00	1	0.0439	0.00389		1/22/2010	09:58:10

Area = 0.0375 \* Conc + 0.0793  
Conc = 26.7 \* Area - 2.05  
Correlation Coefficient (r) = 0.99958  
No Weighting

TCYANIDE concentration, ug/L	Peak Area (V.s)
0.00	0.00
10.00	0.10
20.00	0.20
100.00	1.00
200.00	2.00

# RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1262**

**Method/Analysis Information**

**Procedure:**                      **Dry Weight-Percent Moisture**

Analytical Method:              Dry Soil Prep

Analytical Batch Number:      942700

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202018242	244835001(RE46-10-10093) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-020 REV# 9.

**Calibration Information:**

**Calibration Information**

All initial and continuing calibration requirements have been met.

**Standards Information**

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

**Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

**Quality Control (QC) Information:**

**Designated QC**

The following sample was used for QC: 244835001 (RE46-10-10093). The QC was from LANL work order 244835.

**QC Information**

All of the QC samples met the required acceptance limits.

**CSU**

Not Applicable. The blank result is less than 1.65 times the CSU.

**Technical Information:**

**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

**Sample Re-prep/Re-analysis**

None of the samples in this sample set required reprep or reanalysis.

**Miscellaneous Information:**

**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Additional Comments**

Additional comments were not required for this sample set.

**Blank Decision Level**

Not Applicable. The blank result is less than the decision level.

**Qualifier information**

Manual qualifiers were not required.

**Method/Analysis Information**

<b>Product:</b>	<b>AM241</b>
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	942854
Prep Batch Number:	942700

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202018630	Method Blank (MB)
1202018631	244842002(RE46-10-11146) Sample Duplicate (DUP)
1202018632	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

#### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

#### **Calibration Information:**

##### **Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

##### **Standards Information**

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

##### **Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

#### **Quality Control (QC) Information:**

##### **Blank Information**

Aliquot for sample 1202018630 (MB) was changed to 1.0 per client request.

##### **Designated QC**

The following sample was used for QC: 244842002 (RE46-10-11146). The QC was from LANL work order 244842.

##### **QC Information**

All of the QC samples met the required acceptance limits.

##### **CSU**

The blank result is less than 1.65 times the CSU.

#### **Technical Information:**

##### **Holding Time**

All sample procedures for this sample set were performed within the required holding time.

##### **Sample Re-prep/Re-analysis**

None of the samples in this sample set required reprep or reanalysis.

### **Miscellaneous Information:**

#### **Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

#### **Manual Integration**

No manual integrations were performed on data in this batch.

#### **Additional Comments**

The MDCs are calculated using a blank population.

#### **Blank Decision Level**

The blank result is less than the decision level.

#### **Qualifier information**

Manual qualifiers were not required.

#### **Method/Analysis Information**

<b>Product:</b>	<b>ISOPU</b>
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	942855
Prep Batch Number:	942700

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202018633	Method Blank (MB)
1202018634	244842002(RE46-10-11146) Sample Duplicate (DUP)
1202018635	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

#### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

## **Calibration Information:**

### **Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

### **Standards Information**

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

### **Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

## **Quality Control (QC) Information:**

### **Blank Information**

Aliquot for sample 1202018633 (MB) was changed to 1.0 per client request.

### **Designated QC**

The following sample was used for QC: 244842002 (RE46-10-11146). The QC was from LANL work order 244842.

### **QC Information**

All of the QC samples met the required acceptance limits.

### **CSU**

The blank result is less than 1.65 times the CSU.

## **Technical Information:**

### **Holding Time**

All sample procedures for this sample set were performed within the required holding time.

### **Sample Re-prep/Re-analysis**

None of the samples in this sample set required reprep or reanalysis.

## **Miscellaneous Information:**

### **Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

### **Manual Integration**

No manual integrations were performed on data in this batch.

### **Additional Comments**

The MDCs are calculated using a blank population. Sample, 244847002 (RE12-10-7273), did not meet the client tracer yield requirements, however it is less than 110 percent and does meet the GEL standard tracer yield requirements.

### **Blank Decision Level**

The blank result is less than the decision level.

### **Qualifier information**

Manual qualifiers were not required.

### **Method/Analysis Information**

<b>Product:</b>	<b>ISOU</b>
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	942856
Prep Batch Number:	942700

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202018636	Method Blank (MB)
1202018637	244842002(RE46-10-11146) Sample Duplicate (DUP)
1202018638	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

### **Calibration Information:**

#### **Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

#### **Standards Information**

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

#### **Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.



### **Quality Control (QC) Information:**

#### **Blank Information**

Aliquot for sample 1202018636 (MB) was changed to 1.0 per client request.

#### **Designated QC**

The following sample was used for QC: 244842002 (RE46-10-11146). The QC was from LANL work order 244842.

#### **QC Information**

All of the QC samples met the required acceptance limits.

#### **CSU**

The U-233/234, U-235/236, and U-238 blank results are greater than 1.65 times the CSU but less than the MDC.

### **Technical Information:**

#### **Holding Time**

All sample procedures for this sample set were performed within the required holding time.

#### **Sample Re-prep/Re-analysis**

Samples were recounted due to high relative percent difference/relative error ratio.

### **Miscellaneous Information:**

#### **Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

#### **Manual Integration**

No manual integrations were performed on data in this batch.

#### **Additional Comments**

The MDCs are calculated using a blank population.

#### **Blank Decision Level**

The U-235/236 and U-238 blank results are greater than the decision level but less than the MDC.

### **Qualifier information**

Manual qualifiers were not required.

### **Method/Analysis Information**

<b>Product:</b>	<b>GAMMA SPEC</b>
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	942717
Prep Batch Number:	942700

<b>Sample ID</b>	<b>Client ID</b>
244847001	RE12-10-7272
244847002	RE12-10-7273
244847003	RE12-10-7274
244847004	RE12-10-7281
1202018259	Method Blank (MB)
1202018260	244847001(RE12-10-7272) Sample Duplicate (DUP)
1202018261	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

#### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 18.

#### **Calibration Information:**

##### **Calibration Information**

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in February 2009, March 2009, April 2009, June 2009, October 2009 and December 2009.

##### **Standards Information**

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

##### **Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

#### **Quality Control (QC) Information:**

##### **Blank Information**

The blank volume is representative of the sample volume in this batch.

##### **Designated QC**

The following sample was used for QC: 244847001 (RE12-10-7272). The QC was from LANL work order 244847.

##### **QC Information**

All of the QC samples met the required acceptance limits.

#### **CSU**

The blank result for K-40 for sample 1202018259 (MB) is greater than 1.65 times the CSU but less than the MDC.

#### **Technical Information:**

##### **Holding Time**

All sample procedures for this sample set were performed within the required holding time.

##### **Sample Re-prep/Re-analysis**

None of the samples in this sample set required reprep or reanalysis.

#### **Miscellaneous Information:**

##### **Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

##### **Additional Comments**

Additional comments were not required for this sample set.

##### **Blank Decision Level**

The blank results for Pb-212 and K-40 for sample 1202018259 (MB) are greater than the decision level but less than the MDC.

#### **Qualifier information**

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	244847001	RE12-10-7272
			244847002	RE12-10-7273
			244847003	RE12-10-7274
			244847004	RE12-10-7281
			1202018260	RE12-10-7272(244847001DUP)
		Cadmium-109	244847001	RE12-10-7272
			244847002	RE12-10-7273
			244847004	RE12-10-7281
			1202018260	RE12-10-7272(244847001DUP)
		Radium-224	244847001	RE12-10-7272
			244847002	RE12-10-7273
			244847003	RE12-10-7274
			244847004	RE12-10-7281
			1202018260	RE12-10-7272(244847001DUP)
UI	Data rejected due to low abundance.	Cesium-134	244847002	RE12-10-7273
			1202018260	RE12-10-7272(244847001DUP)
		Strontium-85	244847002	RE12-10-7273
			244847003	RE12-10-7274
UI	Data rejected due to no valid peak.	Uranium-235	244847001	RE12-10-7272

#### **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

#### **Review Validation:**

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data

designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

**The following data validator verified the information presented in this case narrative:**

**Reviewer/Date:**  2/5/10 \_\_\_\_\_

# SAMPLE DATA SUMMARY

## GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis Report for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1262 GEL Work Order: 244847

**The Qualifiers in this report are defined as follows:**

\* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.

\*\* Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

 2/5/10

# GEL LABORATORIES LLC

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7272  
Sample ID: 244847001  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 12.6%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00458	0.0216	+/-0.00302	0.050	pCi/g		MXE1	01/30/10	1733	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00469	0.0155	+/-0.00248	0.050	pCi/g		MXE1	02/02/10	1315	942855	3
Plutonium-239/240	U	0.00563	0.0177	+/-0.00497	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.11	0.103	+/-0.0986	0.100	pCi/g		MXE1	01/29/10	1653	942856	4
Uranium-235/236		0.0819	0.0637	+/-0.0192	0.100	pCi/g						
Uranium-238		1.61	0.0596	+/-0.135	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0368	0.0836	+/-0.0261	0.200	pCi/g		MXR1	01/27/10	1324	942717	6
Bismuth-211	UI	3.91	0.315	+/-0.310		pCi/g						
Bismuth-214		1.27	0.107	+/-0.112	0.200	pCi/g						
Cadmium-109	UI	4.00	0.691	+/-0.398		pCi/g						
Cerium-139	U	-0.0253	0.0403	+/-0.0123	0.050	pCi/g						
Cesium-134	U	0.0965	0.0984	+/-0.0342	0.100	pCi/g						
Cesium-137		0.350	0.0589	+/-0.0494	0.100	pCi/g						
Cobalt-60	U	0.0123	0.0714	+/-0.021	0.100	pCi/g						
Europium-152	U	-0.0349	0.149	+/-0.0441	0.200	pCi/g						
Lanthanum-140	U	-0.0353	0.139	+/-0.0442		pCi/g						
Lead-212		1.74	0.114	+/-0.116	0.100	pCi/g						
Lead-214		1.36	0.110	+/-0.114	0.100	pCi/g						
Mercury-203	U	0.0168	0.0658	+/-0.022	0.100	pCi/g						
Potassium-40		36.6	0.492	+/-1.83	1.00	pCi/g						
Radium-223	U	0.142	1.04	+/-0.335		pCi/g						
Radium-224	UI	3.09	1.13	+/-0.467		pCi/g						
Radium-226		1.27	0.107	+/-0.112		pCi/g						
Radium-228		1.74	0.228	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	0.240	0.557	+/-0.155	0.800	pCi/g						



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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7272  
Sample ID: 244847001

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Sodium-22	U	-0.0226	0.0804	+/-0.0254	0.080	pCi/g						
Strontium-85	U	0.0657	0.0695	+/-0.0214		pCi/g						
Thallium-208		0.618	0.0608	+/-0.0504	0.080	pCi/g						
Thorium-227	U	-0.121	0.562	+/-0.174		pCi/g						
Thorium-231	U	0.142	1.04	+/-0.335		pCi/g						
Thorium-234		2.03	0.785	+/-0.436	2.00	pCi/g						
Tin-113	U	-0.0255	0.069	+/-0.0211	0.100	pCi/g						
Uranium-235	UI	0.381	0.283	+/-0.127	0.500	pCi/g						
Yttrium-88	U	0.0202	0.0652	+/-0.018	0.100	pCi/g						

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	98.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	104	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7272  
Sample ID: 244847001

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria  
E Organics--Concentration of the target analyte exceeds the instrument calibration range  
F Estimated Value  
H Analytical holding time was exceeded  
J Value is estimated  
M M if above MDC and less than LLD  
M Matrix Related Failure  
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).  
Quantitation is based on nearest internal standard response factor  
N/A RPD or %Recovery limits do not apply.  
ND Analyte concentration is not detected above the detection limit  
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%  
R Sample results are rejected  
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.  
UI Gamma Spectroscopy--Uncertain identification  
UJ Compound cannot be extracted  
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
Y QC Samples were not spiked with this compound  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.

# GEL LABORATORIES LLC

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7273  
Sample ID: 244847002  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 13.3%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0058	0.0185	+/-0.00253	0.050	pCi/g		MXE1	01/30/10	1733	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00264	0.0145	+/-0.00197	0.050	pCi/g		MXE1	02/02/10	1315	942855	3
Plutonium-239/240	U	0.00176	0.0166	+/-0.00176	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.21	0.0815	+/-0.101	0.100	pCi/g		MXE1	01/29/10	1657	942856	4
Uranium-235/236		0.0976	0.0506	+/-0.019	0.100	pCi/g						
Uranium-238		1.54	0.0473	+/-0.124	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.051	0.329	+/-0.104	0.200	pCi/g		MXR1	01/27/10	1330	942717	6
Bismuth-211	UI	5.11	0.280	+/-0.270		pCi/g						
Bismuth-214		1.32	0.105	+/-0.100	0.200	pCi/g						
Cadmium-109	UI	3.82	1.66	+/-0.601		pCi/g						
Cerium-139	U	0.00784	0.0475	+/-0.0136	0.050	pCi/g						
Cesium-134	UI	0.206	0.0862	+/-0.0375	0.100	pCi/g						
Cesium-137		0.124	0.0589	+/-0.0279	0.100	pCi/g						
Cobalt-60	U	-0.0385	0.050	+/-0.0172	0.100	pCi/g						
Europium-152	U	0.0174	0.145	+/-0.0504	0.200	pCi/g						
Lanthanum-140	U	-0.025	0.116	+/-0.0364		pCi/g						
Lead-212		2.05	0.0877	+/-0.0917	0.100	pCi/g						
Lead-214		1.78	0.0976	+/-0.105	0.100	pCi/g						
Mercury-203	U	0.0376	0.0663	+/-0.0192	0.100	pCi/g						
Potassium-40		35.0	0.414	+/-1.54	1.00	pCi/g						
Radium-223	U	0.355	0.992	+/-0.335		pCi/g						
Radium-224	UI	4.73	0.997	+/-0.549		pCi/g						
Radium-226		1.32	0.105	+/-0.100		pCi/g						
Radium-228		2.16	0.193	+/-0.201	0.500	pCi/g						
Ruthenium-106	U	0.0458	0.494	+/-0.150	0.800	pCi/g						
Sodium-22	U	0.00666	0.0663	+/-0.0199	0.080	pCi/g						

# GEL LABORATORIES LLC

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7273  
Sample ID: 244847002

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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### Rad Gamma Spec Analysis

*GAMMA SPEC "Dry Weight Corrected"*

Strontium-85	UI	0.104	0.0644	+/-0.0191		pCi/g						
Thallium-208		0.588	0.0518	+/-0.0438	0.080	pCi/g						
Thorium-227	U	-0.218	0.566	+/-0.175		pCi/g						
Thorium-231	U	0.355	0.992	+/-0.335		pCi/g						
Thorium-234	U	2.32	2.85	+/-1.14	2.00	pCi/g						
Tin-113	U	0.00975	0.0697	+/-0.0202	0.100	pCi/g						
Uranium-235	U	0.0811	0.350	+/-0.106	0.500	pCi/g						
Yttrium-88	U	0.00565	0.0462	+/-0.0137	0.100	pCi/g						

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	102	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	106 *	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.9	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

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## Certificate of Analysis

Company : Los Alamos National Laboratory  
Address : PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7273  
Sample ID: 244847002

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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E Organics--Concentration of the target analyte exceeds the instrument calibration range  
F Estimated Value  
H Analytical holding time was exceeded  
J Value is estimated  
M M if above MDC and less than LLD  
M Matrix Related Failure  
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).  
Quantitation is based on nearest internal standard response factor  
N/A RPD or %Recovery limits do not apply.  
ND Analyte concentration is not detected above the detection limit  
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%  
R Sample results are rejected  
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.  
UI Gamma Spectroscopy--Uncertain identification  
UJ Compound cannot be extracted  
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
Y QC Samples were not spiked with this compound  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7274  
Sample ID: 244847003  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 15.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00447	0.0214	+/-0.00239	0.050	pCi/g		MXE1	01/30/10	1733	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0213	+/-0.00731	0.050	pCi/g		MXE1	01/26/10	1417	942855	3
Plutonium-239/240		0.0349	0.0244	+/-0.00741	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.81	0.111	+/-0.295	0.100	pCi/g		MXE1	01/29/10	1007	942856	4
Uranium-235/236		0.253	0.0692	+/-0.0386	0.100	pCi/g						
Uranium-238		6.81	0.0646	+/-0.508	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0214	0.556	+/-0.179	0.200	pCi/g		MXR1	01/27/10	1346	942717	6
Bismuth-211	UI	4.01	0.434	+/-0.304		pCi/g						
Bismuth-214		1.30	0.137	+/-0.0993	0.200	pCi/g						
Cadmium-109	U	2.12	2.29	+/-0.936		pCi/g						
Cerium-139	U	0.0103	0.0679	+/-0.020	0.050	pCi/g						
Cesium-134	U	0.0603	0.0999	+/-0.0275	0.100	pCi/g						
Cesium-137		0.696	0.0805	+/-0.0566	0.100	pCi/g						
Cobalt-60	U	-0.0189	0.0682	+/-0.0223	0.100	pCi/g						
Europium-152	U	-0.0987	0.217	+/-0.0817	0.200	pCi/g						
Lanthanum-140	U	-0.0511	0.128	+/-0.0431		pCi/g						
Lead-212		1.90	0.124	+/-0.106	0.100	pCi/g						
Lead-214		1.40	0.152	+/-0.112	0.100	pCi/g						
Mercury-203	U	-0.00447	0.0878	+/-0.028	0.100	pCi/g						
Potassium-40		32.4	0.702	+/-1.59	1.00	pCi/g						
Radium-223	U	-0.561	1.40	+/-0.424		pCi/g						
Radium-224	UI	5.11	1.41	+/-0.896		pCi/g						
Radium-226		1.30	0.137	+/-0.0993		pCi/g						
Radium-228		1.65	0.272	+/-0.174	0.500	pCi/g						
Ruthenium-106	U	-0.00318	0.609	+/-0.186	0.800	pCi/g						
Sodium-22	U	-0.026	0.0808	+/-0.0262	0.080	pCi/g						

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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7274  
Sample ID: 244847003

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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### Rad Gamma Spec Analysis

*GAMMA SPEC "Dry Weight Corrected"*

Strontium-85	UI	0.0864	0.0794	+/-0.0238		pCi/g						
Thallium-208		0.489	0.0672	+/-0.0491	0.080	pCi/g						
Thorium-227	U	-0.0011	0.855	+/-0.246		pCi/g						
Thorium-231	U	-0.561	1.40	+/-0.424		pCi/g						
Thorium-234		5.94	3.96	+/-2.13	2.00	pCi/g						
Tin-113	U	-0.0309	0.0922	+/-0.0281	0.100	pCi/g						
Uranium-235	U	0.120	0.485	+/-0.143	0.500	pCi/g						
Yttrium-88	U	-0.0173	0.0509	+/-0.0174	0.100	pCi/g						

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	92.6	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7274  
Sample ID: 244847003

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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E Organics--Concentration of the target analyte exceeds the instrument calibration range  
F Estimated Value  
H Analytical holding time was exceeded  
J Value is estimated  
M M if above MDC and less than LLD  
M Matrix Related Failure  
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).  
Quantitation is based on nearest internal standard response factor  
N/A RPD or %Recovery limits do not apply.  
ND Analyte concentration is not detected above the detection limit  
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%  
R Sample results are rejected  
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.  
UI Gamma Spectroscopy--Uncertain identification  
UJ Compound cannot be extracted  
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
Y QC Samples were not spiked with this compound  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.



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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7281  
Sample ID: 244847004  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 9.89%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.000675	0.0195	+/-0.00213	0.050	pCi/g		MXE1	02/01/10	1515	942854	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00747	0.0205	+/-0.00307	0.050	pCi/g		MXE1	01/26/10	1417	942855	3
Plutonium-239/240	U	0.00373	0.0235	+/-0.00279	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.02	0.127	+/-0.097	0.100	pCi/g		MXE1	01/29/10	1007	942856	4
Uranium-235/236	U	0.0658	0.0788	+/-0.0189	0.100	pCi/g						
Uranium-238		1.05	0.0737	+/-0.0998	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0951	0.338	+/-0.107	0.200	pCi/g		MXR1	01/27/10	1419	942717	6
Bismuth-211	UI	3.70	0.354	+/-0.252		pCi/g						
Bismuth-214		1.27	0.125	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	4.85	1.35	+/-0.654		pCi/g						
Cerium-139	U	0.0118	0.055	+/-0.0161	0.050	pCi/g						
Cesium-134	U	0.0867	0.102	+/-0.0305	0.100	pCi/g						
Cesium-137	U	-0.00356	0.0651	+/-0.020	0.100	pCi/g						
Cobalt-60	U	-0.00429	0.0684	+/-0.0213	0.100	pCi/g						
Europium-152	U	-0.00879	0.170	+/-0.0552	0.200	pCi/g						
Lanthanum-140	U	-0.0666	0.116	+/-0.0414		pCi/g						
Lead-212		1.65	0.0975	+/-0.0832	0.100	pCi/g						
Lead-214		1.29	0.123	+/-0.0939	0.100	pCi/g						
Mercury-203	U	-0.00209	0.0761	+/-0.0221	0.100	pCi/g						
Potassium-40		19.5	0.306	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.106	1.19	+/-0.403		pCi/g						
Radium-224	UI	5.08	1.11	+/-0.743		pCi/g						
Radium-226		1.27	0.125	+/-0.104		pCi/g						
Radium-228		1.45	0.235	+/-0.198	0.500	pCi/g						
Ruthenium-106	U	-0.0399	0.576	+/-0.177	0.800	pCi/g						
Sodium-22	U	-0.0165	0.0689	+/-0.0222	0.080	pCi/g						

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## Certificate of Analysis

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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7281  
Sample ID: 244847004

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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### Rad Gamma Spec Analysis

*GAMMA SPEC "Dry Weight Corrected"*

Strontium-85	U	0.0352	0.0633	+/-0.020		pCi/g						
Thallium-208		0.539	0.0637	+/-0.0469	0.080	pCi/g						
Thorium-227	U	-0.0305	0.710	+/-0.217		pCi/g						
Thorium-231	U	-0.106	1.19	+/-0.403		pCi/g						
Thorium-234	U	2.22	2.70	+/-1.23	2.00	pCi/g						
Tin-113	U	-0.00215	0.0826	+/-0.0244	0.100	pCi/g						
Uranium-235	U	-0.034	0.374	+/-0.113	0.500	pCi/g						
Yttrium-88	U	0.0176	0.0659	+/-0.0183	0.100	pCi/g						

### The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	80.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.9	(50%-105%)

### Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

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Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 5, 2010

Client Sample ID: RE12-10-7281  
Sample ID: 244847004

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

E Organics--Concentration of the target analyte exceeds the instrument calibration range  
F Estimated Value  
H Analytical holding time was exceeded  
J Value is estimated  
M M if above MDC and less than LLD  
M Matrix Related Failure  
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).  
Quantitation is based on nearest internal standard response factor  
N/A RPD or %Recovery limits do not apply.  
ND Analyte concentration is not detected above the detection limit  
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%  
R Sample results are rejected  
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.  
UI Gamma Spectroscopy--Uncertain identification  
UJ Compound cannot be extracted  
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
Y QC Samples were not spiked with this compound  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.

# QUALITY CONTROL DATA

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## QC Summary

Report Date: February 5, 2010

Page 1 of 6

**Client :** Los Alamos National Laboratory  
**PO Box 1663**  
**TA-03, SM271, Drop Pt. 02U, Rm**  
**Los Alamos, New Mexico**  
**Contact:** Ms. Joylene Valdez  
**Workorder:** 244847

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	942854										
QC1202018631	244842002	DUP									
Americium-241			U	0.0165	U	0.0186	pCi/g	0.105	(0-1)	MXE1	01/27/1014:49
			TPU:	+/-0.00461		+/-0.00499					
			Yield:	91.8		92.4					
QC1202018632	LCS										
Americium-241			33.2			31.2	pCi/g	94.2	(75%-125%)		
			TPU:			+/-2.11					
			Yield:			93.5					
QC1202018630	MB										
Americium-241				U	-0.000784	pCi/g					
			TPU:		+/-0.00351						
			Yield:			94.9					
Batch	942855										
QC1202018634	244842002	DUP									
Plutonium-238			U	0.002	U	0.00	pCi/g	0.308	(0-1)	MXE1	01/26/1014:17
			TPU:	+/-0.00201		+/-0.00125					
			Yield:	92.0		89.8					
Plutonium-239/240				0.0591		0.0623	pCi/g	0.091	(0-1)		
			TPU:	+/-0.00822		+/-0.00954					
			Yield:	92.0		89.8					
QC1202018635	LCS										
Plutonium-238						6.80	pCi/g		(75%-125%)		
			TPU:			+/-0.470					
			Yield:			101					
Plutonium-239/240			41.8			34.8	pCi/g	83.2	(75%-125%)		
			TPU:			+/-2.04					
			Yield:			101					
QC1202018633	MB										
Plutonium-238				U	-0.00286	pCi/g					
			TPU:		+/-0.00248						
			Yield:			93.9					
Plutonium-239/240				U	-0.00143	pCi/g					
			TPU:		+/-0.00516						
			Yield:			93.9					
Batch	942856										
QC1202018637	244842002	DUP									
Uranium-233/234				1.60		2.00	pCi/g	0.659	(0-1)	MXE1	01/29/1010:08
			TPU:	+/-0.138		+/-0.162					
			Yield:	85.7		101					
Uranium-235/236				0.0786		0.128	pCi/g	0.537	(0-1)		
			TPU:	+/-0.0209		+/-0.025					
			Yield:	85.7		101					
Uranium-238				2.07		2.18	pCi/g	0.154	(0-1)		
			TPU:	+/-0.172		+/-0.175					

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## QC Summary

Workorder: 244847

Page 2 of 6

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	942856										
QC1202018638	LCS	Yield:	85.7	101							
Uranium-233/234				6.09	pCi/g			(75%-125%)		01/29/10	10:08
		TPU:		+/-0.578							
		Yield:		95.4							
Uranium-235/236				0.386	pCi/g			(75%-125%)			
		TPU:		+/-0.0982							
		Yield:		95.4							
Uranium-238	5.75			5.18	pCi/g		90	(75%-125%)			
		TPU:		+/-0.505							
		Yield:		95.4							
QC1202018636	MB										
Uranium-233/234			U	0.00969	pCi/g					01/29/10	10:13
		TPU:		+/-0.00382							
		Yield:		100							
Uranium-235/236			U	0.0102	pCi/g						
		TPU:		+/-0.0039							
		Yield:		100							
Uranium-238			U	0.0094	pCi/g						
		TPU:		+/-0.00377							
		Yield:		100							
Rad Gamma Spec											
Batch	942717										
QC1202018260	244847001	DUP									
Americium-241		U	0.0368	U	0.395	pCi/g	0.917	(0-1)	MXR1	01/27/10	15:56
		TPU:	+/-0.0261		+/-0.169						
Bismuth-211		UI	3.91	UI	4.03	pCi/g	0.0979	(0-1)			
		TPU:	+/-0.310		+/-0.297						
Bismuth-214			1.27		1.25	pCi/g	0.0473	(0-1)			
		TPU:	+/-0.112		+/-0.0988						
Cadmium-109		UI	4.00	UI	3.27	pCi/g	0.339	(0-1)			
		TPU:	+/-0.398		+/-0.672						
Cerium-139		U	-0.0253	U	-0.0024	pCi/g	0.363	(0-1)			
		TPU:	+/-0.0123		+/-0.0191						
Cesium-134		U	0.0965	UI	0.171	pCi/g	0.467	(0-1)			
		TPU:	+/-0.0342		+/-0.0457						
Cesium-137			0.350		0.317	pCi/g	0.161	(0-1)			
		TPU:	+/-0.0494		+/-0.0513						
Cobalt-60		U	0.0123	U	0.00279	pCi/g	0.107	(0-1)			
		TPU:	+/-0.021		+/-0.0231						
Europium-152		U	-0.0349	U	-0.112	pCi/g	0.285	(0-1)			
		TPU:	+/-0.0441		+/-0.0905						
Lanthanum-140		U	-0.0353	U	0.0359	pCi/g	0.342	(0-1)			
		TPU:	+/-0.0442		+/-0.060						
Lead-212			1.74		1.78	pCi/g	0.0925	(0-1)			
		TPU:	+/-0.116		+/-0.100						
Lead-214			1.36		1.40	pCi/g	0.0918	(0-1)			
		TPU:	+/-0.114		+/-0.110						
Mercury-203		U	0.0168	U	0.0529	pCi/g	0.358	(0-1)			
		TPU:	+/-0.022		+/-0.0284						

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 244847

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	942717										
Potassium-40		36.6		33.9	pCi/g	0.389		(0-1)			
	TPU:	+/-1.83		+/-1.65							
Radium-223	U	0.142	U	0.683	pCi/g	0.332		(0-1)			
	TPU:	+/-0.335		+/-0.481							
Radium-224	UI	3.09	UI	4.56	pCi/g	0.543		(0-1)			
	TPU:	+/-0.467		+/-0.885							
Radium-226		1.27		1.25	pCi/g	0.0473		(0-1)			
	TPU:	+/-0.112		+/-0.0988							
Radium-228		1.74		1.84	pCi/g	0.128		(0-1)			
	TPU:	+/-0.178		+/-0.208							
Ruthenium-106	U	0.240	U	-0.267	pCi/g	0.708		(0-1)			
	TPU:	+/-0.155		+/-0.204							
Sodium-22	U	-0.0226	U	-0.0239	pCi/g	0.0124		(0-1)			
	TPU:	+/-0.0254		+/-0.0268							
Strontium-85	U	0.0657	U	0.0691	pCi/g	0.0365		(0-1)			
	TPU:	+/-0.0214		+/-0.0257							
Thallium-208		0.618		0.561	pCi/g	0.282		(0-1)			
	TPU:	+/-0.0504		+/-0.0495							
Thorium-227	U	-0.121	U	-0.0662	pCi/g	0.0689		(0-1)			
	TPU:	+/-0.174		+/-0.225							
Thorium-231	U	0.142	U	0.683	pCi/g	0.332		(0-1)			
	TPU:	+/-0.335		+/-0.481							
Thorium-234		2.03	U	3.04	pCi/g	0.214		(0-1)			
	TPU:	+/-0.436		+/-1.92							
Tin-113	U	-0.0255	U	-0.0544	pCi/g	0.295		(0-1)			
	TPU:	+/-0.0211		+/-0.0279							
Uranium-235	UI	0.381	U	0.228	pCi/g	0.289		(0-1)			
	TPU:	+/-0.127		+/-0.137							
Yttrium-88	U	0.0202	U	0.0453	pCi/g	0.349		(0-1)			
	TPU:	+/-0.018		+/-0.0179							
QC1202018261	LCS										
Americium-241	15.9			13.1	pCi/g		82.4	(75%-125%)		01/27/1015:00	
	TPU:			+/-0.607							
Bismuth-211				2.17	pCi/g						
	TPU:			+/-0.299							
Bismuth-214				0.541	pCi/g						
	TPU:			+/-0.101							
Cadmium-109				30.5	pCi/g						
	TPU:			+/-1.87							
Cerium-139			U	-0.0312	pCi/g						
	TPU:			+/-0.0192							
Cesium-134			U	0.030	pCi/g						
	TPU:			+/-0.0365							
Cesium-137	5.57			5.80	pCi/g		104	(75%-125%)			
	TPU:			+/-0.326							
Cobalt-60	6.44			6.51	pCi/g		101	(75%-125%)			
	TPU:			+/-0.320							
Europium-152			U	-0.0435	pCi/g						
	TPU:			+/-0.0828							
Lanthanum-140			U	-0.023	pCi/g						
	TPU:			+/-0.0383							

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## QC Summary

Workorder: 244847

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>										
Batch	942717									
Lead-212			1.10	pCi/g						
	TPU:		+/-0.0977							
Lead-214			0.756	pCi/g						
	TPU:		+/-0.106							
Mercury-203		U	0.0129	pCi/g						
	TPU:		+/-0.0288							
Potassium-40		U	0.154	pCi/g						
	TPU:		+/-0.347							
Radium-223		U	-0.944	pCi/g						
	TPU:		+/-0.516							
Radium-224			2.79	pCi/g						
	TPU:		+/-0.786							
Radium-226			0.541	pCi/g						
	TPU:		+/-0.101							
Radium-228			1.21	pCi/g						
	TPU:		+/-0.232							
Ruthenium-106		U	0.129	pCi/g						
	TPU:		+/-0.230							
Sodium-22		U	0.00388	pCi/g						
	TPU:		+/-0.0214							
Strontium-85		U	0.0831	pCi/g						
	TPU:		+/-0.0308							
Thallium-208			0.331	pCi/g						
	TPU:		+/-0.0495							
Thorium-227		U	-0.151	pCi/g						
	TPU:		+/-0.302							
Thorium-231		U	-0.944	pCi/g						
	TPU:		+/-0.516							
Thorium-234		U	-1.47	pCi/g						
	TPU:		+/-0.904							
Tin-113		U	0.000247	pCi/g						
	TPU:		+/-0.0343							
Uranium-235		U	0.125	pCi/g						
	TPU:		+/-0.141							
Yttrium-88		U	0.00828	pCi/g						
	TPU:		+/-0.0184							
QC1202018259	MB									
Americium-241		U	-0.0218	pCi/g					01/27/1014:59	
	TPU:		+/-0.0235							
Bismuth-211		U	-0.0346	pCi/g						
	TPU:		+/-0.0429							
Bismuth-214		U	-0.0026	pCi/g						
	TPU:		+/-0.0171							
Cadmium-109		U	-0.149	pCi/g						
	TPU:		+/-0.156							
Cerium-139		U	-0.00919	pCi/g						
	TPU:		+/-0.00572							
Cesium-134		U	-0.00364	pCi/g						
	TPU:		+/-0.0099							
Cesium-137		U	0.0127	pCi/g						
	TPU:		+/-0.00807							



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## QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	942717										
Cobalt-60			U	-0.0123	pCi/g						
	TPU:			+/-0.00764							
Europium-152			U	0.0099	pCi/g						
	TPU:			+/-0.0205							
Lanthanum-140			U	-0.00434	pCi/g						
	TPU:			+/-0.0123							
Lead-212			U	0.0258	pCi/g						
	TPU:			+/-0.0167							
Lead-214			U	0.00486	pCi/g						
	TPU:			+/-0.0148							
Mercury-203			U	0.00261	pCi/g						
	TPU:			+/-0.00703							
Potassium-40			U	0.168	pCi/g						
	TPU:			+/-0.0815							
Radium-223			U	0.0762	pCi/g						
	TPU:			+/-0.145							
Radium-224			U	0.215	pCi/g						
	TPU:			+/-0.150							
Radium-226			U	-0.0026	pCi/g						
	TPU:			+/-0.0171							
Radium-228			U	-0.0386	pCi/g						
	TPU:			+/-0.0329							
Ruthenium-106			U	-0.0145	pCi/g						
	TPU:			+/-0.0725							
Sodium-22			U	-0.0143	pCi/g						
	TPU:			+/-0.00929							
Strontium-85			U	-0.0311	pCi/g						
	TPU:			+/-0.012							
Thallium-208			U	-0.00612	pCi/g						
	TPU:			+/-0.00957							
Thorium-227			U	0.0803	pCi/g						
	TPU:			+/-0.0806							
Thorium-231			U	0.0762	pCi/g						
	TPU:			+/-0.145							
Thorium-234			U	-0.102	pCi/g						
	TPU:			+/-0.222							
Tin-113			U	0.00286	pCi/g						
	TPU:			+/-0.00943							
Uranium-235			U	-0.079	pCi/g						
	TPU:			+/-0.046							
Yttrium-88			U	0.00171	pCi/g						
	TPU:			+/-0.00755							

Notes:

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 244847

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
A	The TIC is a suspected aldol-condensation product									
B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.									
BD	Results are either below the MDC or tracer recovery is low									
C	Analyte has been confirmed by GC/MS analysis									
D	Results are reported from a diluted aliquot of the sample									
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range									
E	Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria									
E	Organics--Concentration of the target analyte exceeds the instrument calibration range									
F	Estimated Value									
H	Analytical holding time was exceeded									
J	Value is estimated									
M	M if above MDC and less than LLD									
M	Matrix Related Failure									
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor									
N/A	RPD or %Recovery limits do not apply.									
ND	Analyte concentration is not detected above the detection limit									
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%									
R	Sample results are rejected									
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.									
UI	Gamma Spectroscopy--Uncertain identification									
UJ	Compound cannot be extracted									
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y	QC Samples were not spiked with this compound									
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.									
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
d	5-day BOD--The 2:1 depletion requirement was not met for this sample									
h	Preparation or preservation holding time was exceeded									

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

\*\* Indicates analyte is a surrogate compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

**RAW DATA**

# Radiochemistry Batch Checklist, Rev10

Batch# 942854 Product: Am Date: 2/2/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.	✓		
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Jap LM- 2/2/10

Secondary Review Performed By: M. J. L. due 2/5/10

2/1 2/12

## Am/Cm Que Sheet

25-JAN-10

Comments:

Internal Due Date: 01-FEB-10

Analyst: MXE1 First Client Due Date: 12-FEB-10

Batch #: 942854

Tracer(s): Am243/Cm244

Tracer Code: 44596-255

LCS Isotope(s): Am241/Cm244

LCS Code(s):

Expiration Date: 5/1/10

Expiration Date: 5/1/10

Expiration Date: 5/1/10

Spike Isotope(s): Am241/Cm244

Spike Code(s):

Expiration Date: 5/1/10

Expiration Date: 5/1/10

Expiration Date: 5/1/10

Prep Date: 1/20/10 Initials: MXE

Pipet ID: 2971058

Balance ID: 50410372

Witness: ATB 1/22/10 recopy

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet Weight (g)	Aliquot (g)	Am/Cm Det #
244835001-1	RE46-10-10093	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	1	1	1.332		250
244835002-1	RE46-10-10082	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	2	2	1.202		251
244835003-1	RE46-10-10100	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	3	3	1.203		252
244835004-1	RE46-10-10095	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	4	4	1.257		253
244835005-1	RE46-10-10096	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	5	5	1.282		254
244835006-1	RE46-10-10097	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	6	6	1.267		255
244835007-1	RE46-10-10090	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	7	7	1.273		256
244835008-1	RE46-10-10101	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	8	8	1.247		257
244835009-1	RE46-10-10094	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	9	9	1.208		258
244835010-1	RE46-10-10092	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	10	10	1.206		259
244842001-1	RE46-10-11145	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	11	11	1.205		260
244842002-1	RE46-10-11146	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	12	12	1.255		261
244842003-1	RE46-10-11148	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	13	13	1.283		262
244842004-1	RE46-10-11144	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	14	14	1.250		263
244842005-1	RE46-10-11152	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	15	15	1.277		264
244842006-1	RE46-10-11150	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	16	16	1.311		265
244847001-1	RE12-10-7272	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	17	17	1.282		266
244847002-1	RE12-10-7273	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	18	18	1.259		267
244847003-1	RE12-10-7274	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	19	19	1.257		268
244847004-1	RE12-10-7281	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	20	20	1.251		269
1202018630-1	MB for batch 942854	MB	.05 pCi/g		SOIL	QC ACCOUNT		21	21	1.0		270
1202018631-1	RE46-10-11146(244842002DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	13-JAN-10	22	22	1.200		271
1202018632-1	LCS for batch 942854	LCS	.05 pCi/g		SOIL	QC ACCOUNT		23	23	0.136		272

Choose SOP Used GL-RAD-A-011GL-RAD-A-036Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By: JPLML - 2/2/10

SKM 0244-B exp 4/30/20

# Blank Correction Report

**Batch ID 942854**

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018631	DUP	Americium-241	1.27 g	0.0186	0.00499	0.0216	-.00061732	pCi/g	NO
1202018632	LCS	Americium-241	0.136 g	31.2	2.11	0.195	-.00576471	pCi/g	NO
1202018630	MB	Americium-241	1.00 g	-0.000784	0.00351	0.0255	-.000784	pCi/g	NO
244835001	RE46-10-10093	Americium-241	1.33 g	-0.000654	0.00106	0.018	-.00058947	pCi/g	NO
244835002	RE46-10-10082	Americium-241	1.26 g	-0.00385	0.00204	0.0173	-.00062222	pCi/g	YES
244835003	RE46-10-10100	Americium-241	1.26 g	0.00278	0.00242	0.0195	-.00062222	pCi/g	NO
244835004	RE46-10-10095	Americium-241	1.26 g	-0.00508	0.00267	0.0185	-.00062222	pCi/g	YES
244835005	RE46-10-10096	Americium-241	1.28 g	0.00626	0.00253	0.0171	-.0006125	pCi/g	NO
244835006	RE46-10-10097	Americium-241	1.27 g	0.00129	0.00115	0.0175	-.00061732	pCi/g	NO
244835007	RE46-10-10090	Americium-241	1.27 g	0.00252	0.00225	0.0183	-.00061732	pCi/g	NO
244835008	RE46-10-10101	Americium-241	1.29 g	0.00116	0.00245	0.0249	-.00060775	pCi/g	NO
244835009	RE46-10-10094	Americium-241	1.27 g	0.000669	0.00124	0.021	-.00061732	pCi/g	NO
244835010	RE46-10-10092	Americium-241	1.27 g	0.00267	0.00174	0.019	-.00061732	pCi/g	NO
244842001	RE46-10-11145	Americium-241	1.27 g	0.000746	0.00205	0.0217	-.00061732	pCi/g	NO
244842002	RE46-10-11146	Americium-241	1.26 g	0.0165	0.00461	0.0208	-.00062222	pCi/g	NO
244842003	RE46-10-11148	Americium-241	1.28 g	0.0307	0.00637	0.0205	-.0006125	pCi/g	NO
244842004	RE46-10-11144	Americium-241	1.25 g	0.00158	0.0017	0.0289	-.0006272	pCi/g	NO
244842005	RE46-10-11152	Americium-241	1.28 g	0.0157	0.00517	0.0212	-.0006125	pCi/g	NO
244842006	RE46-10-11150	Americium-241	1.31 g	0.0574	0.00902	0.0205	-.00059847	pCi/g	NO
244847001	RE12-10-7272	Americium-241	1.28 g	0.00458	0.00302	0.0216	-.0006125	pCi/g	NO
244847002	RE12-10-7273	Americium-241	1.26 g	0.0058	0.00253	0.0185	-.00062222	pCi/g	NO
244847003	RE12-10-7274	Americium-241	1.25 g	0.00447	0.00239	0.0214	-.0006272	pCi/g	NO
244847004	RE12-10-7281	Americium-241	1.25 g	-0.000675	0.00213	0.0195	-.0006272	pCi/g	NO

GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942854  
SAMPLE DATE : 13-JAN-2010 00:00:00SAMPLE ID : S0244842002\_AM  
SAMPLE QTY: 1.255 GDETECTOR NUMBER :33206  
AVERAGE %EFFICIENCY :31.9813  
% YIELD : 91.758COUNT DATE:30-JAN-2010 17:33:50  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B093.CNF;708
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 25-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91658 dpm	EFF FILE : W093.CNF;199
		RESULTS : 2.67620 dpm	CAL DATE : 11-JAN-2010

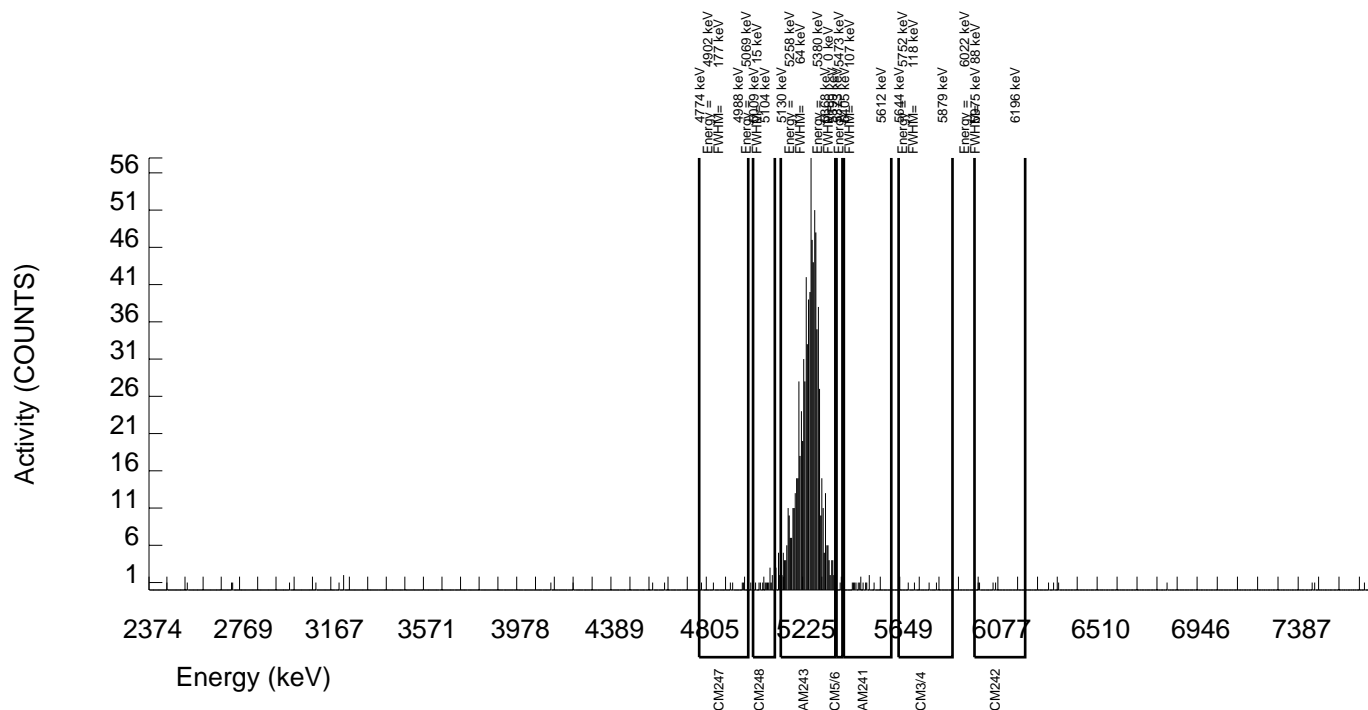
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	4.000	3.000	1.000	5.2338	100.0000	3.68E-03	2.75E-03	1.49E-02	3.31E-02	2.74E-03
CM-5/6	5386.000	3.000	2.000	1.000	19.8463	86.09000	2.84E-03	2.85E-03	6.56E-02	1.35E-01	2.84E-03
AM-241	5479.150	15.000	13.514	0.000	3.0704	99.94000	1.65E-02	4.61E-03	8.74E-03	2.08E-02	4.50E-03
CM-242	6102.000	5.000	5.000	0.000	4.3186	100.0000	6.60E-03	2.98E-03	1.23E-02	2.79E-02	2.95E-03
AM243	5270.000	857.000	854.000	3.000	1.7321	99.78000	1.05E+00	7.39E-02	4.94E-03	1.32E-02	3.59E-02
CM-247	4946.000	6.000	3.000	3.000	15.3366	79.30000	4.63E-03	4.64E-03	5.50E-02	1.14E-01	4.63E-03
CM-248	5078.600	15.000	15.000	0.000	22.1555	91.00000	2.02E-02	5.35E-03	6.93E-02	1.42E-01	5.21E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942854  
SAMPLE DATE : 11-JAN-2010 00:00:00SAMPLE ID : S0244847001\_AM  
SAMPLE QTY: 1.282 GDETECTOR NUMBER :72524  
AVERAGE %EFFICIENCY :31.1752  
% YIELD : 88.620COUNT DATE:30-JAN-2010 17:33:51  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91658 dpm RESULTS : 2.58467 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B104.CNF;674 BKG DATE : 25-JAN-2010 EFF FILE : W104.CNF;201 CAL DATE : 11-JAN-2010
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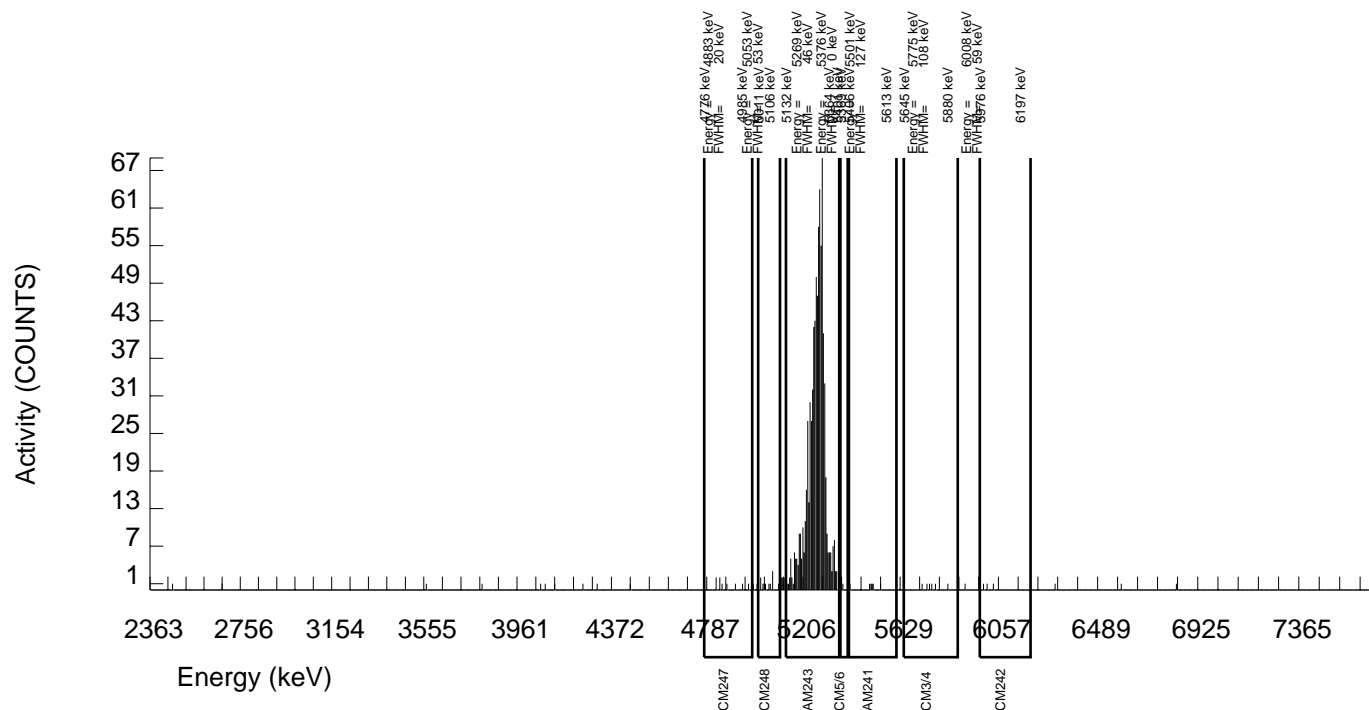
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	6.000	4.000	2.000	5.2338	100.0000	5.10E-03	3.62E-03	1.55E-02	3.44E-02	3.60E-03
CM-5/6	5386.000	6.000	6.000	0.000	19.8463	86.09000	8.86E-03	3.66E-03	6.82E-02	1.40E-01	3.62E-03
AM-241	5479.150	6.000	3.601	1.000	3.0704	99.94000	4.58E-03	3.02E-03	9.09E-03	2.16E-02	3.01E-03
CM-242	6102.000	4.000	3.000	1.000	4.3186	100.0000	4.16E-03	3.11E-03	1.28E-02	2.90E-02	3.10E-03
AM243	5270.000	805.000	804.000	1.000	1.0000	99.78000	1.02E+00	7.19E-02	2.97E-03	9.38E-03	3.62E-02
CM-247	4946.000	9.000	8.000	1.000	15.3366	79.30000	1.28E-02	5.13E-03	5.72E-02	1.19E-01	5.07E-03
CM-248	5078.600	13.000	13.000	0.000	22.1555	91.00000	1.82E-02	5.16E-03	7.20E-02	1.48E-01	5.04E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity





GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942854  
SAMPLE DATE : 11-JAN-2010 00:00:00

SAMPLE ID : S0244847002\_AM  
SAMPLE QTY: 1.259 G

DETECTOR NUMBER :78777  
AVERAGE %EFFICIENCY :32.3821  
% YIELD : 101.659

COUNT DATE:30-JAN-2010 17:33:51  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B105.CNF;676
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 25-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91658 dpm	EFF FILE : W105.CNF;173
		RESULTS : 2.96496 dpm	CAL DATE : 11-JAN-2010

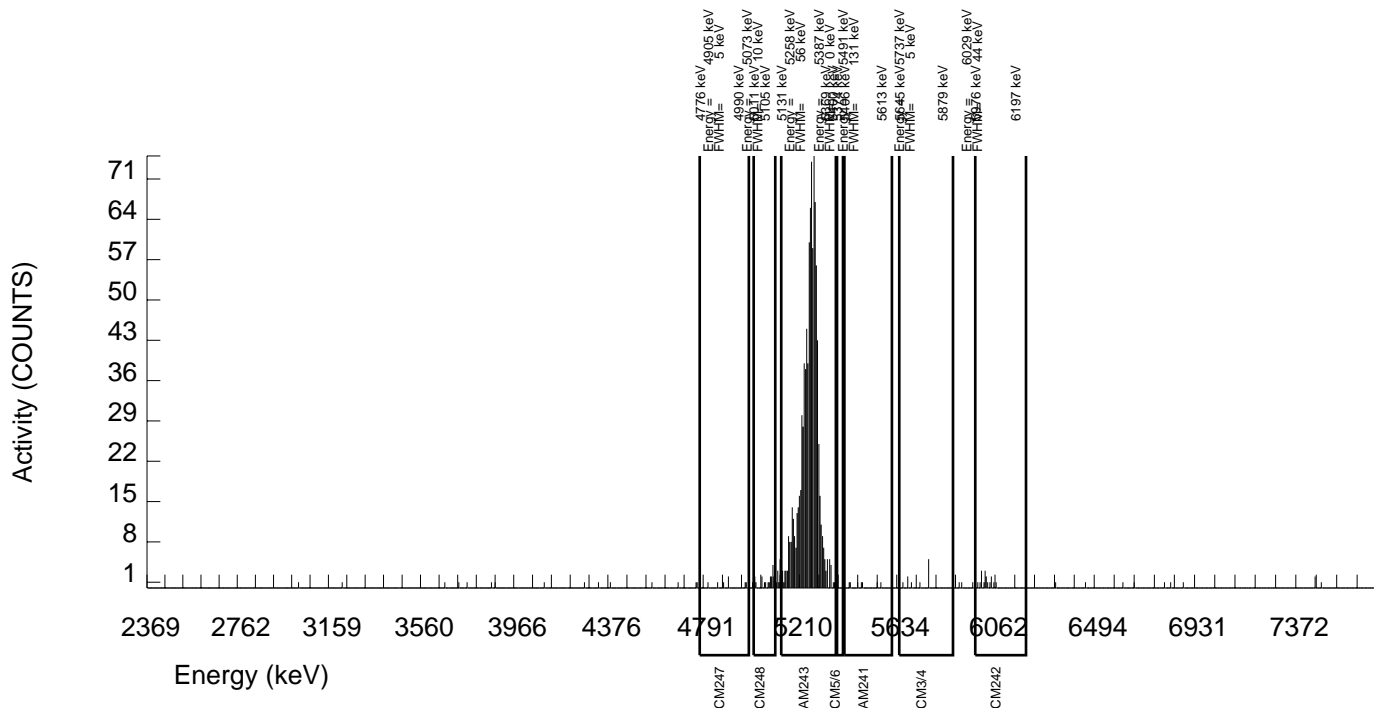
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	10.000	10.000	0.000	5.2338	100.0000	1.09E-02	3.50E-03	1.32E-02	2.94E-02	3.44E-03
CM-5/6	5386.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.26E-03	5.83E-02	1.20E-01	1.26E-03
AM-241	5479.150	7.000	5.333	0.000	3.0704	99.94000	5.80E-03	2.53E-03	7.77E-03	1.85E-02	2.51E-03
CM-242	6102.000	17.000	17.000	0.000	4.3186	100.0000	2.01E-02	5.02E-03	1.09E-02	2.48E-02	4.88E-03
AM243	5270.000	959.000	958.000	1.000	1.0000	99.78000	1.04E+00	7.02E-02	2.53E-03	8.02E-03	3.37E-02
CM-247	4946.000	7.000	6.000	1.000	15.3366	79.30000	8.22E-03	3.91E-03	4.89E-02	1.02E-01	3.88E-03
CM-248	5078.600	20.000	20.000	0.000	22.1555	91.00000	2.39E-02	5.52E-03	6.16E-02	1.26E-01	5.34E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942854  
SAMPLE DATE : 11-JAN-2010 00:00:00SAMPLE ID : S0244847003\_AM  
SAMPLE QTY: 1.251 GDETECTOR NUMBER :64274  
AVERAGE %EFFICIENCY :32.1326  
% YIELD : 89.081COUNT DATE:30-JAN-2010 17:33:51  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B106.CNF;676
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 25-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91658 dpm	EFF FILE : W106.CNF;184
		RESULTS : 2.59811 dpm	CAL DATE : 14-JAN-2010

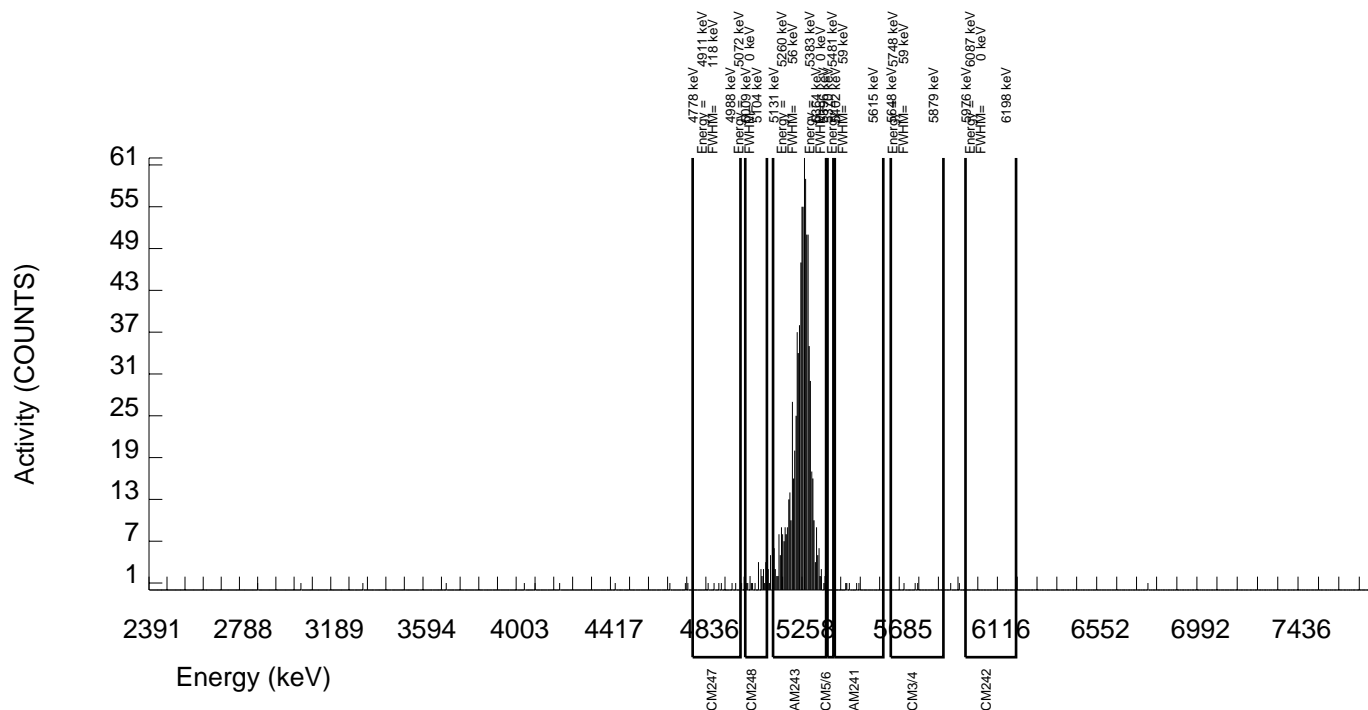
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	3.000	3.000	0.000	5.2338	100.0000	3.78E-03	2.20E-03	1.53E-02	3.40E-02	2.18E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.46E-03	1.46E-03	6.75E-02	1.39E-01	1.46E-03
AM-241	5479.150	5.000	3.550	0.000	3.0704	99.94000	4.47E-03	2.39E-03	8.99E-03	2.14E-02	2.37E-03
CM-242	6102.000	0.000	0.000	0.000	4.3186	100.0000	0.00E+00	1.37E-03	1.26E-02	2.87E-02	1.37E-03
AM243	5270.000	833.000	833.000	0.000	0.0000	99.78000	1.05E+00	7.30E-02	0.00E+00	3.42E-03	3.64E-02
CM-247	4946.000	6.000	6.000	0.000	15.3366	79.30000	9.52E-03	3.93E-03	5.66E-02	1.17E-01	3.89E-03
CM-248	5078.600	25.000	24.000	1.000	22.1555	91.00000	3.32E-02	7.33E-03	7.12E-02	1.46E-01	7.05E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942854  
SAMPLE DATE : 11-JAN-2010 00:00:00SAMPLE ID : S0244847004\_AM  
SAMPLE QTY: 1.251 GDETECTOR NUMBER :79441  
AVERAGE %EFFICIENCY :38.9692  
% YIELD : 80.419COUNT DATE: 1-FEB-2010 15:15:07  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B248.CNF;79
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 31-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91658 dpm	EFF FILE : W248.CNF;29
		RESULTS : 2.34548 dpm	CAL DATE : 29-JAN-2010

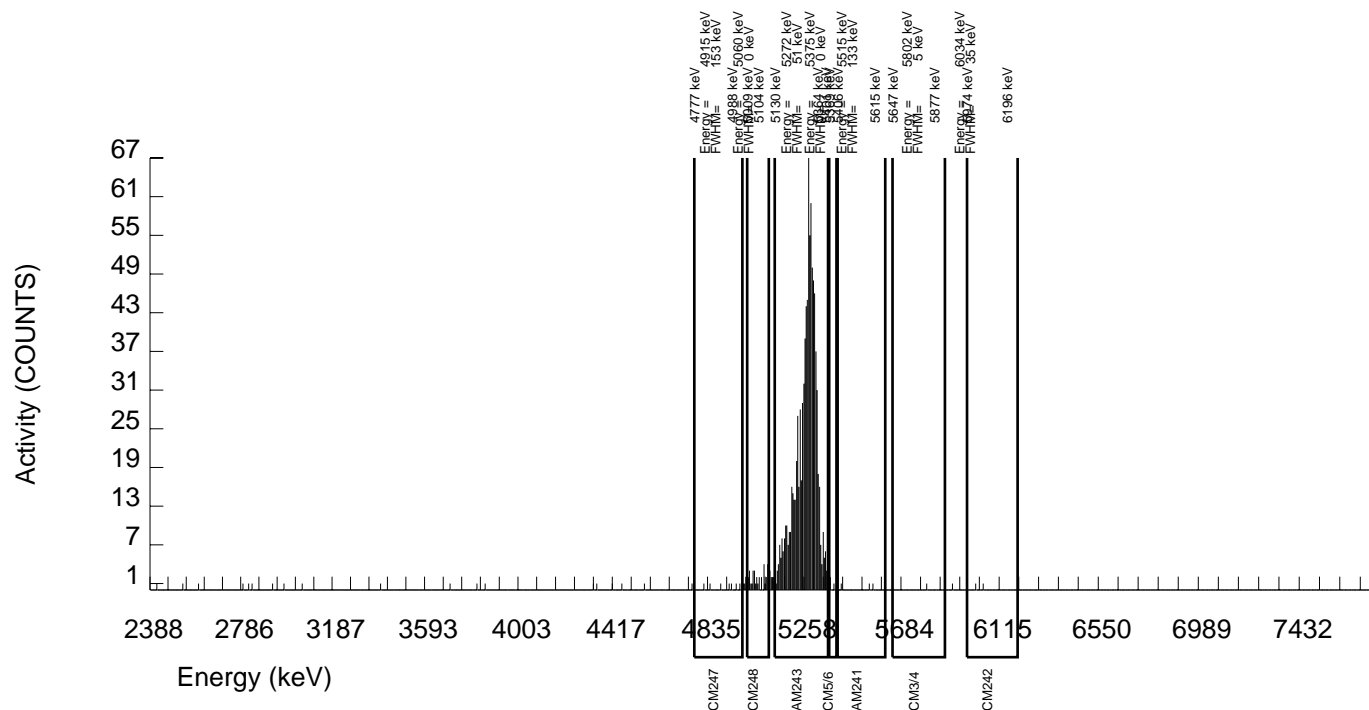
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	1.000	-1.000	2.000	5.2338	100.0000	-1.15E-03	2.00E-03	1.40E-02	3.11E-02	1.99E-03
CM-5/6	5386.000	16.000	16.000	0.000	19.8463	86.09000	2.14E-02	5.49E-03	6.16E-02	1.27E-01	5.34E-03
AM-241	5479.150	3.000	-0.587	2.000	3.0704	99.94000	-6.75E-04	2.13E-03	8.21E-03	1.95E-02	2.12E-03
CM-242	6102.000	2.000	2.000	0.000	4.3186	100.0000	2.52E-03	1.79E-03	1.15E-02	2.62E-02	1.78E-03
AM243	5270.000	912.000	912.000	0.000	0.0000	99.78000	1.05E+00	7.13E-02	0.00E+00	3.12E-03	3.48E-02
CM-247	4946.000	7.000	6.000	1.000	15.3366	79.30000	8.69E-03	4.13E-03	5.17E-02	1.07E-01	4.10E-03
CM-248	5078.600	34.000	34.000	0.000	22.1555	91.00000	4.29E-02	7.79E-03	6.51E-02	1.34E-01	7.36E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942854  
SAMPLE DATE : 20-JAN-2010 00:00:00

SAMPLE ID : S1202018630\_AM  
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :78266  
AVERAGE %EFFICIENCY :31.6797  
% YIELD : 94.910

COUNT DATE:27-JAN-2010 14:49:09  
ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B074.CNF;1117
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 25-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91657 dpm	EFF FILE : W074.CNF;330
		RESULTS : 2.76812 dpm	CAL DATE : 11-JAN-2010

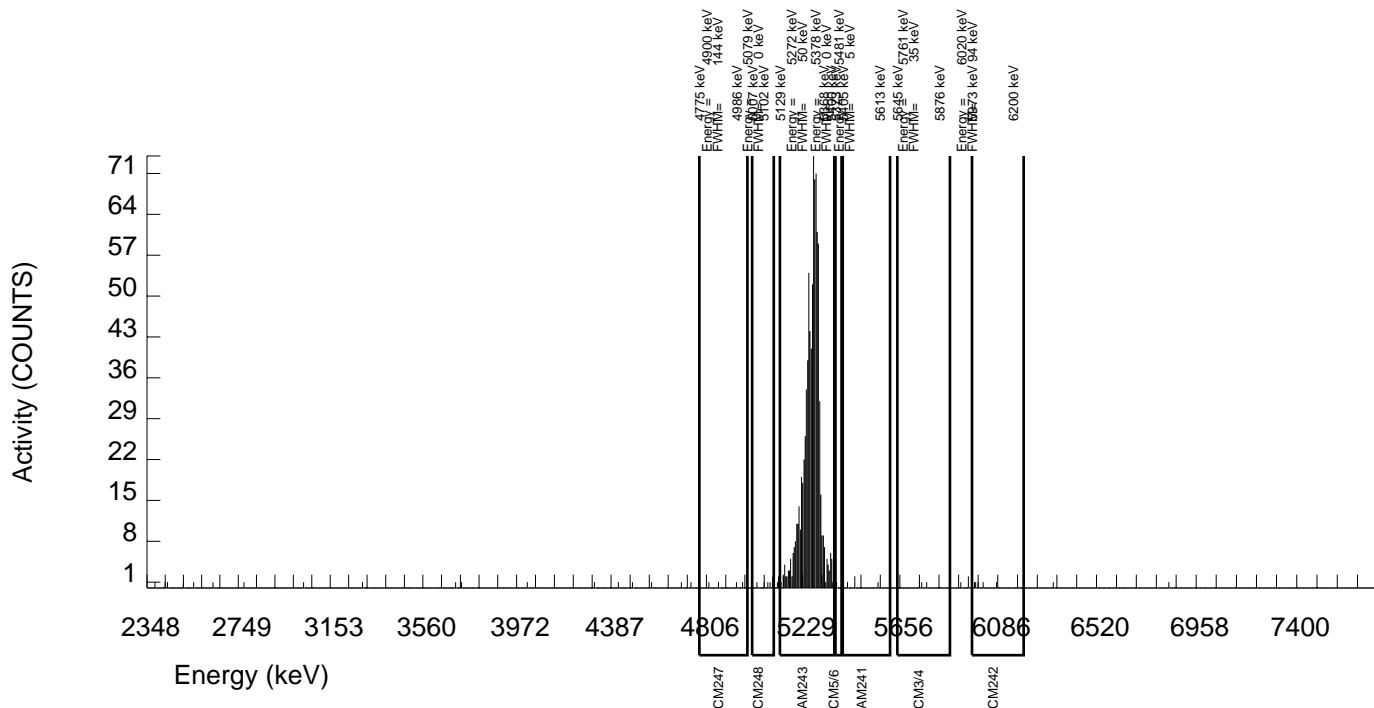
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	3.000	1.000	2.000	5.2338	100.0000	1.50E-03	3.35E-03	1.82E-02	4.05E-02	3.35E-03
CM-5/6	5386.000	2.000	0.000	2.000	19.8463	86.09000	0.00E+00	3.48E-03	8.03E-02	1.65E-01	3.48E-03
AM-241	5479.150	4.000	-0.523	3.000	3.0704	99.94000	-7.84E-04	3.51E-03	1.07E-02	2.55E-02	3.51E-03
CM-242	6102.000	5.000	1.000	4.000	4.3186	100.0000	1.55E-03	4.65E-03	1.51E-02	3.42E-02	4.65E-03
AM243	5270.000	875.000	875.000	0.000	0.0000	99.78000	1.31E+00	9.02E-02	0.00E+00	4.07E-03	4.44E-02
CM-247	4946.000	4.000	1.000	3.000	15.3366	79.30000	1.89E-03	5.00E-03	6.74E-02	1.40E-01	5.00E-03
CM-248	5078.600	6.000	6.000	0.000	22.1555	91.00000	9.88E-03	4.08E-03	8.49E-02	1.74E-01	4.03E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942854  
SAMPLE DATE : 13-JAN-2010 00:00:00SAMPLE ID : S1202018631\_AM  
SAMPLE QTY: 1.266 GDETECTOR NUMBER :80010  
AVERAGE %EFFICIENCY :30.2754  
% YIELD : 92.389COUNT DATE:27-JAN-2010 14:49:09  
ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B075.CNF;1098
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 25-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91658 dpm	EFF FILE : W075.CNF;288
		RESULTS : 2.69459 dpm	CAL DATE : 12-JAN-2010

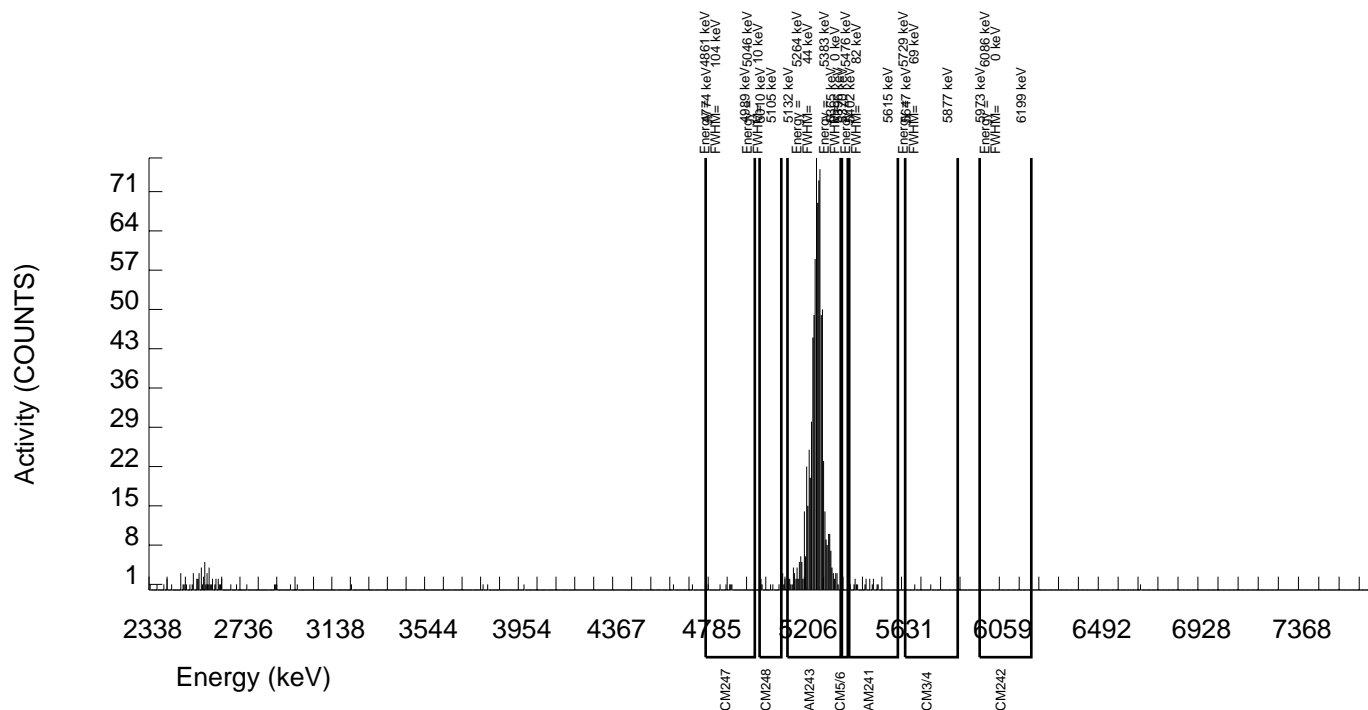
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	2.000	2.000	0.000	5.2338	100.0000	2.55E-03	1.81E-03	1.55E-02	3.44E-02	1.80E-03
CM-5/6	5386.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.48E-03	6.82E-02	1.40E-01	1.48E-03
AM-241	5479.150	16.000	14.583	0.000	3.0704	99.94000	1.86E-02	4.99E-03	9.09E-03	2.16E-02	4.86E-03
CM-242	6102.000	0.000	0.000	0.000	4.3186	100.0000	0.00E+00	1.36E-03	1.28E-02	2.90E-02	1.36E-03
AM243	5270.000	814.000	814.000	0.000	0.0000	99.78000	1.04E+00	7.25E-02	0.00E+00	3.45E-03	3.64E-02
CM-247	4946.000	6.000	2.000	4.000	15.3366	79.30000	3.21E-03	5.08E-03	5.72E-02	1.19E-01	5.07E-03
CM-248	5078.600	7.000	6.000	1.000	22.1555	91.00000	8.39E-03	3.99E-03	7.20E-02	1.48E-01	3.95E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942854  
SAMPLE DATE : 20-JAN-2010 00:00:00SAMPLE ID : S1202018632\_AM  
SAMPLE QTY: 0.136 GDETECTOR NUMBER :78779  
AVERAGE %EFFICIENCY :30.8747  
% YIELD : 93.489COUNT DATE:27-JAN-2010 14:49:09  
ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91657 dpm RESULTS : 2.72667 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B076.CNF;1101 BKG DATE : 25-JAN-2010 EFF FILE : W076.CNF;293 CAL DATE : 11-JAN-2010
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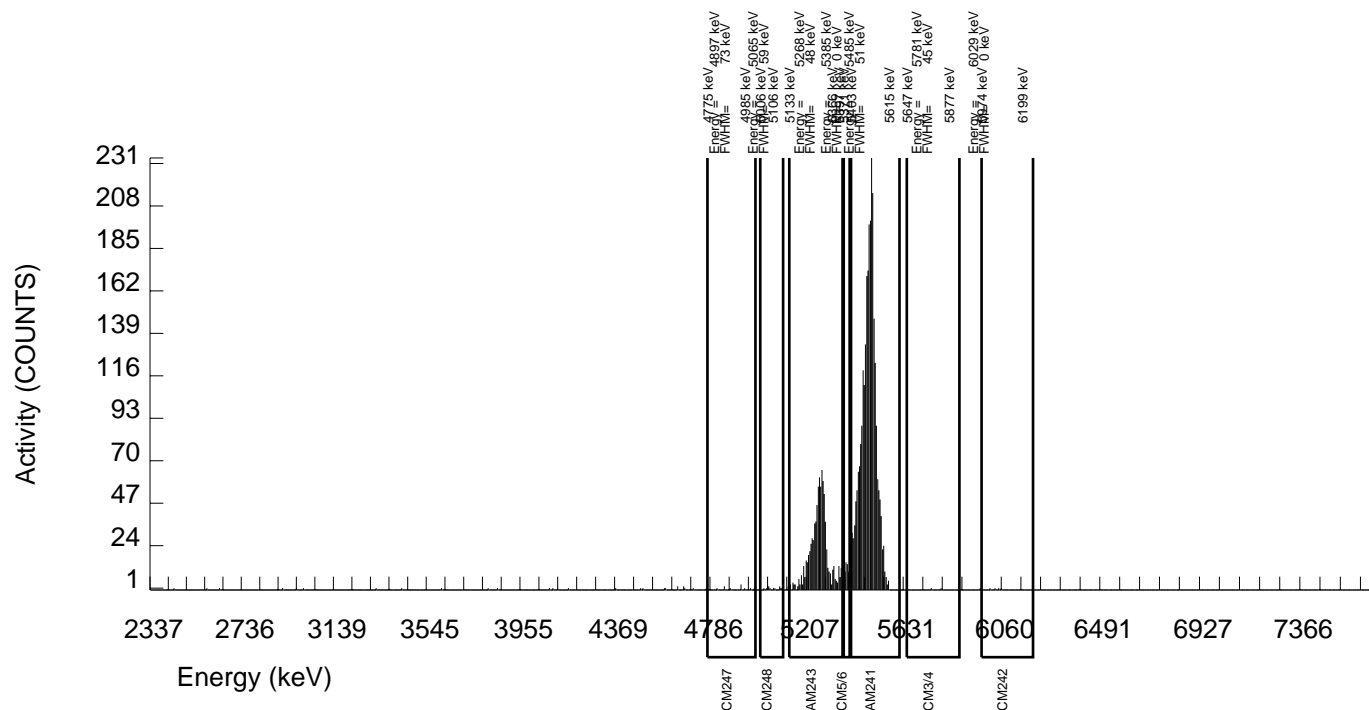
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	2.000	1.000	1.000	5.2338	100.0000	1.15E-02	1.99E-02	1.40E-01	3.11E-01	1.99E-02
CM-5/6	5386.000	65.000	65.000	0.000	19.8463	86.09000	8.66E-01	1.21E-01	6.15E-01	1.27E+00	1.07E-01
AM-241	5479.150	2722.000	2720.538	0.000	3.0704	99.94000	3.12E+01	2.11E+00	8.20E-02	1.95E-01	5.99E-01
CM-242	6102.000	5.000	4.000	1.000	4.3186	100.0000	4.75E-02	2.92E-02	1.15E-01	2.62E-01	2.91E-02
AM243	5270.000	842.000	840.000	2.000	1.4142	99.78000	9.66E+00	7.08E-01	3.78E-02	1.07E-01	3.34E-01
CM-247	4946.000	11.000	7.000	4.000	15.3366	79.30000	1.01E-01	5.64E-02	5.16E-01	1.07E+00	5.60E-02
CM-248	5078.600	13.000	11.000	2.000	22.1555	91.00000	1.39E-01	4.97E-02	6.50E-01	1.33E+00	4.88E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



# Radiochemistry Batch Checklist, Rev10

Batch#

942853

Product:

PU

Date:

2/5/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10° MDA/ MDC, error is 150% or less of sample activity. If greater 10° MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5° MDA/ MDC, then RPD is 100% or less. If greater 5° MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.	✓		Case narrative
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			N/A
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Debbie Green 2/5/10

Secondary Review Performed By:

Paul 2/5/10

2/12

# Plutonium Que Sheet

18-JAN-10

Batch #: 942855 Analyst: MXE1 First Client Due Date: 12-FEB-10 Internal Due Date: 01-FEB-10  
 Tracer Isotope(s): Pu-242/Pu-238 Tracer Code: 1374-A Expiration Date: 12/8/10 Vol: 0.1  
 LCS Isotope(s): Pu-239/Pu-238 LCS Code: / Expiration Date: / Vol: /  
 Spike Isotope(s): Pu-239/Pu-238 Spike Code: / Expiration Date: / Vol: /  
 Prep Date: 1/20/10 Initials: MAE Pipet ID: 2971058 Balance ID: 50410272 Witness: ~~MAE~~ C-22-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot (g/l/n)	Pu Det #
244835001-1	RE46-10-10093	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	1	1	1.331	237	237
244835002-1	RE46-10-10082	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	2	2	1.260	238	238
244835003-1	RE46-10-10100	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	3	3	1.263	239	239
244835004-1	RE46-10-10095	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	4	4	1.254	240	240
244835005-1	RE46-10-10096	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	5	5	1.282	241	241
244835006-1	RE46-10-10097	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	6	6	1.264	242	242
244835007-1	RE46-10-10090	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	7	7	1.273	243	243
244835008-1	RE46-10-10101	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	8	8	1.294	244	244
244835009-1	RE46-10-10094	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	9	9	1.268	245	245
244835010-1	RE46-10-10092	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	10	10	1.266	246	246
244842001-1	RE46-10-11145	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	11	11	1.265	247	247
244842002-1	RE46-10-11146	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	12	12	1.255	248	248
244842003-1	RE46-10-11148	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	13	13	1.280	249	249
244842004-1	RE46-10-11144	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	14	14	1.250	250	250
244842005-1	RE46-10-11152	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	15	15	1.247	251	251
244842006-1	RE46-10-11150	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	16	16	1.311	252	252
244847001-1	RE12-10-7272	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	17	17	1.282	211	211
244847002-1	RE12-10-7273	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	18	18	1.259	216	216
244847003-1	RE12-10-7274	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	19	19	1.251	225	225
244847004-1	RE12-10-7281	SAMPLE	.05 pCi/g		SOIL	LANL010	11-JAN-10	20	20	1.251	226	226
1202018633-1	MB for batch 942855	MB	.05 pCi/g		SOIL	QC ACCOUNT		21	21	1.0	31	31
1202018634-1	RE46-10-11146(244842002DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	13-JAN-10	22	22	1.266	33	33
1202018635-1	LCS for batch 942855	LCS	.05 pCi/g		SOIL	QC ACCOUNT		23	23	0.136	35	35

\*SPM 0244B

Wp. 4/30/10

Solid Sample Dissolution by: LEACH or DIGESTION  
 Circle One

Choose SOP Used: GL-RAD-A-011 GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

Data Reviewed By:

2/5/10



# Blank Correction Report

**Batch ID 942855**

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018634	DUP	Plutonium-238	1.27 g	0.00	0.00125	0.0206	-.00225197	pCi/g	NO
		Plutonium-239/240	1.27 g	0.0623	0.00954	0.0236	-.00112598	pCi/g	NO
1202018635	LCS	Plutonium-238	0.136 g	6.80	0.470	0.182	-.02102941	pCi/g	NO
		Plutonium-239/240	0.136 g	34.8	2.04	0.208	-.01051471	pCi/g	NO
1202018633	MB	Plutonium-238	1.00 g	-0.00286	0.00248	0.0236	-.00286	pCi/g	NO
		Plutonium-239/240	1.00 g	-0.00143	0.00516	0.027	-.00143	pCi/g	NO
244835001	RE46-10-10093	Plutonium-238	1.33 g	-0.00202	0.00286	0.0167	-.00215038	pCi/g	NO
		Plutonium-239/240	1.33 g	0.00303	0.00176	0.0191	-.00107519	pCi/g	NO
244835002	RE46-10-10082	Plutonium-238	1.27 g	0.00	0.0015	0.0175	-.00225197	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00741	0.00282	0.020	-.00112598	pCi/g	NO
244835003	RE46-10-10100	Plutonium-238	1.26 g	0.00579	0.00261	0.0191	-.00226984	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00579	0.00261	0.0219	-.00113492	pCi/g	NO
244835004	RE46-10-10095	Plutonium-238	1.26 g	0.00	0.000893	0.0147	-.00226984	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00	0.000893	0.0169	-.00113492	pCi/g	NO
244835005	RE46-10-10096	Plutonium-238	1.28 g	0.00107	0.00108	0.0177	-.00223438	pCi/g	NO
		Plutonium-239/240	1.28 g	0.0118	0.00361	0.0203	-.00111719	pCi/g	NO
244835006	RE46-10-10097	Plutonium-238	1.27 g	0.00105	0.00105	0.0174	-.00225197	pCi/g	NO
		Plutonium-239/240	1.27 g	0.0021	0.00211	0.0199	-.00112598	pCi/g	NO
244835007	RE46-10-10090	Plutonium-238	1.27 g	0.00108	0.00108	0.0178	-.00225197	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00755	0.00288	0.0204	-.00112598	pCi/g	NO
244835008	RE46-10-10101	Plutonium-238	1.29 g	0.00	0.00106	0.0174	-.00221705	pCi/g	NO
		Plutonium-239/240	1.29 g	0.00422	0.00212	0.020	-.00110853	pCi/g	NO
244835009	RE46-10-10094	Plutonium-238	1.27 g	-0.00106	0.00149	0.0174	-.00225197	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00528	0.0028	0.0199	-.00112598	pCi/g	NO
244835010	RE46-10-10092	Plutonium-238	1.27 g	0.00104	0.00104	0.0172	-.00225197	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00624	0.00257	0.0197	-.00112598	pCi/g	NO
244842001	RE46-10-11145	Plutonium-238	1.27 g	0.00	0.00157	0.0183	-.00225197	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00	0.00157	0.021	-.00112598	pCi/g	NO
244842002	RE46-10-11146	Plutonium-238	1.26 g	0.002	0.00201	0.0166	-.00226984	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0591	0.00822	0.0189	-.00113492	pCi/g	NO
244842003	RE46-10-11148	Plutonium-238	1.28 g	-0.000946	0.00134	0.0156	-.00223438	pCi/g	NO
		Plutonium-239/240	1.28 g	0.0984	0.0108	0.0179	-.00111719	pCi/g	NO
244842004	RE46-10-11144	Plutonium-238	1.25 g	0.00	0.00112	0.0184	-.002288	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0123	0.00375	0.0211	-.001144	pCi/g	NO
244842005	RE46-10-11152	Plutonium-238	1.28 g	0.00	0.00143	0.0167	-.00223438	pCi/g	NO
		Plutonium-239/240	1.28 g	0.0668	0.00885	0.0191	-.00111719	pCi/g	NO
244842006	RE46-10-11150	Plutonium-238	1.31 g	0.0154	0.00448	0.0182	-.00218321	pCi/g	NO
		Plutonium-239/240	1.31 g	0.237	0.0201	0.0208	-.00109160	pCi/g	NO
244847001	RE12-10-7272	Plutonium-238	1.28 g	-0.00469	0.00248	0.0155	-.00223438	pCi/g	NO

# Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
244847001	RE12-10-7272	Plutonium-239/240	1.28 g	0.00563	0.00497	0.0177	-.00111719	pCi/g	NO
244847002	RE12-10-7273	Plutonium-238	1.26 g	-0.00264	0.00197	0.0145	-.00226984	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00176	0.00176	0.0166	-.00113492	pCi/g	NO
244847003	RE12-10-7274	Plutonium-238	1.25 g	0.00	0.00731	0.0213	-.002288	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0349	0.00741	0.0244	-.001144	pCi/g	NO
244847004	RE12-10-7281	Plutonium-238	1.25 g	0.00747	0.00307	0.0205	-.002288	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00373	0.00279	0.0235	-.001144	pCi/g	NO

GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S0244842002\_PU  
SAMPLE QTY: 1.255 G

DETECTOR NUMBER :79441  
AVERAGE %EFFICIENCY :38.9692  
% YIELD : 92.020

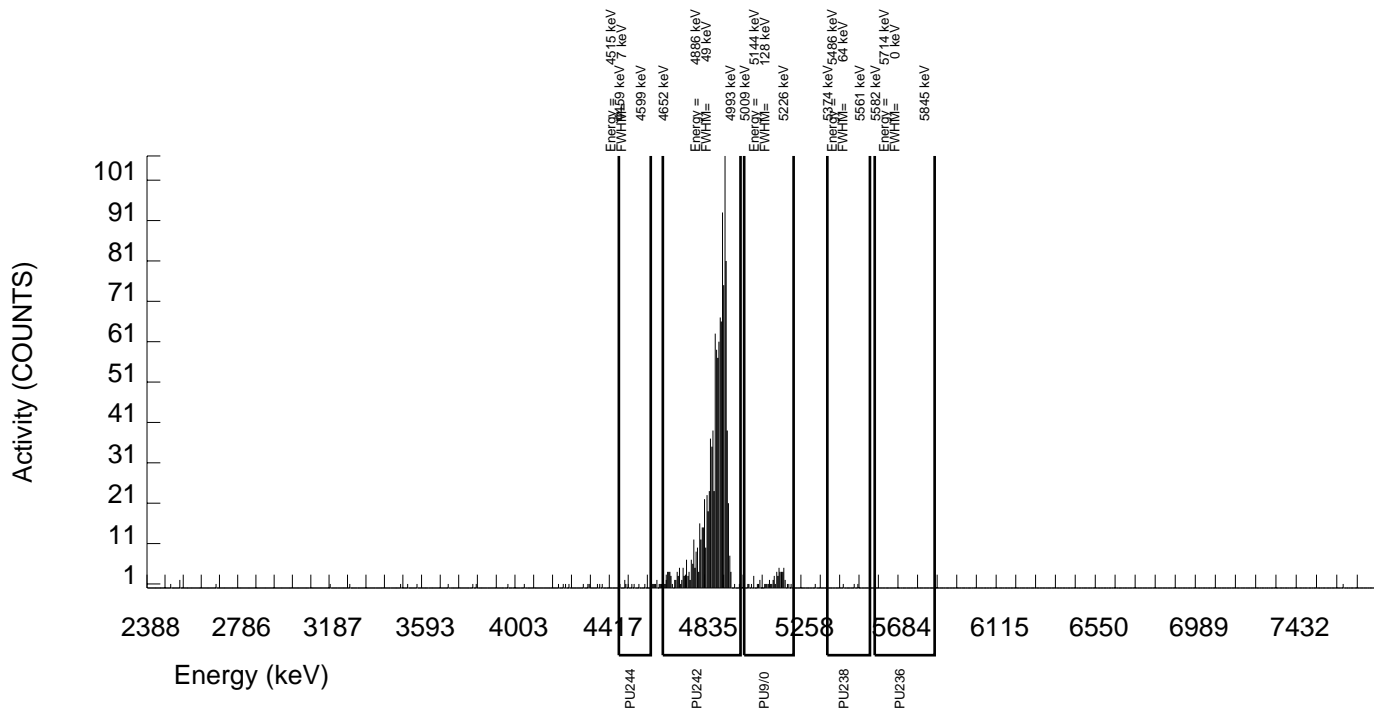
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ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B248.CNF;79
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 31-JAN-2010
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W248.CNF;29
		RESULTS : 3.11528 dpm	CAL DATE : 29-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	59.000	59.000	0.000	3.4797	99.90000	5.91E-02	8.22E-03	8.11E-03	1.89E-02	7.70E-03
PU-236	5749.000	0.000	-2.000	2.000	2.1286	100.0000	-2.03E-03	1.76E-03	4.96E-03	1.26E-02	1.76E-03
PU-238	5499.000	3.000	2.000	1.000	2.9680	99.90000	2.00E-03	2.01E-03	6.92E-03	1.66E-02	2.00E-03
PU242	4890.000	1215.000	1214.000	1.000	1.0000	100.0000	1.22E+00	6.89E-02	2.33E-03	7.37E-03	3.49E-02
PU-244	4589.000	9.000	8.000	1.000	5.2050	99.90000	8.02E-03	3.19E-03	1.21E-02	2.70E-02	3.17E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 11-JAN-2010 00:00:00

SAMPLE ID : S0244847001\_PU  
SAMPLE QTY: 1.282 G

DETECTOR NUMBER :79190  
AVERAGE %EFFICIENCY :38.1959  
% YIELD : 98.214

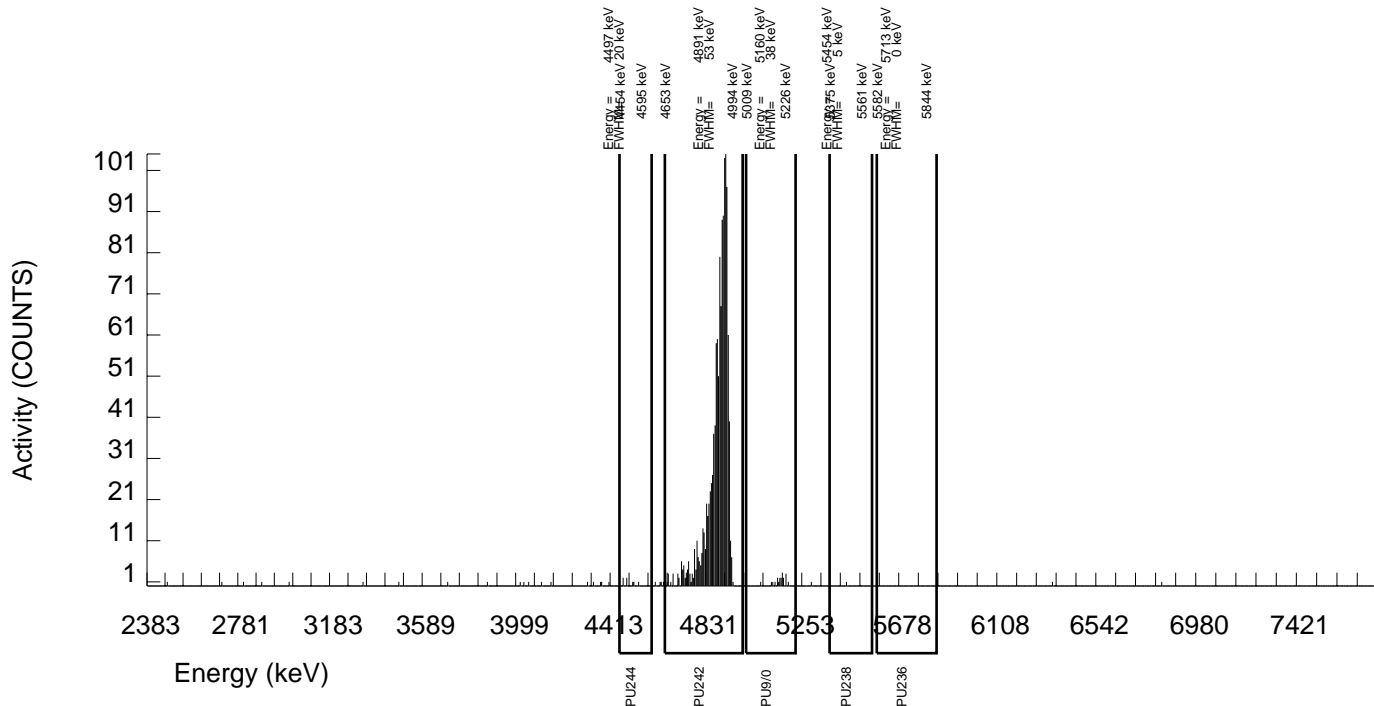
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ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B211.CNF;76
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 31-JAN-2010
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W211.CNF;29
		RESULTS : 3.32496 dpm	CAL DATE : 29-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	17.000	6.000	11.000	3.4797	99.90000	5.63E-03	4.97E-03	7.59E-03	1.77E-02	4.96E-03
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	9.52E-04	4.64E-03	1.18E-02	9.51E-04
PU-238	5499.000	1.000	-5.000	6.000	2.9680	99.90000	-4.69E-03	2.48E-03	6.47E-03	1.55E-02	2.48E-03
PU242	4890.000	1270.000	1270.000	0.000	0.0000	100.0000	1.19E+00	6.66E-02	0.00E+00	2.54E-03	3.34E-02
PU-244	4589.000	8.000	8.000	0.000	5.2050	99.90000	7.50E-03	2.68E-03	1.14E-02	2.52E-02	2.65E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 11-JAN-2010 00:00:00

SAMPLE ID : S0244847002\_PU  
SAMPLE QTY: 1.259 G

DETECTOR NUMBER :79195  
AVERAGE %EFFICIENCY :38.5339  
% YIELD : 105.631

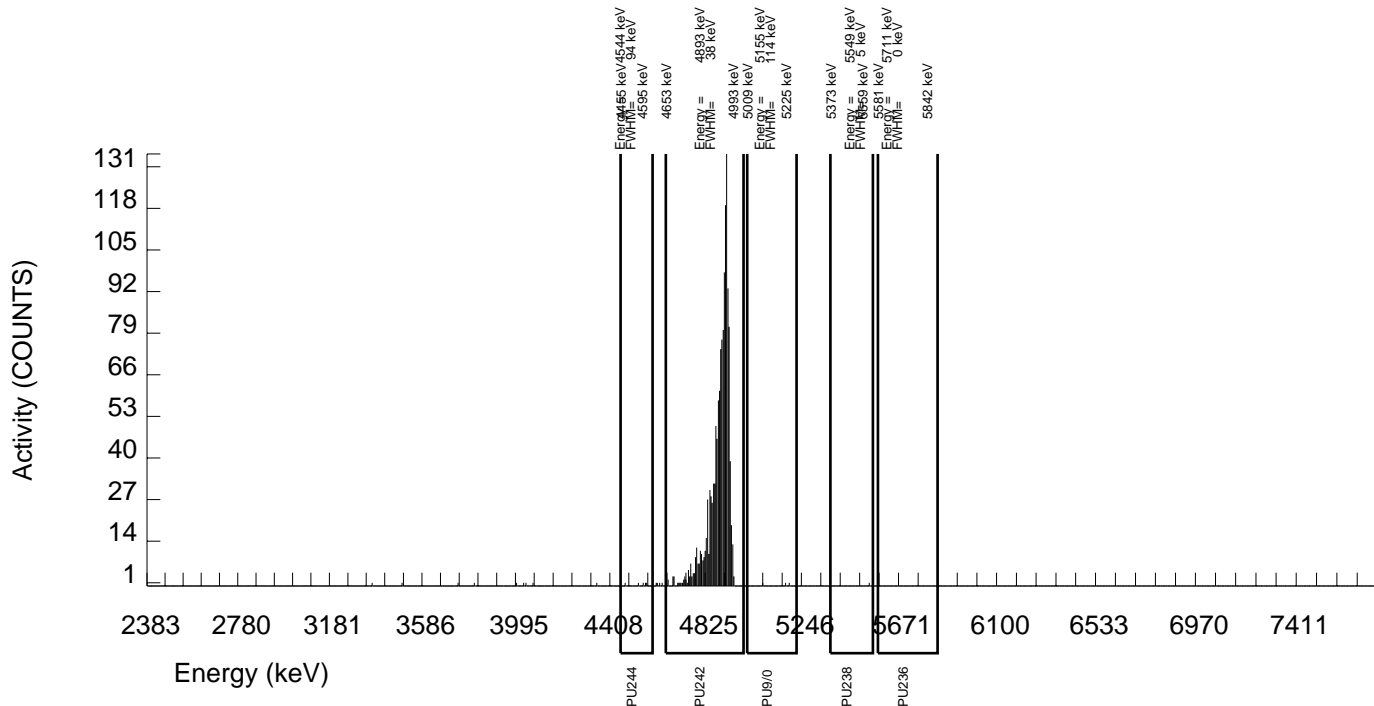
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ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B216.CNF;76
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 31-JAN-2010
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W216.CNF;28
		RESULTS : 3.57607 dpm	CAL DATE : 29-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3.000	2.000	1.000	3.4797	99.90000	1.76E-03	1.76E-03	7.12E-03	1.66E-02	1.76E-03
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	8.93E-04	4.35E-03	1.11E-02	8.92E-04
PU-238	5499.000	1.000	-3.000	4.000	2.9680	99.90000	-2.64E-03	1.97E-03	6.08E-03	1.45E-02	1.97E-03
PU242	4890.000	1378.000	1378.000	0.000	0.0000	100.0000	1.21E+00	6.65E-02	0.00E+00	2.38E-03	3.26E-02
PU-244	4589.000	5.000	4.000	1.000	5.2050	99.90000	3.52E-03	2.16E-03	1.07E-02	2.37E-02	2.16E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 11-JAN-2010 00:00:00

SAMPLE ID : S0244847003\_PU  
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :45-149AA5  
AVERAGE %EFFICIENCY :32.4684  
% YIELD : 85.972

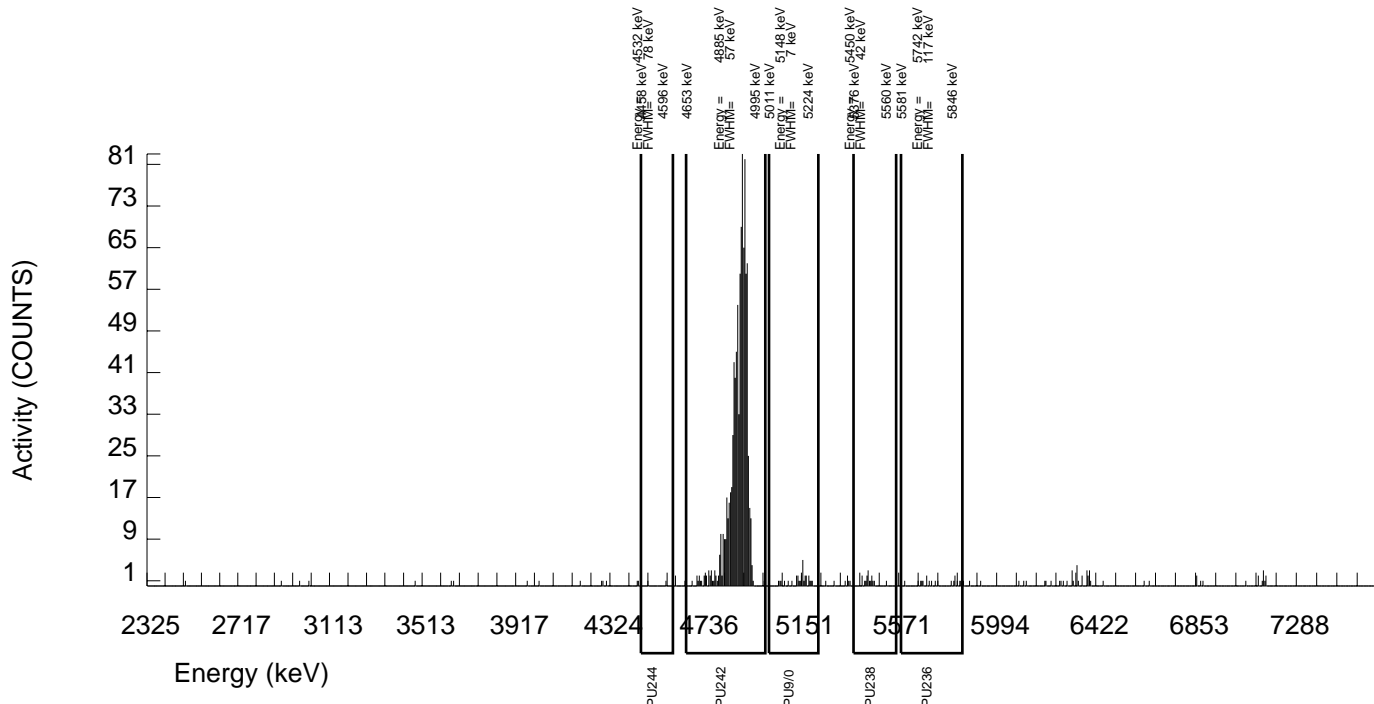
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ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B025.CNF;1106
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 25-JAN-2010
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W025.CNF;326
		RESULTS : 2.91052 dpm	CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	29.000	27.000	2.000	3.4797	99.90000	3.49E-02	7.41E-03	1.05E-02	2.44E-02	7.19E-03
PU-236	5749.000	18.000	-1.000	19.000	2.1286	100.0000	-1.30E-03	7.93E-03	6.39E-03	1.63E-02	7.93E-03
PU-238	5499.000	16.000	0.000	16.000	2.9680	99.90000	0.00E+00	7.31E-03	8.92E-03	2.13E-02	7.31E-03
PU242	4890.000	946.000	945.000	1.000	1.0000	100.0000	1.22E+00	7.42E-02	3.00E-03	9.50E-03	3.97E-02
PU-244	4589.000	2.000	1.000	1.000	5.2050	99.90000	1.29E-03	2.24E-03	1.56E-02	3.48E-02	2.24E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 11-JAN-2010 00:00:00

SAMPLE ID : S0244847004\_PU  
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :78204  
AVERAGE %EFFICIENCY :31.5763  
% YIELD : 91.768

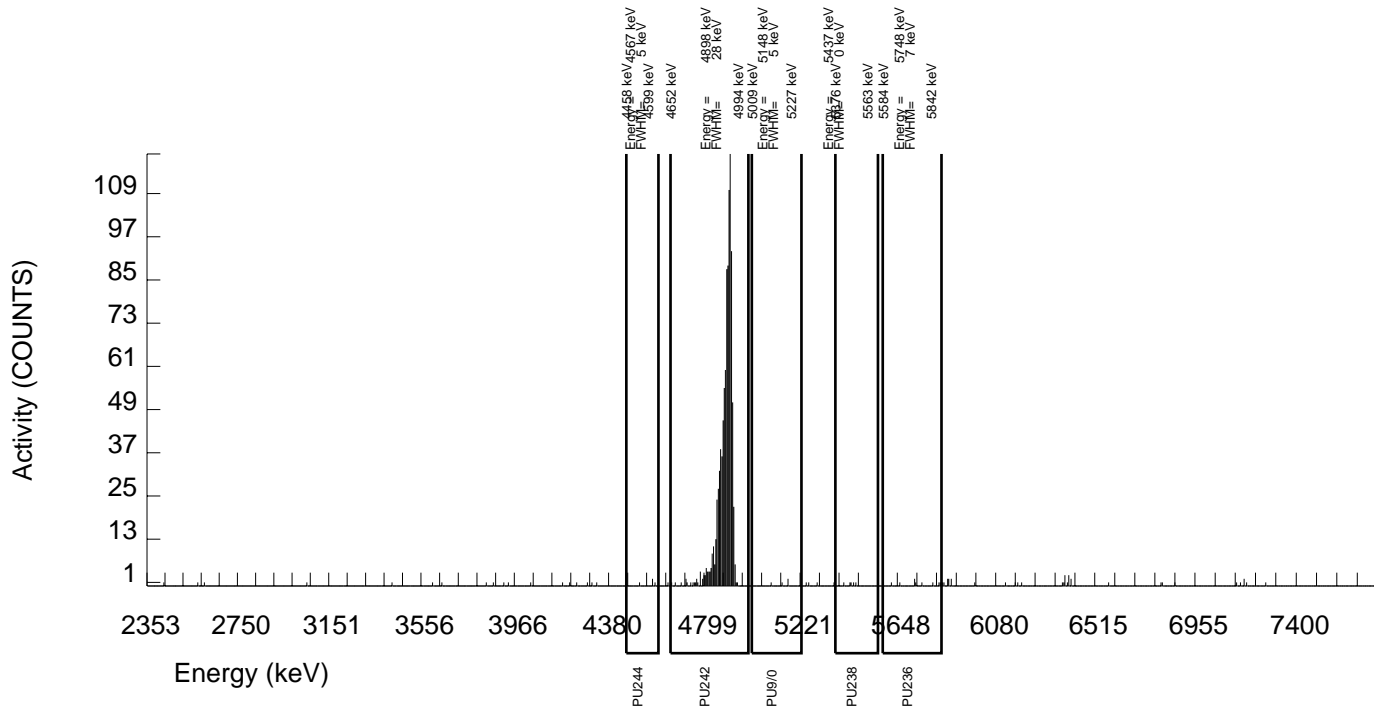
COUNT DATE:26-JAN-2010 14:17:36  
ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B026.CNF;1107
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 25-JAN-2010
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W026.CNF;300
		RESULTS : 3.10675 dpm	CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	4.000	3.000	1.000	3.4797	99.90000	3.73E-03	2.79E-03	1.01E-02	2.35E-02	2.78E-03
PU-236	5749.000	9.000	2.000	7.000	2.1286	100.0000	2.51E-03	5.03E-03	6.15E-03	1.57E-02	5.02E-03
PU-238	5499.000	6.000	6.000	0.000	2.9680	99.90000	7.47E-03	3.07E-03	8.59E-03	2.05E-02	3.05E-03
PU242	4890.000	986.000	981.000	5.000	2.2361	100.0000	1.22E+00	7.56E-02	6.46E-03	1.63E-02	3.91E-02
PU-244	4589.000	4.000	4.000	0.000	5.2050	99.90000	4.98E-03	2.50E-03	1.51E-02	3.35E-02	2.49E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 20-JAN-2010 00:00:00

SAMPLE ID : S1202018633\_PU  
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :79988  
AVERAGE %EFFICIENCY :33.5512  
% YIELD : 93.938

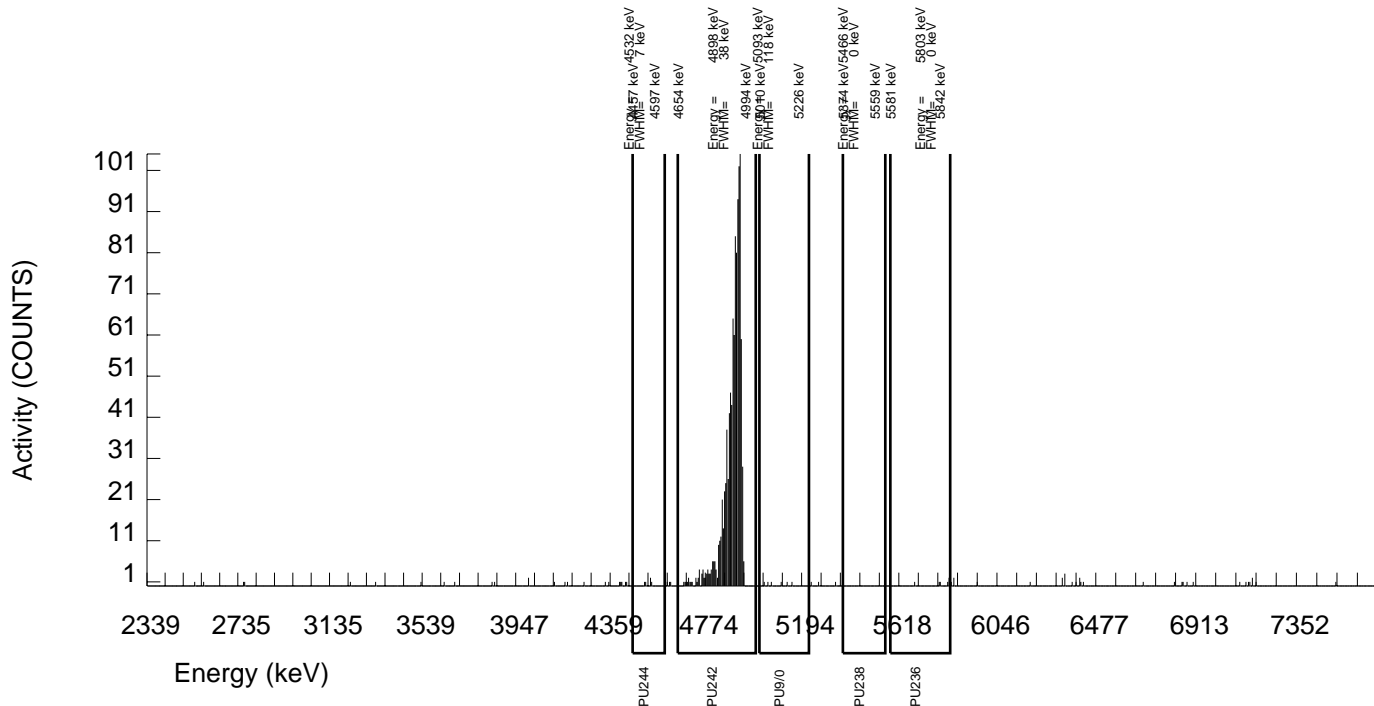
COUNT DATE:26-JAN-2010 14:17:37  
ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B031.CNF;1103
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 25-JAN-2010
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W031.CNF;343
		RESULTS : 3.18022 dpm	CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	-1.000	7.000	3.4797	99.90000	-1.43E-03	5.16E-03	1.16E-02	2.70E-02	5.16E-03
PU-236	5749.000	6.000	2.000	4.000	2.1286	100.0000	2.87E-03	4.54E-03	7.08E-03	1.80E-02	4.54E-03
PU-238	5499.000	0.000	-2.000	2.000	2.9680	99.90000	-2.86E-03	2.48E-03	9.88E-03	2.36E-02	2.48E-03
PU242	4890.000	1071.000	1067.000	4.000	2.0000	100.0000	1.52E+00	8.99E-02	6.65E-03	1.72E-02	4.69E-02
PU-244	4589.000	5.000	4.000	1.000	5.2050	99.90000	5.72E-03	3.52E-03	1.73E-02	3.85E-02	3.50E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)





GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S1202018634\_PU  
SAMPLE QTY: 1.266 G

DETECTOR NUMBER :78785  
AVERAGE %EFFICIENCY :31.8010  
% YIELD : 89.820

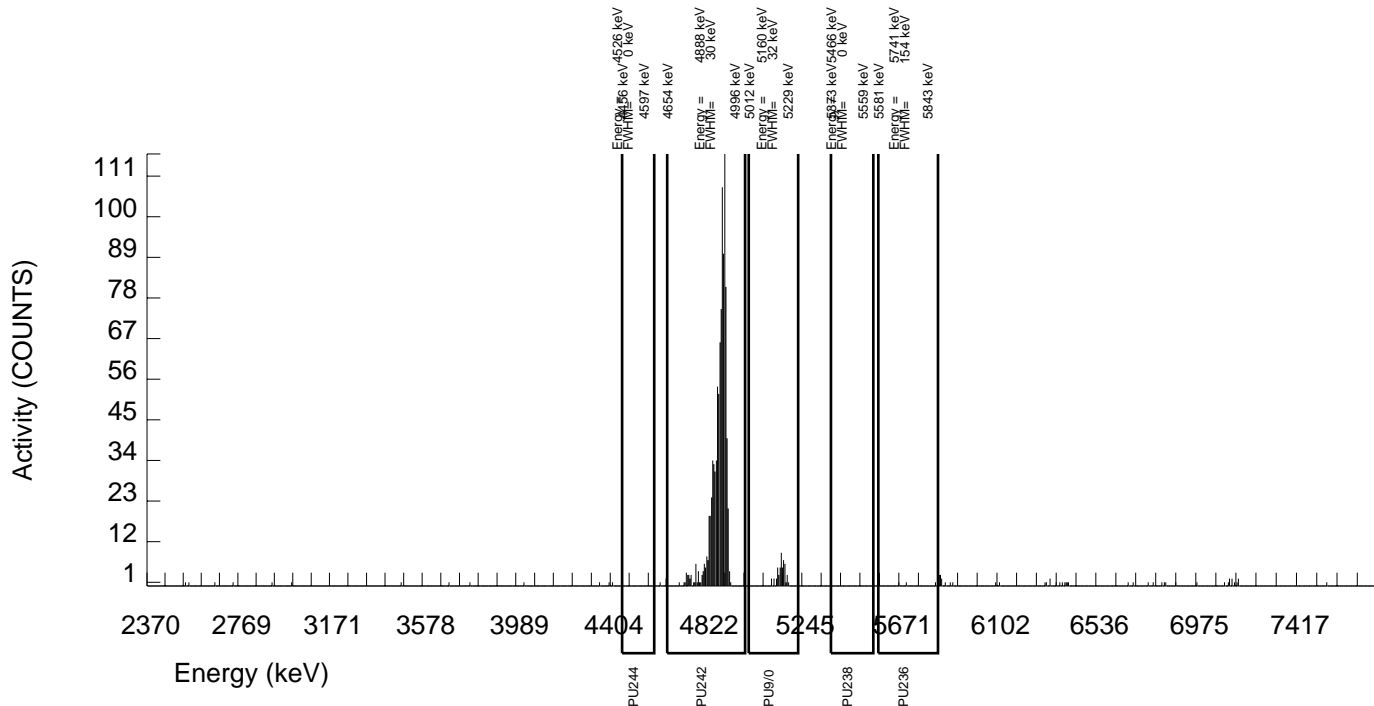
COUNT DATE:26-JAN-2010 14:17:37  
ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.04079 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B033.CNF;1102 BKG DATE : 25-JAN-2010 EFF FILE : W033.CNF;328 CAL DATE : 4-JAN-2010
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	51.000	50.000	1.000	3.4797	99.90000	6.23E-02	9.54E-03	1.01E-02	2.36E-02	8.99E-03
PU-236	5749.000	3.000	-4.000	7.000	2.1286	100.0000	-5.03E-03	3.98E-03	6.17E-03	1.57E-02	3.98E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	1.25E-03	8.61E-03	2.06E-02	1.25E-03
PU242	4890.000	967.000	967.000	0.000	0.0000	100.0000	1.20E+00	7.28E-02	0.00E+00	3.38E-03	3.87E-02
PU-244	4589.000	0.000	-1.000	1.000	5.2050	99.90000	-1.25E-03	1.76E-03	1.51E-02	3.36E-02	1.76E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942855  
SAMPLE DATE : 20-JAN-2010 00:00:00

SAMPLE ID : S1202018635\_PU  
SAMPLE QTY: 0.136 G

DETECTOR NUMBER :78202  
AVERAGE %EFFICIENCY :29.7838  
% YIELD : 101.060

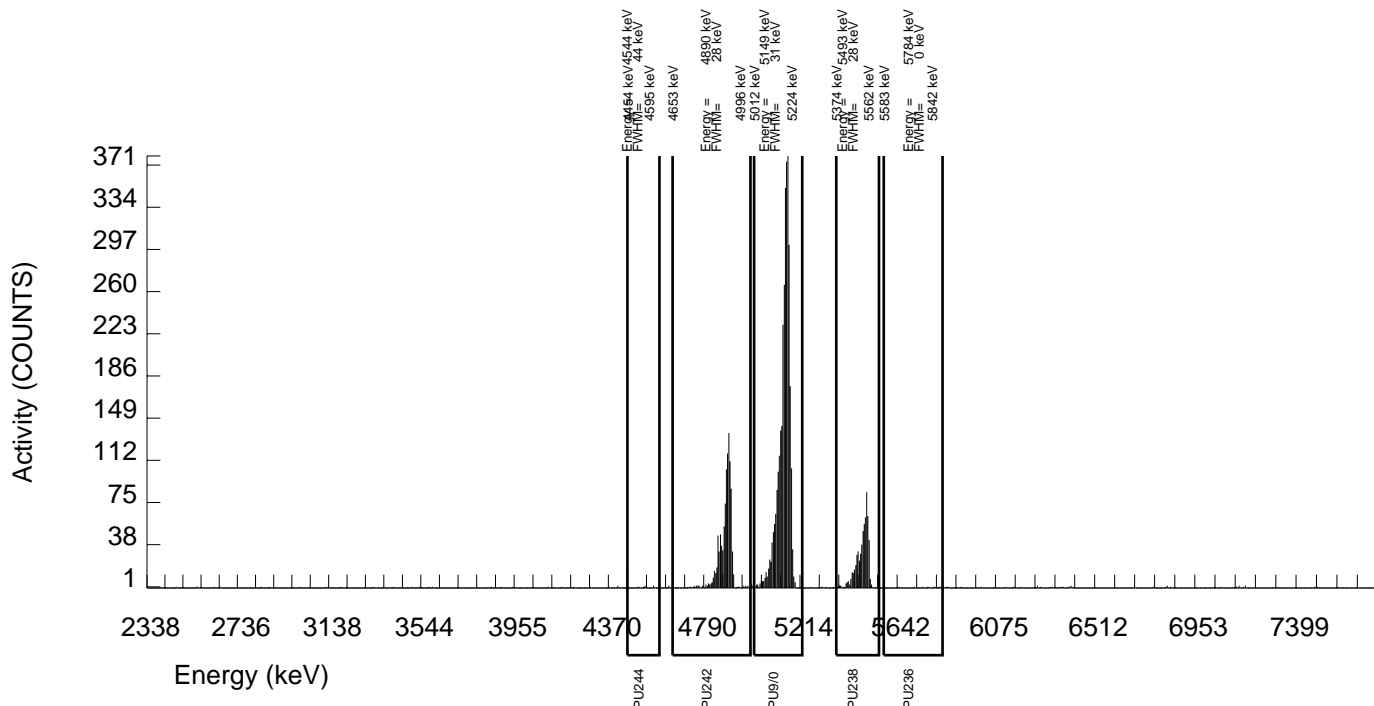
COUNT DATE:26-JAN-2010 14:17:37  
ELAPSED LIVE TIME(SEC): 59999.99  
ANALYST :MXE1

MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.42132 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B035.CNF;1100 BKG DATE : 25-JAN-2010 EFF FILE : W035.CNF;317 CAL DATE : 4-JAN-2010
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3161.000	3155.000	6.000	3.4797	99.90000	3.48E+01	2.04E+00	8.92E-02	2.08E-01	6.20E-01
PU-236	5749.000	10.000	-1.000	11.000	2.1286	100.0000	-1.11E-02	5.07E-02	5.45E-02	1.39E-01	5.07E-02
PU-238	5499.000	622.000	617.000	5.000	2.9680	99.90000	6.80E+00	4.70E-01	7.61E-02	1.82E-01	2.76E-01
PU242	4890.000	1028.000	1019.000	9.000	3.0000	100.0000	1.12E+01	7.22E-01	7.68E-02	1.83E-01	3.54E-01
PU-244	4589.000	8.000	8.000	0.000	5.2050	99.90000	8.81E-02	3.15E-02	1.33E-01	2.97E-01	3.12E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



# Radiochemistry Batch Checklist, Rev10

Batch#

942856

Product:

U

Date:

2/1/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			
Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

*Daniel Seon* 2/1/10

Secondary Review Performed By:

*J. L. M. S.* 2/4/10

2/12

# Uranium Que Sheet

18-JAN-10

Batch #: 942856

Analyst: MXE1

First Client Due Date: 12-FEB-10

Internal Due Date: 01-FEB-10

Tracer Isotope: U-236

Tracer Code: 1283-H

Expiration Date: 12/9/10

Vol: 0.1

LCS Isotope: U-238

LCS Code: /

Expiration Date: /

Vol: /

Spike Isotope: U-238

Spike Code: /

Expiration Date: /

Vol: /

Prep Date: 1/20/10

Initials: MAB

Pipet ID: 2971058

Balance ID: 16750207

Witness: AB21-22-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g/1/f)	U Det #
244835001-1	RE46-10-10093	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	1	1	0.517	142/123
244835002-1	RE46-10-10092	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	2	2	0.504	124
244835003-1	RE46-10-10100	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	3	3	0.523	144/125
244835004-1	RE46-10-10095	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	4	4	0.546	145/126
244835005-1	RE46-10-10096	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	5	5	0.548	146/127
244835006-1	RE46-10-10097	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	6	6	0.526	147/128
244835007-1	RE46-10-10090	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	7	7	0.514	148/129
244835008-1	RE46-10-10101	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	8	8	0.516	149/130
244835009-1	RE46-10-10094	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	9	9	0.529	150/131
244835010-1	RE46-10-10092	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	10	10	0.544	152/132
244842001-1	RE46-10-11145	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	11	11	0.501	152/133
244842002-1	RE46-10-11146	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	12	12	0.555	153/134
244842003-1	RE46-10-11148	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	13	13	0.521	154/137
244842004-1	RE46-10-11144	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	14	14	0.521	155/138
244842005-1	RE46-10-11152	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	15	15	0.520	156/139
244842006-1	RE46-10-11150	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	16	16	0.525	156/159
244847001-1	RE12-10-7272	SAMPLE		.1 pCi/g	SOIL	LANL010	11-JAN-10	17	17	0.530	157/160
244847002-1	RE12-10-7273	SAMPLE		.1 pCi/g	SOIL	LANL010	11-JAN-10	18	18	0.538	158/1
244847003-1	RE12-10-7274	SAMPLE		.1 pCi/g	SOIL	LANL010	11-JAN-10	19	19	0.546	159/113
244847004-1	RE12-10-7281	SAMPLE		.1 pCi/g	SOIL	LANL010	11-JAN-10	20	20	0.501	160/114
1202018636-1	MB for batch 942856	MB		.1 pCi/g	SOIL	QC ACCOUNT		21	21	1	171/172
1202018637-1	RE46-10-11146(244842002DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	13-JAN-10	22	22	0.548	164/117
1202018638-1	LCS for batch 942856	LCS		.1 pCi/g	SOIL	QC ACCOUNT		23	23	0.101	165/118

SRM# 0744-A exp 10/31/20  
Data Reviewed By: AB 2/11/10

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Choose SOP used: GL-RAD-A-011

AB 2/11/10

# Blank Correction Report

**Batch ID 942856**

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018637	DUP	Uranium-233/234	0.548 g	2.00	0.162	0.100	.017682482	pCi/g	NO
		Uranium-235/236	0.548 g	0.128	0.025	0.0622	.018613139	pCi/g	NO
		Uranium-238	0.548 g	2.18	0.175	0.0581	.017153285	pCi/g	NO
1202018638	LCS	Uranium-233/234	0.101 g	6.09	0.578	0.569	.095940594	pCi/g	NO
		Uranium-235/236	0.101 g	0.386	0.0982	0.353	.100990099	pCi/g	YES
		Uranium-238	0.101 g	5.18	0.505	0.330	.093069307	pCi/g	NO
1202018636	MB	Uranium-233/234	1.00 g	0.00969	0.00382	0.0364	.00969	pCi/g	YES
		Uranium-235/236	1.00 g	0.0102	0.0039	0.0226	.0102	pCi/g	YES
		Uranium-238	1.00 g	0.0094	0.00377	0.0211	.0094	pCi/g	YES
244835001	RE46-10-10093	Uranium-233/234	0.517 g	0.936	0.0866	0.104	.018742747	pCi/g	NO
		Uranium-235/236	0.517 g	0.0372	0.014	0.0643	.019729207	pCi/g	YES
		Uranium-238	0.517 g	0.960	0.0882	0.0601	.018181818	pCi/g	NO
244835003	RE46-10-10100	Uranium-233/234	0.523 g	0.647	0.0654	0.103	.018527725	pCi/g	NO
		Uranium-235/236	0.523 g	0.0246	0.0117	0.0639	.019502868	pCi/g	YES
		Uranium-238	0.523 g	0.667	0.0666	0.0597	.017973231	pCi/g	NO
244835004	RE46-10-10095	Uranium-233/234	0.545 g	0.822	0.0791	0.102	.017779817	pCi/g	NO
		Uranium-235/236	0.545 g	0.0408	0.0144	0.0635	.018715596	pCi/g	YES
		Uranium-238	0.545 g	0.809	0.078	0.0593	.017247706	pCi/g	NO
244835005	RE46-10-10096	Uranium-233/234	0.548 g	1.04	0.0984	0.122	.017682482	pCi/g	NO
		Uranium-235/236	0.548 g	0.0974	0.0229	0.0758	.018613139	pCi/g	NO
		Uranium-238	0.548 g	1.12	0.104	0.0708	.017153285	pCi/g	NO
244835006	RE46-10-10097	Uranium-233/234	0.526 g	1.13	0.105	0.117	.018422053	pCi/g	NO
		Uranium-235/236	0.526 g	0.0654	0.0193	0.0727	.019391635	pCi/g	YES
		Uranium-238	0.526 g	1.15	0.107	0.0679	.017870722	pCi/g	NO
244835007	RE46-10-10090	Uranium-233/234	0.514 g	1.02	0.0944	0.114	.018852140	pCi/g	NO
		Uranium-235/236	0.514 g	0.0773	0.0195	0.0708	.019844358	pCi/g	YES
		Uranium-238	0.514 g	0.994	0.0928	0.0662	.018287938	pCi/g	NO
244835008	RE46-10-10101	Uranium-233/234	0.516 g	1.07	0.099	0.118	.018779070	pCi/g	NO
		Uranium-235/236	0.516 g	0.0518	0.0198	0.0733	.019767442	pCi/g	YES
		Uranium-238	0.516 g	0.963	0.0916	0.0684	.018217054	pCi/g	NO
244835009	RE46-10-10094	Uranium-233/234	0.529 g	0.856	0.0818	0.109	.018317580	pCi/g	NO
		Uranium-235/236	0.529 g	0.0694	0.018	0.0675	.019281664	pCi/g	YES
		Uranium-238	0.529 g	0.857	0.0818	0.0631	.017769376	pCi/g	NO
244842001	RE46-10-11145	Uranium-233/234	0.501 g	0.934	0.0896	0.121	.019341317	pCi/g	NO
		Uranium-235/236	0.501 g	0.0673	0.0186	0.0749	.020359281	pCi/g	YES
		Uranium-238	0.501 g	0.977	0.0928	0.070	.018762475	pCi/g	NO
244842002	RE46-10-11146	Uranium-233/234	0.555 g	1.60	0.138	0.116	.017459459	pCi/g	NO
		Uranium-235/236	0.555 g	0.0786	0.0209	0.0719	.018378378	pCi/g	YES
		Uranium-238	0.555 g	2.07	0.172	0.0672	.016936937	pCi/g	NO
244842003	RE46-10-11148	Uranium-233/234	0.521 g	1.45	0.132	0.138	.018598848	pCi/g	NO
		Uranium-235/236	0.521 g	0.0987	0.0255	0.0854	.019577735	pCi/g	NO

*Handwritten signature and date: 2/4/10*

# Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
244842003	RE46-10-11148	Uranium-238	0.521 g	1.79	0.157	0.0798	.018042226	pCi/g	NO
244842004	RE46-10-11144	Uranium-233/234	0.521 g	0.868	0.0843	0.117	.018598848	pCi/g	NO
		Uranium-235/236	0.521 g	0.0609	0.0187	0.0729	.019577735	pCi/g	YES
		Uranium-238	0.521 g	1.15	0.105	0.0681	.018042226	pCi/g	NO
244842005	RE46-10-11152	Uranium-233/234	0.520 g	1.51	0.134	0.128	.018634615	pCi/g	NO
		Uranium-235/236	0.520 g	0.123	0.0265	0.0796	.019615385	pCi/g	NO
		Uranium-238	0.520 g	2.18	0.183	0.0743	.018076923	pCi/g	NO
244842006	RE46-10-11150	Uranium-233/234	0.525 g	3.36	0.274	0.143	.018457143	pCi/g	NO
		Uranium-235/236	0.525 g	0.188	0.0363	0.0885	.019428571	pCi/g	NO
		Uranium-238	0.525 g	4.70	0.372	0.0827	.017904762	pCi/g	NO
244847001	RE12-10-7272	Uranium-233/234	0.530 g	1.11	0.0986	0.103	.018283019	pCi/g	NO
		Uranium-235/236	0.530 g	0.0819	0.0192	0.0637	.019245283	pCi/g	YES
		Uranium-238	0.530 g	1.61	0.135	0.0596	.017735849	pCi/g	NO
244847002	RE12-10-7273	Uranium-233/234	0.538 g	1.21	0.101	0.0815	.018011152	pCi/g	NO
		Uranium-235/236	0.538 g	0.0976	0.019	0.0506	.018959108	pCi/g	NO
		Uranium-238	0.538 g	1.54	0.124	0.0473	.017472119	pCi/g	NO
244847003	RE12-10-7274	Uranium-233/234	0.546 g	3.81	0.295	0.111	.017747253	pCi/g	NO
		Uranium-235/236	0.546 g	0.253	0.0386	0.0692	.018681319	pCi/g	NO
		Uranium-238	0.546 g	6.81	0.508	0.0646	.017216117	pCi/g	NO
244847004	RE12-10-7281	Uranium-233/234	0.507 g	1.02	0.097	0.127	.019112426	pCi/g	NO
		Uranium-235/236	0.507 g	0.0658	0.0189	0.0788	.020118343	pCi/g	YES
		Uranium-238	0.507 g	1.05	0.0998	0.0737	.018540434	pCi/g	NO

GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942856  
SAMPLE DATE : 13-JAN-2010 00:00:00SAMPLE ID : S0244842002\_UU  
SAMPLE QTY: 0.555 GDETECTOR NUMBER :76223  
AVERAGE %EFFICIENCY :25.3391  
% YIELD : 85.657COUNT DATE:29-JAN-2010 16:53:17  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50804 dpm RESULTS : 3.86145 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B153.CNF;383 BKG DATE : 24-JAN-2010 EFF FILE : W153.CNF;108 CAL DATE : 18-JAN-2010
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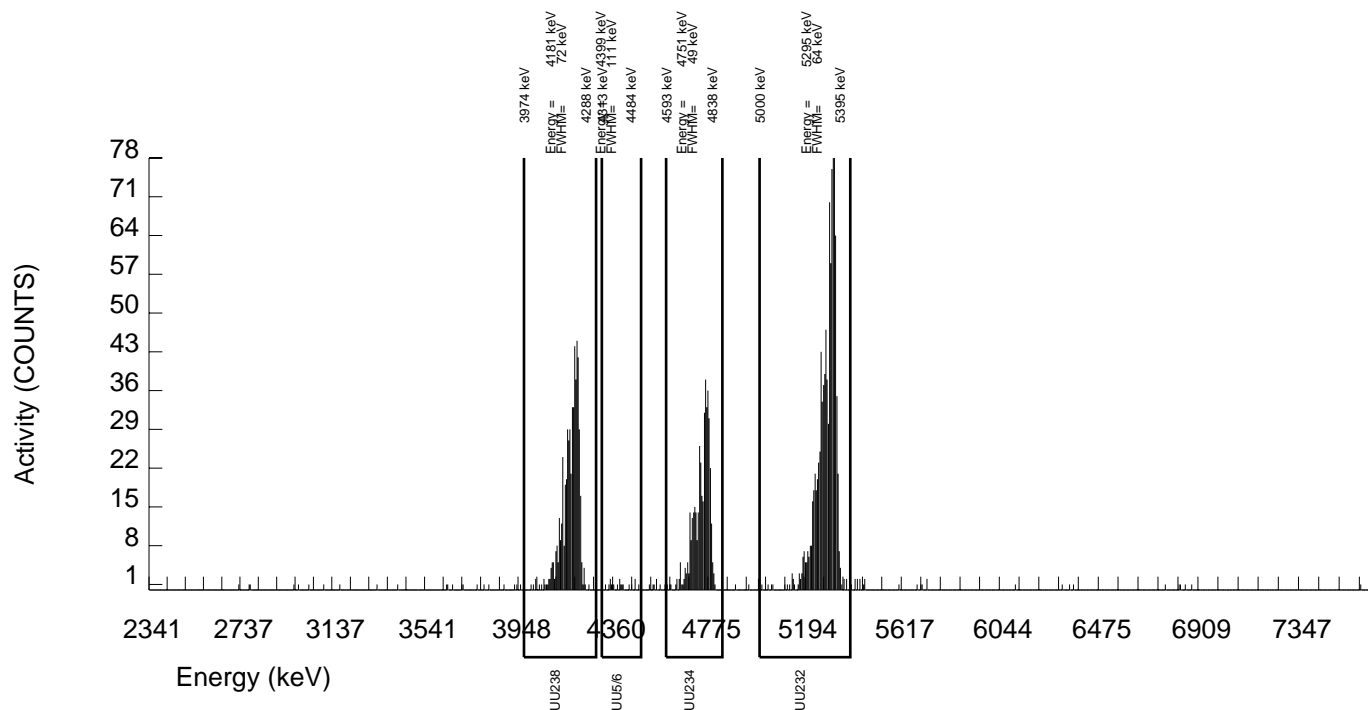
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	430.000	429.011	0.000	6.0782	100.0000	1.60E+00	1.38E-01	5.29E-02	1.16E-01	7.75E-02
U232	5302.100	982.000	978.000	4.000	2.0000	100.0000	3.66E+00	2.86E-01	1.74E-02	4.49E-02	1.17E-01
U-235	4391.000	18.000	17.000	1.000	2.7628	80.90000	7.86E-02	2.09E-02	2.97E-02	7.19E-02	2.01E-02
U-238	4184.730	555.000	554.000	1.000	3.2810	100.0000	2.07E+00	1.72E-01	2.85E-02	6.72E-02	8.82E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942856  
SAMPLE DATE : 11-JAN-2010 00:00:00SAMPLE ID : S0244847001\_UU  
SAMPLE QTY: 0.530 GDETECTOR NUMBER :79994  
AVERAGE %EFFICIENCY :24.5767  
% YIELD : 104.388COUNT DATE:29-JAN-2010 16:53:30  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50829 dpm RESULTS : 4.70611 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B160.CNF;369 BKG DATE : 24-JAN-2010 EFF FILE : W160.CNF;116 CAL DATE : 18-JAN-2010
---	---	---	---

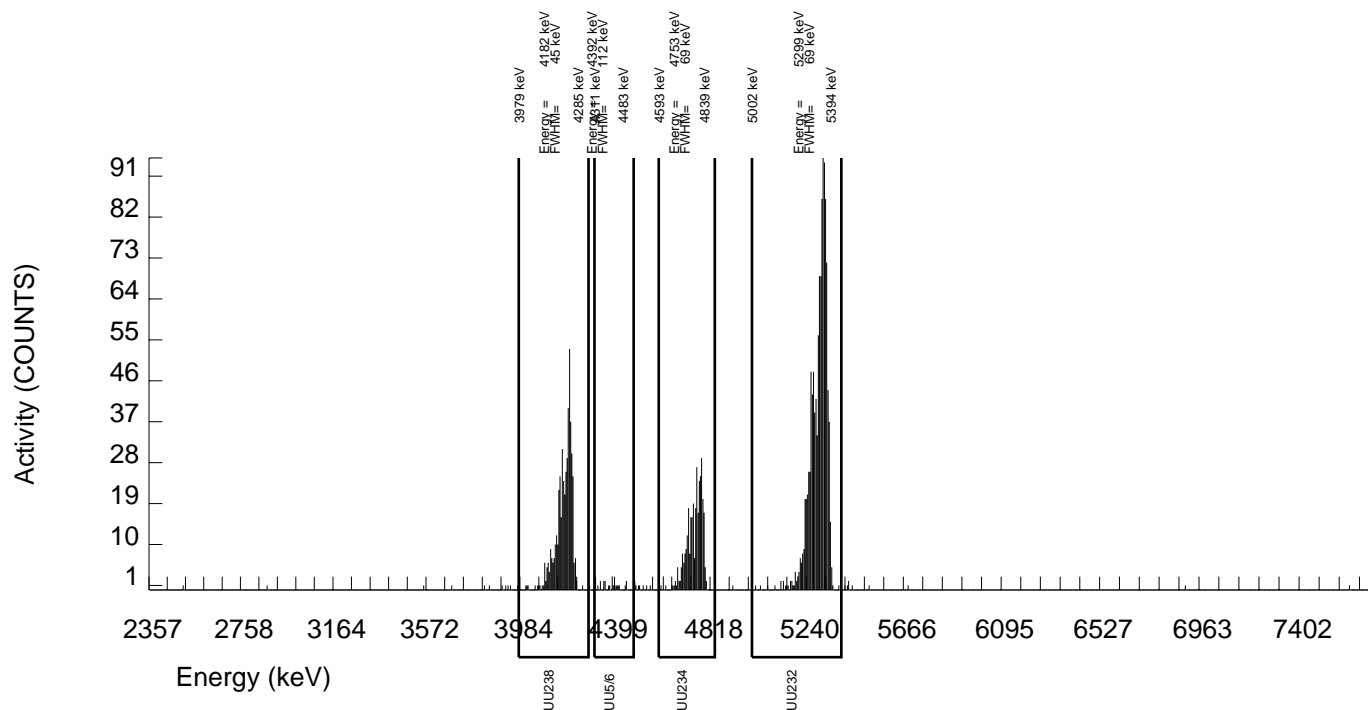
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	336.000	333.831	1.000	6.0782	100.0000	1.11E+00	9.86E-02	4.68E-02	1.03E-01	6.07E-02
U232	5302.100	1157.000	1156.000	1.000	1.0000	100.0000	3.83E+00	2.92E-01	7.71E-03	2.44E-02	1.13E-01
U-235	4391.000	20.000	20.000	0.000	2.7628	80.90000	8.19E-02	1.92E-02	2.63E-02	6.37E-02	1.83E-02
U-238	4184.730	489.000	487.000	2.000	3.2810	100.0000	1.61E+00	1.35E-01	2.53E-02	5.96E-02	7.34E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity





GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942856  
SAMPLE DATE : 11-JAN-2010 00:00:00

SAMPLE ID : S0244847002\_UU  
SAMPLE QTY: 0.538 G

DETECTOR NUMBER :79451  
AVERAGE %EFFICIENCY :32.5060  
% YIELD : 97.904

COUNT DATE:29-JAN-2010 16:57:44  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD  
ID : 0244-A  
ISOTOPE : U-238  
PCI/G : 5.750E+00

LCS/LCSD  
ID : 0244-A  
ISOTOPE : U-238  
PCI/G : 5.750E+00

TRACER  
ID : 1283-H  
ISOTOPE : U232  
NOMINAL : 4.50829 dpm  
RESULTS : 4.41381 dpm

LIB FILE : ENV\_ALPHA\_UU.N  
BKG FILE : B001.CNF;1117  
BKG DATE : 25-JAN-2010  
EFF FILE : W001.CNF;380  
CAL DATE : 4-JAN-2010

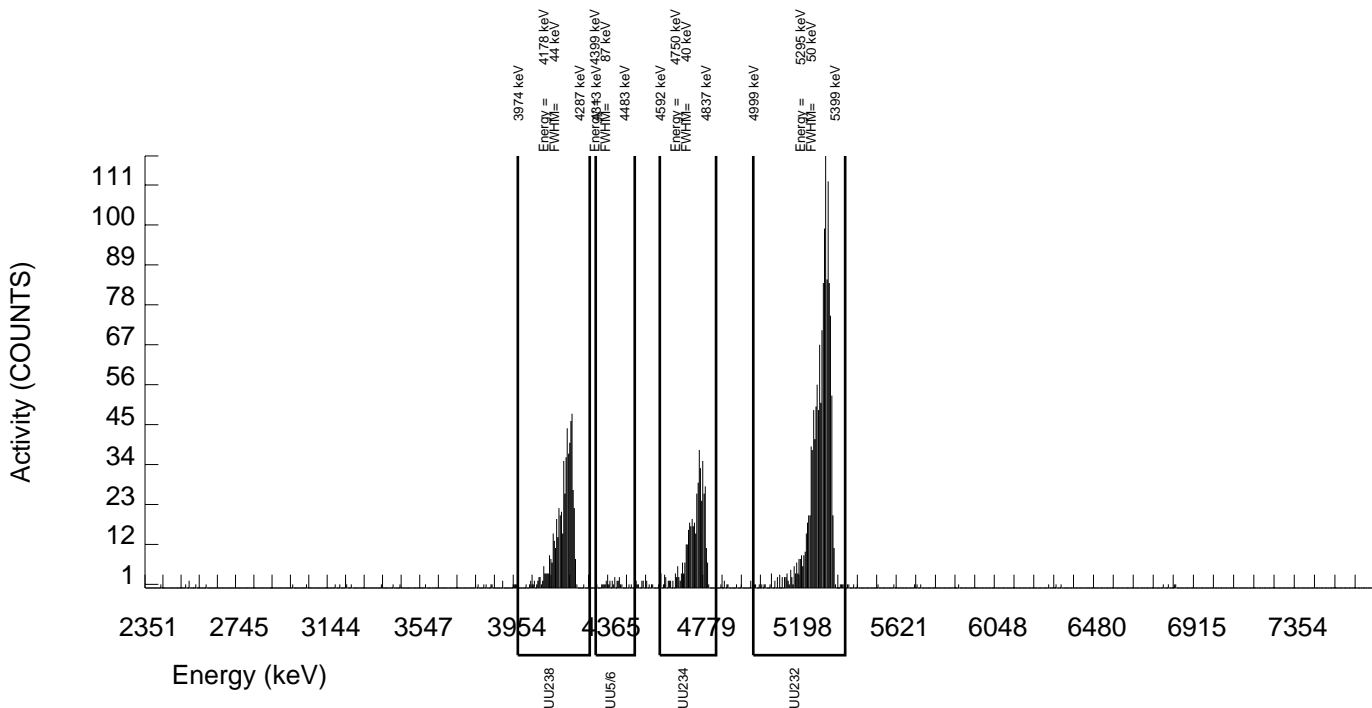
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	462.000	459.549	1.000	6.0782	100.0000	1.21E+00	1.01E-01	3.72E-02	8.15E-02	5.65E-02
U232	5302.100	1444.000	1434.000	10.000	3.1623	100.0000	3.77E+00	2.79E-01	1.94E-02	4.58E-02	1.00E-01
U-235	4391.000	30.000	30.000	0.000	2.7628	80.90000	9.76E-02	1.90E-02	2.09E-02	5.06E-02	1.78E-02
U-238	4184.730	589.000	586.000	3.000	3.2810	100.0000	1.54E+00	1.24E-01	2.01E-02	4.73E-02	6.40E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942856  
SAMPLE DATE : 11-JAN-2010 00:00:00SAMPLE ID : S0244847003\_UU  
SAMPLE QTY: 0.546 GDETECTOR NUMBER :45-111B4  
AVERAGE %EFFICIENCY :24.7855  
% YIELD : 92.584COUNT DATE:29-JAN-2010 10:07:58  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50829 dpm RESULTS : 4.17395 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B113.CNF;440 BKG DATE : 24-JAN-2010 EFF FILE : W113.CNF;123 CAL DATE : 18-JAN-2010
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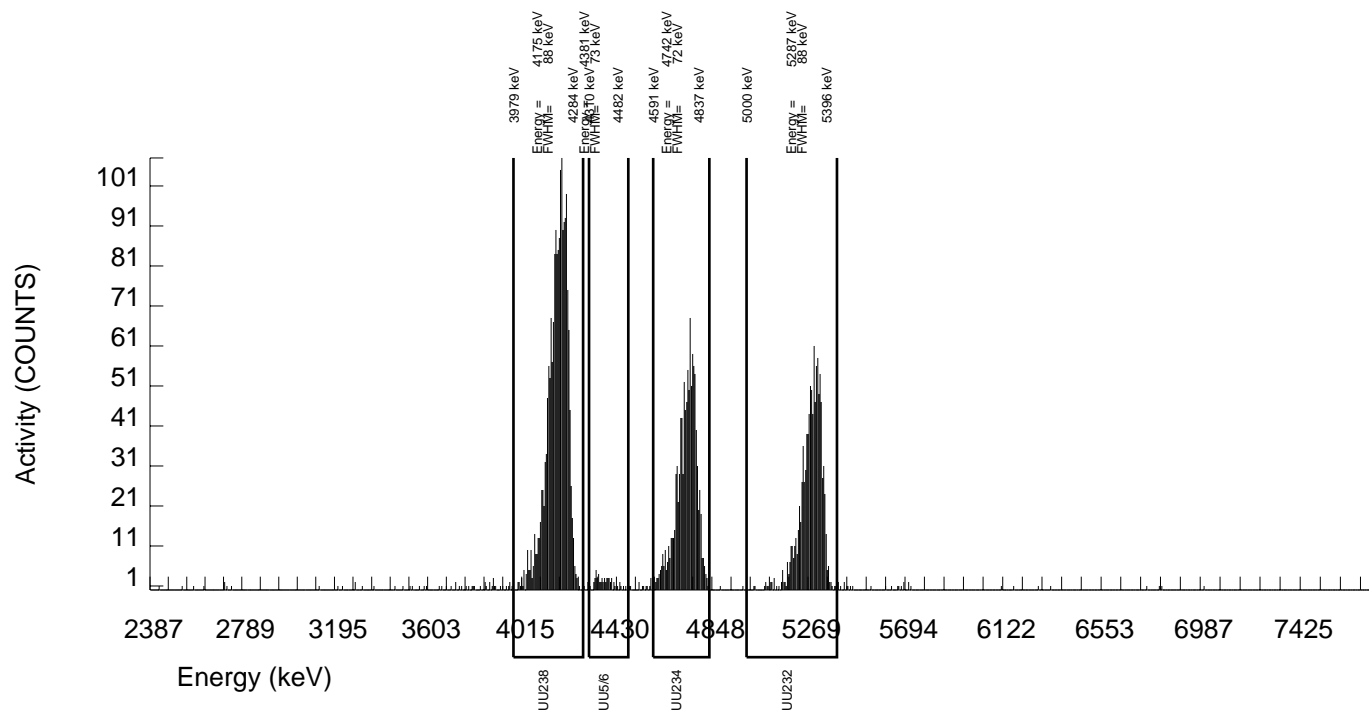
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	1062.000	1060.954	0.000	6.0782	100.0000	3.81E+00	2.95E-01	5.08E-02	1.11E-01	1.17E-01
U232	5302.100	1036.000	1034.000	2.000	1.4142	100.0000	3.72E+00	2.88E-01	1.18E-02	3.34E-02	1.16E-01
U-235	4391.000	58.000	57.000	1.000	2.7628	80.90000	2.53E-01	3.86E-02	2.86E-02	6.92E-02	3.41E-02
U-238	4184.730	1894.000	1893.000	1.000	3.2810	100.0000	6.81E+00	5.07E-01	2.74E-02	6.46E-02	1.57E-01

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942856  
SAMPLE DATE : 11-JAN-2010 00:00:00

SAMPLE ID : S0244847004\_UU  
SAMPLE QTY: 0.507 G

DETECTOR NUMBER :78258  
AVERAGE %EFFICIENCY :25.2301  
% YIELD : 85.939

COUNT DATE:29-JAN-2010 10:07:59  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD  
ID : 0244-A  
ISOTOPE : U-238  
PCI/G : 5.750E+00

LCS/LCSD  
ID : 0244-A  
ISOTOPE : U-238  
PCI/G : 5.750E+00

TRACER  
ID : 1283-H  
ISOTOPE : U232  
NOMINAL : 4.50829 dpm  
RESULTS : 3.87436 dpm

LIB FILE : ENV\_ALPHA\_UU.N  
BKG FILE : B114.CNF;441  
BKG DATE : 24-JAN-2010  
EFF FILE : W114.CNF;119  
CAL DATE : 18-JAN-2010

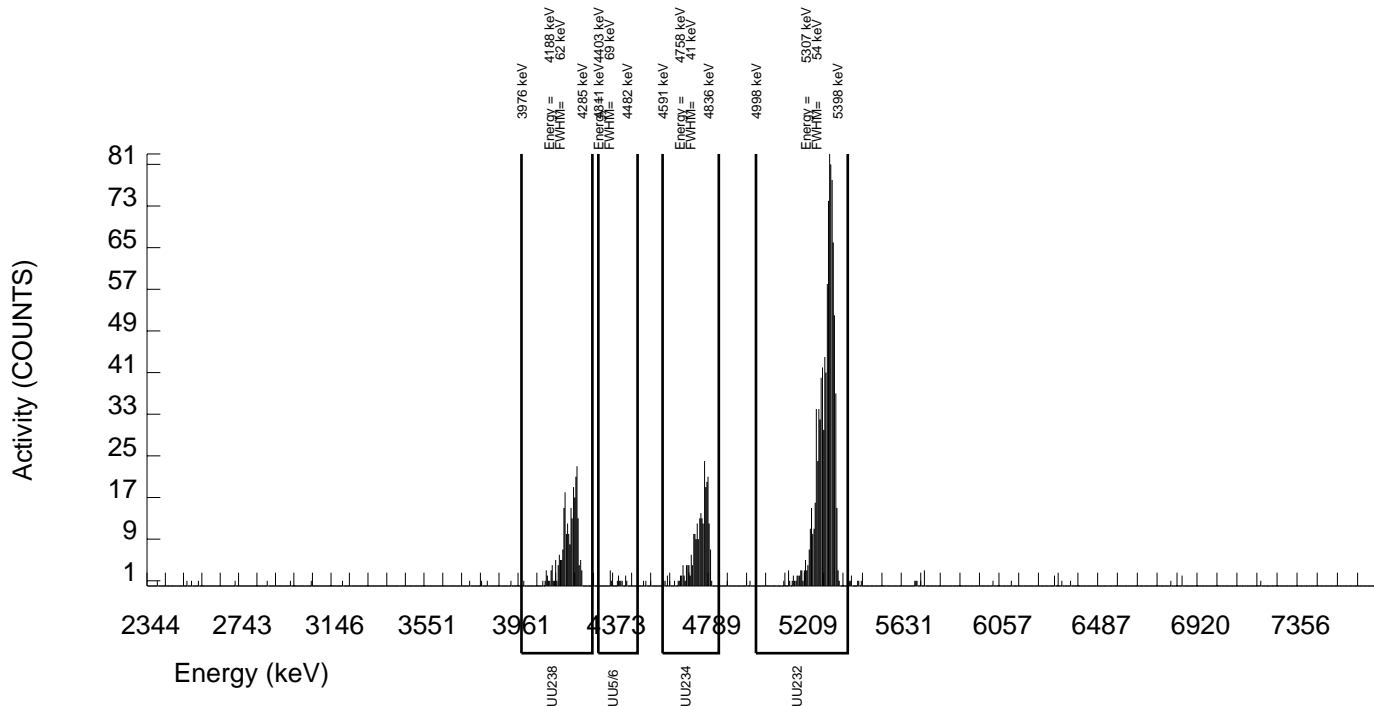
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	249.000	248.012	0.000	6.0782	100.0000	1.02E+00	9.70E-02	5.79E-02	1.27E-01	6.45E-02
U232	5302.100	977.000	977.000	0.000	0.0000	100.0000	4.01E+00	3.13E-01	0.00E+00	1.11E-02	1.28E-01
U-235	4391.000	13.000	13.000	0.000	2.7628	80.90000	6.58E-02	1.89E-02	3.26E-02	7.88E-02	1.83E-02
U-238	4184.730	258.000	256.000	2.000	3.2810	100.0000	1.05E+00	9.98E-02	3.13E-02	7.37E-02	6.61E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942856  
SAMPLE DATE : 20-JAN-2010 00:00:00

SAMPLE ID : S1202018636\_UU  
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :78772  
AVERAGE %EFFICIENCY :38.2928  
% YIELD : 100.147

COUNT DATE:29-JAN-2010 10:13:51  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_UU.N
ID : 0244-A	ID : 0244-A	ID : 1283-H	BKG FILE : B172.CNF;169
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG DATE : 24-JAN-2010
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50717 dpm	EFF FILE : W172.CNF;65
		RESULTS : 4.51382 dpm	CAL DATE : 21-JAN-2010

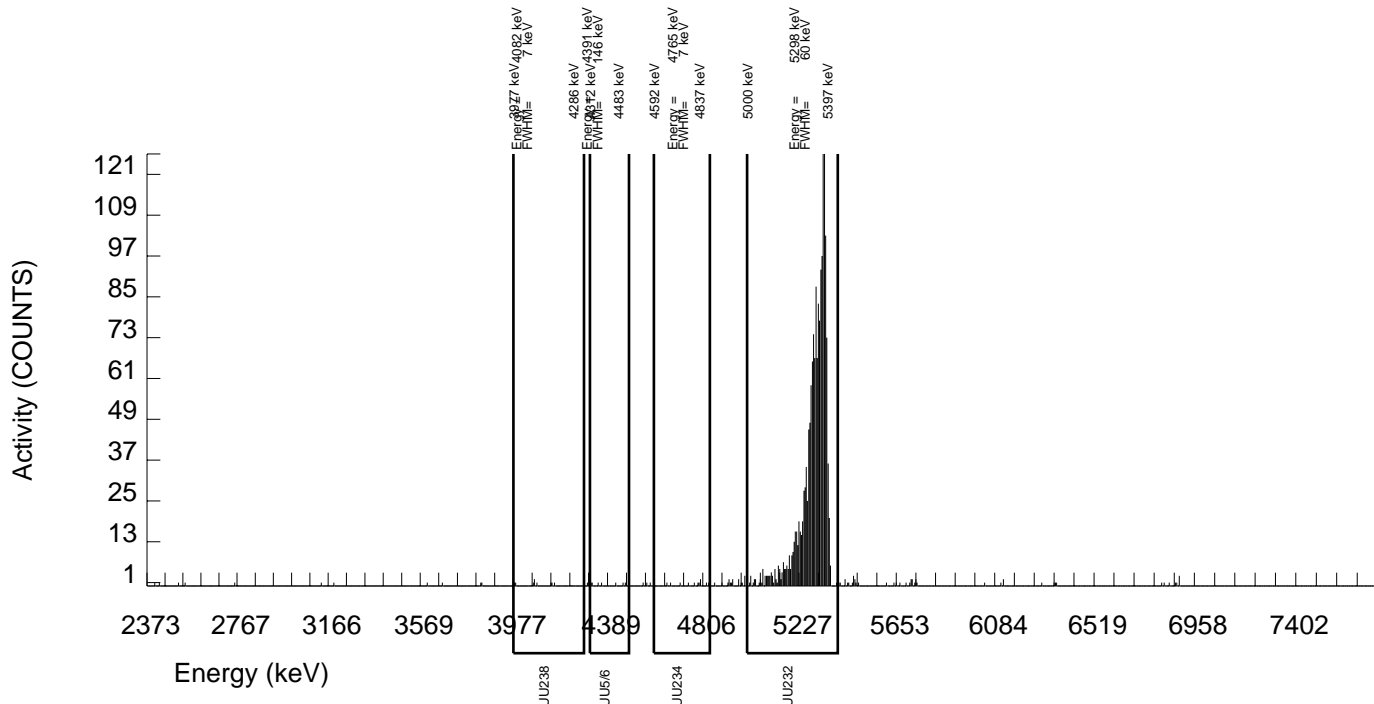
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	11.000	8.252	1.000	6.0782	100.0000	9.69E-03	3.82E-03	1.66E-02	3.64E-02	3.76E-03
U232	5302.100	1730.000	1728.000	2.000	1.4142	100.0000	2.03E+00	1.46E-01	3.86E-03	1.09E-02	4.89E-02
U-235	4391.000	7.000	7.000	0.000	2.7628	80.90000	1.02E-02	3.90E-03	9.33E-03	2.26E-02	3.84E-03
U-238	4184.730	9.000	8.000	1.000	3.2810	100.0000	9.40E-03	3.77E-03	8.97E-03	2.11E-02	3.71E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942856  
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S1202018637\_UU  
SAMPLE QTY: 0.548 G

DETECTOR NUMBER :33450  
AVERAGE %EFFICIENCY :25.0873  
% YIELD : 101.378

COUNT DATE:29-JAN-2010 10:08:08  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_UU.N
ID : 0244-A	ID : 0244-A	ID : 1283-H	BKG FILE : B117.CNF;446
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG DATE : 24-JAN-2010
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50804 dpm	EFF FILE : W117.CNF;119
		RESULTS : 4.57015 dpm	CAL DATE : 18-JAN-2010

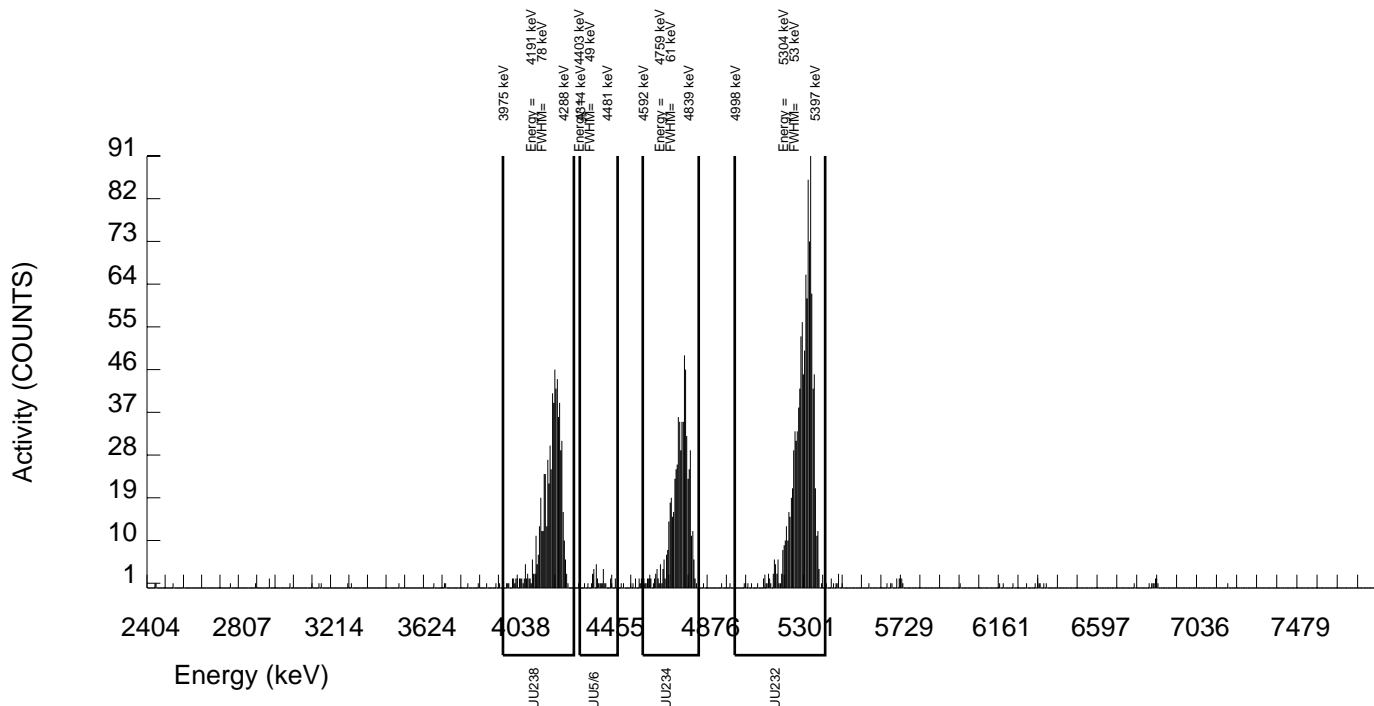
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	622.000	618.841	2.000	6.0782	100.0000	2.00E+00	1.62E-01	4.57E-02	1.00E-01	8.07E-02
U232	5302.100	1149.000	1146.000	3.000	1.7321	100.0000	3.71E+00	2.82E-01	1.30E-02	3.48E-02	1.10E-01
U-235	4391.000	33.000	32.000	1.000	2.7628	80.90000	1.28E-01	2.50E-02	2.57E-02	6.22E-02	2.33E-02
U-238	4184.730	675.000	674.000	1.000	3.2810	100.0000	2.18E+00	1.75E-01	2.47E-02	5.81E-02	8.40E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORTBATCH NUMBER: 942856  
SAMPLE DATE : 20-JAN-2010 00:00:00SAMPLE ID : S1202018638\_UU  
SAMPLE QTY: 0.101 GDETECTOR NUMBER :75544  
AVERAGE %EFFICIENCY :25.4737  
% YIELD : 95.397COUNT DATE:29-JAN-2010 10:08:11  
ELAPSED LIVE TIME(SEC): 60000.00  
ANALYST :MXE1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_UU.N
ID : 0244-A	ID : 0244-A	ID : 1283-H	BKG FILE : B118.CNF;445
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG DATE : 24-JAN-2010
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50717 dpm	EFF FILE : W118.CNF;116
		RESULTS : 4.29970 dpm	CAL DATE : 18-JAN-2010

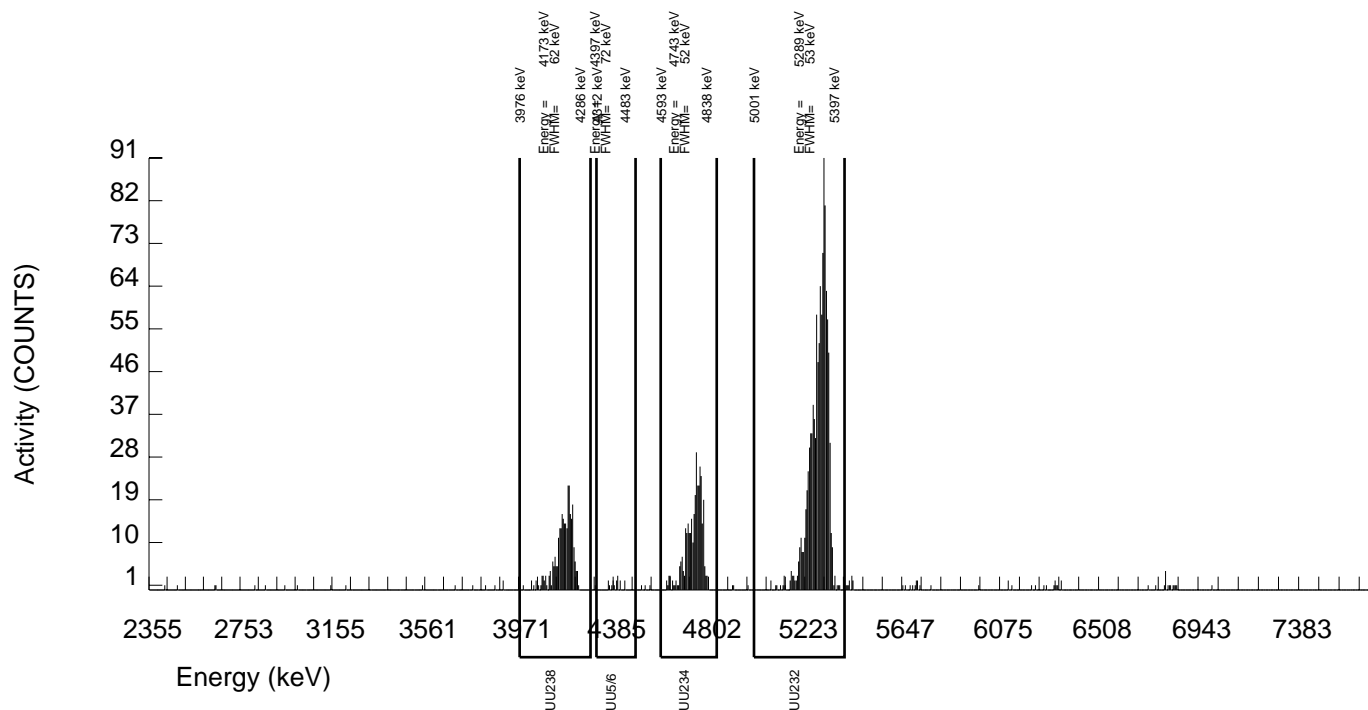
## NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	334.000	331.892	1.000	6.0782	100.0000	6.09E+00	5.78E-01	2.60E-01	5.69E-01	3.35E-01
U232	5302.100	1100.000	1095.000	5.000	2.2361	100.0000	2.01E+01	1.67E+00	9.55E-02	2.41E-01	6.10E-01
U-235	4391.000	17.000	17.000	0.000	2.7628	80.90000	3.86E-01	9.82E-02	1.46E-01	3.53E-01	9.35E-02
U-238	4184.730	283.000	282.000	1.000	3.2810	100.0000	5.18E+00	5.05E-01	1.40E-01	3.30E-01	3.09E-01

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



# Radiochemistry Batch Checklist, Rev10

Batch# 942717 Product: OS Date: 1128/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		GOOD
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.			
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			NA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		NONE

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Hecar E. McCarty 1128/10

Secondary Review Performed By: J. Hardy 211/10

2112

# Gamma Spec Que Sheet

1.6- 1/27/10

01/18/2010

Batch #: 942717

Analyst: MXR1

First Client Due Date: 02/12/2010

Internal Due Date: 02/01/2010

Gamma Spike Isotope: Mixed Gamma

Spike Code: h/a

Expiration Date: h/a

Vol: h/a Nominal Concentration: n/a

Gamma LCS Isotope: Mixed Gamma

LCS Code: 1032-A

Expiration Date: 12/2/10

Vol: 1.0mL Nominal Concentration: 15.91

Initials: MS

Prep Date: 1/20/10

Library: Solid

✓

Witness: h/a

CS 137: 5.56

CS 60: 6.44

Wet/Dry

Hazard

Sealing Date/Time (if Applicable)

Sample ID	Client Description / Container ID	Type	Code	Client	Matrix	Collect Date	Geometry	Detector	Sealing Date/Time (if Applicable)
244835001-1	RE46-10-10093	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	CAF	17	1/19/10
244835002-1	RE46-10-10082	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	19	
244835003-1	RE46-10-10100	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	20	
244835004-1	RE46-10-10095	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	25	
244835005-1	RE46-10-10096	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	18	
244835006-1	RE46-10-10097	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	15	
244835007-1	RE46-10-10090	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	1	
244835008-1	RE46-10-10101	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	4	
244835009-1	RE46-10-10094	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	6	
244835010-1	RE46-10-10092	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	7	1/20/10
244842001-1	RE46-10-11145	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	14	1/19/10
244842002-1	RE46-10-11146	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	22	
244842003-1	RE46-10-11148	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	11	
244842004-1	RE46-10-11144	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	17	
244842005-1	RE46-10-11152	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	19	
244842006-1	RE46-10-11150	SAMPLE		LANL010	SOIL	13-JAN-10 12:00:00	RF	20	
244847001-1	RE12-10-7272	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00	RF	25	1/20/10
244847002-1	RE12-10-7273	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00	RF	18	1/19/10
244847003-1	RE12-10-7274	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00	RF	15	
244847004-1	RE12-10-7281	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00	RF	23	
1202018259-1	MB	MB		QC ACCOUNT	SOIL	1/20/10	RF	14	1/20/10
1202018260-1	DUP RE12-10-7272(244847001)	DUP		QC ACCOUNT	SOIL	1/20/10	RF	15	
1202018261-1	LCS	LCS		QC ACCOUNT	SOIL	1/20/10	RF	22	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: Hecate McCarty

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112810



## Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
942717	244835001	SAMPLE	27-JAN-10		Cerium-139	-0.00084	0.05498	0.050
					Cesium-134	0.07051	0.1256	0.100
					Sodium-22	-0.01704	0.1148	0.080
942717	244835002	SAMPLE	27-JAN-10		Americium-241	-0.1902	0.2492	0.200
					Cerium-139	0.00357	0.0507	0.050
					Thorium-234	0.3269	2.211	2.00
942717	244835003	SAMPLE	27-JAN-10					
942717	244835004	SAMPLE	27-JAN-10					
942717	244835005	SAMPLE	27-JAN-10		Americium-241	-0.05232	0.2908	0.200
					Thorium-234	0.5208	2.458	2.00
942717	244835006	SAMPLE	27-JAN-10		Americium-241	0.07003	0.5276	0.200
					Cerium-139	-0.01592	0.06059	0.050
					Sodium-22	0.01874	0.0874	0.080
					Thorium-234	0.1071	3.989	2.00
942717	244835007	SAMPLE	27-JAN-10		Americium-241	-0.08129	0.3038	0.200
					Cerium-139	-0.0188	0.05397	0.050
					Thorium-234	1.484	2.822	2.00
942717	244835008	SAMPLE	27-JAN-10		Americium-241	-0.02158	0.3638	0.200
					Thorium-234	2.19	3.058	2.00
942717	244835009	SAMPLE	27-JAN-10		Americium-241	-0.3138	0.3261	0.200
					Cerium-139	-0.02331	0.0542	0.050
					Thorium-234	1.183	2.787	2.00
942717	244835010	SAMPLE	27-JAN-10					
942717	244842001	SAMPLE	27-JAN-10		Americium-241	0.1487	0.2254	0.200
					Cerium-139	0.01309	0.05207	0.050
942717	244842002	SAMPLE	27-JAN-10		Americium-241	0.1525	0.2368	0.200
					Cerium-139	0.01049	0.05316	0.050
942717	244842003	SAMPLE	27-JAN-10					
942717	244842004	SAMPLE	27-JAN-10		Cerium-139	0.01275	0.05464	0.050
					Sodium-22	-0.07483	0.08093	0.080
942717	244842005	SAMPLE	27-JAN-10		Americium-241	0.07998	0.2743	0.200
					Cerium-139	-0.00444	0.05379	0.050
					Thorium-234	1.402	2.298	2.00
942717	244842006	SAMPLE	27-JAN-10		Americium-241	0.1709	0.2374	0.200
					Cerium-139	-0.00824	0.05494	0.050
942717	244847001	SAMPLE	27-JAN-10		Sodium-22	-0.02259	0.0804	0.080
942717	244847002	SAMPLE	27-JAN-10		Americium-241	0.05104	0.3288	0.200
					Thorium-234	2.317	2.853	2.00
942717	244847003	SAMPLE	27-JAN-10		Americium-241	0.02142	0.5563	0.200
					Cerium-139	0.01032	0.06792	0.050
					Europium-152	-0.09865	0.2173	0.200
					Sodium-22	-0.02604	0.08082	0.080
942717	244847004	SAMPLE	27-JAN-10		Americium-241	0.09506	0.3379	0.200

## Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
942717	244847004	SAMPLE	27-JAN-10		Cerium-139	0.01184	0.05497	0.050
					Cesium-134	0.08674	0.1023	0.100
					Thorium-234	2.218	2.704	2.00
942717	1202018259	MB	27-JAN-10					
942717	1202018260	DUP	27-JAN-10		Americium-241	0.3953	0.5502	0.200
					Cerium-139	-0.0024	0.06424	0.050
					Sodium-22	-0.02388	0.08307	0.080
					Thorium-234	3.042	4.282	2.00
942717	1202018261	LCS	27-JAN-10		Cerium-139	-0.03117	0.06606	0.050
					Cesium-134	0.03003	0.1236	0.100
					Europium-152	-0.04349	0.2587	0.200
					Thorium-234	-1.473	2.855	2.00
					Tin-113	0.00025	0.118	0.100
					Uranium-235	0.1247	0.5153	0.500

# Gamma Review Report based on Result > MDA for Batch:942717

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
244835001	13-JAN-10 12:00	27-JAN-10 11:17	14	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓ 2.374	0.2438	pCi/g	0.308	N	910.5	3	1.759	IDENTIFIED	8.56	□
Americium-243	INT 0.4423	0.03606	pCi/g	0.067	N	74.79	1	0.9581	IDENTIFIED	6.532	□
Annihilation Rad. HE	0.1191	0.04324	pCi/g	0.05771	N	510.5	1	1.254	IDENTIFIED	36.01	□
Bismuth-210	✓ 1.969	0.4632	pCi/g	0.9099	N	46.34	3	1.051	IDENTIFIED	22.89	□
Bismuth-211	INT 4.49	0.3415	pCi/g	0.3945	Y	351.7	4	1.134	IDENTIFIED	6.009	✓ UI
Bismuth-212	HE 1.256	0.4113	pCi/g	0.6392	N	727.8	1	1.836	IDENTIFIED	32.37	□
Bismuth-214	✓ 1.695	0.1388	pCi/g	0.1325	0.200	608.9	4	1.399	IDENTIFIED	6.416	□
Cadmium-109	INT 3.966	0.4721	pCi/g	1.092	Y	87.25	3	1.023	IDENTIFIED	10.86	✓ UI
Cerium-143	— 329	65.68	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Gross Gamma	— 11.38	1.741	pCi/g	4.496	N	0					□
Iodine-135	HE 1.18E+14	2.38E+14	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Lead-210	✓ 1.969	0.4632	pCi/g	0.9099	N	46.34	3	1.051	IDENTIFIED	22.89	□
Lead-212	✓ 1.969	0.1201	pCi/g	0.09456	0.100	238.5	4	1.1	IDENTIFIED	3.438	□
Lead-214	✓ 1.562	0.1256	pCi/g	0.1376	0.100	351.7	4	1.134	IDENTIFIED	6.009	□
Lutetium-177	HE 2.639	0.8244	pCi/g	2.138	N	0	8	0	FAIL_ABUND	0	□
Neptunium-237	INT 1.147	0.1806	pCi/g	0.3143	N	87.25	3	1.023	IDENTIFIED	10.86	□
Polonium-210	✓ 1.969	0.4615	pCi/g	0.9099	N	46.34	3	1.051	IDENTIFIED	22.89	□
Polonium-212	NR 1.969	0.1201	pCi/g	0.09456	N	238.5	4	1.1	IDENTIFIED	3.438	□
Polonium-214	NR 1.562	0.1256	pCi/g	0.1376	N	351.7	4	1.134	IDENTIFIED	6.009	□
Polonium-216	NR 1.969	0.1201	pCi/g	0.09456	N	238.5	4	1.1	IDENTIFIED	3.438	□
Polonium-218	NR 1.562	0.1256	pCi/g	0.1376	N	351.7	4	1.134	IDENTIFIED	6.009	□
Potassium-40	✓ 37.01	2.032	pCi/g	0.4412	1.00	1460	1	1.851	IDENTIFIED	3.233	□
Radium-224	INT 5.015	0.6904	pCi/g	1.077	Y	241.4	1	1.604	IDENTIFIED	13	✓ UI
Radium-226	✓ 1.695	0.1388	pCi/g	0.1325	Y	608.9	4	1.399	IDENTIFIED	6.416	□
Radium-228	✓ 2.374	0.2438	pCi/g	0.308	0.500	910.5	3	1.759	IDENTIFIED	8.56	□
Sodium-24	HE 1.03E+05	1.32E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Technetium-99m HE	6.69E+14	9.29E+14	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Thallium-200	HE 156.6	132	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Thallium-208	✓ 0.5461	0.07157	pCi/g	0.08097	0.080	582.9	1	1.323	IDENTIFIED	12.22	□
Thorium-228	✓ 1.996	0.1218	pCi/g	0.09589	N	238.5	4	1.1	IDENTIFIED	3.438	□
Thorium-230	✓ 1.695	0.1387	pCi/g	0.1325	N	608.9	4	1.399	IDENTIFIED	6.416	□
Thorium-232	✓ 2.374	0.2438	pCi/g	0.308	N	910.5	3	1.759	IDENTIFIED	8.56	□
Thorium-234	✓ 2.355	0.6162	pCi/g	1.094	2.00	63.33	2	0.7962	IDENTIFIED	24.44	□
Tin-126	INT 0.3905	0.04648	pCi/g	0.1074	N	87.25	3	1.023	IDENTIFIED	10.86	□
Titanium-44	— 0.4479	0.03024	pCi/g	0.06503	N	0	8	0	FAIL_ABUND	0	□
Total Uranium	— 6.9192	1.83E-06	ug/g	1.6313	N	0					□
Uranium-234	✓ 1.695	0.1387	pCi/g	0.1325	N	608.9	4	1.399	IDENTIFIED	6.416	□
Uranium-238	✓ 2.355	0.6162	pCi/g	1.094	N	63.33	2	0.7962	IDENTIFIED	24.44	□
Zirconium-97	— 1.39E+06	4.43E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
*** = Number of isotopes identified with a keyline at this energy.											
Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
244835002	13-JAN-10 12:00	27-JAN-10 11:18	14	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP	

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓ 1.521	0.1568	pCi/g	0.2162	N	911.6	3	1.596	IDENTIFIED	8.616		☐	
Americium-243	IN 0.4011	0.04361	pCi/g	0.09002	N	74.71	1	1.47	IDENTIFIED	10.12		☐	
Annihilation Rad. HE	0.09501	0.03618	pCi/g	0.04088	N	511.3	1	2.167	IDENTIFIED	37.97		☐	
Bismuth-211	IN 3.707	0.2329	pCi/g	0.3379	Y	351.8	4	1.499	IDENTIFIED	5.413	✓	☐	UI
Bismuth-212	HE 0.7538	0.2713	pCi/g	0.6129	N	0	14	0	FAIL_ABUND	0		☐	
Bismuth-214	✓ 1.058	0.09112	pCi/g	0.1157	0.200	609.3	4	1.342	IDENTIFIED	7.661		☐	
Cadmium-109	IN 3.656	0.5461	pCi/g	1.214	Y	87.25	3	1.539	IDENTIFIED	14.26	✓	☐	UI
Cerium-143	— 436.6	66.45	pCi/g	0	N	0	14	0	SHORT_HLIF	0		☐	
Cesium-134	LA 0.08875	0.02965	pCi/g	0.08468	0.100	0	14	0	FAIL_ABUND	0	☑	☐	UI Data rejected due to low abundance.
Cesium-135	HE 0.4506	0.08057	pCi/g	0.3071	N	0	14	0	NOT_IDENTI	0		☐	
Gross Gamma	— 9.496	1.319	pCi/g	3.496	N	0						☐	
Iodine-123	HE 2.47E+05	6.86E+05	pCi/g	0	N	0	14	0	SHORT_HLIF	0		☐	
Iodine-133	HE 1473	1156	pCi/g	0	N	0	14	0	SHORT_HLIF	0		☐	
Krypton-85	HE 15.57	3.376	pCi/g	12.91	N	0	14	0	NOT_IDENTI	0		☐	
Lead-212	✓ 1.59	0.07704	pCi/g	0.09117	0.100	238.6	4	1.239	IDENTIFIED	3.232		☐	
Lead-214	✓ 1.289	0.08773	pCi/g	0.1178	0.100	351.8	4	1.499	IDENTIFIED	5.413		☐	
Lutetium-177	LA 3.284	0.7137	pCi/g	1.772	N	0	14	0	FAIL_ABUND	0		☐	
Neptunium-237	IN 1.057	0.1919	pCi/g	0.3562	N	87.25	3	1.539	IDENTIFIED	14.26		☐	
Niobium-95m	HE 0.3588	0.07527	pCi/g	0.2445	N	0	14	0	NOT_IDENTI	0		☐	
Polonium-212	NR 1.59	0.07704	pCi/g	0.09117	N	238.6	4	1.239	IDENTIFIED	3.232		☐	
Polonium-214	NR 1.289	0.08773	pCi/g	0.1178	N	351.8	4	1.499	IDENTIFIED	5.413		☐	
Polonium-216	NR 1.59	0.07704	pCi/g	0.09117	N	238.6	4	1.239	IDENTIFIED	3.232		☐	
Polonium-218	NR 1.289	0.08773	pCi/g	0.1178	N	351.8	4	1.499	IDENTIFIED	5.413		☐	
Potassium-40	✓ 32.88	1.516	pCi/g	0.4512	1.00	1461	1	1.824	IDENTIFIED	2.719		☐	
Radium-224	INT 3.968	0.5248	pCi/g	1.037	Y	241.6	1	1.727	IDENTIFIED	12.92	✓	☐	UI
Radium-226	✓ 1.058	0.09112	pCi/g	0.1157	Y	609.3	4	1.342	IDENTIFIED	7.661		☐	
Radium-228	✓ 1.521	0.1568	pCi/g	0.2162	0.500	911.6	3	1.596	IDENTIFIED	8.616		☐	
Sodium-24	HE 37410	91110	pCi/g	0	N	0	14	0	SHORT_HLIF	0		☐	
Strontium-85	LA 0.07886	0.0171	pCi/g	0.06542	Y	0	14	0	NOT_IDENTI	0	☑	☐	UI Data rejected due to low abundance.
Thallium-200	HE 2.845	102	pCi/g	0	N	0	14	0	SHORT_HLIF	0		☐	
Thallium-208	✓ 0.4596	0.04499	pCi/g	0.05686	0.080	583.2	1	1.339	IDENTIFIED	9.179		☐	
Thorium-228	✓ 1.613	0.07812	pCi/g	0.09245	N	238.6	4	1.239	IDENTIFIED	3.232		☐	
Thorium-230	✓ 1.058	0.09112	pCi/g	0.1157	N	609.3	4	1.342	IDENTIFIED	7.661		☐	
Thorium-232	✓ 1.521	0.1568	pCi/g	0.2162	N	911.6	3	1.596	IDENTIFIED	8.616		☐	
Tin-126	IN 0.3599	0.05377	pCi/g	0.12	N	87.25	3	1.539	IDENTIFIED	14.26		☐	
Titanium-44	LA 0.3652	0.02943	pCi/g	0.08519	N	0	14	0	FAIL_ABUND	0		☐	
Uranium-234	✓ 1.058	0.09112	pCi/g	0.1157	N	609.3	4	1.342	IDENTIFIED	7.661		☐	
Zirconium-97	HE 4.63E+05	2.98E+05	pCi/g	0	N	0	14	0	SHORT_HLIF	0		☐	

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244835003	13-JAN-10 12:00	27-JAN-10 11:18	14	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓ 1.711	0.1655	pCi/g	0.1828	N	910.8	3	1.331	IDENTIFIED	7.484		☐	
Americium-243	IN 0.3273	0.03324	pCi/g	0.07348	N	74.87	1	1.216	IDENTIFIED	9.32		☐	
Annihilation Rad.	— 0.1158	0.03289	pCi/g	0.0416	N	510.6	1	1.535	IDENTIFIED	28.02		☐	
Bismuth-211	IN 3.894	0.2828	pCi/g	0.2994	Y	351.7	4	1.3	IDENTIFIED	5.463		☑ UI	
Bismuth-212	LA 1.22	0.2224	pCi/g	0.6101	N	0	9	0	FAIL_ABUND	0		☐	
Bismuth-214	✓ 1.194	0.09945	pCi/g	0.1051	0.200	609.2	4	1.257	IDENTIFIED	6.196		☐	

Cadmium-109	INT	2.439	0.4688	pCi/g	1.199	Y	87.26	3	1.21	IDENTIFIED	18.64	✓ UI
Cerium-143	—	394.1	62.33	pCi/g	0	N	0	9	0	SHORT_HLIF	0	□
Gross Gamma	—	9.479	1.427	pCi/g	3.414	N			0			□
Iodine-133	HE	609.3	1115	pCi/g	0	N	0	9	0	SHORT_HLIF	0	□
Iodine-135	HE	8.44E+13	1.43E+14	pCi/g	0	N	0	9	0	SHORT_HLIF	0	□
Lead-212	✓	1.264	0.08861	pCi/g	0.1283	0.100	238.4	4	1.11	IDENTIFIED	4.57	□
Lead-214	✓	1.355	0.1045	pCi/g	0.1064	0.100	351.7	4	1.3	IDENTIFIED	5.463	□
Lutetium-177	HE	2.365	0.6674	pCi/g	1.707	N	0	9	0	FAIL_ABUND	0	□
Neptunium-237	INT	0.7052	0.1538	pCi/g	0.3663	N	87.26	3	1.21	IDENTIFIED	18.64	□
Polonium-212	NR	1.264	0.08861	pCi/g	0.1283	N	238.4	4	1.11	IDENTIFIED	4.57	□
Polonium-214	NR	1.355	0.1045	pCi/g	0.1064	N	351.7	4	1.3	IDENTIFIED	5.463	□
Polonium-216	NR	1.264	0.08861	pCi/g	0.1283	N	238.4	4	1.11	IDENTIFIED	4.57	□
Polonium-218	NR	1.355	0.1045	pCi/g	0.1064	N	351.7	4	1.3	IDENTIFIED	5.463	□
Potassium-40	✓	31.29	1.599	pCi/g	0.4227	1.00	1460	1	1.742	IDENTIFIED	2.668	□
Radium-224	INT	2.958	0.4605	pCi/g	1.39	Y	241.7	1	1.231	IDENTIFIED	14.8	✓ UI
Radium-226	✓	1.194	0.09945	pCi/g	0.1051	Y	609.2	4	1.257	IDENTIFIED	6.196	□
Radium-228	✓	1.711	0.1655	pCi/g	0.1828	0.500	910.8	3	1.331	IDENTIFIED	7.484	□
Sodium-24	HE	65470	84430	pCi/g	0	N	0	9	0	SHORT_HLIF	0	□
Thallium-200	HE	14.46	96.31	pCi/g	0	N	0	9	0	SHORT_HLIF	0	□
Thallium-208	✓	0.5411	0.04586	pCi/g	0.05247	0.080	583	1	1.308	IDENTIFIED	6.738	□
Thorium-228	✓	1.282	0.08985	pCi/g	0.1301	N	238.4	4	1.11	IDENTIFIED	4.57	□
Thorium-230	✓	1.194	0.09944	pCi/g	0.1051	N	609.2	4	1.257	IDENTIFIED	6.196	□
Thorium-232	✓	1.711	0.1655	pCi/g	0.1828	N	910.8	3	1.331	IDENTIFIED	7.484	□
Tin-126	INT	0.2401	0.04615	pCi/g	0.1184	N	87.26	3	1.21	IDENTIFIED	18.64	□
Titanium-44	—	0.3531	0.02484	pCi/g	0.07019	N	0	9	0	FAIL_ABUND	0	□
Total Uranium	—	4.3691	2.34E-06	ug/g	2.3403	N			0			□
Uranium-234	✓	1.194	0.09944	pCi/g	0.1051	N	609.2	4	1.257	IDENTIFIED	6.196	□
Zirconium-97	—	9.31E+05	2.99E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	□

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244835004	13-JAN-10 12:00	27-JAN-10 11:19	14	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.684	0.1716	pCi/g	0.2135	N	911.1	3	1.311	IDENTIFIED	8.277	☐	
Americium-243	INT	0.3399	0.02405	pCi/g	0.04075	N	74.7	1	0.9071	IDENTIFIED	4.925	☐	
Annihilation Rad.	—	0.1221	0.03314	pCi/g	0.0405	N	510.6	1	1.839	IDENTIFIED	26.65	☐	
Barium-137m	HE	0.09957	0.03935	pCi/g	0.05072	N	663.1	2	4.532	IDENTIFIED	39.13	☐	
Bismuth-210	HE	0.9375	0.2616	pCi/g	0.529	N	46.24	3	0.9781	IDENTIFIED	27.42	☐	
Bismuth-211	INT	3.768	0.2591	pCi/g	0.2928	Y	351.7	4	1.161	IDENTIFIED	4.427	☑ UI	
Bismuth-212	HE	0.9587	0.1956	pCi/g	0.616	N	0	10	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.087	0.1003	pCi/g	0.1037	0.200	609.2	4	1.287	IDENTIFIED	6.984	☐	
Cadmium-109	INT	3.717	0.3474	pCi/g	0.6839	Y	87.13	3	1.069	IDENTIFIED	7.663	☑ UI	
Cerium-143	—	284.6	49.43	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1626	0.03706	pCi/g	0.08789	0.100	0	10	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137	APW	0.1053	0.0416	pCi/g	0.05361	0.100	663.1	2	4.532	IDENTIFIED	39.13	☑ UI	Data rejected due to high peak-width.
Gross Gamma	—	9.733	1.38	pCi/g	3.454	N	0					☐	
Iodine-123	HE	4.95E+05	4.88E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Iodine-135	HE	8.06E+13	1.53E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Lead-210	HE	0.9375	0.2616	pCi/g	0.529	N	46.24	3	0.9781	IDENTIFIED	27.42	☐	
Lead-212	✓	1.674	0.1065	pCi/g	0.07155	0.100	238.5	4	0.9761	IDENTIFIED	2.841	☐	

Lead-214	✓	1.311	0.09641	pCi/g	0.09371	0.100	351.7	4	1.161	IDENTIFIED	4.427	□
Lutetium-177	LA	2.847	0.5967	pCi/g	1.531	N	0	10	0	FAIL_ABUND	0	□
Neptunium-237	INT	1.075	0.1496	pCi/g	0.1965	N	87.13	3	1.069	IDENTIFIED	7.663	□
Niobium-97	HE	7288	14860	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Polonium-210	HE	0.9375	0.261	pCi/g	0.529	N	46.24	3	0.9781	IDENTIFIED	27.42	□
Polonium-212	NR	1.674	0.1065	pCi/g	0.07155	N	238.5	4	0.9761	IDENTIFIED	2.841	□
Polonium-214	NR	1.311	0.09641	pCi/g	0.09371	N	351.7	4	1.161	IDENTIFIED	4.427	□
Polonium-216	NR	1.674	0.1065	pCi/g	0.07155	N	238.5	4	0.9761	IDENTIFIED	2.841	□
Polonium-218	NR	1.311	0.09641	pCi/g	0.09371	N	351.7	4	1.161	IDENTIFIED	4.427	□
Potassium-40	✓	30.76	1.542	pCi/g	0.423	1.00	1461	1	1.965	IDENTIFIED	2.645	□
Radium-224	INT	5.112	0.6492	pCi/g	0.815	Y	241.4	1	1.769	IDENTIFIED	11.56	✓ UI
Radium-226	✓	1.087	0.1003	pCi/g	0.1037	Y	609.2	4	1.287	IDENTIFIED	6.984	□
Radium-228	✓	1.684	0.1716	pCi/g	0.2135	0.500	911.1	3	1.311	IDENTIFIED	8.277	□
Thallium-200	HE	121.1	86.19	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Thallium-208	✓	0.5394	0.04696	pCi/g	0.05428	0.080	583.1	1	1.319	IDENTIFIED	6.636	□
Thorium-228	✓	1.697	0.108	pCi/g	0.07255	N	238.5	4	0.9761	IDENTIFIED	2.841	□
Thorium-230	✓	1.087	0.1003	pCi/g	0.1037	N	609.2	4	1.287	IDENTIFIED	6.984	□
Thorium-232	✓	1.684	0.1716	pCi/g	0.2135	N	911.1	3	1.311	IDENTIFIED	8.277	□
Thorium-234	✓	1.034	0.3615	pCi/g	0.6648	2.00	63.28	2	0.8746	IDENTIFIED	33.68	□
Tin-126	INT	0.366	0.03421	pCi/g	0.0672	N	87.13	3	1.069	IDENTIFIED	7.663	□
Titanium-44	—	0.3633	0.02247	pCi/g	0.03826	N	0	10	0	FAIL_ABUND	0	□
Total Uranium	—	3.1294	1.08E-06	ug/g	0.99132	N	0					□
Uranium-234	✓	1.087	0.1003	pCi/g	0.1037	N	609.2	4	1.287	IDENTIFIED	6.984	□
Uranium-238	HE	1.034	0.3615	pCi/g	0.6648	N	63.28	2	0.8746	IDENTIFIED	33.68	□
Zirconium-97	—	9.65E+05	2.76E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244835005	13-JAN-10 12:00	27-JAN-10 11:26	14	SAMPLE	LOAD	1	LANL	LANL01004	IGEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.784	0.1773	pCi/g	0.1672	N	911	3	1.75	IDENTIFIED	7.407	☐	
Americium-243	INT	0.4633	0.04329	pCi/g	0.0896	N	74.96	1	1.185	IDENTIFIED	8.355	☐	
Annihilation Rad.	—	0.162	0.02868	pCi/g	0.03847	N	510.7	1	1.93	IDENTIFIED	17.39	☐	
Barium-137m	✓	0.2263	0.03527	pCi/g	0.04691	N	662.3	2	1.72	IDENTIFIED	15.11	☐	
Bismuth-211	INT	4.557	0.2426	pCi/g	0.2654	Y	352	4	1.271	IDENTIFIED	4.249	☑ UI	
Bismuth-212	✓	1.553	0.2032	pCi/g	0.3482	N	726.7	1	1.954	IDENTIFIED	12.1	☐	
Bismuth-214	✓	1.397	0.08855	pCi/g	0.08254	0.200	609.3	4	1.75	IDENTIFIED	4.495	☐	
Cadmium-109	INT	4.521	0.5592	pCi/g	1.166	Y	87.41	3	1.29	IDENTIFIED	11.48	☑ UI	
Cerium-143	—	501.5	67.04	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1115	0.0234	pCi/g	0.07265	0.100	0	9	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-135	HE	0.2511	0.07278	pCi/g	0.2361	N	0	9	0	NOT_IDENTI	0	☐	
Cesium-137	✓	0.2392	0.03729	pCi/g	0.04959	0.100	662.3	2	1.72	IDENTIFIED	15.11	☐	
Gross Gamma	—	11.23	1.408	pCi/g	3.247	N	0					☐	
Krypton-85	HE	14.45	3.315	pCi/g	10.99	N	0	9	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.97	0.08542	pCi/g	0.07789	0.100	238.7	4	1.23	IDENTIFIED	2.458	☐	
Lead-214	✓	1.585	0.09398	pCi/g	0.09249	0.100	352	4	1.271	IDENTIFIED	4.249	☐	
Lutetium-177	HE	2.248	0.6129	pCi/g	1.584	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	1.307	0.2105	pCi/g	0.3447	N	87.41	3	1.29	IDENTIFIED	11.48	☐	
Niobium-97	—	37740	14490	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Polonium-212	NR	1.97	0.08542	pCi/g	0.07789	N	238.7	4	1.23	IDENTIFIED	2.458	☐	

Polonium-214	NR	1.585	0.09398	pCi/g	0.09249	N	352	4	1.271	IDENTIFIED	4.249	<input type="checkbox"/>	
Polonium-216	NR	1.97	0.08542	pCi/g	0.07789	N	238.7	4	1.23	IDENTIFIED	2.458	<input type="checkbox"/>	
Polonium-218	NR	1.585	0.09398	pCi/g	0.09249	N	352	4	1.271	IDENTIFIED	4.249	<input type="checkbox"/>	
Potassium-40	✓	30.49	1.346	pCi/g	0.4058	1.00	1460	1	2.211	IDENTIFIED	2.253	<input type="checkbox"/>	
Radium-224	INT	5.584	0.4911	pCi/g	0.8852	Y	241.8	1	1.607	IDENTIFIED	8.342	<input type="checkbox"/>	ui
Radium-226	✓	1.397	0.08855	pCi/g	0.08254	Y	609.3	4	1.75	IDENTIFIED	4.495	<input type="checkbox"/>	
Radium-228	✓	1.784	0.1773	pCi/g	0.1672	0.500	911	3	1.75	IDENTIFIED	7.407	<input type="checkbox"/>	
Strontium-85	LA	0.07319	0.0168	pCi/g	0.0557	Y	0	9	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	✓	0.5711	0.04053	pCi/g	0.04767	0.080	583.3	1	1.556	IDENTIFIED	5.915	<input type="checkbox"/>	
Thorium-228	✓	1.998	0.08662	pCi/g	0.07898	N	238.7	4	1.23	IDENTIFIED	2.458	<input type="checkbox"/>	
Thorium-230	✓	1.397	0.08855	pCi/g	0.08254	N	609.3	4	1.75	IDENTIFIED	4.495	<input type="checkbox"/>	
Thorium-232	✓	1.784	0.1773	pCi/g	0.1672	N	911	3	1.75	IDENTIFIED	7.407	<input type="checkbox"/>	
Tin-126	INT	0.4451	0.05505	pCi/g	0.1156	N	87.41	3	1.29	IDENTIFIED	11.48	<input type="checkbox"/>	
Titanium-44	—	0.4227	0.0296	pCi/g	0.08287	N	0	9	0	FAIL_ABUND	0	<input type="checkbox"/>	
Uranium-234	✓	1.397	0.08855	pCi/g	0.08254	N	609.3	4	1.75	IDENTIFIED	4.495	<input type="checkbox"/>	
Zirconium-97	—	1.52E+06	2.75E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue	
244835006	13-JAN-10 12:00	27-JAN-10 11:37	14	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	2.156	0.2014	pCi/g	0.2542	N	911	3	1.777	IDENTIFIED	7.507	☐
Americium-243	INT	0.4814	0.06598	pCi/g	0.1321	N	74.03	1	1.581	IDENTIFIED	12.53	☐
Annihilation Rad. HE		0.1218	0.0347	pCi/g	0.0546	N	510.5	1	1.921	IDENTIFIED	28.34	☐
Bismuth-211	INT	4.627	0.3157	pCi/g	0.4067	Y	351.4	4	1.563	IDENTIFIED	5.897	☑ UI
Bismuth-212	✓	1.772	0.2766	pCi/g	0.5346	N	726.9	1	1.485	IDENTIFIED	15.12	☐
Bismuth-214	✓	1.458	0.1005	pCi/g	0.1289	0.200	608.9	4	1.667	IDENTIFIED	5.809	☐
Cadmium-109	INT	2.534	0.631	pCi/g	1.772	Y	89.14	1	1.303	IDENTIFIED	24.25	☑ UI
Cerium-143	—	1003	132.7	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Cesium-134	LA	0.1007	0.03272	pCi/g	0.09754	0.100	0	8	0	FAIL_ABUND	0	☑ UI Data rejected due to low abundance.
Cesium-135	HE	0.6079	0.1536	pCi/g	0.319	N	269.3	1	1.455	IDENTIFIED	24.9	☐
Gross Gamma	—	11.07	2.919	pCi/g	3.515	N	0					☐
Iodine-133	HE	2455	1453	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Iodine-135	—	3.83E+14	1.78E+14	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Lead-212	✓	1.923	0.1049	pCi/g	0.122	0.100	238	4	1.358	IDENTIFIED	3.55	☐
Lead-214	✓	1.61	0.1176	pCi/g	0.1417	0.100	351.4	4	1.563	IDENTIFIED	5.897	☐
Lutetium-177	HE	3.626	0.7793	pCi/g	2.225	N	0	8	0	FAIL_ABUND	0	☐
Neptunium-237	INT	1.143	0.2079	pCi/g	0.5823	N	86.55	2	1.377	IDENTIFIED	13.83	☐
Niobium-95m	—	2.104	0.1426	pCi/g	0.4502	N	0	8	0	NOT_IDENTI	0	☐
Polonium-212	NR	1.923	0.1049	pCi/g	0.122	N	238	4	1.358	IDENTIFIED	3.55	☐
Polonium-214	NR	1.61	0.1176	pCi/g	0.1417	N	351.4	4	1.563	IDENTIFIED	5.897	☐
Polonium-216	NR	1.923	0.1049	pCi/g	0.122	N	238	4	1.358	IDENTIFIED	3.55	☐
Polonium-218	NR	1.61	0.1176	pCi/g	0.1417	N	351.4	4	1.563	IDENTIFIED	5.897	☐
Potassium-40	✓	31.93	1.519	pCi/g	0.6679	1.00	1461	1	2.269	IDENTIFIED	2.835	☐
Radium-224	INT	5.367	0.7674	pCi/g	1.251	Y	241	1	1.71	IDENTIFIED	13.87	☑ UI
Radium-226	✓	1.458	0.1005	pCi/g	0.1289	Y	608.9	4	1.667	IDENTIFIED	5.809	☐
Radium-228	✓	2.156	0.2014	pCi/g	0.2542	0.500	911	3	1.777	IDENTIFIED	7.507	☐
Thallium-208	✓	0.6464	0.04773	pCi/g	0.06658	0.080	582.7	1	1.828	IDENTIFIED	6.662	☐
Thorium-228	✓	1.95	0.1063	pCi/g	0.1237	N	238	4	1.358	IDENTIFIED	3.55	☐
Thorium-230	✓	1.458	0.1005	pCi/g	0.1289	N	608.9	4	1.667	IDENTIFIED	5.809	☐

Thorium-232	✓	2.156	0.2014	pCi/g	0.2542	N	911	3	1.777	IDENTIFIED	7.507	□
Tin-126	INT	0.3893	0.05828	pCi/g	0.1759	N	86.55	2	1.377	IDENTIFIED	13.83	□
Titanium-44	—	0.2175	0.03075	pCi/g	0.1008	N	0	8	0	NOT_IDENTI	0	□
Uranium-234	✓	1.458	0.1005	pCi/g	0.1289	N	608.9	4	1.667	IDENTIFIED	5.809	□
Zirconium-97	—	2.41E+06	4.08E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244835007	13-JAN-10 12:00	27-JAN-10 12:50	14	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.866	0.1866	pCi/g	0.2368	N	911.5	3	1.847	IDENTIFIED	8.153	□	
Americium-243	INT	0.425	0.04878	pCi/g	0.1042	N	74.92	1	1.294	IDENTIFIED	10.69	□	
Annihilation Rad.	—	0.122	0.0326	pCi/g	0.05092	N	511.2	1	2.167	IDENTIFIED	26.38	□	
Barium-137m	HE	0.09074	0.03829	pCi/g	0.06504	N	662.3	2	1.61	IDENTIFIED	42	□	
Bismuth-211	INT	3.83	0.3151	pCi/g	0.3655	Y	352.2	4	1.375	IDENTIFIED	6.861	✓ UI	
Bismuth-212	HE	1.288	0.3163	pCi/g	0.7743	N	0	10	0	FAIL_ABUND	0	□	
Bismuth-214	✓	1.219	0.1023	pCi/g	0.1254	0.200	609.7	4	1.465	IDENTIFIED	6.792	□	
Cadmium-109	INT	2.987	0.5491	pCi/g	1.491	Y	87.46	3	1.196	IDENTIFIED	17.77	✓ UI	
Cerium-143	—	199.7	57.23	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□	
Cesium-134	LA	0.1287	0.03977	pCi/g	0.1001	0.100	0	10	0	FAIL_ABUND	0	□	UI Data rejected due to low abundance.
Cesium-137	✓	0.09592	0.04048	pCi/g	0.06875	0.100	662.3	2	1.61	IDENTIFIED	42	□	
Europium-155	HE	0.2268	0.06108	pCi/g	0.2176	N	0	10	0	FAIL_ABUND	0	□	
Gross Gamma	—	9.709	1.491	pCi/g	3.839	N	0					□	
Krypton-85	HE	21.54	4.234	pCi/g	14.91	N	0	10	0	NOT_IDENTI	0	□	
Lead-212	✓	1.737	0.1074	pCi/g	0.1072	0.100	238.9	4	1.237	IDENTIFIED	3.554	□	
Lead-214	✓	1.332	0.115	pCi/g	0.1337	0.100	352.2	4	1.375	IDENTIFIED	6.861	□	
Lutetium-177	HE	3.647	0.8438	pCi/g	2.046	N	0	10	0	FAIL_ABUND	0	□	
Neptunium-237	INT	0.8636	0.182	pCi/g	0.4599	N	87.46	3	1.196	IDENTIFIED	17.77	□	
Niobium-97	HE	29520	19240	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□	
Polonium-212	NR	1.737	0.1074	pCi/g	0.1072	N	238.9	4	1.237	IDENTIFIED	3.554	□	
Polonium-214	NR	1.332	0.115	pCi/g	0.1337	N	352.2	4	1.375	IDENTIFIED	6.861	□	
Polonium-216	NR	1.737	0.1074	pCi/g	0.1072	N	238.9	4	1.237	IDENTIFIED	3.554	□	
Polonium-218	NR	1.332	0.115	pCi/g	0.1337	N	352.2	4	1.375	IDENTIFIED	6.861	□	
Potassium-40	✓	29.66	1.631	pCi/g	0.5677	1.00	1461	1	1.948	IDENTIFIED	3.236	□	
Radium-224	INT	4.735	0.6117	pCi/g	1.22	Y	241.9	1	1.529	IDENTIFIED	12.09	✓ UI	
Radium-226	✓	1.219	0.1023	pCi/g	0.1254	Y	609.7	4	1.465	IDENTIFIED	6.792	□	
Radium-228	✓	1.866	0.1866	pCi/g	0.2368	0.500	911.5	3	1.847	IDENTIFIED	8.153	□	
Strontium-85	LA	0.1092	0.02146	pCi/g	0.0756	Y	0	10	0	NOT_IDENTI	0	□	UI Data rejected due to low abundance.
Thallium-208	✓	0.5698	0.05017	pCi/g	0.06505	0.080	583.7	1	1.535	IDENTIFIED	7.543	□	
Thorium-228	✓	1.761	0.1089	pCi/g	0.1087	N	238.9	4	1.237	IDENTIFIED	3.554	□	
Thorium-230	✓	1.219	0.1023	pCi/g	0.1254	N	609.7	4	1.465	IDENTIFIED	6.792	□	
Thorium-232	✓	1.866	0.1866	pCi/g	0.2368	N	911.5	3	1.847	IDENTIFIED	8.153	□	
Tin-126	INT	0.2941	0.05405	pCi/g	0.1475	N	87.46	3	1.196	IDENTIFIED	17.77	□	
Titanium-44	LA	0.4274	0.03576	pCi/g	0.09094	N	0	10	0	FAIL_ABUND	0	□	
Total Uranium	—	4.4764	2.39E-06	ug/g	4.2019	N	0					□	
Uranium-234	✓	1.219	0.1023	pCi/g	0.1254	N	609.7	4	1.465	IDENTIFIED	6.792	□	
Zirconium-97	HE	3.41E+05	3.90E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244835008	13-JAN-10 12:00	27-JAN-10 12:51	14	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP



Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.6	0.1678	pCi/g 0.2281	N	911.3	3	1.676	IDENTIFIED	8.961	□		
Americium-243	INT	0.3201	0.04428	pCi/g 0.1082	N	74.73	1	0.9486	IDENTIFIED	12.59	□		
Annihilation Rad.	—	0.125	0.03204	pCi/g 0.04704	N	510.9	1	1.381	IDENTIFIED	25.48	□		
Barium-137m	HE	0.06938	0.02349	pCi/g 0.05635	N	661.8	2	1.195	IDENTIFIED	33.78	□		
Bismuth-211	INT	3.926	0.2482	pCi/g 0.3344	Y	351.9	4	1.159	IDENTIFIED	5.346	✓	UI	
Bismuth-212	HE	0.9546	0.2379	pCi/g 0.692	N	0	9	0	FAIL_ABUND	0	□		
Bismuth-214	✓	1.345	0.09346	pCi/g 0.09938	0.200	609.4	4	1.412	IDENTIFIED	5.897	□		
Cadmium-109	INT	2.588	0.5018	pCi/g 1.313	Y	87.18	3	1.154	IDENTIFIED	18.45	✓	UI	
Cerium-143	—	349	57.17	pCi/g 0	N	0	9	0	SHORT_HLIF	0	□		
Cesium-137	✓	0.07334	0.02484	pCi/g 0.05957	0.100	661.8	2	1.195	IDENTIFIED	33.78	□		
Gold-195	HE	0.4408	0.1166	pCi/g 0.397	N	0	9	0	FAIL_ABUND	0	□		
Gross Gamma	—	9.436	1.293	pCi/g 2.729	N	0					□		
Iodine-133	HE	1834	1110	pCi/g 0	N	0	9	0	SHORT_HLIF	0	□		
Lead-212	✓	1.746	0.09039	pCi/g 0.08807	0.100	238.6	4	1.106	IDENTIFIED	3.268	□		
Lead-214	✓	1.366	0.09339	pCi/g 0.1145	0.100	351.9	4	1.159	IDENTIFIED	5.346	□		
Lutetium-177	HE	2.228	0.5781	pCi/g 1.687	N	0	9	0	FAIL_ABUND	0	□		
Neptunium-237	HE	0.748	0.1643	pCi/g 0.4377	N	87.18	3	1.154	IDENTIFIED	18.45	□		
Polonium-212	NR	1.746	0.09039	pCi/g 0.08807	N	238.6	4	1.106	IDENTIFIED	3.268	□		
Polonium-214	NR	1.366	0.09339	pCi/g 0.1145	N	351.9	4	1.159	IDENTIFIED	5.346	□		
Polonium-216	NR	1.746	0.09039	pCi/g 0.08807	N	238.6	4	1.106	IDENTIFIED	3.268	□		
Polonium-218	NR	1.366	0.09339	pCi/g 0.1145	N	351.9	4	1.159	IDENTIFIED	5.346	□		
Potassium-40	✓	30.21	1.395	pCi/g 0.5785	1.00	1461	1	2.119	IDENTIFIED	2.951	□		
Radium-224	INT	4.01	0.6371	pCi/g 1.002	Y	241.5	1	1.639	IDENTIFIED	15.53	✓	UI	
Radium-226	✓	1.345	0.09346	pCi/g 0.09938	Y	609.4	4	1.412	IDENTIFIED	5.897	□		
Radium-228	✓	1.6	0.1678	pCi/g 0.2281	0.500	911.3	3	1.676	IDENTIFIED	8.961	□		
Sodium-24	HE	49100	1.06E+05	pCi/g 0	N	0	9	0	SHORT_HLIF	0	□		
Thallium-200	HE	161	105.9	pCi/g 0	N	0	9	0	SHORT_HLIF	0	□		
Thallium-208	✓	0.5552	0.04413	pCi/g 0.05608	0.080	583.2	1	1.47	IDENTIFIED	7.299	□		
Thorium-228	✓	1.77	0.09166	pCi/g 0.08931	N	238.6	4	1.106	IDENTIFIED	3.268	□		
Thorium-230	✓	1.345	0.09346	pCi/g 0.09938	N	609.4	4	1.412	IDENTIFIED	5.897	□		
Thorium-232	✓	1.6	0.1678	pCi/g 0.2281	N	911.3	3	1.676	IDENTIFIED	8.961	□		
Tin-126	INT	0.2547	0.0494	pCi/g 0.1403	N	87.18	3	1.154	IDENTIFIED	18.45	□		
Titanium-44	—	0.3808	0.03522	pCi/g 0.0834	N	0	9	0	FAIL_ABUND	0	□		
Total Uranium	—	6.5315	2.53E-06	ug/g 4.5517	N	0					□		
Uranium-234	✓	1.345	0.09346	pCi/g 0.09938	N	609.4	4	1.412	IDENTIFIED	5.897	□		
Zirconium-97	—	1.03E+06	3.13E+05	pCi/g 0	N	0	9	0	SHORT_HLIF	0	□		

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244835009	13-JAN-10 12:00	27-JAN-10 12:51	14	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.661	0.1719	pCi/g	0.2295	N	911.1	3	1.863	IDENTIFIED	8.996	☐	
Americium-243	INT	0.4053	0.047	pCi/g	0.1033	N	74.44	1	1.293	IDENTIFIED	10.68	☐	
Annihilation Rad. HE		0.1094	0.03483	pCi/g	0.04814	N	510.4	1	1.305	IDENTIFIED	31.71	☐	
Bismuth-211	INT	3.478	0.2543	pCi/g	0.3635	Y	351.8	4	1.224	IDENTIFIED	6.561	☑	UI
Bismuth-212	LA	1.474	0.2541	pCi/g	0.7292	N	0	8	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.239	0.1006	pCi/g	0.1283	0.200	609.3	4	1.686	IDENTIFIED	7.232	☐	
Cadmium-109	INT	3.406	0.5051	pCi/g	1.329	Y	86.94	3	1.175	IDENTIFIED	14	☑	UI
Cerium-143	—	570.6	82.2	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	



Radium-226	✓	1.103	0.09673	pCi/g	0.09948	Y	609.6	4	1.495	IDENTIFIED	7.084	<input type="checkbox"/>	
Radium-228	✓	1.384	0.153	pCi/g	0.2277	0.500	911.5	3	1.421	IDENTIFIED	9.399	<input type="checkbox"/>	
Strontium-85	LA	0.06727	0.01696	pCi/g	0.05974	Y	0	7	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	✓	0.4892	0.04389	pCi/g	0.05716	0.080	583.3	1	1.265	IDENTIFIED	7.592	<input type="checkbox"/>	
Thorium-228	✓	1.603	0.09182	pCi/g	0.08406	N	238.7	4	1.063	IDENTIFIED	3.153	<input type="checkbox"/>	
Thorium-230	✓	1.103	0.09673	pCi/g	0.09948	N	609.6	4	1.495	IDENTIFIED	7.084	<input type="checkbox"/>	
Thorium-232	✓	1.384	0.153	pCi/g	0.2277	N	911.5	3	1.421	IDENTIFIED	9.399	<input type="checkbox"/>	
Tin-126	INT	0.3875	0.05064	pCi/g	0.09459	N	87.34	3	1.608	IDENTIFIED	12.21	<input type="checkbox"/>	
Titanium-44	—	0.3282	0.02271	pCi/g	0.06273	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium	—	2.7297	2.15E-06	ug/g	2.2071	N	0					<input type="checkbox"/>	
Uranium-234	✓	1.103	0.09673	pCi/g	0.09948	N	609.6	4	1.495	IDENTIFIED	7.084	<input type="checkbox"/>	
Zirconium-97	—	8.12E+05	3.07E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244842001	13-JAN-10 12:00	27-JAN-10 12:57	14	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.86	0.1902	pCi/g 0.2	N	911.8	3	1.728	IDENTIFIED	8.369		☐	
Americium-243	INT	0.3944	0.04173	pCi/g 0.09043	N	74.95	1	1.446	IDENTIFIED	9.887		☐	
Annihilation Rad.	—	0.1388	0.03227	pCi/g 0.04733	N	511.1	1	2.425	IDENTIFIED	23.07		☐	
Bismuth-211	INT	4.239	0.2335	pCi/g 0.329	Y	351.9	4	1.519	IDENTIFIED	4.507		☑ UI	
Bismuth-212	LA	1.257	0.2437	pCi/g 0.6486	N	0	12	0	FAIL_ABUND	0		☐	
Bismuth-214	✓	1.313	0.0926	pCi/g 0.1086	0.200	609.3	4	1.457	IDENTIFIED	5.839		☐	
Cadmium-109	INT	2.629	0.4743	pCi/g 1.482	Y	87.31	3	1.473	IDENTIFIED	17.51		☑ UI	
Cerium-143	—	617.4	82.9	pCi/g 0	N	0	12	0	SHORT_HLIF	0		☐	
Cesium-135	HE	0.3163	0.08977	pCi/g 0.2941	N	0	12	0	NOT_IDENTI	0		☐	
Gross Gamma	—	9.845	1.527	pCi/g 4.175	N	0						☐	
Iodine-135	HE	9.26E+13	1.93E+14	pCi/g 0	N	0	12	0	SHORT_HLIF	0		☐	
Krypton-85	HE	18.61	4.183	pCi/g 14.1	N	0	12	0	NOT_IDENTI	0		☐	
Lead-212	✓	1.833	0.08634	pCi/g 0.09446	0.100	238.6	4	1.3	IDENTIFIED	2.989		☐	
Lead-214	✓	1.475	0.08987	pCi/g 0.1175	0.100	351.9	4	1.519	IDENTIFIED	4.507		☐	
Lutetium-177	HE	3.112	0.6464	pCi/g 1.832	N	0	12	0	FAIL_ABUND	0		☐	
Neptunium-237	INT	0.7599	0.1579	pCi/g 0.4097	N	87.31	3	1.473	IDENTIFIED	17.51		☐	
Niobium-95m	—	0.6299	0.0806	pCi/g 0.2734	N	0	12	0	NOT_IDENTI	0		☐	
Niobium-97	HE	17080	16560	pCi/g 0	N	0	12	0	SHORT_HLIF	0		☐	
Polonium-212	NR	1.833	0.08634	pCi/g 0.09446	N	238.6	4	1.3	IDENTIFIED	2.989		☐	
Polonium-214	NR	1.475	0.08987	pCi/g 0.1175	N	351.9	4	1.519	IDENTIFIED	4.507		☐	
Polonium-216	NR	1.833	0.08634	pCi/g 0.09446	N	238.6	4	1.3	IDENTIFIED	2.989		☐	
Polonium-218	NR	1.475	0.08987	pCi/g 0.1175	N	351.9	4	1.519	IDENTIFIED	4.507		☐	
Potassium-40	✓	29.36	1.352	pCi/g 0.5432	1.00	1462	1	1.913	IDENTIFIED	2.83		☐	
Radium-224	INT	4.117	0.7048	pCi/g 1.074	Y	241.5	1	2.062	IDENTIFIED	16.88		☑ UI	Data rejected due to low abundance.
Radium-226	✓	1.313	0.0926	pCi/g 0.1086	Y	609.3	4	1.457	IDENTIFIED	5.839		☐	
Radium-228	✓	1.86	0.1902	pCi/g 0.2	0.500	911.8	3	1.728	IDENTIFIED	8.369		☐	
Strontium-85	LA	0.09433	0.02121	pCi/g 0.0715	Y	0	12	0	NOT_IDENTI	0		☑ UI	
Thallium-200	HE	92.91	110.3	pCi/g 0	N	0	12	0	SHORT_HLIF	0		☐	
Thallium-208	✓	0.5428	0.04692	pCi/g 0.06154	0.080	583.3	1	1.577	IDENTIFIED	7.938		☐	
Thorium-228	✓	1.859	0.08756	pCi/g 0.09579	N	238.6	4	1.3	IDENTIFIED	2.989		☐	
Thorium-230	✓	1.313	0.0926	pCi/g 0.1086	N	609.3	4	1.457	IDENTIFIED	5.839		☐	
Thorium-232	✓	1.86	0.1902	pCi/g 0.2	N	911.8	3	1.728	IDENTIFIED	8.369		☐	
Tin-126	INT	0.2588	0.04669	pCi/g 0.158	N	87.31	3	1.473	IDENTIFIED	17.51		☐	

Titanium-44	—	0.3649	0.0264	pCi/g	0.08236	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	✓	1.313	0.0926	pCi/g	0.1086	N	609.3	4	1.457	IDENTIFIED	5.839	<input type="checkbox"/>
Zirconium-97	—	1.32E+06	3.80E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244842002	13-JAN-10 12:00	27-JAN-10 12:59	14	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	2.342	0.2108	pCi/g	0.1844	N	911.3	3	2.119	IDENTIFIED	6.092	☐	
Americium-243	INT	0.467	0.04091	pCi/g	0.08883	N	74.79	1	1.164	IDENTIFIED	7.754	☐	
Annihilation Rad.	—	0.1187	0.03136	pCi/g	0.04765	N	510.6	1	2.139	IDENTIFIED	25.94	☐	
Barium-137m	✓	0.9665	0.06482	pCi/g	0.062	N	661.6	2	1.705	IDENTIFIED	4.145	☐	
Bismuth-211	INT	5.446	0.391	pCi/g	0.3247	Y	352	4	1.402	IDENTIFIED	4.213	✓ UI	
Bismuth-212	LA	1.561	0.2312	pCi/g	0.6163	N	0	15	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.475	0.1124	pCi/g	0.1069	0.200	609.2	4	1.682	IDENTIFIED	4.925	☐	
Cadmium-109	INT	5.881	0.6274	pCi/g	1.198	Y	87.17	3	1.435	IDENTIFIED	9.578	✓ UI	
Cerium-143	—	573.5	88.11	pCi/g	0	N	0	15	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1266	0.02966	pCi/g	0.08081	0.100	0	15	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-135	HE	0.3524	0.09767	pCi/g	0.2973	N	0	15	0	NOT_IDENTI	0	☐	
Cesium-137	✓	1.022	0.06858	pCi/g	0.06554	0.100	661.6	2	1.705	IDENTIFIED	4.145	☐	
Gold-195	HE	0.4193	0.1223	pCi/g	0.3895	N	0	15	0	FAIL_ABUND	0	☐	
Gross Gamma	—	12.61	1.474	pCi/g	2.654	N	0					☐	
Iodine-135	HE	3.03E+14	1.74E+14	pCi/g	0	N	0	15	0	SHORT_HLIF	0	☐	
Krypton-85	LA	26.92	4.475	pCi/g	14.32	N	0	15	0	NOT_IDENTI	0	☐	
Lead-212	✓	2.127	0.1513	pCi/g	0.1013	0.100	238.6	4	1.222	IDENTIFIED	2.636	☐	
Lead-214	✓	1.894	0.1447	pCi/g	0.1132	0.100	352	4	1.402	IDENTIFIED	4.213	☐	
Lutetium-177	HE	2.58	0.7043	pCi/g	1.93	N	0	15	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	1.7	0.2523	pCi/g	0.3512	N	87.17	3	1.435	IDENTIFIED	9.578	☐	
Niobium-95	HE	0.0925	0.02461	pCi/g	0.07708	N	0	15	0	NOT_IDENTI	0	☐	
Niobium-97	—	1.37E+05	23300	pCi/g	0	N	0	15	0	SHORT_HLIF	0	☐	
Polonium-212	NR	2.127	0.1513	pCi/g	0.1013	N	238.6	4	1.222	IDENTIFIED	2.636	☐	
Polonium-214	NR	1.894	0.1447	pCi/g	0.1132	N	352	4	1.402	IDENTIFIED	4.213	☐	
Polonium-216	NR	2.127	0.1513	pCi/g	0.1013	N	238.6	4	1.222	IDENTIFIED	2.636	☐	
Polonium-218	NR	1.894	0.1447	pCi/g	0.1132	N	352	4	1.402	IDENTIFIED	4.213	☐	
Potassium-40	✓	33.03	1.7	pCi/g	0.4976	1.00	1461	1	2.645	IDENTIFIED	2.343	☐	
Radium-224	INT	5.369	0.6093	pCi/g	1.152	Y	241.6	1	1.824	IDENTIFIED	9.459	✓ UI	
Radium-226	✓	1.475	0.1124	pCi/g	0.1069	Y	609.2	4	1.682	IDENTIFIED	4.925	☐	
Radium-228	✓	2.342	0.2108	pCi/g	0.1844	0.500	911.3	3	2.119	IDENTIFIED	6.092	☐	
Silver-110m	HE	0.1016	0.02272	pCi/g	0.07239	N	0	15	0	NOT_IDENTI	0	☐	
Strontium-85	LA	0.1365	0.02268	pCi/g	0.07259	Y	0	15	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Technetium-99m	HE	1.33E+15	1.03E+15	pCi/g	0	N	0	15	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.6405	0.05169	pCi/g	0.05628	0.080	583.1	1	1.542	IDENTIFIED	5.979	☐	
Thorium-228	✓	2.157	0.1534	pCi/g	0.1028	N	238.6	4	1.222	IDENTIFIED	2.636	☐	
Thorium-230	✓	1.475	0.1124	pCi/g	0.1069	N	609.2	4	1.682	IDENTIFIED	4.925	☐	
Thorium-232	✓	2.342	0.2108	pCi/g	0.1844	N	911.3	3	2.119	IDENTIFIED	6.092	☐	
Thorium-234	✓	2.897	0.9687	pCi/g	2.004	2.00	63.2	2	1.335	IDENTIFIED	32.29	☐	
Tin-126	INT	0.579	0.06177	pCi/g	0.1184	N	87.17	3	1.435	IDENTIFIED	9.578	☐	
Titanium-44	—	0.4842	0.03135	pCi/g	0.07871	N	0	15	0	FAIL_ABUND	0	☐	
Total Uranium	—	8.5153	2.88E-06	ug/g	2.9839	N	0					☐	
Uranium-234	✓	1.475	0.1124	pCi/g	0.1069	N	609.2	4	1.682	IDENTIFIED	4.925	☐	

Uranium-238 HE 2.897 0.9687 pCi/g 2.004 N 63.2 2 1.335 IDENTIFIED 32.29 ☐  
 Zirconium-97 — 2.73E+06 3.89E+05 pCi/g 0 N 0 15 0 SHORT\_HLIF 0 ☐

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244842003	13-JAN-10 12:00	27-JAN-10 13:21	14.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓ 1.985	0.1955	pCi/g	0.1817	N	911.7	3	1.583	IDENTIFIED	7.741	<input type="checkbox"/>		
Americium-243	IN 0.4235	0.03663	pCi/g	0.07422	N	74.82	1	0.9706	IDENTIFIED	7.641	<input type="checkbox"/>		
Annihilation Rad.	— 0.1368	0.0316	pCi/g	0.04288	N	510.9	1	1.686	IDENTIFIED	22.47	<input type="checkbox"/>		
Barium-137m	✓ 1.075	0.07016	pCi/g	0.05557	N	662	2	1.481	IDENTIFIED	4.492	<input type="checkbox"/>		
Bismuth-211	IN 4.703	0.3909	pCi/g	0.3063	Y	352.1	4	1.189	IDENTIFIED	5.088	<input checked="" type="checkbox"/>	UI	
Bismuth-212	LA 1.412	0.2459	pCi/g	0.6512	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>		
Bismuth-214	✓ 1.443	0.1113	pCi/g	0.1067	0.200	609.6	4	1.277	IDENTIFIED	5.249	<input type="checkbox"/>		
Cadmium-109	IN 4.307	0.4946	pCi/g	0.9964	Y	87.2	3	1.121	IDENTIFIED	10.48	<input checked="" type="checkbox"/>	UI	
Cerium-143	— 124.2	46.18	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cesium-134	LA 0.1034	0.03222	pCi/g	0.08899	0.100	0	11	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Cesium-137	✓ 1.137	0.07422	pCi/g	0.05874	0.100	662	2	1.481	IDENTIFIED	4.492	<input type="checkbox"/>		
Gross Gamma	— 12.08	1.726	pCi/g	4.203	N	0					<input type="checkbox"/>		
Iodine-133	HE 641.1	1179	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Iodine-135	HE 1.40E+14	1.80E+14	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Lead-212	✓ 1.633	0.1324	pCi/g	0.09247	0.100	238.6	4	1.054	IDENTIFIED	4.093	<input type="checkbox"/>		
Lead-214	✓ 1.636	0.1425	pCi/g	0.1068	0.100	352.1	4	1.189	IDENTIFIED	5.088	<input type="checkbox"/>		
Lutetium-177	HE 2.425	0.5078	pCi/g	1.67	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>		
Neptunium-237	IN 1.245	0.1922	pCi/g	0.2913	N	87.2	3	1.121	IDENTIFIED	10.48	<input type="checkbox"/>		
Niobium-97	— 35730	16590	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Polonium-212	NR 1.633	0.1324	pCi/g	0.09247	N	238.6	4	1.054	IDENTIFIED	4.093	<input type="checkbox"/>		
Polonium-214	NR 1.636	0.1425	pCi/g	0.1068	N	352.1	4	1.189	IDENTIFIED	5.088	<input type="checkbox"/>		
Polonium-216	NR 1.633	0.1324	pCi/g	0.09247	N	238.6	4	1.054	IDENTIFIED	4.093	<input type="checkbox"/>		
Polonium-218	NR 1.636	0.1425	pCi/g	0.1068	N	352.1	4	1.189	IDENTIFIED	5.088	<input type="checkbox"/>		
Potassium-40	✓ 31.15	1.602	pCi/g	0.4769	1.00	1462	1	1.715	IDENTIFIED	2.786	<input type="checkbox"/>		
Radium-224	INT 3.004	0.5139	pCi/g	1.238	Y	241.9	1	1.194	IDENTIFIED	15.73	<input checked="" type="checkbox"/>	UI	
Radium-226	✓ 1.443	0.1113	pCi/g	0.1067	Y	609.6	4	1.277	IDENTIFIED	5.249	<input type="checkbox"/>		
Radium-228	✓ 1.985	0.1955	pCi/g	0.1817	0.500	911.7	3	1.583	IDENTIFIED	7.741	<input type="checkbox"/>		
Sodium-24	HE 1.73E+05	90870	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Thallium-200	HE 58.05	107.7	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Thallium-208	✓ 0.5975	0.04877	pCi/g	0.05431	0.080	583.4	1	1.283	IDENTIFIED	6.122	<input type="checkbox"/>		
Thorium-228	✓ 1.656	0.1343	pCi/g	0.09378	N	238.6	4	1.054	IDENTIFIED	4.093	<input type="checkbox"/>		
Thorium-230	✓ 1.443	0.1113	pCi/g	0.1067	N	609.6	4	1.277	IDENTIFIED	5.249	<input type="checkbox"/>		
Thorium-232	✓ 1.985	0.1955	pCi/g	0.1817	N	911.7	3	1.583	IDENTIFIED	7.741	<input type="checkbox"/>		
Tin-126	IN 0.424	0.04869	pCi/g	0.09842	N	87.2	3	1.121	IDENTIFIED	10.48	<input type="checkbox"/>		
Titanium-44	— 0.413	0.02699	pCi/g	0.06301	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>		
Total Uranium	✓ 4.3487	2.39E-06	ug/g	2.4838	N	0					<input type="checkbox"/>		
Uranium-234	✓ 1.443	0.1113	pCi/g	0.1067	N	609.6	4	1.277	IDENTIFIED	5.249	<input type="checkbox"/>		
Zirconium-97	— 1.04E+06	3.00E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244842004	13-JAN-10 12:00	27-JAN-10 13:21	14.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓ 1.776	0.2259	pCi/g	0.2592	N	910.7	3	1.8	IDENTIFIED	11.38	<input type="checkbox"/>		

Americium-243	INT	0.4198	0.03341	pCi/g	0.05844	N	74.77	1	0.984	IDENTIFIED	6.287	<input type="checkbox"/>
Annihilation Rad.	HE	0.1157	0.04277	pCi/g	0.05399	N	510.8	1	1.716	IDENTIFIED	36.7	<input type="checkbox"/>
Barium-137m	HE	0.1485	0.03439	pCi/g	0.08631	N	661	2	1.515	IDENTIFIED	22.78	<input type="checkbox"/>
Bismuth-210	HE	0.8956	0.3775	pCi/g	0.8824	N	46.48	3	0.9462	IDENTIFIED	41.8	<input type="checkbox"/>
Bismuth-211	INT	3.952	0.3203	pCi/g	0.3758	Y	351.7	4	1.021	IDENTIFIED	6.628	<input checked="" type="checkbox"/> UI
Bismuth-212	HE	1.196	0.3313	pCi/g	0.9268	N	0	9	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	✓	1.299	0.1155	pCi/g	0.1467	0.200	608.9	4	1.341	IDENTIFIED	7.296	<input type="checkbox"/>
Cadmium-109	INT	4.263	0.52	pCi/g	0.9824	Y	87.18	3	1.359	IDENTIFIED	11.18	<input checked="" type="checkbox"/> UI
Cerium-143	—	334.4	63.89	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1704	0.05973	pCi/g	0.1234	0.100	0	9	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.157	0.03636	pCi/g	0.09124	0.100	661	2	1.515	IDENTIFIED	22.78	<input type="checkbox"/>
Gross Gamma	—	9.666	1.479	pCi/g	4.134	N	0					<input type="checkbox"/>
Iodine-123	HE	9.52E+05	7.88E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	341.3	1528	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135	HE	2.72E+14	2.48E+14	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-210	HE	0.8956	0.3775	pCi/g	0.8824	N	46.48	3	0.9462	IDENTIFIED	41.8	<input type="checkbox"/>
Lead-212	✓	1.871	0.1128	pCi/g	0.09521	0.100	238.5	4	1.064	IDENTIFIED	3.307	<input type="checkbox"/>
Lead-214	✓	1.375	0.117	pCi/g	0.131	0.100	351.7	4	1.021	IDENTIFIED	6.628	<input type="checkbox"/>
Neptunium-237	INT	1.232	0.1969	pCi/g	0.2828	N	87.18	3	1.359	IDENTIFIED	11.18	<input type="checkbox"/>
Niobium-97	HE	14710	21790	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-210	HE	0.8956	0.3771	pCi/g	0.8824	N	46.48	3	0.9462	IDENTIFIED	41.8	<input type="checkbox"/>
Polonium-212	NR	1.871	0.1128	pCi/g	0.09521	N	238.5	4	1.064	IDENTIFIED	3.307	<input type="checkbox"/>
Polonium-214	NR	1.375	0.117	pCi/g	0.131	N	351.7	4	1.021	IDENTIFIED	6.628	<input type="checkbox"/>
Polonium-216	NR	1.871	0.1128	pCi/g	0.09521	N	238.5	4	1.064	IDENTIFIED	3.307	<input type="checkbox"/>
Polonium-218	NR	1.375	0.117	pCi/g	0.131	N	351.7	4	1.021	IDENTIFIED	6.628	<input type="checkbox"/>
Potassium-40	✓	25.8	1.528	pCi/g	0.6523	1.00	1460	1	1.736	IDENTIFIED	3.921	<input type="checkbox"/>
Radium-224	INT	4.851	0.6189	pCi/g	1.084	Y	241.4	1	1.505	IDENTIFIED	11.93	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.299	0.1155	pCi/g	0.1467	Y	608.9	4	1.341	IDENTIFIED	7.296	<input type="checkbox"/>
Radium-228	✓	1.776	0.2259	pCi/g	0.2592	0.500	910.7	3	1.8	IDENTIFIED	11.38	<input type="checkbox"/>
Thallium-208	✓	0.5843	0.05513	pCi/g	0.07402	0.080	582.9	1	1.319	IDENTIFIED	8.164	<input type="checkbox"/>
Thorium-228	✓	1.897	0.1144	pCi/g	0.09655	N	238.5	4	1.064	IDENTIFIED	3.307	<input type="checkbox"/>
Thorium-230	✓	1.299	0.1155	pCi/g	0.1467	N	608.9	4	1.341	IDENTIFIED	7.296	<input type="checkbox"/>
Thorium-232	✓	1.776	0.2259	pCi/g	0.2592	N	910.7	3	1.8	IDENTIFIED	11.38	<input type="checkbox"/>
Thorium-234	✓	1.962	0.5211	pCi/g	1.091	2.00	63.02	2	0.7893	IDENTIFIED	24.86	<input type="checkbox"/>
Tin-126	INT	0.4197	0.05119	pCi/g	0.09658	N	87.18	3	1.359	IDENTIFIED	11.18	<input type="checkbox"/>
Titanium-44	—	0.4288	0.02861	pCi/g	0.06449	N	0	9	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	5.8645	1.55E-06	ug/g	1.6266	N	0					<input type="checkbox"/>
Uranium-234	✓	1.299	0.1155	pCi/g	0.1467	N	608.9	4	1.341	IDENTIFIED	7.296	<input type="checkbox"/>
Uranium-238	HE	1.962	0.5211	pCi/g	1.091	N	63.02	2	0.7893	IDENTIFIED	24.86	<input type="checkbox"/>
Zirconium-97	HE	6.37E+05	4.39E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
244842005	13-JAN-10 12:00	27-JAN-10 13:22	14.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.655	0.1646	pCi/g	0.1999	N	911.6 3	1.734	IDENTIFIED	8.181	☐
Americium-243	INT	0.4661	0.05064	pCi/g	0.09574	N	74.86 1	1.617	IDENTIFIED	10.11	☐
Annihilation Rad.	HE	0.1008	0.03623	pCi/g	0.04565	N	510.7 1	1.823	IDENTIFIED	35.8	☐
Barium-137m	✓	0.9388	0.05068	pCi/g	0.06214	N	661.7 2	1.457	IDENTIFIED	4.546	☐

Bismuth-211	INT	4.508	0.2706	pCi/g	0.3611	Y	351.8	4	1.308	IDENTIFIED	5.083	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Bismuth-212	✓	1.03	0.2152	pCi/g	0.4407	N	727.7	1	1.742	IDENTIFIED	20.48	<input type="checkbox"/>		
Bismuth-214	✓	1.37	0.09937	pCi/g	0.1072	0.200	609.5	4	1.711	IDENTIFIED	6.095	<input type="checkbox"/>		
Cadmium-109	LA	2.404	0.5679	pCi/g	1.831	Y	0	16	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Cerium-143	—	709.1	91.18	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cesium-134	LA	0.101	0.02494	pCi/g	0.09311	0.100	0	16	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Cesium-137	✓	0.9924	0.05364	pCi/g	0.06568	0.100	661.7	2	1.457	IDENTIFIED	4.546	<input type="checkbox"/>		
Gross Gamma	—	11.03	1.676	pCi/g	4.391	N	0					<input type="checkbox"/>		
Iodine-123	HE	3.12E+05	8.41E+05	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>		
Iodine-133	HE	1711	1274	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>		
Iodine-135	HE	4.42E+13	1.84E+14	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>		
Krypton-85	HE	21.15	3.96	pCi/g	14.02	N	0	16	0	NOT_IDENTI	0	<input type="checkbox"/>		
Lead-212	✓	1.704	0.08316	pCi/g	0.09696	0.100	238.5	4	1.286	IDENTIFIED	3.287	<input type="checkbox"/>		
Lead-214	✓	1.568	0.1026	pCi/g	0.1258	0.100	351.8	4	1.308	IDENTIFIED	5.083	<input type="checkbox"/>		
Lutetium-177	HE	2.92	0.7612	pCi/g	1.954	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>		
Neptunium-237	HE	0.571	0.1562	pCi/g	0.523	N	0	16	0	NOT_IDENTI	0	<input type="checkbox"/>		
Niobium-95	HE	0.08892	0.02547	pCi/g	0.08446	N	0	16	0	NOT_IDENTI	0	<input type="checkbox"/>		
Niobium-95m	HE	0.3648	0.08075	pCi/g	0.2595	N	0	16	0	NOT_IDENTI	0	<input type="checkbox"/>		
Niobium-97	HE	24600	19720	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>		
Polonium-212	NR	1.704	0.08316	pCi/g	0.09696	N	238.5	4	1.286	IDENTIFIED	3.287	<input type="checkbox"/>		
Polonium-214	NR	1.568	0.1026	pCi/g	0.1258	N	351.8	4	1.308	IDENTIFIED	5.083	<input type="checkbox"/>		
Polonium-216	NR	1.704	0.08316	pCi/g	0.09696	N	238.5	4	1.286	IDENTIFIED	3.287	<input type="checkbox"/>		
Polonium-218	NR	1.568	0.1026	pCi/g	0.1258	N	351.8	4	1.308	IDENTIFIED	5.083	<input type="checkbox"/>		
Potassium-40	✓	30.08	1.404	pCi/g	0.5827	1.00	1461	1	2.238	IDENTIFIED	2.817	<input type="checkbox"/>		
Protactinium-234m	HE	11.03	3.74	pCi/g	8.619	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>		
Radium-224	INT	4.811	0.7036	pCi/g	1.103	Y	241.5	1	1.978	IDENTIFIED	14.35	<input checked="" type="checkbox"/>	UI	
Radium-226	✓	1.37	0.09937	pCi/g	0.1072	Y	609.5	4	1.711	IDENTIFIED	6.095	<input type="checkbox"/>		
Radium-228	✓	1.655	0.1646	pCi/g	0.1999	0.500	911.6	3	1.734	IDENTIFIED	8.181	<input type="checkbox"/>		
Strontium-85	LA	0.1073	0.02008	pCi/g	0.07111	Y	0	16	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Thallium-208	✓	0.518	0.04615	pCi/g	0.06263	0.080	583.3	1	1.178	IDENTIFIED	8.234	<input type="checkbox"/>		
Thorium-228	✓	1.728	0.08434	pCi/g	0.09833	N	238.5	4	1.286	IDENTIFIED	3.287	<input type="checkbox"/>		
Thorium-230	✓	1.37	0.09937	pCi/g	0.1072	N	609.5	4	1.711	IDENTIFIED	6.095	<input type="checkbox"/>		
Thorium-232	✓	1.655	0.1646	pCi/g	0.1999	N	911.6	3	1.734	IDENTIFIED	8.181	<input type="checkbox"/>		
Titanium-44	—	0.406	0.03142	pCi/g	0.08971	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>		
Total Uranium	—	4.2444	2.48E-06	ug/g	3.4213	N	0					<input type="checkbox"/>		
Uranium-234	✓	1.37	0.09937	pCi/g	0.1072	N	609.5	4	1.711	IDENTIFIED	6.095	<input type="checkbox"/>		
Zirconium-97	HE	6.96E+05	3.67E+05	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>		

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
244842006	13-JAN-10 12:00	27-JAN-10 13:24	14.1	SAMPLE	LOAD	1	LANL	LANL01004	JGEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓ 1.848	0.1961	pCi/g	0.1938	N	910.9	3	1.667	IDENTIFIED	8.665	<input type="checkbox"/>
Americium-243	INT 0.4403	0.0401	pCi/g	0.09159	N	74.93	1	1.068	IDENTIFIED	8.166	<input type="checkbox"/>
Annihilation Rad. HE	0.134	0.04314	pCi/g	0.05701	N	510.8	1	1.849	IDENTIFIED	31.86	<input type="checkbox"/>
Barium-137m	✓ 4.258	0.2318	pCi/g	0.06109	N	661.4	2	1.444	IDENTIFIED	2.11	<input type="checkbox"/>
Bismuth-210	✓ 15.69	2.713	pCi/g	3.874	N	46.31	3	0.9635	IDENTIFIED	16.64	<input type="checkbox"/>
Bismuth-211	INT 4.795	0.382	pCi/g	0.3963	Y	351.7	4	1.241	IDENTIFIED	6.371	<input checked="" type="checkbox"/> UI
Bismuth-212	✓ 1.6	0.2514	pCi/g	0.4153	N	727.1	1	1.397	IDENTIFIED	14.65	<input type="checkbox"/>
Bismuth-214	✓ 1.509	0.1237	pCi/g	0.1236	0.200	609	4	1.456	IDENTIFIED	6.015	<input type="checkbox"/>

Cadmium-109	IN	3.665	0.6169	pCi/g	1.314	Y	87.24	3	1.255	IDENTIFIED	16.17	✓
Cerium-143	—	580.8	86.41	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Cesium-135	HE	0.5274	0.158	pCi/g	0.289	N	269.5	1	1.092	IDENTIFIED	29.43	□
Cesium-137	✓	4.501	0.2453	pCi/g	0.06458	0.100	661.4	2	1.444	IDENTIFIED	2.11	□
Gold-195	HE	0.4537	0.1316	pCi/g	0.436	N	0	8	0	FAIL_ABUND	0	□
Gross Gamma	—	15.64	2.143	pCi/g	6.066	N		0				□
Lead-210	✓	15.69	2.713	pCi/g	3.874	N	46.31	3	0.9635	IDENTIFIED	16.64	□
Lead-212	✓	1.857	0.1175	pCi/g	0.1065	0.100	238.5	4	1.095	IDENTIFIED	3.435	□
Lead-214	✓	1.668	0.1398	pCi/g	0.1381	0.100	351.7	4	1.241	IDENTIFIED	6.371	□
Lutetium-177	HE	2.391	0.9483	pCi/g	2.095	N	0	8	0	FAIL_ABUND	0	□
Neptunium-237	IN	1.06	0.2092	pCi/g	0.3837	N	87.24	3	1.255	IDENTIFIED	16.17	□
Niobium-97	—	97040	24390	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Polonium-210	✓	15.69	2.695	pCi/g	3.874	N	46.31	3	0.9635	IDENTIFIED	16.64	□
Polonium-212	NR	1.857	0.1175	pCi/g	0.1065	N	238.5	4	1.095	IDENTIFIED	3.435	□
Polonium-214	NR	1.668	0.1398	pCi/g	0.1381	N	351.7	4	1.241	IDENTIFIED	6.371	□
Polonium-216	NR	1.857	0.1175	pCi/g	0.1065	N	238.5	4	1.095	IDENTIFIED	3.435	□
Polonium-218	NR	1.668	0.1398	pCi/g	0.1381	N	351.7	4	1.241	IDENTIFIED	6.371	□
Potassium-40	✓	28.04	1.489	pCi/g	0.5355	1.00	1460	1	1.954	IDENTIFIED	3.032	□
Radium-224	INT	5.232	0.8199	pCi/g	1.212	Y	241.5	1	1.842	IDENTIFIED	14.9	✓
Radium-226	✓	1.509	0.1237	pCi/g	0.1236	Y	609	4	1.456	IDENTIFIED	6.015	□
Radium-228	✓	1.848	0.1961	pCi/g	0.1938	0.500	910.9	3	1.667	IDENTIFIED	8.665	□
Sodium-24	HE	45020	1.09E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Thallium-200	HE	110.8	141.8	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□
Thallium-208	✓	0.6186	0.05379	pCi/g	0.05936	0.080	582.8	1	1.194	IDENTIFIED	7.012	□
Thorium-228	✓	1.883	0.1192	pCi/g	0.108	N	238.5	4	1.095	IDENTIFIED	3.435	□
Thorium-230	✓	1.509	0.1237	pCi/g	0.1236	N	609	4	1.456	IDENTIFIED	6.015	□
Thorium-232	✓	1.848	0.1961	pCi/g	0.1938	N	910.9	3	1.667	IDENTIFIED	8.665	□
Thorium-234	✓	5.585	1.057	pCi/g	1.997	2.00	63.29	2	1.12	IDENTIFIED	16.81	□
Tin-126	IN	0.3608	0.06073	pCi/g	0.1297	N	87.24	3	1.255	IDENTIFIED	16.17	□
Titanium-44	LA	0.4331	0.03105	pCi/g	0.0853	N	0	8	0	FAIL_ABUND	0	□
Total Uranium	✓	16.657	3.14E-06	ug/g	2.9742	N		0				□
Uranium-234	✓	1.509	0.1237	pCi/g	0.1236	N	609	4	1.456	IDENTIFIED	6.015	□
Uranium-238	✓	5.585	1.057	pCi/g	1.997	N	63.29	2	1.12	IDENTIFIED	16.81	□
Zirconium-97	HE	3.27E+05	4.36E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244847001	11-JAN-10 12:00	27-JAN-10 13:24	16.1	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.739	0.1777	pCi/g	0.2276	N	911	3	1.434	IDENTIFIED	8.316	□	
Americium-243	INT	0.3498	0.02662	pCi/g	0.04687	N	74.8	1	0.7981	IDENTIFIED	5.665	□	
Annihilation Rad.	HE	0.09008	0.03638	pCi/g	0.04859	N	510.7	1	1.362	IDENTIFIED	40.06	□	
Barium-137m	✓	0.3309	0.04668	pCi/g	0.05569	N	661.7	2	1.502	IDENTIFIED	12.97	□	
Beryllium-7	HE	0.6253	0.2192	pCi/g	0.5502	N	477.1	1	0.686	IDENTIFIED	34.65	□	
Bismuth-210	✓	1.652	0.344	pCi/g	0.6912	N	46.36	3	0.9707	IDENTIFIED	20.17	□	
Bismuth-211	INT	3.912	0.3101	pCi/g	0.3148	Y	351.8	4	1.127	IDENTIFIED	5.93	✓	✓
Bismuth-212	HE	1.148	0.2731	pCi/g	0.7271	N	0	9	0	FAIL_ABUND	0	□	
Bismuth-214	✓	1.267	0.1124	pCi/g	0.1065	0.200	609.2	4	1.119	IDENTIFIED	6.511	□	
Cadmium-109	INT	3.999	0.3984	pCi/g	0.6906	Y	87.16	3	1.203	IDENTIFIED	8.402	✓	✓
Cerium-141	HE	0.1164	0.03791	pCi/g	0.08718	N	144	2	0.753	IDENTIFIED	32.09	□	



Cerium-143	—	782.8	145.1	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-137	✓	0.3498	0.04935	pCi/g 0.05887	0.100	661.7	2	1.502	IDENTIFIED 12.97	<input type="checkbox"/>
Gross Gamma	—	10.95	1.53	pCi/g 3.689	N		0			<input type="checkbox"/>
Iodine-133	HE	5327	6227	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	—	3.90E+16	0	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-210	✓	1.652	0.344	pCi/g 0.6912	N	46.36	3	0.9707	IDENTIFIED 20.17	<input type="checkbox"/>
Lead-212	✓	1.736	0.1161	pCi/g 0.1138	0.100	238.6	4	1.032	IDENTIFIED 3.504	<input type="checkbox"/>
Lead-214	✓	1.361	0.1136	pCi/g 0.1098	0.100	351.8	4	1.127	IDENTIFIED 5.93	<input type="checkbox"/>
Lutetium-177	—	3.576	0.7418	pCi/g 2.091	N	0	9	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	INT	1.153	0.1653	pCi/g 0.1978	N	87.16	3	1.203	IDENTIFIED 8.402	<input type="checkbox"/>
Polonium-210	✓	1.652	0.3424	pCi/g 0.6912	N	46.36	3	0.9707	IDENTIFIED 20.17	<input type="checkbox"/>
Polonium-212	NR	1.736	0.1161	pCi/g 0.1138	N	238.6	4	1.032	IDENTIFIED 3.504	<input type="checkbox"/>
Polonium-214	NR	1.361	0.1136	pCi/g 0.1098	N	351.8	4	1.127	IDENTIFIED 5.93	<input type="checkbox"/>
Polonium-216	NR	1.736	0.1161	pCi/g 0.1138	N	238.6	4	1.032	IDENTIFIED 3.504	<input type="checkbox"/>
Polonium-218	NR	1.361	0.1136	pCi/g 0.1098	N	351.8	4	1.127	IDENTIFIED 5.93	<input type="checkbox"/>
Potassium-40	✓	36.64	1.83	pCi/g 0.4918	1.00	1461	1	1.984	IDENTIFIED 2.611	<input type="checkbox"/>
Radium-224	INT	3.087	0.4667	pCi/g 1.129	Y	241.8	1	1.693	IDENTIFIED 14.17	✓ UI
Radium-226	✓	1.267	0.1124	pCi/g 0.1065	Y	609.2	4	1.119	IDENTIFIED 6.511	<input type="checkbox"/>
Radium-228	✓	1.739	0.1777	pCi/g 0.2276	0.500	911	3	1.434	IDENTIFIED 8.316	<input type="checkbox"/>
Sodium-24	HE	3.13E+05	1.21E+06	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Technetium-99m	—	1.50E+17	0	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208	✓	0.6177	0.05041	pCi/g 0.06075	0.080	583.1	1	1.533	IDENTIFIED 5.901	<input type="checkbox"/>
Thorium-228	✓	1.764	0.1179	pCi/g 0.1156	N	238.6	4	1.032	IDENTIFIED 3.504	<input type="checkbox"/>
Thorium-230	✓	1.267	0.1124	pCi/g 0.1065	N	609.2	4	1.119	IDENTIFIED 6.511	<input type="checkbox"/>
Thorium-232	✓	1.739	0.1777	pCi/g 0.2276	N	911	3	1.434	IDENTIFIED 8.316	<input type="checkbox"/>
Thorium-234	✓	2.032	0.4363	pCi/g 0.7848	2.00	63.2	2	0.7887	IDENTIFIED 19.35	<input type="checkbox"/>
Tin-126	INT	0.3926	0.03911	pCi/g 0.06765	N	87.16	3	1.203	IDENTIFIED 8.402	<input type="checkbox"/>
Titanium-44	—	0.3862	0.02464	pCi/g 0.04388	N	0	9	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium	—	6.2213	1.30E-06	ug/g 1.1699	N		0			<input type="checkbox"/>
Uranium-234	✓	1.267	0.1124	pCi/g 0.1065	N	609.2	4	1.119	IDENTIFIED 6.511	<input type="checkbox"/>
Uranium-235	WP	0.3805	0.1273	pCi/g 0.2834	0.500	144	2	0.753	IDENTIFIED 32.09	✓ UI
Uranium-238	✓	2.032	0.4363	pCi/g 0.7848	N	63.2	2	0.7887	IDENTIFIED 19.35	<input type="checkbox"/>
Zirconium-97	—	8.60E+06	2.40E+06	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244847002	11-JAN-10 12:00	27-JAN-10 13:30	16.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	2.156	0.2013	pCi/g 0.1926	N	910.9	3	1.809	IDENTIFIED 6.581	<input type="checkbox"/>
Americium-243	INT	0.4682	0.04427	pCi/g 0.09981	N	75	1	1.044	IDENTIFIED 8.48	<input type="checkbox"/>
Annihilation Rad.	—	0.1858	0.031	pCi/g 0.04094	N	510.7	1	2.179	IDENTIFIED 16.35	<input type="checkbox"/>
Barium-137m	✓	0.1175	0.02637	pCi/g 0.05573	N	661.7	2	1.398	IDENTIFIED 22.12	<input type="checkbox"/>
Bismuth-211	INT	5.108	0.2695	pCi/g 0.2799	Y	352	4	1.407	IDENTIFIED 4.187	✓ UI
Bismuth-212	UA	1.529	0.2323	pCi/g 0.6342	N	0	15	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.324	0.09999	pCi/g 0.1051	0.200	609.2	4	1.522	IDENTIFIED 6.093	<input type="checkbox"/>
Cadmium-109	INT	3.815	0.6007	pCi/g 1.659	Y	87.36	3	1.285	IDENTIFIED 15.06	✓ UI
Cerium-143	—	1517	209.3	pCi/g 0	N	0	15	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-134	UA	0.206	0.03752	pCi/g 0.08618	0.100	0	15	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.1242	0.02788	pCi/g 0.05891	0.100	661.7	2	1.398	IDENTIFIED 22.12	<input type="checkbox"/>
Gross Gamma	—	11.48	1.582	pCi/g 2.732	N		0			<input type="checkbox"/>

Iodine-123	HE	3.00E+06	8.57E+06	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	2349	5471	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135	—	2.77E+16	0	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Krypton-85	LA	20.13	3.692	pCi/g	12.44	N	0	15	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212	✓	2.054	0.09168	pCi/g	0.08769	0.100	238.8	4	1.112	IDENTIFIED	2.678	<input type="checkbox"/>
Lead-214	✓	1.777	0.1046	pCi/g	0.09755	0.100	352	4	1.407	IDENTIFIED	4.187	<input type="checkbox"/>
Neptunium-237	INT	1.1	0.207	pCi/g	0.414	N	87.36	3	1.285	IDENTIFIED	15.06	<input type="checkbox"/>
Niobium-95	HE	0.08873	0.02429	pCi/g	0.07813	N	0	15	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97	—	4.22E+05	1.16E+05	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	2.054	0.09168	pCi/g	0.08769	N	238.8	4	1.112	IDENTIFIED	2.678	<input type="checkbox"/>
Polonium-214	NR	1.777	0.1046	pCi/g	0.09755	N	352	4	1.407	IDENTIFIED	4.187	<input type="checkbox"/>
Polonium-216	NR	2.054	0.09168	pCi/g	0.08769	N	238.8	4	1.112	IDENTIFIED	2.678	<input type="checkbox"/>
Polonium-218	NR	1.777	0.1046	pCi/g	0.09755	N	352	4	1.407	IDENTIFIED	4.187	<input type="checkbox"/>
Potassium-40	✓	34.95	1.537	pCi/g	0.4138	1.00	1460	1	2.181	IDENTIFIED	2.225	<input type="checkbox"/>
Radium-224	INT	4.732	0.5489	pCi/g	0.9966	Y	241.8	1	1.631	IDENTIFIED	11.26	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.324	0.09999	pCi/g	0.1051	Y	609.2	4	1.522	IDENTIFIED	6.093	<input type="checkbox"/>
Radium-228	✓	2.156	0.2013	pCi/g	0.1926	0.500	910.9	3	1.809	IDENTIFIED	6.581	<input type="checkbox"/>
Silver-110m	HE	0.05499	0.01624	pCi/g	0.05394	N	0	15	0	NOT_IDENTI	0	<input type="checkbox"/>
Sodium-24	HE	8.53E+05	1.06E+06	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Strontium-85	UA	0.1042	0.01912	pCi/g	0.06441	Y	0	15	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	633.6	364.6	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.5881	0.04381	pCi/g	0.0518	0.080	583.2	1	1.456	IDENTIFIED	6.336	<input type="checkbox"/>
Thorium-228	✓	2.087	0.09316	pCi/g	0.08911	N	238.8	4	1.112	IDENTIFIED	2.678	<input type="checkbox"/>
Thorium-230	✓	1.324	0.09999	pCi/g	0.1051	N	609.2	4	1.522	IDENTIFIED	6.093	<input type="checkbox"/>
Thorium-232	✓	2.156	0.2013	pCi/g	0.1926	N	910.9	3	1.809	IDENTIFIED	6.581	<input type="checkbox"/>
Tin-126	INT	0.3744	0.05896	pCi/g	0.1548	N	87.36	3	1.285	IDENTIFIED	15.06	<input type="checkbox"/>
Titanium-44	UA	0.4778	0.03609	pCi/g	0.09129	N	0	15	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	6.9303	3.40E-06	ug/g	4.2474	N	0					<input type="checkbox"/>
Uranium-234	✓	1.324	0.09999	pCi/g	0.1051	N	609.2	4	1.522	IDENTIFIED	6.093	<input type="checkbox"/>
Zirconium-97	—	1.28E+07	2.48E+06	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
244847003	11-JAN-10 12:00	27-JAN-10 13:46	16.1	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.651	0.1738	pCi/g	0.2721	N	910.7	3	1.8	IDENTIFIED	8.942 <input type="checkbox"/>
Americium-243	INT	0.3074	0.0585	pCi/g	0.1581	N	74.18	1	1.461	IDENTIFIED	18.2 <input type="checkbox"/>
Annihilation Rad.	—	0.1911	0.04267	pCi/g	0.05607	N	510.9	1	2.04	IDENTIFIED	22.15 <input type="checkbox"/>
Barium-137m	✓	0.6586	0.05349	pCi/g	0.07618	N	661	2	1.537	IDENTIFIED	7.722 <input type="checkbox"/>
Bismuth-211	INT	4.014	0.3041	pCi/g	0.4343	Y	351.2	4	1.426	IDENTIFIED	6.752 <input checked="" type="checkbox"/> UI
Bismuth-212	HE	0.8922	0.2736	pCi/g	0.7693	N	0	13	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	✓	1.295	0.0993	pCi/g	0.1369	0.200	608.8	4	1.851	IDENTIFIED	6.709 <input type="checkbox"/>
Cerium-143	—	2483	351.4	pCi/g	0	N	0	13	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-137	✓	0.6962	0.05658	pCi/g	0.08053	0.100	661	2	1.537	IDENTIFIED	7.722 <input type="checkbox"/>
Gross Gamma	—	11.07	1.81	pCi/g	3.869	N	0				<input type="checkbox"/>
Krypton-85	HE	16.69	4.59	pCi/g	15.33	N	0	13	0	NOT_IDENTI	0 <input type="checkbox"/>
Lead-212	✓	1.901	0.1062	pCi/g	0.1236	0.100	238	4	1.447	IDENTIFIED	3.748 <input type="checkbox"/>
Lead-214	✓	1.396	0.1119	pCi/g	0.1515	0.100	351.2	4	1.426	IDENTIFIED	6.752 <input type="checkbox"/>
Lutetium-177	HE	3.966	1.073	pCi/g	2.932	N	0	13	0	FAIL_ABUND	0 <input type="checkbox"/>

Niobium-95	HE	0.1241	0.03133	pCi/g	0.1067	N	0	13	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-95m	LA	1.684	0.1373	pCi/g	0.4484	N	0	13	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97	—	1.37E+06	2.09E+05	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.901	0.1062	pCi/g	0.1236	N	238	4	1.447	IDENTIFIED	3.748	<input type="checkbox"/>
Polonium-214	NR	1.396	0.1119	pCi/g	0.1515	N	351.2	4	1.426	IDENTIFIED	6.752	<input type="checkbox"/>
Polonium-216	NR	1.901	0.1062	pCi/g	0.1236	N	238	4	1.447	IDENTIFIED	3.748	<input type="checkbox"/>
Polonium-218	NR	1.396	0.1119	pCi/g	0.1515	N	351.2	4	1.426	IDENTIFIED	6.752	<input type="checkbox"/>
Potassium-40	✓	32.42	1.591	pCi/g	0.7021	1.00	1460	1	2.227	IDENTIFIED	3.078	<input type="checkbox"/>
Protactinium-234m	HE	16.62	4.179	pCi/g	11.18	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Radium-224	INT	5.106	0.896	pCi/g	1.406	Y	240.9	1	2.019	IDENTIFIED	17.2	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.295	0.0993	pCi/g	0.1369	Y	608.8	4	1.851	IDENTIFIED	6.709	<input type="checkbox"/>
Radium-228	✓	1.651	0.1738	pCi/g	0.2721	0.500	910.7	3	1.8	IDENTIFIED	8.942	<input type="checkbox"/>
Silver-110m	LA	0.1566	0.02822	pCi/g	0.09805	N	0	13	0	NOT_IDENTI	0	<input type="checkbox"/>
Strontium-85	LA	0.08643	0.02377	pCi/g	0.07941	Y	0	13	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	521.7	540	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4885	0.04907	pCi/g	0.06717	0.080	582.6	1	1.886	IDENTIFIED	9.526	<input type="checkbox"/>
Thorium-228	✓	1.932	0.1079	pCi/g	0.1256	N	238	4	1.447	IDENTIFIED	3.748	<input type="checkbox"/>
Thorium-230	✓	1.295	0.0993	pCi/g	0.1369	N	608.8	4	1.851	IDENTIFIED	6.709	<input type="checkbox"/>
Thorium-232	✓	1.651	0.1738	pCi/g	0.2721	N	910.7	3	1.8	IDENTIFIED	8.942	<input type="checkbox"/>
Thorium-234	✓	5.939	2.132	pCi/g	3.958	2.00	62.79	2	2.023	IDENTIFIED	34.51	<input type="checkbox"/>
Titanium-44	HE	0.1591	0.0316	pCi/g	0.1097	N	0	13	0	NOT_IDENTI	0	<input type="checkbox"/>
Total Uranium	—	17.724	6.34E-06	ug/g	5.8926	N	0					<input type="checkbox"/>
Uranium-234	✓	1.295	0.0993	pCi/g	0.1369	N	608.8	4	1.851	IDENTIFIED	6.709	<input type="checkbox"/>
Uranium-238	HE	5.939	2.132	pCi/g	3.958	N	62.79	2	2.023	IDENTIFIED	34.51	<input type="checkbox"/>
Zirconium-97	—	2.64E+07	3.75E+06	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
244847004	11-JAN-10 12:00	27-JAN-10 14:19	16.1	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓ 1.447	0.1975	pCi/g	0.2346	N	910.5	3	2.049	IDENTIFIED	12.37		☐	
Americium-243	INT 0.3858	0.04343	pCi/g	0.106	N	74.63	1	1.211	IDENTIFIED	10.34		☐	
Annihilation Rad. HE	0.1051	0.03438	pCi/g	0.0487	N	510.1	1	2.315	IDENTIFIED	32.59		☐	
Bismuth-211	INT 3.7	0.2521	pCi/g	0.3542	Y	351.5	4	1.228	IDENTIFIED	5.982		☑ UI	
Bismuth-212	HE 1.074	0.266	pCi/g	0.7563	N	0	10	0	FAIL_ABUND	0		☐	
Bismuth-214	✓ 1.271	0.104	pCi/g	0.1248	0.200	608.7	4	1.63	IDENTIFIED	7.261		☐	
Cadmium-109	INT 4.845	0.654	pCi/g	1.35	Y	87.04	3	1.549	IDENTIFIED	12.6		☑ UI	
Cerium-143	— 2048	276.9	pCi/g	0	N	0	10	0	SHORT_HLIF	0		☐	
Cesium-135	HE 0.4711	0.09465	pCi/g	0.3424	N	0	10	0	NOT_IDENTI	0		☐	
Gross Gamma	— 8.472	1.216	pCi/g	3.054	N	0						☐	
Iodine-123	HE 1.96E+06	1.06E+07	pCi/g	0	N	0	10	0	SHORT_HLIF	0		☐	
Iodine-135	— 1.00E+17	0	pCi/g	0	N	0	10	0	SHORT_HLIF	0		☐	
Lead-212	✓ 1.652	0.08315	pCi/g	0.09752	0.100	238.4	4	1.209	IDENTIFIED	3.525		☐	
Lead-214	✓ 1.287	0.09389	pCi/g	0.1229	0.100	351.5	4	1.228	IDENTIFIED	5.982		☐	
Lutetium-177	HE 3.907	0.8687	pCi/g	2.46	N	0	10	0	FAIL_ABUND	0		☐	
Neptunium-237	INT 1.396	0.2372	pCi/g	0.3973	N	87.04	3	1.549	IDENTIFIED	12.6		☐	
Niobium-95m	— 0.7194	0.09408	pCi/g	0.3147	N	0	10	0	NOT_IDENTI	0		☐	
Niobium-97	HE 1.24E+05	1.30E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0		☐	
Polonium-212	NR 1.652	0.08315	pCi/g	0.09752	N	238.4	4	1.209	IDENTIFIED	3.525		☐	
Polonium-214	NR 1.287	0.09389	pCi/g	0.1229	N	351.5	4	1.228	IDENTIFIED	5.982		☐	

Polonium-216	NR	1.652	0.08315	pCi/g	0.09752	N	238.4	4	1.209	IDENTIFIED	3.525	<input type="checkbox"/>
Polonium-218	NR	1.287	0.09389	pCi/g	0.1229	N	351.5	4	1.228	IDENTIFIED	5.982	<input type="checkbox"/>
Potassium-40	✓	19.48	1.11	pCi/g	0.306	1.00	1459	1	2.59	IDENTIFIED	4.295	<input type="checkbox"/>
Radium-224	INT	5.083	0.7432	pCi/g	1.11	Y	241.4	1	1.952	IDENTIFIED	14.35	<input checked="" type="checkbox"/>
Radium-226	✓	1.271	0.104	pCi/g	0.1248	Y	608.7	4	1.63	IDENTIFIED	7.261	<input type="checkbox"/>
Radium-228	✓	1.447	0.1975	pCi/g	0.2346	0.500	910.5	3	2.049	IDENTIFIED	12.37	<input type="checkbox"/>
Thallium-208	✓	0.5389	0.04687	pCi/g	0.06367	0.080	582.7	1	1.755	IDENTIFIED	8.068	<input type="checkbox"/>
Thorium-228	✓	1.678	0.0845	pCi/g	0.09909	N	238.4	4	1.209	IDENTIFIED	3.525	<input type="checkbox"/>
Thorium-230	✓	1.271	0.104	pCi/g	0.1248	N	608.7	4	1.63	IDENTIFIED	7.261	<input type="checkbox"/>
Thorium-232	✓	1.447	0.1975	pCi/g	0.2346	N	910.5	3	2.049	IDENTIFIED	12.37	<input type="checkbox"/>
Tin-126	INT	0.4756	0.06418	pCi/g	0.1333	N	87.04	3	1.549	IDENTIFIED	12.6	<input type="checkbox"/>
Titanium-44	LA	0.4239	0.03439	pCi/g	0.09683	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	6.5818	3.67E-06	ug/g	4.0257	N	0					<input type="checkbox"/>
Uranium-234	✓	1.271	0.104	pCi/g	0.1248	N	608.7	4	1.63	IDENTIFIED	7.261	<input type="checkbox"/>
Zirconium-97	—	1.76E+07	3.25E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202018259		27-JAN-10 14:59	0	MB	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Iodine-133 HE	3.893	2.962	pCi/g	0	N	0	2	0	SHORT_HLIF	0		<input type="checkbox"/>	
Sodium-24 HE	12.94	38.55	pCi/g	0	N	0	2	0	SHORT_HLIF	0		<input type="checkbox"/>	

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202018260	11-JAN-10 12:00	27-JAN-10 15:56	16.2	DUP	LOAD	1		LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.838	0.2083	pCi/g	0.2425	N	910.9	3	1.676	IDENTIFIED	9.877	<input type="checkbox"/>	
Americium-243	INT	0.2818	0.0626	pCi/g	0.1374	N	74.03	1	1.581	IDENTIFIED	21.5	<input type="checkbox"/>	
Annihilation Rad.	—	0.1419	0.03919	pCi/g	0.05828	N	510.2	1	1.599	IDENTIFIED	27.47	<input type="checkbox"/>	
Barium-137m	✓	0.3002	0.04852	pCi/g	0.07003	N	661.3	2	1.648	IDENTIFIED	15.97	<input type="checkbox"/>	
Beryllium-7	HE	1.177	0.3524	pCi/g	0.642	N	477	1	3.869	IDENTIFIED	29.76	<input type="checkbox"/>	
Bismuth-211	INT	4.031	0.2974	pCi/g	0.4094	Y	351.3	4	1.339	IDENTIFIED	6.531	<input checked="" type="checkbox"/>	
Bismuth-212	HE	0.9636	0.2525	pCi/g	0.7652	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.247	0.0988	pCi/g	0.1325	0.200	608.6	4	1.341	IDENTIFIED	6.999	<input type="checkbox"/>	
Cadmium-109	INT	3.274	0.6723	pCi/g	2.016	Y	86.55	3	1.192	IDENTIFIED	19.72	<input checked="" type="checkbox"/>	
Cerium-143	—	2250	326.1	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	LA	0.1711	0.04573	pCi/g	0.11	0.100	0	11	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cesium-135	INT	0.7132	0.1808	pCi/g	0.3028	N	269.7	1	1.499	IDENTIFIED	24.99	<input type="checkbox"/>	
Cesium-137	✓	0.3174	0.0513	pCi/g	0.07403	0.100	661.3	2	1.648	IDENTIFIED	15.97	<input type="checkbox"/>	
Gross Gamma	—	10.84	1.915	pCi/g	4.426	N	0					<input type="checkbox"/>	
Iodine-135	—	9.78E+15	0	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	✓	1.776	0.1001	pCi/g	0.121	0.100	238.1	4	1.377	IDENTIFIED	3.827	<input type="checkbox"/>	
Lead-214	✓	1.402	0.1097	pCi/g	0.1427	0.100	351.3	4	1.339	IDENTIFIED	6.531	<input type="checkbox"/>	
Neptunium-237	HE	0.9435	0.2168	pCi/g	0.5765	N	86.55	3	1.192	IDENTIFIED	19.72	<input type="checkbox"/>	
Niobium-95m	—	1.684	0.134	pCi/g	0.439	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>	
Niobium-97	—	1.13E+06	1.95E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Polonium-212	NR	1.776	0.1001	pCi/g	0.121	N	238.1	4	1.377	IDENTIFIED	3.827	<input type="checkbox"/>	
Polonium-214	NR	1.402	0.1097	pCi/g	0.1427	N	351.3	4	1.339	IDENTIFIED	6.531	<input type="checkbox"/>	
Polonium-216	NR	1.776	0.1001	pCi/g	0.121	N	238.1	4	1.377	IDENTIFIED	3.827	<input type="checkbox"/>	
Polonium-218	NR	1.402	0.1097	pCi/g	0.1427	N	351.3	4	1.339	IDENTIFIED	6.531	<input type="checkbox"/>	

Potassium-40	✓	33.93	1.65	pCi/g	0.6148	1.00	1460	1	2.107	IDENTIFIED	3.007	□
Radium-224	INT	4.555	0.885	pCi/g	1.376	Y	240.8	1	2.031	IDENTIFIED	19.11	✓ UI
Radium-226	✓	1.247	0.0988	pCi/g	0.1325	Y	608.6	4	1.341	IDENTIFIED	6.999	□
Radium-228	✓	1.838	0.2083	pCi/g	0.2425	0.500	910.9	3	1.676	IDENTIFIED	9.877	□
Silver-110m	HE	0.1272	0.02447	pCi/g	0.08629	N	0	11	0	NOT_IDENTI	0	□
Sodium-24	HE	1.40E+06	1.31E+06	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Thallium-200	HE	542.2	531.8	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Thallium-208	✓	0.5613	0.04951	pCi/g	0.06892	0.080	582.7	1	1.844	IDENTIFIED	8.226	□
Thorium-228	✓	1.805	0.1017	pCi/g	0.1229	N	238.1	4	1.377	IDENTIFIED	3.827	□
Thorium-230	✓	1.247	0.0988	pCi/g	0.1325	N	608.6	4	1.341	IDENTIFIED	6.999	□
Thorium-232	✓	1.838	0.2083	pCi/g	0.2425	N	910.9	3	1.676	IDENTIFIED	9.877	□
Tin-126	HE	0.3213	0.06598	pCi/g	0.1925	N	86.55	3	1.192	IDENTIFIED	19.72	□
Titanium-44	—	0.1754	0.0323	pCi/g	0.09956	N	0	11	0	NOT_IDENTI	0	□
Total Uranium	—	9.1545	5.71E-06	ug/g	6.3746	N	0					□
Uranium-234	✓	1.247	0.0988	pCi/g	0.1325	N	608.6	4	1.341	IDENTIFIED	6.999	□
Zirconium-97	—	2.07E+07	3.96E+06	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
1202018261		27-JAN-10 15:00	0	LCS	LOAD	1		GEL		N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	1.212	0.2322	pCi/g	0.4167	N	911.8	3	1.864	IDENTIFIED	17.98		☐	
Americium-241	13.11	0.6072	pCi/g	0.456	0.200	59.47	1	1.057	IDENTIFIED	2.488		☐	
Annihilation Rad. HE	0.0832	0.04688	pCi/g	0.07364	N	510.8	1	1.976	IDENTIFIED	56.13		☐	
Barium-137m	5.487	0.3076	pCi/g	0.09375	N	661.7	2	1.785	IDENTIFIED	1.904		☐	
Bismuth-211	2.173	0.2992	pCi/g	0.5232	Y	351.9	4	1.171	IDENTIFIED	12.48		☐	
Bismuth-212 HE	0.9295	0.2462	pCi/g	0.8817	N	0	12	0	NOT_IDENTI	0		☐	
Bismuth-214	0.5413	0.1013	pCi/g	0.2659	0.200	0	12	0	FAIL_ABUND	0		☐	
Cadmium-109	30.47	1.872	pCi/g	1.898	Y	88.01	2	1.049	IDENTIFIED	3.901		☐	
Cesium-137	5.8	0.3255	pCi/g	0.09911	0.100	661.7	2	1.785	IDENTIFIED	1.904		☐	
Cobalt-57	0.2252	0.02664	pCi/g	0.06121	N	122	1	1.18	IDENTIFIED	11.08		☐	
Cobalt-60	6.506	0.3197	pCi/g	0.072	0.100	1332	1	2.453	IDENTIFIED	2.066		☐	
Gross Gamma	26.24	2.861	pCi/g	2.944	N	0						☐	
Iodine-133 HE	14.2	11.67	pCi/g	0	N	0	12	0	SHORT_HLIF	0		☐	
Iodine-135 HE	6.69E+06	1.67E+07	pCi/g	0	N	0	12	0	SHORT_HLIF	0		☐	
Lead-212	1.1	0.09772	pCi/g	0.1436	0.100	238.7	4	1.324	IDENTIFIED	5.941		☐	
Lead-214	0.7557	0.1059	pCi/g	0.1828	0.100	351.9	4	1.171	IDENTIFIED	12.48		☐	
Neptunium-237	5.031	0.6212	pCi/g	1.007	N	0	12	0	NOT_IDENTI	0		☐	
Niobium-97	1581	118.1	pCi/g	0	N	0	12	0	SHORT_HLIF	0		☐	
Polonium-212	1.1	0.09772	pCi/g	0.1436	N	238.7	4	1.324	IDENTIFIED	5.941		☐	
Polonium-214	0.7557	0.1059	pCi/g	0.1828	N	351.9	4	1.171	IDENTIFIED	12.48		☐	
Polonium-216	1.1	0.09772	pCi/g	0.1436	N	238.7	4	1.324	IDENTIFIED	5.941		☐	
Polonium-218	0.7557	0.1059	pCi/g	0.1828	N	351.9	4	1.171	IDENTIFIED	12.48		☐	
Radium-224	2.793	0.7856	pCi/g	1.632	Y	241.7	1	1.714	IDENTIFIED	27.42		☐	
Radium-226	0.5413	0.1013	pCi/g	0.2659	Y	0	12	0	FAIL_ABUND	0		☐	
Radium-228	1.212	0.2322	pCi/g	0.4167	0.500	911.8	3	1.864	IDENTIFIED	17.98		☐	
Silver-110m	0.6934	0.05811	pCi/g	0.1772	N	0	12	0	NOT_IDENTI	0		☐	
Thallium-208	0.3311	0.04946	pCi/g	0.09147	0.080	583.4	1	1.576	IDENTIFIED	13.92		☐	
Thorium-228	1.108	0.09847	pCi/g	0.1447	N	238.7	4	1.324	IDENTIFIED	5.941		☐	
Thorium-230	0.5413	0.1013	pCi/g	0.2659	N	0	12	0	FAIL ABUND	0		☐	

Thorium-232		1.212	0.2322	pCi/g	0.4167	N	911.8	3	1.864	IDENTIFIED	17.98	<input type="checkbox"/>
Tin-126		3.029	0.1861	pCi/g	0.1894	N	88.01	2	1.049	IDENTIFIED	3.901	<input type="checkbox"/>
Titanium-44	HE	0.1345	0.04131	pCi/g	0.0983	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234		0.5413	0.1013	pCi/g	0.2659	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Zirconium-97	HE	1635	986.5	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

# GEL QUALS

Batch ID: 942717

Report run on: January 28, 2010 5:51 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
244835001-1 27-JAN-2010 11:17	Bismuth-211	UI	UI	Data rejected due to interference.		4.49			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.966			
	Radium-224	UI	UI	Data rejected due to interference.		5.015			
244835002-1 27-JAN-2010 11:18	Bismuth-211	UI	UI	Data rejected due to interference.		3.707			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.656			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.08875		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		3.968			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.07886			
244835003-1 27-JAN-2010 11:18	Bismuth-211	UI	UI	Data rejected due to interference.		3.894			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.439			
	Radium-224	UI	UI	Data rejected due to interference.		2.958			
244835004-1 27-JAN-2010 11:19	Bismuth-211	UI	UI	Data rejected due to interference.		3.768			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.717			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1626		.1	.1
	Cesium-137	UI	UI	Data rejected due to high peak-width.		.1053		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		5.112			
244835005-1 27-JAN-2010 11:26	Bismuth-211	UI	UI	Data rejected due to interference.		4.557			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.521			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1115		.1	.1
	Strontium-85	UI	UI	Data rejected due to low abundance.		.07319			

Radium 224 Data rejected due to interference

# GEL QUALS

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Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244835006-1 27-JAN-2010 11:37	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.627			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.534			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1007		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.367			
244835007-1 27-JAN-2010 12:50	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.83			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.987			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1287		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.735			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1092			
244835008-1 27-JAN-2010 12:51	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.926			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.588			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.01			
244835009-1 27-JAN-2010 12:51	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.478			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.406			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.538			
244835010-1 27-JAN-2010 12:56	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.777			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.936			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.713			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.06727			



# GEL QUALS

Batch ID: 942717

Report run on: January 28, 2010 5:51 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
244842001-1 27-JAN-2010 12:57	Bismuth-211	UI	UI	Data rejected due to interference.		4.239			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.629			
	Radium-224	UI	UI	Data rejected due to interference.		4.117			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.09433			
244842002-1 27-JAN-2010 12:59	Bismuth-211	UI	UI	Data rejected due to interference.		5.446			
	Cadmium-109	UI	UI	Data rejected due to interference.		5.881			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1266		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		5.369			
244842003-1 27-JAN-2010 13:21	Strontium-85	UI	UI	Data rejected due to low abundance.		.1365			
	Bismuth-211	UI	UI	Data rejected due to interference.		4.703			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.307			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1034		.1	.1
244842004-1 27-JAN-2010 13:21	Radium-224	UI	UI	Data rejected due to interference.		3.004			
	Bismuth-211	UI	UI	Data rejected due to interference.		3.952			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.263			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1704		.1	.1
244842005-1 27-JAN-2010 13:22	Radium-224	UI	UI	Data rejected due to interference.		4.851			
	Bismuth-211	UI	UI	Data rejected due to interference.		4.508			
	Cadmium-109	UI	UI	Data rejected due to low abundance.		2.404			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.101		.1	.1

# GEL QUALS

Batch ID: 942717

Report run on: January 28, 2010 5:51 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244842005-1 27-JAN-2010 13:22	Radium-224	UI	UI	UI	Data rejected due to interference.		4.811			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1073			
244842006-1 27-JAN-2010 13:24	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.795			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.665			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.232			
244847001-1 27-JAN-2010 13:24	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.912			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.999			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.087			
	Uranium-235	UI	UI	UI	Data rejected due to no valid peak.		.3805		.5	.5
244847002-1 27-JAN-2010 13:30	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.108			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.815			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.206		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.732			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1042			
244847003-1 27-JAN-2010 13:46	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.014			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.106			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08643			
244847004-1 27-JAN-2010 14:19	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.7			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.845			

# GEL QUALS

Batch ID: 942717

Report run on: January 28, 2010 5:51 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244847004-1 27-JAN-2010 14:19	Radium-224	UI	UI	UI	Data rejected due to interference.		5.083			
1202018260-1 DUP 27-JAN-2010 15:56	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.031			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.274			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1711		.1	
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.555			

# Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Parmname	Result	Uncertainty	Units	DL	RDL
942717	244847004	SAMPLE	27-JAN-10	Zirconium-97	1.70E+07	3.25E+06	pCi/g	0	N
942717	1202018259	MB	27-JAN-10	Lead-212	0.02576	0.01673	pCi/g	0.02509	0.100
				Potassium-40	0.168	0.0815	pCi/g	0.1631	1.00
				Sodium-24	12.94	38.55	pCi/g	0	N
942717	1202018260	DUP	27-JAN-10	Americium-241	0.3953	0.1694	pCi/g	0.2753	0.200
				Bismuth-211	4.031	0.2974	pCi/g	0.2048	Y
				Bismuth-214	1.247	0.0988	pCi/g	0.0663	0.200
				Cadmium-109	3.274	0.6723	pCi/g	1.008	Y
				Cerium-143	2250	326.1	pCi/g	0	N
				Cesium-134	0.1711	0.04573	pCi/g	0.05505	0.100
				Cesium-137	0.3174	0.0513	pCi/g	0.03704	0.100
				Gross Gamma	10.84	1.915	pCi/g	2.149	N
				Iodine-135	9.78E+15	0	pCi/g	0	N
				Krypton-85	13.34	4.956	pCi/g	7.942	N
				Lead-212	1.776	0.1001	pCi/g	0.06052	0.100
				Lead-214	1.402	0.1097	pCi/g	0.07137	0.100
				Mercury-203	0.05291	0.02839	pCi/g	0.04519	0.100
				Niobium-97	1.13E+06	1.95E+05	pCi/g	0	N
				Potassium-40	33.93	1.65	pCi/g	0.3076	1.00
				Protactinium-234m	7.568	2.716	pCi/g	4.951	N
				Radium-224	4.555	0.885	pCi/g	0.6885	Y
				Radium-226	1.247	0.0988	pCi/g	0.0663	Y
				Radium-228	1.838	0.2083	pCi/g	0.1213	0.500
				Sodium-24	1.40E+06	1.31E+06	pCi/g	0	N
				Strontium-85	0.06914	0.02569	pCi/g	0.04117	Y
				Thallium-200	542.2	531.8	pCi/g	0	N
				Thallium-208	0.5613	0.04951	pCi/g	0.03448	0.080
				Thorium-234	3.042	1.92	pCi/g	2.142	2.00
				Yttrium-88	0.0453	0.01791	pCi/g	0.03602	0.100
				Zirconium-97	2.07E+07	3.96E+06	pCi/g	0	N
942717	1202018261	LCS	27-JAN-10	Americium-241	13.11	0.6072	pCi/g	0.2281	0.200
				Barium-137m	5.487	0.3076	pCi/g	0.0469	N
				Bismuth-211	2.173	0.2992	pCi/g	0.2617	Y
				Bismuth-214	0.5413	0.1013	pCi/g	0.133	0.200
				Cadmium-109	30.47	1.872	pCi/g	0.9494	Y
				Cesium-137	5.8	0.3255	pCi/g	0.04958	0.100
				Cobalt-60	6.506	0.3197	pCi/g	0.03602	0.100

## VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 15:25:13.24

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847001.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:24:49
Sample ID          : G244847001 Sample quantity : 1.34720E+02 GRAM
Detector name      : GAM25 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.08 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942717 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.36*	220	538	0.97	92.28	89	8	3.06E-02	20.2	
2	0	63.20*	271	781	0.79	125.95	122	8	3.76E-02	19.3	
3	3	74.80*	803	590	0.80	149.16	145	15	1.12E-01	5.7	2.60E+00
4	3	77.04*	1305	464	0.82	153.64	145	15	1.81E-01	3.8	
5	9	84.16*	274	383	1.40	167.88	165	28	3.81E-02	12.8	2.88E+00
6	9	87.16*	490	430	1.20	173.88	165	28	6.81E-02	8.4	
7	9	89.84	337	354	1.06	179.23	165	28	4.68E-02	10.4	
8	9	92.67*	685	393	1.22	184.89	165	28	9.51E-02	6.6	
9	0	128.57	89	453	0.97	256.68	253	9	1.24E-02	44.6	
10	0	143.99*	108	360	0.75	287.53	284	8	1.51E-02	32.1	
11	0	185.86*	294	461	1.14	371.25	366	12	4.09E-02	16.1	
12	0	209.31	158	284	0.83	418.16	414	8	2.19E-02	20.1	
13	0	238.58*	1484	387	1.03	476.69	472	8	2.06E-01	3.5	
14	0	241.79	231	283	1.69	483.11	481	7	3.21E-02	14.2	
15	0	270.50	146	268	1.12	540.52	535	13	2.03E-02	24.5	
16	0	276.78	51	246	1.03	553.08	548	10	7.04E-03	59.5	
17	0	295.18*	416	201	1.06	589.88	584	10	5.78E-02	8.1	
18	0	300.26	114	245	1.11	600.05	595	11	1.58E-02	28.3	
19	0	327.80	117	165	1.53	655.12	650	10	1.62E-02	22.7	
20	0	337.98	317	151	1.03	675.49	669	11	4.40E-02	9.4	
21	0	351.84*	706	235	1.13	703.19	697	13	9.81E-02	5.9	
22	0	409.34	31	183	0.69	818.19	813	12	4.33E-03	89.2	
23	0	463.17	71	128	1.38	925.84	920	11	9.81E-03	33.3	
24	0	477.06	57	100	0.69	953.62	948	9	7.86E-03	34.7	
25	0	510.74*	91	215	1.36	1020.97	1014	15	1.26E-02	40.1	
26	0	583.14*	466	68	1.53	1165.78	1161	11	6.47E-02	5.9	
27	0	609.19*	505	122	1.12	1217.88	1211	14	7.02E-02	6.5	
28	0	661.66*	238	138	1.50	1322.81	1317	15	3.31E-02	13.0	
29	0	727.38*	100	102	1.26	1454.25	1447	13	1.38E-02	23.0	
30	0	767.53	72	85	1.43	1534.54	1529	13	9.97E-03	28.9	
31	0	795.00	50	71	1.25	1589.49	1583	10	6.90E-03	35.0	
32	0	860.25	66	53	1.79	1719.98	1715	11	9.15E-03	24.6	
33	0	911.00*	290	68	1.43	1821.48	1816	12	4.03E-02	8.3	
34	1	964.23	57	56	1.85	1927.94	1918	29	7.97E-03	28.8	1.57E+00
35	1	968.81*	146	53	1.75	1937.10	1918	29	2.03E-02	12.8	
36	0	1120.72*	72	119	1.33	2240.94	2234	15	1.00E-02	35.7	
37	0	1378.49*	52	21	3.76	2756.49	2745	22	7.16E-03	28.1	
38	0	1460.55*	1555	16	1.98	2920.63	2912	16	2.16E-01	2.6	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1764.46*	63	11	1.87	3528.49	3522	11	8.70E-03	17.1	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:24:49
Sample ID         : G244847001 Sample quantity   : 134.72 GRAM
Sample type       : SOLID Sample geometry    :
Detector name     : GAMMA25 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:02.08 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio  : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	+	477.59	*	6.253E-01	4.384E-01	5.378E-01	5.694E-02	1.163
K-40	+	1460.81	*	3.664E+01	3.660E+00	4.908E-01	4.179E-02	74.652
CD-109	+	88.03	*	3.999E+00	7.968E-01	6.553E-01	7.042E-02	6.104
SN-126	+	64.28		8.043E-01	3.365E-01	3.022E-01	4.815E-02	2.662
	+	86.94		1.632E+00	7.359E-01	2.661E-01	1.113E-01	6.133
	+	87.57	*	3.926E-01	7.821E-02	6.418E-02	6.882E-03	6.116
BA-137M	+	661.65	*	3.309E-01	9.336E-02	5.475E-02	6.065E-03	6.043
CS-137	+	661.65	*	3.498E-01	9.871E-02	5.788E-02	6.419E-03	6.043
CE-141	+	145.44	*	1.164E-01	7.582E-02	8.343E-02	9.279E-03	1.395
TL-208	+	277.35		4.376E-01	5.244E-01	5.462E-01	7.758E-02	0.801
	+	510.84		4.170E-01	3.386E-01	2.201E-01	2.914E-02	1.895
	+	583.14	*	6.177E-01	1.008E-01	5.960E-02	6.718E-03	10.365
	+	860.37		8.346E-01	4.197E-01	4.667E-01	4.879E-02	1.788
BI-210	+	46.50	*	1.652E+00	6.879E-01	6.488E-01	6.690E-02	2.547
PB-210	+	46.50	*	1.652E+00	6.879E-01	6.488E-01	6.690E-02	2.547
PO-210	+	46.50	*	1.652E+00	6.848E-01	6.488E-01	6.179E-02	2.547
BI-211		72.87		1.078E+00	1.719E+00	2.550E+00	2.574E-01	0.423
	+	351.07	*	3.912E+00	6.202E-01	3.060E-01	3.225E-02	12.782
PB-212	+	74.81		2.157E+00	3.853E-01	2.736E-01	3.778E-02	7.884
	+	77.11		2.093E+00	2.670E-01	1.640E-01	1.680E-02	12.761
	+	87.30		1.816E+00	4.047E-01	2.965E-01	4.344E-02	6.124
	+	238.63	*	1.736E+00	2.321E-01	1.098E-01	1.251E-02	15.807
	+	300.09		2.097E+00	1.215E+00	1.077E+00	1.341E-01	1.947
PO-212	+	74.81		2.157E+00	3.853E-01	2.736E-01	3.778E-02	7.884
	+	77.11		2.093E+00	2.670E-01	1.640E-01	1.680E-02	12.761
	+	87.30		1.816E+00	4.047E-01	2.965E-01	4.344E-02	6.124
		115.19		1.191E+00	2.637E+00	4.531E+00	5.619E-01	0.263
	+	238.63	*	1.736E+00	2.321E-01	1.098E-01	1.251E-02	15.807
	+	300.09		2.097E+00	1.215E+00	1.077E+00	1.341E-01	1.947
BI-214	+	609.31	*	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
	+	1120.29		9.516E-01	6.865E-01	5.112E-01	5.548E-02	1.862
	+	1764.49		1.174E+00	4.124E-01	3.106E-01	2.559E-02	3.780
PB-214	+	74.81		3.717E+00	6.292E-01	4.715E-01	5.929E-02	7.884
	+	77.11		3.587E+00	5.331E-01	2.811E-01	3.590E-02	12.761

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	87.30		3.110E+00	6.644E-01	5.079E-01	6.702E-02	6.124
	+	241.98		1.628E+00	5.007E-01	4.779E-01	5.701E-02	3.406
	+	295.21		1.340E+00	2.764E-01	1.813E-01	2.300E-02	7.390
	+	351.92	*	1.361E+00	2.271E-01	1.067E-01	1.253E-02	12.750
	+	74.81		3.717E+00	6.292E-01	4.715E-01	5.929E-02	7.884
	+	77.11		3.587E+00	5.331E-01	2.811E-01	3.590E-02	12.761
	+	87.30		3.110E+00	6.644E-01	5.079E-01	6.702E-02	6.124
	+	241.98		1.628E+00	5.007E-01	4.779E-01	5.701E-02	3.406
PO-216	+	295.21		1.340E+00	2.764E-01	1.813E-01	2.300E-02	7.390
	+	351.92	*	1.361E+00	2.271E-01	1.067E-01	1.253E-02	12.750
	+	74.81		2.157E+00	3.853E-01	2.736E-01	3.778E-02	7.884
	+	77.11		2.093E+00	2.670E-01	1.640E-01	1.680E-02	12.761
	+	87.30		1.816E+00	4.047E-01	2.965E-01	4.344E-02	6.124
	+	238.63	*	1.736E+00	2.321E-01	1.098E-01	1.251E-02	15.807
	+	300.09		2.097E+00	1.215E+00	1.077E+00	1.341E-01	1.947
	+	74.81		3.087E+00	6.292E-01	4.715E-01	5.929E-02	7.884
PO-218	+	77.11		3.587E+00	5.331E-01	2.811E-01	3.590E-02	12.761
	+	87.30		3.110E+00	6.644E-01	5.079E-01	6.702E-02	6.124
	+	241.98		1.628E+00	5.007E-01	4.779E-01	5.701E-02	3.406
	+	295.21		1.340E+00	2.764E-01	1.813E-01	2.300E-02	7.390
	+	351.92	*	1.361E+00	2.271E-01	1.067E-01	1.253E-02	12.750
	+	240.98	*	3.087E+00	9.334E-01	1.090E+00	1.145E-01	2.832
	+	609.31	*	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
	+	1120.29		9.516E-01	6.865E-01	5.112E-01	5.548E-02	1.862
RA-224	+	1764.49		1.174E+00	4.124E-01	3.106E-01	2.559E-02	3.780
	+	338.32		1.927E+00	8.806E-01	3.500E-01	1.459E-01	5.505
	+	911.07	*	1.739E+00	3.555E-01	2.251E-01	2.678E-02	7.722
	+	969.11		1.541E+00	5.359E-01	3.884E-01	9.167E-02	3.969
	+	338.32		1.927E+00	8.806E-01	3.500E-01	1.459E-01	5.505
	+	911.07	*	1.739E+00	3.555E-01	2.251E-01	2.678E-02	7.722
	+	969.11		1.541E+00	5.359E-01	3.884E-01	9.167E-02	3.969
	+	74.81		2.192E+00	3.345E-01	2.781E-01	2.842E-02	7.884
TH-228	+	77.11		2.126E+00	2.713E-01	1.666E-01	1.708E-02	12.761
	+	87.30		1.845E+00	3.676E-01	3.013E-01	3.226E-02	6.124
	+	238.63	*	1.764E+00	2.359E-01	1.116E-01	1.271E-02	15.807
	+	300.09		2.131E+00	1.752E+00	1.094E+00	6.529E-01	1.947
	+	609.31	*	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
	+	1120.29		9.516E-01	6.865E-01	5.112E-01	5.548E-02	1.862
	+	1764.49		1.174E+00	4.124E-01	3.106E-01	2.559E-02	3.780
	+	338.32		1.927E+00	4.135E-01	3.500E-01	3.649E-02	5.505
TH-232	+	911.07	*	1.739E+00	3.555E-01	2.251E-01	2.678E-02	7.722
	+	969.11		1.541E+00	5.359E-01	3.884E-01	9.167E-02	3.969
	+	63.29	*	2.032E+00	8.725E-01	7.404E-01	1.379E-01	2.744
	+	92.38		3.816E+00	8.948E-01	4.754E-01	9.184E-02	8.026
	+	609.31	*	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
	+	1120.29		9.516E-01	6.865E-01	5.112E-01	5.548E-02	1.862
	+	1764.49		1.174E+00	4.124E-01	3.106E-01	2.559E-02	3.780
	+	89.95		3.728E+00	1.410E+00	8.891E-01	2.805E-01	4.193
U-235	+	93.35		4.587E+00	1.457E+00	5.742E-01	1.657E-01	7.990



## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		105.00		9.354E-01	7.951E-01	1.316E+00	4.065E-01	0.711
	+	143.76	*	3.805E-01	2.545E-01	2.712E-01	5.121E-02	1.403
		163.35		2.422E-01	3.901E-01	6.517E-01	1.261E-01	0.372
	+	185.71		2.366E-01	7.922E-02	6.020E-02	5.637E-03	3.929
		205.31		8.134E-02	4.958E-01	7.263E-01	1.426E-01	0.112
NP-237	+	86.50	*	1.153E+00	3.306E-01	1.876E-01	4.357E-02	6.145
		95.87		-3.011E-01	6.344E-01	9.508E-01	2.438E-01	-0.317
U-238	+	63.29	*	2.032E+00	8.725E-01	7.404E-01	1.379E-01	2.744
	+	92.38		3.816E+00	6.578E-01	4.754E-01	5.218E-02	8.026
AM-243	+	74.67	*	3.498E-01	5.323E-02	4.434E-02	4.503E-03	7.888
	+	86.72		4.323E+01	8.612E+00	7.041E+00	7.520E-01	6.139
		117.66		-3.163E+00	2.800E+00	4.477E+00	5.630E-01	-0.706
		142.18		8.907E-01	1.543E+01	2.309E+01	2.607E+00	0.039
ANH-511	+	511.00	*	9.008E-02	7.276E-02	4.755E-02	4.894E-03	1.894

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22		1274.54	*	-2.259E-02	5.076E-02	8.002E-02	6.561E-03	-0.282
NA-24		1368.53	*	3.134E-01	5.076E-02	Half-Life too short		
AL-26		1129.67		-1.338E+00	1.971E+00	2.920E+00	2.493E-01	-0.458
		1808.65	*	-1.523E-02	2.613E-02	3.683E-02	3.018E-03	-0.414
TI-44		67.85		-3.959E-03	1.999E-02	3.139E-02	3.124E-03	-0.126
	+	78.38	*	3.862E-01	4.928E-02	4.155E-02	4.279E-03	9.294
SC-46		889.25	*	3.052E-02	3.715E-02	6.524E-02	6.248E-03	0.468
	+	1120.51		1.642E-01	1.179E-01	1.355E-01	1.165E-02	1.212
V-48		944.10		-5.229E-01	1.062E+00	1.638E+00	1.537E-01	-0.319
		983.50	*	9.143E-03	8.048E-02	1.310E-01	1.214E-02	0.070
		1312.09		-5.657E-02	9.549E-02	1.468E-01	1.196E-02	-0.385
CR-51		320.08	*	-9.358E-02	3.401E-01	5.644E-01	6.268E-02	-0.166
MN-52		744.21		8.965E-02	2.747E-01	4.660E-01	5.035E-02	0.192
		848.13		5.857E+00	7.926E+00	1.375E+01	1.378E+00	0.426
		935.52		1.212E-01	3.333E-01	5.556E-01	5.224E-02	0.218
		1246.25		-6.630E+00	1.017E+01	1.589E+01	1.305E+00	-0.417
		1333.61		2.410E+00	6.382E+00	1.054E+01	8.560E-01	0.229
		1434.06	*	-5.226E-02	2.703E-01	4.270E-01	3.519E-02	-0.122
MN-54		834.83	*	-4.078E-03	4.348E-02	7.067E-02	7.172E-03	-0.058
CO-56		846.75	*	4.322E-02	4.172E-02	7.381E-02	7.406E-03	0.586
		977.42		1.397E-01	3.607E+00	5.282E+00	4.905E-01	0.026
		1037.82		-8.417E-02	3.358E-01	5.510E-01	5.229E-02	-0.153
		1175.09		-4.479E-01	2.717E+00	4.447E+00	3.660E-01	-0.101
		1238.25		1.980E-01	1.142E-01	2.066E-01	1.751E-02	0.959
		1360.21		-8.391E-01	9.645E-01	1.373E+00	1.121E-01	-0.611
		1771.40		-5.910E-01	2.998E-01	3.154E-01	2.597E-02	-1.874
CO-57		122.06	*	2.557E-03	1.958E-02	3.319E-02	4.280E-03	0.077
		136.48		6.866E-02	1.624E-01	2.762E-01	3.386E-02	0.249
CO-58		810.76	*	5.388E-03	4.355E-02	7.219E-02	7.490E-03	0.075
FE-59	+	142.65		4.981E+00	3.244E+00	3.846E+00	4.327E-01	1.295

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60		192.34		1.392E-03	8.093E-01	1.322E+00	1.853E-01	0.001
		1099.22	*	-1.478E-02	1.039E-01	1.713E-01	1.613E-02	-0.086
		1291.56		3.464E-02	1.421E-01	2.386E-01	2.241E-02	0.145
		1173.22		-5.612E-04	5.461E-02	9.046E-02	7.445E-03	-0.006
		1332.49	*	1.225E-02	4.208E-02	7.109E-02	5.773E-03	0.172
		1115.52	*	-1.722E-02	1.161E-01	1.637E-01	1.414E-02	-0.105
		1077.35	*	-1.130E+00	1.311E+00	2.014E+00	1.783E-01	-0.561
		53.44	*	1.015E-01	1.764E-01	2.892E-01	2.776E-02	0.351
		595.88	*	1.108E-02	9.340E-02	1.506E-01	1.632E-02	0.074
		634.78		-1.475E-01	3.637E-01	5.912E-01	6.502E-02	-0.249
SE-75		66.05		2.534E-01	2.136E+00	3.121E+00	3.598E-01	0.081
		96.73		-6.765E-01	5.465E-01	7.681E-01	1.183E-01	-0.881
		121.11		2.011E-03	1.041E-01	1.758E-01	2.583E-02	0.011
		136.00		5.422E-03	3.080E-02	5.194E-02	6.162E-03	0.104
		198.60		1.104E+00	1.616E+00	2.664E+00	2.797E-01	0.415
		264.65	*	-1.042E-02	4.076E-02	6.057E-02	6.638E-03	-0.172
		279.53		7.562E-03	1.151E-01	1.628E-01	1.857E-02	0.046
		303.91		8.070E-01	2.058E+00	3.157E+00	4.203E-01	0.256
		400.65		-2.853E-01	2.651E-01	4.073E-01	4.711E-02	-0.700
		87.88	+	1.136E+03	2.263E+02	2.915E+02	3.130E+01	3.896
BR-77		200.40		-7.511E+01	1.885E+02	3.012E+02	2.918E+01	-0.249
		239.00	+	3.670E+02	4.622E+01	4.969E+01	5.203E+00	7.386
		249.79		-5.285E+01	7.926E+01	1.217E+02	1.298E+01	-0.434
		281.68		-3.091E+01	1.213E+02	1.669E+02	1.860E+01	-0.185
		297.23		1.523E+02	9.204E+01	1.182E+02	1.303E+01	1.288
		303.76		1.127E+02	2.306E+02	3.561E+02	3.899E+01	0.316
		439.47		2.529E+01	1.843E+02	3.052E+02	2.940E+01	0.083
		484.57		-1.004E+02	2.861E+02	4.528E+02	4.560E+01	-0.222
		520.65	*	-1.388E+01	1.416E+01	2.102E+01	2.180E+00	-0.660
		574.64		-8.348E+01	2.796E+02	4.367E+02	4.683E+01	-0.191
SR-82		578.91		4.511E+01	1.266E+02	1.836E+02	1.974E+01	0.246
		585.48		1.482E+03	3.433E+02	5.827E+02	6.284E+01	2.543
		755.35		1.431E+02	2.385E+02	4.108E+02	4.414E+01	0.348
		817.79		-1.307E+02	1.855E+02	2.842E+02	2.927E+01	-0.460
		698.33		4.715E+00	3.586E+01	6.024E+01	6.624E+00	0.078
		776.49	*	-2.767E-01	4.315E-01	6.736E-01	7.149E-02	-0.411
		1395.20		5.441E-01	1.165E+01	1.910E+01	1.567E+00	0.028
		520.41	*	-6.837E-02	7.099E-02	1.055E-01	1.094E-02	-0.648
		529.64		7.837E-03	1.053E-01	1.710E-01	1.784E-02	0.046
		552.65		2.435E-02	1.939E-01	3.149E-01	3.335E-02	0.077
RB-84		881.50	*	3.935E-02	7.646E-02	1.300E-01	1.257E-02	0.303
KR-85		513.99	*	1.269E+01	8.255E+00	1.314E+01	1.356E+00	0.965
SR-85		513.99	*	6.570E-02	4.275E-02	6.806E-02	7.022E-03	0.965
RB-86		1076.63	*	-5.398E-01	8.496E-01	1.336E+00	1.183E-01	-0.404
Y-88		898.02		-3.218E-02	4.328E-02	6.504E-02	6.186E-03	-0.495
		1836.01	*	2.022E-02	3.607E-02	6.531E-02	5.337E-03	0.310
ZR-88		392.90	*	-3.104E-02	2.988E-02	4.609E-02	4.195E-03	-0.673
Y-91		1204.90	*	-3.833E+00	2.115E+01	3.445E+01	2.835E+00	-0.111
NB-94		702.63	*	9.181E-03	3.484E-02	5.903E-02	6.482E-03	0.156

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		871.10		3.126E-02	3.637E-02	6.355E-02	6.217E-03	0.492
NB-95		765.79	*	7.103E-02	5.184E-02	8.368E-02	8.938E-03	0.849
NB-95M		235.69	*	5.215E-03	1.221E-01	1.753E-01	2.009E-02	0.030
ZR-95		724.18		1.333E-01	1.053E-01	1.705E-01	1.960E-02	0.782
		756.15	*	4.966E-02	7.957E-02	1.371E-01	1.570E-02	0.362
NB-97		657.90	*	-1.988E-01	7.957E-02	Half-Life	too short	
		1024.50		1.342E+00	7.957E-02	Half-Life	too short	
ZR-97		254.15		1.134E+01	7.957E-02	Half-Life	too short	
		355.39		7.687E-01	7.957E-02	Half-Life	too short	
		507.63	*	8.603E+00	7.957E-02	Half-Life	too short	
		602.52		2.368E+01	7.957E-02	Half-Life	too short	
		1021.30		-1.966E+01	7.957E-02	Half-Life	too short	
		1147.95		1.040E+01	7.957E-02	Half-Life	too short	
		1362.66		-1.528E+01	7.957E-02	Half-Life	too short	
		1750.46		-6.143E+00	7.957E-02	Half-Life	too short	
MO-99		140.51		9.683E+00	2.863E+01	4.320E+01	1.240E+01	0.224
		181.06		5.951E+00	1.936E+01	2.890E+01	5.374E+00	0.206
		366.43		-1.424E+01	9.962E+01	1.646E+02	1.613E+01	-0.086
		739.58	*	-1.068E+01	1.465E+01	2.255E+01	3.729E+00	-0.474
		778.00		2.214E+01	4.664E+01	7.958E+01	8.438E+00	0.278
TC-99M		140.51	*	1.499E+11	4.664E+01	Half-Life	too short	
RH-101	+	127.23		4.573E-02	4.116E-02	4.220E-02	5.282E-03	1.084
		198.01	*	3.269E-02	2.865E-02	4.802E-02	4.627E-03	0.681
		325.23		1.055E-01	2.283E-01	3.444E-01	3.669E-02	0.306
RH-102		418.52		8.960E-02	2.833E-01	4.760E-01	4.475E-02	0.188
		475.06	*	1.304E-02	3.322E-02	4.918E-02	4.910E-03	0.265
		631.29		-1.453E-02	5.228E-02	8.589E-02	9.436E-03	-0.169
		697.49		3.213E-03	7.967E-02	1.330E-01	1.463E-02	0.024
	+	766.84		3.043E-01	1.791E-01	2.270E-01	2.423E-02	1.341
		1046.59		6.796E-02	1.246E-01	2.178E-01	1.962E-02	0.312
		1112.84		-1.318E-02	2.783E-01	4.137E-01	3.576E-02	-0.032
RU-103		497.08	*	2.246E-02	4.155E-02	6.985E-02	1.059E-02	0.322
	+	610.33		1.391E+01	3.086E+00	3.073E+00	5.522E-01	4.526
RH-106	+	511.85		4.507E-01	3.641E-01	4.223E-01	4.349E-02	1.067
		621.84	*	2.397E-01	3.100E-01	5.467E-01	8.183E-02	0.438
		1050.47		-1.636E-01	2.494E+00	4.155E+00	3.735E-01	-0.039
RU-106	+	511.85		4.507E-01	3.641E-01	4.223E-01	4.349E-02	1.067
		621.84	*	2.397E-01	3.091E-01	5.467E-01	5.987E-02	0.438
		1050.47		-1.636E-01	2.494E+00	4.155E+00	3.735E-01	-0.039
AG-108M		433.93	*	1.143E-02	3.097E-02	5.212E-02	5.151E-03	0.219
		614.37		7.203E-03	3.745E-02	5.612E-02	6.280E-03	0.128
		722.95		2.750E-02	4.379E-02	6.753E-02	7.546E-03	0.407
AG-110M		657.75	*	-1.943E-02	3.777E-02	5.159E-02	5.813E-03	-0.377
		677.61		1.023E-01	3.239E-01	5.513E-01	6.196E-02	0.186
		706.67		-8.599E-03	2.111E-01	3.499E-01	3.903E-02	-0.025
		763.93		1.052E-01	1.897E-01	2.879E-01	3.135E-02	0.365
		884.67		-2.330E-03	5.238E-02	8.491E-02	8.388E-03	-0.027
		937.48		-3.621E-02	1.271E-01	2.005E-01	1.942E-02	-0.181
		1384.27		9.343E-03	1.844E-01	2.600E-01	2.196E-02	0.036

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111	171.28			7.145E-02	1.029E+00	1.702E+00	1.537E-01	0.042
	245.39	*		-1.555E-01	1.328E+00	1.878E+00	1.989E-01	-0.083
IN-113M	391.69	*		-2.548E-02	4.220E-02	6.721E-02	6.277E-03	-0.379
SN-113	391.69	*		-2.548E-02	4.220E-02	6.721E-02	6.277E-03	-0.379
IN-114M	190.27	*		5.547E-02	1.774E-01	2.634E-01	2.493E-02	0.211
CD-115	260.90			-8.619E+01	1.579E+02	2.432E+02	2.642E+01	-0.354
	492.35			7.784E+00	4.552E+01	7.493E+01	7.597E+00	0.104
	527.90	*		-9.571E+00	1.476E+01	2.255E+01	2.350E+00	-0.424
SN-117M	156.02			-8.299E-01	1.978E+00	3.222E+00	3.213E-01	-0.258
	158.56	*		-3.121E-02	4.705E-02	7.559E-02	7.339E-03	-0.413
SB-122	563.90	*		5.811E-02	2.942E+00	4.727E+00	5.040E-01	0.012
	692.80			-3.913E+01	5.163E+01	8.024E+01	8.836E+00	-0.488
I-123	159.00	*		-7.315E+00	5.163E+01	Half-Life	too short	
	528.96			-7.799E+02	5.163E+01	Half-Life	too short	
TE-123M	159.00	*		-1.102E-02	2.311E-02	3.746E-02	3.638E-03	-0.294
I-124	602.71	*		1.045E+00	8.085E-01	1.329E+00	1.444E-01	0.786
	722.78			4.114E+00	5.282E+00	8.276E+00	9.025E-01	0.497
	1325.50			4.888E+00	4.257E+01	7.062E+01	5.742E+00	0.069
	1376.25			5.511E+01	3.889E+01	7.251E+01	5.932E+00	0.760
	1509.49			1.468E+01	1.587E+01	2.940E+01	2.438E+00	0.499
	1691.02			2.079E+00	4.149E+00	7.508E+00	6.224E-01	0.277
SB-124	602.71			5.250E-02	4.063E-02	6.678E-02	7.259E-03	0.786
	645.85			-2.033E-01	5.144E-01	8.361E-01	9.567E-02	-0.243
	709.31			1.041E-01	2.917E+00	4.861E+00	5.326E-01	0.021
	713.82			7.838E-02	1.822E+00	3.035E+00	4.187E-01	0.026
	722.78			2.997E-01	3.849E-01	6.029E-01	6.664E-02	0.497
	968.20	+		1.604E+01	4.358E+00	7.475E+00	6.963E-01	2.146
	1045.16			-2.384E+00	2.755E+00	4.263E+00	3.844E-01	-0.559
	1325.50			3.804E-01	3.313E+00	5.495E+00	4.468E-01	0.069
	1368.21			6.361E-01	1.938E+00	2.987E+00	3.940E-01	0.213
	1436.60			4.754E-01	3.502E+00	5.808E+00	4.788E-01	0.082
	1691.02	*		3.573E-02	7.131E-02	1.290E-01	1.115E-02	0.277
SB-125	427.89	*		1.455E-01	9.449E-02	1.680E-01	1.623E-02	0.866
	463.38	+		6.278E-01	4.238E-01	5.287E-01	5.535E-02	1.187
	600.56			7.765E-02	1.818E-01	2.960E-01	3.365E-02	0.262
	635.90			5.411E-02	2.681E-01	4.566E-01	5.276E-02	0.119
TE-125M	109.28	*		-4.042E-01	6.620E+00	1.122E+01	1.491E+00	-0.036
I-126	388.63			3.022E-01	2.069E-01	3.689E-01	3.387E-02	0.819
	666.33	*		-5.466E-02	2.258E-01	3.199E-01	3.541E-02	-0.171
	753.82			6.204E-01	1.654E+00	2.810E+00	3.022E-01	0.221
SB-126	223.80			2.099E+00	3.842E+00	6.358E+00	6.470E-01	0.330
	278.60			2.669E+00	2.811E+00	4.207E+00	4.691E-01	0.635
	296.50	+		1.406E+01	2.764E+00	3.502E+00	3.861E-01	4.015
	414.70			-9.573E-03	8.467E-02	1.213E-01	1.136E-02	-0.079
	415.30			1.654E+00	7.064E+00	1.044E+01	9.779E-01	0.158
	555.20			-2.716E+00	4.382E+00	6.679E+00	7.085E-01	-0.407
	573.80			-6.212E-01	1.155E+00	1.768E+00	1.895E-01	-0.351
	593.00			4.478E-02	9.882E-01	1.584E+00	1.714E-01	0.028
	656.30			-1.713E+00	3.954E+00	5.472E+00	6.054E-01	-0.313

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		666.33		-2.289E-02	9.456E-02	1.339E-01	1.483E-02	-0.171
		675.00		5.567E-02	2.257E+00	3.766E+00	4.163E-01	0.015
		695.00		3.300E-02	7.879E-02	1.353E-01	1.489E-02	0.244
		697.00		1.119E-01	2.893E-01	4.945E-01	5.440E-02	0.226
		720.50	*	-1.082E-01	1.799E-01	2.408E-01	2.629E-02	-0.449
		856.80		4.534E-01	5.246E-01	8.248E-01	8.193E-02	0.550
		989.30		5.815E-01	1.430E+00	2.390E+00	2.210E-01	0.243
		1034.80		-4.519E+00	1.029E+01	1.661E+01	1.505E+00	-0.272
		1213.00		-1.549E+00	5.829E+00	9.437E+00	7.763E-01	-0.164
		61.10		-1.378E+01	2.458E+01	3.507E+01	4.346E+00	-0.393
		252.40		3.293E-01	4.631E+00	7.430E+00	3.164E+00	0.044
		290.80		-2.287E+01	2.456E+01	3.408E+01	4.564E+00	-0.671
		411.60		-1.980E+00	1.553E+01	2.225E+01	3.631E+00	-0.089
		444.90		8.223E-02	1.164E+01	1.909E+01	2.582E+00	0.004
		473.00		-1.004E+00	2.252E+00	3.063E+00	4.299E-01	-0.328
		543.00		-1.941E+01	1.800E+01	2.567E+01	4.060E+00	-0.756
		603.60		8.963E+00	1.456E+01	2.261E+01	3.252E+00	0.396
		685.20	*	5.756E-01	1.637E+00	2.798E+00	3.790E-01	0.206
		698.50		-1.851E+00	1.880E+01	3.107E+01	5.410E+00	-0.060
		722.20		8.628E+00	3.908E+01	5.768E+01	7.645E+00	0.150
XE-127		783.80		2.518E+00	4.725E+00	8.066E+00	1.135E+00	0.312
		57.60		2.287E-02	1.697E+00	2.713E+00	2.645E-01	0.008
	+	145.22		1.280E+00	8.339E-01	9.886E-01	1.089E-01	1.295
		172.10		1.570E-02	9.858E-02	1.636E-01	1.481E-02	0.096
I-131		202.84	*	-3.791E-02	4.238E-02	6.583E-02	6.412E-03	-0.576
		374.96		9.656E-03	2.022E-01	3.271E-01	3.132E-02	0.030
		80.18		2.352E+00	2.774E+00	4.147E+00	4.324E-01	0.567
		284.30		-9.245E-01	1.536E+00	2.336E+00	2.683E-01	-0.396
TE-132		364.48	*	6.239E-02	1.134E-01	1.950E-01	2.002E-02	0.320
		636.97		5.536E-01	1.621E+00	2.788E+00	3.176E-01	0.199
		722.89		5.956E+00	7.885E+00	1.233E+01	1.350E+00	0.483
		49.72		3.435E+00	3.881E+00	6.002E+00	7.098E-01	0.572
BA-133		111.76		-2.582E+01	2.714E+01	4.343E+01	6.097E+00	-0.595
		116.30		-7.954E+00	2.466E+01	4.117E+01	5.893E+00	-0.193
		228.16	*	-3.655E-01	7.705E-01	1.209E+00	2.035E-01	-0.302
		53.15		4.992E-01	7.350E-01	1.210E+00	1.160E-01	0.413
I-133		79.62		1.749E-01	7.351E-01	1.070E+00	1.740E-01	0.164
		81.00		5.003E-02	6.214E-02	8.163E-02	1.381E-02	0.613
	+	276.40		4.325E-01	5.193E-01	6.015E-01	9.661E-02	0.719
		302.84		1.072E-01	1.392E-01	2.181E-01	3.252E-02	0.492
I-133		356.01	*	-1.643E-03	4.434E-02	6.502E-02	9.220E-03	-0.025
		383.85		-1.748E-01	2.937E-01	4.690E-01	6.142E-02	-0.373
	+	510.53		1.947E+00	2.937E-01	Half-Life	too short	
		529.87	*	5.327E-03	2.937E-01	Half-Life	too short	
		706.58		-1.997E-01	2.937E-01	Half-Life	too short	
		856.28		2.709E-01	2.937E-01	Half-Life	too short	
		875.33		-1.499E-01	2.937E-01	Half-Life	too short	
		1236.41		2.138E+00	2.937E-01	Half-Life	too short	
		1298.22		-8.292E-02	2.937E-01	Half-Life	too short	

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	475.35			1.730E+00	2.145E+00	3.289E+00	3.285E-01	0.526
	563.23			-5.399E-02	4.045E-01	6.429E-01	6.895E-02	-0.084
	569.32			2.136E-02	2.240E-01	3.602E-01	3.887E-02	0.059
	604.70			-1.250E-02	3.731E-02	5.298E-02	5.772E-03	-0.236
	795.84	*		9.653E-02	6.831E-02	9.708E-02	1.022E-02	0.994
	801.93			-3.451E-01	4.424E-01	6.754E-01	7.070E-02	-0.511
	1038.57			7.805E-01	4.197E+00	7.145E+00	6.464E-01	0.109
	1167.94			-1.819E+00	2.837E+00	4.452E+00	3.682E-01	-0.409
	1365.15			9.408E-01	1.161E+00	2.096E+00	1.798E-01	0.449
	268.24	*		1.875E-01	1.486E-01	2.286E-01	2.760E-02	0.820
CS-135	288.45			-8.166E+10	1.486E-01	Half-Life	too short	
I-135	417.63			8.523E+10	1.486E-01	Half-Life	too short	
	546.56			-3.858E+09	1.486E-01	Half-Life	too short	
	836.80			2.713E+11	1.486E-01	Half-Life	too short	
	1038.76			2.647E+10	1.486E-01	Half-Life	too short	
	1124.00			8.048E+11	1.486E-01	Half-Life	too short	
	1131.51			-2.075E+10	1.486E-01	Half-Life	too short	
	1260.41	*		3.900E+10	1.486E-01	Half-Life	too short	
	1457.56			9.753E+12	1.486E-01	Half-Life	too short	
	1678.03			-9.968E+08	1.486E-01	Half-Life	too short	
	1706.46			-2.709E+10	1.486E-01	Half-Life	too short	
CS-136	1791.20			3.569E+10	1.486E-01	Half-Life	too short	
	66.91			1.226E-01	3.618E-01	5.349E-01	8.668E-02	0.229
	86.29			5.383E+00	1.189E+00	1.371E+00	1.960E-01	3.927
	153.22			3.423E-01	5.864E-01	9.943E-01	1.106E-01	0.344
	163.89			3.215E-02	9.398E-01	1.543E+00	1.561E-01	0.021
	176.55			9.396E-02	3.171E-01	5.283E-01	5.085E-02	0.178
	273.65			2.437E-01	5.591E-01	6.511E-01	7.502E-02	0.374
	340.57			1.321E-01	1.334E-01	2.100E-01	2.224E-02	0.629
	818.51			-2.793E-02	8.009E-02	1.271E-01	1.309E-02	-0.220
	1048.07	*		1.849E-02	1.222E-01	2.073E-01	1.939E-02	0.089
CE-139	1235.34			8.890E-01	7.621E-01	1.340E+00	1.550E-01	0.663
	165.85	*		-2.525E-02	2.464E-02	3.868E-02	3.450E-03	-0.653
	162.64			5.073E-01	6.576E-01	1.110E+00	1.082E-01	0.457
	304.84			-5.003E-02	1.313E+00	1.956E+00	5.638E-01	-0.026
	423.70			-1.559E+00	2.080E+00	3.157E+00	1.031E+00	-0.494
	537.32	*		-2.501E-02	2.650E-01	4.185E-01	1.409E-01	-0.060
	328.77			9.211E-01	4.294E-01	5.385E-01	5.919E-02	1.710
	432.53			-2.857E-01	2.089E+00	3.402E+00	3.381E-01	-0.084
	487.03			2.562E-02	1.327E-01	2.190E-01	2.310E-02	0.117
	751.79			-1.986E+00	1.972E+00	2.977E+00	3.428E-01	-0.667
LA-140	815.85			-2.008E-01	3.458E-01	5.358E-01	5.979E-02	-0.375
	867.82			-6.605E-01	1.590E+00	2.416E+00	2.469E-01	-0.273
	919.63			3.099E+00	3.279E+00	5.722E+00	6.476E-01	0.542
	925.24			-1.866E-01	1.305E+00	2.086E+00	2.070E-01	-0.089
	1596.49	*		-3.526E-02	8.837E-02	1.387E-01	1.153E-02	-0.254
	57.37			-3.138E-04	8.837E-02	Half-Life	too short	
	231.56			2.680E-03	8.837E-02	Half-Life	too short	
	293.26	*		7.828E-04	8.837E-02	Half-Life	too short	
CE-143								

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	350.59		4.985E-02	8.837E-02	Half-Life	too short	
		490.36		2.470E-04	8.837E-02	Half-Life	too short	
		664.57		3.067E-03	8.837E-02	Half-Life	too short	
		721.93		4.921E-04	8.837E-02	Half-Life	too short	
CE-144		80.11		1.015E+00	1.179E+00	1.764E+00	1.829E-01	0.575
		133.54	*	4.733E-03	1.676E-01	2.688E-01	4.753E-02	0.018
PM-144	+	476.78		1.298E-01	9.105E-02	1.315E-01	1.408E-02	0.987
		618.01		-9.477E-03	2.928E-02	4.800E-02	5.339E-03	-0.197
		696.49	*	1.629E-02	3.496E-02	6.009E-02	6.611E-03	0.271
		778.57		1.529E+00	2.450E+00	4.225E+00	4.479E-01	0.362
PR-144		696.49	*	1.104E+00	2.370E+00	4.074E+00	4.481E-01	0.271
		1489.15		-4.448E+00	1.307E+01	2.007E+01	1.662E+00	-0.222
PM-146		453.90	*	8.013E-03	4.345E-02	7.197E-02	8.404E-03	0.111
		633.02		-4.508E-01	1.356E+00	2.201E+00	8.360E-01	-0.205
		735.90		-1.959E-02	1.528E-01	2.503E-01	7.346E-02	-0.078
		747.13		3.355E-02	9.673E-02	1.641E-01	2.537E-02	0.205
ND-147	+	91.11		9.933E-01	2.362E-01	3.598E-01	4.130E-02	2.761
		319.41		1.039E+00	3.105E+00	5.324E+00	5.720E-01	0.195
		439.89		2.984E+00	6.015E+00	1.018E+01	9.816E-01	0.293
		531.02	*	1.649E-01	5.740E-01	9.466E-01	1.521E-01	0.174
PM-149		285.90	*	8.049E+01	1.175E+02	1.920E+02	3.276E+01	0.419
EU-152		121.78		1.820E-03	5.654E-02	9.552E-02	1.316E-02	0.019
		244.69		-1.615E-01	3.329E-01	4.576E-01	4.840E-02	-0.353
		344.27	*	-3.488E-02	8.818E-02	1.443E-01	1.550E-02	-0.242
		443.98		5.057E-01	9.401E-01	1.594E+00	1.543E-01	0.317
		778.89		2.052E-01	2.849E-01	4.941E-01	5.236E-02	0.415
		867.32		-5.034E-01	9.376E-01	1.354E+00	1.330E-01	-0.372
	+	964.01		6.972E-01	4.067E-01	5.929E-01	5.531E-02	1.176
		1085.78		3.105E-01	4.261E-01	7.532E-01	6.633E-02	0.412
		1112.02		1.735E-01	3.660E-01	6.066E-01	5.248E-02	0.286
		1407.95		8.108E-02	1.890E-01	3.241E-01	2.663E-02	0.250
GD-153		69.67		-2.742E-01	7.460E-01	1.161E+00	1.161E-01	-0.236
	+	83.37		3.836E+01	1.062E+01	1.494E+01	1.571E+00	2.568
		97.43	*	-2.348E-02	5.592E-02	8.350E-02	9.403E-03	-0.281
		103.18		-5.377E-02	7.081E-02	1.169E-01	1.357E-02	-0.460
EU-154		123.07		-5.177E-03	4.003E-02	6.715E-02	9.943E-03	-0.077
		247.94		3.479E-01	3.265E-01	5.480E-01	7.156E-02	0.635
		591.81		-1.086E-01	6.435E-01	1.013E+00	1.355E-01	-0.107
		723.30		1.483E-01	1.860E-01	2.911E-01	3.387E-02	0.509
		756.87		7.961E-01	8.334E-01	1.464E+00	1.987E-01	0.544
		873.19		4.730E-02	3.231E-01	5.333E-01	6.971E-02	0.089
		996.32		-3.626E-01	4.558E-01	6.744E-01	1.218E-01	-0.538
		1004.76		-2.879E-01	2.639E-01	3.792E-01	4.575E-02	-0.759
		1274.45	*	9.874E-03	1.356E-01	2.245E-01	2.466E-02	0.044
EU-155		48.70		-2.056E-01	3.712E-01	5.366E-01	5.108E-02	-0.383
		60.01		-2.016E-02	1.739E+00	2.547E+00	2.506E-01	-0.008
	+	86.54		4.730E-01	9.441E-02	1.227E-01	1.318E-02	3.853
		105.31	*	9.374E-02	7.726E-02	1.356E-01	1.603E-02	0.691
TB-160	+	86.79		1.274E+00	2.539E-01	3.367E-01	3.597E-02	3.785

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		197.04		2.488E-01	4.940E-01	8.093E-01	7.781E-02	0.307
		215.65		2.471E-01	6.543E-01	1.078E+00	1.079E-01	0.229
		298.57		2.320E-01	1.503E-01	1.916E-01	2.108E-02	1.211
		879.36	*	3.379E-02	1.490E-01	2.476E-01	2.399E-02	0.136
		962.29		1.100E+00	6.116E-01	1.107E+00	1.033E-01	0.994
		966.15		1.092E+00	2.899E-01	5.433E-01	5.064E-02	2.010
		1177.93		-3.125E-02	4.400E-01	7.252E-01	5.969E-02	-0.043
		1271.85		3.020E-01	8.340E-01	1.414E+00	1.159E-01	0.213
		80.57		1.178E-01	1.710E-01	2.245E-01	2.332E-02	0.525
	+	184.41		1.774E-01	5.942E-02	5.649E-02	5.273E-03	3.141
		280.46		-1.746E-02	8.926E-02	1.236E-01	1.379E-02	-0.141
		410.95		2.124E-01	2.644E-01	4.082E-01	3.803E-02	0.520
TM-171		711.68	*	-2.225E-02	6.590E-02	1.067E-01	1.169E-02	-0.209
		752.31		-1.032E-01	2.943E-01	4.728E-01	5.088E-02	-0.218
		810.29		-1.315E-02	6.580E-02	1.062E-01	1.101E-02	-0.124
		51.35		-4.917E+00	5.587E+00	8.633E+00	8.244E-01	-0.570
		52.39		1.720E+00	3.057E+00	5.017E+00	4.802E-01	0.343
LU-176		59.40		6.413E+00	8.944E+00	1.351E+01	1.328E+00	0.475
		66.72	*	-5.796E+00	1.290E+01	1.842E+01	1.829E+00	-0.315
	+	88.36		9.311E-01	1.855E-01	2.256E-01	2.428E-02	4.128
		201.83		-1.534E-02	2.498E-02	3.942E-02	3.831E-03	-0.389
LU-177		306.84	*	-8.536E-04	2.157E-02	3.640E-02	3.972E-03	-0.023
		401.10		-7.009E+00	7.003E+00	1.087E+01	9.999E-01	-0.645
		112.95		9.117E-02	1.342E+00	2.251E+00	2.757E-01	0.041
LU-177M	+	208.36	*	3.576E+00	1.484E+00	2.013E+00	1.985E-01	1.776
HF-181		52.97		1.897E-01	3.294E-01	5.404E-01	5.180E-02	0.351
		54.07		1.582E-01	1.830E-01	3.029E-01	2.913E-02	0.522
		61.30		-2.256E-01	5.379E-01	7.734E-01	7.616E-02	-0.292
		121.62		-1.316E-02	2.908E-01	4.899E-01	6.299E-02	-0.027
		147.16		-4.951E-01	5.973E-01	8.487E-01	9.199E-02	-0.583
		171.86		-9.918E-03	3.956E-01	6.511E-01	5.891E-02	-0.015
		218.09		-1.499E-01	7.525E-01	1.205E+00	1.212E-01	-0.124
		268.79		1.573E+00	8.144E-01	1.286E+00	1.413E-01	1.224
		319.02		6.407E-02	2.274E-01	3.891E-01	4.182E-02	0.165
		367.43		-3.681E-02	8.486E-01	1.411E+00	1.379E-01	-0.026
		413.65	*	-1.077E-01	1.898E-01	2.601E-01	2.431E-02	-0.414
		56.28		-2.646E-01	2.380E-01	3.609E-01	3.498E-02	-0.733
		57.53		-6.364E-02	1.437E-01	2.254E-01	2.197E-02	-0.282
		65.20		-1.354E-01	4.097E-01	5.871E-01	5.810E-02	-0.231
		133.02		1.926E-02	5.789E-02	8.866E-02	1.070E-02	0.217
		136.25		5.980E-02	3.642E-01	6.138E-01	7.243E-02	0.097
		345.85		-1.240E-01	2.011E-01	2.813E-01	2.890E-02	-0.441
W-181		482.03	*	1.576E-03	4.518E-02	6.822E-02	6.855E-03	0.023
TA-182		56.28		-1.027E-01	9.225E-02	1.399E-01	1.356E-02	-0.735
		57.53		-2.484E-02	5.571E-02	8.739E-02	8.517E-03	-0.284
		65.20	*	-5.209E-02	1.576E-01	2.259E-01	2.236E-02	-0.231
		67.75		1.080E-02	4.720E-02	7.526E-02	7.488E-03	0.143
		100.10		1.665E-02	1.173E-01	2.014E-01	2.300E-02	0.083
		152.43		4.468E-02	2.870E-01	4.799E-01	4.958E-02	0.093



## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		222.10		-1.099E-01	3.118E-01	4.945E-01	5.015E-02	-0.222
		1001.68		7.164E-01	2.557E+00	4.142E+00	3.811E-01	0.173
	+	1121.28		4.525E-01	3.250E-01	3.804E-01	3.269E-02	1.189
		1189.05		-3.875E-01	3.551E-01	5.329E-01	4.386E-02	-0.727
		1221.42	*	2.129E-01	2.366E-01	4.121E-01	3.389E-02	0.517
		1230.97		1.197E-01	5.478E-01	9.183E-01	7.548E-02	0.130
		57.98		2.468E-02	5.730E-02	9.230E-02	9.013E-03	0.267
		59.32		3.012E-02	3.684E-02	5.585E-02	5.489E-03	0.539
		67.20		2.919E-02	8.333E-02	1.335E-01	1.327E-02	0.219
		162.32	*	8.098E-02	9.145E-02	1.551E-01	1.443E-02	0.522
RE-184	+	208.81		2.944E+00	1.222E+00	1.672E+00	1.650E-01	1.761
		291.72		-4.809E-01	8.732E-01	1.254E+00	1.388E-01	-0.384
		57.98		9.044E-02	2.100E-01	3.382E-01	3.303E-02	0.267
		59.32		1.103E-01	1.349E-01	2.045E-01	2.010E-02	0.539
		67.20		1.070E-01	3.053E-01	4.891E-01	4.860E-02	0.219
		161.27		-1.738E-01	2.967E-01	4.782E-01	4.505E-02	-0.364
		216.55		8.960E-02	2.320E-01	3.823E-01	3.834E-02	0.234
		252.85	*	5.736E-02	2.091E-01	3.393E-01	3.639E-02	0.169
		318.01		-2.179E-01	4.020E-01	6.566E-01	7.068E-02	-0.332
		792.07		1.187E+00	1.284E+00	1.996E+00	2.096E-01	0.595
OS-185		903.28		4.828E-01	1.146E+00	1.879E+00	1.778E-01	0.257
		920.93		-1.148E-01	5.151E-01	8.183E-01	7.719E-02	-0.140
		59.72		-4.475E-03	1.035E-01	1.514E-01	1.489E-02	-0.030
		61.14		-2.418E-02	5.900E-02	8.490E-02	8.358E-03	-0.285
		69.30		-1.115E-02	1.323E-01	2.084E-01	2.081E-02	-0.054
		592.07		-2.454E-01	2.659E+00	4.215E+00	4.559E-01	-0.058
		646.12	*	-2.095E-02	4.333E-02	6.989E-02	7.712E-03	-0.300
		717.42		-3.972E-01	9.521E-01	1.529E+00	1.671E-01	-0.260
		874.81		1.451E-01	6.183E-01	1.029E+00	1.002E-01	0.141
		880.27		4.052E-01	8.286E-01	1.407E+00	1.362E-01	0.288
RE-188		155.03	*	1.219E-01	1.446E-01	2.472E-01	2.490E-02	0.493
	+	477.96		5.971E+00	4.181E+00	6.116E+00	6.123E-01	0.976
W-188		633.10		-1.009E+00	2.738E+00	4.464E+00	4.907E-01	-0.226
	+	63.58		8.244E+01	3.292E+01	4.095E+01	4.042E+00	2.013
IR-192		227.08		-2.031E-01	1.188E+01	1.914E+01	1.960E+00	-0.011
		290.67	*	-7.792E+00	7.309E+00	1.005E+01	1.113E+00	-0.776
	+	295.96		1.031E+00	2.029E-01	2.747E-01	3.043E-02	3.753
		308.46		-8.277E-03	8.646E-02	1.454E-01	1.589E-02	-0.057
		316.51	*	1.770E-02	3.014E-02	5.236E-02	5.655E-03	0.338
AU-195		468.07		4.542E-02	7.697E-02	1.158E-01	1.212E-02	0.392
		604.41		-1.609E-01	5.092E-01	7.243E-01	1.058E-01	-0.222
		612.46		7.493E-01	7.374E-01	1.184E+00	1.414E-01	0.633
		65.12		-2.619E-02	7.264E-02	1.039E-01	1.028E-02	-0.252
		66.83		1.306E-02	4.134E-02	6.112E-02	6.069E-03	0.214
TL-200	+	75.70		1.136E+00	1.729E-01	2.670E-01	2.722E-02	4.255
		98.88	*	2.039E-01	1.577E-01	2.644E-01	3.001E-02	0.771
	+	129.76		4.043E+00	3.639E+00	3.909E+00	4.816E-01	1.034
		367.94	*	-2.054E-04	3.639E+00	Half-Life	too short	
		579.30		2.608E-03	3.639E+00	Half-Life	too short	

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	828.27			1.849E-03	3.639E+00	Half-Life	too short	
	1205.75			-2.223E-03	3.639E+00	Half-Life	too short	
TL-201	68.90			-1.030E+00	2.625E+00	4.086E+00	4.077E-01	-0.252
	70.82			-4.348E-01	1.730E+00	2.485E+00	2.492E-01	-0.175
	80.30			3.134E+00	3.916E+00	5.171E+00	5.367E-01	0.606
	135.34			1.112E+00	2.448E+01	4.109E+01	4.879E+00	0.027
	167.43	*		2.052E+00	6.998E+00	1.170E+01	1.046E+00	0.175
TL-202	68.90			-7.887E-02	2.010E-01	3.128E-01	3.121E-02	-0.252
	70.82			-3.319E-02	1.321E-01	1.897E-01	1.903E-02	-0.175
	80.30			2.393E-01	2.990E-01	3.949E-01	4.099E-02	0.606
	439.56	*		2.744E-02	7.049E-02	1.186E-01	1.143E-02	0.231
HG-203	70.83			-1.357E-01	5.508E-01	7.908E-01	1.150E-01	-0.172
	72.87			2.174E-01	3.474E-01	5.143E-01	7.308E-02	0.423
	82.60			3.206E-01	6.767E-01	9.919E-01	1.486E-01	0.323
	279.20	*		1.678E-02	4.403E-02	6.370E-02	7.230E-03	0.263
BI-207	72.80			3.623E-02	9.936E-02	1.461E-01	1.474E-02	0.248
	74.97		+	6.279E-01	9.556E-02	1.353E-01	1.375E-02	4.641
	84.90		+	4.949E-01	1.370E-01	1.955E-01	2.071E-02	2.531
	569.67			2.537E-03	3.485E-02	5.596E-02	5.986E-03	0.045
	1063.62	*		2.050E-02	6.009E-02	1.032E-01	9.207E-03	0.199
	1770.23			-2.840E+00	8.291E-01	6.393E-01	5.264E-02	-4.442
TL-207	81.07			1.108E-01	1.365E-01	1.803E-01	1.878E-02	0.614
	83.78		+	3.263E-01	9.035E-02	1.319E-01	1.390E-02	2.473
	94.90			1.121E-01	1.406E-01	2.461E-01	2.736E-02	0.455
	122.32			1.265E-01	1.352E+00	2.289E+00	3.046E-01	0.055
	144.24		+	1.233E+00	8.049E-01	1.014E+00	1.208E-01	1.217
	154.21			1.501E-01	3.337E-01	5.633E-01	6.137E-02	0.266
	269.46		+	6.200E-01	3.110E-01	3.108E-01	3.464E-02	1.995
	323.87	*		1.416E-01	6.705E-01	1.011E+00	1.899E-01	0.140
	338.28		+	8.046E+00	1.866E+00	2.341E+00	3.193E-01	3.437
	445.03			2.894E-02	2.279E+00	3.740E+00	4.814E-01	0.008
PO-209	260.50			-3.204E+00	8.489E+00	1.322E+01	1.435E+00	-0.242
	262.80			2.951E+01	2.332E+01	3.958E+01	4.312E+00	0.746
	896.60	*		3.566E+00	7.620E+00	1.292E+01	1.226E+00	0.276
PB-211	404.84	*		7.344E-01	1.196E+00	1.685E+00	1.057E+00	0.436
	427.08			2.798E+00	2.705E+00	3.683E+00	2.293E+00	0.760
	831.96			-2.417E-01	1.359E+00	2.180E+00	1.371E+00	-0.111
BI-212	727.18	*	+	1.148E+00	5.463E-01	7.161E-01	8.605E-02	1.604
	785.46			2.047E+00	1.941E+00	3.423E+00	3.612E-01	0.598
	1620.62			6.373E-01	1.166E+00	2.108E+00	1.752E-01	0.302
PO-215	81.07			1.108E-01	1.365E-01	1.803E-01	1.878E-02	0.614
	83.78		+	3.263E-01	9.035E-02	1.319E-01	1.390E-02	2.473
	94.90			1.121E-01	1.406E-01	2.461E-01	2.736E-02	0.455
	122.32			1.265E-01	1.352E+00	2.289E+00	3.046E-01	0.055
	144.24		+	1.233E+00	8.049E-01	1.014E+00	1.208E-01	1.217
	154.21			1.501E-01	3.337E-01	5.633E-01	6.137E-02	0.266
	269.46		+	6.200E-01	3.110E-01	3.108E-01	3.464E-02	1.995
	323.87	*		1.416E-01	6.705E-01	1.011E+00	1.899E-01	0.140
	338.28		+	8.046E+00	1.866E+00	2.341E+00	3.193E-01	3.437

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		2.894E-02	2.279E+00	3.740E+00	4.814E-01	0.008
		271.23		7.954E-01	4.013E-01	4.116E-01	5.104E-02	1.933
		401.81	*	-1.586E-01	4.314E-01	6.975E-01	1.072E-01	-0.227
RN-220		549.76	*	5.646E+00	2.609E+01	4.267E+01	4.512E+00	0.132
RA-223	+	81.07		1.108E-01	1.365E-01	1.803E-01	1.878E-02	0.614
		83.78		3.263E-01	9.035E-02	1.319E-01	1.390E-02	2.473
		94.90		1.121E-01	1.406E-01	2.461E-01	2.736E-02	0.455
AC-227	+	122.32		1.265E-01	1.352E+00	2.289E+00	3.046E-01	0.055
		144.24		1.233E+00	8.049E-01	1.014E+00	1.208E-01	1.217
		154.21		1.501E-01	3.337E-01	5.633E-01	6.137E-02	0.266
	+	269.46		6.200E-01	3.110E-01	3.108E-01	3.464E-02	1.995
		323.87	*	1.416E-01	6.705E-01	1.011E+00	1.899E-01	0.140
		338.28		8.046E+00	1.866E+00	2.341E+00	3.193E-01	3.437
		445.03		2.894E-02	2.279E+00	3.740E+00	4.814E-01	0.008
		79.80		8.324E-01	9.226E-01	1.361E+00	3.030E-01	0.611
		236.00		1.656E-01	2.306E-01	3.434E-01	4.659E-02	0.482
	+	256.20	*	-1.212E-01	3.476E-01	5.430E-01	9.046E-02	-0.223
		286.10		1.170E+00	1.475E+00	2.424E+00	3.624E-01	0.483
		299.80		3.886E+00	2.317E+00	2.541E+00	4.769E-01	1.529
TH-227	+	304.40		2.740E-01	1.811E+00	2.735E+00	5.369E-01	0.100
		334.20		2.082E+00	2.179E+00	3.407E+00	6.921E-01	0.611
		79.80		8.324E-01	9.230E-01	1.361E+00	3.066E-01	0.611
	+	94.00		1.475E+01	3.893E+00	2.711E+00	6.197E-01	5.439
		236.00		1.656E-01	2.304E-01	3.434E-01	4.300E-02	0.482
		256.20	*	-1.212E-01	3.478E-01	5.430E-01	1.042E-01	-0.223
	+	286.10		1.170E+00	1.879E+00	2.424E+00	2.439E+00	0.483
		299.80		3.886E+00	2.317E+00	2.541E+00	4.769E-01	1.529
		304.40		2.740E-01	1.811E+00	2.735E+00	5.369E-01	0.100
	334.20		2.082E+00	2.179E+00	3.407E+00	6.921E-01	0.611	
TH-229	+	85.43		4.884E-01	1.353E-01	1.926E-01	2.044E-02	2.536
		88.47		5.360E-01	1.068E-01	1.286E-01	1.385E-02	4.169
		100.00		2.443E-02	1.213E-01	2.086E-01	2.381E-02	0.117
		193.63	*	-2.570E-01	4.242E-01	6.715E-01	6.406E-02	-0.383
PA-231	+	210.97		9.554E-01	7.055E-01	1.099E+00	1.089E-01	0.869
		283.67	*	-1.264E+00	1.457E+00	2.159E+00	3.613E-01	-0.586
		301.29		1.554E+00	9.063E-01	1.008E+00	1.412E-01	1.541
TH-231	+	81.07		1.108E-01	1.365E-01	1.803E-01	1.878E-02	0.614
		83.78		3.263E-01	9.035E-02	1.319E-01	1.390E-02	2.473
		94.90		1.121E-01	1.406E-01	2.461E-01	2.736E-02	0.455
	+	122.32		1.265E-01	1.352E+00	2.289E+00	3.046E-01	0.055
		144.24		1.233E+00	8.049E-01	1.014E+00	1.208E-01	1.217
		154.21		1.501E-01	3.337E-01	5.633E-01	6.137E-02	0.266
	+	269.46		6.200E-01	3.110E-01	3.108E-01	3.464E-02	1.995
		323.87	*	1.416E-01	6.705E-01	1.011E+00	1.899E-01	0.140
		338.28		8.046E+00	1.866E+00	2.341E+00	3.193E-01	3.437
	U-231	+	445.03		2.894E-02	2.279E+00	3.740E+00	4.814E-01
84.21				1.641E+01	4.545E+00	6.804E+00	7.183E-01	2.412
92.29				1.701E+01	2.933E+00	3.794E+00	4.162E-01	4.484
		95.87	*	-3.985E-01	8.348E-01	1.259E+00	1.406E-01	-0.317

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		-1.397E+00	1.731E+00	2.845E+00	3.390E-01	-0.491
	+	75.28		1.832E+01	3.631E+00	3.933E+00	6.401E-01	4.658
	+	86.59		7.685E+00	2.481E+00	2.002E+00	5.515E-01	3.839
	+	300.12		1.083E+00	6.383E-01	7.134E-01	1.167E-01	1.518
		311.98	*	-1.825E-02	5.717E-02	9.484E-02	1.047E-02	-0.192
		340.50		7.264E-01	6.431E-01	9.893E-01	2.427E-01	0.734
		398.62		-3.530E-01	2.114E+00	3.462E+00	9.283E-01	-0.102
PA-234		415.76		4.839E-01	1.716E+00	2.674E+00	5.846E-01	0.181
	+	63.00		2.369E+00	9.938E-01	1.175E+00	1.906E-01	2.016
		94.67		1.639E-01	1.056E-01	1.851E-01	2.636E-02	0.885
		98.44		9.015E-02	8.298E-02	1.065E-01	5.993E-02	0.846
		99.86		8.650E-02	3.078E-01	5.307E-01	6.053E-02	0.163
		111.00		-1.171E-01	1.319E-01	2.145E-01	3.171E-02	-0.546
		131.20		-6.553E-02	9.301E-02	1.322E-01	1.614E-02	-0.496
		152.70		1.202E-01	2.742E-01	4.621E-01	8.298E-02	0.260
	+	186.00		6.387E+00	2.872E+00	2.429E+00	7.634E-01	2.630
		226.40		-8.848E-03	3.670E-01	5.913E-01	8.458E-02	-0.015
		227.20		9.777E-02	3.905E-01	6.372E-01	6.527E-02	0.153
		248.90		2.031E-01	7.321E-01	1.188E+00	2.764E-01	0.171
	+	293.70		6.432E+00	1.590E+00	1.559E+00	2.905E-01	4.125
		369.80		1.537E-01	8.152E-01	1.371E+00	3.049E-01	0.112
		568.70		8.994E-01	1.118E+00	1.881E+00	2.011E-01	0.478
		569.50		2.591E-02	3.094E-01	4.973E-01	5.319E-02	0.052
		574.00		-8.907E-01	1.571E+00	2.398E+00	2.571E-01	-0.371
		699.00		7.054E-02	7.508E-01	1.258E+00	2.548E-01	0.056
		706.10		-9.811E-01	1.162E+00	1.662E+00	7.497E-01	-0.590
		733.00		2.693E-01	4.289E-01	6.544E-01	1.516E-01	0.412
		742.81		-1.092E-01	1.387E+00	2.278E+00	1.539E+00	-0.048
	+	796.30		1.874E+00	1.411E+00	1.831E+00	5.072E-01	1.024
		805.60		8.886E-01	1.152E+00	1.948E+00	6.077E-01	0.456
		819.60		7.915E-02	1.274E+00	2.100E+00	8.072E-01	0.038
		826.30		-3.203E-01	9.227E-01	1.449E+00	6.533E-01	-0.221
		831.60		-2.038E-01	6.956E-01	1.107E+00	3.359E-01	-0.184
		876.40		-7.061E-01	1.167E+00	1.381E+00	1.421E+00	-0.511
		880.51		1.605E-01	3.014E-01	5.133E-01	4.967E-02	0.313
		883.24		3.524E-02	3.027E-01	4.965E-01	3.345E-01	0.071
		899.00		-6.458E-01	9.461E-01	1.369E+00	6.007E-01	-0.472
		925.00		-5.997E-01	1.327E+00	2.060E+00	1.941E-01	-0.291
		926.50		-3.484E-02	1.944E-01	3.094E-01	7.909E-02	-0.113
		946.00	*	-6.939E-02	3.317E-01	5.255E-01	1.005E-01	-0.132
		949.00		6.900E-02	4.920E-01	8.054E-01	7.546E-02	0.086
		980.50		-1.919E-01	8.078E-01	1.272E+00	1.180E-01	-0.151
PA-234M		1394.10		-1.387E-01	1.225E+00	1.960E+00	1.275E+00	-0.071
	+	766.42		3.200E+01	2.471E+01	2.311E+01	1.181E+01	1.385
NP-236		1001.03	*	5.491E+00	5.754E+00	9.773E+00	1.024E+00	0.562
		94.67		1.269E-01	7.946E-02	1.407E-01	1.562E-02	0.902
		98.44		6.813E-02	5.024E-02	8.051E-02	9.114E-03	0.846
		111.00		-8.860E-02	9.946E-02	1.622E-01	1.966E-02	-0.546
		160.31	*	-3.398E-02	6.496E-02	1.050E-01	1.000E-02	-0.324

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		8.580E-02	1.023E-01	1.791E-01	2.039E-02	0.479
		117.00	*	-1.869E-01	1.411E-01	2.230E-01	2.794E-02	-0.838
	+	209.75		2.301E+00	9.547E-01	1.324E+00	1.309E-01	1.738
		228.18		-9.954E-02	2.058E-01	3.233E-01	3.318E-02	-0.308
	+	277.60		2.110E-01	2.522E-01	2.940E-01	3.274E-02	0.718
AM-241		334.30		1.105E+00	1.213E+00	1.917E+00	2.012E-01	0.577
		59.54	*	3.679E-02	5.223E-02	7.882E-02	8.189E-03	0.467
		99.55		8.830E-02	1.053E-01	1.843E-01	2.099E-02	0.479
		103.76	*	-6.421E-02	6.666E-02	1.089E-01	1.269E-02	-0.589
		117.00		-1.923E-01	1.451E-01	2.294E-01	2.874E-02	-0.838
CM-243	+	209.75		2.269E+00	9.412E-01	1.305E+00	1.290E-01	1.738
		228.18		-1.006E-01	2.079E-01	3.267E-01	3.352E-02	-0.308
	+	277.60		2.128E-01	2.543E-01	2.964E-01	3.301E-02	0.718
		798.80		-1.788E-01	1.663E-01	2.024E-01	2.115E-02	-0.884
		1036.00		-2.108E-01	3.288E-01	5.206E-01	4.716E-02	-0.405
AM-246		1062.04		2.744E-02	2.689E-01	4.535E-01	4.051E-02	0.061
		1078.86	*	-3.150E-02	1.488E-01	2.440E-01	2.158E-02	-0.129
	+	278.00		8.752E-01	1.046E+00	1.229E+00	1.370E-01	0.712
		287.40		1.815E+00	1.145E+00	1.953E+00	2.168E-01	0.929
		402.60	*	9.994E-03	3.972E-02	6.447E-02	5.943E-03	0.155
CF-249		252.85		2.144E-01	7.817E-01	1.268E+00	1.360E-01	0.169
		333.44		1.585E-01	1.655E-01	2.481E-01	2.609E-02	0.639
		387.95	*	5.003E-02	3.960E-02	6.990E-02	6.432E-03	0.716
CF-251		176.60	*	2.918E-02	1.040E-01	1.731E-01	1.585E-02	0.169
		227.00		-1.122E-02	3.528E-01	5.681E-01	5.817E-02	-0.020
		285.00		-4.162E-01	1.666E+00	2.595E+00	2.886E-01	-0.160

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847001      *
* Acquisition date   : 27-JAN-2010 13:24:49 Detector SN#                   *
* Detector ID        : GAM25 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:02.08 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244847001 Analyst initials: MXR1                  *
* Batch Number       : 942717 Sample Quantity : 1.3472E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
BE-7	6.253E-01	4.296E-01	5.502E-01	0.000E+00
K-40	3.664E+01	3.587E+00	4.918E-01	0.000E+00
CD-109	3.999E+00	7.809E-01	6.906E-01	0.000E+00
SN-126	3.926E-01	7.665E-02	6.765E-02	0.000E+00
BA-137M	3.309E-01	9.149E-02	5.569E-02	0.000E+00
CS-137	3.498E-01	9.673E-02	5.887E-02	0.000E+00
CE-141	1.164E-01	7.430E-02	8.718E-02	0.000E+00
TL-208	6.177E-01	9.880E-02	6.075E-02	0.000E+00
BI-210	1.652E+00	6.742E-01	6.912E-01	0.000E+00
PB-210	1.652E+00	6.742E-01	6.912E-01	0.000E+00
PO-210	1.652E+00	6.711E-01	6.912E-01	0.000E+00
BI-211	3.912E+00	6.078E-01	3.148E-01	0.000E+00
PB-212	1.736E+00	2.275E-01	1.138E-01	0.000E+00
PO-212	1.736E+00	2.275E-01	1.138E-01	0.000E+00
BI-214	1.267E+00	2.204E-01	1.065E-01	0.000E+00
PB-214	1.361E+00	2.226E-01	1.098E-01	0.000E+00
PO-214	1.361E+00	2.226E-01	1.098E-01	0.000E+00
PO-216	1.736E+00	2.275E-01	1.138E-01	0.000E+00
PO-218	1.361E+00	2.226E-01	1.098E-01	0.000E+00
RA-224	3.087E+00	9.148E-01	1.129E+00	0.000E+00
RA-226	1.267E+00	2.204E-01	1.065E-01	0.000E+00
AC-228	1.739E+00	3.484E-01	2.276E-01	0.000E+00
RA-228	1.739E+00	3.484E-01	2.276E-01	0.000E+00
TH-228	1.764E+00	2.312E-01	1.156E-01	0.000E+00
TH-230	1.267E+00	2.204E-01	1.065E-01	0.000E+00
TH-232	1.739E+00	3.484E-01	2.276E-01	0.000E+00
TH-234	2.032E+00	8.551E-01	7.848E-01	0.000E+00
U-234	1.267E+00	2.204E-01	1.065E-01	0.000E+00
U-235	3.805E-01	2.494E-01	2.834E-01	0.000E+00
NP-237	1.153E+00	3.240E-01	1.978E-01	0.000E+00
U-238	2.032E+00	8.551E-01	7.848E-01	0.000E+00
AM-243	3.498E-01	5.217E-02	4.687E-02	0.000E+00
ANH-511	9.008E-02	7.130E-02	4.859E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error ) Ided	MDA (pCi/GRAM	)	
NA-22	-2.259E-02	4.974E-02	8.040E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.371E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.523E-02	2.561E-02	3.676E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.829E-02	4.388E-02	0.000E+00	FAIL ABUN
SC-46	3.052E-02	3.641E-02	6.599E-02	0.000E+00	FAIL ABUN
V-48	9.143E-03	7.887E-02	1.323E-01	0.000E+00	NOT IDENT.
CR-51	-9.358E-02	3.333E-01	5.816E-01	0.000E+00	NOT IDENT.
MN-52	-5.226E-02	2.649E-01	4.280E-01	0.000E+00	NOT IDENT.
MN-54	-4.078E-03	4.261E-02	7.157E-02	0.000E+00	NOT IDENT.
CO-56	4.322E-02	4.088E-02	7.473E-02	0.000E+00	NOT IDENT.
CO-57	2.557E-03	1.919E-02	3.479E-02	0.000E+00	NOT IDENT.
CO-58	5.388E-03	4.267E-02	7.314E-02	0.000E+00	NOT IDENT.
FE-59	-1.478E-02	1.018E-01	1.726E-01	0.000E+00	FAIL ABUN
CO-60	1.225E-02	4.124E-02	7.136E-02	0.000E+00	NOT IDENT.
ZN-65	-1.722E-02	1.138E-01	1.648E-01	0.000E+00	NOT IDENT.
GE-68	-1.130E+00	1.285E+00	2.030E+00	0.000E+00	NOT IDENT.
AS-73	1.015E-01	1.729E-01	3.074E-01	0.000E+00	NOT IDENT.
AS-74	1.108E-02	9.153E-02	1.534E-01	0.000E+00	NOT IDENT.
SE-75	-1.042E-02	3.994E-02	6.263E-02	0.000E+00	NOT IDENT.
BR-77	-1.388E+01	1.388E+01	2.148E+01	0.000E+00	FAIL ABUN
SR-82	-2.767E-01	4.229E-01	6.831E-01	0.000E+00	NOT IDENT.
RB-83	-6.837E-02	6.957E-02	1.078E-01	0.000E+00	NOT IDENT.
RB-84	3.935E-02	7.493E-02	1.316E-01	0.000E+00	NOT IDENT.
KR-85	1.269E+01	8.090E+00	1.343E+01	0.000E+00	NOT IDENT.
SR-85	6.570E-02	4.189E-02	6.954E-02	0.000E+00	NOT IDENT.
RB-86	-5.398E-01	8.326E-01	1.347E+00	0.000E+00	NOT IDENT.
Y-88	2.022E-02	3.535E-02	6.517E-02	0.000E+00	NOT IDENT.
ZR-88	-3.104E-02	2.928E-02	4.732E-02	0.000E+00	NOT IDENT.
Y-91	-3.833E+00	2.073E+01	3.465E+01	0.000E+00	NOT IDENT.
NB-94	9.181E-03	3.415E-02	5.997E-02	0.000E+00	NOT IDENT.
NB-95	7.103E-02	5.080E-02	8.487E-02	0.000E+00	NOT IDENT.
NB-95M	5.215E-03	1.196E-01	1.816E-01	0.000E+00	NOT IDENT.
ZR-95	4.966E-02	7.798E-02	1.391E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.723E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.701E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.068E+01	1.435E+01	2.289E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.348E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.269E-02	2.807E-02	4.991E-02	0.000E+00	FAIL ABUN
RH-102	1.304E-02	3.256E-02	5.032E-02	0.000E+00	FAIL ABUN
RU-103	2.246E-02	4.072E-02	7.141E-02	0.000E+00	FAIL ABUN
RH-106	2.397E-01	3.038E-01	5.567E-01	0.000E+00	FAIL ABUN
RU-106	2.397E-01	3.029E-01	5.567E-01	0.000E+00	FAIL ABUN
AG-108M	1.143E-02	3.035E-02	5.342E-02	0.000E+00	NOT IDENT.
AG-110M	-1.943E-02	3.701E-02	5.247E-02	0.000E+00	NOT IDENT.
IN-111	-1.555E-01	1.302E+00	1.945E+00	0.000E+00	NOT IDENT.
IN-113M	-2.548E-02	4.136E-02	6.901E-02	0.000E+00	NOT IDENT.
SN-113	-2.548E-02	4.136E-02	6.901E-02	0.000E+00	NOT IDENT.
IN-114M	5.547E-02	1.739E-01	2.740E-01	0.000E+00	NOT IDENT.
CD-115	-9.571E+00	1.446E+01	2.303E+01	0.000E+00	NOT IDENT.
SN-117M	-3.121E-02	4.611E-02	7.886E-02	0.000E+00	NOT IDENT.
SB-122	5.811E-02	2.883E+00	4.821E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.504E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.102E-02	2.265E-02	3.909E-02	0.000E+00	NOT IDENT.
I-124	1.045E+00	7.923E-01	1.354E+00	0.000E+00	NOT IDENT.
SB-124	3.573E-02	6.988E-02	1.289E-01	0.000E+00	FAIL ABUN
SB-125	1.455E-01	9.260E-02	1.722E-01	0.000E+00	FAIL ABUN
TE-125M	-4.042E-01	6.488E+00	1.178E+01	0.000E+00	NOT IDENT.
I-126	-5.466E-02	2.213E-01	3.253E-01	0.000E+00	NOT IDENT.
SB-126	-1.082E-01	1.763E-01	2.446E-01	0.000E+00	FAIL ABUN
SB-127	5.756E-01	1.604E+00	2.844E+00	0.000E+00	NOT IDENT.
XE-127	-3.791E-02	4.153E-02	6.839E-02	0.000E+00	FAIL ABUN
I-131	6.239E-02	1.111E-01	2.005E-01	0.000E+00	NOT IDENT.
TE-132	-3.655E-01	7.551E-01	1.253E+00	0.000E+00	NOT IDENT.
BA-133	-1.643E-03	4.345E-02	6.688E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.221E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.653E-02	6.694E-02	9.839E-02	0.000E+00	FAIL ABUN
CS-135	1.875E-01	1.457E-01	2.363E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.479E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.849E-02	1.198E-01	2.090E-01	0.000E+00	FAIL ABUN
CE-139	-2.525E-02	2.415E-02	4.033E-02	0.000E+00	NOT IDENT.
BA-140	-2.501E-02	2.597E-01	4.273E-01	0.000E+00	NOT IDENT.
LA-140	-3.526E-02	8.660E-02	1.388E-01	0.000E+00	FAIL ABUN

CE-143	0.000E+00	2.844E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.733E-03	1.642E-01	2.813E-01	0.000E+00	NOT IDENT.
PM-144	1.629E-02	3.426E-02	6.105E-02	0.000E+00	FAIL ABUN
PR-144	1.104E+00	2.323E+00	4.139E+00	0.000E+00	NOT IDENT.
PM-146	8.013E-03	4.258E-02	7.370E-02	0.000E+00	NOT IDENT.
ND-147	1.649E-01	5.625E-01	9.666E-01	0.000E+00	FAIL ABUN
PM-149	8.049E+01	1.151E+02	1.983E+02	0.000E+00	NOT IDENT.
EU-152	-3.488E-02	8.642E-02	1.485E-01	0.000E+00	FAIL ABUN
GD-153	-2.348E-02	5.481E-02	8.786E-02	0.000E+00	FAIL ABUN
EU-154	9.874E-03	1.329E-01	2.255E-01	0.000E+00	NOT IDENT.
EU-155	9.374E-02	7.571E-02	1.425E-01	0.000E+00	FAIL ABUN
TB-160	3.379E-02	1.460E-01	2.505E-01	0.000E+00	FAIL ABUN
HO-166M	-2.225E-02	6.458E-02	1.084E-01	0.000E+00	FAIL ABUN
TM-171	-5.796E+00	1.264E+01	1.951E+01	0.000E+00	NOT IDENT.
LU-176	-8.536E-04	2.114E-02	3.754E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.454E+00	2.091E+00	0.000E+00	FAIL ABUN
LU-177M	-1.077E-01	1.860E-01	2.668E-01	0.000E+00	NOT IDENT.
HF-181	1.576E-03	4.428E-02	6.979E-02	0.000E+00	NOT IDENT.
W-181	-5.209E-02	1.545E-01	2.393E-01	0.000E+00	NOT IDENT.
TA-182	2.129E-01	2.319E-01	4.144E-01	0.000E+00	FAIL ABUN
RE-183	8.098E-02	8.962E-02	1.617E-01	0.000E+00	FAIL ABUN
RE-184	5.736E-02	2.049E-01	3.511E-01	0.000E+00	NOT IDENT.
OS-185	-2.095E-02	4.246E-02	7.111E-02	0.000E+00	NOT IDENT.
RE-188	1.219E-01	1.417E-01	2.580E-01	0.000E+00	FAIL ABUN
W-188	-7.792E+00	7.162E+00	1.037E+01	0.000E+00	FAIL ABUN
IR-192	1.770E-02	2.954E-02	5.397E-02	0.000E+00	FAIL ABUN
AU-195	2.039E-01	1.546E-01	2.782E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.704E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.052E+00	6.858E+00	1.219E+01	0.000E+00	NOT IDENT.
TL-202	2.744E-02	6.908E-02	1.216E-01	0.000E+00	NOT IDENT.
HG-203	1.678E-02	4.315E-02	6.580E-02	0.000E+00	NOT IDENT.
BI-207	2.050E-02	5.889E-02	1.040E-01	0.000E+00	FAIL ABUN
TL-207	1.416E-01	6.571E-01	1.041E+00	0.000E+00	FAIL ABUN
PO-209	3.566E+00	7.467E+00	1.306E+01	0.000E+00	NOT IDENT.
PB-211	7.344E-01	1.173E+00	1.729E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.353E-01	7.271E-01	0.000E+00	FAIL ABUN
PO-215	1.416E-01	6.571E-01	1.041E+00	0.000E+00	FAIL ABUN
RN-219	-1.586E-01	4.227E-01	7.159E-01	0.000E+00	FAIL ABUN
RN-220	5.646E+00	2.557E+01	4.355E+01	0.000E+00	NOT IDENT.
RA-223	1.416E-01	6.571E-01	1.041E+00	0.000E+00	FAIL ABUN
AC-227	-1.212E-01	3.407E-01	5.618E-01	0.000E+00	FAIL ABUN
TH-227	-1.212E-01	3.408E-01	5.618E-01	0.000E+00	FAIL ABUN
TH-229	-2.570E-01	4.157E-01	6.982E-01	0.000E+00	FAIL ABUN
PA-231	-1.264E+00	1.428E+00	2.229E+00	0.000E+00	FAIL ABUN
TH-231	1.416E-01	6.571E-01	1.041E+00	0.000E+00	FAIL ABUN
U-231	-3.985E-01	8.181E-01	1.325E+00	0.000E+00	FAIL ABUN
PA-233	-1.825E-02	5.602E-02	9.777E-02	0.000E+00	FAIL ABUN
PA-234	-6.939E-02	3.251E-01	5.309E-01	0.000E+00	FAIL ABUN
PA-234M	5.491E+00	5.639E+00	9.864E+00	0.000E+00	FAIL ABUN
NP-236	-3.398E-02	6.366E-02	1.095E-01	0.000E+00	NOT IDENT.
NP-239	-1.869E-01	1.382E-01	2.339E-01	0.000E+00	FAIL ABUN
AM-241	3.679E-02	5.119E-02	8.363E-02	0.000E+00	NOT IDENT.
CM-243	-6.421E-02	6.532E-02	1.145E-01	0.000E+00	FAIL ABUN
AM-246	-3.150E-02	1.459E-01	2.459E-01	0.000E+00	NOT IDENT.
CM-247	9.994E-03	3.893E-02	6.616E-02	0.000E+00	FAIL ABUN
CF-249	5.003E-02	3.881E-02	7.178E-02	0.000E+00	NOT IDENT.
CF-251	2.918E-02	1.019E-01	1.803E-01	0.000E+00	NOT IDENT.



```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847001.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:24:49
Sample ID          : G244847001          Sample quantity  : 1.34720E+02 GRAM
Detector name      : GAM25              Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00      Elapsed real time: 0 02:00:02.08  0.0%
Energy tolerance    : 1.50000 keV        Analyst Initials : MXR1
Abundance limit     : 75.00000           Sensitivity       : 5.00000
Batch ID           : 942717              Detector SN#      :
Matrix Spike ID     :                    LCS ID           : 1032-A
*****

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## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BE-7	477.59	57	10.42*	2.983E+00	5.075E-01	6.253E-01	70.11
K-40	1460.81	1555	10.67*	1.109E+00	3.664E+01	3.664E+01	9.99
CD-109	88.03	490	3.72*	9.406E+00	3.904E+00	3.999E+00	19.92
SN-126	64.28	271	9.60	9.778E+00	8.043E-01	8.043E-01	41.84
	86.94	490	8.90	9.406E+00	1.632E+00	1.632E+00	45.09
	87.57	490	37.00*	9.406E+00	3.926E-01	3.926E-01	19.92
BA-137M	661.65	238	89.98*	2.231E+00	3.306E-01	3.309E-01	28.21
CS-137	661.65	238	85.12*	2.231E+00	3.494E-01	3.498E-01	28.22
CE-141	145.44	108	48.40*	7.561E+00	8.254E-02	1.164E-01	65.16
TL-208	277.35	51	6.80	4.746E+00	4.376E-01	4.376E-01	119.84
	510.84	91	21.60	2.808E+00	4.170E-01	4.170E-01	81.20
	583.14	466	84.20*	2.496E+00	6.177E-01	6.177E-01	16.32
	860.37	66	12.46	1.766E+00	8.346E-01	8.346E-01	50.29
BI-210	46.50	220	4.05*	9.177E+00	1.650E+00	1.652E+00	41.63
PB-210	46.50	220	4.05*	9.177E+00	1.650E+00	1.652E+00	41.63
PO-210	46.50	220	4.05*	9.177E+00	1.650E+00	1.652E+00	41.45
BI-211	72.87	-----	1.27	9.724E+00	-----	Line Not Found	-----
	351.07	706	12.94*	3.886E+00	3.912E+00	3.912E+00	15.85
PB-212	74.81	803	10.70	9.694E+00	2.157E+00	2.157E+00	17.86
	77.11	1305	18.00	9.653E+00	2.093E+00	2.093E+00	12.76
	87.30	490	8.00	9.406E+00	1.816E+00	1.816E+00	22.29
	238.63	1484	44.60*	5.340E+00	1.736E+00	1.736E+00	13.37
	300.09	114	3.41	4.440E+00	2.097E+00	2.097E+00	57.95
PO-212	74.81	803	10.70	9.694E+00	2.157E+00	2.157E+00	17.86
	77.11	1305	18.00	9.653E+00	2.093E+00	2.093E+00	12.76
	87.30	490	8.00	9.406E+00	1.816E+00	1.816E+00	22.29
	115.19	-----	0.60	8.498E+00	-----	Line Not Found	-----
	238.63	1484	44.60*	5.340E+00	1.736E+00	1.736E+00	13.37
	300.09	114	3.41	4.440E+00	2.097E+00	2.097E+00	57.95
BI-214	609.31	505	46.30*	2.401E+00	1.267E+00	1.267E+00	17.75
	1120.29	72	15.10	1.397E+00	9.516E-01	9.516E-01	72.14
	1764.49	63	15.80	9.412E-01	1.174E+00	1.174E+00	35.13

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	74.81	803	6.21	9.694E+00	3.717E+00	3.717E+00	16.93
	77.11	1305	10.50	9.653E+00	3.587E+00	3.587E+00	14.86
	87.30	490	4.67	9.406E+00	3.110E+00	3.110E+00	21.36
	241.98	231	7.49	5.284E+00	1.628E+00	1.628E+00	30.76
	295.21	416	19.20	4.503E+00	1.340E+00	1.340E+00	20.62
PO-214	351.92	706	37.20*	3.886E+00	1.361E+00	1.361E+00	16.69
	74.81	803	6.21	9.694E+00	3.717E+00	3.717E+00	16.93
	77.11	1305	10.50	9.653E+00	3.587E+00	3.587E+00	14.86
	87.30	490	4.67	9.406E+00	3.110E+00	3.110E+00	21.36
	241.98	231	7.49	5.284E+00	1.628E+00	1.628E+00	30.76
PO-216	295.21	416	19.20	4.503E+00	1.340E+00	1.340E+00	20.62
	351.92	706	37.20*	3.886E+00	1.361E+00	1.361E+00	16.69
	74.81	803	10.70	9.694E+00	2.157E+00	2.157E+00	17.86
	77.11	1305	18.00	9.653E+00	2.093E+00	2.093E+00	12.76
	87.30	490	8.00	9.406E+00	1.816E+00	1.816E+00	22.29
PO-218	238.63	1484	44.60*	5.340E+00	1.736E+00	1.736E+00	13.37
	300.09	114	3.41	4.440E+00	2.097E+00	2.097E+00	57.95
	74.81	803	6.21	9.694E+00	3.717E+00	3.717E+00	16.93
	77.11	1305	10.50	9.653E+00	3.587E+00	3.587E+00	14.86
	87.30	490	4.67	9.406E+00	3.110E+00	3.110E+00	21.36
RA-224	241.98	231	7.49	5.284E+00	1.628E+00	1.628E+00	30.76
	295.21	416	19.20	4.503E+00	1.340E+00	1.340E+00	20.62
	351.92	706	37.20*	3.886E+00	1.361E+00	1.361E+00	16.69
	240.98	231	3.95*	5.284E+00	3.087E+00	3.087E+00	30.24
	609.31	505	46.30*	2.401E+00	1.267E+00	1.267E+00	17.75
AC-228	1120.29	72	15.10	1.397E+00	9.516E-01	9.516E-01	72.14
	1764.49	63	15.80	9.412E-01	1.174E+00	1.174E+00	35.13
	338.32	317	11.40	4.021E+00	1.927E+00	1.927E+00	45.70
	911.07	290	27.70*	1.678E+00	1.739E+00	1.739E+00	20.45
	969.11	146	16.60	1.589E+00	1.541E+00	1.541E+00	34.76
RA-228	338.32	317	11.40	4.021E+00	1.927E+00	1.927E+00	45.70
	911.07	290	27.70*	1.678E+00	1.739E+00	1.739E+00	20.45
	969.11	146	16.60	1.589E+00	1.541E+00	1.541E+00	34.76
	74.81	803	10.70	9.694E+00	2.157E+00	2.192E+00	15.26
	77.11	1305	18.00	9.653E+00	2.093E+00	2.126E+00	12.76
TH-228	87.30	490	8.00	9.406E+00	1.816E+00	1.845E+00	19.92
	238.63	1484	44.60*	5.340E+00	1.736E+00	1.764E+00	13.37
	300.09	114	3.41	4.440E+00	2.097E+00	2.131E+00	82.24
	609.31	505	46.30*	2.401E+00	1.267E+00	1.267E+00	17.75
	1120.29	72	15.10	1.397E+00	9.516E-01	9.516E-01	72.14
TH-230	1764.49	63	15.80	9.412E-01	1.174E+00	1.174E+00	35.13
	338.32	317	11.40	4.021E+00	1.927E+00	1.927E+00	21.46
	911.07	290	27.70*	1.678E+00	1.739E+00	1.739E+00	20.45
	969.11	146	16.60	1.589E+00	1.541E+00	1.541E+00	34.76
	63.29	271	3.80*	9.778E+00	2.032E+00	2.032E+00	42.94
TH-234	92.38	685	5.41	9.243E+00	3.816E+00	3.816E+00	23.45
	609.31	505	46.30*	2.401E+00	1.267E+00	1.267E+00	17.75
	1120.29	72	15.10	1.397E+00	9.516E-01	9.516E-01	72.14
	1764.49	63	15.80	9.412E-01	1.174E+00	1.174E+00	35.13

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	89.95	337	2.70	9.329E+00	3.728E+00	3.728E+00	37.82
	93.35	685	4.50	9.243E+00	4.587E+00	4.587E+00	31.75
	105.00	-----	2.10	8.843E+00	-----	Line Not Found	-----
	143.76	108	10.50*	7.561E+00	3.805E-01	3.805E-01	66.90
	163.35	-----	4.70	6.998E+00	-----	Line Not Found	-----
	185.71	294	54.00	6.418E+00	2.366E-01	2.366E-01	33.49
NP-237	205.31	-----	4.70	5.979E+00	-----	Line Not Found	-----
	86.50	490	12.60*	9.406E+00	1.153E+00	1.153E+00	28.68
	95.87	-----	2.60	9.143E+00	-----	Line Not Found	-----
U-238	63.29	271	3.80*	9.778E+00	2.032E+00	2.032E+00	42.94
	92.38	685	5.41	9.243E+00	3.816E+00	3.816E+00	17.24
AM-243	74.67	803	66.00*	9.694E+00	3.498E-01	3.498E-01	15.22
	86.72	490	0.34	9.406E+00	4.323E+01	4.323E+01	19.92
	117.66	-----	0.55	8.415E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.617E+00	-----	Line Not Found	-----
ANH-511	511.00	91	100.00*	2.808E+00	9.008E-02	9.008E-02	80.77

Flag: "\*" = Keyline

Total number of lines in spectrum 39  
Number of unidentified lines 2  
Number of lines tentatively identified by NID 37 94.87%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BE-7	53.44D	1.23	5.075E-01	6.253E-01	4.384E-01	70.11	
K-40	1.28E+09Y	1.00	3.664E+01	3.664E+01	0.366E+01	9.99	
CD-109	464.00D	1.02	3.904E+00	3.999E+00	0.797E+00	19.92	
SN-126	1.00E+05Y	1.00	3.926E-01	3.926E-01	0.782E-01	19.92	
BA-137M	30.17Y	1.00	3.306E-01	3.309E-01	0.934E-01	28.21	
CS-137	30.17Y	1.00	3.494E-01	3.498E-01	0.987E-01	28.22	
CE-141	32.50D	1.41	8.254E-02	1.164E-01	0.758E-01	65.16	
TL-208	1.41E+10Y	1.00	6.177E-01	6.177E-01	1.008E-01	16.32	
BI-210	22.26Y	1.00	1.650E+00	1.652E+00	0.688E+00	41.63	
PB-210	22.26Y	1.00	1.650E+00	1.652E+00	0.688E+00	41.63	
PO-210	22.26Y	1.00	1.650E+00	1.652E+00	0.685E+00	41.45	
BI-211	7.04E+08Y	1.00	3.912E+00	3.912E+00	0.620E+00	15.85	
PB-212	1.41E+10Y	1.00	1.736E+00	1.736E+00	0.232E+00	13.37	
PO-212	1.41E+10Y	1.00	1.736E+00	1.736E+00	0.232E+00	13.37	
BI-214	1600.00Y	1.00	1.267E+00	1.267E+00	0.225E+00	17.75	
PB-214	1600.00Y	1.00	1.361E+00	1.361E+00	0.227E+00	16.69	
PO-214	1600.00Y	1.00	1.361E+00	1.361E+00	0.227E+00	16.69	
PO-216	1.41E+10Y	1.00	1.736E+00	1.736E+00	0.232E+00	13.37	
PO-218	1600.00Y	1.00	1.361E+00	1.361E+00	0.227E+00	16.69	
RA-224	1.41E+10Y	1.00	3.087E+00	3.087E+00	0.933E+00	30.24	
RA-226	1600.00Y	1.00	1.267E+00	1.267E+00	0.225E+00	17.75	
AC-228	1.41E+10Y	1.00	1.739E+00	1.739E+00	0.355E+00	20.45	
RA-228	1.41E+10Y	1.00	1.739E+00	1.739E+00	0.355E+00	20.45	
TH-228	1.91Y	1.02	1.736E+00	1.764E+00	0.236E+00	13.37	
TH-230	4.47E+09Y	1.00	1.267E+00	1.267E+00	0.225E+00	17.75	
TH-232	1.41E+10Y	1.00	1.739E+00	1.739E+00	0.355E+00	20.45	
TH-234	4.47E+09Y	1.00	2.032E+00	2.032E+00	0.873E+00	42.94	
U-234	4.47E+09Y	1.00	1.267E+00	1.267E+00	0.225E+00	17.75	
U-235	7.04E+08Y	1.00	3.805E-01	3.805E-01	2.545E-01	66.90	
NP-237	2.14E+06Y	1.00	1.153E+00	1.153E+00	0.331E+00	28.68	
U-238	4.47E+09Y	1.00	2.032E+00	2.032E+00	0.873E+00	42.94	
AM-243	7380.00Y	1.00	3.498E-01	3.498E-01	0.532E-01	15.22	
ANH-511	1.00E+09Y	1.00	9.008E-02	9.008E-02	7.276E-02	80.77	

Total Activity : 8.212E+01 8.240E+01

Grand Total Activity : 8.212E+01 8.240E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
9	84.16	274	383	1.40	167.88	165	28	3.81E-02	25.6	9.49E+00	T
0	128.57	89	453	0.97	256.68	253	9	1.24E-02	89.1	8.05E+00	T
0	209.31	158	284	0.83	418.16	414	8	2.19E-02	40.3	5.89E+00	T
0	270.50	146	268	1.12	540.52	535	13	2.03E-02	48.9	4.84E+00	T
0	327.80	117	165	1.53	655.12	650	10	1.62E-02	45.3	4.13E+00	T
0	409.34	31	183	0.69	818.19	813	12	4.33E-03	***	3.41E+00	
0	463.17	71	128	1.38	925.84	920	11	9.81E-03	66.7	3.06E+00	T
0	727.38	100	102	1.26	1454.25	1447	13	1.38E-02	46.0	2.05E+00	T
0	767.53	72	85	1.43	1534.54	1529	13	9.97E-03	57.9	1.95E+00	T
0	795.00	50	71	1.25	1589.49	1583	10	6.90E-03	70.0	1.89E+00	T
1	964.23	57	56	1.85	1927.94	1918	29	7.97E-03	57.6	1.60E+00	T
0	1378.49	52	21	3.76	2756.49	2745	22	7.16E-03	56.3	1.17E+00	

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847001.CNF;1
* Acquisition date   : 27-JAN-2010 13:24:49   Detector SN#      :
* Detector ID        : GAM25                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:02.08          Half life ratio    : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G244847001             Analyst initials  : MXR1
* Batch Number       : 942717                 Sample Quantity   : 1.34720E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43.34MS Isotope       :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	6.253E-01	4.384E-01	5.378E-01	5.694E-02	1.163
K-40	3.664E+01	3.660E+00	4.908E-01	4.179E-02	74.652
CD-109	3.999E+00	7.968E-01	6.553E-01	7.042E-02	6.104
SN-126	3.926E-01	7.821E-02	6.418E-02	6.882E-03	6.116
BA-137M	3.309E-01	9.336E-02	5.475E-02	6.065E-03	6.043
CS-137	3.498E-01	9.871E-02	5.788E-02	6.419E-03	6.043
CE-141	1.164E-01	7.582E-02	8.343E-02	9.279E-03	1.395
TL-208	6.177E-01	1.008E-01	5.960E-02	6.718E-03	10.365
BI-210	1.652E+00	6.879E-01	6.488E-01	6.690E-02	2.547
PB-210	1.652E+00	6.879E-01	6.488E-01	6.690E-02	2.547
PO-210	1.652E+00	6.848E-01	6.488E-01	6.179E-02	2.547
BI-211	3.912E+00	6.202E-01	3.060E-01	3.225E-02	12.782
PB-212	1.736E+00	2.321E-01	1.098E-01	1.251E-02	15.807
PO-212	1.736E+00	2.321E-01	1.098E-01	1.251E-02	15.807
BI-214	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
PB-214	1.361E+00	2.271E-01	1.067E-01	1.253E-02	12.750
PO-214	1.361E+00	2.271E-01	1.067E-01	1.253E-02	12.750
PO-216	1.736E+00	2.321E-01	1.098E-01	1.251E-02	15.807

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218	1.361E+00	2.271E-01	1.067E-01	1.253E-02	12.750
RA-224	3.087E+00	9.334E-01	1.090E+00	1.145E-01	2.832
RA-226	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
AC-228	1.739E+00	3.555E-01	2.251E-01	2.678E-02	7.722
RA-228	1.739E+00	3.555E-01	2.251E-01	2.678E-02	7.722
TH-228	1.764E+00	2.359E-01	1.116E-01	1.271E-02	15.807
TH-230	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
TH-232	1.739E+00	3.555E-01	2.251E-01	2.678E-02	7.722
TH-234	2.032E+00	8.725E-01	7.404E-01	1.379E-01	2.744
U-234	1.267E+00	2.249E-01	1.046E-01	1.262E-02	12.110
U-235	3.805E-01	2.545E-01	2.712E-01	5.121E-02	1.403
NP-237	1.153E+00	3.306E-01	1.876E-01	4.357E-02	6.145
U-238	2.032E+00	8.725E-01	7.404E-01	1.379E-01	2.744
AM-243	3.498E-01	5.323E-02	4.434E-02	4.503E-03	7.888
ANH-511	9.008E-02	7.276E-02	4.755E-02	4.894E-03	1.894

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	-2.259E-02		5.076E-02	8.002E-02	6.561E-03	-0.282
NA-24	3.134E-01		1.210E+00	Half-Life too short		
AL-26	-1.523E-02		2.613E-02	3.683E-02	3.018E-03	-0.414
TI-44	3.862E-01	+	4.928E-02	4.155E-02	4.279E-03	9.294
SC-46	3.052E-02		3.715E-02	6.524E-02	6.248E-03	0.468
V-48	9.143E-03		8.048E-02	1.310E-01	1.214E-02	0.070
CR-51	-9.358E-02		3.401E-01	5.644E-01	6.268E-02	-0.166
MN-52	-5.226E-02		2.703E-01	4.270E-01	3.519E-02	-0.122
MN-54	-4.078E-03		4.348E-02	7.067E-02	7.172E-03	-0.058
CO-56	4.322E-02		4.172E-02	7.381E-02	7.406E-03	0.586
CO-57	2.557E-03		1.958E-02	3.319E-02	4.280E-03	0.077
CO-58	5.388E-03		4.355E-02	7.219E-02	7.490E-03	0.075
FE-59	-1.478E-02		1.039E-01	1.713E-01	1.613E-02	-0.086
CO-60	1.225E-02		4.208E-02	7.109E-02	5.773E-03	0.172
ZN-65	-1.722E-02		1.161E-01	1.637E-01	1.414E-02	-0.105
GE-68	-1.130E+00		1.311E+00	2.014E+00	1.783E-01	-0.561
AS-73	1.015E-01		1.764E-01	2.892E-01	2.776E-02	0.351
AS-74	1.108E-02		9.340E-02	1.506E-01	1.632E-02	0.074
SE-75	-1.042E-02		4.076E-02	6.057E-02	6.638E-03	-0.172
BR-77	-1.388E+01		1.416E+01	2.102E+01	2.180E+00	-0.660
SR-82	-2.767E-01		4.315E-01	6.736E-01	7.149E-02	-0.411
RB-83	-6.837E-02		7.099E-02	1.055E-01	1.094E-02	-0.648
RB-84	3.935E-02		7.646E-02	1.300E-01	1.257E-02	0.303
KR-85	1.269E+01		8.255E+00	1.314E+01	1.356E+00	0.965
SR-85	6.570E-02		4.275E-02	6.806E-02	7.022E-03	0.965
RB-86	-5.398E-01		8.496E-01	1.336E+00	1.183E-01	-0.404
Y-88	2.022E-02		3.607E-02	6.531E-02	5.337E-03	0.310
ZR-88	-3.104E-02		2.988E-02	4.609E-02	4.195E-03	-0.673

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	-3.833E+00		2.115E+01	3.445E+01	2.835E+00	-0.111
NB-94	9.181E-03		3.484E-02	5.903E-02	6.482E-03	0.156
NB-95	7.103E-02		5.184E-02	8.368E-02	8.938E-03	0.849
NB-95M	5.215E-03		1.221E-01	1.753E-01	2.009E-02	0.030
ZR-95	4.966E-02		7.957E-02	1.371E-01	1.570E-02	0.362
NB-97	-1.988E-01		1.389E-01	Half-Life	too short	
ZR-97	8.603E+00		2.399E+00	Half-Life	too short	
MO-99	-1.068E+01		1.465E+01	2.255E+01	3.729E+00	-0.474
TC-99M	1.499E+11		2.218E+11	Half-Life	too short	
RH-101	3.269E-02		2.865E-02	4.802E-02	4.627E-03	0.681
RH-102	1.304E-02		3.322E-02	4.918E-02	4.910E-03	0.265
RU-103	2.246E-02		4.155E-02	6.985E-02	1.059E-02	0.322
RH-106	2.397E-01		3.100E-01	5.467E-01	8.183E-02	0.438
RU-106	2.397E-01		3.091E-01	5.467E-01	5.987E-02	0.438
AG-108M	1.143E-02		3.097E-02	5.212E-02	5.151E-03	0.219
AG-110M	-1.943E-02		3.777E-02	5.159E-02	5.813E-03	-0.377
IN-111	-1.555E-01		1.328E+00	1.878E+00	1.989E-01	-0.083
IN-113M	-2.548E-02		4.220E-02	6.721E-02	6.277E-03	-0.379
SN-113	-2.548E-02		4.220E-02	6.721E-02	6.277E-03	-0.379
IN-114M	5.547E-02		1.774E-01	2.634E-01	2.493E-02	0.211
CD-115	-9.571E+00		1.476E+01	2.255E+01	2.350E+00	-0.424
SN-117M	-3.121E-02		4.705E-02	7.559E-02	7.339E-03	-0.413
SB-122	5.811E-02		2.942E+00	4.727E+00	5.040E-01	0.012
I-123	-7.315E+00		7.674E+00	Half-Life	too short	
TE-123M	-1.102E-02		2.311E-02	3.746E-02	3.638E-03	-0.294
I-124	1.045E+00		8.085E-01	1.329E+00	1.444E-01	0.786
SB-124	3.573E-02		7.131E-02	1.290E-01	1.115E-02	0.277
SB-125	1.455E-01		9.449E-02	1.680E-01	1.623E-02	0.866
TE-125M	-4.042E-01		6.620E+00	1.122E+01	1.491E+00	-0.036
I-126	-5.466E-02		2.258E-01	3.199E-01	3.541E-02	-0.171
SB-126	-1.082E-01		1.799E-01	2.408E-01	2.629E-02	-0.449
SB-127	5.756E-01		1.637E+00	2.798E+00	3.790E-01	0.206
XE-127	-3.791E-02		4.238E-02	6.583E-02	6.412E-03	-0.576
I-131	6.239E-02		1.134E-01	1.950E-01	2.002E-02	0.320
TE-132	-3.655E-01		7.705E-01	1.209E+00	2.035E-01	-0.302
BA-133	-1.643E-03		4.434E-02	6.502E-02	9.220E-03	-0.025
I-133	5.327E-03		6.227E-03	Half-Life	too short	
CS-134	9.653E-02	+	6.831E-02	9.708E-02	1.022E-02	0.994
CS-135	1.875E-01		1.486E-01	2.286E-01	2.760E-02	0.820
I-135	3.900E+10		3.306E+10	Half-Life	too short	
CS-136	1.849E-02		1.222E-01	2.073E-01	1.939E-02	0.089
CE-139	-2.525E-02		2.464E-02	3.868E-02	3.450E-03	-0.653
BA-140	-2.501E-02		2.650E-01	4.185E-01	1.409E-01	-0.060
LA-140	-3.526E-02		8.837E-02	1.387E-01	1.153E-02	-0.254
CE-143	7.828E-04		1.451E-04	Half-Life	too short	
CE-144	4.733E-03		1.676E-01	2.688E-01	4.753E-02	0.018
PM-144	1.629E-02		3.496E-02	6.009E-02	6.611E-03	0.271
PR-144	1.104E+00		2.370E+00	4.074E+00	4.481E-01	0.271



---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	8.013E-03		4.345E-02	7.197E-02	8.404E-03	0.111
ND-147	1.649E-01		5.740E-01	9.466E-01	1.521E-01	0.174
PM-149	8.049E+01		1.175E+02	1.920E+02	3.276E+01	0.419
EU-152	-3.488E-02		8.818E-02	1.443E-01	1.550E-02	-0.242
GD-153	-2.348E-02		5.592E-02	8.350E-02	9.403E-03	-0.281
EU-154	9.874E-03		1.356E-01	2.245E-01	2.466E-02	0.044
EU-155	9.374E-02		7.726E-02	1.356E-01	1.603E-02	0.691
TB-160	3.379E-02		1.490E-01	2.476E-01	2.399E-02	0.136
HO-166M	-2.225E-02		6.590E-02	1.067E-01	1.169E-02	-0.209
TM-171	-5.796E+00		1.290E+01	1.842E+01	1.829E+00	-0.315
LU-176	-8.536E-04		2.157E-02	3.640E-02	3.972E-03	-0.023
LU-177	3.576E+00	+	1.484E+00	2.013E+00	1.985E-01	1.776
LU-177M	-1.077E-01		1.898E-01	2.601E-01	2.431E-02	-0.414
HF-181	1.576E-03		4.518E-02	6.822E-02	6.855E-03	0.023
W-181	-5.209E-02		1.576E-01	2.259E-01	2.236E-02	-0.231
TA-182	2.129E-01		2.366E-01	4.121E-01	3.389E-02	0.517
RE-183	8.098E-02		9.145E-02	1.551E-01	1.443E-02	0.522
RE-184	5.736E-02		2.091E-01	3.393E-01	3.639E-02	0.169
OS-185	-2.095E-02		4.333E-02	6.989E-02	7.712E-03	-0.300
RE-188	1.219E-01		1.446E-01	2.472E-01	2.490E-02	0.493
W-188	-7.792E+00		7.309E+00	1.005E+01	1.113E+00	-0.776
IR-192	1.770E-02		3.014E-02	5.236E-02	5.655E-03	0.338
AU-195	2.039E-01		1.577E-01	2.644E-01	3.001E-02	0.771
TL-200	-2.054E-04		3.931E-04	Half-Life too short		
TL-201	2.052E+00		6.998E+00	1.170E+01	1.046E+00	0.175
TL-202	2.744E-02		7.049E-02	1.186E-01	1.143E-02	0.231
HG-203	1.678E-02		4.403E-02	6.370E-02	7.230E-03	0.263
BI-207	2.050E-02		6.009E-02	1.032E-01	9.207E-03	0.199
TL-207	1.416E-01		6.705E-01	1.011E+00	1.899E-01	0.140
PO-209	3.566E+00		7.620E+00	1.292E+01	1.226E+00	0.276
PB-211	7.344E-01		1.196E+00	1.685E+00	1.057E+00	0.436
BI-212	1.148E+00	+	5.463E-01	7.161E-01	8.605E-02	1.604
PO-215	1.416E-01		6.705E-01	1.011E+00	1.899E-01	0.140
RN-219	-1.586E-01		4.314E-01	6.975E-01	1.072E-01	-0.227
RN-220	5.646E+00		2.609E+01	4.267E+01	4.512E+00	0.132
RA-223	1.416E-01		6.705E-01	1.011E+00	1.899E-01	0.140
AC-227	-1.212E-01		3.476E-01	5.430E-01	9.046E-02	-0.223
TH-227	-1.212E-01		3.478E-01	5.430E-01	1.042E-01	-0.223
TH-229	-2.570E-01		4.242E-01	6.715E-01	6.406E-02	-0.383
PA-231	-1.264E+00		1.457E+00	2.159E+00	3.613E-01	-0.586
TH-231	1.416E-01		6.705E-01	1.011E+00	1.899E-01	0.140
U-231	-3.985E-01		8.348E-01	1.259E+00	1.406E-01	-0.317
PA-233	-1.825E-02		5.717E-02	9.484E-02	1.047E-02	-0.192
PA-234	-6.939E-02		3.317E-01	5.255E-01	1.005E-01	-0.132
PA-234M	5.491E+00		5.754E+00	9.773E+00	1.024E+00	0.562
NP-236	-3.398E-02		6.496E-02	1.050E-01	1.000E-02	-0.324
NP-239	-1.869E-01		1.411E-01	2.230E-01	2.794E-02	-0.838
AM-241	3.679E-02		5.223E-02	7.882E-02	8.189E-03	0.467

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-6.421E-02		6.666E-02	1.089E-01	1.269E-02	-0.589
AM-246	-3.150E-02		1.488E-01	2.440E-01	2.158E-02	-0.129
CM-247	9.994E-03		3.972E-02	6.447E-02	5.943E-03	0.155
CF-249	5.003E-02		3.960E-02	6.990E-02	6.432E-03	0.716
CF-251	2.918E-02		1.040E-01	1.731E-01	1.585E-02	0.169

## VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G244847001           *
* Acquisition date   : 27-JAN-2010 13:24:49 Detector SN#      :             *
* Detector ID        : GAM25                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00           Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:02.08           Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G244847001           Analyst initials: MXR1           *
* Batch Number       : 942717              Sample Quantity : 1.3472E+02 GRAM   *
* Recovery           : 1.00000             Carrier Weight  : 0.00000         *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43 MS Isotope        :             *
* MSD DPM             : 0.000              MSD Isotope        :             *
* LCS DPM             : 0.000              LCS Isotope        :             *
* LCSD DPM            : 0.000              LCSD Isotope       :             *
*****
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
BE-7	6.253E-01	4.296E-01	2.753E-01	2.192E-01
K-40	3.664E+01	3.587E+00	2.460E-01	1.830E+00
CD-109	3.999E+00	7.809E-01	3.455E-01	3.984E-01
SN-126	3.926E-01	7.665E-02	3.385E-02	3.911E-02
BA-137M	3.309E-01	9.149E-02	2.786E-02	4.668E-02
CS-137	3.498E-01	9.673E-02	2.945E-02	4.935E-02
CE-141	1.164E-01	7.430E-02	4.362E-02	3.791E-02
TL-208	6.177E-01	9.880E-02	3.039E-02	5.041E-02
BI-210	1.652E+00	6.742E-01	3.458E-01	3.440E-01
PB-210	1.652E+00	6.742E-01	3.458E-01	3.440E-01
PO-210	1.652E+00	6.711E-01	3.458E-01	3.424E-01
BI-211	3.912E+00	6.078E-01	1.575E-01	3.101E-01
PB-212	1.736E+00	2.275E-01	5.693E-02	1.161E-01
PO-212	1.736E+00	2.275E-01	5.693E-02	1.161E-01
BI-214	1.267E+00	2.204E-01	5.330E-02	1.124E-01
PB-214	1.361E+00	2.226E-01	5.493E-02	1.136E-01
PO-214	1.361E+00	2.226E-01	5.493E-02	1.136E-01
PO-216	1.736E+00	2.275E-01	5.693E-02	1.161E-01
PO-218	1.361E+00	2.226E-01	5.493E-02	1.136E-01
RA-224	3.087E+00	9.148E-01	5.647E-01	4.667E-01
RA-226	1.267E+00	2.204E-01	5.330E-02	1.124E-01
AC-228	1.739E+00	3.484E-01	1.139E-01	1.777E-01
RA-228	1.739E+00	3.484E-01	1.139E-01	1.777E-01
TH-228	1.764E+00	2.312E-01	5.785E-02	1.179E-01
TH-230	1.267E+00	2.204E-01	5.330E-02	1.124E-01
TH-232	1.739E+00	3.484E-01	1.139E-01	1.777E-01
TH-234	2.032E+00	8.551E-01	3.926E-01	4.363E-01
U-234	1.267E+00	2.204E-01	5.330E-02	1.124E-01
U-235	3.805E-01	2.494E-01	1.418E-01	1.273E-01
NP-237	1.153E+00	3.240E-01	9.894E-02	1.653E-01
U-238	2.032E+00	8.551E-01	3.926E-01	4.363E-01
AM-243	3.498E-01	5.217E-02	2.345E-02	2.662E-02
ANH-511	9.008E-02	7.130E-02	2.431E-02	3.638E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
NA-22	-2.259E-02	4.974E-02	4.022E-02	2.538E-02 NOT IDENT.
NA-24	3.134E+05	2.371E+06	0.000E+00	1.210E+06 SHORT HLIF
AL-26	-1.523E-02	2.561E-02	1.839E-02	1.307E-02 NOT IDENT.
TI-44	3.862E-01	4.829E-02	2.195E-02	2.464E-02 FAIL ABUN
SC-46	3.052E-02	3.641E-02	3.302E-02	1.858E-02 FAIL ABUN
V-48	9.143E-03	7.887E-02	6.618E-02	4.024E-02 NOT IDENT.
CR-51	-9.358E-02	3.333E-01	2.910E-01	1.701E-01 NOT IDENT.
MN-52	-5.226E-02	2.649E-01	2.141E-01	1.352E-01 NOT IDENT.
MN-54	-4.078E-03	4.261E-02	3.581E-02	2.174E-02 NOT IDENT.
CO-56	4.322E-02	4.088E-02	3.738E-02	2.086E-02 NOT IDENT.
CO-57	2.557E-03	1.919E-02	1.740E-02	9.790E-03 NOT IDENT.
CO-58	5.388E-03	4.267E-02	3.659E-02	2.177E-02 NOT IDENT.
FE-59	-1.478E-02	1.018E-01	8.633E-02	5.195E-02 FAIL ABUN
CO-60	1.225E-02	4.124E-02	3.570E-02	2.104E-02 NOT IDENT.
ZN-65	-1.722E-02	1.138E-01	8.247E-02	5.804E-02 NOT IDENT.
GE-68	-1.130E+00	1.285E+00	1.016E+00	6.557E-01 NOT IDENT.
AS-73	1.015E-01	1.729E-01	1.538E-01	8.820E-02 NOT IDENT.
AS-74	1.108E-02	9.153E-02	7.676E-02	4.670E-02 NOT IDENT.
SE-75	-1.042E-02	3.994E-02	3.133E-02	2.038E-02 NOT IDENT.
BR-77	-1.388E+01	1.388E+01	1.074E+01	7.079E+00 FAIL ABUN
SR-82	-2.767E-01	4.229E-01	3.418E-01	2.157E-01 NOT IDENT.
RB-83	-6.837E-02	6.957E-02	5.392E-02	3.549E-02 NOT IDENT.
RB-84	3.935E-02	7.493E-02	6.582E-02	3.823E-02 NOT IDENT.
KR-85	1.269E+01	8.090E+00	6.719E+00	4.128E+00 NOT IDENT.
SR-85	6.570E-02	4.189E-02	3.479E-02	2.137E-02 NOT IDENT.
RB-86	-5.398E-01	8.326E-01	6.737E-01	4.248E-01 NOT IDENT.
Y-88	2.022E-02	3.535E-02	3.260E-02	1.803E-02 NOT IDENT.
ZR-88	-3.104E-02	2.928E-02	2.368E-02	1.494E-02 NOT IDENT.
Y-91	-3.833E+00	2.073E+01	1.734E+01	1.057E+01 NOT IDENT.
NB-94	9.181E-03	3.415E-02	3.000E-02	1.742E-02 NOT IDENT.
NB-95	7.103E-02	5.080E-02	4.246E-02	2.592E-02 NOT IDENT.
NB-95M	5.215E-03	1.196E-01	9.087E-02	6.104E-02 NOT IDENT.
ZR-95	4.966E-02	7.798E-02	6.960E-02	3.978E-02 NOT IDENT.
NB-97	-1.988E+05	2.723E+05	0.000E+00	1.389E+05 SHORT HLIF
ZR-97	8.603E+06	4.701E+06	0.000E+00	2.399E+06 SHORT HLIF
MO-99	-1.068E+01	1.435E+01	1.145E+01	7.323E+00 NOT IDENT.
TC-99M	1.499E+17	4.348E+17	0.000E+00	0.000E+00 SHORT HLIF
RH-101	3.269E-02	2.807E-02	2.497E-02	1.432E-02 FAIL ABUN
RH-102	1.304E-02	3.256E-02	2.517E-02	1.661E-02 FAIL ABUN
RU-103	2.246E-02	4.072E-02	3.573E-02	2.077E-02 FAIL ABUN
RH-106	2.397E-01	3.038E-01	2.785E-01	1.550E-01 FAIL ABUN
RU-106	2.397E-01	3.029E-01	2.785E-01	1.545E-01 FAIL ABUN
AG-108M	1.143E-02	3.035E-02	2.672E-02	1.548E-02 NOT IDENT.
AG-110M	-1.943E-02	3.701E-02	2.625E-02	1.889E-02 NOT IDENT.
IN-111	-1.555E-01	1.302E+00	9.728E-01	6.642E-01 NOT IDENT.
IN-113M	-2.548E-02	4.136E-02	3.452E-02	2.110E-02 NOT IDENT.
SN-113	-2.548E-02	4.136E-02	3.452E-02	2.110E-02 NOT IDENT.
IN-114M	5.547E-02	1.739E-01	1.371E-01	8.872E-02 NOT IDENT.
CD-115	-9.571E+00	1.446E+01	1.152E+01	7.378E+00 NOT IDENT.
SN-117M	-3.121E-02	4.611E-02	3.945E-02	2.352E-02 NOT IDENT.
SB-122	5.811E-02	2.883E+00	2.412E+00	1.471E+00 NOT IDENT.
I-123	-7.315E+06	1.504E+07	0.000E+00	7.674E+06 SHORT HLIF
TE-123M	-1.102E-02	2.265E-02	1.955E-02	1.156E-02 NOT IDENT.
I-124	1.045E+00	7.923E-01	6.773E-01	4.042E-01 NOT IDENT.
SB-124	3.573E-02	6.988E-02	6.450E-02	3.565E-02 FAIL ABUN
SB-125	1.455E-01	9.260E-02	8.617E-02	4.724E-02 FAIL ABUN
TE-125M	-4.042E-01	6.488E+00	5.896E+00	3.310E+00 NOT IDENT.
I-126	-5.466E-02	2.213E-01	1.627E-01	1.129E-01 NOT IDENT.
SB-126	-1.082E-01	1.763E-01	1.224E-01	8.995E-02 FAIL ABUN
SB-127	5.756E-01	1.604E+00	1.423E+00	8.186E-01 NOT IDENT.
XE-127	-3.791E-02	4.153E-02	3.422E-02	2.119E-02 FAIL ABUN
I-131	6.239E-02	1.111E-01	1.003E-01	5.668E-02 NOT IDENT.
TE-132	-3.655E-01	7.551E-01	6.268E-01	3.853E-01 NOT IDENT.
BA-133	-1.643E-03	4.345E-02	3.346E-02	2.217E-02 FAIL ABUN
I-133	5.327E+03	1.221E+04	0.000E+00	6.227E+03 SHORT HLIF
CS-134	9.653E-02	6.694E-02	4.923E-02	3.415E-02 FAIL ABUN
CS-135	1.875E-01	1.457E-01	1.182E-01	7.432E-02 NOT IDENT.
I-135	3.900E+16	6.479E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	1.849E-02	1.198E-01	1.046E-01	6.110E-02 FAIL ABUN
CE-139	-2.525E-02	2.415E-02	2.018E-02	1.232E-02 NOT IDENT.
BA-140	-2.501E-02	2.597E-01	2.138E-01	1.325E-01 NOT IDENT.
LA-140	-3.526E-02	8.660E-02	6.942E-02	4.418E-02 FAIL ABUN

CE-143	7.828E+02	2.844E+02	0.000E+00	1.451E+02	SHORT HLIF
CE-144	4.733E-03	1.642E-01	1.407E-01	8.380E-02	NOT IDENT.
PM-144	1.629E-02	3.426E-02	3.054E-02	1.748E-02	FAIL ABUN
PR-144	1.104E+00	2.323E+00	2.071E+00	1.185E+00	NOT IDENT.
PM-146	8.013E-03	4.258E-02	3.687E-02	2.172E-02	NOT IDENT.
ND-147	1.649E-01	5.625E-01	4.836E-01	2.870E-01	FAIL ABUN
PM-149	8.049E+01	1.151E+02	9.920E+01	5.874E+01	NOT IDENT.
EU-152	-3.488E-02	8.642E-02	7.430E-02	4.409E-02	FAIL ABUN
GD-153	-2.348E-02	5.481E-02	4.395E-02	2.796E-02	FAIL ABUN
EU-154	9.874E-03	1.329E-01	1.128E-01	6.782E-02	NOT IDENT.
EU-155	9.374E-02	7.571E-02	7.130E-02	3.863E-02	FAIL ABUN
TB-160	3.379E-02	1.460E-01	1.253E-01	7.450E-02	FAIL ABUN
HO-166M	-2.225E-02	6.458E-02	5.423E-02	3.295E-02	FAIL ABUN
TM-171	-5.796E+00	1.264E+01	9.760E+00	6.450E+00	NOT IDENT.
LU-176	-8.536E-04	2.114E-02	1.878E-02	1.079E-02	FAIL ABUN
LU-177	3.576E+00	1.454E+00	1.046E+00	7.418E-01	FAIL ABUN
LU-177M	-1.077E-01	1.860E-01	1.335E-01	9.488E-02	NOT IDENT.
HF-181	1.576E-03	4.428E-02	3.491E-02	2.259E-02	NOT IDENT.
W-181	-5.209E-02	1.545E-01	1.197E-01	7.882E-02	NOT IDENT.
TA-182	2.129E-01	2.319E-01	2.073E-01	1.183E-01	FAIL ABUN
RE-183	8.098E-02	8.962E-02	8.092E-02	4.572E-02	FAIL ABUN
RE-184	5.736E-02	2.049E-01	1.757E-01	1.046E-01	NOT IDENT.
OS-185	-2.095E-02	4.246E-02	3.558E-02	2.166E-02	NOT IDENT.
RE-188	1.219E-01	1.417E-01	1.291E-01	7.231E-02	FAIL ABUN
W-188	-7.792E+00	7.162E+00	5.188E+00	3.654E+00	FAIL ABUN
IR-192	1.770E-02	2.954E-02	2.700E-02	1.507E-02	FAIL ABUN
AU-195	2.039E-01	1.546E-01	1.392E-01	7.887E-02	FAIL ABUN
TL-200	-2.054E+02	7.704E+02	0.000E+00	3.931E+02	SHORT HLIF
TL-201	2.052E+00	6.858E+00	6.101E+00	3.499E+00	NOT IDENT.
TL-202	2.744E-02	6.908E-02	6.081E-02	3.525E-02	NOT IDENT.
HG-203	1.678E-02	4.315E-02	3.292E-02	2.201E-02	NOT IDENT.
BI-207	2.050E-02	5.889E-02	5.203E-02	3.004E-02	FAIL ABUN
TL-207	1.416E-01	6.571E-01	5.209E-01	3.353E-01	FAIL ABUN
PO-209	3.566E+00	7.467E+00	6.536E+00	3.810E+00	NOT IDENT.
PB-211	7.344E-01	1.173E+00	8.651E-01	5.982E-01	NOT IDENT.
BI-212	1.148E+00	5.353E-01	3.638E-01	2.731E-01	FAIL ABUN
PO-215	1.416E-01	6.571E-01	5.209E-01	3.353E-01	FAIL ABUN
RN-219	-1.586E-01	4.227E-01	3.582E-01	2.157E-01	FAIL ABUN
RN-220	5.646E+00	2.557E+01	2.179E+01	1.304E+01	NOT IDENT.
RA-223	1.416E-01	6.571E-01	5.209E-01	3.353E-01	FAIL ABUN
AC-227	-1.212E-01	3.407E-01	2.811E-01	1.738E-01	FAIL ABUN
TH-227	-1.212E-01	3.408E-01	2.811E-01	1.739E-01	FAIL ABUN
TH-229	-2.570E-01	4.157E-01	3.493E-01	2.121E-01	FAIL ABUN
PA-231	-1.264E+00	1.428E+00	1.115E+00	7.287E-01	FAIL ABUN
TH-231	1.416E-01	6.571E-01	5.209E-01	3.353E-01	FAIL ABUN
U-231	-3.985E-01	8.181E-01	6.627E-01	4.174E-01	FAIL ABUN
PA-233	-1.825E-02	5.602E-02	4.892E-02	2.858E-02	FAIL ABUN
PA-234	-6.939E-02	3.251E-01	2.656E-01	1.659E-01	FAIL ABUN
PA-234M	5.491E+00	5.639E+00	4.935E+00	2.877E+00	FAIL ABUN
NP-236	-3.398E-02	6.366E-02	5.480E-02	3.248E-02	NOT IDENT.
NP-239	-1.869E-01	1.382E-01	1.170E-01	7.053E-02	FAIL ABUN
AM-241	3.679E-02	5.119E-02	4.184E-02	2.612E-02	NOT IDENT.
CM-243	-6.421E-02	6.532E-02	5.729E-02	3.333E-02	FAIL ABUN
AM-246	-3.150E-02	1.459E-01	1.230E-01	7.442E-02	NOT IDENT.
CM-247	9.994E-03	3.893E-02	3.310E-02	1.986E-02	FAIL ABUN
CF-249	5.003E-02	3.881E-02	3.591E-02	1.980E-02	NOT IDENT.
CF-251	2.918E-02	1.019E-01	9.020E-02	5.200E-02	NOT IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON ,SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	346.2448
46.50	346.2448
46.50	346.2448
48.70	344.3359
49.72	295.4507
51.35	373.3885
52.39	326.9366
52.97	328.8322
53.15	326.8867
53.44	336.0696
54.07	309.4211
56.28	377.7711
56.28	377.7763
57.37	0.0000
57.53	404.2299
57.53	404.2327
57.60	383.1194
57.98	365.7943
57.98	365.7943
59.32	383.8281
59.32	383.8281
59.40	389.9471
59.54	390.1573
59.72	436.9796
60.01	431.4532
61.10	464.9483
61.14	454.4502
61.30	454.7258
63.00	450.4022
63.29	450.8852
63.29	450.8852
63.58	451.3658
64.28	479.6370
65.12	478.0364
65.20	478.1753
65.20	478.1753
66.05	465.8027
66.72	499.2693
66.83	443.9736
66.91	444.0967
67.20	450.3422
67.20	450.3422
67.75	460.4912
67.85	486.1822
68.90	491.4565
68.90	491.4565
69.30	472.3136
69.67	484.5962
70.82	512.6802
70.82	512.6802
70.83	512.6969
72.80	542.8493
72.87	542.9756
72.87	542.9756
74.67	479.7099
74.81	479.9288
74.81	479.9288
74.81	479.9288
74.81	479.9288
74.81	479.9288
74.81	479.9288
74.81	479.9288
74.97	480.1784
75.28	480.6624
75.70	481.3189
77.11	483.5011
77.11	483.5011

77.11	483.5011
77.11	483.5011
77.11	483.5011
77.11	483.5011
77.11	483.5011
78.38	485.4491
79.62	390.8334
79.80	349.2123
79.80	349.2123
80.11	349.5479
80.18	349.6229
80.30	345.7237
80.30	345.7237
80.57	346.0117
81.00	336.7785
81.07	336.8506
81.07	336.8506
81.07	336.8506
81.07	336.8506
82.60	384.6862
83.37	380.6951
83.78	293.2050
83.78	293.2050
83.78	293.2050
83.78	293.2050
84.21	293.5822
84.90	294.1864
85.43	294.6478
86.29	295.3931
86.50	295.5743
86.54	295.6091
86.59	295.6531
86.72	295.7648
86.79	295.8234
86.94	295.9552
87.30	296.2646
87.30	296.2646
87.30	296.2646
87.30	296.2646
87.30	296.2646
87.30	296.2646
87.30	296.2646
87.57	296.4972
87.88	296.7627
88.03	296.8909
88.36	297.1729
88.47	297.2681
89.95	298.5278
91.11	299.5074
92.29	337.2246
92.38	337.3098
92.38	337.3098
93.35	338.2160
94.00	338.8222
94.67	339.4407
94.67	339.4448
94.90	339.6585
94.90	339.6585
94.90	339.6585
94.90	339.6585
95.87	330.0175
95.87	330.0175
96.73	338.3904
97.43	317.4362
98.44	271.1837
98.44	271.1837
98.88	278.3820
99.55	295.3898
99.55	295.3898
99.86	313.5210
100.00	313.6352
100.10	313.7213
103.18	326.5393
103.76	341.6544
105.00	293.5208
105.31	300.6626
108.00	351.3938
109.28	312.3651

111.00	327.6951
111.00	327.6951
111.76	328.2962
112.95	301.0626
115.19	298.2397
116.30	303.4526
117.00	322.6100
117.00	322.6100
117.66	312.4237
121.11	292.4695
121.62	299.0933
121.78	297.4047
122.06	295.7934
122.32	296.8654
122.32	296.8654
122.32	296.8654
122.32	296.8654
123.07	302.7705
127.23	293.2834
129.76	294.8901
131.20	301.3021
133.02	283.1262
133.54	287.5837
135.34	281.2643
136.00	277.0154
136.25	279.0123
136.48	266.1605
140.51	251.0578
140.51	0.0000
142.18	278.6369
142.65	288.7599
143.76	276.6897
144.24	276.9529
144.24	276.9529
144.24	276.9529
144.24	276.9529
145.22	276.0725
145.44	276.1915
147.16	314.0692
152.43	302.4219
152.70	292.0435
153.22	290.4120
154.21	288.0707
154.21	288.0707
154.21	288.0707
154.21	288.0707
155.03	270.2407
156.02	296.7520
158.56	280.7221
159.00	0.0000
159.00	270.2898
160.31	274.8213
161.27	285.9998
162.32	230.9872
162.64	237.9462
163.35	235.3197
163.89	258.0273
165.85	281.4850
167.43	239.9790
171.28	239.6096
171.86	242.8217
172.10	233.9978
176.55	234.7753
176.60	234.7944
181.06	229.4983
184.41	239.8690
185.71	259.6458
186.00	259.7656
190.27	237.5377
192.34	239.8510
193.63	246.4990
197.04	228.1873
198.01	208.8817
198.60	234.9435
200.40	262.5740
201.83	263.1453
202.84	277.0887
205.31	239.9520



208.36	244.1884
208.81	190.2264
209.75	209.9576
209.75	209.9576
210.97	197.6814
215.65	216.5363
216.55	215.7536
218.09	230.0735
222.10	235.6623
223.80	217.9673
226.40	232.7607
227.00	236.1896
227.08	236.2163
227.20	222.2299
228.16	238.7242
228.18	238.7310
228.18	238.7310
231.56	0.0000
235.69	232.4357
236.00	232.5311
236.00	232.5311
238.63	407.5297
238.63	407.5297
238.63	407.5297
238.63	407.5297
239.00	309.0829
240.98	309.8890
241.98	212.9142
241.98	212.9142
241.98	212.9142
244.69	213.6641
245.39	195.6212
247.94	165.2166
248.90	177.6302
249.79	200.0610
252.40	180.6498
252.85	175.1748
252.85	175.1748
254.15	0.0000
256.20	191.5957
256.20	191.5957
260.50	175.7222
260.90	185.9506
262.80	137.8110
264.65	167.1040
268.24	136.4453
268.79	146.7758
269.46	134.9374
269.46	134.9374
269.46	134.9374
269.46	134.9374
271.23	135.2219
273.65	147.6262
276.40	184.2687
277.35	184.4712
277.60	184.5267
277.60	184.5267
278.00	188.0623
278.60	179.5625
279.20	181.4140
279.53	181.4845
280.46	181.6800
281.68	169.8073
283.67	187.5597
284.30	183.0604
285.00	178.5701
285.90	160.1802
286.10	160.2167
286.10	160.2167
287.40	132.5500
288.45	0.0000
290.67	187.6556
290.80	182.0793
291.72	162.6379
293.26	0.0000
293.70	143.3254
295.21	146.3820
295.21	146.3820

295.21	146.3820
295.96	147.9126
296.50	147.9998
297.23	148.1202
298.57	148.3381
299.80	158.4406
299.80	158.4406
300.09	158.4898
300.09	158.4898
300.09	158.4898
300.09	158.4898
300.12	158.4953
301.29	167.1993
302.84	143.3529
303.76	150.5997
303.91	150.6230
304.40	150.7032
304.40	150.7032
304.84	156.4653
306.84	151.4555
308.46	157.9674
311.98	158.5589
316.51	130.5124
318.01	158.6648
319.02	138.9774
319.41	139.9366
320.08	154.4886
323.87	150.9219
323.87	150.9219
323.87	150.9219
323.87	150.9219
325.23	142.4134
328.77	138.5502
333.44	109.8981
334.20	115.8480
334.20	115.8480
334.30	115.8596
338.28	153.1283
338.28	153.1283
338.28	153.1283
338.28	153.1283
338.32	153.1334
338.32	153.1334
338.32	153.1334
340.50	141.6586
340.57	141.6680
344.27	149.0336
345.85	151.3017
350.59	0.0000
351.07	141.6302
351.92	141.7462
351.92	141.7462
351.92	141.7462
355.39	0.0000
356.01	134.8088
364.48	115.1252
366.43	132.3502
367.43	131.5257
367.94	0.0000
369.80	133.7086
374.96	133.3884
383.85	147.9045
387.95	119.5252
388.63	108.0232
391.69	136.3592
391.69	136.3592
392.90	148.1207
398.62	145.9373
400.65	165.6836
401.10	170.6234
401.81	159.9961
402.60	147.2731
404.84	142.4141
410.95	114.8360
411.60	125.9160
413.65	127.7075
414.70	118.3521
415.30	113.6742

415.76	117.1402
417.63	0.0000
418.52	120.7062
423.70	141.0943
427.08	104.6187
427.89	102.6935
432.53	114.0887
433.93	102.1930
439.47	111.7029
439.56	104.6665
439.89	104.6935
443.98	104.0231
444.90	117.2372
445.03	116.2389
445.03	116.2389
445.03	116.2389
445.03	116.2389
453.90	110.9376
463.38	103.5429
468.07	105.3516
473.00	110.6972
475.06	100.9389
475.35	92.6857
476.78	119.2939
477.59	109.4172
477.96	96.1814
482.03	97.0247
484.57	97.8985
487.03	83.4680
490.36	0.0000
492.35	85.8850
497.08	92.4822
507.63	0.0000
510.53	0.0000
510.84	106.1195
511.00	106.1317
511.85	106.1943
511.85	106.1943
513.99	95.2923
513.99	95.2923
520.41	110.0316
520.65	112.1841
527.90	103.0781
528.96	0.0000
529.64	89.2260
529.87	0.0000
531.02	80.6992
537.32	81.0425
543.00	85.6878
546.56	0.0000
549.76	84.9816
552.65	80.7749
555.20	102.7781
563.23	115.4013
563.90	112.1539
568.70	93.7469
569.32	108.1266
569.50	108.1415
569.67	108.1535
573.80	104.0087
574.00	104.0231
574.64	94.1023
578.91	81.6994
579.30	0.0000
583.14	93.4900
585.48	67.7673
591.81	90.6380
592.07	90.6504
593.00	82.8638
595.88	79.6453
600.56	76.4979
602.52	0.0000
602.71	66.0842
602.71	66.0842
603.60	79.6445
604.41	100.7317
604.70	100.7508
609.31	80.5215

609.31	80.5215
609.31	80.5215
609.31	80.5215
610.33	73.9327
612.46	71.0049
614.37	66.5496
618.01	78.2126
621.84	70.1854
621.84	70.1854
631.29	79.7422
633.02	82.5732
633.10	82.5776
634.78	85.4142
635.90	78.1166
636.97	72.6468
645.85	88.7320
646.12	88.7461
656.30	83.6785
657.75	79.0940
657.90	0.0000
661.65	71.8078
661.65	71.8078
664.57	0.0000
666.33	93.4985
666.33	93.4985
675.00	87.3714
677.61	78.0881
685.20	75.5781
692.80	79.6831
695.00	71.2280
696.49	78.8885
696.49	78.8885
697.00	81.7630
697.49	89.3918
698.33	86.5789
698.50	93.2459
699.00	91.3688
702.63	85.8230
706.10	98.3982
706.58	0.0000
706.67	83.1385
709.31	85.1693
711.68	95.8130
713.82	92.0836
717.42	89.3740
720.50	88.2336
721.93	0.0000
722.20	72.2552
722.78	57.8218
722.78	57.8218
722.89	57.8247
722.95	61.0387
723.30	61.0496
724.18	62.6847
727.18	86.9304
733.00	64.5850
735.90	76.6450
739.58	77.7617
742.81	73.9942
744.21	70.1490
747.13	74.1557
751.79	96.8223
752.31	86.0857
753.82	76.3623
755.35	76.4194
756.15	78.4102
756.87	68.6345
763.93	70.5136
765.79	70.5784
766.42	77.1667
766.84	75.5417
776.49	92.0668
778.00	73.3117
778.57	69.3677
778.89	69.3796
783.80	79.4785
785.46	71.5869
792.07	78.1325

795.84	49.9609
796.30	48.3062
798.80	83.3842
801.93	82.1722
805.60	71.2721
810.29	80.4844
810.76	74.4643
815.85	69.5980
817.79	75.7178
818.51	67.6641
819.60	63.6568
826.30	79.0569
828.27	0.0000
831.60	83.3133
831.96	83.3273
834.83	93.6105
836.80	0.0000
846.75	54.2202
848.13	56.3011
856.28	0.0000
856.80	44.5309
860.37	62.7856
867.32	70.9790
867.82	68.8444
871.10	53.7761
873.19	64.1751
874.81	59.0415
875.33	0.0000
876.40	75.6680
879.36	60.1977
880.27	57.1068
880.51	58.1506
881.50	58.1752
883.24	60.2982
884.67	62.4170
889.25	40.6510
896.60	53.3271
898.02	68.0072
899.00	73.2693
903.28	66.4119
911.07	65.2287
911.07	65.2287
911.07	65.2287
919.63	55.9612
920.93	71.8383
925.00	73.0194
925.24	65.6177
926.50	67.7703
935.52	72.2749
937.48	75.5242
944.10	74.6621
946.00	67.2482
949.00	64.1250
962.29	62.3217
964.01	62.3642
966.15	62.4180
968.20	62.4689
969.11	62.4916
969.11	62.4916
969.11	62.4916
977.42	61.7718
980.50	64.9395
983.50	59.5990
989.30	54.3042
996.32	89.3031
1001.03	68.7371
1001.68	78.5760
1004.76	92.8754
1021.30	0.0000
1024.50	0.0000
1034.80	70.9186
1036.00	72.7960
1037.82	65.4676
1038.57	61.7956
1038.76	0.0000
1045.16	76.7419
1046.59	58.2832
1048.07	62.0164

1050.47	64.8503
1050.47	64.8503
1062.04	74.4336
1063.62	67.9593
1076.63	65.4797
1077.35	69.2395
1078.86	61.7864
1085.78	53.4955
1099.22	71.6706
1112.02	64.7985
1112.84	72.4938
1115.52	78.0502
1120.29	69.3583
1120.29	69.3583
1120.29	69.3583
1120.29	69.3583
1120.51	69.3643
1121.28	69.3821
1124.00	0.0000
1129.67	77.7850
1131.51	0.0000
1147.95	0.0000
1167.94	83.0605
1173.22	87.0813
1175.09	87.1362
1177.93	87.2168
1189.05	92.4062
1204.90	79.2037
1205.75	0.0000
1213.00	92.1602
1221.42	76.6829
1230.97	84.8102
1235.34	90.8545
1236.41	0.0000
1238.25	87.9751
1246.25	97.1187
1260.41	0.0000
1271.85	58.9448
1274.45	56.9930
1274.54	67.9917
1291.56	53.2760
1298.22	0.0000
1312.09	56.6471
1325.50	38.5953
1325.50	38.5953
1332.49	37.6594
1333.61	35.6352
1360.21	34.8923
1362.66	0.0000
1365.15	20.5550
1368.21	26.2305
1368.53	0.0000
1376.25	27.8394
1384.27	28.3471
1394.10	31.0938
1395.20	30.0667
1407.95	28.0953
1434.06	28.3041
1436.60	20.9806
1457.56	0.0000
1460.81	20.0669
1489.15	28.7380
1509.49	12.8428
1596.49	24.4004
1620.62	14.1635
1678.03	0.0000
1691.02	10.5688
1691.02	10.5688
1706.46	0.0000
1750.46	0.0000
1764.49	12.7103
1764.49	12.7103
1764.49	12.7103
1764.49	12.7103
1770.23	75.3833
1771.40	36.2335
1791.20	0.0000
1808.65	11.8523

1836.01

10.9321

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244847001

Total Uranium Activity	6.2213E+00	ug/g
Total Uranium Counting Unc.	2.5464E+00	ug/g
Total Uranium Tpu	1.2992E-06	ug/g
Total Uranium Mda	1.1699E+00	ug/g



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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 942717                SAMPLE ID   : G244847001                *
*  ANALYST       : MXR1                  DETECTOR    : GAM25                    *
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE : 27-JAN-2010 13:24:49.56  SAMPLE ALQT: 134.720 GRAM          *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.095E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.530E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.689E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.795E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 15:31:25.81

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847002.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:30:59
Sample ID          : G244847002          Sample quantity  : 1.23800E+02 GRAM
Detector name      : GAM18              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.96  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID          : 942717              Detector SN#      :
Matrix Spike ID    :                    LCS ID            : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.23*	89	570	0.84	125.59	122	8	1.24E-02	48.5	
2	3	75.00*	503	526	1.04	149.12	144	14	6.99E-02	8.5	1.94E+00
3	3	77.29	808	558	1.10	153.69	144	14	1.12E-01	6.2	
4	0	84.70	61	629	1.02	168.51	163	8	8.49E-03	72.1	
5	0	87.36	295	611	1.28	173.82	171	7	4.10E-02	15.1	
6	0	93.92*	261	1014	1.49	186.95	180	11	3.62E-02	25.2	
7	0	129.53	67	476	1.26	258.14	254	8	9.25E-03	58.1	
8	0	186.12*	314	515	1.35	371.27	367	11	4.36E-02	15.7	
9	0	210.49	150	602	1.41	419.99	413	14	2.09E-02	35.7	
10	3	238.76*	2052	327	1.11	476.51	471	18	2.85E-01	2.7	7.11E-01
11	3	241.76	416	378	1.63	482.52	471	18	5.78E-02	11.3	
12	0	270.19	247	377	1.57	539.36	533	14	3.43E-02	17.8	
13	0	295.32*	652	311	1.21	589.61	583	11	9.05E-02	6.6	
14	0	300.61	128	283	1.21	600.18	595	11	1.77E-02	27.3	
15	0	328.68	73	238	1.14	656.30	651	9	1.01E-02	40.0	
16	0	338.32*	391	308	1.31	675.57	670	12	5.43E-02	10.6	
17	0	351.98*	1188	283	1.41	702.88	697	13	1.65E-01	4.2	
18	0	463.03	142	145	1.17	924.91	920	10	1.98E-02	18.1	
19	0	510.71*	264	225	2.18	1020.25	1012	18	3.67E-02	16.4	
20	0	583.21*	642	204	1.46	1165.21	1159	14	8.92E-02	6.3	
21	0	609.15*	770	260	1.52	1217.08	1209	17	1.07E-01	6.1	
22	0	661.68	125	170	1.40	1322.11	1316	11	1.74E-02	22.1	
23	0	727.12	199	136	1.74	1452.96	1446	14	2.76E-02	14.4	
24	0	769.02	169	190	5.36	1536.73	1528	21	2.34E-02	21.8	
25	0	795.64	160	103	2.49	1589.97	1580	20	2.22E-02	17.6	
26	0	860.32	110	109	1.31	1719.29	1712	14	1.53E-02	22.2	
27	0	910.94*	547	124	1.81	1820.52	1812	19	7.60E-02	6.6	
28	0	933.95	57	76	3.73	1866.53	1860	14	7.90E-03	35.3	
29	0	969.44	185	244	1.57	1937.50	1929	13	2.57E-02	18.9	
30	0	1119.75*	181	135	1.77	2238.08	2228	18	2.51E-02	17.0	
31	0	1238.71	49	137	1.40	2475.95	2470	12	6.76E-03	50.7	
32	0	1376.71	105	28	1.58	2751.92	2743	16	1.46E-02	14.9	
33	0	1460.17*	2329	63	2.18	2918.83	2908	19	3.23E-01	2.2	
34	0	1728.59	53	24	2.24	3455.63	3447	16	7.36E-03	24.8	
35	0	1763.93*	187	18	2.12	3526.32	3520	16	2.60E-02	9.0	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:30:59
Sample ID         : G244847002 Sample quantity   : 123.80 GRAM
Sample type       : SOLID Sample geometry      :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.96 0.0%
Peak Width (FWHM): 3.00 Confidence level   : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio    : 8.00
Errors propagated: Yes Systematic Error   : 0.00 %
Efficiency type   : Empirical Efficiencies at  : Peak Energy
Abundance limit   : 75.00 WTM error limit    : 3.00

```

## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.495E+01	3.075E+00	4.143E-01	3.144E-02	84.356
CD-109	+	88.03	*	3.815E+00	1.201E+00	1.600E+00	1.479E-01	2.384
SN-126	+	64.28		9.171E-01	8.997E-01	9.841E-01	1.455E-01	0.932
	+	86.94		1.557E+00	7.980E-01	5.615E-01	2.329E-01	2.772
	+	87.57	*	3.744E-01	1.179E-01	1.493E-01	1.375E-02	2.509
BA-137M	+	661.65	*	1.175E-01	5.275E-02	5.520E-02	4.207E-03	2.129
CS-137	+	661.65	*	1.242E-01	5.576E-02	5.835E-02	4.459E-03	2.129
TL-208		277.35		6.622E-01	3.523E-01	5.920E-01	6.217E-02	1.119
	+	510.84		8.603E-01	2.959E-01	1.870E-01	1.988E-02	4.600
	+	583.14	*	5.881E-01	8.762E-02	5.122E-02	4.015E-03	11.481
	+	860.37		9.217E-01	4.213E-01	4.020E-01	4.496E-02	2.293
BI-211		72.87		5.732E+00	3.722E+00	5.811E+00	4.798E-01	0.987
	+	351.07	*	5.108E+00	5.390E-01	2.749E-01	1.765E-02	18.582
PB-212	+	74.81		2.888E+00	6.092E-01	5.901E-01	7.397E-02	4.894
	+	77.11		2.589E+00	3.911E-01	3.302E-01	2.798E-02	7.842
	+	87.30		1.732E+00	5.722E-01	6.929E-01	9.412E-02	2.499
	+	238.63	*	2.054E+00	1.834E-01	8.568E-02	6.121E-03	23.968
	+	300.09		1.898E+00	1.047E+00	9.949E-01	8.169E-02	1.907
PO-212	+	74.81		2.888E+00	6.092E-01	5.901E-01	7.397E-02	4.894
	+	77.11		2.589E+00	3.911E-01	3.302E-01	2.798E-02	7.842
	+	87.30		1.732E+00	5.722E-01	6.929E-01	9.412E-02	2.499
		115.19		-9.967E-01	3.525E+00	5.614E+00	3.537E-01	-0.178
	+	238.63	*	2.054E+00	1.834E-01	8.568E-02	6.121E-03	23.968
	+	300.09		1.898E+00	1.047E+00	9.949E-01	8.169E-02	1.907
BI-214	+	609.31	*	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
	+	1120.29		1.554E+00	5.490E-01	3.942E-01	3.774E-02	3.942
	+	1764.49		2.121E+00	4.038E-01	2.977E-01	1.810E-02	7.124
PB-214	+	74.81		4.976E+00	1.011E+00	1.017E+00	1.135E-01	4.894
	+	77.11		4.439E+00	7.509E-01	5.660E-01	6.451E-02	7.842
	+	87.30		2.967E+00	9.619E-01	1.187E+00	1.424E-01	2.499
	+	241.98		2.495E+00	5.956E-01	5.150E-01	4.072E-02	4.845
	+	295.21		1.705E+00	2.687E-01	2.000E-01	1.696E-02	8.525
	+	351.92	*	1.777E+00	2.092E-01	9.580E-02	7.925E-03	18.548
PO-214	+	74.81		4.976E+00	1.011E+00	1.017E+00	1.135E-01	4.894

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		4.439E+00	7.509E-01	5.660E-01	6.451E-02	7.842
	+	87.30		2.967E+00	9.619E-01	1.187E+00	1.424E-01	2.499
	+	241.98		2.495E+00	5.956E-01	5.150E-01	4.072E-02	4.845
	+	295.21		1.705E+00	2.687E-01	2.000E-01	1.696E-02	8.525
	+	351.92	*	1.777E+00	2.092E-01	9.580E-02	7.925E-03	18.548
	+	74.81		2.888E+00	6.092E-01	5.901E-01	7.397E-02	4.894
	+	77.11		2.589E+00	3.911E-01	3.302E-01	2.798E-02	7.842
	+	87.30		1.732E+00	5.722E-01	6.929E-01	9.412E-02	2.499
PO-218	+	238.63	*	2.054E+00	1.834E-01	8.568E-02	6.121E-03	23.968
	+	300.09		1.898E+00	1.047E+00	9.949E-01	8.169E-02	1.907
	+	74.81		4.976E+00	1.011E+00	1.017E+00	1.135E-01	4.894
	+	77.11		4.439E+00	7.509E-01	5.660E-01	6.451E-02	7.842
	+	87.30		2.967E+00	9.619E-01	1.187E+00	1.424E-01	2.499
	+	241.98		2.495E+00	5.956E-01	5.150E-01	4.072E-02	4.845
	+	295.21		1.705E+00	2.687E-01	2.000E-01	1.696E-02	8.525
	+	351.92	*	1.777E+00	2.092E-01	9.580E-02	7.925E-03	18.548
RA-224	+	240.98	*	4.732E+00	1.098E+00	9.739E-01	5.425E-02	4.859
RA-226	+	609.31	*	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
AC-228	+	1120.29		1.554E+00	5.490E-01	3.942E-01	3.774E-02	3.942
	+	1764.49		2.121E+00	4.038E-01	2.977E-01	1.810E-02	7.124
	+	338.32		1.862E+00	8.548E-01	3.324E-01	1.355E-01	5.601
	+	911.07	*	2.156E+00	4.026E-01	1.916E-01	2.539E-02	11.248
RA-228	+	969.11		1.283E+00	5.751E-01	3.154E-01	7.553E-02	4.069
	+	338.32		1.862E+00	8.548E-01	3.324E-01	1.355E-01	5.601
	+	911.07	*	2.156E+00	4.026E-01	1.916E-01	2.539E-02	11.248
	+	969.11		1.283E+00	5.751E-01	3.154E-01	7.553E-02	4.069
TH-228	+	74.81		2.935E+00	5.559E-01	5.997E-01	5.053E-02	4.894
	+	77.11		2.631E+00	3.974E-01	3.355E-01	2.844E-02	7.842
	+	87.30		1.760E+00	5.542E-01	7.041E-01	6.472E-02	2.499
	+	238.63	*	2.087E+00	1.863E-01	8.706E-02	6.220E-03	23.968
TH-230	+	300.09		1.928E+00	1.549E+00	1.011E+00	5.958E-01	1.907
	+	609.31	*	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
	+	1120.29		1.554E+00	5.489E-01	3.942E-01	3.774E-02	3.942
	+	1764.49		2.121E+00	4.038E-01	2.977E-01	1.810E-02	7.124
TH-232	+	338.32		1.862E+00	4.075E-01	3.324E-01	1.923E-02	5.601
	+	911.07	*	2.156E+00	4.026E-01	1.916E-01	2.539E-02	11.248
	+	969.11		1.283E+00	5.751E-01	3.154E-01	7.553E-02	4.069
	+	609.31	*	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
U-234	+	1120.29		1.554E+00	5.489E-01	3.942E-01	3.774E-02	3.942
	+	1764.49		2.121E+00	4.038E-01	2.977E-01	1.810E-02	7.124
	+	86.50	*	1.100E+00	4.140E-01	3.992E-01	9.008E-02	2.754
	+	95.87		3.492E-01	1.048E+00	1.544E+00	3.771E-01	0.226
AM-243	+	74.67	*	4.682E-01	8.854E-02	9.605E-02	8.015E-03	4.875
	+	86.72		4.123E+01	1.299E+01	1.492E+01	1.364E+00	2.763
	+	117.66		-1.665E+00	3.712E+00	5.861E+00	3.605E-01	-0.284
	+	142.18		-7.740E+00	1.764E+01	2.753E+01	1.517E+00	-0.281
ANH-511	+	511.00	*	1.858E-01	6.200E-02	4.041E-02	2.669E-03	4.599

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-6.736E-02	2.921E-01	4.757E-01	3.447E-02	-0.142

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	1274.54	*		6.664E-03	3.989E-02	6.629E-02	4.511E-03	0.101
NA-24	1368.53	*		8.532E-01	3.989E-02	Half-Life too short		
AL-26	1129.67			-4.104E-01	1.594E+00	2.496E+00	1.667E-01	-0.164
	1808.65	*		-6.165E-03	2.544E-02	4.026E-02	2.350E-03	-0.153
TI-44	67.85			-5.567E-03	5.413E-02	8.510E-02	6.843E-03	-0.065
	78.38	*		4.778E-01	7.218E-02	8.791E-02	7.517E-03	5.435
SC-46	889.25	*		-8.000E-03	3.720E-02	5.990E-02	6.680E-03	-0.134
	1120.51			2.681E-01	9.303E-02	1.165E-01	8.051E-03	2.300
V-48	944.10			-1.220E+00	8.303E-01	1.176E+00	1.245E-01	-1.037
	983.50	*		2.703E-02	6.406E-02	1.070E-01	1.058E-02	0.253
	1312.09			2.686E-02	7.924E-02	1.331E-01	9.696E-03	0.202
CR-51	320.08	*		-1.569E-01	3.364E-01	5.284E-01	3.402E-02	-0.297
MN-52	744.21			6.338E-02	2.183E-01	3.694E-01	3.257E-02	0.172
	848.13			7.263E-01	6.936E+00	1.146E+01	1.199E+00	0.063
	935.52			3.064E-01	2.951E-01	4.513E-01	4.840E-02	0.679
	1246.25			9.139E+00	8.640E+00	1.369E+01	8.801E-01	0.668
	1333.61			-3.587E+00	4.854E+00	7.365E+00	5.564E-01	-0.487
	1434.06	*		-2.211E-01	2.254E-01	3.235E-01	2.384E-02	-0.683
MN-54	834.83	*		1.191E-02	3.468E-02	5.816E-02	5.957E-03	0.205
CO-56	846.75	*		-1.237E-02	3.666E-02	5.881E-02	6.140E-03	-0.210
	977.42			6.495E-02	2.625E+00	4.164E+00	4.165E-01	0.016
	1037.82			-1.917E-01	2.728E-01	4.332E-01	4.014E-02	-0.442
	1175.09			-1.816E+00	2.189E+00	3.431E+00	1.904E-01	-0.529
	1238.25			1.183E-01	1.201E-01	1.651E-01	1.100E-02	0.716
	1360.21			-6.224E-01	8.749E-01	1.324E+00	9.951E-02	-0.470
	1771.40			-2.619E-02	2.412E-01	3.292E-01	1.989E-02	-0.080
CO-57	122.06	*		8.616E-05	2.500E-02	4.012E-02	2.377E-03	0.002
	136.48			1.201E-02	2.087E-01	3.332E-01	2.181E-02	0.036
CO-58	810.76	*		-6.409E-02	3.586E-02	5.079E-02	5.014E-03	-1.262
FE-59	142.65			-2.943E-03	2.801E+00	4.413E+00	2.428E-01	-0.001
	192.34			3.119E-01	9.324E-01	1.468E+00	1.702E-01	0.212
	1099.22	*		-1.349E-01	8.477E-02	1.243E-01	1.023E-02	-1.085
	1291.56			-9.681E-03	1.041E-01	1.695E-01	1.424E-02	-0.057
CO-60	1173.22			4.299E-03	4.320E-02	7.193E-02	3.975E-03	0.060
	1332.49	*		-3.851E-02	3.437E-02	5.002E-02	3.779E-03	-0.770
ZN-65	1115.52	*		5.722E-02	9.831E-02	1.469E-01	1.035E-02	0.389
GE-68	1077.35	*		3.329E-01	1.094E+00	1.862E+00	1.479E-01	0.179
AS-73	53.44	*		1.279E-01	1.176E+00	1.921E+00	1.523E-01	0.067
AS-74	595.88	*		1.233E-02	8.290E-02	1.354E-01	9.727E-03	0.091
	634.78			2.913E-01	3.131E-01	5.341E-01	3.976E-02	0.545
SE-75	66.05			-1.380E+00	6.117E+00	9.019E+00	8.932E-01	-0.153
	96.73			-5.506E-01	8.702E-01	1.221E+00	1.611E-01	-0.451
	121.11			8.881E-02	1.320E-01	2.172E-01	2.027E-02	0.409
	136.00			-1.764E-02	4.002E-02	6.263E-02	3.567E-03	-0.282
	198.60			-4.431E-01	1.674E+00	2.725E+00	1.849E-01	-0.163
	264.65	*		2.237E-02	4.304E-02	6.369E-02	3.642E-03	0.351
	279.53			2.764E-02	1.011E-01	1.665E-01	1.029E-02	0.166
	303.91			6.485E-01	2.064E+00	2.970E+00	2.825E-01	0.218
	400.65			5.316E-02	2.301E-01	3.891E-01	3.545E-02	0.137

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BR-77	+	87.88		1.085E+03	3.416E+02	4.878E+02	4.507E+01	2.224
		200.40		2.404E+01	2.009E+02	3.365E+02	1.812E+01	0.071
	+	239.00		4.346E+02	3.356E+01	4.939E+01	2.748E+00	8.798
		249.79		4.656E+01	8.090E+01	1.359E+02	7.619E+00	0.343
		281.68		-1.773E+02	1.135E+02	1.681E+02	9.591E+00	-1.055
		297.23		5.749E+02	1.150E+02	1.608E+02	9.234E+00	3.574
		303.76		7.380E+01	2.305E+02	3.318E+02	1.909E+01	0.222
		439.47		1.994E+02	1.558E+02	2.757E+02	1.681E+01	0.723
		484.57		-9.105E+01	2.511E+02	4.046E+02	2.597E+01	-0.225
		520.65	*	9.361E+00	1.188E+01	2.031E+01	1.355E+00	0.461
		574.64		2.508E+01	2.533E+02	4.136E+02	2.912E+01	0.061
		578.91		2.616E+01	1.205E+02	1.717E+02	1.214E+01	0.152
		585.48		2.584E+03	3.612E+02	6.176E+02	4.394E+01	4.183
		755.35		2.426E+02	1.925E+02	3.413E+02	3.067E+01	0.711
		817.79		9.810E+01	1.508E+02	2.587E+02	2.579E+01	0.379
	SR-82	698.33		-1.402E+01	3.008E+01	4.884E+01	3.976E+00	-0.287
		776.49	*	-2.213E-01	3.963E-01	5.328E-01	4.962E-02	-0.415
RB-83		1395.20		-2.831E-01	1.024E+01	1.662E+01	1.238E+00	-0.017
	*	520.41		4.139E-02	5.966E-02	1.016E-01	6.774E-03	0.408
		529.64		4.046E-02	8.960E-02	1.505E-01	1.013E-02	0.269
RB-84		552.65		6.770E-02	1.736E-01	2.894E-01	1.994E-02	0.234
	*	881.50		-4.462E-02	6.470E-02	1.003E-01	1.106E-02	-0.445
KR-85		513.99	*	2.013E+01	7.384E+00	1.228E+01	8.133E-01	1.639
SR-85		513.99	*	1.042E-01	3.824E-02	6.358E-02	4.212E-03	1.639
RB-86		1076.63	*	2.607E-01	7.061E-01	1.207E+00	9.612E-02	0.216
Y-88		898.02		-5.298E-02	3.810E-02	5.454E-02	6.182E-03	-0.971
		1836.01	*	5.650E-03	2.747E-02	4.637E-02	2.641E-03	0.122
ZR-88		392.90	*	1.200E-02	2.809E-02	4.796E-02	2.758E-03	0.250
Y-91		1204.90	*	-1.118E+01	1.765E+01	2.761E+01	1.632E+00	-0.405
NB-94		702.63	*	1.107E-02	2.946E-02	5.019E-02	4.117E-03	0.221
		871.10		-9.708E-04	2.971E-02	4.854E-02	5.264E-03	-0.020
NB-95		765.79	*	8.873E-02	4.859E-02	7.754E-02	7.093E-03	1.144
NB-95M		235.69	*	3.367E-02	1.338E-01	1.960E-01	1.438E-02	0.172
ZR-95		724.18		1.812E-01	1.056E-01	1.683E-01	1.561E-02	1.077
	*	756.15		1.962E-02	6.556E-02	1.106E-01	1.088E-02	0.177
NB-97		657.90	*	4.218E-01	6.556E-02	Half-Life	too short	
		1024.50		3.162E+00	6.556E-02	Half-Life	too short	
ZR-97		254.15		-7.568E+00	6.556E-02	Half-Life	too short	
		355.39		7.527E-01	6.556E-02	Half-Life	too short	
	*	507.63		1.276E+01	6.556E-02	Half-Life	too short	
		602.52		3.989E+00	6.556E-02	Half-Life	too short	
		1021.30		-8.196E+00	6.556E-02	Half-Life	too short	
		1147.95		-5.807E+00	6.556E-02	Half-Life	too short	
		1362.66		5.625E+00	6.556E-02	Half-Life	too short	
		1750.46		-1.055E+00	6.556E-02	Half-Life	too short	
	MO-99	140.51		-2.613E+01	3.485E+01	5.231E+01	1.407E+01	-0.499
		181.06		1.262E+01	2.169E+01	3.288E+01	5.582E+00	0.384
		366.43		8.162E+01	9.273E+01	1.623E+02	9.379E+00	0.503
	*	739.58		-3.833E+00	1.260E+01	2.052E+01	3.130E+00	-0.187

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		778.00		-4.836E+01	4.599E+01	5.858E+01	5.470E+00	-0.826
TC-99M		140.51	*	-4.089E+11	4.599E+01	Half-Life too short		
RH-101		127.23		-4.285E-03	3.609E-02	5.107E-02	2.950E-03	-0.084
		198.01	*	-1.436E-02	3.082E-02	4.983E-02	2.678E-03	-0.288
		325.23		-1.245E-01	2.344E-01	3.169E-01	1.831E-02	-0.393
RH-102		418.52		-4.038E-02	2.666E-01	4.412E-01	2.622E-02	-0.092
		475.06	*	1.263E-02	2.572E-02	4.355E-02	2.766E-03	0.290
		631.29		1.578E-03	4.704E-02	7.589E-02	5.632E-03	0.021
		697.49		-2.522E-02	6.497E-02	1.060E-01	8.616E-03	-0.238
		766.84		2.371E-01	1.251E-01	1.995E-01	1.828E-02	1.188
		1046.59		-3.313E-02	1.040E-01	1.703E-01	1.469E-02	-0.195
		1112.84		1.771E-02	2.420E-01	3.468E-01	2.462E-02	0.051
RU-103		497.08	*	1.547E-02	3.463E-02	5.833E-02	7.573E-03	0.265
	+	610.33		1.453E+01	2.926E+00	2.713E+00	4.350E-01	5.357
RH-106	+	511.85		9.299E-01	3.102E-01	3.986E-01	2.635E-02	2.333
		621.84	*	4.577E-02	3.007E-01	4.891E-01	6.153E-02	0.094
		1050.47		-2.801E-01	2.093E+00	3.469E+00	2.964E-01	-0.081
RU-106	+	511.85		9.299E-01	3.102E-01	3.986E-01	2.635E-02	2.333
		621.84	*	4.577E-02	3.007E-01	4.891E-01	3.599E-02	0.094
		1050.47		-2.801E-01	2.093E+00	3.469E+00	2.964E-01	-0.081
AG-108M		433.93	*	-1.736E-03	2.901E-02	4.808E-02	3.141E-03	-0.036
		614.37		-2.800E-02	4.446E-02	5.863E-02	4.517E-03	-0.478
		722.95		1.056E-02	4.235E-02	6.200E-02	5.483E-03	0.170
AG-110M		657.75	*	5.499E-02	3.248E-02	5.342E-02	4.213E-03	1.029
		677.61		-9.904E-02	2.710E-01	4.439E-01	3.601E-02	-0.223
		706.67		-1.119E-02	1.808E-01	3.005E-01	2.558E-02	-0.037
		763.93		1.677E-01	1.690E-01	2.600E-01	2.431E-02	0.645
		884.67		1.197E-02	4.470E-02	7.442E-02	8.404E-03	0.161
		937.48		3.632E-02	1.103E-01	1.590E-01	1.740E-02	0.228
		1384.27		2.303E-03	1.726E-01	2.397E-01	1.858E-02	0.010
IN-111		171.28		5.162E-01	1.158E+00	1.981E+00	1.042E-01	0.261
		245.39	*	2.064E-01	1.354E+00	1.970E+00	1.101E-01	0.105
IN-113M		391.69	*	9.752E-03	4.046E-02	6.855E-02	4.205E-03	0.142
SN-113		391.69	*	9.752E-03	4.046E-02	6.855E-02	4.205E-03	0.142
IN-114M		190.27	*	1.608E-02	1.856E-01	2.749E-01	1.468E-02	0.058
CD-115		260.90		-8.017E+01	1.565E+02	2.501E+02	1.412E+01	-0.321
		492.35		2.285E+00	4.092E+01	6.753E+01	4.372E+00	0.034
		527.90	*	2.835E+00	1.269E+01	2.103E+01	1.414E+00	0.135
SN-117M		156.02		3.724E-01	2.160E+00	3.685E+00	1.968E-01	0.101
		158.56	*	-3.055E-02	5.198E-02	8.626E-02	4.585E-03	-0.354
SB-122		563.90	*	2.158E+00	2.382E+00	4.066E+00	2.833E-01	0.531
		692.80		-2.941E+01	4.625E+01	7.420E+01	5.982E+00	-0.396
I-123		159.00	*	3.002E+00	4.625E+01	Half-Life too short		
		528.96		4.461E+02	4.625E+01	Half-Life too short		
TE-123M		159.00	*	4.496E-03	2.566E-02	4.373E-02	2.359E-03	0.103
I-124		602.71	*	1.476E-01	8.097E-01	1.146E+00	8.287E-02	0.129
		722.78		9.243E-01	5.156E+00	7.506E+00	6.379E-01	0.123
		1325.50		2.686E+00	3.473E+01	5.720E+01	4.268E+00	0.047
	+	1376.25		1.440E+02	4.417E+01	7.238E+01	5.420E+00	1.990

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SB-124	1509.49			3.736E+00	1.576E+01	2.691E+01	1.927E+00	0.139
	1691.02			-9.129E-01	3.577E+00	5.696E+00	3.674E-01	-0.160
	602.71			7.415E-03	4.067E-02	5.756E-02	4.163E-03	0.129
	645.85			-3.373E-01	4.447E-01	6.751E-01	5.473E-02	-0.500
	709.31			4.104E-01	2.368E+00	3.990E+00	3.312E-01	0.103
	713.82			-1.365E+00	1.413E+00	2.197E+00	2.606E-01	-0.621
	722.78			6.730E-02	3.754E-01	5.465E-01	4.747E-02	0.123
	+	968.20		1.336E+01	5.237E+00	6.879E+00	6.995E-01	1.942
	1045.16			7.648E-01	2.226E+00	3.806E+00	3.295E-01	0.201
	1325.50			2.089E-01	2.700E+00	4.448E+00	3.319E-01	0.047
	1368.21			7.969E-01	1.814E+00	2.670E+00	3.415E-01	0.298
	1436.60			-1.355E+00	3.119E+00	4.804E+00	3.537E-01	-0.282
SB-125	1691.02	*		-1.568E-02	6.143E-02	9.782E-02	6.748E-03	-0.160
	427.89	*		-5.270E-02	8.083E-02	1.299E-01	8.114E-03	-0.406
	+	463.38		9.175E-01	3.380E-01	4.996E-01	3.581E-02	1.837
	600.56			-1.028E-02	1.717E-01	2.601E-01	2.072E-02	-0.040
	635.90			1.008E-01	2.279E-01	3.775E-01	3.114E-02	0.267
TE-125M	109.28	*		-7.060E+00	9.577E+00	1.494E+01	1.313E+00	-0.473
I-126	388.63			-9.845E-02	1.921E-01	3.143E-01	1.806E-02	-0.313
	666.33	*		-1.074E-01	2.075E-01	2.878E-01	2.213E-02	-0.373
	753.82			9.601E-01	1.364E+00	2.355E+00	2.111E-01	0.408
SB-126	223.80			-3.734E-01	3.958E+00	6.529E+00	3.589E-01	-0.057
	278.60			4.542E+00	2.386E+00	4.173E+00	2.378E-01	1.088
	+	296.50		1.789E+01	2.589E+00	3.832E+00	2.200E-01	4.669
	414.70			-3.483E-02	7.330E-02	1.195E-01	7.068E-03	-0.291
	415.30			6.246E-01	6.067E+00	1.017E+01	6.019E-01	0.061
	555.20			-2.116E+00	3.680E+00	5.772E+00	3.988E-01	-0.367
	573.80			1.228E-01	9.996E-01	1.635E+00	1.150E-01	0.075
	593.00			-5.030E-01	8.649E-01	1.347E+00	9.649E-02	-0.374
	656.30			-2.402E-02	3.479E+00	5.040E+00	3.824E-01	-0.005
	666.33			-4.498E-02	8.688E-02	1.205E-01	9.267E-03	-0.373
	675.00			1.885E-01	1.904E+00	3.206E+00	2.504E-01	0.059
	695.00			-1.434E-02	6.766E-02	1.116E-01	9.031E-03	-0.129
	697.00			2.887E-03	2.312E-01	3.864E-01	3.139E-02	0.007
	720.50	*		1.486E-01	1.466E-01	2.284E-01	1.933E-02	0.651
	856.80			4.035E-01	5.133E-01	7.733E-01	8.202E-02	0.522
	989.30			-9.420E-02	1.101E+00	1.769E+00	1.730E-01	-0.053
SB-127	1034.80			-7.008E+00	8.708E+00	1.312E+01	1.165E+00	-0.534
	1213.00			1.066E+00	4.762E+00	7.959E+00	4.786E-01	0.134
	61.10			7.085E+01	8.762E+01	1.357E+02	1.463E+01	0.522
	252.40			-7.608E-01	4.719E+00	7.672E+00	3.192E+00	-0.099
	290.80			-1.391E+01	2.553E+01	3.486E+01	3.299E+00	-0.399
	411.60			1.806E+01	1.375E+01	2.384E+01	3.489E+00	0.758
	444.90			-5.543E+00	9.320E+00	1.489E+01	1.677E+00	-0.372
	473.00			-1.527E+00	1.784E+00	2.790E+00	3.276E-01	-0.547
	543.00			3.804E+00	1.726E+01	2.852E+01	3.889E+00	0.133
	603.60			1.251E+00	1.441E+01	2.022E+01	2.401E+00	0.062
	685.20	*		4.197E-01	1.384E+00	2.355E+00	2.633E-01	0.178
	698.50			-7.214E+00	1.550E+01	2.512E+01	3.962E+00	-0.287



## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		722.20		1.151E+01	3.491E+01	5.147E+01	5.841E+00	0.224
		783.80		7.888E+00	4.060E+00	7.220E+00	9.556E-01	1.093
		57.60		-4.470E+00	7.937E+00	1.303E+01	1.004E+00	-0.343
		145.22		3.371E-01	7.180E-01	1.150E+00	6.285E-02	0.293
		172.10		1.254E-01	1.107E-01	1.934E-01	1.018E-02	0.649
I-131		202.84	*	-2.867E-02	4.559E-02	7.430E-02	4.011E-03	-0.386
		374.96		2.608E-02	1.781E-01	3.015E-01	1.739E-02	0.087
		80.18		-1.283E+00	7.097E+00	8.164E+00	7.123E-01	-0.157
		284.30		9.377E-01	1.449E+00	2.425E+00	1.547E-01	0.387
		364.48	*	-6.061E-02	1.075E-01	1.762E-01	1.139E-02	-0.344
TE-132		636.97		-9.513E-01	1.443E+00	2.211E+00	1.773E-01	-0.430
		722.89		1.737E+00	7.729E+00	1.129E+01	9.670E-01	0.154
		49.72		-4.117E+01	3.535E+01	5.669E+01	5.938E+00	-0.726
		111.76		5.265E+01	3.605E+01	6.076E+01	5.818E+00	0.867
		116.30		2.342E+01	3.295E+01	5.439E+01	5.101E+00	0.431
BA-133		228.16	*	1.699E-01	8.012E-01	1.334E+00	1.927E-01	0.127
		53.15		-9.809E-01	5.141E+00	8.318E+00	6.600E-01	-0.118
		79.62		1.481E-01	1.885E+00	2.210E+00	3.365E-01	0.067
		81.00		9.254E-02	1.309E-01	1.592E-01	2.536E-02	0.581
		276.40		2.671E-01	3.869E-01	5.722E-01	7.390E-02	0.467
I-133		302.84		2.207E-02	1.434E-01	2.041E-01	2.375E-02	0.108
		356.01	*	-3.201E-02	4.513E-02	5.915E-02	6.833E-03	-0.541
		383.85		7.242E-02	2.699E-01	4.584E-01	4.973E-02	0.158
	+	510.53		4.030E+00	2.699E-01	Half-Life	too short	
		529.87	*	2.349E-03	2.699E-01	Half-Life	too short	
CS-134		706.58		-3.436E-02	2.699E-01	Half-Life	too short	
		856.28		3.423E-01	2.699E-01	Half-Life	too short	
		875.33		2.094E-01	2.699E-01	Half-Life	too short	
		1236.41		1.635E+00	2.699E-01	Half-Life	too short	
		1298.22		3.676E-01	2.699E-01	Half-Life	too short	
I-135		475.35		9.926E-01	1.666E+00	2.836E+00	1.802E-01	0.350
		563.23		4.084E-01	3.229E-01	5.610E-01	3.963E-02	0.728
		569.32		1.371E-02	1.724E-01	2.814E-01	2.012E-02	0.049
		604.70		1.108E-03	3.559E-02	4.973E-02	3.615E-03	0.022
	+	795.84	*	2.060E-01	7.504E-02	8.557E-02	8.276E-03	2.407
CS-135		801.93		-8.394E-01	4.566E-01	5.397E-01	5.265E-02	-1.555
		1038.57		-1.380E+00	3.393E+00	5.517E+00	4.855E-01	-0.250
		1167.94		2.382E+00	2.447E+00	4.277E+00	2.425E-01	0.557
		1365.15		1.135E+00	1.078E+00	1.901E+00	1.512E-01	0.597
		268.24	*	2.024E-01	1.606E-01	2.457E-01	1.857E-02	0.824
I-135		288.45		-1.127E+11	1.606E-01	Half-Life	too short	
		417.63		-9.857E+10	1.606E-01	Half-Life	too short	
		546.56		-4.228E+10	1.606E-01	Half-Life	too short	
		836.80		2.290E+11	1.606E-01	Half-Life	too short	
		1038.76		-6.584E+10	1.606E-01	Half-Life	too short	
I-135		1124.00		3.813E+11	1.606E-01	Half-Life	too short	
		1131.51		-8.623E+09	1.606E-01	Half-Life	too short	
		1260.41	*	2.772E+10	1.606E-01	Half-Life	too short	
		1457.56		1.491E+13	1.606E-01	Half-Life	too short	

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1678.03		-1.130E+10	1.606E-01	Half-Life	too short	
		1706.46		-1.997E+11	1.606E-01	Half-Life	too short	
		1791.20		-1.249E+11	1.606E-01	Half-Life	too short	
		66.91		9.147E-01	1.005E+00	1.541E+00	2.328E-01	0.593
	+	86.29		5.136E+00	1.690E+00	2.281E+00	3.007E-01	2.252
		153.22		9.746E-01	6.271E-01	1.112E+00	7.652E-02	0.877
		163.89		8.074E-01	1.031E+00	1.785E+00	1.220E-01	0.452
		176.55		-2.652E-01	3.461E-01	5.658E-01	3.430E-02	-0.469
		273.65		-2.790E-01	4.970E-01	6.852E-01	4.464E-02	-0.407
		340.57		5.744E-01	1.555E-01	2.561E-01	1.576E-02	2.243
CE-139		818.51		1.368E-02	6.840E-02	1.141E-01	1.140E-02	0.120
		1048.07	*	-4.195E-02	1.032E-01	1.678E-01	1.504E-02	-0.250
		1235.34		7.111E-01	7.335E-01	1.115E+00	1.147E-01	0.637
		165.85	*	7.844E-03	2.710E-02	4.623E-02	2.427E-03	0.170
	BA-140	162.64		3.097E-01	7.172E-01	1.230E+00	7.457E-02	0.252
		304.84		-4.626E-01	1.345E+00	1.839E+00	5.017E-01	-0.252
		423.70		9.335E-01	1.807E+00	3.046E+00	9.690E-01	0.307
		537.32	*	-1.854E-02	2.310E-01	3.752E-01	1.227E-01	-0.049
	LA-140	328.77	+	4.557E-01	3.655E-01	5.026E-01	3.256E-02	0.907
		432.53		1.309E+00	1.900E+00	3.267E+00	2.166E-01	0.401
CE-141		487.03		-1.034E-01	1.190E-01	1.850E-01	1.320E-02	-0.559
		751.79		-7.865E-01	1.554E+00	2.493E+00	2.449E-01	-0.316
		815.85		6.188E-02	2.882E-01	4.817E-01	5.206E-02	0.128
		867.82		-8.518E-02	1.434E+00	2.087E+00	2.329E-01	-0.041
		919.63		-2.862E+00	3.050E+00	3.773E+00	4.767E-01	-0.758
		925.24		1.072E-01	1.119E+00	1.701E+00	1.926E-01	0.063
		1596.49	*	-2.496E-02	7.281E-02	1.161E-01	7.968E-03	-0.215
	CE-143	145.44	*	4.301E-02	6.402E-02	1.040E-01	5.938E-03	0.413
		57.37		-9.456E-04	6.402E-02	Half-Life	too short	
		231.56		-8.627E-04	6.402E-02	Half-Life	too short	
CE-144		293.26	*	1.517E-03	6.402E-02	Half-Life	too short	
		350.59	+	6.525E-02	6.402E-02	Half-Life	too short	
		490.36		3.312E-03	6.402E-02	Half-Life	too short	
		664.57		3.717E-03	6.402E-02	Half-Life	too short	
		721.93		6.399E-04	6.402E-02	Half-Life	too short	
		80.11		-4.139E-01	3.022E+00	3.488E+00	3.020E-01	-0.119
		133.54	*	1.698E-01	2.315E-01	3.387E-01	4.789E-02	0.501
	PM-144	476.78		5.930E-03	5.950E-02	9.869E-02	7.323E-03	0.060
		618.01		2.700E-02	3.338E-02	5.327E-02	4.055E-03	0.507
		696.49	*	2.485E-03	2.815E-02	4.727E-02	3.838E-03	0.053
PR-144		778.57		-2.944E+00	2.460E+00	3.078E+00	2.878E-01	-0.956
		696.49	*	1.685E-01	1.908E+00	3.205E+00	2.601E-01	0.053
		1489.15		-4.399E+00	1.024E+01	1.569E+01	1.134E+00	-0.280
	PM-146	453.90	*	1.298E-02	3.794E-02	6.396E-02	5.690E-03	0.203
		633.02		6.153E-01	1.220E+00	1.995E+00	7.405E-01	0.308
		735.90		1.877E-02	1.325E-01	2.174E-01	6.223E-02	0.086
		747.13		1.161E-02	7.658E-02	1.284E-01	1.821E-02	0.090
	ND-147	91.11		9.414E-02	4.664E-01	5.436E-01	5.113E-02	0.173
		319.41		-2.159E+00	3.127E+00	4.851E+00	2.802E-01	-0.445

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149 EU-152		439.89		6.031E+00	5.096E+00	8.979E+00	5.479E-01	0.672
		531.02	*	-2.374E-01	5.208E-01	8.259E-01	1.152E-01	-0.287
		285.90	*	6.911E+01	1.105E+02	1.841E+02	2.604E+01	0.375
		121.78		1.056E-02	7.234E-02	1.168E-01	8.997E-03	0.090
		244.69		3.282E-01	3.342E-01	5.080E-01	2.838E-02	0.646
		344.27	*	1.742E-02	1.008E-01	1.425E-01	9.298E-03	0.122
		443.98		-9.686E-01	8.131E-01	1.222E+00	7.489E-02	-0.793
		778.89		-2.809E-01	2.696E-01	3.616E-01	3.381E-02	-0.777
		867.32		1.693E-01	8.273E-01	1.187E+00	1.280E-01	0.143
		964.01		6.392E-01	3.537E-01	5.508E-01	5.642E-02	1.160
GD-153		1085.78		-6.987E-02	3.405E-01	5.593E-01	4.334E-02	-0.125
		1112.02		-1.688E-01	3.514E-01	4.770E-01	3.396E-02	-0.354
		1407.95		1.616E-01	1.671E-01	2.948E-01	2.190E-02	0.548
		69.67		-1.242E+00	1.878E+00	2.896E+00	2.350E-01	-0.429
	+	83.37		1.429E+01	2.065E+01	2.549E+01	2.264E+00	0.561
		97.43	*	-6.364E-02	9.030E-02	1.265E-01	9.889E-03	-0.503
		103.18		-1.260E-01	1.081E-01	1.670E-01	1.205E-02	-0.754
		123.07		-2.772E-02	5.135E-02	8.047E-02	7.610E-03	-0.345
		247.94		2.044E-02	3.606E-01	5.500E-01	5.181E-02	0.037
		591.81		-3.079E-02	5.574E-01	8.744E-01	9.300E-02	-0.035
EU-154		723.30		1.062E-01	1.785E-01	2.682E-01	2.528E-02	0.396
		756.87		4.227E-01	6.981E-01	1.196E+00	1.466E-01	0.353
		873.19		-5.551E-02	2.634E-01	4.245E-01	5.912E-02	-0.131
		996.32		-4.631E-01	3.438E-01	4.806E-01	8.789E-02	-0.964
		1004.76		-8.890E-02	2.021E-01	3.157E-01	3.881E-02	-0.282
		1274.45	*	1.969E-02	1.114E-01	1.853E-01	1.851E-02	0.106
		48.70		-3.442E+00	3.700E+00	6.026E+00	4.571E-01	-0.571
		60.01		1.600E+00	6.636E+00	1.007E+01	7.683E-01	0.159
	+	86.54		4.511E-01	1.422E-01	2.036E-01	1.876E-02	2.215
		105.31	*	8.673E-02	1.083E-01	1.804E-01	1.290E-02	0.481
TB-160	+	86.79		1.216E+00	3.828E-01	5.533E-01	5.062E-02	2.197
		197.04		-3.389E-01	5.101E-01	8.311E-01	4.463E-02	-0.408
		215.65		4.525E-01	7.802E-01	1.172E+00	6.397E-02	0.386
		298.57		2.132E-01	1.626E-01	1.876E-01	1.078E-02	1.136
		879.36	*	-5.214E-02	1.265E-01	2.008E-01	2.205E-02	-0.260
		962.29		6.105E-01	6.503E-01	9.658E-01	9.921E-02	0.632
		966.15		1.304E+00	3.287E-01	5.237E-01	5.344E-02	2.491
		1177.93		-7.836E-02	3.314E-01	5.398E-01	3.014E-02	-0.145
		1271.85		-1.512E-01	6.136E-01	9.878E-01	6.676E-02	-0.153
		80.57		-1.022E-01	3.900E-01	4.459E-01	3.874E-02	-0.229
HO-166M		184.41		1.028E-01	3.898E-02	6.340E-02	3.369E-03	1.621
		280.46		-8.502E-02	7.979E-02	1.235E-01	7.043E-03	-0.688
		410.95		3.589E-01	2.316E-01	4.109E-01	2.419E-02	0.874
		711.68	*	2.642E-03	5.081E-02	8.500E-02	7.085E-03	0.031
		752.31		5.409E-02	2.426E-01	4.079E-01	3.647E-02	0.133
		810.29		-7.022E-02	5.249E-02	7.774E-02	7.654E-03	-0.903
		51.35		1.784E+01	4.313E+01	7.372E+01	5.843E+00	0.242
		52.39		1.945E-01	2.218E+01	3.734E+01	2.967E+00	0.005
		59.40		1.048E+01	3.596E+01	5.471E+01	4.154E+00	0.191
TM-171								

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	+	66.72	*	2.102E+01	3.507E+01	5.349E+01	4.277E+00	0.393
		88.36		8.881E-01	2.797E-01	3.960E-01	3.636E-02	2.243
		201.83		-5.318E-03	2.690E-02	4.454E-02	2.402E-03	-0.119
		306.84	*	-1.295E-03	2.387E-02	3.551E-02	2.044E-03	-0.036
LU-177		401.10		1.993E+00	5.916E+00	1.005E+01	5.843E-01	0.198
		112.95		-5.708E-01	1.798E+00	2.864E+00	1.846E-01	-0.199
		208.36	*	6.593E-01	1.361E+00	2.034E+00	1.103E-01	0.324
		52.97		-3.466E-01	2.349E+00	3.808E+00	3.023E-01	-0.091
LU-177M		54.07		-5.369E-01	1.214E+00	1.945E+00	1.537E-01	-0.276
		61.30		1.485E+00	1.905E+00	2.951E+00	2.280E-01	0.503
		121.62		5.233E-02	3.724E-01	6.011E-01	3.565E-02	0.087
		147.16		-3.441E-01	6.638E-01	1.019E+00	5.543E-02	-0.338
		171.86		4.411E-01	4.430E-01	7.708E-01	4.057E-02	0.572
		218.09		3.430E-01	7.909E-01	1.332E+00	7.287E-02	0.257
		268.79	+	3.721E+00	1.341E+00	1.376E+00	7.801E-02	2.705
		319.02		-1.657E-01	2.279E-01	3.527E-01	2.036E-02	-0.470
HF-181		367.43		6.928E-01	7.828E-01	1.371E+00	7.916E-02	0.505
		413.65	*	-2.915E-01	1.708E-01	2.610E-01	1.542E-02	-1.117
		56.28		1.130E-01	1.241E+00	2.088E+00	1.627E-01	0.054
		57.53		-2.891E-01	6.635E-01	1.094E+00	8.440E-02	-0.264
		65.20		-2.528E-01	1.236E+00	1.826E+00	1.448E-01	-0.138
		133.02		2.199E-02	7.545E-02	1.086E-01	6.144E-03	0.203
		136.25		5.109E-02	4.623E-01	7.394E-01	4.140E-02	0.069
		345.85		-3.333E-02	2.047E-01	2.822E-01	1.633E-02	-0.118
W-181		482.03	*	4.482E-03	3.733E-02	6.193E-02	3.964E-03	0.072
		56.28		4.307E-02	4.808E-01	8.092E-01	6.303E-02	0.053
		57.53		-1.121E-01	2.573E-01	4.245E-01	3.273E-02	-0.264
		65.20	*	-9.726E-02	4.755E-01	7.025E-01	5.572E-02	-0.138
TA-182		67.75		3.679E-02	1.291E-01	2.059E-01	1.655E-02	0.179
		100.10		2.152E-01	1.814E-01	3.062E-01	2.302E-02	0.703
		152.43		-2.209E-01	3.333E-01	5.122E-01	2.756E-02	-0.431
		222.10		4.387E-02	3.213E-01	5.348E-01	2.935E-02	0.082
		1001.68		2.034E+00	1.835E+00	3.179E+00	3.035E-01	0.640
		1121.28		7.747E-01	1.773E-01	3.174E-01	2.187E-02	2.441
		1189.05		3.792E-02	2.583E-01	4.314E-01	2.467E-02	0.088
		1221.42	*	2.036E-01	1.916E-01	3.344E-01	2.045E-02	0.609
RE-183		1230.97		3.395E-01	4.875E-01	7.512E-01	4.685E-02	0.452
		57.98		-1.050E-01	2.562E-01	4.229E-01	3.249E-02	-0.248
		59.32		4.745E-02	1.495E-01	2.277E-01	1.730E-02	0.208
		67.20		1.511E-01	2.478E-01	3.780E-01	3.030E-02	0.400
		162.32	*	2.594E-02	1.008E-01	1.720E-01	9.077E-03	0.151
		208.81		1.460E+00	9.571E-01	1.665E+00	9.034E-02	0.877
		291.72		-2.883E-01	9.304E-01	1.292E+00	7.405E-02	-0.223
		57.98		-3.847E-01	9.388E-01	1.550E+00	1.191E-01	-0.248
RE-184		59.32		1.738E-01	5.474E-01	8.339E-01	6.336E-02	0.208
		67.20		5.536E-01	9.079E-01	1.385E+00	1.110E-01	0.400
		161.27		-2.264E-03	3.259E-01	5.514E-01	2.916E-02	-0.004
		216.55		3.118E-01	2.729E-01	4.208E-01	2.299E-02	0.741
		252.85	*	-1.041E-01	2.125E-01	3.411E-01	1.916E-02	-0.305

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		318.01		-4.512E-01	4.003E-01	6.053E-01	3.493E-02	-0.745
		792.07		7.362E-01	1.042E+00	1.567E+00	1.497E-01	0.470
		903.28		1.618E+00	9.724E-01	1.569E+00	1.761E-01	1.031
		920.93		-4.243E-02	4.118E-01	6.141E-01	6.730E-02	-0.069
		59.72		-5.482E-02	4.028E-01	6.010E-01	4.571E-02	-0.091
		61.14		1.691E-01	2.111E-01	3.273E-01	2.525E-02	0.517
		69.30		-3.701E-01	3.439E-01	5.207E-01	4.218E-02	-0.711
		592.07		1.086E-02	2.211E+00	3.580E+00	2.563E-01	0.003
		646.12	*	-3.234E-02	3.813E-02	5.752E-02	4.326E-03	-0.562
		717.42		-3.037E-01	7.821E-01	1.272E+00	1.071E-01	-0.239
RE-188		874.81		3.298E-01	5.136E-01	8.768E-01	9.564E-02	0.376
		880.27		-8.999E-02	6.899E-01	1.118E+00	1.230E-01	-0.080
		155.03	*	1.378E-01	1.593E-01	2.775E-01	1.485E-02	0.497
		477.96		5.127E-01	2.765E+00	4.605E+00	2.934E-01	0.111
W-188	+	633.10		1.811E+00	2.418E+00	4.081E+00	3.034E-01	0.444
		63.58		9.401E+01	9.147E+01	1.089E+02	8.555E+00	0.863
IR-192		227.08		-2.483E+00	1.231E+01	2.020E+01	1.113E+00	-0.123
		290.67	*	-4.139E+00	7.518E+00	1.027E+01	5.884E-01	-0.403
	+	295.96		1.311E+00	1.902E-01	2.843E-01	1.658E-02	4.613
		308.46		-7.357E-03	8.694E-02	1.399E-01	8.149E-03	-0.053
AU-195		316.51	*	1.080E-02	3.051E-02	5.007E-02	2.904E-03	0.216
		468.07		9.340E-02	6.232E-02	9.945E-02	7.087E-03	0.939
		604.41		1.452E-01	4.759E-01	6.796E-01	8.258E-02	0.214
		612.46		2.203E+00	9.152E-01	1.443E+00	1.265E-01	1.527
		65.12		-4.932E-02	2.200E-01	3.247E-01	2.575E-02	-0.152
		66.83		1.053E-01	1.147E-01	1.771E-01	1.417E-02	0.595
	+	75.70		1.521E+00	2.876E-01	4.950E-01	4.157E-02	3.072
		98.88	*	2.087E-01	2.279E-01	3.820E-01	2.923E-02	0.546
TL-200	+	129.76		3.212E+00	3.735E+00	4.981E+00	2.850E-01	0.645
		367.94	*	6.336E-04	3.735E+00	Half-Life	too short	
		579.30		2.988E-03	3.735E+00	Half-Life	too short	
		828.27		-6.427E-03	3.735E+00	Half-Life	too short	
TL-201		1205.75		4.689E-04	3.735E+00	Half-Life	too short	
		68.90		-6.283E+00	6.481E+00	1.039E+01	8.397E-01	-0.605
		70.82		2.539E-01	4.003E+00	5.962E+00	4.868E-01	0.043
		80.30		-2.893E+00	8.947E+00	1.019E+01	8.832E-01	-0.284
TL-202		135.34		-1.850E+01	3.196E+01	4.975E+01	2.794E+00	-0.372
		167.43	*	3.955E-01	7.765E+00	1.313E+01	6.894E-01	0.030
		68.90		-4.806E-01	4.958E-01	7.946E-01	6.424E-02	-0.605
		70.82		1.937E-02	3.054E-01	4.548E-01	3.714E-02	0.043
HG-203		80.30		-2.208E-01	6.828E-01	7.774E-01	6.740E-02	-0.284
		439.56	*	7.634E-02	6.033E-02	1.067E-01	6.504E-03	0.716
		70.83		8.934E-02	1.272E+00	1.895E+00	2.525E-01	0.047
		72.87		1.156E+00	7.597E-01	1.172E+00	1.520E-01	0.987
BI-207		82.60		4.605E-02	1.241E+00	1.827E+00	2.535E-01	0.025
		279.20	*	3.762E-02	3.832E-02	6.489E-02	3.935E-03	0.580
		72.80		2.943E-01	2.160E-01	3.356E-01	2.770E-02	0.877
	+	74.97		8.405E-01	1.589E-01	2.519E-01	2.106E-02	3.337
	+	84.90		1.843E-01	2.663E-01	3.362E-01	3.025E-02	0.548

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		569.67		5.519E-03	2.715E-02	4.464E-02	3.128E-03	0.124
		1063.62	*	1.969E-02	4.713E-02	8.081E-02	6.671E-03	0.244
		1770.23		-2.880E-01	5.052E-01	6.258E-01	3.786E-02	-0.460
		81.07		1.952E-01	2.872E-01	3.501E-01	3.054E-02	0.557
	+	83.78		1.215E-01	1.756E-01	2.194E-01	1.955E-02	0.554
	+	94.90		1.003E+00	5.131E-01	4.304E-01	3.503E-02	2.330
		122.32		6.343E-03	1.724E+00	2.766E+00	1.878E-01	0.002
		144.24		6.367E-01	6.867E-01	1.117E+00	7.794E-02	0.570
		154.21		5.192E-01	3.617E-01	6.391E-01	4.252E-02	0.812
	+	269.46		8.676E-01	3.131E-01	3.357E-01	1.994E-02	2.584
		323.87	*	3.549E-01	6.703E-01	9.727E-01	1.606E-01	0.365
	+	338.28		7.776E+00	1.834E+00	2.356E+00	2.480E-01	3.300
PO-209		445.03		-1.364E+00	1.847E+00	2.922E+00	3.058E-01	-0.467
		260.50		1.886E+00	8.482E+00	1.402E+01	7.913E-01	0.135
		262.80		-2.045E+01	2.441E+01	3.687E+01	2.084E+00	-0.555
		896.60	*	-7.931E+00	7.023E+00	1.027E+01	1.158E+00	-0.772
BI-210		46.50	*	5.518E+00	5.744E+00	1.001E+01	7.746E-01	0.551
PB-210		46.50	*	5.518E+00	5.744E+00	1.001E+01	7.746E-01	0.551
PO-210		46.50	*	5.518E+00	5.740E+00	1.001E+01	6.660E-01	0.551
PB-211		404.84	*	-1.865E+00	1.447E+00	1.289E+00	8.036E-01	-1.447
BI-212		427.08		-1.487E+00	2.035E+00	2.895E+00	1.790E+00	-0.514
		831.96		-2.567E-01	1.085E+00	1.736E+00	1.092E+00	-0.148
	+	727.18	*	1.529E+00	4.647E-01	6.290E-01	6.264E-02	2.432
		785.46		2.709E+00	1.697E+00	2.923E+00	2.763E-01	0.927
		1620.62		-1.675E-01	1.080E+00	1.759E+00	1.190E-01	-0.095
PO-215		81.07		1.952E-01	2.872E-01	3.501E-01	3.054E-02	0.557
	+	83.78		1.215E-01	1.756E-01	2.194E-01	1.955E-02	0.554
	+	94.90		1.003E+00	5.131E-01	4.304E-01	3.503E-02	2.330
		122.32		6.343E-03	1.724E+00	2.766E+00	1.878E-01	0.002
		144.24		6.367E-01	6.867E-01	1.117E+00	7.794E-02	0.570
		154.21		5.192E-01	3.617E-01	6.391E-01	4.252E-02	0.812
	+	269.46		8.676E-01	3.131E-01	3.357E-01	1.994E-02	2.584
		323.87	*	3.549E-01	6.703E-01	9.727E-01	1.606E-01	0.365
	+	338.28		7.776E+00	1.834E+00	2.356E+00	2.480E-01	3.300
		445.03		-1.364E+00	1.847E+00	2.922E+00	3.058E-01	-0.467
	+	271.23		1.113E+00	4.062E-01	4.400E-01	3.528E-02	2.530
		401.81	*	1.642E-01	3.631E-01	6.191E-01	8.428E-02	0.265
RN-220		549.76	*	1.974E+00	2.346E+01	3.842E+01	2.640E+00	0.051
RA-223		81.07		1.952E-01	2.872E-01	3.501E-01	3.054E-02	0.557
	+	83.78		1.215E-01	1.756E-01	2.194E-01	1.955E-02	0.554
	+	94.90		1.003E+00	5.131E-01	4.304E-01	3.503E-02	2.330
		122.32		6.343E-03	1.724E+00	2.766E+00	1.878E-01	0.002
		144.24		6.367E-01	6.867E-01	1.117E+00	7.794E-02	0.570
		154.21		5.192E-01	3.617E-01	6.391E-01	4.252E-02	0.812
	+	269.46		8.676E-01	3.131E-01	3.357E-01	1.994E-02	2.584
		323.87	*	3.549E-01	6.703E-01	9.727E-01	1.606E-01	0.365
	+	338.28		7.776E+00	1.834E+00	2.356E+00	2.480E-01	3.300
		445.03		-1.364E+00	1.847E+00	2.922E+00	3.058E-01	-0.467
		79.80		1.319E-01	2.350E+00	2.749E+00	5.914E-01	0.048
AC-227								

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		236.00		5.609E-01	2.643E-01	4.098E-01	4.227E-02	1.369
		256.20	*	-2.178E-01	3.488E-01	5.539E-01	7.694E-02	-0.393
		286.10		9.597E-01	1.380E+00	2.308E+00	2.658E-01	0.416
	+	299.80		3.517E+00	2.003E+00	2.361E+00	3.840E-01	1.490
		304.40		5.121E-01	1.826E+00	2.618E+00	4.525E-01	0.196
		334.20		-1.233E-01	2.507E+00	3.246E+00	5.950E-01	-0.038
		79.80		1.319E-01	2.350E+00	2.749E+00	5.990E-01	0.048
	+	94.00		8.024E+00	4.407E+00	4.243E+00	9.182E-01	1.891
		236.00		5.609E-01	2.626E-01	4.098E-01	3.647E-02	1.369
		256.20	*	-2.178E-01	3.494E-01	5.539E-01	9.329E-02	-0.393
		286.10		9.597E-01	1.678E+00	2.308E+00	2.311E+00	0.416
	+	299.80		3.517E+00	2.003E+00	2.361E+00	3.840E-01	1.490
TH-229		304.40		5.121E-01	1.826E+00	2.618E+00	4.525E-01	0.196
		334.20		-1.233E-01	2.507E+00	3.246E+00	5.950E-01	-0.038
	+	85.43		1.819E-01	2.629E-01	3.434E-01	3.104E-02	0.530
	+	88.47		5.112E-01	1.610E-01	2.264E-01	2.074E-02	2.258
PA-231		100.00		2.201E-01	1.871E-01	3.159E-01	2.378E-02	0.697
		193.63	*	-2.226E-02	4.641E-01	7.746E-01	4.148E-02	-0.029
	+	210.97		1.928E+00	1.382E+00	1.264E+00	6.871E-02	1.526
		283.67	*	-1.276E-01	1.428E+00	2.276E+00	3.127E-01	-0.056
TH-231	+	301.29		1.407E+00	7.817E-01	9.396E-01	9.794E-02	1.497
		81.07		1.952E-01	2.872E-01	3.501E-01	3.054E-02	0.557
	+	83.78		1.215E-01	1.756E-01	2.194E-01	1.955E-02	0.554
	+	94.90		1.003E+00	5.131E-01	4.304E-01	3.503E-02	2.330
U-231		122.32		6.343E-03	1.724E+00	2.766E+00	1.878E-01	0.002
		144.24		6.367E-01	6.867E-01	1.117E+00	7.794E-02	0.570
		154.21		5.192E-01	3.617E-01	6.391E-01	4.252E-02	0.812
	+	269.46		8.676E-01	3.131E-01	3.357E-01	1.994E-02	2.584
		323.87	*	3.549E-01	6.703E-01	9.727E-01	1.606E-01	0.365
	+	338.28		7.776E+00	1.834E+00	2.356E+00	2.480E-01	3.300
		445.03		-1.364E+00	1.847E+00	2.922E+00	3.058E-01	-0.467
	+	84.21		6.118E+00	8.839E+00	1.104E+01	9.877E-01	0.554
		92.29		1.146E+01	3.055E+00	5.066E+00	4.312E-01	2.261
		95.87	*	4.626E-01	1.384E+00	2.045E+00	1.638E-01	0.226
		108.00		-3.313E+00	2.452E+00	3.724E+00	2.533E-01	-0.889
	+	75.28		2.453E+01	5.586E+00	7.487E+00	1.139E+00	3.276
PA-233	+	86.59		7.330E+00	2.966E+00	3.320E+00	8.959E-01	2.208
	+	300.12		9.805E-01	5.511E-01	6.579E-01	8.825E-02	1.490
		311.98	*	1.768E-03	5.943E-02	9.605E-02	5.884E-03	0.018
		340.50		2.891E+00	9.697E-01	1.208E+00	2.774E-01	2.393
PA-234		398.62		-5.141E-01	1.894E+00	3.123E+00	8.073E-01	-0.165
		415.76		7.700E-01	1.514E+00	2.572E+00	5.303E-01	0.299
	+	63.00		2.701E+00	2.651E+00	3.241E+00	4.886E-01	0.833
	+	94.67		7.155E-01	3.715E-01	3.253E-01	3.935E-02	2.199
		98.44		4.182E-02	1.001E-01	1.535E-01	8.545E-02	0.272
		99.86		5.504E-01	4.737E-01	7.993E-01	6.030E-02	0.689
		111.00		9.422E-02	1.845E-01	3.032E-01	3.252E-02	0.311
		131.20		4.266E-02	1.212E-01	1.750E-01	9.963E-03	0.244
		152.70		1.090E-01	3.147E-01	5.034E-01	7.882E-02	0.217

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234M	+	186.00		6.221E+00	2.725E+00	2.498E+00	7.610E-01	2.491
		226.40		-3.088E-02	3.787E-01	6.245E-01	7.129E-02	-0.049
		227.20		7.382E-02	4.069E-01	6.773E-01	3.733E-02	0.109
		248.90		-2.576E-02	7.592E-01	1.245E+00	2.669E-01	-0.021
		293.70		7.070E+00	1.429E+00	1.649E+00	2.648E-01	4.288
		369.80		-1.636E-01	7.516E-01	1.251E+00	2.604E-01	-0.131
		568.70		-2.145E-01	8.751E-01	1.401E+00	9.805E-02	-0.153
		569.50		2.790E-02	2.397E-01	3.921E-01	2.747E-02	0.071
		574.00		5.190E-01	1.354E+00	2.247E+00	1.581E-01	0.231
		699.00		7.153E-02	6.072E-01	1.021E+00	1.926E-01	0.070
		706.10		4.588E-01	9.083E-01	1.521E+00	6.773E-01	0.302
		733.00		1.109E-01	3.732E-01	5.476E-01	1.216E-01	0.203
		742.81		8.128E-02	1.143E+00	1.906E+00	1.281E+00	0.043
	+	796.30		4.000E+00	1.781E+00	1.662E+00	4.553E-01	2.406
		805.60		1.275E+00	1.004E+00	1.595E+00	4.943E-01	0.799
		819.60		-1.544E-01	1.089E+00	1.773E+00	6.803E-01	-0.087
		826.30		-2.974E-01	7.204E-01	1.117E+00	5.033E-01	-0.266
		831.60		-2.363E-01	5.579E-01	8.840E-01	2.682E-01	-0.267
		876.40		3.068E-01	7.856E-01	1.213E+00	1.250E+00	0.253
		880.51		-8.997E-02	2.513E-01	4.003E-01	4.405E-02	-0.225
		883.24		-5.322E-02	2.646E-01	4.227E-01	2.857E-01	-0.126
		899.00		-1.222E+00	9.581E-01	1.139E+00	5.048E-01	-1.073
		925.00		-2.086E-01	1.118E+00	1.659E+00	1.807E-01	-0.126
		926.50		2.208E-01	1.720E-01	2.603E-01	6.802E-02	0.848
		946.00	*	-2.809E-01	2.652E-01	3.852E-01	7.599E-02	-0.729
		949.00		2.705E-01	3.945E-01	6.707E-01	7.044E-02	0.403
		980.50		3.173E-01	6.459E-01	1.083E+00	1.077E-01	0.293
		1394.10		-5.513E-01	1.145E+00	1.682E+00	1.092E+00	-0.328
		766.42		2.495E+01	1.808E+01	2.090E+01	1.062E+01	1.194
		1001.03	*	1.489E+00	4.281E+00	7.153E+00	7.716E-01	0.208
TH-234	+	63.29	*	2.317E+00	2.284E+00	2.740E+00	4.831E-01	0.846
U-235		92.38		2.666E+00	8.091E-01	1.142E+00	2.059E-01	2.334
		89.95		-2.200E+00	1.905E+00	1.900E+00	5.877E-01	-1.158
	+	93.35		2.496E+00	1.440E+00	1.391E+00	3.888E-01	1.794
NP-236		105.00		1.534E+00	1.138E+00	1.784E+00	5.251E-01	0.859
		143.76	*	8.112E-02	2.127E-01	3.392E-01	5.493E-02	0.239
		163.35		1.417E-01	4.336E-01	7.399E-01	1.318E-01	0.191
	+	185.71		2.304E-01	7.355E-02	9.281E-02	4.936E-03	2.483
		205.31		9.744E-02	5.605E-01	8.233E-01	1.470E-01	0.118
U-238	+	94.67		5.427E-01	2.776E-01	2.471E-01	2.019E-02	2.196
		98.44		3.158E-02	7.363E-02	1.161E-01	8.938E-03	0.272
		111.00		7.127E-02	1.395E-01	2.293E-01	1.508E-02	0.311
NP-239		160.31	*	-3.949E-02	7.207E-02	1.197E-01	6.342E-03	-0.330
	+	63.29	*	2.317E+00	2.284E+00	2.740E+00	4.831E-01	0.846
		92.38		2.666E+00	6.892E-01	1.142E+00	9.707E-02	2.334
U-235		99.55		1.891E-01	1.576E-01	2.663E-01	2.018E-02	0.710
		117.00	*	2.149E-01	1.807E-01	3.037E-01	1.880E-02	0.708
	+	209.75		1.942E+00	1.393E+00	1.302E+00	7.070E-02	1.492
NP-239		228.18		4.545E-02	2.142E-01	3.568E-01	1.968E-02	0.127



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		277.60		3.368E-01	1.685E-01	2.879E-01	1.640E-02	1.170
		334.30		-7.520E-02	1.420E+00	1.839E+00	1.063E-01	-0.041
AM-241		59.54	*	5.104E-02	2.078E-01	3.155E-01	2.617E-02	0.162
CM-243		99.55		1.946E-01	1.622E-01	2.740E-01	2.076E-02	0.710
		103.76	*	-3.022E-02	9.872E-02	1.582E-01	1.133E-02	-0.191
		117.00		2.211E-01	1.859E-01	3.124E-01	1.934E-02	0.708
	+	209.75		1.915E+00	1.373E+00	1.283E+00	6.970E-02	1.492
		228.18		4.592E-02	2.164E-01	3.606E-01	1.989E-02	0.127
		277.60		3.396E-01	1.699E-01	2.903E-01	1.653E-02	1.170
AM-246		798.80		1.993E-02	1.367E-01	1.966E-01	1.900E-02	0.101
		1036.00		-2.881E-01	2.641E-01	4.061E-01	3.596E-02	-0.709
		1062.04		-4.639E-02	2.039E-01	3.353E-01	2.780E-02	-0.138
		1078.86	*	5.307E-04	1.268E-01	2.116E-01	1.673E-02	0.003
CM-247		278.00		1.114E+00	6.885E-01	1.192E+00	6.793E-02	0.934
		287.40		2.643E-01	1.103E+00	1.812E+00	1.037E-01	0.146
		402.60	*	1.279E-02	3.264E-02	5.558E-02	3.237E-03	0.230
CF-249		252.85		-3.892E-01	7.943E-01	1.275E+00	7.161E-02	-0.305
		333.44		5.789E-02	2.361E-01	2.438E-01	1.410E-02	0.238
		387.95	*	-4.793E-03	3.554E-02	5.923E-02	3.405E-03	-0.081
CF-251		176.60	*	-8.658E-02	1.135E-01	1.857E-01	9.806E-03	-0.466
		227.00		-8.170E-02	3.655E-01	5.994E-01	3.303E-02	-0.136
		285.00		7.546E-01	1.576E+00	2.618E+00	1.496E-01	0.288

# VAX/VMS Nuclide Identification Report Generated

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*****
*
*               GEL Laboratories LLC
*               2040 Savage Road
*               Charleston, SC 29414
*
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*
*               DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847002
* Acquisition date   : 27-JAN-2010 13:30:59 Detector SN#      :
* Detector ID        : GAM18                               Sensitivity      : 5.000
* Geometry           : CAN                                 Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                      Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.96                      Half life ratio  : 8.000
*****
*
*               SAMPLE DATA
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244847002                      Analyst initials: MXR1
* Batch Number       : 942717                          Sample Quantity : 1.2380E+02 GRAM
* Recovery           : 1.00000                          Carrier Weight   : 0.00000
*****
*
*               QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope      :
* MSD DPM             : 0.000                          MSD Isotope      :
* LCS DPM             : 0.000                          LCS Isotope      :
* LCSD DPM            : 0.000                          LCSD Isotope     :
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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	3.495E+01	3.013E+00	4.138E-01	0.000E+00
CD-109	3.815E+00	1.177E+00	1.659E+00	0.000E+00
SN-126	3.744E-01	1.156E-01	1.548E-01	0.000E+00
BA-137M	1.175E-01	5.169E-02	5.573E-02	0.000E+00
CS-137	1.242E-01	5.465E-02	5.891E-02	0.000E+00
TL-208	5.881E-01	8.587E-02	5.180E-02	0.000E+00
BI-211	5.108E+00	5.282E-01	2.799E-01	0.000E+00
PB-212	2.054E+00	1.797E-01	8.769E-02	0.000E+00
PO-212	2.054E+00	1.797E-01	8.769E-02	0.000E+00
BI-214	1.324E+00	1.960E-01	1.051E-01	0.000E+00
PB-214	1.777E+00	2.050E-01	9.755E-02	0.000E+00
PO-214	1.777E+00	2.050E-01	9.755E-02	0.000E+00
PO-216	2.054E+00	1.797E-01	8.769E-02	0.000E+00
PO-218	1.777E+00	2.050E-01	9.755E-02	0.000E+00
RA-224	4.732E+00	1.076E+00	9.966E-01	0.000E+00
RA-226	1.324E+00	1.960E-01	1.051E-01	0.000E+00
AC-228	2.156E+00	3.946E-01	1.926E-01	0.000E+00
RA-228	2.156E+00	3.946E-01	1.926E-01	0.000E+00
TH-228	2.087E+00	1.826E-01	8.911E-02	0.000E+00
TH-230	1.324E+00	1.960E-01	1.051E-01	0.000E+00
TH-232	2.156E+00	3.946E-01	1.926E-01	0.000E+00
U-234	1.324E+00	1.960E-01	1.051E-01	0.000E+00
NP-237	1.100E+00	4.057E-01	4.140E-01	0.000E+00
AM-243	4.682E-01	8.677E-02	9.981E-02	0.000E+00
ANH-511	1.858E-01	6.076E-02	4.094E-02	0.000E+00

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-6.736E-02	2.863E-01	4.824E-01	0.000E+00 NOT IDENT.
NA-22	6.664E-03	3.909E-02	6.634E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	2.074E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-6.165E-03	2.493E-02	4.009E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.073E-02	9.129E-02	0.000E+00	FAIL ABUN
SC-46	-8.000E-03	3.646E-02	6.023E-02	0.000E+00	FAIL ABUN
V-48	2.703E-02	6.278E-02	1.074E-01	0.000E+00	NOT IDENT.
CR-51	-1.569E-01	3.297E-01	5.388E-01	0.000E+00	NOT IDENT.
MN-52	-2.211E-01	2.209E-01	3.231E-01	0.000E+00	NOT IDENT.
MN-54	1.191E-02	3.399E-02	5.853E-02	0.000E+00	NOT IDENT.
CO-56	-1.237E-02	3.593E-02	5.918E-02	0.000E+00	FAIL ABUN
CO-57	8.616E-05	2.450E-02	4.143E-02	0.000E+00	NOT IDENT.
CO-58	-6.409E-02	3.514E-02	5.114E-02	0.000E+00	NOT IDENT.
FE-59	-1.349E-01	8.307E-02	1.246E-01	0.000E+00	NOT IDENT.
CO-60	-3.851E-02	3.368E-02	5.002E-02	0.000E+00	NOT IDENT.
ZN-65	5.722E-02	9.634E-02	1.473E-01	0.000E+00	NOT IDENT.
GE-68	3.329E-01	1.072E+00	1.868E+00	0.000E+00	NOT IDENT.
AS-73	1.279E-01	1.152E+00	2.005E+00	0.000E+00	NOT IDENT.
AS-74	1.233E-02	8.125E-02	1.369E-01	0.000E+00	NOT IDENT.
SE-75	2.237E-02	4.218E-02	6.510E-02	0.000E+00	NOT IDENT.
BR-77	9.361E+00	1.164E+01	2.058E+01	0.000E+00	FAIL ABUN
SR-82	-2.213E-01	3.884E-01	5.368E-01	0.000E+00	NOT IDENT.
RB-83	4.139E-02	5.847E-02	1.029E-01	0.000E+00	NOT IDENT.
RB-84	-4.462E-02	6.340E-02	1.009E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.236E+00	1.244E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.747E-02	6.441E-02	0.000E+00	NOT IDENT.
RB-86	2.607E-01	6.920E-01	1.211E+00	0.000E+00	NOT IDENT.
Y-88	5.650E-03	2.692E-02	4.616E-02	0.000E+00	NOT IDENT.
ZR-88	1.200E-02	2.752E-02	4.876E-02	0.000E+00	NOT IDENT.
Y-91	-1.118E+01	1.729E+01	2.765E+01	0.000E+00	NOT IDENT.
NB-94	1.107E-02	2.887E-02	5.063E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	4.762E-02	7.813E-02	0.000E+00	NOT IDENT.
NB-95M	3.367E-02	1.311E-01	2.006E-01	0.000E+00	NOT IDENT.
ZR-95	1.962E-02	6.424E-02	1.115E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.268E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.856E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-3.833E+00	1.235E+01	2.068E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.372E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.436E-02	3.021E-02	5.112E-02	0.000E+00	NOT IDENT.
RH-102	1.263E-02	2.521E-02	4.417E-02	0.000E+00	NOT IDENT.
RU-103	1.547E-02	3.394E-02	5.912E-02	0.000E+00	FAIL ABUN
RH-106	4.577E-02	2.947E-01	4.942E-01	0.000E+00	FAIL ABUN
RU-106	4.577E-02	2.946E-01	4.942E-01	0.000E+00	FAIL ABUN
AG-108M	-1.736E-03	2.843E-02	4.882E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	3.183E-02	5.394E-02	0.000E+00	NOT IDENT.
IN-111	2.064E-01	1.327E+00	2.016E+00	0.000E+00	NOT IDENT.
IN-113M	9.752E-03	3.965E-02	6.970E-02	0.000E+00	NOT IDENT.
SN-113	9.752E-03	3.965E-02	6.970E-02	0.000E+00	NOT IDENT.
IN-114M	1.608E-02	1.819E-01	2.822E-01	0.000E+00	NOT IDENT.
CD-115	2.835E+00	1.244E+01	2.130E+01	0.000E+00	NOT IDENT.
SN-117M	-3.055E-02	5.094E-02	8.876E-02	0.000E+00	NOT IDENT.
SB-122	2.158E+00	2.334E+00	4.114E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.679E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	4.496E-03	2.515E-02	4.500E-02	0.000E+00	NOT IDENT.
I-124	1.476E-01	7.935E-01	1.159E+00	0.000E+00	FAIL ABUN
SB-124	-1.568E-02	6.021E-02	9.749E-02	0.000E+00	FAIL ABUN
SB-125	-5.270E-02	7.921E-02	1.319E-01	0.000E+00	FAIL ABUN
TE-125M	-7.060E+00	9.385E+00	1.544E+01	0.000E+00	NOT IDENT.
I-126	-1.074E-01	2.033E-01	2.906E-01	0.000E+00	NOT IDENT.
SB-126	1.486E-01	1.437E-01	2.303E-01	0.000E+00	FAIL ABUN
SB-127	4.197E-01	1.356E+00	2.377E+00	0.000E+00	NOT IDENT.
XE-127	-2.867E-02	4.468E-02	7.621E-02	0.000E+00	NOT IDENT.
I-131	-6.061E-02	1.054E-01	1.793E-01	0.000E+00	NOT IDENT.
TE-132	1.699E-01	7.852E-01	1.366E+00	0.000E+00	NOT IDENT.
BA-133	-3.201E-02	4.423E-02	6.022E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.072E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.354E-02	8.618E-02	0.000E+00	FAIL ABUN
CS-135	2.024E-01	1.574E-01	2.511E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.506E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.195E-02	1.011E-01	1.683E-01	0.000E+00	FAIL ABUN
CE-139	7.844E-03	2.656E-02	4.754E-02	0.000E+00	NOT IDENT.
BA-140	-1.854E-02	2.264E-01	3.799E-01	0.000E+00	NOT IDENT.
LA-140	-2.496E-02	7.135E-02	1.159E-01	0.000E+00	FAIL ABUN
CE-141	4.301E-02	6.274E-02	1.072E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.103E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.698E-01	2.268E-01	3.493E-01	0.000E+00	NOT IDENT.
PM-144	2.485E-03	2.759E-02	4.769E-02	0.000E+00	NOT IDENT.
PR-144	1.685E-01	1.870E+00	3.234E+00	0.000E+00	NOT IDENT.
PM-146	1.298E-02	3.718E-02	6.490E-02	0.000E+00	NOT IDENT.
ND-147	-2.374E-01	5.103E-01	8.363E-01	0.000E+00	NOT IDENT.

PM-149	6.911E+01	1.083E+02	1.880E+02	0.000E+00	NOT IDENT.
EU-152	1.742E-02	9.880E-02	1.451E-01	0.000E+00	NOT IDENT.
GD-153	-6.364E-02	8.850E-02	1.310E-01	0.000E+00	FAIL ABUN
EU-154	1.969E-02	1.092E-01	1.855E-01	0.000E+00	NOT IDENT.
EU-155	8.673E-02	1.062E-01	1.866E-01	0.000E+00	FAIL ABUN
TB-160	-5.214E-02	1.240E-01	2.019E-01	0.000E+00	FAIL ABUN
HO-166M	2.642E-03	4.980E-02	8.573E-02	0.000E+00	NOT IDENT.
TM-171	2.102E+01	3.437E+01	5.566E+01	0.000E+00	NOT IDENT.
LU-176	-1.295E-03	2.339E-02	3.622E-02	0.000E+00	FAIL ABUN
LU-177	6.593E-01	1.334E+00	2.086E+00	0.000E+00	NOT IDENT.
LU-177M	-2.915E-01	1.674E-01	2.652E-01	0.000E+00	FAIL ABUN
HF-181	4.482E-03	3.658E-02	6.279E-02	0.000E+00	NOT IDENT.
W-181	-9.726E-02	4.660E-01	7.312E-01	0.000E+00	NOT IDENT.
TA-182	2.036E-01	1.878E-01	3.348E-01	0.000E+00	NOT IDENT.
RE-183	2.594E-02	9.878E-02	1.769E-01	0.000E+00	NOT IDENT.
RE-184	-1.041E-01	2.083E-01	3.489E-01	0.000E+00	NOT IDENT.
OS-185	-3.234E-02	3.737E-02	5.810E-02	0.000E+00	NOT IDENT.
RE-188	1.378E-01	1.561E-01	2.856E-01	0.000E+00	NOT IDENT.
W-188	-4.139E+00	7.367E+00	1.049E+01	0.000E+00	FAIL ABUN
IR-192	1.080E-02	2.990E-02	5.106E-02	0.000E+00	FAIL ABUN
AU-195	2.087E-01	2.233E-01	3.955E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.146E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.955E-01	7.610E+00	1.350E+01	0.000E+00	NOT IDENT.
TL-202	7.634E-02	5.912E-02	1.083E-01	0.000E+00	NOT IDENT.
HG-203	3.762E-02	3.756E-02	6.628E-02	0.000E+00	NOT IDENT.
BI-207	1.969E-02	4.619E-02	8.107E-02	0.000E+00	FAIL ABUN
TL-207	3.549E-01	6.569E-01	9.915E-01	0.000E+00	FAIL ABUN
PO-209	-7.931E+00	6.882E+00	1.032E+01	0.000E+00	NOT IDENT.
BI-210	5.518E+00	5.630E+00	1.047E+01	0.000E+00	NOT IDENT.
PB-210	5.518E+00	5.630E+00	1.047E+01	0.000E+00	NOT IDENT.
PO-210	5.518E+00	5.625E+00	1.047E+01	0.000E+00	NOT IDENT.
PB-211	-1.865E+00	1.418E+00	1.310E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.554E-01	6.342E-01	0.000E+00	FAIL ABUN
PO-215	3.549E-01	6.569E-01	9.915E-01	0.000E+00	FAIL ABUN
RN-219	1.642E-01	3.558E-01	6.293E-01	0.000E+00	FAIL ABUN
RN-220	1.974E+00	2.299E+01	3.889E+01	0.000E+00	NOT IDENT.
RA-223	3.549E-01	6.569E-01	9.915E-01	0.000E+00	FAIL ABUN
AC-227	-2.178E-01	3.418E-01	5.664E-01	0.000E+00	FAIL ABUN
TH-227	-2.178E-01	3.424E-01	5.664E-01	0.000E+00	FAIL ABUN
TH-229	-2.226E-02	4.548E-01	7.950E-01	0.000E+00	FAIL ABUN
PA-231	-1.276E-01	1.399E+00	2.324E+00	0.000E+00	FAIL ABUN
TH-231	3.549E-01	6.569E-01	9.915E-01	0.000E+00	FAIL ABUN
U-231	4.626E-01	1.356E+00	2.118E+00	0.000E+00	FAIL ABUN
PA-233	1.768E-03	5.824E-02	9.796E-02	0.000E+00	FAIL ABUN
PA-234	-2.809E-01	2.599E-01	3.870E-01	0.000E+00	FAIL ABUN
PA-234M	1.489E+00	4.195E+00	7.181E+00	0.000E+00	NOT IDENT.
TH-234	2.317E+00	2.238E+00	2.853E+00	0.000E+00	FAIL ABUN
U-235	8.112E-02	2.084E-01	3.495E-01	0.000E+00	FAIL ABUN
NP-236	-3.949E-02	7.063E-02	1.232E-01	0.000E+00	FAIL ABUN
U-238	2.317E+00	2.238E+00	2.853E+00	0.000E+00	FAIL ABUN
NP-239	2.149E-01	1.770E-01	3.137E-01	0.000E+00	FAIL ABUN
AM-241	5.104E-02	2.036E-01	3.288E-01	0.000E+00	NOT IDENT.
CM-243	-3.022E-02	9.675E-02	1.637E-01	0.000E+00	FAIL ABUN
AM-246	5.307E-04	1.243E-01	2.122E-01	0.000E+00	NOT IDENT.
CM-247	1.279E-02	3.199E-02	5.649E-02	0.000E+00	NOT IDENT.
CF-249	-4.793E-03	3.483E-02	6.023E-02	0.000E+00	NOT IDENT.
CF-251	-8.658E-02	1.113E-01	1.908E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847002.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:30:59
Sample ID          : G244847002          Sample quantity  : 1.23800E+02 GRAM
Detector name      : GAM18              Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00      Elapsed real time: 0 02:00:01.96  0.0%
Energy tolerance    : 1.50000 keV        Analyst Initials : MXR1
Abundance limit     : 75.00000           Sensitivity       : 5.00000
Batch ID           : 942717              Detector SN#      :
Matrix Spike ID     :                    LCS ID           : 1032-A
*****

```

## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	2329	10.67*	1.893E+00	3.495E+01	3.495E+01	8.80
CD-109	88.03	295	3.72*	6.453E+00	3.724E+00	3.815E+00	31.49
SN-126	64.28	89	9.60	3.070E+00	9.171E-01	9.171E-01	98.11
	86.94	295	8.90	6.453E+00	1.557E+00	1.557E+00	51.26
	87.57	295	37.00*	6.453E+00	3.744E-01	3.744E-01	31.49
BA-137M	661.65	125	89.98*	3.587E+00	1.174E-01	1.175E-01	44.89
CS-137	661.65	125	85.12*	3.587E+00	1.241E-01	1.242E-01	44.89
TL-208	277.35	-----	6.80	6.258E+00	-----	Line Not Found	-----
	510.84	264	21.60	4.310E+00	8.603E-01	8.603E-01	34.39
	583.14	642	84.20*	3.933E+00	5.881E-01	5.881E-01	14.90
	860.37	110	12.46	2.915E+00	9.217E-01	9.217E-01	45.71
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	1188	12.94*	5.450E+00	5.108E+00	5.108E+00	10.55
PB-212	74.81	503	10.70	4.936E+00	2.888E+00	2.888E+00	21.09
	77.11	808	18.00	5.258E+00	2.589E+00	2.589E+00	15.11
	87.30	295	8.00	6.453E+00	1.732E+00	1.732E+00	33.04
	238.63	2052	44.60*	6.792E+00	2.054E+00	2.054E+00	8.93
	300.09	128	3.41	5.979E+00	1.898E+00	1.898E+00	55.20
PO-212	74.81	503	10.70	4.936E+00	2.888E+00	2.888E+00	21.09
	77.11	808	18.00	5.258E+00	2.589E+00	2.589E+00	15.11
	87.30	295	8.00	6.453E+00	1.732E+00	1.732E+00	33.04
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	2052	44.60*	6.792E+00	2.054E+00	2.054E+00	8.93
	300.09	128	3.41	5.979E+00	1.898E+00	1.898E+00	55.20
BI-214	609.31	770	46.30*	3.812E+00	1.324E+00	1.324E+00	15.11
	1120.29	181	15.10	2.335E+00	1.554E+00	1.554E+00	35.33
	1764.49	187	15.80	1.695E+00	2.121E+00	2.121E+00	19.04
PB-214	74.81	503	6.21	4.936E+00	4.976E+00	4.976E+00	20.31
	77.11	808	10.50	5.258E+00	4.438E+00	4.439E+00	16.92
	87.30	295	4.67	6.453E+00	2.967E+00	2.967E+00	32.42
	241.98	416	7.49	6.747E+00	2.495E+00	2.495E+00	23.87
	295.21	652	19.20	6.040E+00	1.705E+00	1.705E+00	15.76

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	1188	37.20*	5.450E+00	1.777E+00	1.777E+00	11.77
	74.81	503	6.21	4.936E+00	4.976E+00	4.976E+00	20.31
	77.11	808	10.50	5.258E+00	4.438E+00	4.439E+00	16.92
	87.30	295	4.67	6.453E+00	2.967E+00	2.967E+00	32.42
	241.98	416	7.49	6.747E+00	2.495E+00	2.495E+00	23.87
PO-216	295.21	652	19.20	6.040E+00	1.705E+00	1.705E+00	15.76
	351.92	1188	37.20*	5.450E+00	1.777E+00	1.777E+00	11.77
	74.81	503	10.70	4.936E+00	2.888E+00	2.888E+00	21.09
	77.11	808	18.00	5.258E+00	2.589E+00	2.589E+00	15.11
	87.30	295	8.00	6.453E+00	1.732E+00	1.732E+00	33.04
PO-218	238.63	2052	44.60*	6.792E+00	2.054E+00	2.054E+00	8.93
	300.09	128	3.41	5.979E+00	1.898E+00	1.898E+00	55.20
	74.81	503	6.21	4.936E+00	4.976E+00	4.976E+00	20.31
	77.11	808	10.50	5.258E+00	4.438E+00	4.439E+00	16.92
	87.30	295	4.67	6.453E+00	2.967E+00	2.967E+00	32.42
RA-224	241.98	416	7.49	6.747E+00	2.495E+00	2.495E+00	23.87
	295.21	652	19.20	6.040E+00	1.705E+00	1.705E+00	15.76
	351.92	1188	37.20*	5.450E+00	1.777E+00	1.777E+00	11.77
	240.98	416	3.95*	6.747E+00	4.732E+00	4.732E+00	23.20
	609.31	770	46.30*	3.812E+00	1.324E+00	1.324E+00	15.11
AC-228	1120.29	181	15.10	2.335E+00	1.554E+00	1.554E+00	35.33
	1764.49	187	15.80	1.695E+00	2.121E+00	2.121E+00	19.04
	338.32	391	11.40	5.580E+00	1.862E+00	1.862E+00	45.90
	911.07	547	27.70*	2.780E+00	2.156E+00	2.156E+00	18.68
	969.11	185	16.60	2.638E+00	1.283E+00	1.283E+00	44.81
RA-228	338.32	391	11.40	5.580E+00	1.862E+00	1.862E+00	45.90
	911.07	547	27.70*	2.780E+00	2.156E+00	2.156E+00	18.68
	969.11	185	16.60	2.638E+00	1.283E+00	1.283E+00	44.81
	74.81	503	10.70	4.936E+00	2.888E+00	2.935E+00	18.94
	77.11	808	18.00	5.258E+00	2.589E+00	2.631E+00	15.11
TH-228	87.30	295	8.00	6.453E+00	1.732E+00	1.760E+00	31.49
	238.63	2052	44.60*	6.792E+00	2.054E+00	2.087E+00	8.93
	300.09	128	3.41	5.979E+00	1.898E+00	1.928E+00	80.33
	609.31	770	46.30*	3.812E+00	1.324E+00	1.324E+00	15.11
	1120.29	181	15.10	2.335E+00	1.554E+00	1.554E+00	35.33
TH-232	1764.49	187	15.80	1.695E+00	2.121E+00	2.121E+00	19.04
	338.32	391	11.40	5.580E+00	1.862E+00	1.862E+00	21.88
	911.07	547	27.70*	2.780E+00	2.156E+00	2.156E+00	18.68
	969.11	185	16.60	2.638E+00	1.283E+00	1.283E+00	44.81
	609.31	770	46.30*	3.812E+00	1.324E+00	1.324E+00	15.11
U-234	1120.29	181	15.10	2.335E+00	1.554E+00	1.554E+00	35.33
	1764.49	187	15.80	1.695E+00	2.121E+00	2.121E+00	19.04
	86.50	295	12.60*	6.453E+00	1.100E+00	1.100E+00	37.65
	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
	74.67	503	66.00*	4.936E+00	4.682E-01	4.682E-01	18.91
AM-243	86.72	295	0.34	6.453E+00	4.123E+01	4.123E+01	31.49
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
	511.00	264	100.00*	4.310E+00	1.858E-01	1.858E-01	33.36

Flag: "\*" = Keyline

Total number of lines in spectrum 35  
Number of unidentified lines 3  
Number of lines tentatively identified by NID 32 91.43%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.495E+01	3.495E+01	0.307E+01	8.80	
CD-109	464.00D	1.02	3.724E+00	3.815E+00	1.201E+00	31.49	
SN-126	1.00E+05Y	1.00	3.744E-01	3.744E-01	1.179E-01	31.49	
BA-137M	30.17Y	1.00	1.174E-01	1.175E-01	0.527E-01	44.89	
CS-137	30.17Y	1.00	1.241E-01	1.242E-01	0.558E-01	44.89	
TL-208	1.41E+10Y	1.00	5.881E-01	5.881E-01	0.876E-01	14.90	
BI-211	7.04E+08Y	1.00	5.108E+00	5.108E+00	0.539E+00	10.55	
PB-212	1.41E+10Y	1.00	2.054E+00	2.054E+00	0.183E+00	8.93	
PO-212	1.41E+10Y	1.00	2.054E+00	2.054E+00	0.183E+00	8.93	
BI-214	1600.00Y	1.00	1.324E+00	1.324E+00	0.200E+00	15.11	
PB-214	1600.00Y	1.00	1.777E+00	1.777E+00	0.209E+00	11.77	
PO-214	1600.00Y	1.00	1.777E+00	1.777E+00	0.209E+00	11.77	
PO-216	1.41E+10Y	1.00	2.054E+00	2.054E+00	0.183E+00	8.93	
PO-218	1600.00Y	1.00	1.777E+00	1.777E+00	0.209E+00	11.77	
RA-224	1.41E+10Y	1.00	4.732E+00	4.732E+00	1.098E+00	23.20	
RA-226	1600.00Y	1.00	1.324E+00	1.324E+00	0.200E+00	15.11	
AC-228	1.41E+10Y	1.00	2.156E+00	2.156E+00	0.403E+00	18.68	
RA-228	1.41E+10Y	1.00	2.156E+00	2.156E+00	0.403E+00	18.68	
TH-228	1.91Y	1.02	2.054E+00	2.087E+00	0.186E+00	8.93	
TH-230	4.47E+09Y	1.00	1.324E+00	1.324E+00	0.200E+00	15.11	
TH-232	1.41E+10Y	1.00	2.156E+00	2.156E+00	0.403E+00	18.68	
U-234	4.47E+09Y	1.00	1.324E+00	1.324E+00	0.200E+00	15.11	
NP-237	2.14E+06Y	1.00	1.100E+00	1.100E+00	0.414E+00	37.65	
AM-243	7380.00Y	1.00	4.682E-01	4.682E-01	0.885E-01	18.91	
ANH-511	1.00E+09Y	1.00	1.858E-01	1.858E-01	0.620E-01	33.36	
Total Activity :			7.678E+01	7.690E+01			

Grand Total Activity : 7.678E+01 7.690E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit



It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.70	61	629	1.02	168.51	163	8	8.49E-03	****	6.17E+00	T
0	93.92	261	1014	1.49	186.95	180	11	3.62E-02	50.5	7.04E+00	T
0	129.53	67	476	1.26	258.14	254	8	9.25E-03	****	8.25E+00	T
0	186.12	314	515	1.35	371.27	367	11	4.36E-02	31.5	7.65E+00	T
0	210.49	150	602	1.41	419.99	413	14	2.09E-02	71.5	7.24E+00	T
0	270.19	247	377	1.57	539.36	533	14	3.43E-02	35.6	6.35E+00	T
0	328.68	73	238	1.14	656.30	651	9	1.01E-02	79.9	5.68E+00	T
0	463.03	142	145	1.17	924.91	920	10	1.98E-02	36.1	4.60E+00	T
0	727.12	199	136	1.74	1452.96	1446	14	2.76E-02	28.7	3.34E+00	T
0	769.02	169	190	5.36	1536.73	1528	21	2.34E-02	43.5	3.19E+00	
0	795.64	160	103	2.49	1589.97	1580	20	2.22E-02	35.1	3.11E+00	T
0	933.95	57	76	3.73	1866.53	1860	14	7.90E-03	70.5	2.72E+00	
0	1238.71	49	137	1.40	2475.95	2470	12	6.76E-03	****	2.15E+00	T
0	1376.71	105	28	1.58	2751.92	2743	16	1.46E-02	29.7	1.98E+00	T
0	1728.59	53	24	2.24	3455.63	3447	16	7.36E-03	49.6	1.71E+00	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847002.CNF;1
* Acquisition date   : 27-JAN-2010 13:30:59   Detector SN#      :
* Detector ID        : GAM18                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.96          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G244847002             Analyst initials: MXR1
* Batch Number       : 942717                 Sample Quantity  : 1.23800E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23.2MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                  LCS Isotope       :
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.495E+01	3.075E+00	4.143E-01	3.144E-02	84.356
CD-109	3.815E+00	1.201E+00	1.600E+00	1.479E-01	2.384
SN-126	3.744E-01	1.179E-01	1.493E-01	1.375E-02	2.509
BA-137M	1.175E-01	5.275E-02	5.520E-02	4.207E-03	2.129
CS-137	1.242E-01	5.576E-02	5.835E-02	4.459E-03	2.129
TL-208	5.881E-01	8.762E-02	5.122E-02	4.015E-03	11.481
BI-211	5.108E+00	5.390E-01	2.749E-01	1.765E-02	18.582
PB-212	2.054E+00	1.834E-01	8.568E-02	6.121E-03	23.968
PO-212	2.054E+00	1.834E-01	8.568E-02	6.121E-03	23.968
BI-214	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
PB-214	1.777E+00	2.092E-01	9.580E-02	7.925E-03	18.548
PO-214	1.777E+00	2.092E-01	9.580E-02	7.925E-03	18.548
PO-216	2.054E+00	1.834E-01	8.568E-02	6.121E-03	23.968
PO-218	1.777E+00	2.092E-01	9.580E-02	7.925E-03	18.548
RA-224	4.732E+00	1.098E+00	9.739E-01	5.425E-02	4.859
RA-226	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
AC-228	2.156E+00	4.026E-01	1.916E-01	2.539E-02	11.248
RA-228	2.156E+00	4.026E-01	1.916E-01	2.539E-02	11.248

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	2.087E+00	1.863E-01	8.706E-02	6.220E-03	23.968
TH-230	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
TH-232	2.156E+00	4.026E-01	1.916E-01	2.539E-02	11.248
U-234	1.324E+00	2.000E-01	1.040E-01	9.292E-03	12.724
NP-237	1.100E+00	4.140E-01	3.992E-01	9.008E-02	2.754
AM-243	4.682E-01	8.854E-02	9.605E-02	8.015E-03	4.875
ANH-511	1.858E-01	6.200E-02	4.041E-02	2.669E-03	4.599

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-6.736E-02		2.921E-01	4.757E-01	3.447E-02	-0.142
NA-22	6.664E-03		3.989E-02	6.629E-02	4.511E-03	0.101
NA-24	8.532E-01		1.058E+00	Half-Life	too short	
AL-26	-6.165E-03		2.544E-02	4.026E-02	2.350E-03	-0.153
TI-44	4.778E-01	+	7.218E-02	8.791E-02	7.517E-03	5.435
SC-46	-8.000E-03		3.720E-02	5.990E-02	6.680E-03	-0.134
V-48	2.703E-02		6.406E-02	1.070E-01	1.058E-02	0.253
CR-51	-1.569E-01		3.364E-01	5.284E-01	3.402E-02	-0.297
MN-52	-2.211E-01		2.254E-01	3.235E-01	2.384E-02	-0.683
MN-54	1.191E-02		3.468E-02	5.816E-02	5.957E-03	0.205
CO-56	-1.237E-02		3.666E-02	5.881E-02	6.140E-03	-0.210
CO-57	8.616E-05		2.500E-02	4.012E-02	2.377E-03	0.002
CO-58	-6.409E-02		3.586E-02	5.079E-02	5.014E-03	-1.262
FE-59	-1.349E-01		8.477E-02	1.243E-01	1.023E-02	-1.085
CO-60	-3.851E-02		3.437E-02	5.002E-02	3.779E-03	-0.770
ZN-65	5.722E-02		9.831E-02	1.469E-01	1.035E-02	0.389
GE-68	3.329E-01		1.094E+00	1.862E+00	1.479E-01	0.179
AS-73	1.279E-01		1.176E+00	1.921E+00	1.523E-01	0.067
AS-74	1.233E-02		8.290E-02	1.354E-01	9.727E-03	0.091
SE-75	2.237E-02		4.304E-02	6.369E-02	3.642E-03	0.351
BR-77	9.361E+00		1.188E+01	2.031E+01	1.355E+00	0.461
SR-82	-2.213E-01		3.963E-01	5.328E-01	4.962E-02	-0.415
RB-83	4.139E-02		5.966E-02	1.016E-01	6.774E-03	0.408
RB-84	-4.462E-02		6.470E-02	1.003E-01	1.106E-02	-0.445
KR-85	2.013E+01		7.384E+00	1.228E+01	8.133E-01	1.639
SR-85	1.042E-01		3.824E-02	6.358E-02	4.212E-03	1.639
RB-86	2.607E-01		7.061E-01	1.207E+00	9.612E-02	0.216
Y-88	5.650E-03		2.747E-02	4.637E-02	2.641E-03	0.122
ZR-88	1.200E-02		2.809E-02	4.796E-02	2.758E-03	0.250
Y-91	-1.118E+01		1.765E+01	2.761E+01	1.632E+00	-0.405
NB-94	1.107E-02		2.946E-02	5.019E-02	4.117E-03	0.221
NB-95	8.873E-02		4.859E-02	7.754E-02	7.093E-03	1.144
NB-95M	3.367E-02		1.338E-01	1.960E-01	1.438E-02	0.172
ZR-95	1.962E-02		6.556E-02	1.106E-01	1.088E-02	0.177
NB-97	4.218E-01		1.157E-01	Half-Life	too short	
ZR-97	1.276E+01		2.478E+00	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-3.833E+00		1.260E+01	2.052E+01	3.130E+00	-0.187
TC-99M	-4.089E+11		2.741E+11	Half-Life	too short	
RH-101	-1.436E-02		3.082E-02	4.983E-02	2.678E-03	-0.288
RH-102	1.263E-02		2.572E-02	4.355E-02	2.766E-03	0.290
RU-103	1.547E-02		3.463E-02	5.833E-02	7.573E-03	0.265
RH-106	4.577E-02		3.007E-01	4.891E-01	6.153E-02	0.094
RU-106	4.577E-02		3.007E-01	4.891E-01	3.599E-02	0.094
AG-108M	-1.736E-03		2.901E-02	4.808E-02	3.141E-03	-0.036
AG-110M	5.499E-02		3.248E-02	5.342E-02	4.213E-03	1.029
IN-111	2.064E-01		1.354E+00	1.970E+00	1.101E-01	0.105
IN-113M	9.752E-03		4.046E-02	6.855E-02	4.205E-03	0.142
SN-113	9.752E-03		4.046E-02	6.855E-02	4.205E-03	0.142
IN-114M	1.608E-02		1.856E-01	2.749E-01	1.468E-02	0.058
CD-115	2.835E+00		1.269E+01	2.103E+01	1.414E+00	0.135
SN-117M	-3.055E-02		5.198E-02	8.626E-02	4.585E-03	-0.354
SB-122	2.158E+00		2.382E+00	4.066E+00	2.833E-01	0.531
I-123	3.002E+00		8.567E+00	Half-Life	too short	
TE-123M	4.496E-03		2.566E-02	4.373E-02	2.359E-03	0.103
I-124	1.476E-01		8.097E-01	1.146E+00	8.287E-02	0.129
SB-124	-1.568E-02		6.143E-02	9.782E-02	6.748E-03	-0.160
SB-125	-5.270E-02		8.083E-02	1.299E-01	8.114E-03	-0.406
TE-125M	-7.060E+00		9.577E+00	1.494E+01	1.313E+00	-0.473
I-126	-1.074E-01		2.075E-01	2.878E-01	2.213E-02	-0.373
SB-126	1.486E-01		1.466E-01	2.284E-01	1.933E-02	0.651
SB-127	4.197E-01		1.384E+00	2.355E+00	2.633E-01	0.178
XE-127	-2.867E-02		4.559E-02	7.430E-02	4.011E-03	-0.386
I-131	-6.061E-02		1.075E-01	1.762E-01	1.139E-02	-0.344
TE-132	1.699E-01		8.012E-01	1.334E+00	1.927E-01	0.127
BA-133	-3.201E-02		4.513E-02	5.915E-02	6.833E-03	-0.541
I-133	2.349E-03		5.471E-03	Half-Life	too short	
CS-134	2.060E-01	+	7.504E-02	8.557E-02	8.276E-03	2.407
CS-135	2.024E-01		1.606E-01	2.457E-01	1.857E-02	0.824
I-135	2.772E+10		2.809E+10	Half-Life	too short	
CS-136	-4.195E-02		1.032E-01	1.678E-01	1.504E-02	-0.250
CE-139	7.844E-03		2.710E-02	4.623E-02	2.427E-03	0.170
BA-140	-1.854E-02		2.310E-01	3.752E-01	1.227E-01	-0.049
LA-140	-2.496E-02		7.281E-02	1.161E-01	7.968E-03	-0.215
CE-141	4.301E-02		6.402E-02	1.040E-01	5.938E-03	0.413
CE-143	1.517E-03		2.093E-04	Half-Life	too short	
CE-144	1.698E-01		2.315E-01	3.387E-01	4.789E-02	0.501
PM-144	2.485E-03		2.815E-02	4.727E-02	3.838E-03	0.053
PR-144	1.685E-01		1.908E+00	3.205E+00	2.601E-01	0.053
PM-146	1.298E-02		3.794E-02	6.396E-02	5.690E-03	0.203
ND-147	-2.374E-01		5.208E-01	8.259E-01	1.152E-01	-0.287
PM-149	6.911E+01		1.105E+02	1.841E+02	2.604E+01	0.375
EU-152	1.742E-02		1.008E-01	1.425E-01	9.298E-03	0.122
GD-153	-6.364E-02		9.030E-02	1.265E-01	9.889E-03	-0.503
EU-154	1.969E-02		1.114E-01	1.853E-01	1.851E-02	0.106

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	8.673E-02		1.083E-01	1.804E-01	1.290E-02	0.481
TB-160	-5.214E-02		1.265E-01	2.008E-01	2.205E-02	-0.260
HO-166M	2.642E-03		5.081E-02	8.500E-02	7.085E-03	0.031
TM-171	2.102E+01		3.507E+01	5.349E+01	4.277E+00	0.393
LU-176	-1.295E-03		2.387E-02	3.551E-02	2.044E-03	-0.036
LU-177	6.593E-01		1.361E+00	2.034E+00	1.103E-01	0.324
LU-177M	-2.915E-01		1.708E-01	2.610E-01	1.542E-02	-1.117
HF-181	4.482E-03		3.733E-02	6.193E-02	3.964E-03	0.072
W-181	-9.726E-02		4.755E-01	7.025E-01	5.572E-02	-0.138
TA-182	2.036E-01		1.916E-01	3.344E-01	2.045E-02	0.609
RE-183	2.594E-02		1.008E-01	1.720E-01	9.077E-03	0.151
RE-184	-1.041E-01		2.125E-01	3.411E-01	1.916E-02	-0.305
OS-185	-3.234E-02		3.813E-02	5.752E-02	4.326E-03	-0.562
RE-188	1.378E-01		1.593E-01	2.775E-01	1.485E-02	0.497
W-188	-4.139E+00		7.518E+00	1.027E+01	5.884E-01	-0.403
IR-192	1.080E-02		3.051E-02	5.007E-02	2.904E-03	0.216
AU-195	2.087E-01		2.279E-01	3.820E-01	2.923E-02	0.546
TL-200	6.336E-04		3.646E-04	Half-Life too short		
TL-201	3.955E-01		7.765E+00	1.313E+01	6.894E-01	0.030
TL-202	7.634E-02		6.033E-02	1.067E-01	6.504E-03	0.716
HG-203	3.762E-02		3.832E-02	6.489E-02	3.935E-03	0.580
BI-207	1.969E-02		4.713E-02	8.081E-02	6.671E-03	0.244
TL-207	3.549E-01		6.703E-01	9.727E-01	1.606E-01	0.365
PO-209	-7.931E+00		7.023E+00	1.027E+01	1.158E+00	-0.772
BI-210	5.518E+00		5.744E+00	1.001E+01	7.746E-01	0.551
PB-210	5.518E+00		5.744E+00	1.001E+01	7.746E-01	0.551
PO-210	5.518E+00		5.740E+00	1.001E+01	6.660E-01	0.551
PB-211	-1.865E+00		1.447E+00	1.289E+00	8.036E-01	-1.447
BI-212	1.529E+00	+	4.647E-01	6.290E-01	6.264E-02	2.432
PO-215	3.549E-01		6.703E-01	9.727E-01	1.606E-01	0.365
RN-219	1.642E-01		3.631E-01	6.191E-01	8.428E-02	0.265
RN-220	1.974E+00		2.346E+01	3.842E+01	2.640E+00	0.051
RA-223	3.549E-01		6.703E-01	9.727E-01	1.606E-01	0.365
AC-227	-2.178E-01		3.488E-01	5.539E-01	7.694E-02	-0.393
TH-227	-2.178E-01		3.494E-01	5.539E-01	9.329E-02	-0.393
TH-229	-2.226E-02		4.641E-01	7.746E-01	4.148E-02	-0.029
PA-231	-1.276E-01		1.428E+00	2.276E+00	3.127E-01	-0.056
TH-231	3.549E-01		6.703E-01	9.727E-01	1.606E-01	0.365
U-231	4.626E-01		1.384E+00	2.045E+00	1.638E-01	0.226
PA-233	1.768E-03		5.943E-02	9.605E-02	5.884E-03	0.018
PA-234	-2.809E-01		2.652E-01	3.852E-01	7.599E-02	-0.729
PA-234M	1.489E+00		4.281E+00	7.153E+00	7.716E-01	0.208
TH-234	2.317E+00	+	2.284E+00	2.740E+00	4.831E-01	0.846
U-235	8.112E-02		2.127E-01	3.392E-01	5.493E-02	0.239
NP-236	-3.949E-02		7.207E-02	1.197E-01	6.342E-03	-0.330
U-238	2.317E+00	+	2.284E+00	2.740E+00	4.831E-01	0.846
NP-239	2.149E-01		1.807E-01	3.037E-01	1.880E-02	0.708
AM-241	5.104E-02		2.078E-01	3.155E-01	2.617E-02	0.162

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.022E-02		9.872E-02	1.582E-01	1.133E-02	-0.191
AM-246	5.307E-04		1.268E-01	2.116E-01	1.673E-02	0.003
CM-247	1.279E-02		3.264E-02	5.558E-02	3.237E-03	0.230
CF-249	-4.793E-03		3.554E-02	5.923E-02	3.405E-03	-0.081
CF-251	-8.658E-02		1.135E-01	1.857E-01	9.806E-03	-0.466

## VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G244847002            *
* Acquisition date   : 27-JAN-2010 13:30:59 Detector SN#      :              *
* Detector ID        : GAM18                                           Sensitivity      : 5.000          *
* Geometry           : CAN                                           Energy tolerance: 1.500          *
* Elapsed live time  : 0 02:00:00.00                               Abundance limit : 75.000          *
* Elapsed real time  : 0 02:00:01.96                               Half life ratio  : 8.000          *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244847002                               Analyst initials: MXR1           *
* Batch Number       : 942717                                   Sample Quantity : 1.2380E+02 GRAM  *
* Recovery           : 1.00000                                Carrier Weight   : 0.00000          *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope          :              *
* MSD DPM             : 0.000                                       MSD Isotope      :              *
* LCS DPM             : 0.000                                       LCS Isotope      :              *
* LCSD DPM            : 0.000                                       LCSD Isotope     :              *
*****
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	3.495E+01	3.013E+00	2.070E-01	1.537E+00
CD-109	3.815E+00	1.177E+00	8.301E-01	6.007E-01
SN-126	3.744E-01	1.156E-01	7.743E-02	5.896E-02
BA-137M	1.175E-01	5.169E-02	2.788E-02	2.637E-02
CS-137	1.242E-01	5.465E-02	2.947E-02	2.788E-02
TL-208	5.881E-01	8.587E-02	2.592E-02	4.381E-02
BI-211	5.108E+00	5.282E-01	1.401E-01	2.695E-01
PB-212	2.054E+00	1.797E-01	4.387E-02	9.168E-02
PO-212	2.054E+00	1.797E-01	4.387E-02	9.168E-02
BI-214	1.324E+00	1.960E-01	5.260E-02	9.999E-02
PB-214	1.777E+00	2.050E-01	4.881E-02	1.046E-01
PO-214	1.777E+00	2.050E-01	4.881E-02	1.046E-01
PO-216	2.054E+00	1.797E-01	4.387E-02	9.168E-02
PO-218	1.777E+00	2.050E-01	4.881E-02	1.046E-01
RA-224	4.732E+00	1.076E+00	4.986E-01	5.489E-01
RA-226	1.324E+00	1.960E-01	5.260E-02	9.999E-02
AC-228	2.156E+00	3.946E-01	9.638E-02	2.013E-01
RA-228	2.156E+00	3.946E-01	9.638E-02	2.013E-01
TH-228	2.087E+00	1.826E-01	4.458E-02	9.316E-02
TH-230	1.324E+00	1.960E-01	5.260E-02	9.999E-02
TH-232	2.156E+00	3.946E-01	9.638E-02	2.013E-01
U-234	1.324E+00	1.960E-01	5.260E-02	9.999E-02
NP-237	1.100E+00	4.057E-01	2.071E-01	2.070E-01
AM-243	4.682E-01	8.677E-02	4.993E-02	4.427E-02
ANH-511	1.858E-01	6.076E-02	2.048E-02	3.100E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-6.736E-02	2.863E-01	2.413E-01	1.460E-01 NOT IDENT.
NA-22	6.664E-03	3.909E-02	3.319E-02	1.994E-02 NOT IDENT.

NA-24	8.532E+05	2.074E+06	0.000E+00	1.058E+06	SHORT HLIF
AL-26	-6.165E-03	2.493E-02	2.006E-02	1.272E-02	NOT IDENT.
TI-44	4.778E-01	7.073E-02	4.567E-02	3.609E-02	FAIL ABUN
SC-46	-8.000E-03	3.646E-02	3.013E-02	1.860E-02	FAIL ABUN
V-48	2.703E-02	6.278E-02	5.374E-02	3.203E-02	NOT IDENT.
CR-51	-1.569E-01	3.297E-01	2.695E-01	1.682E-01	NOT IDENT.
MN-52	-2.211E-01	2.209E-01	1.617E-01	1.127E-01	NOT IDENT.
MN-54	1.191E-02	3.399E-02	2.928E-02	1.734E-02	NOT IDENT.
CO-56	-1.237E-02	3.593E-02	2.961E-02	1.833E-02	FAIL ABUN
CO-57	8.616E-05	2.450E-02	2.072E-02	1.250E-02	NOT IDENT.
CO-58	-6.409E-02	3.514E-02	2.559E-02	1.793E-02	NOT IDENT.
FE-59	-1.349E-01	8.307E-02	6.236E-02	4.238E-02	NOT IDENT.
CO-60	-3.851E-02	3.368E-02	2.502E-02	1.718E-02	NOT IDENT.
ZN-65	5.722E-02	9.634E-02	7.370E-02	4.915E-02	NOT IDENT.
GE-68	3.329E-01	1.072E+00	9.345E-01	5.471E-01	NOT IDENT.
AS-73	1.279E-01	1.152E+00	1.003E+00	5.879E-01	NOT IDENT.
AS-74	1.233E-02	8.125E-02	6.848E-02	4.145E-02	NOT IDENT.
SE-75	2.237E-02	4.218E-02	3.257E-02	2.152E-02	NOT IDENT.
BR-77	9.361E+00	1.164E+01	1.029E+01	5.938E+00	FAIL ABUN
SR-82	-2.213E-01	3.884E-01	2.685E-01	1.981E-01	NOT IDENT.
RB-83	4.139E-02	5.847E-02	5.147E-02	2.983E-02	NOT IDENT.
RB-84	-4.462E-02	6.340E-02	5.047E-02	3.235E-02	NOT IDENT.
KR-85	2.013E+01	7.236E+00	6.223E+00	3.692E+00	NOT IDENT.
SR-85	1.042E-01	3.747E-02	3.222E-02	1.912E-02	NOT IDENT.
RB-86	2.607E-01	6.920E-01	6.058E-01	3.531E-01	NOT IDENT.
Y-88	5.650E-03	2.692E-02	2.309E-02	1.374E-02	NOT IDENT.
ZR-88	1.200E-02	2.752E-02	2.440E-02	1.404E-02	NOT IDENT.
Y-91	-1.118E+01	1.729E+01	1.383E+01	8.823E+00	NOT IDENT.
NB-94	1.107E-02	2.887E-02	2.533E-02	1.473E-02	NOT IDENT.
NB-95	8.873E-02	4.762E-02	3.909E-02	2.429E-02	NOT IDENT.
NB-95M	3.367E-02	1.311E-01	1.004E-01	6.688E-02	NOT IDENT.
ZR-95	1.962E-02	6.424E-02	5.576E-02	3.278E-02	NOT IDENT.
NB-97	4.218E+05	2.268E+05	0.000E+00	1.157E+05	SHORT HLIF
ZR-97	1.276E+07	4.856E+06	0.000E+00	2.478E+06	SHORT HLIF
MO-99	-3.833E+00	1.235E+01	1.035E+01	6.302E+00	NOT IDENT.
TC-99M	-4.089E+17	5.372E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.436E-02	3.021E-02	2.558E-02	1.541E-02	NOT IDENT.
RH-102	1.263E-02	2.521E-02	2.210E-02	1.286E-02	NOT IDENT.
RU-103	1.547E-02	3.394E-02	2.958E-02	1.732E-02	FAIL ABUN
RH-106	4.577E-02	2.947E-01	2.473E-01	1.503E-01	FAIL ABUN
RU-106	4.577E-02	2.946E-01	2.473E-01	1.503E-01	FAIL ABUN
AG-108M	-1.736E-03	2.843E-02	2.442E-02	1.451E-02	NOT IDENT.
AG-110M	5.499E-02	3.183E-02	2.699E-02	1.624E-02	NOT IDENT.
IN-111	2.064E-01	1.327E+00	1.008E+00	6.771E-01	NOT IDENT.
IN-113M	9.752E-03	3.965E-02	3.487E-02	2.023E-02	NOT IDENT.
SN-113	9.752E-03	3.965E-02	3.487E-02	2.023E-02	NOT IDENT.
IN-114M	1.608E-02	1.819E-01	1.412E-01	9.280E-02	NOT IDENT.
CD-115	2.835E+00	1.244E+01	1.066E+01	6.347E+00	NOT IDENT.
SN-117M	-3.055E-02	5.094E-02	4.441E-02	2.599E-02	NOT IDENT.
SB-122	2.158E+00	2.334E+00	2.058E+00	1.191E+00	NOT IDENT.
I-123	3.002E+06	1.679E+07	0.000E+00	8.567E+06	SHORT HLIF
TE-123M	4.496E-03	2.515E-02	2.251E-02	1.283E-02	NOT IDENT.
I-124	1.476E-01	7.935E-01	5.796E-01	4.049E-01	FAIL ABUN
SB-124	-1.568E-02	6.021E-02	4.878E-02	3.072E-02	FAIL ABUN
SB-125	-5.270E-02	7.921E-02	6.598E-02	4.041E-02	FAIL ABUN
TE-125M	-7.060E+00	9.385E+00	7.727E+00	4.788E+00	NOT IDENT.
I-126	-1.074E-01	2.033E-01	1.454E-01	1.037E-01	NOT IDENT.
SB-126	1.486E-01	1.437E-01	1.152E-01	7.332E-02	FAIL ABUN
SB-127	4.197E-01	1.356E+00	1.189E+00	6.920E-01	NOT IDENT.
XE-127	-2.867E-02	4.468E-02	3.813E-02	2.280E-02	NOT IDENT.
I-131	-6.061E-02	1.054E-01	8.972E-02	5.376E-02	NOT IDENT.
TE-132	1.699E-01	7.852E-01	6.836E-01	4.006E-01	NOT IDENT.
BA-133	-3.201E-02	4.423E-02	3.013E-02	2.256E-02	NOT IDENT.
I-133	2.349E+03	1.072E+04	0.000E+00	5.471E+03	SHORT HLIF
CS-134	2.060E-01	7.354E-02	4.311E-02	3.752E-02	FAIL ABUN
CS-135	2.024E-01	1.574E-01	1.256E-01	8.031E-02	NOT IDENT.
I-135	2.772E+16	5.506E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.195E-02	1.011E-01	8.422E-02	5.159E-02	FAIL ABUN
CE-139	7.844E-03	2.656E-02	2.378E-02	1.355E-02	NOT IDENT.
BA-140	-1.854E-02	2.264E-01	1.901E-01	1.155E-01	NOT IDENT.
LA-140	-2.496E-02	7.135E-02	5.796E-02	3.640E-02	FAIL ABUN
CE-141	4.301E-02	6.274E-02	5.361E-02	3.201E-02	NOT IDENT.
CE-143	1.517E+03	4.103E+02	0.000E+00	2.093E+02	SHORT HLIF
CE-144	1.698E-01	2.268E-01	1.748E-01	1.157E-01	NOT IDENT.
PM-144	2.485E-03	2.759E-02	2.386E-02	1.407E-02	NOT IDENT.
PR-144	1.685E-01	1.870E+00	1.618E+00	9.542E-01	NOT IDENT.
PM-146	1.298E-02	3.718E-02	3.247E-02	1.897E-02	NOT IDENT.
ND-147	-2.374E-01	5.103E-01	4.184E-01	2.604E-01	NOT IDENT.



PM-149	6.911E+01	1.083E+02	9.404E+01	5.525E+01	NOT IDENT.
EU-152	1.742E-02	9.880E-02	7.260E-02	5.041E-02	NOT IDENT.
GD-153	-6.364E-02	8.850E-02	6.553E-02	4.515E-02	FAIL ABUN
EU-154	1.969E-02	1.092E-01	9.278E-02	5.572E-02	NOT IDENT.
EU-155	8.673E-02	1.062E-01	9.336E-02	5.417E-02	FAIL ABUN
TB-160	-5.214E-02	1.240E-01	1.010E-01	6.327E-02	FAIL ABUN
HO-166M	2.642E-03	4.980E-02	4.289E-02	2.541E-02	NOT IDENT.
TM-171	2.102E+01	3.437E+01	2.785E+01	1.753E+01	NOT IDENT.
LU-176	-1.295E-03	2.339E-02	1.812E-02	1.193E-02	FAIL ABUN
LU-177	6.593E-01	1.334E+00	1.044E+00	6.807E-01	NOT IDENT.
LU-177M	-2.915E-01	1.674E-01	1.327E-01	8.539E-02	FAIL ABUN
HF-181	4.482E-03	3.658E-02	3.142E-02	1.866E-02	NOT IDENT.
W-181	-9.726E-02	4.660E-01	3.658E-01	2.377E-01	NOT IDENT.
TA-182	2.036E-01	1.878E-01	1.675E-01	9.580E-02	NOT IDENT.
RE-183	2.594E-02	9.878E-02	8.851E-02	5.040E-02	NOT IDENT.
RE-184	-1.041E-01	2.083E-01	1.745E-01	1.063E-01	NOT IDENT.
OS-185	-3.234E-02	3.737E-02	2.907E-02	1.906E-02	NOT IDENT.
RE-188	1.378E-01	1.561E-01	1.429E-01	7.966E-02	NOT IDENT.
W-188	-4.139E+00	7.367E+00	5.247E+00	3.759E+00	FAIL ABUN
IR-192	1.080E-02	2.990E-02	2.554E-02	1.526E-02	FAIL ABUN
AU-195	2.087E-01	2.233E-01	1.979E-01	1.140E-01	FAIL ABUN
TL-200	6.336E+02	7.146E+02	0.000E+00	3.646E+02	SHORT HLIF
TL-201	3.955E-01	7.610E+00	6.756E+00	3.882E+00	NOT IDENT.
TL-202	7.634E-02	5.912E-02	5.419E-02	3.016E-02	NOT IDENT.
HG-203	3.762E-02	3.756E-02	3.316E-02	1.916E-02	NOT IDENT.
BI-207	1.969E-02	4.619E-02	4.056E-02	2.357E-02	FAIL ABUN
TL-207	3.549E-01	6.569E-01	4.961E-01	3.352E-01	FAIL ABUN
PO-209	-7.931E+00	6.882E+00	5.165E+00	3.511E+00	NOT IDENT.
BI-210	5.518E+00	5.630E+00	5.236E+00	2.872E+00	NOT IDENT.
PB-210	5.518E+00	5.630E+00	5.236E+00	2.872E+00	NOT IDENT.
PO-210	5.518E+00	5.625E+00	5.236E+00	2.870E+00	NOT IDENT.
PB-211	-1.865E+00	1.418E+00	6.554E-01	7.233E-01	NOT IDENT.
BI-212	1.529E+00	4.554E-01	3.173E-01	2.323E-01	FAIL ABUN
PO-215	3.549E-01	6.569E-01	4.961E-01	3.352E-01	FAIL ABUN
RN-219	1.642E-01	3.558E-01	3.148E-01	1.815E-01	FAIL ABUN
RN-220	1.974E+00	2.299E+01	1.946E+01	1.173E+01	NOT IDENT.
RA-223	3.549E-01	6.569E-01	4.961E-01	3.352E-01	FAIL ABUN
AC-227	-2.178E-01	3.418E-01	2.834E-01	1.744E-01	FAIL ABUN
TH-227	-2.178E-01	3.424E-01	2.834E-01	1.747E-01	FAIL ABUN
TH-229	-2.226E-02	4.548E-01	3.978E-01	2.320E-01	FAIL ABUN
PA-231	-1.276E-01	1.399E+00	1.163E+00	7.140E-01	FAIL ABUN
TH-231	3.549E-01	6.569E-01	4.961E-01	3.352E-01	FAIL ABUN
U-231	4.626E-01	1.356E+00	1.060E+00	6.920E-01	FAIL ABUN
PA-233	1.768E-03	5.824E-02	4.901E-02	2.971E-02	FAIL ABUN
PA-234	-2.809E-01	2.599E-01	1.936E-01	1.326E-01	FAIL ABUN
PA-234M	1.489E+00	4.195E+00	3.593E+00	2.140E+00	NOT IDENT.
TH-234	2.317E+00	2.238E+00	1.427E+00	1.142E+00	FAIL ABUN
U-235	8.112E-02	2.084E-01	1.748E-01	1.063E-01	FAIL ABUN
NP-236	-3.949E-02	7.063E-02	6.162E-02	3.604E-02	FAIL ABUN
U-238	2.317E+00	2.238E+00	1.427E+00	1.142E+00	FAIL ABUN
NP-239	2.149E-01	1.770E-01	1.569E-01	9.033E-02	FAIL ABUN
AM-241	5.104E-02	2.036E-01	1.645E-01	1.039E-01	NOT IDENT.
CM-243	-3.022E-02	9.675E-02	8.190E-02	4.936E-02	FAIL ABUN
AM-246	5.307E-04	1.243E-01	1.062E-01	6.340E-02	NOT IDENT.
CM-247	1.279E-02	3.199E-02	2.826E-02	1.632E-02	NOT IDENT.
CF-249	-4.793E-03	3.483E-02	3.013E-02	1.777E-02	NOT IDENT.
CF-251	-8.658E-02	1.113E-01	9.546E-02	5.677E-02	NOT IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON ,SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	329.6077
46.50	329.6077
46.50	329.6077
48.70	363.0021
49.72	369.8796
51.35	318.0511
52.39	345.6436
52.97	344.5936
53.15	344.8297
53.44	326.9935
54.07	359.7278
56.28	356.2401
56.28	356.2440
57.37	0.0000
57.53	389.3031
57.53	389.3053
57.60	396.8001
57.98	395.4899
57.98	395.4899
59.32	375.5065
59.32	375.5065
59.40	375.6122
59.54	375.7969
59.72	399.7982
60.01	384.8116
61.10	368.0107
61.14	368.0617
61.30	368.2646
63.00	442.9773
63.29	443.4100
63.29	443.4100
63.58	443.8415
64.28	472.8048
65.12	447.0695
65.20	447.1874
65.20	447.1874
66.05	437.0105
66.72	403.6108
66.83	383.7124
66.91	383.8105
67.20	404.2390
67.20	404.2390
67.75	419.3134
67.85	437.8361
68.90	484.2689
68.90	484.2689
69.30	495.2719
69.67	473.8923
70.82	463.9917
70.82	463.9917
70.83	464.0063
72.80	474.1179
72.87	474.2195
72.87	474.2195
74.67	483.1556
74.81	483.3578
74.81	483.3578
74.81	483.3578
74.81	483.3578
74.81	483.3578
74.81	483.3578
74.97	483.5877
75.28	484.0350
75.70	484.6380
77.11	486.6481
77.11	486.6481

77.11	486.6481
77.11	486.6481
77.11	486.6481
77.11	486.6481
77.11	486.6481
78.38	470.1526
79.62	485.2245
79.80	470.5814
79.80	470.5814
80.11	470.9960
80.18	471.0901
80.30	486.1621
80.30	486.1621
80.57	486.5352
81.00	397.4698
81.07	397.5490
81.07	397.5490
81.07	397.5490
81.07	397.5490
82.60	459.2895
83.37	478.3150
83.78	478.8609
83.78	478.8609
83.78	478.8609
83.78	478.8609
84.21	545.7618
84.90	513.5590
85.43	514.2983
86.29	515.4941
86.50	515.7846
86.54	515.8391
86.59	515.9091
86.72	516.0881
86.79	516.1815
86.94	516.3916
87.30	642.5648
87.30	642.5648
87.30	642.5648
87.30	642.5648
87.30	642.5648
87.30	642.5648
87.30	642.5648
87.57	643.0259
87.88	721.7152
88.03	722.0045
88.36	646.4066
88.47	646.5942
89.95	725.6570
91.11	684.8499
92.29	500.2592
92.38	500.3756
92.38	500.3756
93.35	501.6122
94.00	502.4398
94.67	368.7827
94.67	368.7881
94.90	369.0006
94.90	369.0006
94.90	369.0006
94.90	369.0006
95.87	396.3169
95.87	396.3169
96.73	420.5299
97.43	427.4937
98.44	387.8860
98.44	387.8860
98.88	368.4696
99.55	356.5230
99.55	356.5230
99.86	360.9753
100.00	361.0982
100.10	361.1877
103.18	433.4515
103.76	406.5854
105.00	337.8618
105.31	367.7838
108.00	430.8528
109.28	413.9236

111.00	376.8723
111.00	376.8723
111.76	343.0928
112.95	406.5413
115.19	389.0317
116.30	347.6033
117.00	311.1382
117.00	311.1382
117.66	373.6768
121.11	330.3195
121.62	360.3332
121.78	360.4533
122.06	365.0619
122.32	365.2578
122.32	365.2578
122.32	365.2578
122.32	365.2578
123.07	386.7627
127.23	411.7273
129.76	428.8936
131.20	413.3157
133.02	396.2434
133.54	376.3874
135.34	423.4314
136.00	417.1820
136.25	386.8409
136.48	390.4062
140.51	431.0178
140.51	0.0000
142.18	430.0722
142.65	410.9853
143.76	392.3238
144.24	373.1496
144.24	373.1496
144.24	373.1496
144.24	373.1496
145.22	392.2208
145.44	392.3803
147.16	416.6865
152.43	408.9608
152.70	370.6862
153.22	336.0234
154.21	344.4927
154.21	344.4927
154.21	344.4927
154.21	344.4927
155.03	368.6856
156.02	377.2308
158.56	383.2929
159.00	0.0000
159.00	357.9469
160.31	384.4287
161.27	377.0662
162.32	367.0656
162.64	360.1469
163.35	372.1473
163.89	357.3334
165.85	359.3869
167.43	354.9413
171.28	350.8455
171.86	334.9224
172.10	326.0188
176.55	370.1603
176.60	370.1883
181.06	338.5058
184.41	363.8064
185.71	377.2497
186.00	377.4151
190.27	346.2092
192.34	342.7932
193.63	362.1071
197.04	376.0905
198.01	370.9785
198.60	358.1322
200.40	374.1320
201.83	388.1095
202.84	413.2483
205.31	382.6050

208.36	445.2145
208.81	383.3188
209.75	383.8126
209.75	383.8126
210.97	384.4536
215.65	323.3723
216.55	300.6361
218.09	331.1874
222.10	332.9433
223.80	342.4368
226.40	348.4721
227.00	360.4642
227.08	360.5008
227.20	341.9918
228.16	343.3920
228.18	343.4001
228.18	343.4001
231.56	0.0000
235.69	382.4321
236.00	376.2561
236.00	376.2561
238.63	339.0255
238.63	339.0255
238.63	339.0255
238.63	339.0255
239.00	339.1794
240.98	340.0065
241.98	340.4240
241.98	340.4240
241.98	340.4240
244.69	271.6410
245.39	281.4668
247.94	288.7493
248.90	291.0886
249.79	274.3163
252.40	282.2238
252.85	287.4157
252.85	287.4157
254.15	0.0000
256.20	291.5870
256.20	291.5870
260.50	249.2917
260.90	271.8034
262.80	269.3375
264.65	224.1034
268.24	248.0109
268.79	251.4527
269.46	258.0127
269.46	258.0127
269.46	258.0127
269.46	258.0127
271.23	258.5259
273.65	307.3496
276.40	268.5063
277.35	226.3595
277.60	226.4195
277.60	226.4195
278.00	244.9019
278.60	233.6414
279.20	257.6913
279.53	272.3343
280.46	306.9511
281.68	307.3562
283.67	251.6349
284.30	227.7730
285.00	235.2654
285.90	228.1655
286.10	228.2121
286.10	228.2121
287.40	237.9662
288.45	0.0000
290.67	255.8320
290.80	255.8691
291.72	242.6379
293.26	0.0000
293.70	216.1250
295.21	270.5859
295.21	270.5859

295.21	270.5859
295.96	245.4097
296.50	245.5477
297.23	245.7318
298.57	246.0752
299.80	237.8906
299.80	237.8906
300.09	207.3672
300.09	207.3672
300.09	207.3672
300.09	207.3672
300.12	207.3732
301.29	211.0240
302.84	219.8826
303.76	204.7354
303.91	204.7646
304.40	201.4527
304.40	201.4527
304.84	222.0410
306.84	223.9147
308.46	226.0677
311.98	235.4678
316.51	200.8860
318.01	235.7963
319.02	223.0367
319.41	227.4541
320.08	221.0986
323.87	208.8633
323.87	208.8633
323.87	208.8633
323.87	208.8633
325.23	252.7057
328.77	225.5862
333.44	210.7822
334.20	224.1149
334.20	224.1149
334.30	224.1367
338.28	224.9740
338.28	224.9740
338.28	224.9740
338.28	224.9740
338.32	224.9833
338.32	224.9833
338.32	224.9833
340.50	221.0205
340.57	221.0358
344.27	209.3722
345.85	220.3361
350.59	0.0000
351.07	189.6962
351.92	189.8441
351.92	189.8441
351.92	189.8441
355.39	0.0000
356.01	218.7869
364.48	204.1752
366.43	176.4712
367.43	174.8144
367.94	0.0000
369.80	206.9423
374.96	200.5728
383.85	202.0928
387.95	208.3189
388.63	217.6604
391.69	204.3441
391.69	204.3441
392.90	200.8469
398.62	212.9516
400.65	199.3293
401.10	192.8825
401.81	188.3307
402.60	191.2491
404.84	265.4318
410.95	196.2921
411.60	194.5148
413.65	268.2451
414.70	219.4842
415.30	204.5103

415.76	191.3855
417.63	0.0000
418.52	209.7510
423.70	177.3989
427.08	197.8361
427.89	191.2984
432.53	161.4144
433.93	179.7543
439.47	130.5813
439.56	130.5896
439.89	131.5832
443.98	169.5590
444.90	153.2859
445.03	158.1223
445.03	158.1223
445.03	158.1223
445.03	158.1223
453.90	161.1023
463.38	164.4949
468.07	119.2933
473.00	183.9960
475.06	154.7021
475.35	149.8068
476.78	161.7959
477.59	173.7334
477.96	162.9174
482.03	152.4904
484.57	148.7915
487.03	152.0269
490.36	0.0000
492.35	141.6134
497.08	133.0666
507.63	0.0000
510.53	0.0000
510.84	152.4783
511.00	152.4940
511.85	152.5806
511.85	152.5806
513.99	138.2916
513.99	138.2916
520.41	130.0688
520.65	130.0906
527.90	140.9143
528.96	0.0000
529.64	127.7832
529.87	0.0000
531.02	151.4290
537.32	136.6335
543.00	140.2168
546.56	0.0000
549.76	148.0623
552.65	132.7688
555.20	150.6393
563.23	130.5054
563.90	139.9574
568.70	150.8449
569.32	144.6136
569.50	145.6751
569.67	145.6921
573.80	153.4105
574.00	147.1230
574.64	156.6428
578.91	159.8536
579.30	0.0000
583.14	144.7598
585.48	126.9727
591.81	136.8878
592.07	133.8412
593.00	147.7282
595.88	136.2688
600.56	158.7877
602.52	0.0000
602.71	154.9794
602.71	154.9794
603.60	162.1863
604.41	156.9147
604.70	167.6402
609.31	169.5144

609.31	169.5144
609.31	169.5144
609.31	169.5144
610.33	169.6147
612.46	191.6735
614.37	195.4691
618.01	153.6432
621.84	148.0309
621.84	148.0309
631.29	121.6605
633.02	115.2517
633.10	108.7329
634.78	103.3937
635.90	108.9014
636.97	130.7607
645.85	135.7764
646.12	140.1781
656.30	132.1406
657.75	92.8851
657.90	0.0000
661.65	159.3413
661.65	159.3413
664.57	0.0000
666.33	173.9697
666.33	173.9697
675.00	142.7270
677.61	140.1370
685.20	122.0583
692.80	136.5661
695.00	129.2290
696.49	121.8300
696.49	121.8300
697.00	123.7366
697.49	139.7087
698.33	146.3325
698.50	146.3452
699.00	133.2463
702.63	136.3121
706.10	122.4251
706.58	0.0000
706.67	136.5924
709.31	123.5668
711.68	120.8802
713.82	138.9729
717.42	133.5415
720.50	105.6953
721.93	0.0000
722.20	126.9404
722.78	136.7461
722.78	136.7461
722.89	136.7520
722.95	136.7549
723.30	133.5246
724.18	141.7270
727.18	137.9937
733.00	117.8011
735.90	119.9031
739.58	121.5972
742.81	111.2398
744.21	101.7170
747.13	109.5492
751.79	127.1284
752.31	122.3439
753.82	113.7555
755.35	103.2274
756.15	129.3245
756.87	120.6792
763.93	121.2220
765.79	139.6113
766.42	146.3025
766.84	147.9929
776.49	126.9485
778.00	143.7513
778.57	147.1342
778.89	143.3932
783.80	103.6342
785.46	109.1933
792.07	122.8158



795.84	103.2248
796.30	103.2462
798.80	109.6920
801.93	158.8578
805.60	95.9799
810.29	132.5960
810.76	142.5234
815.85	98.2064
817.79	93.3287
818.51	104.2822
819.60	110.2954
826.30	102.6500
828.27	0.0000
831.60	123.8663
831.96	121.8883
834.83	130.0423
836.80	0.0000
846.75	124.6837
848.13	113.6920
856.28	0.0000
856.80	103.8721
860.37	107.2098
867.32	95.6419
867.82	103.4900
871.10	99.5691
873.19	104.7414
874.81	89.5487
875.33	0.0000
876.40	90.6260
879.36	111.1289
880.27	103.0117
880.51	109.1421
881.50	116.3309
883.24	111.3085
884.67	101.1572
889.25	117.7304
896.60	117.0592
898.02	121.2386
899.00	134.6487
903.28	70.6041
911.07	109.4893
911.07	109.4893
911.07	109.4893
919.63	110.1629
920.93	89.8758
925.00	95.9774
925.24	89.7539
926.50	64.1426
935.52	89.4060
937.48	89.4758
944.10	117.2204
946.00	107.8805
949.00	89.1331
962.29	155.3951
964.01	141.0350
966.15	179.1544
968.20	175.3686
969.11	96.0200
969.11	96.0200
969.11	96.0200
977.42	90.2117
980.50	87.0366
983.50	85.0098
989.30	83.0670
996.32	121.7257
1001.03	90.9212
1001.68	87.7323
1004.76	117.8261
1021.30	0.0000
1024.50	0.0000
1034.80	112.6328
1036.00	113.3027
1037.82	105.9406
1038.57	103.1798
1038.76	0.0000
1045.16	96.9051
1046.59	110.0077
1048.07	111.9308

1050.47	107.3593
1050.47	107.3593
1062.04	104.9883
1063.62	97.5435
1076.63	89.5131
1077.35	93.3028
1078.86	100.8984
1085.78	95.4695
1099.22	131.0499
1112.02	128.5229
1112.84	115.2036
1115.52	118.6511
1120.29	97.0820
1120.29	97.0820
1120.29	97.0820
1120.29	97.0820
1120.51	97.0891
1121.28	88.7420
1124.00	0.0000
1129.67	113.0620
1131.51	0.0000
1147.95	0.0000
1167.94	115.6340
1173.22	126.5405
1175.09	143.1753
1177.93	118.9364
1189.05	96.8592
1204.90	129.7994
1205.75	0.0000
1213.00	136.0507
1221.42	124.5454
1230.97	118.7501
1235.34	151.1508
1236.41	0.0000
1238.25	153.0225
1246.25	103.8187
1260.41	0.0000
1271.85	84.3311
1274.45	90.4238
1274.54	90.4269
1291.56	72.7107
1298.22	0.0000
1312.09	79.2514
1325.50	62.2212
1325.50	62.2212
1332.49	76.6584
1333.61	69.5250
1360.21	63.8769
1362.66	0.0000
1365.15	42.2219
1368.21	50.5979
1368.53	0.0000
1376.25	52.7841
1384.27	59.9052
1394.10	63.4509
1395.20	57.2271
1407.95	49.0753
1434.06	54.6860
1436.60	46.3050
1457.56	0.0000
1460.81	35.2203
1489.15	43.7570
1509.49	46.0018
1596.49	40.3081
1620.62	39.5824
1678.03	0.0000
1691.02	27.4907
1691.02	27.4907
1706.46	0.0000
1750.46	0.0000
1764.49	31.9531
1764.49	31.9531
1764.49	31.9531
1764.49	31.9531
1770.23	37.3265
1771.40	30.2250
1791.20	0.0000
1808.65	26.2190

1836.01

21.3044

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244847002

Total Uranium Activity	6.9303E+00	ug/g
Total Uranium Counting Unc.	6.6596E+00	ug/g
Total Uranium Tpu	3.3978E-06	ug/g
Total Uranium Mda	4.2474E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 942717          SAMPLE ID   : G244847002
*  ANALYST       : MXR1            DETECTOR    : GAM18
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 13:30:59.94  SAMPLE ALQT: 123.800 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.148E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.582E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.732E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.327E+00

```

VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 15:47:18.77

```
*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847003.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:46:54
Sample ID          : G244847003 Sample quantity : 1.34290E+02 GRAM
Detector name      : GAM15 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.47 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942717 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.79*	141	575	2.02	126.07	121	11	1.96E-02	34.5	
2	3	74.18*	228	568	1.46	148.84	145	20	3.17E-02	18.2	2.02E+00
3	3	76.50*	452	503	1.22	153.48	145	20	6.27E-02	9.8	
4	0	86.89	122	776	1.41	174.26	168	10	1.70E-02	43.7	
5	0	92.38*	543	822	1.42	185.23	180	12	7.53E-02	11.8	
6	0	185.30*	261	444	1.48	370.99	367	11	3.63E-02	17.4	
7	0	208.58	137	343	1.10	417.52	412	10	1.90E-02	26.8	
8	3	238.03*	1280	237	1.45	476.40	470	19	1.78E-01	3.7	1.62E+00
9	3	240.90	302	338	2.02	482.14	470	19	4.19E-02	17.2	
10	0	270.26	84	286	1.47	540.84	535	10	1.17E-02	39.1	
11	0	280.77	70	501	6.55	561.84	547	22	9.75E-03	82.9	
12	0	294.62*	401	204	1.54	589.53	585	11	5.57E-02	8.6	
13	0	299.49	82	173	1.05	599.27	596	8	1.14E-02	30.0	
14	0	337.66	206	207	1.27	675.59	670	10	2.86E-02	14.8	
15	0	351.24*	596	224	1.43	702.73	696	13	8.28E-02	6.8	
16	0	462.97	123	103	2.15	926.12	921	12	1.71E-02	18.7	
17	0	510.88*	168	164	2.04	1021.90	1015	17	2.34E-02	22.2	
18	0	582.60*	328	139	1.89	1165.28	1159	13	4.56E-02	9.5	
19	0	608.80*	462	102	1.85	1217.68	1212	14	6.42E-02	6.7	
20	0	661.02	428	143	1.54	1322.09	1316	15	5.94E-02	7.7	
21	0	727.07*	70	86	1.48	1454.13	1448	13	9.77E-03	30.4	
22	0	768.53*	97	121	2.61	1537.03	1529	21	1.34E-02	30.5	
23	0	861.09	74	53	1.99	1722.11	1715	17	1.03E-02	25.8	
24	0	910.67*	251	56	1.80	1821.25	1815	13	3.48E-02	8.9	
25	0	969.05	145	90	1.85	1937.98	1931	17	2.01E-02	17.9	
26	0	1001.07*	70	44	1.68	2001.99	1995	16	9.74E-03	24.7	
27	0	1119.96	133	45	1.44	2239.74	2233	15	1.85E-02	14.0	
28	0	1377.85	21	26	1.20	2755.44	2751	10	2.92E-03	51.2	
29	0	1460.36*	1236	31	2.23	2920.45	2910	21	1.72E-01	3.1	
30	0	1729.39	38	10	4.44	3458.47	3448	20	5.28E-03	26.1	
31	0	1764.03*	96	0	2.14	3527.75	3520	15	1.34E-02	10.8	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:46:54
Sample ID        : G244847003 Sample quantity   : 134.29 GRAM
Sample type      : SOLID Sample geometry    :
Detector name    : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.47 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

```

## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.242E+01	3.182E+00	7.007E-01	5.356E-02	46.269
CD-109	+	88.03	*	2.122E+00	1.871E+00	2.169E+00	2.508E-01	0.978
SN-126	+	64.28		2.351E+00	1.673E+00	1.507E+00	2.583E-01	1.560
	+	86.94		8.657E-01	8.400E-01	9.021E-01	3.793E-01	0.960
	+	87.57	*	2.082E-01	1.837E-01	2.146E-01	2.476E-02	0.970
BA-137M	+	661.65	*	6.586E-01	1.070E-01	7.493E-02	3.770E-03	8.790
CS-137	+	661.65	*	6.962E-01	1.132E-01	7.921E-02	4.007E-03	8.790
TL-208		277.35		3.333E-01	5.161E-01	8.123E-01	9.101E-02	0.410
	+	510.84		8.846E-01	4.019E-01	2.541E-01	2.558E-02	3.482
	+	583.14	*	4.885E-01	9.813E-02	6.591E-02	4.197E-03	7.412
	+	860.37		1.028E+00	5.369E-01	5.005E-01	4.302E-02	2.053
BI-211	+	72.87		1.597E+01	6.080E+00	8.075E+00	9.003E-01	1.978
	+	351.07	*	4.014E+00	6.081E-01	4.223E-01	2.901E-02	9.505
PB-212	+	74.81		1.896E+00	7.431E-01	9.185E-01	1.334E-01	2.064
	+	77.11		2.055E+00	4.645E-01	5.059E-01	5.618E-02	4.062
	+	87.30		9.631E-01	8.549E-01	9.342E-01	1.425E-01	1.031
	+	238.63	*	1.901E+00	2.123E-01	1.194E-01	9.880E-03	15.929
	+	300.09		1.872E+00	1.135E+00	1.436E+00	1.288E-01	1.304
PO-212	+	74.81		1.896E+00	7.431E-01	9.185E-01	1.334E-01	2.064
	+	77.11		2.055E+00	4.645E-01	5.059E-01	5.618E-02	4.062
	+	87.30		9.631E-01	8.549E-01	9.342E-01	1.425E-01	1.031
		115.19		-5.905E+00	4.794E+00	7.443E+00	5.694E-01	-0.793
	+	238.63	*	1.901E+00	2.123E-01	1.194E-01	9.880E-03	15.929
	+	300.09		1.872E+00	1.135E+00	1.436E+00	1.288E-01	1.304
BI-214	+	609.31	*	1.295E+00	1.986E-01	1.344E-01	9.981E-03	9.633
	+	1120.29		1.949E+00	5.745E-01	5.218E-01	4.814E-02	3.735
	+	1764.49		1.932E+00	4.329E-01	2.459E-01	1.530E-02	7.855
PB-214	+	74.81		3.267E+00	1.267E+00	1.583E+00	2.113E-01	2.064
	+	77.11		3.523E+00	8.403E-01	8.673E-01	1.168E-01	4.062
	+	87.30		1.650E+00	1.461E+00	1.600E+00	2.218E-01	1.031
	+	241.98		2.693E+00	9.571E-01	6.834E-01	6.108E-02	3.940
	+	295.21		1.609E+00	3.141E-01	2.775E-01	2.566E-02	5.799
	+	351.92	*	1.396E+00	2.237E-01	1.473E-01	1.270E-02	9.479
PO-214	+	74.81		3.267E+00	1.267E+00	1.583E+00	2.113E-01	2.064

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.523E+00	8.403E-01	8.673E-01	1.168E-01	4.062
	+	87.30		1.650E+00	1.461E+00	1.600E+00	2.218E-01	1.031
	+	241.98		2.693E+00	9.571E-01	6.834E-01	6.108E-02	3.940
	+	295.21		1.609E+00	3.141E-01	2.775E-01	2.566E-02	5.799
	+	351.92	*	1.396E+00	2.237E-01	1.473E-01	1.270E-02	9.479
	+	74.81		1.896E+00	7.431E-01	9.185E-01	1.334E-01	2.064
	+	77.11		2.055E+00	4.645E-01	5.059E-01	5.618E-02	4.062
	+	87.30		9.631E-01	8.549E-01	9.342E-01	1.425E-01	1.031
PO-218	+	238.63	*	1.901E+00	2.123E-01	1.194E-01	9.880E-03	15.929
	+	300.09		1.872E+00	1.135E+00	1.436E+00	1.288E-01	1.304
	+	74.81		3.267E+00	1.267E+00	1.583E+00	2.113E-01	2.064
	+	77.11		3.523E+00	8.403E-01	8.673E-01	1.168E-01	4.062
	+	87.30		1.650E+00	1.461E+00	1.600E+00	2.218E-01	1.031
	+	241.98		2.693E+00	9.571E-01	6.834E-01	6.108E-02	3.940
	+	295.21		1.609E+00	3.141E-01	2.775E-01	2.566E-02	5.799
	+	351.92	*	1.396E+00	2.237E-01	1.473E-01	1.270E-02	9.479
RA-224	+	240.98	*	5.106E+00	1.792E+00	1.358E+00	9.452E-02	3.759
RA-226	+	609.31	*	1.295E+00	1.986E-01	1.344E-01	9.981E-03	9.633
AC-228	+	1120.29		1.949E+00	5.745E-01	5.218E-01	4.814E-02	3.735
	+	1764.49		1.932E+00	4.329E-01	2.459E-01	1.530E-02	7.855
	+	338.32		1.534E+00	7.738E-01	5.242E-01	2.142E-01	2.926
	+	911.07	*	1.651E+00	3.477E-01	2.692E-01	2.993E-02	6.132
RA-228	+	969.11		1.683E+00	7.168E-01	5.368E-01	1.241E-01	3.136
	+	338.32		1.534E+00	7.738E-01	5.242E-01	2.142E-01	2.926
	+	911.07	*	1.651E+00	3.477E-01	2.692E-01	2.993E-02	6.132
	+	969.11		1.683E+00	7.168E-01	5.368E-01	1.241E-01	3.136
TH-228	+	74.81		1.926E+00	7.336E-01	9.333E-01	1.042E-01	2.064
	+	77.11		2.088E+00	4.720E-01	5.141E-01	5.708E-02	4.062
	+	87.30		9.787E-01	8.632E-01	9.493E-01	1.094E-01	1.031
	+	238.63	*	1.932E+00	2.157E-01	1.213E-01	1.004E-02	15.929
TH-230	+	300.09		1.902E+00	1.600E+00	1.459E+00	8.614E-01	1.304
	+	609.31	*	1.295E+00	1.986E-01	1.344E-01	9.980E-03	9.633
	+	1120.29		1.949E+00	5.745E-01	5.218E-01	4.814E-02	3.735
	+	1764.49		1.932E+00	4.329E-01	2.459E-01	1.530E-02	7.855
TH-232	+	338.32		1.534E+00	4.647E-01	5.242E-01	3.374E-02	2.926
	+	911.07	*	1.651E+00	3.477E-01	2.692E-01	2.993E-02	6.132
	+	969.11		1.683E+00	7.168E-01	5.368E-01	1.241E-01	3.136
	+	63.29	*	5.939E+00	4.264E+00	3.737E+00	7.376E-01	1.589
TH-234	+	92.38		5.802E+00	1.764E+00	1.141E+00	2.176E-01	5.083
	+	609.31	*	1.295E+00	1.986E-01	1.344E-01	9.980E-03	9.633
	+	1120.29		1.949E+00	5.745E-01	5.218E-01	4.814E-02	3.735
	+	1764.49		1.932E+00	4.329E-01	2.459E-01	1.530E-02	7.855
NP-237	+	86.50	*	6.115E-01	5.539E-01	5.991E-01	1.414E-01	1.021
	+	95.87		5.797E-01	1.467E+00	2.139E+00	5.368E-01	0.271
	+	63.29	*	5.939E+00	4.264E+00	3.737E+00	7.376E-01	1.589
	+	92.38		5.802E+00	1.503E+00	1.141E+00	1.201E-01	5.083
AM-243	+	74.67	*	3.074E-01	1.170E-01	1.496E-01	1.663E-02	2.054
	+	86.72		2.293E+01	2.023E+01	2.399E+01	2.754E+00	0.956
	+	117.66		-3.625E-01	4.932E+00	8.025E+00	5.995E-01	-0.045



## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	1.197E+01	2.364E+01	3.854E+01	2.626E+00	0.311
		511.00		1.911E-01	8.534E-02	5.489E-02	3.100E-03	3.481

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	8.146E-01	4.451E-01	7.971E-01	5.312E-02	1.022
NA-22		1274.54	*	-2.604E-02	5.245E-02	8.045E-02	5.521E-03	-0.324
NA-24		1368.53	*	-1.839E+00	5.245E-02	Half-Life too short		
AL-26		1129.67		1.340E-01	2.165E+00	3.473E+00	2.188E-01	0.039
		1808.65	*	-3.589E-05	2.224E-02	3.657E-02	2.188E-03	-0.001
TI-44		67.85		-1.117E-01	9.517E-02	1.301E-01	1.485E-02	-0.859
		78.38	*	1.591E-01	6.320E-02	1.039E-01	1.155E-02	1.531
SC-46		889.25	*	-1.029E-02	4.432E-02	7.179E-02	6.022E-03	-0.143
	+	1120.51		3.362E-01	9.660E-02	1.522E-01	9.773E-03	2.209
V-48		944.10		-9.451E-01	1.074E+00	1.621E+00	1.332E-01	-0.583
		983.50	*	5.387E-02	8.176E-02	1.426E-01	1.127E-02	0.378
		1312.09		7.122E-02	9.053E-02	1.598E-01	1.166E-02	0.446
CR-51		320.08	*	-5.371E-01	4.674E-01	7.282E-01	5.252E-02	-0.738
MN-52		744.21		1.230E-01	3.288E-01	5.638E-01	3.459E-02	0.218
		848.13		-5.637E+00	8.762E+00	1.372E+01	1.057E+00	-0.411
		935.52		3.828E-01	3.628E-01	6.447E-01	5.341E-02	0.594
		1246.25		1.991E-02	1.062E+01	1.723E+01	1.123E+00	0.001
		1333.61		1.711E-01	6.292E+00	1.019E+01	7.693E-01	0.017
		1434.06	*	3.052E-02	2.893E-01	4.899E-01	3.632E-02	0.062
MN-54		834.83	*	-3.034E-03	4.501E-02	7.438E-02	5.574E-03	-0.041
CO-56		846.75	*	-3.409E-02	4.400E-02	6.784E-02	5.214E-03	-0.502
		977.42		-4.046E-01	3.869E+00	5.388E+00	4.285E-01	-0.075
		1037.82		-3.757E-01	3.839E-01	5.701E-01	4.512E-02	-0.659
		1175.09		5.530E-01	2.732E+00	4.525E+00	2.587E-01	0.122
		1238.25		1.705E-01	1.196E-01	2.126E-01	1.437E-02	0.802
		1360.21		1.012E+00	1.093E+00	1.974E+00	1.485E-01	0.513
		1771.40		-9.110E-01	3.462E-01	3.105E-01	1.921E-02	-2.934
CO-57		122.06	*	1.087E-02	3.318E-02	5.471E-02	3.933E-03	0.199
		136.48		-8.936E-02	2.713E-01	4.350E-01	3.338E-02	-0.205
CO-58		810.76	*	-3.792E-02	4.659E-02	7.219E-02	5.157E-03	-0.525
FE-59		142.65		8.279E-01	3.724E+00	6.014E+00	4.095E-01	0.138
		192.34		2.412E-01	1.327E+00	2.071E+00	2.553E-01	0.116
		1099.22	*	-1.349E-01	1.141E-01	1.650E-01	1.248E-02	-0.818
		1291.56		-3.776E-02	1.420E-01	2.227E-01	1.879E-02	-0.170
CO-60		1173.22		-4.816E-04	5.496E-02	8.940E-02	5.091E-03	-0.005
		1332.49	*	-1.890E-02	4.456E-02	6.795E-02	5.129E-03	-0.278
ZN-65		1115.52	*	-7.877E-02	1.276E-01	1.640E-01	1.065E-02	-0.480
GE-68		1077.35	*	9.673E-02	1.591E+00	2.617E+00	1.818E-01	0.037
AS-73		53.44	*	-2.910E-02	2.324E+00	3.801E+00	5.194E-01	-0.008
AS-74		595.88	*	1.234E-02	1.191E-01	1.938E-01	1.042E-02	0.064
		634.78		8.154E-02	4.447E-01	7.265E-01	3.768E-02	0.112
SE-75		66.05		-1.161E+01	9.854E+00	1.341E+01	1.739E+00	-0.866

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		1.250E+00	1.188E+00	1.775E+00	2.546E-01	0.704
		121.11		6.742E-02	1.791E-01	2.958E-01	3.017E-02	0.228
		136.00		-1.276E-02	5.139E-02	8.268E-02	5.758E-03	-0.154
		198.60		2.398E+00	2.442E+00	4.053E+00	3.235E-01	0.592
		264.65	*	2.133E-02	6.282E-02	9.363E-02	6.549E-03	0.228
	+	279.53		2.276E-01	3.776E-01	2.232E-01	1.628E-02	1.020
		303.91		-6.166E-01	2.918E+00	4.165E+00	4.229E-01	-0.148
		400.65		-2.630E-02	3.244E-01	5.322E-01	4.806E-02	-0.049
BR-77	+	87.88		6.052E+02	5.338E+02	6.311E+02	7.297E+01	0.959
		200.40		1.680E+02	2.954E+02	4.836E+02	3.305E+01	0.347
	+	239.00		4.037E+02	4.128E+01	6.207E+01	4.319E+00	6.503
		249.79		-5.529E+01	1.123E+02	1.847E+02	1.286E+01	-0.299
	+	281.68		2.509E+02	4.162E+02	2.497E+02	1.720E+01	1.005
		297.23		3.763E+02	1.549E+02	1.894E+02	1.289E+01	1.987
		303.76		-5.368E+01	3.275E+02	4.692E+02	3.171E+01	-0.114
		439.47		5.051E+01	2.337E+02	3.885E+02	2.220E+01	0.130
		484.57		-1.663E+02	4.013E+02	6.312E+02	3.591E+01	-0.263
		520.65	*	-5.883E+00	1.750E+01	2.699E+01	1.518E+00	-0.218
		574.64		6.386E+01	3.711E+02	5.734E+02	3.132E+01	0.111
		578.91		8.577E+01	1.765E+02	2.573E+02	1.401E+01	0.333
		585.48		1.294E+03	3.609E+02	6.338E+02	3.435E+01	2.042
		755.35		-2.991E+01	2.507E+02	4.148E+02	2.610E+01	-0.072
		817.79		-8.002E+01	1.976E+02	3.169E+02	2.290E+01	-0.253
SR-82		698.33		-1.403E+01	4.052E+01	6.631E+01	3.650E+00	-0.212
		776.49	*	-6.534E-02	5.291E-01	7.497E-01	4.948E-02	-0.087
		1395.20		1.041E+01	1.257E+01	2.302E+01	1.722E+00	0.452
RB-83		520.41	*	-2.153E-02	8.684E-02	1.348E-01	7.587E-03	-0.160
		529.64		-9.466E-02	1.398E-01	2.169E-01	1.215E-02	-0.437
		552.65		8.333E-02	2.564E-01	4.250E-01	2.354E-02	0.196
RB-84		881.50	*	1.200E-02	8.181E-02	1.372E-01	1.133E-02	0.087
KR-85		513.99	*	1.669E+01	9.179E+00	1.501E+01	8.467E-01	1.112
SR-85		513.99	*	8.643E-02	4.754E-02	7.775E-02	4.386E-03	1.112
RB-86		1076.63	*	3.125E-01	1.041E+00	1.747E+00	1.215E-01	0.179
Y-88		898.02		-1.729E-02	4.936E-02	7.915E-02	6.790E-03	-0.218
		1836.01	*	-1.733E-02	3.485E-02	5.097E-02	2.977E-03	-0.340
ZR-88		392.90	*	1.847E-03	3.848E-02	6.364E-02	3.609E-03	0.029
Y-91		1204.90	*	-7.952E+00	2.326E+01	3.666E+01	2.217E+00	-0.217
NB-94		702.63	*	1.845E-02	3.939E-02	6.809E-02	3.787E-03	0.271
		871.10		-4.615E-03	3.967E-02	6.196E-02	5.009E-03	-0.074
NB-95		765.79	*	1.241E-01	6.265E-02	1.052E-01	6.782E-03	1.179
NB-95M		235.69	*	1.684E+00	2.746E-01	4.329E-01	3.658E-02	3.890
ZR-95		724.18		1.936E-01	1.344E-01	2.185E-01	1.509E-02	0.886
		756.15	*	-6.076E-04	8.132E-02	1.357E-01	1.012E-02	-0.004
NB-97		657.90	*	1.366E+00	8.132E-02	Half-Life	too short	
		1024.50		1.966E+01	8.132E-02	Half-Life	too short	
ZR-97		254.15		3.562E+00	8.132E-02	Half-Life	too short	
		355.39		1.980E-01	8.132E-02	Half-Life	too short	
		507.63	*	2.637E+01	8.132E-02	Half-Life	too short	
		602.52		1.752E+01	8.132E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

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	1021.30			-3.674E+00	8.132E-02	Half-Life	too short	
	1147.95			6.100E+00	8.132E-02	Half-Life	too short	
	1362.66			-6.507E+00	8.132E-02	Half-Life	too short	
	1750.46			-9.105E+00	8.132E-02	Half-Life	too short	
MO-99	140.51			-4.714E+01	4.690E+01	6.927E+01	1.883E+01	-0.681
	181.06			3.072E+01	3.258E+01	4.747E+01	8.295E+00	0.647
	366.43			4.529E+01	1.348E+02	2.271E+02	1.379E+01	0.199
	739.58	*		-7.630E+00	1.852E+01	3.001E+01	4.170E+00	-0.254
	778.00			-3.726E+01	6.117E+01	8.181E+01	5.419E+00	-0.455
TC-99M	140.51	*		-7.584E+11	6.117E+01	Half-Life	too short	
RH-101	127.23			2.568E-02	4.246E-02	7.052E-02	4.968E-03	0.364
	198.01	*		4.227E-02	4.426E-02	7.348E-02	5.013E-03	0.575
	325.23			3.295E-01	2.818E-01	4.929E-01	3.241E-02	0.669
RH-102	418.52			-2.595E-01	3.629E-01	5.709E-01	3.257E-02	-0.454
	475.06	*		-1.933E-02	4.134E-02	6.573E-02	3.747E-03	-0.294
	631.29			-6.124E-03	6.662E-02	1.065E-01	5.546E-03	-0.057
	697.49			1.100E-02	8.879E-02	1.502E-01	8.251E-03	0.073
	766.84			2.556E-01	1.597E-01	2.586E-01	1.671E-02	0.988
	1046.59			-6.452E-02	1.430E-01	2.248E-01	1.639E-02	-0.287
	1112.84			-5.807E-02	3.301E-01	4.517E-01	2.944E-02	-0.129
RU-103	497.08	*		-4.383E-02	5.355E-02	8.215E-02	1.034E-02	-0.534
	610.33			1.300E+01	2.579E+00	3.292E+00	5.017E-01	3.950
RH-106	511.85	+		9.561E-01	4.270E-01	5.318E-01	3.002E-02	1.798
	621.84	*		-3.179E-03	3.714E-01	5.984E-01	6.868E-02	-0.005
	1050.47			6.218E-01	2.756E+00	4.609E+00	3.341E-01	0.135
RU-106	511.85	+		9.561E-01	4.270E-01	5.318E-01	3.002E-02	1.798
	621.84	*		-3.179E-03	3.714E-01	5.984E-01	3.144E-02	-0.005
	1050.47			6.218E-01	2.756E+00	4.609E+00	3.341E-01	0.135
AG-108M	433.93	*		1.707E-02	4.121E-02	6.931E-02	4.309E-03	0.246
	614.37			1.894E-02	5.042E-02	7.275E-02	4.239E-03	0.260
	722.95			9.235E-03	5.383E-02	7.914E-02	5.006E-03	0.117
AG-110M	657.75	*		1.566E-01	5.644E-02	9.643E-02	5.285E-03	1.624
	677.61			-2.460E-01	3.648E-01	5.510E-01	3.099E-02	-0.447
	706.67			-1.894E-01	2.488E-01	3.943E-01	2.356E-02	-0.480
	763.93			1.862E-01	2.214E-01	3.454E-01	2.328E-02	0.539
	884.67			3.292E-02	5.531E-02	9.623E-02	8.274E-03	0.342
	937.48			-1.870E-02	1.389E-01	2.232E-01	1.918E-02	-0.084
	1384.27			6.809E-02	1.933E-01	2.955E-01	2.297E-02	0.230
IN-111	171.28			3.170E-01	1.710E+00	2.775E+00	1.852E-01	0.114
	245.39	*		1.603E+00	1.879E+00	2.885E+00	2.009E-01	0.555
IN-113M	391.69	*		-3.088E-02	5.627E-02	8.987E-02	5.451E-03	-0.344
SN-113	391.69	*		-3.088E-02	5.627E-02	8.987E-02	5.451E-03	-0.344
IN-114M	190.27	*		5.065E-03	2.803E-01	3.930E-01	2.665E-02	0.013
CD-115	260.90			-4.635E+00	2.188E+02	3.667E+02	2.549E+01	-0.013
	492.35			1.676E+01	6.187E+01	1.027E+02	5.834E+00	0.163
	527.90	*		7.447E+00	1.870E+01	3.121E+01	1.751E+00	0.239
SN-117M	156.02			-5.409E-01	3.099E+00	4.977E+00	3.335E-01	-0.109
	158.56	*		-4.475E-02	7.735E-02	1.202E-01	8.038E-03	-0.372
SB-122	563.90	*		1.600E+00	3.355E+00	5.610E+00	3.087E-01	0.285

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I-123	692.80			2.039E+01	6.166E+01	1.059E+02	5.752E+00	0.193
	159.00	*		-1.897E+01	6.166E+01	Half-Life	too short	
	528.96			-1.056E+03	6.166E+01	Half-Life	too short	
TE-123M	159.00	*		-2.802E-02	3.851E-02	5.945E-02	4.014E-03	-0.471
I-124	602.71	*		6.782E-01	1.077E+00	1.594E+00	8.524E-02	0.425
	722.78			6.769E-01	6.559E+00	9.576E+00	5.588E-01	0.071
	1325.50			1.987E+00	4.861E+01	7.888E+01	5.886E+00	0.025
	1376.25			7.299E+01	5.030E+01	8.469E+01	6.355E+00	0.862
	1509.49			9.992E+00	1.976E+01	3.509E+01	2.541E+00	0.285
SB-124	1691.02			2.400E+00	5.073E+00	9.033E+00	5.946E-01	0.266
	602.71			3.401E-02	5.399E-02	7.994E-02	4.276E-03	0.425
	645.85			-4.883E-01	6.537E-01	9.899E-01	5.894E-02	-0.493
	709.31			7.944E-01	3.210E+00	5.473E+00	3.093E-01	0.145
	713.82			-3.221E-01	1.907E+00	3.154E+00	3.205E-01	-0.102
	722.78			4.920E-02	4.767E-01	6.960E-01	4.251E-02	0.071
	968.20	+		1.752E+01	6.421E+00	8.172E+00	6.562E-01	2.144
	1045.16			-5.116E-01	3.090E+00	4.991E+00	3.646E-01	-0.103
	1325.50			1.543E-01	3.773E+00	6.123E+00	4.569E-01	0.025
	1368.21			-1.363E+00	1.887E+00	2.688E+00	3.439E-01	-0.507
	1436.60			-2.732E-01	4.200E+00	6.953E+00	5.152E-01	-0.039
SB-125	1691.02	*		4.115E-02	8.698E-02	1.549E-01	1.088E-02	0.266
	427.89	*		2.634E-02	1.144E-01	1.905E-01	1.136E-02	0.138
	463.38	+		1.273E+00	4.845E-01	6.993E-01	4.675E-02	1.820
	600.56			7.935E-02	2.261E-01	3.645E-01	2.307E-02	0.218
	635.90			1.912E-02	3.238E-01	5.238E-01	3.285E-02	0.037
TE-125M	109.28	*		3.467E-01	1.318E+01	2.157E+01	2.145E+00	0.016
I-126	388.63			-4.309E-02	2.657E-01	4.344E-01	2.486E-02	-0.099
	666.33	*		1.656E-01	2.666E-01	3.935E-01	2.002E-02	0.421
	753.82			-2.154E-01	1.756E+00	2.906E+00	1.822E-01	-0.074
SB-126	223.80			-1.289E+00	5.781E+00	9.132E+00	6.327E-01	-0.141
	278.60			1.463E+00	3.568E+00	5.559E+00	3.836E-01	0.263
	296.50			1.268E+01	3.395E+00	4.449E+00	3.029E-01	2.850
	414.70			7.595E-03	9.978E-02	1.649E-01	9.400E-03	0.046
	415.30			4.950E+00	8.242E+00	1.402E+01	7.993E-01	0.353
	555.20			-1.252E+00	5.454E+00	8.706E+00	4.815E-01	-0.144
	573.80			5.788E-02	1.397E+00	2.269E+00	1.240E-01	0.026
	593.00			1.895E-02	1.210E+00	1.958E+00	1.055E-01	0.010
	656.30			1.781E+00	5.114E+00	7.346E+00	3.720E-01	0.242
	666.33			6.937E-02	1.116E-01	1.648E-01	8.386E-03	0.421
	675.00			1.817E+00	2.405E+00	4.099E+00	2.132E-01	0.443
	695.00			-7.095E-03	9.234E-02	1.540E-01	8.412E-03	-0.046
	697.00			7.678E-02	3.323E-01	5.659E-01	3.105E-02	0.136
	720.50	*		4.038E-02	1.941E-01	2.868E-01	1.664E-02	0.141
	856.80			1.313E-01	6.733E-01	9.827E-01	7.712E-02	0.134
	989.30			-9.910E-01	1.455E+00	2.224E+00	1.746E-01	-0.446
	1034.80			1.123E+00	1.098E+01	1.817E+01	1.347E+00	0.062
	1213.00			4.773E+00	6.322E+00	1.087E+01	6.674E-01	0.439
SB-127	61.10			2.756E+02	1.592E+02	2.442E+02	3.480E+01	1.129
	252.40			4.688E+00	6.873E+00	1.139E+01	4.761E+00	0.412

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	290.80			-1.733E+01	3.646E+01	5.123E+01	5.214E+00	-0.338
	411.60			8.156E+00	1.841E+01	3.097E+01	4.510E+00	0.263
	444.90			-1.042E+01	1.419E+01	2.208E+01	2.438E+00	-0.472
	473.00			-2.326E+00	2.709E+00	4.176E+00	4.766E-01	-0.557
	543.00			2.519E+01	2.333E+01	4.044E+01	5.280E+00	0.623
	603.60			-2.458E+00	1.926E+01	2.646E+01	2.865E+00	-0.093
	685.20	*		1.748E+00	1.903E+00	3.383E+00	3.214E-01	0.517
	698.50			-4.014E+00	2.061E+01	3.407E+01	4.970E+00	-0.118
	722.20			-1.992E+01	4.664E+01	6.417E+01	6.114E+00	-0.310
	783.80			6.695E+00	4.898E+00	8.883E+00	1.018E+00	0.754
XE-127	57.60			-5.478E+00	1.569E+01	2.250E+01	2.866E+00	-0.243
	145.22			6.673E-01	9.251E-01	1.537E+00	1.042E-01	0.434
	172.10			1.331E-01	1.642E-01	2.724E-01	1.819E-02	0.489
	202.84	*		-8.434E-02	7.679E-02	1.003E-01	6.864E-03	-0.841
	374.96			1.772E-01	2.541E-01	4.355E-01	2.588E-02	0.407
I-131	80.18			-6.745E+00	1.022E+01	1.194E+01	1.338E+00	-0.565
	284.30			-1.807E+00	2.460E+00	3.402E+00	2.531E-01	-0.531
	364.48	*		-1.316E-01	1.594E-01	2.512E-01	1.697E-02	-0.524
	636.97			-4.790E-01	2.061E+00	3.258E+00	1.939E-01	-0.147
	722.89			1.450E+00	9.830E+00	1.442E+01	8.546E-01	0.101
TE-132	49.72			-2.986E+00	7.715E+01	1.284E+02	1.950E+01	-0.023
	111.76			-1.525E+00	5.139E+01	8.268E+01	8.752E+00	-0.018
	116.30			-2.477E+01	4.436E+01	7.080E+01	7.305E+00	-0.350
	228.16	*		-3.615E-01	1.090E+00	1.813E+00	2.728E-01	-0.199
BA-133	53.15			-2.905E+00	1.015E+01	1.643E+01	2.252E+00	-0.177
	79.62			-1.639E+00	2.061E+00	3.170E+00	5.320E-01	-0.517
	81.00			-1.792E-01	2.395E-01	2.339E-01	4.071E-02	-0.766
	276.40			4.119E-01	5.138E-01	8.126E-01	1.097E-01	0.507
	302.84			4.029E-03	1.943E-01	2.821E-01	3.432E-02	0.014
	356.01	*		-1.380E-02	6.165E-02	8.703E-02	1.025E-02	-0.159
I-133	383.85			-1.415E-01	3.711E-01	5.987E-01	6.510E-02	-0.236
	510.53	+		4.180E+00	3.711E-01	Half-Life	too short	
	529.87	*		-1.343E-02	3.711E-01	Half-Life	too short	
	706.58			-8.168E-01	3.711E-01	Half-Life	too short	
	856.28			1.586E-02	3.711E-01	Half-Life	too short	
	875.33			2.781E-01	3.711E-01	Half-Life	too short	
	1236.41			2.594E+00	3.711E-01	Half-Life	too short	
	1298.22			6.661E-02	3.711E-01	Half-Life	too short	
CS-134	475.35			5.031E-01	2.644E+00	4.370E+00	2.491E-01	0.115
	563.23			3.499E-01	4.539E-01	7.730E-01	4.354E-02	0.453
	569.32			-2.235E-01	2.461E-01	3.720E-01	2.107E-02	-0.601
	604.70			1.080E-02	4.817E-02	6.854E-02	3.682E-03	0.158
	795.84	*		6.027E-02	5.504E-02	9.854E-02	6.866E-03	0.612
	801.93			5.787E-02	4.715E-01	7.922E-01	5.579E-02	0.073
	1038.57			-3.401E+00	4.775E+00	7.309E+00	5.390E-01	-0.465
	1167.94			3.203E-01	2.954E+00	4.856E+00	2.803E-01	0.066
	1365.15			-3.561E-01	1.249E+00	1.923E+00	1.532E-01	-0.185
CS-135	268.24	*		3.348E-01	2.499E-01	3.884E-01	3.321E-02	0.862
I-135	288.45			4.880E+11	2.499E-01	Half-Life	too short	

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		417.63		-1.136E+11	2.499E-01	Half-Life	too short	
		546.56		-1.189E+11	2.499E-01	Half-Life	too short	
		836.80		3.330E+11	2.499E-01	Half-Life	too short	
		1038.76		-1.662E+11	2.499E-01	Half-Life	too short	
		1124.00		8.281E+10	2.499E-01	Half-Life	too short	
		1131.51		5.322E+10	2.499E-01	Half-Life	too short	
		1260.41	*	-4.361E+10	2.499E-01	Half-Life	too short	
		1457.56		1.150E+13	2.499E-01	Half-Life	too short	
		1678.03		8.190E+10	2.499E-01	Half-Life	too short	
		1706.46		-2.111E+11	2.499E-01	Half-Life	too short	
		1791.20		-6.737E+10	2.499E-01	Half-Life	too short	
	+	66.91		-2.413E+00	1.717E+00	2.269E+00	3.903E-01	-1.063
		86.29		2.858E+00	2.535E+00	2.996E+00	4.464E-01	0.954
		153.22		3.907E-01	9.112E-01	1.497E+00	1.195E-01	0.261
		163.89		1.378E+00	1.506E+00	2.508E+00	1.995E-01	0.550
		176.55		-2.239E-01	5.190E-01	8.208E-01	6.019E-02	-0.273
		273.65		-6.920E-01	1.088E+00	9.831E-01	7.487E-02	-0.704
		340.57		2.785E-01	1.984E-01	3.102E-01	2.093E-02	0.898
		818.51		-6.035E-02	8.811E-02	1.376E-01	9.975E-03	-0.439
		1048.07	*	-7.424E-02	1.406E-01	2.193E-01	1.690E-02	-0.339
		1235.34		8.936E-01	8.308E-01	1.442E+00	1.492E-01	0.620
CE-139		165.85	*	1.032E-02	4.002E-02	6.519E-02	4.335E-03	0.158
BA-140		162.64		1.171E-01	1.082E+00	1.728E+00	1.262E-01	0.068
		304.84		-2.465E-01	1.857E+00	2.664E+00	7.328E-01	-0.093
		423.70		1.245E+00	2.455E+00	4.106E+00	1.304E+00	0.303
LA-140		537.32	*	-4.553E-01	3.614E-01	4.796E-01	1.558E-01	-0.949
		328.77		2.488E-01	4.113E-01	7.015E-01	5.027E-02	0.355
		432.53		1.791E+00	2.700E+00	4.607E+00	2.915E-01	0.389
		487.03		1.080E-01	1.854E-01	3.102E-01	2.006E-02	0.348
		751.79		-1.242E-01	2.035E+00	3.383E+00	2.525E-01	-0.037
		815.85		1.730E-01	3.839E-01	6.617E-01	5.532E-02	0.262
		867.82		-1.691E-01	1.857E+00	2.519E+00	2.146E-01	-0.067
		919.63		-2.570E+00	3.342E+00	4.958E+00	5.189E-01	-0.518
		925.24		2.688E-01	1.274E+00	2.145E+00	1.912E-01	0.125
		1596.49	*	-5.108E-02	8.623E-02	1.279E-01	8.913E-03	-0.399
CE-141		145.44	*	4.267E-02	8.391E-02	1.384E-01	9.661E-03	0.308
CE-143		57.37		-1.581E-03	8.391E-02	Half-Life	too short	
		231.56		3.103E-03	8.391E-02	Half-Life	too short	
	+	293.26	*	2.483E-03	8.391E-02	Half-Life	too short	
		350.59		5.155E-02	8.391E-02	Half-Life	too short	
	+	490.36		-6.569E-04	8.391E-02	Half-Life	too short	
		664.57		7.044E-03	8.391E-02	Half-Life	too short	
		721.93		-1.904E-03	8.391E-02	Half-Life	too short	
CE-144		80.11		-2.882E+00	4.346E+00	5.078E+00	5.665E-01	-0.567
		133.54	*	-1.688E-01	2.706E-01	4.278E-01	6.287E-02	-0.395
PM-144		476.78		1.028E-01	9.121E-02	1.584E-01	1.086E-02	0.649
		618.01		-1.231E-02	3.698E-02	5.801E-02	3.281E-03	-0.212
		696.49	*	-5.211E-03	3.985E-02	6.622E-02	3.633E-03	-0.079
		778.57		-1.484E+00	3.150E+00	4.279E+00	2.839E-01	-0.347

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		696.49	*	-3.533E-01	2.702E+00	4.490E+00	2.461E-01	-0.079
		1489.15		-9.444E+00	1.252E+01	1.832E+01	1.337E+00	-0.515
PM-146		453.90	*	3.174E-03	5.577E-02	9.168E-02	7.852E-03	0.035
		633.02		-9.281E-01	1.700E+00	2.561E+00	9.408E-01	-0.362
		735.90		8.244E-02	1.838E-01	3.088E-01	8.623E-02	0.267
		747.13		4.948E-02	1.106E-01	1.904E-01	2.415E-02	0.260
ND-147	+	91.11		3.101E+00	8.110E-01	9.408E-01	1.070E-01	3.296
		319.41		-2.673E+00	4.298E+00	6.917E+00	4.589E-01	-0.386
		439.89		3.124E+00	7.592E+00	1.277E+01	7.301E-01	0.245
		531.02	*	-4.829E-01	7.628E-01	1.181E+00	1.587E-01	-0.409
PM-149		285.90	*	1.582E+01	1.800E+02	2.632E+02	3.856E+01	0.060
EU-152		121.78		1.977E-02	9.707E-02	1.594E-01	1.390E-02	0.124
		244.69		2.654E-01	4.662E-01	7.050E-01	4.908E-02	0.376
		344.27	*	-9.865E-02	1.634E-01	2.112E-01	1.488E-02	-0.467
		443.98		-1.364E+00	1.191E+00	1.805E+00	1.032E-01	-0.756
		778.89		-1.497E-01	3.536E-01	5.057E-01	3.356E-02	-0.296
		867.32		-2.265E-01	1.041E+00	1.384E+00	1.110E-01	-0.164
		964.01		4.457E-01	3.918E-01	6.212E-01	5.009E-02	0.717
		1085.78		8.287E-02	4.498E-01	7.488E-01	5.130E-02	0.111
		1112.02		6.643E-03	4.350E-01	6.358E-01	4.151E-02	0.010
		1407.95		1.104E-01	2.052E-01	3.643E-01	2.717E-02	0.303
GD-153		69.67		3.399E+00	3.154E+00	4.760E+00	5.373E-01	0.714
		83.37		-1.851E+01	3.566E+01	3.572E+01	4.030E+00	-0.518
		97.43	*	1.714E-01	1.205E-01	1.834E-01	1.760E-02	0.935
		103.18		1.906E-02	1.395E-01	2.295E-01	2.019E-02	0.083
EU-154		123.07		3.093E-02	6.819E-02	1.128E-01	1.161E-02	0.274
		247.94		-3.255E-01	4.949E-01	7.593E-01	7.812E-02	-0.429
		591.81		-4.119E-02	7.569E-01	1.219E+00	1.162E-01	-0.034
		723.30		1.658E-01	2.255E-01	3.500E-01	2.490E-02	0.474
		756.87		1.187E-01	8.758E-01	1.478E+00	1.543E-01	0.080
		873.19		5.551E-02	3.359E-01	5.645E-01	6.715E-02	0.098
		996.32		6.677E-01	4.197E-01	7.072E-01	1.229E-01	0.944
		1004.76		2.851E-01	2.689E-01	4.308E-01	4.731E-02	0.662
		1274.45	*	-7.017E-02	1.468E-01	2.255E-01	2.261E-02	-0.311
EU-155		48.70		-4.019E+00	8.403E+00	1.374E+01	1.769E+00	-0.292
		60.01		2.224E+00	1.136E+01	1.674E+01	2.046E+00	0.133
	+	86.54		2.509E-01	2.213E-01	2.604E-01	3.003E-02	0.963
		105.31	*	-5.800E-02	1.476E-01	2.381E-01	2.062E-02	-0.244
TB-160	+	86.79		6.761E-01	5.963E-01	7.024E-01	8.066E-02	0.963
		197.04		2.103E-01	7.652E-01	1.240E+00	8.453E-02	0.170
		215.65		3.111E-01	9.799E-01	1.587E+00	1.095E-01	0.196
	+	298.57		2.748E-01	1.658E-01	2.690E-01	1.828E-02	1.022
		879.36	*	-9.348E-02	1.632E-01	2.562E-01	2.107E-02	-0.365
		962.29		9.654E-01	6.911E-01	1.128E+00	9.108E-02	0.856
		966.15		1.270E+00	3.571E-01	6.285E-01	5.057E-02	2.021
		1177.93		1.476E-02	4.362E-01	7.120E-01	4.092E-02	0.021
		1271.85		-5.923E-02	9.128E-01	1.469E+00	1.002E-01	-0.040
HO-166M		80.57		-5.326E-01	6.617E-01	6.466E-01	7.223E-02	-0.824
	+	184.41		2.037E-01	7.222E-02	9.590E-02	6.471E-03	2.124

## ---- Non-Identified Nuclides ----

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TM-171	+	280.46		1.780E-01	2.952E-01	1.736E-01	1.196E-02	1.025
		410.95		1.023E-01	3.126E-01	5.236E-01	2.983E-02	0.195
		711.68	*	5.235E-03	7.151E-02	1.204E-01	6.845E-03	0.043
		752.31		-6.465E-02	3.111E-01	5.113E-01	3.196E-02	-0.126
		810.29		-5.596E-02	6.995E-02	1.086E-01	7.723E-03	-0.515
		51.35		-3.596E+01	9.419E+01	1.518E+02	2.097E+01	-0.237
		52.39		-1.016E+01	4.602E+01	7.468E+01	1.030E+01	-0.136
		59.40		-9.040E+00	6.266E+01	9.083E+01	1.118E+01	-0.100
LU-176	+	66.72	*	-8.448E+01	5.871E+01	7.881E+01	9.062E+00	-1.072
		88.36		4.939E-01	4.356E-01	4.989E-01	5.724E-02	0.990
		201.83		-4.608E-02	4.117E-02	6.022E-02	4.120E-03	-0.765
		306.84	*	1.860E-02	3.033E-02	5.203E-02	3.505E-03	0.358
LU-177		401.10		-1.438E+00	8.415E+00	1.373E+01	7.806E-01	-0.105
		112.95		1.284E+00	2.502E+00	4.094E+00	3.205E-01	0.313
LU-177M	+	208.36	*	3.966E+00	2.147E+00	2.825E+00	1.941E-01	1.404
		52.97		-2.354E+00	4.670E+00	7.487E+00	1.028E+00	-0.314
		54.07		-3.910E-01	2.272E+00	3.757E+00	5.092E-01	-0.104
	+	61.30		6.368E+00	4.460E+00	5.361E+00	6.471E-01	1.188
HF-181		121.62		1.387E-01	5.012E-01	8.250E-01	5.944E-02	0.168
		147.16		-7.545E-01	8.713E-01	1.364E+00	9.227E-02	-0.553
		171.86		4.534E-01	6.532E-01	1.080E+00	7.209E-02	0.420
		218.09		-3.131E-01	1.147E+00	1.809E+00	1.250E-01	-0.173
	+	268.79		1.927E+00	1.514E+00	2.019E+00	1.400E-01	0.954
		319.02		-2.017E-01	3.165E-01	5.089E-01	3.377E-02	-0.396
		367.43		4.933E-01	1.161E+00	1.963E+00	1.189E-01	0.251
		413.65	*	3.730E-02	2.280E-01	3.785E-01	2.158E-02	0.099
		56.28		9.038E-01	2.351E+00	3.831E+00	5.004E-01	0.236
		57.53		-7.711E-01	1.336E+00	1.892E+00	2.413E-01	-0.408
		65.20		-1.362E+00	1.999E+00	2.814E+00	3.275E-01	-0.484
		133.02		-7.146E-02	8.919E-02	1.405E-01	9.744E-03	-0.509
W-181		136.25		-1.418E-01	6.034E-01	9.712E-01	6.687E-02	-0.146
		345.85		-2.538E-01	2.989E-01	4.032E-01	2.559E-02	-0.630
		482.03	*	-5.926E-02	5.837E-02	8.917E-02	5.076E-03	-0.665
		56.28		3.494E-01	9.108E-01	1.484E+00	1.938E-01	0.235
TA-182		57.53		-2.992E-01	5.183E-01	7.336E-01	9.356E-02	-0.408
		65.20	*	-5.240E-01	7.689E-01	1.083E+00	1.260E-01	-0.484
		67.75		-2.782E-01	2.289E-01	3.122E-01	3.564E-02	-0.891
		100.10		-1.067E-01	2.437E-01	3.930E-01	3.615E-02	-0.272
RE-183		152.43		2.842E-01	4.482E-01	7.415E-01	4.986E-02	0.383
		222.10		2.280E-01	4.718E-01	7.682E-01	5.319E-02	0.297
	+	1001.68		7.364E+00	3.684E+00	4.992E+00	3.862E-01	1.475
	+	1121.28		9.267E-01	2.662E-01	4.124E-01	2.643E-02	2.247
		1189.05		1.712E-02	3.768E-01	6.152E-01	3.612E-02	0.028
		1221.42	*	-3.671E-02	2.330E-01	3.731E-01	2.326E-02	-0.098
		1230.97		-7.046E-01	6.504E-01	9.632E-01	6.110E-02	-0.732
		57.98		-1.328E-01	5.030E-01	7.249E-01	9.165E-02	-0.183
		59.32		-4.354E-02	2.605E-01	3.772E-01	4.649E-02	-0.115
		67.20		-4.383E-01	4.060E-01	5.577E-01	6.390E-02	-0.786
		162.32	*	1.786E-02	1.512E-01	2.416E-01	1.610E-02	0.074



## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		3.261E+00	1.765E+00	2.283E+00	1.569E-01	1.428
		291.72		7.631E-01	1.472E+00	2.202E+00	1.506E-01	0.347
		57.98		-4.865E-01	1.843E+00	2.656E+00	3.359E-01	-0.183
		59.32		-1.594E-01	9.539E-01	1.381E+00	1.702E-01	-0.115
		67.20		-1.606E+00	1.487E+00	2.043E+00	2.341E-01	-0.786
		161.27		9.169E-02	4.792E-01	7.676E-01	5.120E-02	0.119
		216.55		1.209E-01	3.495E-01	5.666E-01	3.912E-02	0.213
		252.85	*	2.227E-01	2.995E-01	5.177E-01	3.603E-02	0.430
		318.01		6.340E-02	5.518E-01	9.237E-01	6.137E-02	0.069
		792.07		9.058E-01	1.137E+00	2.003E+00	1.369E-01	0.452
OS-185		903.28		1.039E+00	1.231E+00	1.996E+00	1.697E-01	0.521
		920.93		-2.640E-01	5.013E-01	7.857E-01	6.589E-02	-0.336
		59.72		8.751E-02	6.816E-01	1.001E+00	1.227E-01	0.087
		61.14		6.779E-01	3.808E-01	5.894E-01	7.126E-02	1.150
		69.30		5.244E-01	6.082E-01	8.553E-01	9.673E-02	0.613
		592.07		1.202E+00	3.057E+00	5.085E+00	2.742E-01	0.236
		646.12	*	-3.375E-02	5.500E-02	8.425E-02	4.316E-03	-0.401
		717.42		-3.534E-01	1.055E+00	1.724E+00	9.933E-02	-0.205
		874.81		5.336E-01	7.047E-01	1.161E+00	9.458E-02	0.460
		880.27		-1.488E-01	8.990E-01	1.467E+00	1.208E-01	-0.101
RE-188		155.03	*	6.934E-02	2.268E-01	3.709E-01	2.488E-02	0.187
		477.96		7.050E+00	4.286E+00	7.619E+00	4.341E-01	0.925
W-188	+	633.10		-1.794E+00	3.406E+00	5.250E+00	2.728E-01	-0.342
		63.58		2.410E+02	1.688E+02	1.794E+02	2.118E+01	1.344
IR-192	+	227.08		-3.644E-01	1.660E+01	2.797E+01	1.940E+00	-0.013
		290.67	*	-4.878E+00	1.073E+01	1.511E+01	1.034E+00	-0.323
AU-195		295.96		1.238E+00	2.293E-01	3.459E-01	2.384E-02	3.579
		308.46		6.764E-02	1.185E-01	2.028E-01	1.375E-02	0.334
		316.51	*	5.067E-02	4.293E-02	7.539E-02	5.038E-03	0.672
		468.07		-3.941E-02	9.552E-02	1.299E-01	8.579E-03	-0.303
		604.41		-4.757E-02	6.456E-01	8.921E-01	9.921E-02	-0.053
		612.46		1.405E+00	1.004E+00	1.576E+00	1.135E-01	0.891
		65.12		-2.203E-01	3.568E-01	5.041E-01	5.871E-02	-0.437
TL-200		66.83		-2.781E-01	1.941E-01	2.606E-01	2.994E-02	-1.067
	+	75.70		1.820E+00	4.114E-01	6.767E-01	7.514E-02	2.690
TL-201		98.88	*	3.825E-01	3.284E-01	5.199E-01	4.874E-02	0.736
		129.76		5.235E+00	3.777E+00	6.411E+00	4.483E-01	0.817
		367.94	*	5.217E-04	3.777E+00	Half-Life	too short	
		579.30		1.796E-02	3.777E+00	Half-Life	too short	
TL-202		828.27		-2.344E-03	3.777E+00	Half-Life	too short	
		1205.75		-1.884E-03	3.777E+00	Half-Life	too short	
		68.90		2.046E+00	1.241E+01	1.695E+01	1.921E+00	0.121
		70.82		6.499E+00	6.481E+00	9.741E+00	1.094E+00	0.667
TL-202		80.30		-8.336E+00	1.274E+01	1.489E+01	1.662E+00	-0.560
		135.34		-2.331E+00	4.053E+01	6.569E+01	4.532E+00	-0.035
		167.43	*	-6.960E+00	1.167E+01	1.836E+01	1.222E+00	-0.379
		68.90		1.562E-01	9.477E-01	1.294E+00	1.467E-01	0.121
TL-202		70.82		4.949E-01	4.935E-01	7.417E-01	8.328E-02	0.667
		80.30		-6.349E-01	9.700E-01	1.134E+00	1.266E-01	-0.560

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	1.802E-02	9.023E-02	1.499E-01	8.564E-03	0.120
		70.83		2.071E+00	2.066E+00	3.089E+00	4.754E-01	0.671
	+	72.87		3.223E+00	1.268E+00	1.971E+00	2.953E-01	1.635
		82.60		-1.407E+00	2.731E+00	2.733E+00	4.244E-01	-0.515
BI-207		279.20	*	-4.467E-03	5.608E-02	8.502E-02	6.124E-03	-0.053
	+	72.80		9.314E-01	3.545E-01	5.689E-01	6.345E-02	1.637
	+	74.97		5.517E-01	2.100E-01	3.779E-01	4.199E-02	1.460
		84.90		3.528E-01	4.572E-01	5.000E-01	5.681E-02	0.706
TL-207		569.67		-1.510E-02	3.797E-02	5.973E-02	3.274E-03	-0.253
		1063.62	*	1.853E-03	6.260E-02	1.028E-01	7.304E-03	0.018
		1770.23		1.872E-01	3.422E-01	5.920E-01	3.666E-02	0.316
		81.07		-2.566E-01	5.145E-01	5.162E-01	5.775E-02	-0.497
		83.78		-8.521E-02	3.015E-01	3.079E-01	3.480E-02	-0.277
		94.90		2.348E-01	3.666E-01	5.413E-01	5.428E-02	0.434
		122.32		7.230E-01	2.308E+00	3.804E+00	3.012E-01	0.190
		144.24		4.449E-01	9.242E-01	1.505E+00	1.211E-01	0.296
		154.21		1.839E-01	5.207E-01	8.530E-01	6.641E-02	0.216
	+	269.46		4.493E-01	3.530E-01	4.644E-01	3.322E-02	0.967
		323.87	*	-5.611E-01	8.486E-01	1.357E+00	2.281E-01	-0.413
	+	338.28		6.404E+00	2.020E+00	2.956E+00	3.220E-01	2.167
PO-209		445.03		-2.020E+00	2.782E+00	4.334E+00	4.430E-01	-0.466
		260.50		-6.151E-01	1.220E+01	2.042E+01	1.419E+00	-0.030
		262.80		-1.209E+01	3.636E+01	5.664E+01	3.936E+00	-0.213
		896.60	*	-2.370E+00	8.557E+00	1.381E+01	1.175E+00	-0.172
BI-210		46.50	*	-2.088E+00	1.411E+01	2.302E+01	2.392E+00	-0.091
PB-210		46.50	*	-2.088E+00	1.411E+01	2.302E+01	2.392E+00	-0.091
PO-210		46.50	*	-2.088E+00	1.411E+01	2.302E+01	2.212E+00	-0.091
PB-211		404.84	*	-5.886E-01	1.237E+00	1.891E+00	1.178E+00	-0.311
		427.08		-1.405E+00	2.711E+00	4.078E+00	2.520E+00	-0.345
		831.96		-1.249E+00	1.587E+00	2.121E+00	1.326E+00	-0.589
	+	727.18	*	8.922E-01	5.473E-01	7.579E-01	5.901E-02	1.177
		785.46		1.499E+00	1.973E+00	3.474E+00	2.339E-01	0.432
PO-215		1620.62		5.749E-01	1.382E+00	2.431E+00	1.672E-01	0.236
		81.07		-2.566E-01	5.145E-01	5.162E-01	5.775E-02	-0.497
		83.78		-8.521E-02	3.015E-01	3.079E-01	3.480E-02	-0.277
		94.90		2.348E-01	3.666E-01	5.413E-01	5.428E-02	0.434
		122.32		7.230E-01	2.308E+00	3.804E+00	3.012E-01	0.190
		144.24		4.449E-01	9.242E-01	1.505E+00	1.211E-01	0.296
		154.21		1.839E-01	5.207E-01	8.530E-01	6.641E-02	0.216
	+	269.46		4.493E-01	3.530E-01	4.644E-01	3.322E-02	0.967
		323.87	*	-5.611E-01	8.486E-01	1.357E+00	2.281E-01	-0.413
	+	338.28		6.404E+00	2.020E+00	2.956E+00	3.220E-01	2.167
		445.03		-2.020E+00	2.782E+00	4.334E+00	4.430E-01	-0.466
RN-219	+	271.23		5.764E-01	4.539E-01	5.980E-01	5.349E-02	0.964
		401.81	*	-2.038E-01	5.144E-01	8.271E-01	1.121E-01	-0.246
RN-220		549.76	*	-1.270E+01	3.388E+01	5.355E+01	2.971E+00	-0.237
RA-223		81.07		-2.566E-01	5.145E-01	5.162E-01	5.775E-02	-0.497
		83.78		-8.521E-02	3.015E-01	3.079E-01	3.480E-02	-0.277
		94.90		2.348E-01	3.666E-01	5.413E-01	5.428E-02	0.434

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		7.230E-01	2.308E+00	3.804E+00	3.012E-01	0.190
		144.24		4.449E-01	9.242E-01	1.505E+00	1.211E-01	0.296
		154.21		1.839E-01	5.207E-01	8.530E-01	6.641E-02	0.216
	+	269.46		4.493E-01	3.530E-01	4.644E-01	3.322E-02	0.967
		323.87	*	-5.611E-01	8.486E-01	1.357E+00	2.281E-01	-0.413
	+	338.28		6.404E+00	2.020E+00	2.956E+00	3.220E-01	2.167
		445.03		-2.020E+00	2.782E+00	4.334E+00	4.430E-01	-0.466
		79.80		-2.408E+00	2.632E+00	3.977E+00	9.002E-01	-0.605
		236.00		4.692E+00	6.981E-01	9.005E-01	1.003E-01	5.211
		256.20	*	-1.104E-03	4.925E-01	8.267E-01	1.197E-01	-0.001
		286.10		4.225E-01	2.245E+00	3.303E+00	4.007E-01	0.128
	+	299.80		3.468E+00	2.158E+00	3.314E+00	5.522E-01	1.047
		304.40		-1.639E+00	2.695E+00	3.717E+00	6.557E-01	-0.441
		334.20		1.740E+00	3.361E+00	4.998E+00	9.276E-01	0.348
TH-227		79.80		-2.408E+00	2.633E+00	3.977E+00	9.106E-01	-0.605
		94.00		1.635E+01	4.883E+00	5.505E+00	1.236E+00	2.970
		236.00		4.692E+00	6.537E-01	9.005E-01	8.858E-02	5.211
		256.20	*	-1.104E-03	4.925E-01	8.267E-01	1.433E-01	-0.001
		286.10		4.225E-01	2.284E+00	3.303E+00	3.311E+00	0.128
	+	299.80		3.468E+00	2.158E+00	3.314E+00	5.522E-01	1.047
TH-229		304.40		-1.639E+00	2.695E+00	3.717E+00	6.557E-01	-0.441
		334.20		1.740E+00	3.361E+00	4.998E+00	9.276E-01	0.348
	+	85.43		4.670E-01	4.119E-01	5.025E-01	5.727E-02	0.929
		88.47		-4.717E-02	2.767E-01	2.846E-01	3.257E-02	-0.166
		100.00		2.114E-02	2.484E-01	4.083E-01	3.762E-02	0.052
		193.63	*	6.028E-02	6.743E-01	1.086E+00	7.381E-02	0.056
PA-231		210.97		1.262E+00	1.087E+00	1.614E+00	1.111E-01	0.782
		283.67	*	-8.951E-01	2.301E+00	3.258E+00	4.648E-01	-0.275
		301.29		1.420E+00	8.201E-01	1.297E+00	1.430E-01	1.095
TH-231		81.07		-2.566E-01	5.145E-01	5.162E-01	5.775E-02	-0.497
		83.78		-8.521E-02	3.015E-01	3.079E-01	3.480E-02	-0.277
		94.90		2.348E-01	3.666E-01	5.413E-01	5.428E-02	0.434
U-231		122.32		7.230E-01	2.308E+00	3.804E+00	3.012E-01	0.190
		144.24		4.449E-01	9.242E-01	1.505E+00	1.211E-01	0.296
		154.21		1.839E-01	5.207E-01	8.530E-01	6.641E-02	0.216
	+	269.46		4.493E-01	3.530E-01	4.644E-01	3.322E-02	0.967
		323.87	*	-5.611E-01	8.486E-01	1.357E+00	2.281E-01	-0.413
	+	338.28		6.404E+00	2.020E+00	2.956E+00	3.220E-01	2.167
		445.03		-2.020E+00	2.782E+00	4.334E+00	4.430E-01	-0.466
		84.21		1.004E+01	1.453E+01	1.587E+01	1.797E+00	0.633
	+	92.29		2.593E+01	6.719E+00	7.701E+00	8.116E-01	3.367
		95.87	*	7.693E-01	1.939E+00	2.839E+00	2.798E-01	0.271
PA-233		108.00		-1.387E-01	3.377E+00	5.516E+00	4.563E-01	-0.025
	+	75.28		1.610E+01	6.461E+00	1.110E+01	1.873E+00	1.450
	+	86.59		4.077E+00	3.742E+00	4.232E+00	1.179E+00	0.963
	+	300.12		9.670E-01	5.951E-01	9.284E-01	1.290E-01	1.042
		311.98	*	-8.784E-02	8.031E-02	1.260E-01	8.831E-03	-0.697
		340.50		1.412E+00	9.725E-01	1.449E+00	3.350E-01	0.975
		398.62		7.809E-01	2.622E+00	4.381E+00	1.132E+00	0.178

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		9.608E-01	2.095E+00	3.522E+00	7.242E-01	0.273
		63.00		6.923E+00	4.930E+00	5.369E+00	9.407E-01	1.289
		94.67		3.454E-01	2.705E-01	4.045E-01	5.441E-02	0.854
		98.44		1.022E-01	1.517E-01	2.091E-01	1.169E-01	0.488
		99.86		1.829E-01	6.308E-01	1.044E+00	9.639E-02	0.175
		111.00		2.039E-01	2.593E-01	4.270E-01	4.975E-02	0.478
		131.20		-5.704E-02	1.410E-01	2.259E-01	1.574E-02	-0.252
		152.70		1.873E-01	4.309E-01	7.065E-01	1.142E-01	0.265
		186.00		7.331E+00	3.405E+00	3.480E+00	1.070E+00	2.107
		226.40		-1.407E-01	5.133E-01	8.562E-01	1.042E-01	-0.164
		227.20		6.652E-03	5.561E-01	9.382E-01	6.508E-02	0.007
		248.90		-6.984E-01	1.063E+00	1.720E+00	3.755E-01	-0.406
		293.70		7.724E+00	1.839E+00	2.122E+00	3.497E-01	3.640
		369.80		2.810E-01	1.066E+00	1.786E+00	3.731E-01	0.157
		568.70		-7.612E-01	1.210E+00	1.868E+00	1.024E-01	-0.408
		569.50		-2.410E-01	3.397E-01	5.218E-01	2.860E-02	-0.462
		574.00		-3.195E-01	1.911E+00	3.059E+00	1.672E-01	-0.104
		699.00		-1.525E-01	8.502E-01	1.408E+00	2.519E-01	-0.108
		706.10		-7.941E-01	1.286E+00	1.980E+00	8.735E-01	-0.401
		733.00		-1.194E-01	5.196E-01	7.302E-01	1.556E-01	-0.163
		742.81		1.365E+00	1.906E+00	2.953E+00	1.977E+00	0.462
		796.30		1.290E+00	1.117E+00	1.924E+00	5.108E-01	0.671
		805.60		8.914E-01	1.195E+00	2.051E+00	6.204E-01	0.435
		819.60		-8.417E-01	1.438E+00	2.212E+00	8.347E-01	-0.381
		826.30		-1.085E-01	9.255E-01	1.521E+00	6.769E-01	-0.071
		831.60		-6.002E-01	7.358E-01	1.103E+00	3.257E-01	-0.544
		876.40		2.204E-01	1.047E+00	1.613E+00	1.657E+00	0.137
		880.51		-2.724E-03	3.198E-01	5.292E-01	4.361E-02	-0.005
		883.24		1.986E-01	3.513E-01	5.664E-01	3.805E-01	0.351
		899.00		-7.603E-01	1.070E+00	1.576E+00	6.887E-01	-0.482
		925.00		3.244E-01	1.262E+00	2.135E+00	1.784E-01	0.152
		926.50		-8.639E-02	1.915E-01	3.004E-01	7.565E-02	-0.288
		946.00	*	-1.586E-01	3.620E-01	5.720E-01	1.063E-01	-0.277
		949.00		6.752E-01	5.310E-01	9.628E-01	7.878E-02	0.701
		980.50		-5.680E-01	8.380E-01	1.287E+00	1.020E-01	-0.441
		1394.10		1.019E+00	1.448E+00	2.359E+00	1.532E+00	0.432
PA-234M		766.42		3.068E+01	2.256E+01	2.731E+01	1.377E+01	1.123
U-235	+	1001.03	*	1.662E+01	8.358E+00	1.108E+01	1.021E+00	1.500
		89.95		3.202E+00	2.953E+00	3.090E+00	9.774E-01	1.036
U-235	+	93.35		6.975E+00	2.593E+00	1.950E+00	5.576E-01	3.577
		105.00		-8.292E-01	1.481E+00	2.344E+00	6.992E-01	-0.354
		143.76	*	1.202E-01	2.864E-01	4.646E-01	7.753E-02	0.259
		163.35		2.312E-02	6.457E-01	1.028E+00	1.880E-01	0.022
NP-236	+	185.71		2.715E-01	9.630E-02	1.288E-01	8.697E-03	2.109
		205.31		5.076E-01	7.685E-01	1.106E+00	2.029E-01	0.459
		94.67		2.649E-01	2.040E-01	3.071E-01	3.093E-02	0.863
		98.44		7.726E-02	1.065E-01	1.581E-01	1.492E-02	0.489
		111.00		1.543E-01	1.957E-01	3.230E-01	2.582E-02	0.478
		160.31	*	-4.329E-02	1.076E-01	1.685E-01	1.125E-02	-0.257

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.242E-01	2.132E-01	3.560E-01	3.302E-02	0.349
		117.00	*	-4.729E-02	2.457E-01	3.979E-01	2.991E-02	-0.119
	+	209.75		2.548E+00	1.379E+00	1.768E+00	1.216E-01	1.441
		228.18		-9.934E-02	2.905E-01	4.833E-01	3.354E-02	-0.206
		277.60		1.492E-01	2.482E-01	3.903E-01	2.695E-02	0.382
		334.30		1.130E+00	1.903E+00	2.855E+00	1.850E-01	0.396
AM-241		59.54	*	2.142E-02	3.583E-01	5.247E-01	6.677E-02	0.041
CM-243		99.55		1.278E-01	2.194E-01	3.663E-01	3.398E-02	0.349
		103.76	*	3.188E-02	1.296E-01	2.140E-01	1.868E-02	0.149
		117.00		-4.866E-02	2.527E-01	4.094E-01	3.078E-02	-0.119
	+	209.75		2.512E+00	1.360E+00	1.743E+00	1.199E-01	1.441
		228.18		-1.004E-01	2.935E-01	4.883E-01	3.389E-02	-0.206
		277.60		1.504E-01	2.502E-01	3.935E-01	2.717E-02	0.382
AM-246		798.80		-2.174E-01	1.734E-01	2.602E-01	1.804E-02	-0.836
		1036.00		-1.104E-01	3.502E-01	5.571E-01	4.123E-02	-0.198
		1062.04		1.835E-02	2.744E-01	4.522E-01	3.221E-02	0.041
		1078.86	*	8.161E-02	1.739E-01	2.962E-01	2.053E-02	0.276
CM-247		278.00		6.616E-01	1.032E+00	1.627E+00	1.123E-01	0.407
		287.40		1.757E+00	1.881E+00	2.752E+00	1.888E-01	0.638
		402.60	*	-2.916E-03	4.620E-02	7.584E-02	4.313E-03	-0.038
CF-249		252.85		8.325E-01	1.119E+00	1.935E+00	1.347E-01	0.430
		333.44		8.022E-02	2.487E-01	3.666E-01	2.379E-02	0.219
		387.95	*	-3.480E-04	5.006E-02	8.258E-02	4.735E-03	-0.004
CF-251		176.60	*	-7.712E-02	1.700E-01	2.687E-01	1.801E-02	-0.287
		227.00		-2.246E-02	4.928E-01	8.296E-01	5.755E-02	-0.027
		285.00		-1.850E+00	2.596E+00	3.593E+00	2.470E-01	-0.515

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847003      *
* Acquisition date   : 27-JAN-2010 13:46:54 Detector SN#                   *
* Detector ID        : GAM15                                           Sensitivity      : 5.000      *
* Geometry           : CAN                                           Energy tolerance: 1.500      *
* Elapsed live time  : 0 02:00:00.00                               Abundance limit : 75.000      *
* Elapsed real time  : 0 02:00:01.47                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244847003                               Analyst initials: MXR1        *
* Batch Number       : 942717                                   Sample Quantity : 1.3429E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                         *
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 MS Isotope                :      *
* MSD DPM             : 0.000                                           MSD Isotope       :      *
* LCS DPM             : 0.000                                           LCS Isotope       :      *
* LCSD DPM           : 0.000                                           LCSD Isotope      :      *
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	3.242E+01	3.119E+00	7.021E-01	0.000E+00
CD-109	2.122E+00	1.834E+00	2.285E+00	0.000E+00
SN-126	2.082E-01	1.800E-01	2.261E-01	0.000E+00
BA-137M	6.586E-01	1.048E-01	7.618E-02	0.000E+00
CS-137	6.962E-01	1.109E-01	8.053E-02	0.000E+00
TL-208	4.885E-01	9.617E-02	6.717E-02	0.000E+00
BI-211	4.014E+00	5.960E-01	4.343E-01	0.000E+00
PB-212	1.901E+00	2.081E-01	1.236E-01	0.000E+00
PO-212	1.901E+00	2.081E-01	1.236E-01	0.000E+00
BI-214	1.295E+00	1.946E-01	1.369E-01	0.000E+00
PB-214	1.396E+00	2.193E-01	1.515E-01	0.000E+00
PO-214	1.396E+00	2.193E-01	1.515E-01	0.000E+00
PO-216	1.901E+00	2.081E-01	1.236E-01	0.000E+00
PO-218	1.396E+00	2.193E-01	1.515E-01	0.000E+00
RA-224	5.106E+00	1.756E+00	1.406E+00	0.000E+00
RA-226	1.295E+00	1.946E-01	1.369E-01	0.000E+00
AC-228	1.651E+00	3.407E-01	2.721E-01	0.000E+00
RA-228	1.651E+00	3.407E-01	2.721E-01	0.000E+00
TH-228	1.932E+00	2.114E-01	1.256E-01	0.000E+00
TH-230	1.295E+00	1.946E-01	1.369E-01	0.000E+00
TH-232	1.651E+00	3.407E-01	2.721E-01	0.000E+00
TH-234	5.939E+00	4.179E+00	3.958E+00	0.000E+00
U-234	1.295E+00	1.946E-01	1.369E-01	0.000E+00
NP-237	6.115E-01	5.428E-01	6.313E-01	0.000E+00
U-238	5.939E+00	4.179E+00	3.958E+00	0.000E+00
AM-243	3.074E-01	1.147E-01	1.581E-01	0.000E+00
ANH-511	1.911E-01	8.363E-02	5.607E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )
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BE-7	8.146E-01	4.362E-01	8.152E-01	0.000E+00	NOT IDENT.
NA-22	-2.604E-02	5.140E-02	8.082E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.205E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-3.589E-05	2.180E-02	3.649E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.193E-02	1.097E-01	0.000E+00	NOT IDENT.
SC-46	-1.029E-02	4.343E-02	7.260E-02	0.000E+00	FAIL ABUN
V-48	5.387E-02	8.012E-02	1.440E-01	0.000E+00	NOT IDENT.
CR-51	-5.371E-01	4.580E-01	7.501E-01	0.000E+00	NOT IDENT.
MN-52	3.052E-02	2.836E-01	4.910E-01	0.000E+00	NOT IDENT.
MN-54	-3.034E-03	4.411E-02	7.530E-02	0.000E+00	NOT IDENT.
CO-56	-3.409E-02	4.312E-02	6.867E-02	0.000E+00	NOT IDENT.
CO-57	1.087E-02	3.251E-02	5.730E-02	0.000E+00	NOT IDENT.
CO-58	-3.792E-02	4.566E-02	7.313E-02	0.000E+00	NOT IDENT.
FE-59	-1.349E-01	1.118E-01	1.662E-01	0.000E+00	NOT IDENT.
CO-60	-1.890E-02	4.367E-02	6.820E-02	0.000E+00	NOT IDENT.
ZN-65	-7.877E-02	1.251E-01	1.651E-01	0.000E+00	NOT IDENT.
GE-68	9.673E-02	1.559E+00	2.637E+00	0.000E+00	NOT IDENT.
AS-73	-2.910E-02	2.277E+00	4.037E+00	0.000E+00	NOT IDENT.
AS-74	1.234E-02	1.167E-01	1.974E-01	0.000E+00	NOT IDENT.
SE-75	2.133E-02	6.157E-02	9.677E-02	0.000E+00	FAIL ABUN
BR-77	-5.883E+00	1.715E+01	2.756E+01	0.000E+00	FAIL ABUN
SR-82	-6.534E-02	5.185E-01	7.600E-01	0.000E+00	NOT IDENT.
RB-83	-2.153E-02	8.510E-02	1.377E-01	0.000E+00	NOT IDENT.
RB-84	1.200E-02	8.017E-02	1.387E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.996E+00	1.533E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.659E-02	7.941E-02	0.000E+00	NOT IDENT.
RB-86	3.125E-01	1.020E+00	1.760E+00	0.000E+00	NOT IDENT.
Y-88	-1.733E-02	3.415E-02	5.085E-02	0.000E+00	NOT IDENT.
ZR-88	1.847E-03	3.771E-02	6.531E-02	0.000E+00	NOT IDENT.
Y-91	-7.952E+00	2.280E+01	3.687E+01	0.000E+00	NOT IDENT.
NB-94	1.845E-02	3.860E-02	6.915E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	6.140E-02	1.067E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.691E-01	4.484E-01	0.000E+00	NOT IDENT.
ZR-95	-6.076E-04	7.969E-02	1.377E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.088E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.351E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-7.630E+00	1.815E+01	3.045E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.462E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.227E-02	4.337E-02	7.633E-02	0.000E+00	NOT IDENT.
RH-102	-1.933E-02	4.051E-02	6.723E-02	0.000E+00	NOT IDENT.
RU-103	-4.383E-02	5.248E-02	8.396E-02	0.000E+00	NOT IDENT.
RH-106	-3.179E-03	3.640E-01	6.091E-01	0.000E+00	FAIL ABUN
RU-106	-3.179E-03	3.640E-01	6.091E-01	0.000E+00	FAIL ABUN
AG-108M	1.707E-02	4.038E-02	7.100E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	5.531E-02	9.805E-02	0.000E+00	NOT IDENT.
IN-111	1.603E+00	1.841E+00	2.986E+00	0.000E+00	NOT IDENT.
IN-113M	-3.088E-02	5.514E-02	9.224E-02	0.000E+00	NOT IDENT.
SN-113	-3.088E-02	5.514E-02	9.224E-02	0.000E+00	NOT IDENT.
IN-114M	5.065E-03	2.747E-01	4.085E-01	0.000E+00	NOT IDENT.
CD-115	7.447E+00	1.833E+01	3.186E+01	0.000E+00	NOT IDENT.
SN-117M	-4.475E-02	7.580E-02	1.254E-01	0.000E+00	NOT IDENT.
SB-122	1.600E+00	3.288E+00	5.721E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.555E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.802E-02	3.774E-02	6.199E-02	0.000E+00	NOT IDENT.
I-124	6.782E-01	1.055E+00	1.624E+00	0.000E+00	NOT IDENT.
SB-124	4.115E-02	8.524E-02	1.547E-01	0.000E+00	FAIL ABUN
SB-125	2.634E-02	1.121E-01	1.952E-01	0.000E+00	FAIL ABUN
TE-125M	3.467E-01	1.292E+01	2.264E+01	0.000E+00	NOT IDENT.
I-126	1.656E-01	2.612E-01	4.000E-01	0.000E+00	NOT IDENT.
SB-126	4.038E-02	1.902E-01	2.911E-01	0.000E+00	NOT IDENT.
SB-127	1.748E+00	1.865E+00	3.437E+00	0.000E+00	NOT IDENT.
XE-127	-8.434E-02	7.526E-02	1.041E-01	0.000E+00	NOT IDENT.
I-131	-1.316E-01	1.562E-01	2.582E-01	0.000E+00	NOT IDENT.
TE-132	-3.615E-01	1.068E+00	1.878E+00	0.000E+00	NOT IDENT.
BA-133	-1.380E-02	6.041E-02	8.948E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.678E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.027E-02	5.394E-02	9.985E-02	0.000E+00	NOT IDENT.
CS-135	3.348E-01	2.449E-01	4.014E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.451E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.424E-02	1.378E-01	2.211E-01	0.000E+00	FAIL ABUN
CE-139	1.032E-02	3.922E-02	6.792E-02	0.000E+00	NOT IDENT.
BA-140	-4.553E-01	3.541E-01	4.895E-01	0.000E+00	NOT IDENT.
LA-140	-5.108E-02	8.451E-02	1.279E-01	0.000E+00	NOT IDENT.
CE-141	4.267E-02	8.223E-02	1.445E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.888E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.688E-01	2.652E-01	4.474E-01	0.000E+00	NOT IDENT.
PM-144	-5.211E-03	3.905E-02	6.727E-02	0.000E+00	NOT IDENT.
PR-144	-3.533E-01	2.648E+00	4.561E+00	0.000E+00	NOT IDENT.

PM-146	3.174E-03	5.465E-02	9.385E-02	0.000E+00	NOT IDENT.
ND-147	-4.829E-01	7.475E-01	1.206E+00	0.000E+00	FAIL ABUN
PM-149	1.582E+01	1.764E+02	2.717E+02	0.000E+00	NOT IDENT.
EU-152	-9.865E-02	1.601E-01	2.173E-01	0.000E+00	NOT IDENT.
GD-153	1.714E-01	1.180E-01	1.928E-01	0.000E+00	NOT IDENT.
EU-154	-7.017E-02	1.438E-01	2.265E-01	0.000E+00	NOT IDENT.
EU-155	-5.800E-02	1.446E-01	2.500E-01	0.000E+00	FAIL ABUN
TB-160	-9.348E-02	1.599E-01	2.592E-01	0.000E+00	FAIL ABUN
HO-166M	5.235E-03	7.008E-02	1.223E-01	0.000E+00	FAIL ABUN
TM-171	-8.448E+01	5.753E+01	8.340E+01	0.000E+00	NOT IDENT.
LU-176	1.860E-02	2.973E-02	5.364E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.104E+00	2.932E+00	0.000E+00	FAIL ABUN
LU-177M	3.730E-02	2.234E-01	3.881E-01	0.000E+00	FAIL ABUN
HF-181	-5.926E-02	5.721E-02	9.118E-02	0.000E+00	NOT IDENT.
W-181	-5.240E-01	7.535E-01	1.146E+00	0.000E+00	NOT IDENT.
TA-182	-3.671E-02	2.284E-01	3.751E-01	0.000E+00	FAIL ABUN
RE-183	1.786E-02	1.482E-01	2.518E-01	0.000E+00	FAIL ABUN
RE-184	2.227E-01	2.935E-01	5.355E-01	0.000E+00	NOT IDENT.
OS-185	-3.375E-02	5.390E-02	8.569E-02	0.000E+00	NOT IDENT.
RE-188	6.934E-02	2.223E-01	3.869E-01	0.000E+00	NOT IDENT.
W-188	-4.878E+00	1.052E+01	1.559E+01	0.000E+00	FAIL ABUN
IR-192	5.067E-02	4.207E-02	7.767E-02	0.000E+00	FAIL ABUN
AU-195	3.825E-01	3.218E-01	5.466E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.058E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.960E+00	1.143E+01	1.913E+01	0.000E+00	NOT IDENT.
TL-202	1.802E-02	8.842E-02	1.535E-01	0.000E+00	NOT IDENT.
HG-203	-4.467E-03	5.495E-02	8.779E-02	0.000E+00	FAIL ABUN
BI-207	1.853E-03	6.135E-02	1.036E-01	0.000E+00	FAIL ABUN
TL-207	-5.611E-01	8.317E-01	1.398E+00	0.000E+00	FAIL ABUN
PO-209	-2.370E+00	8.386E+00	1.396E+01	0.000E+00	NOT IDENT.
BI-210	-2.088E+00	1.383E+01	2.451E+01	0.000E+00	NOT IDENT.
PB-210	-2.088E+00	1.383E+01	2.451E+01	0.000E+00	NOT IDENT.
PO-210	-2.088E+00	1.383E+01	2.451E+01	0.000E+00	NOT IDENT.
PB-211	-5.886E-01	1.212E+00	1.939E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.363E-01	7.693E-01	0.000E+00	FAIL ABUN
PO-215	-5.611E-01	8.317E-01	1.398E+00	0.000E+00	FAIL ABUN
RN-219	-2.038E-01	5.042E-01	8.485E-01	0.000E+00	FAIL ABUN
RN-220	-1.270E+01	3.320E+01	5.463E+01	0.000E+00	NOT IDENT.
RA-223	-5.611E-01	8.317E-01	1.398E+00	0.000E+00	FAIL ABUN
AC-227	-1.104E-03	4.827E-01	8.549E-01	0.000E+00	FAIL ABUN
TH-227	-1.104E-03	4.827E-01	8.549E-01	0.000E+00	FAIL ABUN
TH-229	6.028E-02	6.608E-01	1.128E+00	0.000E+00	FAIL ABUN
PA-231	-8.951E-01	2.255E+00	3.363E+00	0.000E+00	NOT IDENT.
TH-231	-5.611E-01	8.317E-01	1.398E+00	0.000E+00	FAIL ABUN
U-231	7.693E-01	1.900E+00	2.986E+00	0.000E+00	FAIL ABUN
PA-233	-8.784E-02	7.871E-02	1.298E-01	0.000E+00	FAIL ABUN
PA-234	-1.586E-01	3.548E-01	5.778E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	8.191E+00	1.118E+01	0.000E+00	FAIL ABUN
U-235	1.202E-01	2.807E-01	4.853E-01	0.000E+00	FAIL ABUN
NP-236	-4.329E-02	1.055E-01	1.757E-01	0.000E+00	NOT IDENT.
NP-239	-4.729E-02	2.407E-01	4.171E-01	0.000E+00	FAIL ABUN
AM-241	2.142E-02	3.512E-01	5.563E-01	0.000E+00	NOT IDENT.
CM-243	3.188E-02	1.270E-01	2.248E-01	0.000E+00	FAIL ABUN
AM-246	8.161E-02	1.704E-01	2.985E-01	0.000E+00	NOT IDENT.
CM-247	-2.916E-03	4.528E-02	7.781E-02	0.000E+00	NOT IDENT.
CF-249	-3.480E-04	4.906E-02	8.478E-02	0.000E+00	NOT IDENT.
CF-251	-7.712E-02	1.666E-01	2.796E-01	0.000E+00	NOT IDENT.



```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847003.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 13:46:54
Sample ID          : G244847003          Sample quantity  : 1.34290E+02 GRAM
Detector name      : GAM15              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time : 0 02:00:01.47  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 942717             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

```

## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1236	10.67*	9.990E-01	3.242E+01	3.242E+01	9.82
CD-109	88.03	122	3.72*	4.428E+00	2.071E+00	2.122E+00	88.20
SN-126	64.28	141	9.60	1.746E+00	2.351E+00	2.351E+00	71.15
	86.94	122	8.90	4.428E+00	8.657E-01	8.657E-01	97.03
	87.57	122	37.00*	4.428E+00	2.082E-01	2.082E-01	88.20
BA-137M	661.65	428	89.98*	2.020E+00	6.579E-01	6.586E-01	16.24
CS-137	661.65	428	85.12*	2.020E+00	6.955E-01	6.962E-01	16.25
TL-208	277.35	-----	6.80	3.788E+00	-----	Line Not Found	-----
	510.84	168	21.60	2.460E+00	8.846E-01	8.846E-01	45.43
	583.14	328	84.20*	2.230E+00	4.885E-01	4.885E-01	20.09
	860.37	74	12.46	1.612E+00	1.028E+00	1.028E+00	52.25
BI-211	72.87	228	1.27	3.147E+00	1.597E+01	1.597E+01	38.07
	351.07	596	12.94*	3.207E+00	4.014E+00	4.014E+00	15.15
PB-212	74.81	228	10.70	3.147E+00	1.896E+00	1.896E+00	39.20
	77.11	452	18.00	3.413E+00	2.055E+00	2.055E+00	22.60
	87.30	122	8.00	4.428E+00	9.631E-01	9.631E-01	88.76
	238.63	1280	44.60*	4.221E+00	1.901E+00	1.901E+00	11.17
	300.09	82	3.41	3.588E+00	1.872E+00	1.872E+00	60.62
PO-212	74.81	228	10.70	3.147E+00	1.896E+00	1.896E+00	39.20
	77.11	452	18.00	3.413E+00	2.055E+00	2.055E+00	22.60
	87.30	122	8.00	4.428E+00	9.631E-01	9.631E-01	88.76
	115.19	-----	0.60	5.666E+00	-----	Line Not Found	-----
	238.63	1280	44.60*	4.221E+00	1.901E+00	1.901E+00	11.17
	300.09	82	3.41	3.588E+00	1.872E+00	1.872E+00	60.62
BI-214	609.31	462	46.30*	2.156E+00	1.295E+00	1.295E+00	15.34
	1120.29	133	15.10	1.263E+00	1.949E+00	1.949E+00	29.48
	1764.49	96	15.80	8.816E-01	1.932E+00	1.932E+00	22.41
PB-214	74.81	228	6.21	3.147E+00	3.267E+00	3.267E+00	38.78
	77.11	452	10.50	3.413E+00	3.523E+00	3.523E+00	23.85
	87.30	122	4.67	4.428E+00	1.650E+00	1.650E+00	88.54
	241.98	302	7.49	4.185E+00	2.693E+00	2.693E+00	35.54
	295.21	401	19.20	3.630E+00	1.609E+00	1.609E+00	19.52

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	596	37.20*	3.207E+00	1.396E+00	1.396E+00	16.02
	74.81	228	6.21	3.147E+00	3.267E+00	3.267E+00	38.78
	77.11	452	10.50	3.413E+00	3.523E+00	3.523E+00	23.85
	87.30	122	4.67	4.428E+00	1.650E+00	1.650E+00	88.54
	241.98	302	7.49	4.185E+00	2.693E+00	2.693E+00	35.54
PO-216	295.21	401	19.20	3.630E+00	1.609E+00	1.609E+00	19.52
	351.92	596	37.20*	3.207E+00	1.396E+00	1.396E+00	16.02
	74.81	228	10.70	3.147E+00	1.896E+00	1.896E+00	39.20
	77.11	452	18.00	3.413E+00	2.055E+00	2.055E+00	22.60
	87.30	122	8.00	4.428E+00	9.631E-01	9.631E-01	88.76
PO-218	238.63	1280	44.60*	4.221E+00	1.901E+00	1.901E+00	11.17
	300.09	82	3.41	3.588E+00	1.872E+00	1.872E+00	60.62
	74.81	228	6.21	3.147E+00	3.267E+00	3.267E+00	38.78
	77.11	452	10.50	3.413E+00	3.523E+00	3.523E+00	23.85
	87.30	122	4.67	4.428E+00	1.650E+00	1.650E+00	88.54
RA-224	241.98	302	7.49	4.185E+00	2.693E+00	2.693E+00	35.54
	295.21	401	19.20	3.630E+00	1.609E+00	1.609E+00	19.52
	351.92	596	37.20*	3.207E+00	1.396E+00	1.396E+00	16.02
	240.98	302	3.95*	4.185E+00	5.106E+00	5.106E+00	35.10
	609.31	462	46.30*	2.156E+00	1.295E+00	1.295E+00	15.34
AC-228	1120.29	133	15.10	1.263E+00	1.949E+00	1.949E+00	29.48
	1764.49	96	15.80	8.816E-01	1.932E+00	1.932E+00	22.41
	338.32	206	11.40	3.297E+00	1.534E+00	1.534E+00	50.46
	911.07	251	27.70*	1.532E+00	1.651E+00	1.651E+00	21.06
	969.11	145	16.60	1.447E+00	1.683E+00	1.683E+00	42.58
RA-228	338.32	206	11.40	3.297E+00	1.534E+00	1.534E+00	50.46
	911.07	251	27.70*	1.532E+00	1.651E+00	1.651E+00	21.06
	969.11	145	16.60	1.447E+00	1.683E+00	1.683E+00	42.58
	74.81	228	10.70	3.147E+00	1.896E+00	1.926E+00	38.08
	77.11	452	18.00	3.413E+00	2.055E+00	2.088E+00	22.60
TH-228	87.30	122	8.00	4.428E+00	9.631E-01	9.787E-01	88.20
	238.63	1280	44.60*	4.221E+00	1.901E+00	1.932E+00	11.17
	300.09	82	3.41	3.588E+00	1.872E+00	1.902E+00	84.15
	609.31	462	46.30*	2.156E+00	1.295E+00	1.295E+00	15.34
	1120.29	133	15.10	1.263E+00	1.949E+00	1.949E+00	29.48
TH-232	1764.49	96	15.80	8.816E-01	1.932E+00	1.932E+00	22.41
	338.32	206	11.40	3.297E+00	1.534E+00	1.534E+00	30.30
	911.07	251	27.70*	1.532E+00	1.651E+00	1.651E+00	21.06
	969.11	145	16.60	1.447E+00	1.683E+00	1.683E+00	42.58
	63.29	141	3.80*	1.746E+00	5.939E+00	5.939E+00	71.80
TH-234	92.38	543	5.41	4.831E+00	5.802E+00	5.802E+00	30.40
	609.31	462	46.30*	2.156E+00	1.295E+00	1.295E+00	15.34
	1120.29	133	15.10	1.263E+00	1.949E+00	1.949E+00	29.48
U-234	1764.49	96	15.80	8.816E-01	1.932E+00	1.932E+00	22.41
	86.50	122	12.60*	4.428E+00	6.115E-01	6.115E-01	90.58
	95.87	---	2.60	5.041E+00	---	Line Not Found	---
NP-237	63.29	141	3.80*	1.746E+00	5.939E+00	5.939E+00	71.80
	92.38	543	5.41	4.831E+00	5.802E+00	5.802E+00	25.91
	74.67	228	66.00*	3.147E+00	3.074E-01	3.074E-01	38.07

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	122	0.34	4.428E+00	2.293E+01	2.293E+01	88.20
	117.66	-----	0.55	5.694E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.637E+00	-----	Line Not Found	-----
ANH-511	511.00	168	100.00*	2.460E+00	1.911E-01	1.911E-01	44.66

Flag: "\*" = Keyline

Total number of lines in spectrum 31  
Number of unidentified lines 3  
Number of lines tentatively identified by NID 28 90.32%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.242E+01	3.242E+01	0.318E+01	9.82	
CD-109	464.00D	1.02	2.071E+00	2.122E+00	1.871E+00	88.20	
SN-126	1.00E+05Y	1.00	2.082E-01	2.082E-01	1.837E-01	88.20	
BA-137M	30.17Y	1.00	6.579E-01	6.586E-01	1.070E-01	16.24	
CS-137	30.17Y	1.00	6.955E-01	6.962E-01	1.132E-01	16.25	
TL-208	1.41E+10Y	1.00	4.885E-01	4.885E-01	0.981E-01	20.09	
BI-211	7.04E+08Y	1.00	4.014E+00	4.014E+00	0.608E+00	15.15	
PB-212	1.41E+10Y	1.00	1.901E+00	1.901E+00	0.212E+00	11.17	
PO-212	1.41E+10Y	1.00	1.901E+00	1.901E+00	0.212E+00	11.17	
BI-214	1600.00Y	1.00	1.295E+00	1.295E+00	0.199E+00	15.34	
PB-214	1600.00Y	1.00	1.396E+00	1.396E+00	0.224E+00	16.02	
PO-214	1600.00Y	1.00	1.396E+00	1.396E+00	0.224E+00	16.02	
PO-216	1.41E+10Y	1.00	1.901E+00	1.901E+00	0.212E+00	11.17	
PO-218	1600.00Y	1.00	1.396E+00	1.396E+00	0.224E+00	16.02	
RA-224	1.41E+10Y	1.00	5.106E+00	5.106E+00	1.792E+00	35.10	
RA-226	1600.00Y	1.00	1.295E+00	1.295E+00	0.199E+00	15.34	
AC-228	1.41E+10Y	1.00	1.651E+00	1.651E+00	0.348E+00	21.06	
RA-228	1.41E+10Y	1.00	1.651E+00	1.651E+00	0.348E+00	21.06	
TH-228	1.91Y	1.02	1.901E+00	1.932E+00	0.216E+00	11.17	
TH-230	4.47E+09Y	1.00	1.295E+00	1.295E+00	0.199E+00	15.34	
TH-232	1.41E+10Y	1.00	1.651E+00	1.651E+00	0.348E+00	21.06	
TH-234	4.47E+09Y	1.00	5.939E+00	5.939E+00	4.264E+00	71.80	
U-234	4.47E+09Y	1.00	1.295E+00	1.295E+00	0.199E+00	15.34	
NP-237	2.14E+06Y	1.00	6.115E-01	6.115E-01	5.539E-01	90.58	
U-238	4.47E+09Y	1.00	5.939E+00	5.939E+00	4.264E+00	71.80	
AM-243	7380.00Y	1.00	3.074E-01	3.074E-01	1.170E-01	38.07	
ANH-511	1.00E+09Y	1.00	1.911E-01	1.911E-01	0.853E-01	44.66	
Total Activity :			8.058E+01	8.066E+01			

Grand Total Activity : 8.058E+01 8.066E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.30	261	444	1.48	370.99	367	11	3.63E-02	34.8	4.98E+00	T
0	208.58	137	343	1.10	417.52	412	10	1.90E-02	53.7	4.62E+00	T
0	270.26	84	286	1.47	540.84	535	10	1.17E-02	78.2	3.86E+00	T
0	280.77	70	501	6.55	561.84	547	22	9.75E-03	****	3.76E+00	T
0	462.97	123	103	2.15	926.12	921	12	1.71E-02	37.5	2.64E+00	T
0	727.07	70	86	1.48	1454.13	1448	13	9.77E-03	60.8	1.87E+00	T
0	768.53	97	121	2.61	1537.03	1529	21	1.34E-02	61.1	1.78E+00	
0	1001.07	70	44	1.68	2001.99	1995	16	9.74E-03	49.4	1.40E+00	T
0	1377.85	21	26	1.20	2755.44	2751	10	2.92E-03	****	1.05E+00	
0	1729.39	38	10	4.44	3458.47	3448	20	5.28E-03	52.1	8.91E-01	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847003.CNF;1
* Acquisition date   : 27-JAN-2010 13:46:54   Detector SN#      :
* Detector ID        : GAM15                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:01.47          Half life ratio    : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G244847003             Analyst initials  : MXR1
* Batch Number       : 942717                 Sample Quantity   : 1.34290E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12.9MS Isotope      :
* MSD ID              :                      MSD Isotope     :
* LCS ID              : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.242E+01	3.182E+00	7.007E-01	5.356E-02	46.269
CD-109	2.122E+00	1.871E+00	2.169E+00	2.508E-01	0.978
SN-126	2.082E-01	1.837E-01	2.146E-01	2.476E-02	0.970
BA-137M	6.586E-01	1.070E-01	7.493E-02	3.770E-03	8.790
CS-137	6.962E-01	1.132E-01	7.921E-02	4.007E-03	8.790
TL-208	4.885E-01	9.813E-02	6.591E-02	4.197E-03	7.412
BI-211	4.014E+00	6.081E-01	4.223E-01	2.901E-02	9.505
PB-212	1.901E+00	2.123E-01	1.194E-01	9.880E-03	15.929
PO-212	1.901E+00	2.123E-01	1.194E-01	9.880E-03	15.929
BI-214	1.295E+00	1.986E-01	1.344E-01	9.981E-03	9.633
PB-214	1.396E+00	2.237E-01	1.473E-01	1.270E-02	9.479
PO-214	1.396E+00	2.237E-01	1.473E-01	1.270E-02	9.479
PO-216	1.901E+00	2.123E-01	1.194E-01	9.880E-03	15.929
PO-218	1.396E+00	2.237E-01	1.473E-01	1.270E-02	9.479
RA-224	5.106E+00	1.792E+00	1.358E+00	9.452E-02	3.759
RA-226	1.295E+00	1.986E-01	1.344E-01	9.981E-03	9.633
AC-228	1.651E+00	3.477E-01	2.692E-01	2.993E-02	6.132
RA-228	1.651E+00	3.477E-01	2.692E-01	2.993E-02	6.132

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.932E+00	2.157E-01	1.213E-01	1.004E-02	15.929
TH-230	1.295E+00	1.986E-01	1.344E-01	9.980E-03	9.633
TH-232	1.651E+00	3.477E-01	2.692E-01	2.993E-02	6.132
TH-234	5.939E+00	4.264E+00	3.737E+00	7.376E-01	1.589
U-234	1.295E+00	1.986E-01	1.344E-01	9.980E-03	9.633
NP-237	6.115E-01	5.539E-01	5.991E-01	1.414E-01	1.021
U-238	5.939E+00	4.264E+00	3.737E+00	7.376E-01	1.589
AM-243	3.074E-01	1.170E-01	1.496E-01	1.663E-02	2.054
ANH-511	1.911E-01	8.534E-02	5.489E-02	3.100E-03	3.481

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	8.146E-01		4.451E-01	7.971E-01	5.312E-02	1.022
NA-22	-2.604E-02		5.245E-02	8.045E-02	5.521E-03	-0.324
NA-24	-1.839E+00		1.125E+00	Half-Life too short		
AL-26	-3.589E-05		2.224E-02	3.657E-02	2.188E-03	-0.001
TI-44	1.591E-01		6.320E-02	1.039E-01	1.155E-02	1.531
SC-46	-1.029E-02		4.432E-02	7.179E-02	6.022E-03	-0.143
V-48	5.387E-02		8.176E-02	1.426E-01	1.127E-02	0.378
CR-51	-5.371E-01		4.674E-01	7.282E-01	5.252E-02	-0.738
MN-52	3.052E-02		2.893E-01	4.899E-01	3.632E-02	0.062
MN-54	-3.034E-03		4.501E-02	7.438E-02	5.574E-03	-0.041
CO-56	-3.409E-02		4.400E-02	6.784E-02	5.214E-03	-0.502
CO-57	1.087E-02		3.318E-02	5.471E-02	3.933E-03	0.199
CO-58	-3.792E-02		4.659E-02	7.219E-02	5.157E-03	-0.525
FE-59	-1.349E-01		1.141E-01	1.650E-01	1.248E-02	-0.818
CO-60	-1.890E-02		4.456E-02	6.795E-02	5.129E-03	-0.278
ZN-65	-7.877E-02		1.276E-01	1.640E-01	1.065E-02	-0.480
GE-68	9.673E-02		1.591E+00	2.617E+00	1.818E-01	0.037
AS-73	-2.910E-02		2.324E+00	3.801E+00	5.194E-01	-0.008
AS-74	1.234E-02		1.191E-01	1.938E-01	1.042E-02	0.064
SE-75	2.133E-02		6.282E-02	9.363E-02	6.549E-03	0.228
BR-77	-5.883E+00		1.750E+01	2.699E+01	1.518E+00	-0.218
SR-82	-6.534E-02		5.291E-01	7.497E-01	4.948E-02	-0.087
RB-83	-2.153E-02		8.684E-02	1.348E-01	7.587E-03	-0.160
RB-84	1.200E-02		8.181E-02	1.372E-01	1.133E-02	0.087
KR-85	1.669E+01		9.179E+00	1.501E+01	8.467E-01	1.112
SR-85	8.643E-02		4.754E-02	7.775E-02	4.386E-03	1.112
RB-86	3.125E-01		1.041E+00	1.747E+00	1.215E-01	0.179
Y-88	-1.733E-02		3.485E-02	5.097E-02	2.977E-03	-0.340
ZR-88	1.847E-03		3.848E-02	6.364E-02	3.609E-03	0.029
Y-91	-7.952E+00		2.326E+01	3.666E+01	2.217E+00	-0.217
NB-94	1.845E-02		3.939E-02	6.809E-02	3.787E-03	0.271
NB-95	1.241E-01		6.265E-02	1.052E-01	6.782E-03	1.179
NB-95M	1.684E+00		2.746E-01	4.329E-01	3.658E-02	3.890
ZR-95	-6.076E-04		8.132E-02	1.357E-01	1.012E-02	-0.004

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	1.366E+00		2.086E-01	Half-Life too short		
ZR-97	2.637E+01		3.751E+00	Half-Life too short		
MO-99	-7.630E+00		1.852E+01	3.001E+01	4.170E+00	-0.254
TC-99M	-7.584E+11		3.807E+11	Half-Life too short		
RH-101	4.227E-02		4.426E-02	7.348E-02	5.013E-03	0.575
RH-102	-1.933E-02		4.134E-02	6.573E-02	3.747E-03	-0.294
RU-103	-4.383E-02		5.355E-02	8.215E-02	1.034E-02	-0.534
RH-106	-3.179E-03		3.714E-01	5.984E-01	6.868E-02	-0.005
RU-106	-3.179E-03		3.714E-01	5.984E-01	3.144E-02	-0.005
AG-108M	1.707E-02		4.121E-02	6.931E-02	4.309E-03	0.246
AG-110M	1.566E-01		5.644E-02	9.643E-02	5.285E-03	1.624
IN-111	1.603E+00		1.879E+00	2.885E+00	2.009E-01	0.555
IN-113M	-3.088E-02		5.627E-02	8.987E-02	5.451E-03	-0.344
SN-113	-3.088E-02		5.627E-02	8.987E-02	5.451E-03	-0.344
IN-114M	5.065E-03		2.803E-01	3.930E-01	2.665E-02	0.013
CD-115	7.447E+00		1.870E+01	3.121E+01	1.751E+00	0.239
SN-117M	-4.475E-02		7.735E-02	1.202E-01	8.038E-03	-0.372
SB-122	1.600E+00		3.355E+00	5.610E+00	3.087E-01	0.285
I-123	-1.897E+01		1.303E+01	Half-Life too short		
TE-123M	-2.802E-02		3.851E-02	5.945E-02	4.014E-03	-0.471
I-124	6.782E-01		1.077E+00	1.594E+00	8.524E-02	0.425
SB-124	4.115E-02		8.698E-02	1.549E-01	1.088E-02	0.266
SB-125	2.634E-02		1.144E-01	1.905E-01	1.136E-02	0.138
TE-125M	3.467E-01		1.318E+01	2.157E+01	2.145E+00	0.016
I-126	1.656E-01		2.666E-01	3.935E-01	2.002E-02	0.421
SB-126	4.038E-02		1.941E-01	2.868E-01	1.664E-02	0.141
SB-127	1.748E+00		1.903E+00	3.383E+00	3.214E-01	0.517
XE-127	-8.434E-02		7.679E-02	1.003E-01	6.864E-03	-0.841
I-131	-1.316E-01		1.594E-01	2.512E-01	1.697E-02	-0.524
TE-132	-3.615E-01		1.090E+00	1.813E+00	2.728E-01	-0.199
BA-133	-1.380E-02		6.165E-02	8.703E-02	1.025E-02	-0.159
I-133	-1.343E-02		8.562E-03	Half-Life too short		
CS-134	6.027E-02		5.504E-02	9.854E-02	6.866E-03	0.612
CS-135	3.348E-01		2.499E-01	3.884E-01	3.321E-02	0.862
I-135	-4.361E+10		3.801E+10	Half-Life too short		
CS-136	-7.424E-02		1.406E-01	2.193E-01	1.690E-02	-0.339
CE-139	1.032E-02		4.002E-02	6.519E-02	4.335E-03	0.158
BA-140	-4.553E-01		3.614E-01	4.796E-01	1.558E-01	-0.949
LA-140	-5.108E-02		8.623E-02	1.279E-01	8.913E-03	-0.399
CE-141	4.267E-02		8.391E-02	1.384E-01	9.661E-03	0.308
CE-143	2.483E-03	+	3.514E-04	Half-Life too short		
CE-144	-1.688E-01		2.706E-01	4.278E-01	6.287E-02	-0.395
PM-144	-5.211E-03		3.985E-02	6.622E-02	3.633E-03	-0.079
PR-144	-3.533E-01		2.702E+00	4.490E+00	2.461E-01	-0.079
PM-146	3.174E-03		5.577E-02	9.168E-02	7.852E-03	0.035
ND-147	-4.829E-01		7.628E-01	1.181E+00	1.587E-01	-0.409
PM-149	1.582E+01		1.800E+02	2.632E+02	3.856E+01	0.060
EU-152	-9.865E-02		1.634E-01	2.112E-01	1.488E-02	-0.467



---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.714E-01		1.205E-01	1.834E-01	1.760E-02	0.935
EU-154	-7.017E-02		1.468E-01	2.255E-01	2.261E-02	-0.311
EU-155	-5.800E-02		1.476E-01	2.381E-01	2.062E-02	-0.244
TB-160	-9.348E-02		1.632E-01	2.562E-01	2.107E-02	-0.365
HO-166M	5.235E-03		7.151E-02	1.204E-01	6.845E-03	0.043
TM-171	-8.448E+01		5.871E+01	7.881E+01	9.062E+00	-1.072
LU-176	1.860E-02		3.033E-02	5.203E-02	3.505E-03	0.358
LU-177	3.966E+00	+	2.147E+00	2.825E+00	1.941E-01	1.404
LU-177M	3.730E-02		2.280E-01	3.785E-01	2.158E-02	0.099
HF-181	-5.926E-02		5.837E-02	8.917E-02	5.076E-03	-0.665
W-181	-5.240E-01		7.689E-01	1.083E+00	1.260E-01	-0.484
TA-182	-3.671E-02		2.330E-01	3.731E-01	2.326E-02	-0.098
RE-183	1.786E-02		1.512E-01	2.416E-01	1.610E-02	0.074
RE-184	2.227E-01		2.995E-01	5.177E-01	3.603E-02	0.430
OS-185	-3.375E-02		5.500E-02	8.425E-02	4.316E-03	-0.401
RE-188	6.934E-02		2.268E-01	3.709E-01	2.488E-02	0.187
W-188	-4.878E+00		1.073E+01	1.511E+01	1.034E+00	-0.323
IR-192	5.067E-02		4.293E-02	7.539E-02	5.038E-03	0.672
AU-195	3.825E-01		3.284E-01	5.199E-01	4.874E-02	0.736
TL-200	5.217E-04		5.400E-04	Half-Life too short		
TL-201	-6.960E+00		1.167E+01	1.836E+01	1.222E+00	-0.379
TL-202	1.802E-02		9.023E-02	1.499E-01	8.564E-03	0.120
HG-203	-4.467E-03		5.608E-02	8.502E-02	6.124E-03	-0.053
BI-207	1.853E-03		6.260E-02	1.028E-01	7.304E-03	0.018
TL-207	-5.611E-01		8.486E-01	1.357E+00	2.281E-01	-0.413
PO-209	-2.370E+00		8.557E+00	1.381E+01	1.175E+00	-0.172
BI-210	-2.088E+00		1.411E+01	2.302E+01	2.392E+00	-0.091
PB-210	-2.088E+00		1.411E+01	2.302E+01	2.392E+00	-0.091
PO-210	-2.088E+00		1.411E+01	2.302E+01	2.212E+00	-0.091
PB-211	-5.886E-01		1.237E+00	1.891E+00	1.178E+00	-0.311
BI-212	8.922E-01	+	5.473E-01	7.579E-01	5.901E-02	1.177
PO-215	-5.611E-01		8.486E-01	1.357E+00	2.281E-01	-0.413
RN-219	-2.038E-01		5.144E-01	8.271E-01	1.121E-01	-0.246
RN-220	-1.270E+01		3.388E+01	5.355E+01	2.971E+00	-0.237
RA-223	-5.611E-01		8.486E-01	1.357E+00	2.281E-01	-0.413
AC-227	-1.104E-03		4.925E-01	8.267E-01	1.197E-01	-0.001
TH-227	-1.104E-03		4.925E-01	8.267E-01	1.433E-01	-0.001
TH-229	6.028E-02		6.743E-01	1.086E+00	7.381E-02	0.056
PA-231	-8.951E-01		2.301E+00	3.258E+00	4.648E-01	-0.275
TH-231	-5.611E-01		8.486E-01	1.357E+00	2.281E-01	-0.413
U-231	7.693E-01		1.939E+00	2.839E+00	2.798E-01	0.271
PA-233	-8.784E-02		8.031E-02	1.260E-01	8.831E-03	-0.697
PA-234	-1.586E-01		3.620E-01	5.720E-01	1.063E-01	-0.277
PA-234M	1.662E+01	+	8.358E+00	1.108E+01	1.021E+00	1.500
U-235	1.202E-01		2.864E-01	4.646E-01	7.753E-02	0.259
NP-236	-4.329E-02		1.076E-01	1.685E-01	1.125E-02	-0.257
NP-239	-4.729E-02		2.457E-01	3.979E-01	2.991E-02	-0.119
AM-241	2.142E-02		3.583E-01	5.247E-01	6.677E-02	0.041

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.188E-02		1.296E-01	2.140E-01	1.868E-02	0.149
AM-246	8.161E-02		1.739E-01	2.962E-01	2.053E-02	0.276
CM-247	-2.916E-03		4.620E-02	7.584E-02	4.313E-03	-0.038
CF-249	-3.480E-04		5.006E-02	8.258E-02	4.735E-03	-0.004
CF-251	-7.712E-02		1.700E-01	2.687E-01	1.801E-02	-0.287

## VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G244847003           *
* Acquisition date   : 27-JAN-2010 13:46:54 Detector SN# :                 *
* Detector ID        : GAM15                                           Sensitivity      : 5.000      *
* Geometry           : CAN                                             Energy tolerance: 1.500      *
* Elapsed live time  : 0 02:00:00.00                               Abundance limit : 75.000      *
* Elapsed real time  : 0 02:00:01.47                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244847003                               Analyst initials: MXR1        *
* Batch Number       : 942717                                   Sample Quantity : 1.3429E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight   : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 MS Isotope      :             *
* MSD DPM             : 0.000                                   MSD Isotope      :             *
* LCS DPM             : 0.000                                   LCS Isotope      :             *
* LCSD DPM            : 0.000                                   LCSD Isotope     :             *
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	3.242E+01	3.119E+00	3.513E-01	1.591E+00
CD-109	2.122E+00	1.834E+00	1.143E+00	9.357E-01
SN-126	2.082E-01	1.800E-01	1.131E-01	9.183E-02
BA-137M	6.586E-01	1.048E-01	3.811E-02	5.349E-02
CS-137	6.962E-01	1.109E-01	4.029E-02	5.658E-02
TL-208	4.885E-01	9.617E-02	3.361E-02	4.907E-02
BI-211	4.014E+00	5.960E-01	2.173E-01	3.041E-01
PB-212	1.901E+00	2.081E-01	6.183E-02	1.062E-01
PO-212	1.901E+00	2.081E-01	6.183E-02	1.062E-01
BI-214	1.295E+00	1.946E-01	6.848E-02	9.930E-02
PB-214	1.396E+00	2.193E-01	7.578E-02	1.119E-01
PO-214	1.396E+00	2.193E-01	7.578E-02	1.119E-01
PO-216	1.901E+00	2.081E-01	6.183E-02	1.062E-01
PO-218	1.396E+00	2.193E-01	7.578E-02	1.119E-01
RA-224	5.106E+00	1.756E+00	7.034E-01	8.960E-01
RA-226	1.295E+00	1.946E-01	6.848E-02	9.930E-02
AC-228	1.651E+00	3.407E-01	1.362E-01	1.738E-01
RA-228	1.651E+00	3.407E-01	1.362E-01	1.738E-01
TH-228	1.932E+00	2.114E-01	6.283E-02	1.079E-01
TH-230	1.295E+00	1.946E-01	6.848E-02	9.930E-02
TH-232	1.651E+00	3.407E-01	1.362E-01	1.738E-01
TH-234	5.939E+00	4.179E+00	1.980E+00	2.132E+00
U-234	1.295E+00	1.946E-01	6.848E-02	9.930E-02
NP-237	6.115E-01	5.428E-01	3.158E-01	2.770E-01
U-238	5.939E+00	4.179E+00	1.980E+00	2.132E+00
AM-243	3.074E-01	1.147E-01	7.908E-02	5.850E-02
ANH-511	1.911E-01	8.363E-02	2.805E-02	4.267E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
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BE-7	8.146E-01	4.362E-01	4.079E-01	2.226E-01	NOT IDENT.
NA-22	-2.604E-02	5.140E-02	4.043E-02	2.623E-02	NOT IDENT.
NA-24	-1.839E+06	2.205E+06	0.000E+00	1.125E+06	SHORT HLIF
AL-26	-3.589E-05	2.180E-02	1.826E-02	1.112E-02	NOT IDENT.
TI-44	1.591E-01	6.193E-02	5.487E-02	3.160E-02	NOT IDENT.
SC-46	-1.029E-02	4.343E-02	3.632E-02	2.216E-02	FAIL ABUN
V-48	5.387E-02	8.012E-02	7.202E-02	4.088E-02	NOT IDENT.
CR-51	-5.371E-01	4.580E-01	3.753E-01	2.337E-01	NOT IDENT.
MN-52	3.052E-02	2.836E-01	2.456E-01	1.447E-01	NOT IDENT.
MN-54	-3.034E-03	4.411E-02	3.767E-02	2.250E-02	NOT IDENT.
CO-56	-3.409E-02	4.312E-02	3.436E-02	2.200E-02	NOT IDENT.
CO-57	1.087E-02	3.251E-02	2.867E-02	1.659E-02	NOT IDENT.
CO-58	-3.792E-02	4.566E-02	3.659E-02	2.329E-02	NOT IDENT.
FE-59	-1.349E-01	1.118E-01	8.313E-02	5.706E-02	NOT IDENT.
CO-60	-1.890E-02	4.367E-02	3.412E-02	2.228E-02	NOT IDENT.
ZN-65	-7.877E-02	1.251E-01	8.262E-02	6.380E-02	NOT IDENT.
GE-68	9.673E-02	1.559E+00	1.319E+00	7.954E-01	NOT IDENT.
AS-73	-2.910E-02	2.277E+00	2.020E+00	1.162E+00	NOT IDENT.
AS-74	1.234E-02	1.167E-01	9.878E-02	5.953E-02	NOT IDENT.
SE-75	2.133E-02	6.157E-02	4.842E-02	3.141E-02	FAIL ABUN
BR-77	-5.883E+00	1.715E+01	1.379E+01	8.749E+00	FAIL ABUN
SR-82	-6.534E-02	5.185E-01	3.802E-01	2.646E-01	NOT IDENT.
RB-83	-2.153E-02	8.510E-02	6.889E-02	4.342E-02	NOT IDENT.
RB-84	1.200E-02	8.017E-02	6.942E-02	4.090E-02	NOT IDENT.
KR-85	1.669E+01	8.996E+00	7.671E+00	4.590E+00	NOT IDENT.
SR-85	8.643E-02	4.659E-02	3.973E-02	2.377E-02	NOT IDENT.
RB-86	3.125E-01	1.020E+00	8.806E-01	5.204E-01	NOT IDENT.
Y-88	-1.733E-02	3.415E-02	2.544E-02	1.742E-02	NOT IDENT.
ZR-88	1.847E-03	3.771E-02	3.268E-02	1.924E-02	NOT IDENT.
Y-91	-7.952E+00	2.280E+01	1.845E+01	1.163E+01	NOT IDENT.
NB-94	1.845E-02	3.860E-02	3.460E-02	1.969E-02	NOT IDENT.
NB-95	1.241E-01	6.140E-02	5.339E-02	3.133E-02	NOT IDENT.
NB-95M	1.684E+00	2.691E-01	2.243E-01	1.373E-01	NOT IDENT.
ZR-95	-6.076E-04	7.969E-02	6.887E-02	4.066E-02	NOT IDENT.
NB-97	1.366E+06	4.088E+05	0.000E+00	2.086E+05	SHORT HLIF
ZR-97	2.637E+07	7.351E+06	0.000E+00	3.751E+06	SHORT HLIF
MO-99	-7.630E+00	1.815E+01	1.523E+01	9.258E+00	NOT IDENT.
TC-99M	-7.584E+17	7.462E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.227E-02	4.337E-02	3.819E-02	2.213E-02	NOT IDENT.
RH-102	-1.933E-02	4.051E-02	3.363E-02	2.067E-02	NOT IDENT.
RU-103	-4.383E-02	5.248E-02	4.200E-02	2.678E-02	NOT IDENT.
RH-106	-3.179E-03	3.640E-01	3.047E-01	1.857E-01	FAIL ABUN
RU-106	-3.179E-03	3.640E-01	3.047E-01	1.857E-01	FAIL ABUN
AG-108M	1.707E-02	4.038E-02	3.552E-02	2.060E-02	NOT IDENT.
AG-110M	1.566E-01	5.531E-02	4.906E-02	2.822E-02	NOT IDENT.
IN-111	1.603E+00	1.841E+00	1.494E+00	9.394E-01	NOT IDENT.
IN-113M	-3.088E-02	5.514E-02	4.615E-02	2.813E-02	NOT IDENT.
SN-113	-3.088E-02	5.514E-02	4.615E-02	2.813E-02	NOT IDENT.
IN-114M	5.065E-03	2.747E-01	2.044E-01	1.402E-01	NOT IDENT.
CD-115	7.447E+00	1.833E+01	1.594E+01	9.351E+00	NOT IDENT.
SN-117M	-4.475E-02	7.580E-02	6.272E-02	3.868E-02	NOT IDENT.
SB-122	1.600E+00	3.288E+00	2.862E+00	1.678E+00	NOT IDENT.
I-123	-1.897E+07	2.555E+07	0.000E+00	1.303E+07	SHORT HLIF
TE-123M	-2.802E-02	3.774E-02	3.101E-02	1.925E-02	NOT IDENT.
I-124	6.782E-01	1.055E+00	8.124E-01	5.384E-01	NOT IDENT.
SB-124	4.115E-02	8.524E-02	7.742E-02	4.349E-02	FAIL ABUN
SB-125	2.634E-02	1.121E-01	9.768E-02	5.720E-02	FAIL ABUN
TE-125M	3.467E-01	1.292E+01	1.133E+01	6.592E+00	NOT IDENT.
I-126	1.656E-01	2.612E-01	2.001E-01	1.333E-01	NOT IDENT.
SB-126	4.038E-02	1.902E-01	1.456E-01	9.706E-02	NOT IDENT.
SB-127	1.748E+00	1.865E+00	1.720E+00	9.516E-01	NOT IDENT.
XE-127	-8.434E-02	7.526E-02	5.209E-02	3.840E-02	NOT IDENT.
I-131	-1.316E-01	1.562E-01	1.292E-01	7.968E-02	NOT IDENT.
TE-132	-3.615E-01	1.068E+00	9.397E-01	5.450E-01	NOT IDENT.
BA-133	-1.380E-02	6.041E-02	4.477E-02	3.082E-02	NOT IDENT.
I-133	-1.343E+04	1.678E+04	0.000E+00	8.562E+03	SHORT HLIF
CS-134	6.027E-02	5.394E-02	4.995E-02	2.752E-02	NOT IDENT.
CS-135	3.348E-01	2.449E-01	2.008E-01	1.250E-01	NOT IDENT.
I-135	-4.361E+16	7.451E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.424E-02	1.378E-01	1.106E-01	7.029E-02	FAIL ABUN
CE-139	1.032E-02	3.922E-02	3.398E-02	2.001E-02	NOT IDENT.
BA-140	-4.553E-01	3.541E-01	2.449E-01	1.807E-01	NOT IDENT.
LA-140	-5.108E-02	8.451E-02	6.400E-02	4.312E-02	NOT IDENT.
CE-141	4.267E-02	8.223E-02	7.231E-02	4.195E-02	NOT IDENT.
CE-143	2.483E+03	6.888E+02	0.000E+00	3.514E+02	SHORT HLIF
CE-144	-1.688E-01	2.652E-01	2.238E-01	1.353E-01	NOT IDENT.
PM-144	-5.211E-03	3.905E-02	3.365E-02	1.992E-02	NOT IDENT.
PR-144	-3.533E-01	2.648E+00	2.282E+00	1.351E+00	NOT IDENT.

PM-146	3.174E-03	5.465E-02	4.695E-02	2.788E-02	NOT IDENT.
ND-147	-4.829E-01	7.475E-01	6.031E-01	3.814E-01	FAIL ABUN
PM-149	1.582E+01	1.764E+02	1.359E+02	9.001E+01	NOT IDENT.
EU-152	-9.865E-02	1.601E-01	1.087E-01	8.168E-02	NOT IDENT.
GD-153	1.714E-01	1.180E-01	9.646E-02	6.023E-02	NOT IDENT.
EU-154	-7.017E-02	1.438E-01	1.133E-01	7.338E-02	NOT IDENT.
EU-155	-5.800E-02	1.446E-01	1.251E-01	7.378E-02	FAIL ABUN
TB-160	-9.348E-02	1.599E-01	1.297E-01	8.158E-02	FAIL ABUN
HO-166M	5.235E-03	7.008E-02	6.117E-02	3.576E-02	FAIL ABUN
TM-171	-8.448E+01	5.753E+01	4.172E+01	2.935E+01	NOT IDENT.
LU-176	1.860E-02	2.973E-02	2.683E-02	1.517E-02	FAIL ABUN
LU-177	3.966E+00	2.104E+00	1.467E+00	1.073E+00	FAIL ABUN
LU-177M	3.730E-02	2.234E-01	1.942E-01	1.140E-01	FAIL ABUN
HF-181	-5.926E-02	5.721E-02	4.562E-02	2.919E-02	NOT IDENT.
W-181	-5.240E-01	7.535E-01	5.734E-01	3.845E-01	NOT IDENT.
TA-182	-3.671E-02	2.284E-01	1.876E-01	1.165E-01	FAIL ABUN
RE-183	1.786E-02	1.482E-01	1.260E-01	7.560E-02	FAIL ABUN
RE-184	2.227E-01	2.935E-01	2.679E-01	1.498E-01	NOT IDENT.
OS-185	-3.375E-02	5.390E-02	4.287E-02	2.750E-02	NOT IDENT.
RE-188	6.934E-02	2.223E-01	1.936E-01	1.134E-01	NOT IDENT.
W-188	-4.878E+00	1.052E+01	7.800E+00	5.365E+00	FAIL ABUN
IR-192	5.067E-02	4.207E-02	3.886E-02	2.146E-02	FAIL ABUN
AU-195	3.825E-01	3.218E-01	2.735E-01	1.642E-01	FAIL ABUN
TL-200	5.217E+02	1.058E+03	0.000E+00	5.400E+02	SHORT HLIF
TL-201	-6.960E+00	1.143E+01	9.572E+00	5.833E+00	NOT IDENT.
TL-202	1.802E-02	8.842E-02	7.679E-02	4.511E-02	NOT IDENT.
HG-203	-4.467E-03	5.495E-02	4.392E-02	2.804E-02	FAIL ABUN
BI-207	1.853E-03	6.135E-02	5.184E-02	3.130E-02	FAIL ABUN
TL-207	-5.611E-01	8.317E-01	6.993E-01	4.243E-01	FAIL ABUN
PO-209	-2.370E+00	8.386E+00	6.983E+00	4.278E+00	NOT IDENT.
BI-210	-2.088E+00	1.383E+01	1.226E+01	7.056E+00	NOT IDENT.
PB-210	-2.088E+00	1.383E+01	1.226E+01	7.056E+00	NOT IDENT.
PO-210	-2.088E+00	1.383E+01	1.226E+01	7.056E+00	NOT IDENT.
PB-211	-5.886E-01	1.212E+00	9.703E-01	6.184E-01	NOT IDENT.
BI-212	8.922E-01	5.363E-01	3.849E-01	2.736E-01	FAIL ABUN
PO-215	-5.611E-01	8.317E-01	6.993E-01	4.243E-01	FAIL ABUN
RN-219	-2.038E-01	5.042E-01	4.245E-01	2.572E-01	FAIL ABUN
RN-220	-1.270E+01	3.320E+01	2.733E+01	1.694E+01	NOT IDENT.
RA-223	-5.611E-01	8.317E-01	6.993E-01	4.243E-01	FAIL ABUN
AC-227	-1.104E-03	4.827E-01	4.277E-01	2.463E-01	FAIL ABUN
TH-227	-1.104E-03	4.827E-01	4.277E-01	2.463E-01	FAIL ABUN
TH-229	6.028E-02	6.608E-01	5.644E-01	3.371E-01	FAIL ABUN
PA-231	-8.951E-01	2.255E+00	1.682E+00	1.150E+00	NOT IDENT.
TH-231	-5.611E-01	8.317E-01	6.993E-01	4.243E-01	FAIL ABUN
U-231	7.693E-01	1.900E+00	1.494E+00	9.694E-01	FAIL ABUN
PA-233	-8.784E-02	7.871E-02	6.496E-02	4.016E-02	FAIL ABUN
PA-234	-1.586E-01	3.548E-01	2.891E-01	1.810E-01	FAIL ABUN
PA-234M	1.662E+01	8.191E+00	5.594E+00	4.179E+00	FAIL ABUN
U-235	1.202E-01	2.807E-01	2.428E-01	1.432E-01	FAIL ABUN
NP-236	-4.329E-02	1.055E-01	8.788E-02	5.381E-02	NOT IDENT.
NP-239	-4.729E-02	2.407E-01	2.087E-01	1.228E-01	FAIL ABUN
AM-241	2.142E-02	3.512E-01	2.783E-01	1.792E-01	NOT IDENT.
CM-243	3.188E-02	1.270E-01	1.124E-01	6.479E-02	FAIL ABUN
AM-246	8.161E-02	1.704E-01	1.493E-01	8.695E-02	NOT IDENT.
CM-247	-2.916E-03	4.528E-02	3.893E-02	2.310E-02	NOT IDENT.
CF-249	-3.480E-04	4.906E-02	4.241E-02	2.503E-02	NOT IDENT.
CF-251	-7.712E-02	1.666E-01	1.399E-01	8.502E-02	NOT IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON ,SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	333.5973
46.50	333.5973
46.50	333.5973
48.70	364.1212
49.72	353.4163
51.35	360.0718
52.39	359.7431
52.97	377.1874
53.15	369.6957
53.44	359.4110
54.07	379.7664
56.28	363.5052
56.28	363.5067
57.37	0.0000
57.53	401.1891
57.53	401.1907
57.60	387.4503
57.98	389.2111
57.98	389.2111
59.32	397.6932
59.32	397.6932
59.40	397.7422
59.54	385.5387
59.72	385.6452
60.01	391.9637
61.10	360.2777
61.14	360.2992
61.30	360.3856
63.00	389.8635
63.29	390.0296
63.29	390.0296
63.58	431.1477
64.28	460.9815
65.12	492.5210
65.20	492.5778
65.20	492.5778
66.05	493.1814
66.72	534.0146
66.83	534.1008
66.91	534.1616
67.20	528.1683
67.20	528.1683
67.75	564.3361
67.85	564.4158
68.90	508.0253
68.90	508.0253
69.30	469.3590
69.67	469.2120
70.82	518.3589
70.82	518.3589
70.83	518.3670
72.80	557.3364
72.87	557.3885
72.87	557.3885
74.67	593.0447
74.81	593.1555
74.81	593.1555
74.81	593.1555
74.81	593.1555
74.81	593.1555
74.81	593.1555
74.97	593.2823
75.28	593.5267
75.70	593.8566
77.11	594.9589
77.11	594.9589

77.11	594.9589
77.11	594.9589
77.11	594.9589
77.11	594.9589
77.11	594.9589
78.38	595.9437
79.62	596.8985
79.80	597.0369
79.80	597.0369
80.11	582.2202
80.18	582.2720
80.30	582.3619
80.30	582.3619
80.57	612.8763
81.00	613.2122
81.07	585.5706
81.07	585.5706
81.07	585.5706
81.07	585.5706
82.60	614.4515
83.37	615.0427
83.78	615.3597
83.78	615.3597
83.78	615.3597
83.78	615.3597
84.21	548.1613
84.90	616.2158
85.43	586.1185
86.29	651.5167
86.50	651.6840
86.54	748.9162
86.59	748.9621
86.72	749.0797
86.79	749.1428
86.94	749.2805
87.30	657.9028
87.30	657.9028
87.30	657.9028
87.30	657.9028
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87.30	657.9028
87.30	657.9028
87.57	749.8542
87.88	750.1354
88.03	750.2731
88.36	750.5714
88.47	750.6718
89.95	752.0029
91.11	753.0413
92.29	526.7922
92.38	526.8483
92.38	526.8483
93.35	527.4455
94.00	451.7507
94.67	493.9301
94.67	493.9320
94.90	494.0631
94.90	494.0631
94.90	494.0631
94.90	494.0631
95.87	438.2265
95.87	438.2265
96.73	395.1156
97.43	372.8329
98.44	399.1136
98.44	399.1136
98.88	381.2586
99.55	408.5109
99.55	408.5109
99.86	408.6527
100.00	412.7626
100.10	438.1056
103.18	396.9602
103.76	402.2917
105.00	457.7677
105.31	444.6917
108.00	464.3502
109.28	461.9161

111.00	409.5169
111.00	409.5169
111.76	447.7540
112.95	417.5312
115.19	453.4573
116.30	410.7366
117.00	384.2458
117.00	384.2458
117.66	383.4717
121.11	371.3527
121.62	383.9609
121.78	384.0217
122.06	372.7386
122.32	380.0829
122.32	380.0829
122.32	380.0829
122.32	380.0829
123.07	377.2551
127.23	403.7616
129.76	381.7929
131.20	435.5861
133.02	438.4265
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135.34	381.7012
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136.25	392.5185
136.48	393.6510
140.51	433.0344
140.51	0.0000
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142.65	397.9781
143.76	394.1469
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144.24	389.0291
144.24	389.0291
144.24	389.0291
145.22	385.1365
145.44	389.4446
147.16	436.6718
152.43	381.1808
152.70	388.7259
153.22	383.5712
154.21	382.8289
154.21	382.8289
154.21	382.8289
154.21	382.8289
155.03	379.8959
156.02	385.5565
158.56	387.4559
159.00	0.0000
159.00	392.9503
160.31	386.9502
161.27	365.8039
162.32	380.0790
162.64	382.3295
163.35	384.7014
163.89	360.1470
165.85	373.6461
167.43	394.6119
171.28	365.5538
171.86	351.6577
172.10	347.3957
176.55	376.8574
176.60	376.8706
181.06	329.5734
184.41	423.0776
185.71	376.2474
186.00	376.3287
190.27	352.9572
192.34	342.9496
193.63	341.0764
197.04	354.0644
198.01	330.0333
198.60	332.3810
200.40	346.0858
201.83	397.1982
202.84	402.2960
205.31	308.9137



208.36	277.5551
208.81	277.6427
209.75	274.2655
209.75	274.2655
210.97	278.0635
215.65	291.7114
216.55	294.1273
218.09	319.0681
222.10	300.8559
223.80	316.9359
226.40	311.6344
227.00	309.9569
227.08	309.9738
227.20	309.9968
228.16	315.6067
228.18	315.6110
228.18	315.6110
231.56	0.0000
235.69	345.8691
236.00	324.7899
236.00	324.7899
238.63	297.8025
238.63	297.8025
238.63	297.8025
238.63	297.8025
239.00	297.8726
240.98	298.2530
241.98	269.9333
241.98	269.9333
241.98	269.9333
244.69	252.1713
245.39	234.0454
247.94	279.7092
248.90	275.9934
249.79	268.8331
252.40	236.2990
252.85	237.2812
252.85	237.2812
254.15	0.0000
256.20	257.9698
256.20	257.9698
260.50	243.9232
260.90	233.8555
262.80	253.4821
264.65	219.9288
268.24	269.7240
268.79	245.1444
269.46	253.8382
269.46	253.8382
269.46	253.8382
269.46	253.8382
271.23	296.4531
273.65	296.8789
276.40	228.3295
277.35	228.4555
277.60	228.4885
277.60	228.4885
278.00	228.5425
278.60	228.6235
279.20	228.7045
279.53	228.7464
280.46	228.8694
281.68	229.0314
283.67	242.6265
284.30	252.0505
285.00	241.2572
285.90	218.0208
286.10	218.0465
286.10	218.0465
287.40	198.2583
288.45	0.0000
290.67	231.1055
290.80	231.1235
291.72	253.1184
293.26	0.0000
293.70	222.1177
295.21	220.7399
295.21	220.7399

295.21	220.7399
295.96	211.4346
296.50	211.5005
297.23	211.5857
298.57	211.7450
299.80	189.9143
299.80	189.9143
300.09	182.0973
300.09	182.0973
300.09	182.0973
300.09	182.0973
300.12	182.0996
301.29	185.3593
302.84	187.0899
303.76	196.6222
303.91	196.6400
304.40	215.5732
304.40	215.5732
304.84	192.0175
306.84	175.8418
308.46	174.1037
311.98	212.3570
316.51	158.7071
318.01	177.8555
319.02	190.3223
319.41	190.3613
320.08	201.8555
323.87	215.6187
323.87	215.6187
323.87	215.6187
323.87	215.6187
325.23	178.5380
328.77	215.2167
333.44	196.5618
334.20	191.8433
334.20	191.8433
334.30	191.8530
338.28	229.0933
338.28	229.0933
338.28	229.0933
338.28	229.0933
338.32	229.0991
338.32	229.0991
338.32	229.0991
340.50	195.6711
340.57	195.6786
344.27	225.6135
345.85	215.5009
350.59	0.0000
351.07	181.8840
351.92	182.2824
351.92	182.2824
351.92	182.2824
355.39	0.0000
356.01	171.3378
364.48	179.1934
366.43	153.0443
367.43	157.0202
367.94	0.0000
369.80	153.2935
374.96	147.8001
383.85	158.2544
387.95	157.5723
388.63	155.6528
391.69	165.7400
391.69	165.7400
392.90	151.0259
398.62	147.4649
400.65	157.5074
401.10	158.5313
401.81	159.5732
402.60	154.6746
404.84	167.7333
410.95	156.2545
411.60	150.3254
413.65	156.4423
414.70	147.5429
415.30	135.6165

415.76	140.6317
417.63	0.0000
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427.08	148.3523
427.89	133.3637
432.53	123.5856
433.93	130.6967
439.47	127.9860
439.56	127.9906
439.89	122.9695
443.98	149.4363
444.90	137.3730
445.03	137.3813
445.03	137.3813
445.03	137.3813
445.03	137.3813
453.90	136.8820
463.38	116.0456
468.07	132.5883
473.00	161.4717
475.06	168.7665
475.35	150.3735
476.78	125.8963
477.59	115.6981
477.96	121.8602
482.03	160.0105
484.57	136.5588
487.03	109.9715
490.36	0.0000
492.35	118.4435
497.08	139.3028
507.63	0.0000
510.53	0.0000
510.84	107.8911
511.00	107.8981
511.85	107.9336
511.85	107.9336
513.99	86.5560
513.99	86.5560
520.41	111.0651
520.65	115.7037
527.90	111.7283
528.96	0.0000
529.64	134.7886
529.87	0.0000
531.02	125.4492
537.32	123.6494
543.00	81.9076
546.56	0.0000
549.76	123.1671
552.65	109.5986
555.20	120.2483
563.23	102.6149
563.90	108.9874
568.70	114.4758
569.32	125.1042
569.50	121.9292
569.67	115.5757
573.80	113.6222
574.00	117.8779
574.64	110.2040
578.91	124.1121
579.30	0.0000
583.14	90.5594
585.48	92.4113
591.81	100.4533
592.07	90.8417
593.00	101.5637
595.88	105.9440
600.56	104.8056
602.52	0.0000
602.71	96.5413
602.71	96.5413
603.60	110.8765
604.41	112.6968
604.70	112.7084
609.31	106.4347

609.31	106.4347
609.31	106.4347
609.31	106.4347
610.33	105.7563
612.46	93.2746
614.37	80.7715
618.01	91.6531
621.84	86.3730
621.84	86.3730
631.29	93.1450
633.02	96.4507
633.10	96.4529
634.78	86.7480
635.90	86.7793
636.97	95.4916
645.85	111.0072
646.12	107.7519
656.30	92.8214
657.75	81.9397
657.90	0.0000
661.65	109.3896
661.65	109.3896
664.57	0.0000
666.33	85.8167
666.33	85.8167
675.00	69.2093
677.61	91.2574
685.20	76.2286
692.80	79.1728
695.00	88.4395
696.49	94.0105
696.49	94.0105
697.00	92.1814
697.49	91.2737
698.33	98.6733
698.50	94.0686
699.00	101.4622
702.63	88.6484
706.10	104.4570
706.58	0.0000
706.67	106.3245
709.31	83.2782
711.68	88.8945
713.82	87.0980
717.42	90.9040
720.50	76.3996
721.93	0.0000
722.20	92.3627
722.78	82.8224
722.78	82.8224
722.89	82.8260
722.95	82.8278
723.30	76.4648
724.18	86.0455
727.18	82.8001
733.00	91.0664
735.90	80.3869
739.58	98.9825
742.81	78.5142
744.21	84.1571
747.13	80.4850
751.79	76.8466
752.31	79.6702
753.82	78.7688
755.35	79.7411
756.15	76.9451
756.87	75.0846
763.93	77.3890
765.79	80.6571
766.42	77.4442
766.84	83.9088
776.49	80.9065
778.00	92.2731
778.57	85.8108
778.89	87.8441
783.80	59.5906
785.46	66.2431
792.07	69.2113

795.84	70.2332
796.30	68.3438
798.80	106.3877
801.93	77.9594
805.60	65.6674
810.29	84.8118
810.76	83.8714
815.85	61.0833
817.79	69.7103
818.51	73.5441
819.60	73.5661
826.30	67.0022
828.27	0.0000
831.60	82.4359
831.96	83.4033
834.83	85.3876
836.80	0.0000
846.75	72.1878
848.13	75.1039
856.28	0.0000
856.80	71.1423
860.37	59.8935
867.32	53.0904
867.82	53.0982
871.10	60.4513
873.19	59.1273
874.81	46.5459
875.33	0.0000
876.40	56.2666
879.36	70.8732
880.27	65.0644
880.51	62.1549
881.50	61.1992
883.24	54.4243
884.67	52.5004
889.25	62.2969
896.60	66.3163
898.02	71.2178
899.00	80.0197
903.28	51.2877
911.07	77.1902
911.07	77.1902
911.07	77.1902
919.63	65.2809
920.93	61.8234
925.00	50.0994
925.24	50.1025
926.50	58.9624
935.52	64.0214
937.48	71.9351
944.10	70.0798
946.00	71.1006
949.00	50.4003
962.29	56.0903
964.01	66.3158
966.15	74.8577
968.20	134.4697
969.11	98.3212
969.11	98.3212
969.11	98.3212
977.42	56.2975
980.50	64.7329
983.50	46.8413
989.30	58.8824
996.32	27.4202
1001.03	62.0505
1001.68	62.0605
1004.76	42.9304
1021.30	0.0000
1024.50	0.0000
1034.80	57.5010
1036.00	61.5535
1037.82	74.7046
1038.57	72.6973
1038.76	0.0000
1045.16	67.7524
1046.59	71.8205
1048.07	71.8436

1050.47	58.7222
1050.47	58.7222
1062.04	60.9082
1063.62	60.9302
1076.63	65.1849
1077.35	68.2513
1078.86	58.0831
1085.78	52.0500
1099.22	78.8235
1112.02	67.7537
1112.84	73.9277
1115.52	77.4911
1120.29	58.6212
1120.29	58.6212
1120.29	58.6212
1120.29	58.6212
1120.51	58.6235
1121.28	59.9554
1124.00	0.0000
1129.67	68.5790
1131.51	0.0000
1147.95	0.0000
1167.94	62.3438
1173.22	68.6560
1175.09	64.5203
1177.93	65.5994
1189.05	68.8843
1204.90	76.4427
1205.75	0.0000
1213.00	71.3258
1221.42	71.4504
1230.97	110.5414
1235.34	85.3506
1236.41	0.0000
1238.25	79.0771
1246.25	74.9810
1260.41	0.0000
1271.85	59.4453
1274.45	57.3508
1274.54	57.3508
1291.56	45.8240
1298.22	0.0000
1312.09	28.8885
1325.50	39.6904
1325.50	39.6904
1332.49	38.6704
1333.61	33.3071
1360.21	21.5975
1362.66	0.0000
1365.15	25.9414
1368.21	31.3636
1368.53	0.0000
1376.25	27.8519
1384.27	24.4070
1394.10	22.3560
1395.20	23.2928
1407.95	27.0833
1434.06	25.3360
1436.60	27.2259
1457.56	0.0000
1460.81	33.0017
1489.15	25.5875
1509.49	20.9242
1596.49	20.2727
1620.62	17.4463
1678.03	0.0000
1691.02	13.7261
1691.02	13.7261
1706.46	0.0000
1750.46	0.0000
1764.49	6.9431
1764.49	6.9431
1764.49	6.9431
1764.49	6.9431
1770.23	3.4746
1771.40	41.7026
1791.20	0.0000
1808.65	5.9916

1836.01

14.0386

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244847003

Total Uranium Activity	1.7724E+01	ug/g
Total Uranium Counting Unc.	1.2433E+01	ug/g
Total Uranium Tpu	6.3433E-06	ug/g
Total Uranium Mda	5.8926E+00	ug/g



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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 942717              SAMPLE ID   : G244847003              *
*  ANALYST       : MXR1                DETECTOR    : GAM15                  *
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00      *
*  ANALYSIS DATE : 27-JAN-2010 13:46:54.13  SAMPLE ALQT: 134.290 GRAM      *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.107E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.810E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.869E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.878E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 16:20:29.85

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847004.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 14:19:59
Sample ID          : G244847004      Sample quantity   : 1.25930E+02 GRAM
Detector name      : GAM23           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.64   0.0%
Energy tolerance  : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit   : 75.00000         Sensitivity       : 5.00000
Batch ID          : 942717           Detector SN#      :
Matrix Spike ID   :                  LCS ID            : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.73*	71	400	1.02	125.47	120	10	9.87E-03	54.8	
2	1	74.63	345	339	1.21	149.25	145	16	4.79E-02	10.3	1.92E+00
3	1	76.99*	596	315	1.17	153.97	145	16	8.28E-02	6.8	
4	2	84.20*	120	290	1.45	168.40	165	27	1.67E-02	25.2	2.32E+00
5	2	87.04	308	363	1.55	174.09	165	27	4.27E-02	12.6	
6	2	89.80	160	234	1.08	179.60	165	27	2.22E-02	17.5	
7	2	92.77*	244	339	1.44	185.54	165	27	3.39E-02	16.0	
8	0	185.49*	219	272	1.51	370.99	366	9	3.04E-02	15.8	
9	0	209.10	138	227	1.14	418.21	414	10	1.92E-02	22.1	
10	3	238.35*	1146	162	1.21	476.71	468	21	1.59E-01	3.5	8.65E-01
11	3	241.44	309	189	1.95	482.87	468	21	4.30E-02	14.3	
12	0	269.79	140	280	1.72	539.59	531	16	1.95E-02	28.0	
13	0	294.78	363	156	1.24	589.56	584	11	5.05E-02	8.5	
14	0	299.48	100	140	1.79	598.95	595	10	1.39E-02	24.1	
15	0	327.39	82	161	1.06	654.78	650	11	1.14E-02	31.9	
16	0	337.74	266	105	1.28	675.47	670	10	3.69E-02	9.5	
17	0	351.46*	553	146	1.23	702.91	697	10	7.68E-02	6.0	
18	0	462.72*	90	156	1.94	925.44	916	18	1.25E-02	34.8	
19	0	510.12*	90	113	2.31	1020.25	1013	16	1.25E-02	32.6	
20	0	582.68*	347	91	1.76	1165.36	1160	13	4.82E-02	8.1	
21	0	608.69	433	105	1.63	1217.38	1209	17	6.02E-02	7.3	
22	0	726.18	80	69	1.16	1452.37	1445	13	1.11E-02	24.5	
23	0	793.95	60	42	3.32	1587.91	1581	13	8.31E-03	25.9	
24	0	860.05	65	14	1.47	1720.09	1716	10	8.96E-03	17.2	
25	0	910.46	205	79	2.05	1820.93	1813	19	2.85E-02	12.4	
26	0	967.78	129	60	1.90	1935.56	1930	13	1.80E-02	15.5	
27	0	1119.15	115	39	2.24	2238.30	2231	17	1.60E-02	15.4	
28	0	1237.33	36	38	1.32	2474.65	2470	10	4.99E-03	34.6	
29	0	1459.49	696	42	2.59	2918.98	2911	15	9.66E-02	4.3	
30	0	1763.13*	56	13	2.59	3526.26	3519	13	7.76E-03	19.6	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 14:19:59
Sample ID         : G244847004           Sample quantity  : 125.93 GRAM
Sample type       : SOLID                 Sample geometry   :
Detector name     : GAMMA23              Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.64    0.0%
Peak Width (FWHM): 3.00                  Confidence level  : 5.00 %
Energy tolerance  : 1.50 keV             Half life ratio  : 8.00
Errors propagated: Yes                   Systematic Error : 0.00 %
Efficiency type   : Empirical             Efficiencies at  : Peak Energy
Abundance limit   : 75.00                WTM error limit  : 3.00

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.948E+01	2.220E+00	3.062E-01	2.291E-02	63.624
CD-109	+	88.03	*	4.845E+00	1.308E+00	1.298E+00	1.267E-01	3.734
SN-126		64.28		1.750E-01	7.027E-01	1.048E+00	1.595E-01	0.167
	+	86.94		1.977E+00	9.614E-01	5.373E-01	2.235E-01	3.679
	+	87.57	*	4.756E-01	1.284E-01	1.281E-01	1.247E-02	3.711
TL-208		277.35		1.743E-01	4.339E-01	6.833E-01	7.220E-02	0.255
	+	510.84		4.864E-01	3.209E-01	2.221E-01	2.256E-02	2.190
	+	583.14	*	5.389E-01	9.373E-02	6.286E-02	4.081E-03	8.573
	+	860.37		9.587E-01	3.405E-01	4.344E-01	3.926E-02	2.207
BI-211		72.87		1.148E+01	4.340E+00	6.895E+00	6.082E-01	1.665
	+	351.07	*	3.700E+00	5.041E-01	3.472E-01	2.262E-02	10.658
PB-212	+	74.81		2.379E+00	5.800E-01	6.248E-01	8.060E-02	3.809
	+	77.11		2.297E+00	3.727E-01	3.500E-01	3.150E-02	6.561
	+	87.30		2.199E+00	6.331E-01	5.948E-01	8.290E-02	3.698
	+	238.63	*	1.652E+00	1.663E-01	9.505E-02	6.834E-03	17.377
	+	300.09		2.250E+00	1.099E+00	1.260E+00	1.047E-01	1.785
PO-212	+	74.81		2.379E+00	5.800E-01	6.248E-01	8.060E-02	3.809
	+	77.11		2.297E+00	3.727E-01	3.500E-01	3.150E-02	6.561
	+	87.30		2.199E+00	6.331E-01	5.948E-01	8.290E-02	3.698
		115.19		3.460E+00	3.889E+00	6.622E+00	4.224E-01	0.522
	+	238.63	*	1.652E+00	1.663E-01	9.505E-02	6.834E-03	17.377
	+	300.09		2.250E+00	1.099E+00	1.260E+00	1.047E-01	1.785
BI-214	+	609.31	*	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314
	+	1120.29		1.806E+00	5.827E-01	4.791E-01	4.452E-02	3.770
	+	1764.49		1.206E+00	4.786E-01	2.922E-01	1.817E-02	4.126
PB-214	+	74.81		4.100E+00	9.718E-01	1.076E+00	1.246E-01	3.809
	+	77.11		3.937E+00	7.058E-01	6.001E-01	7.075E-02	6.561
	+	87.30		3.768E+00	1.058E+00	1.019E+00	1.263E-01	3.698
	+	241.98		2.681E+00	7.981E-01	5.724E-01	4.553E-02	4.683
	+	295.21		1.428E+00	2.715E-01	1.911E-01	1.639E-02	7.470
	+	351.92	*	1.287E+00	1.878E-01	1.204E-01	1.005E-02	10.689
PO-214	+	74.81		4.100E+00	9.718E-01	1.076E+00	1.246E-01	3.809
	+	77.11		3.937E+00	7.058E-01	6.001E-01	7.075E-02	6.561
	+	87.30		3.768E+00	1.058E+00	1.019E+00	1.263E-01	3.698

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.681E+00	7.981E-01	5.724E-01	4.553E-02	4.683
	+	295.21		1.428E+00	2.715E-01	1.911E-01	1.639E-02	7.470
	+	351.92	*	1.287E+00	1.878E-01	1.204E-01	1.005E-02	10.689
	+	74.81		2.379E+00	5.800E-01	6.248E-01	8.060E-02	3.809
	+	77.11		2.297E+00	3.727E-01	3.500E-01	3.150E-02	6.561
	+	87.30		2.199E+00	6.331E-01	5.948E-01	8.290E-02	3.698
PO-218	+	238.63	*	1.652E+00	1.663E-01	9.505E-02	6.834E-03	17.377
	+	300.09		2.250E+00	1.099E+00	1.260E+00	1.047E-01	1.785
	+	74.81		4.100E+00	9.718E-01	1.076E+00	1.246E-01	3.809
	+	77.11		3.937E+00	7.058E-01	6.001E-01	7.075E-02	6.561
	+	87.30		3.768E+00	1.058E+00	1.019E+00	1.263E-01	3.698
	+	241.98		2.681E+00	7.981E-01	5.724E-01	4.553E-02	4.683
RA-224	+	295.21		1.428E+00	2.715E-01	1.911E-01	1.639E-02	7.470
	+	351.92	*	1.287E+00	1.878E-01	1.204E-01	1.005E-02	10.689
	+	240.98	*	5.083E+00	1.486E+00	1.082E+00	6.095E-02	4.699
RA-226	+	609.31	*	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314
AC-228	+	1120.29		1.806E+00	5.827E-01	4.791E-01	4.452E-02	3.770
	+	1764.49		1.206E+00	4.786E-01	2.922E-01	1.817E-02	4.126
	+	338.32		1.957E+00	8.801E-01	3.723E-01	1.518E-01	5.258
	+	911.07	*	1.447E+00	3.951E-01	2.331E-01	2.689E-02	6.208
	+	969.11		1.612E+00	6.238E-01	4.288E-01	9.984E-02	3.758
	+	338.32		1.957E+00	8.801E-01	3.723E-01	1.518E-01	5.258
RA-228	+	911.07	*	1.447E+00	3.951E-01	2.331E-01	2.689E-02	6.208
TH-228	+	969.11		1.612E+00	6.238E-01	4.288E-01	9.984E-02	3.758
	+	74.81		2.418E+00	5.451E-01	6.349E-01	5.690E-02	3.809
	+	77.11		2.334E+00	3.787E-01	3.557E-01	3.200E-02	6.561
	+	87.30		2.235E+00	6.033E-01	6.044E-01	5.867E-02	3.698
	+	238.63	*	1.678E+00	1.690E-01	9.659E-02	6.944E-03	17.377
	+	300.09		2.286E+00	1.740E+00	1.281E+00	7.549E-01	1.785
TH-230	+	609.31	*	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314
TH-232	+	1120.29		1.806E+00	5.827E-01	4.791E-01	4.452E-02	3.770
	+	1764.49		1.206E+00	4.786E-01	2.922E-01	1.817E-02	4.126
	+	338.32		1.957E+00	3.882E-01	3.723E-01	2.199E-02	5.258
	+	911.07	*	1.447E+00	3.951E-01	2.331E-01	2.689E-02	6.208
	+	969.11		1.612E+00	6.238E-01	4.288E-01	9.984E-02	3.758
	+	63.29	*	2.218E+00	2.465E+00	2.588E+00	4.663E-01	0.857
TH-234	+	92.38		2.405E+00	8.861E-01	8.289E-01	1.512E-01	2.902
U-234	+	609.31	*	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314
NP-237	+	1120.29		1.806E+00	5.827E-01	4.791E-01	4.452E-02	3.770
	+	1764.49		1.206E+00	4.786E-01	2.922E-01	1.817E-02	4.126
	+	86.50	*	1.396E+00	4.745E-01	3.819E-01	8.697E-02	3.657
	+	95.87		-1.016E-01	1.148E+00	1.663E+00	4.083E-01	-0.061
	+	63.29	*	2.218E+00	2.465E+00	2.588E+00	4.663E-01	0.857
	+	92.38		2.405E+00	7.994E-01	8.289E-01	7.407E-02	2.902
AM-243	+	74.67	*	3.858E-01	8.685E-02	1.017E-01	9.036E-03	3.794
ANH-511	+	86.72		5.237E+01	1.414E+01	1.428E+01	1.379E+00	3.668
	+	117.66		8.519E-01	4.143E+00	6.877E+00	4.259E-01	0.124
	+	142.18		-1.818E+01	1.912E+01	2.949E+01	1.606E+00	-0.616
	+	511.00	*	1.051E-01	6.876E-02	4.798E-02	2.787E-03	2.190

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	3.515E-01	3.361E-01	5.954E-01	4.046E-02	0.590
NA-22		1274.54	*	-1.654E-02	4.441E-02	6.878E-02	4.619E-03	-0.240
NA-24		1368.53	*	-2.252E+00	4.441E-02	Half-Life too short		
AL-26		1129.67		1.564E+00	1.814E+00	3.186E+00	2.029E-01	0.491
		1808.65	*	-1.106E-02	4.165E-02	6.376E-02	3.832E-03	-0.173
TI-44		67.85		-2.863E-02	5.896E-02	8.944E-02	7.788E-03	-0.320
	+	78.38	*	4.239E-01	6.878E-02	9.294E-02	8.424E-03	4.561
SC-46		889.25	*	1.551E-02	4.105E-02	7.091E-02	6.335E-03	0.219
	+	1120.51		3.117E-01	9.842E-02	1.422E-01	9.267E-03	2.191
V-48		944.10		-1.657E-01	1.011E+00	1.651E+00	1.439E-01	-0.100
		983.50	*	-7.746E-02	8.246E-02	1.227E-01	1.021E-02	-0.631
		1312.09		-1.805E-02	8.331E-02	1.313E-01	9.339E-03	-0.138
CR-51		320.08	*	1.414E-01	4.187E-01	6.977E-01	4.575E-02	0.203
MN-52		744.21		-3.151E-02	3.195E-01	5.091E-01	3.241E-02	-0.062
		848.13		3.571E+00	7.750E+00	1.351E+01	1.103E+00	0.264
		935.52		-7.693E-02	3.226E-01	5.238E-01	4.605E-02	-0.147
		1246.25		4.683E+00	8.382E+00	1.451E+01	9.285E-01	0.323
		1333.61		-2.717E+00	6.144E+00	9.348E+00	6.862E-01	-0.291
		1434.06	*	-2.855E-01	3.118E-01	4.284E-01	3.099E-02	-0.666
MN-54		834.83	*	-2.409E-02	3.887E-02	6.119E-02	4.845E-03	-0.394
CO-56		846.75	*	-8.018E-03	4.201E-02	6.891E-02	5.606E-03	-0.116
		977.42		5.047E-01	3.488E+00	5.857E+00	4.910E-01	0.086
		1037.82		-1.892E-01	3.232E-01	4.973E-01	4.077E-02	-0.380
		1175.09		1.008E+00	2.400E+00	4.101E+00	2.322E-01	0.246
	+	1238.25		1.606E-01	1.118E-01	1.825E-01	1.214E-02	0.880
		1360.21		7.058E-02	1.146E+00	1.875E+00	1.373E-01	0.038
		1771.40		-3.517E-01	2.705E-01	3.232E-01	1.999E-02	-1.088
CO-57		122.06	*	8.114E-03	2.737E-02	4.556E-02	2.686E-03	0.178
		136.48		1.581E-02	2.287E-01	3.759E-01	2.444E-02	0.042
CO-58		810.76	*	-1.950E-02	4.014E-02	6.398E-02	4.807E-03	-0.305
FE-59		142.65		-1.009E+00	2.946E+00	4.671E+00	2.540E-01	-0.216
		192.34		-3.728E-01	1.057E+00	1.683E+00	1.947E-01	-0.222
		1099.22	*	-5.105E-03	9.973E-02	1.632E-01	1.257E-02	-0.031
		1291.56		-2.504E-02	1.392E-01	2.216E-01	1.840E-02	-0.113
CO-60		1173.22		-2.338E-02	4.946E-02	7.701E-02	4.344E-03	-0.304
		1332.49	*	-4.290E-03	4.263E-02	6.831E-02	5.015E-03	-0.063
ZN-65		1115.52	*	9.174E-02	1.239E-01	1.921E-01	1.269E-02	0.478
GE-68		1077.35	*	7.393E-02	1.429E+00	2.366E+00	1.693E-01	0.031
AS-73		53.44	*	-6.159E-01	1.200E+00	1.974E+00	1.742E-01	-0.312
AS-74		595.88	*	9.232E-02	1.126E-01	1.944E-01	1.072E-02	0.475
		634.78		3.301E-01	3.814E-01	6.671E-01	3.531E-02	0.495
SE-75		66.05		2.315E-01	6.449E+00	9.474E+00	9.943E-01	0.024
		96.73		-9.632E-02	9.363E-01	1.354E+00	1.816E-01	-0.071
		121.11		-4.027E-02	1.477E-01	2.401E-01	2.239E-02	-0.168
		136.00		1.256E-02	4.313E-02	7.152E-02	4.038E-03	0.176
		198.60		9.495E-01	2.035E+00	3.291E+00	2.222E-01	0.288
		264.65	*	-5.538E-02	5.356E-02	6.758E-02	3.934E-03	-0.819
		279.53		-6.327E-02	1.178E-01	1.934E-01	1.216E-02	-0.327
		303.91		-6.750E-01	2.541E+00	3.632E+00	3.484E-01	-0.186

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		-5.213E-02	2.748E-01	4.507E-01	4.101E-02	-0.116
		87.88		1.391E+03	3.756E+02	5.306E+02	5.177E+01	2.622
		200.40		1.867E+02	2.373E+02	3.972E+02	2.125E+01	0.470
	+	239.00		3.530E+02	3.182E+01	5.482E+01	3.082E+00	6.439
		249.79		1.855E+01	9.245E+01	1.499E+02	8.520E+00	0.124
		281.68		-7.050E+01	1.307E+02	2.143E+02	1.249E+01	-0.329
		297.23		4.010E+02	1.171E+02	1.648E+02	9.680E+00	2.432
		303.76		-3.551E+01	2.808E+02	4.070E+02	2.395E+01	-0.087
		439.47		2.291E+02	2.139E+02	3.776E+02	2.209E+01	0.607
		484.57		-6.138E+01	3.220E+02	5.220E+02	3.052E+01	-0.118
		520.65	*	1.058E+01	1.462E+01	2.532E+01	1.466E+00	0.418
		574.64		-9.816E+01	3.176E+02	5.053E+02	2.837E+01	-0.194
		578.91		3.683E+01	1.586E+02	2.289E+02	1.281E+01	0.161
		585.48		1.133E+03	3.252E+02	5.878E+02	3.271E+01	1.927
		755.35		4.808E+01	2.563E+02	4.056E+02	2.656E+01	0.119
		817.79		-8.192E+01	1.597E+02	2.517E+02	1.916E+01	-0.325
SR-82		698.33		-8.194E+00	3.959E+01	6.272E+01	3.543E+00	-0.131
		776.49	*	-3.196E-01	3.978E-01	6.165E-01	4.253E-02	-0.518
		1395.20		-3.587E+00	1.284E+01	1.992E+01	1.452E+00	-0.180
RB-83		520.41	*	5.157E-02	7.307E-02	1.264E-01	7.319E-03	0.408
		529.64		-2.246E-02	1.179E-01	1.902E-01	1.097E-02	-0.118
		552.65		1.357E-01	2.116E-01	3.638E-01	2.073E-02	0.373
RB-84		881.50	*	-2.396E-03	7.666E-02	1.274E-01	1.119E-02	-0.019
KR-85		513.99	*	6.794E+00	7.718E+00	1.204E+01	6.985E-01	0.564
SR-85		513.99	*	3.520E-02	3.998E-02	6.236E-02	3.618E-03	0.564
RB-86		1076.63	*	1.366E-01	9.649E-01	1.611E+00	1.155E-01	0.085
Y-88		898.02		-1.401E-02	4.487E-02	7.238E-02	6.618E-03	-0.194
		1836.01	*	1.760E-02	3.652E-02	6.612E-02	3.893E-03	0.266
ZR-88		392.90	*	1.203E-02	3.289E-02	5.593E-02	3.229E-03	0.215
Y-91		1204.90	*	-1.050E+01	1.972E+01	3.036E+01	1.811E+00	-0.346
NB-94		702.63	*	3.346E-03	3.715E-02	6.042E-02	3.452E-03	0.055
		871.10		1.306E-02	3.757E-02	6.465E-02	5.553E-03	0.202
		765.79	*	4.878E-02	5.525E-02	9.452E-02	6.352E-03	0.516
NB-95		235.69	*	7.194E-01	1.882E-01	3.067E-01	2.263E-02	2.346
ZR-95		724.18		1.671E-01	1.388E-01	2.165E-01	1.530E-02	0.772
		756.15	*	-4.536E-02	8.515E-02	1.253E-01	9.614E-03	-0.362
NB-97		657.90	*	1.243E-01	8.515E-02	Half-Life	too short	
		1024.50		2.968E+01	8.515E-02	Half-Life	too short	
		254.15		2.370E+00	8.515E-02	Half-Life	too short	
ZR-97		355.39		9.143E+00	8.515E-02	Half-Life	too short	
		507.63	*	1.763E+01	8.515E-02	Half-Life	too short	
		602.52		-1.234E+01	8.515E-02	Half-Life	too short	
		1021.30		-4.220E+00	8.515E-02	Half-Life	too short	
		1147.95		5.489E+00	8.515E-02	Half-Life	too short	
		1362.66		3.818E+00	8.515E-02	Half-Life	too short	
		1750.46		-6.866E+00	8.515E-02	Half-Life	too short	
		140.51		-3.954E+01	3.774E+01	5.538E+01	1.489E+01	-0.714
MO-99		181.06		1.754E+01	2.697E+01	3.958E+01	6.707E+00	0.443
		366.43		8.236E-01	1.152E+02	1.921E+02	1.126E+01	0.004

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		-5.110E+00	1.831E+01	2.870E+01	4.016E+00	-0.178
	778.00			-2.005E+01	4.227E+01	6.765E+01	4.685E+00	-0.296
TC-99M	140.51	*		-6.740E+11	4.227E+01	Half-Life too short		
RH-101	127.23			1.968E-02	3.652E-02	6.118E-02	3.513E-03	0.322
	198.01	*		3.229E-02	3.680E-02	6.056E-02	3.228E-03	0.533
	325.23			9.962E-02	2.822E-01	4.225E-01	2.496E-02	0.236
RH-102	418.52			-2.244E-01	3.333E-01	5.282E-01	3.078E-02	-0.425
	475.06	*		1.929E-03	3.111E-02	5.149E-02	3.014E-03	0.037
	631.29			-5.080E-02	5.849E-02	8.698E-02	4.624E-03	-0.584
	697.49			-4.603E-03	8.752E-02	1.406E-01	7.925E-03	-0.033
	766.84			1.504E-01	1.376E-01	2.386E-01	1.607E-02	0.630
	1046.59			-1.036E-01	1.143E-01	1.674E-01	1.268E-02	-0.619
	1112.84			2.963E-02	2.887E-01	4.135E-01	2.743E-02	0.072
RU-103	497.08	*		-7.770E-05	4.437E-02	7.291E-02	9.230E-03	-0.001
	610.33			1.215E+01	2.420E+00	3.185E+00	4.868E-01	3.815
RH-106	511.85			2.359E-01	2.414E-01	4.327E-01	2.513E-02	0.545
	621.84	*		-3.994E-02	3.539E-01	5.691E-01	6.563E-02	-0.070
	1050.47			1.989E-01	2.195E+00	3.660E+00	2.753E-01	0.054
RU-106	511.85			2.359E-01	2.414E-01	4.327E-01	2.513E-02	0.545
	621.84	*		-3.994E-02	3.539E-01	5.691E-01	3.058E-02	-0.070
	1050.47			1.989E-01	2.195E+00	3.660E+00	2.753E-01	0.054
AG-108M	433.93	*		-2.652E-03	3.708E-02	6.105E-02	3.871E-03	-0.043
	614.37			-1.853E-02	4.995E-02	6.700E-02	3.980E-03	-0.277
	722.95			-7.320E-03	5.365E-02	7.312E-02	4.754E-03	-0.100
AG-110M	657.75	*		1.848E-02	3.575E-02	6.065E-02	3.370E-03	0.305
	677.61			-1.560E-01	3.658E-01	5.490E-01	3.142E-02	-0.284
	706.67			2.476E-01	2.374E-01	4.158E-01	2.547E-02	0.595
	763.93			-7.380E-02	2.115E-01	3.298E-01	2.308E-02	-0.224
	884.67			-2.367E-02	5.379E-02	8.569E-02	7.812E-03	-0.276
	937.48			-1.180E-01	1.294E-01	1.955E-01	1.776E-02	-0.603
	1384.27			-2.334E-02	1.789E-01	2.843E-01	2.156E-02	-0.082
IN-111	171.28			8.236E-01	1.373E+00	2.292E+00	1.176E-01	0.359
	245.39	*		-2.644E-02	1.551E+00	2.128E+00	1.204E-01	-0.012
IN-113M	391.69	*		-2.154E-03	4.888E-02	8.104E-02	4.992E-03	-0.027
SN-113	391.69	*		-2.154E-03	4.888E-02	8.104E-02	4.992E-03	-0.027
IN-114M	190.27	*		1.354E-01	2.276E-01	3.342E-01	1.762E-02	0.405
CD-115	260.90			8.137E+01	1.895E+02	3.107E+02	1.784E+01	0.262
	492.35			-3.609E+01	5.325E+01	8.285E+01	4.837E+00	-0.436
	527.90	*		-4.116E+00	1.592E+01	2.554E+01	1.474E+00	-0.161
SN-117M	156.02			-1.584E+00	2.597E+00	4.123E+00	2.158E-01	-0.384
	158.56	*		2.663E-02	6.114E-02	1.016E-01	5.278E-03	0.262
SB-122	563.90	*		4.138E-01	2.835E+00	4.684E+00	2.649E-01	0.088
	692.80			2.247E+01	6.603E+01	1.096E+02	6.100E+00	0.205
I-123	159.00	*		1.963E+00	6.603E+01	Half-Life too short		
	528.96			-6.405E+02	6.603E+01	Half-Life too short		
TE-123M	159.00	*		2.817E-03	3.053E-02	4.998E-02	2.638E-03	0.056
I-124	602.71	*		-5.414E-01	1.098E+00	1.460E+00	8.004E-02	-0.371
	722.78			-1.303E+00	6.564E+00	8.870E+00	5.345E-01	-0.147
	1325.50			1.347E+01	4.205E+01	7.138E+01	5.185E+00	0.189

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SB-124		1376.25		6.674E+01	4.016E+01	7.792E+01	5.694E+00	0.857
		1509.49		3.410E+01	2.014E+01	4.030E+01	2.858E+00	0.846
		1691.02		-2.376E+00	3.786E+00	5.245E+00	3.424E-01	-0.453
		602.71		-2.705E-02	5.485E-02	7.297E-02	4.001E-03	-0.371
		645.85		1.885E-01	5.758E-01	9.594E-01	5.791E-02	0.196
		709.31		1.645E-02	3.257E+00	5.254E+00	3.056E-01	0.003
		713.82		-1.238E-01	1.811E+00	2.900E+00	2.975E-01	-0.043
		722.78		-9.436E-02	4.754E-01	6.424E-01	4.040E-02	-0.147
	+	968.20		1.678E+01	5.380E+00	8.110E+00	6.877E-01	2.069
		1045.16		-9.333E-01	2.437E+00	3.837E+00	2.913E-01	-0.243
		1325.50		1.042E+00	3.253E+00	5.522E+00	4.011E-01	0.189
		1368.21		-9.621E-01	1.870E+00	2.777E+00	3.522E-01	-0.346
		1436.60		1.068E+00	4.498E+00	7.522E+00	5.439E-01	0.142
		1691.02	*	-4.058E-02	6.469E-02	8.960E-02	6.247E-03	-0.453
SB-125		427.89	*	-8.974E-02	1.019E-01	1.583E-01	9.627E-03	-0.567
	+	463.38		9.526E-01	6.657E-01	6.292E-01	4.287E-02	1.514
		600.56		7.191E-02	2.340E-01	3.550E-01	2.288E-02	0.203
		635.90		1.078E-01	2.920E-01	4.893E-01	3.111E-02	0.220
TE-125M I-126		109.28	*	3.919E+00	1.024E+01	1.714E+01	1.529E+00	0.229
		388.63		9.665E-02	2.310E-01	3.940E-01	2.279E-02	0.245
		666.33	*	5.828E-02	2.078E-01	3.445E-01	1.783E-02	0.169
SB-126		753.82		1.143E+00	1.695E+00	2.896E+00	1.889E-01	0.395
		223.80		-2.605E+00	4.727E+00	7.391E+00	4.081E-01	-0.352
		278.60		9.961E-01	2.759E+00	4.733E+00	2.753E-01	0.210
		296.50		1.371E+01	2.666E+00	4.048E+00	2.376E-01	3.388
		414.70		-1.568E-02	8.840E-02	1.449E-01	8.432E-03	-0.108
		415.30		1.366E+00	7.274E+00	1.220E+01	7.104E-01	0.112
		555.20		-2.723E+00	4.505E+00	6.977E+00	3.969E-01	-0.390
		573.80		5.411E-01	1.219E+00	2.057E+00	1.155E-01	0.263
		593.00		-4.634E-01	1.144E+00	1.801E+00	9.959E-02	-0.257
		656.30		8.463E-01	3.721E+00	6.152E+00	3.167E-01	0.138
		666.33		2.441E-02	8.702E-02	1.443E-01	7.466E-03	0.169
		675.00		-1.054E+00	2.322E+00	3.594E+00	1.905E-01	-0.293
		695.00		7.062E-02	9.602E-02	1.642E-01	9.194E-03	0.430
		697.00		3.567E-03	3.206E-01	5.180E-01	2.915E-02	0.007
		720.50	*	8.743E-02	1.878E-01	2.770E-01	1.659E-02	0.316
		856.80		3.383E-01	6.461E-01	9.897E-01	8.235E-02	0.342
		989.30		7.863E-01	1.443E+00	2.518E+00	2.079E-01	0.312
		1034.80		5.212E+00	9.815E+00	1.710E+01	1.321E+00	0.305
SB-127		1213.00		3.767E-01	5.743E+00	9.446E+00	5.715E-01	0.040
		61.10		6.375E+01	9.407E+01	1.433E+02	1.649E+01	0.445
		252.40		-3.113E+00	5.892E+00	8.920E+00	3.712E+00	-0.349
		290.80		-2.612E+01	3.045E+01	4.156E+01	3.970E+00	-0.629
		411.60		-1.511E+00	1.672E+01	2.758E+01	4.029E+00	-0.055
		444.90		-1.603E+01	1.257E+01	1.857E+01	2.066E+00	-0.863
		473.00		-4.627E-01	2.047E+00	3.312E+00	3.808E-01	-0.140
		543.00		-1.233E+01	2.141E+01	3.325E+01	4.366E+00	-0.371
		603.60		-4.770E-01	1.856E+01	2.601E+01	2.835E+00	-0.018
		685.20	*	-1.789E-01	1.794E+00	2.872E+00	2.750E-01	-0.062



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		698.50		-2.554E+00	2.016E+01	3.216E+01	4.711E+00	-0.079
		722.20		2.381E+01	4.197E+01	6.268E+01	6.050E+00	0.380
		783.80		6.211E+00	4.540E+00	8.377E+00	9.765E-01	0.741
		57.60		-1.305E-01	9.117E+00	1.347E+01	1.180E+00	-0.010
		145.22		2.655E-01	7.334E-01	1.218E+00	6.569E-02	0.218
		172.10		8.771E-02	1.317E-01	2.204E-01	1.132E-02	0.398
I-131		202.84	*	-6.560E-02	5.529E-02	8.067E-02	4.330E-03	-0.813
		374.96		3.966E-02	2.254E-01	3.603E-01	2.102E-02	0.110
		80.18		7.777E+00	7.665E+00	8.870E+00	8.186E-01	0.877
		284.30		1.237E+00	1.740E+00	3.034E+00	1.969E-01	0.408
		364.48	*	-3.318E-02	1.304E-01	2.138E-01	1.399E-02	-0.155
		636.97		-8.803E-01	1.841E+00	2.854E+00	1.725E-01	-0.308
TE-132		722.89		-1.554E+00	9.817E+00	1.334E+01	8.159E-01	-0.116
		49.72		1.017E+01	3.704E+01	6.297E+01	6.892E+00	0.161
		111.76		7.993E-01	4.014E+01	6.624E+01	6.410E+00	0.012
		116.30		2.843E+01	3.731E+01	6.315E+01	5.956E+00	0.450
		228.16	*	8.376E-02	9.558E-01	1.544E+00	2.234E-01	0.054
		53.15		-2.769E+00	5.121E+00	8.410E+00	7.418E-01	-0.329
BA-133		79.62		2.015E+00	2.097E+00	2.392E+00	3.713E-01	0.842
		81.00		4.453E-02	1.534E-01	1.669E-01	2.706E-02	0.267
		276.40		4.760E-01	4.608E-01	6.869E-01	8.908E-02	0.693
		302.84		2.834E-03	1.703E-01	2.496E-01	2.921E-02	0.011
		356.01	*	1.699E-02	5.112E-02	7.632E-02	8.855E-03	0.223
		383.85		-1.237E-01	3.223E-01	5.133E-01	5.582E-02	-0.241
I-133	+	510.53		2.341E+00	3.223E-01	Half-Life	too short	
		529.87	*	-3.460E-03	3.223E-01	Half-Life	too short	
		706.58		1.084E+00	3.223E-01	Half-Life	too short	
		856.28		-4.840E-01	3.223E-01	Half-Life	too short	
		875.33		-3.588E-02	3.223E-01	Half-Life	too short	
	+	1236.41		2.526E+00	3.223E-01	Half-Life	too short	
CS-134		1298.22		5.492E-01	3.223E-01	Half-Life	too short	
		475.35		3.038E-01	2.025E+00	3.373E+00	1.974E-01	0.090
		563.23		4.140E-02	3.882E-01	6.395E-01	3.698E-02	0.065
		569.32		7.783E-02	2.134E-01	3.583E-01	2.083E-02	0.217
		604.70		1.089E-02	4.613E-02	6.641E-02	3.655E-03	0.164
		795.84	*	8.674E-02	6.092E-02	1.015E-01	7.413E-03	0.855
CS-135		801.93		-3.868E-01	4.897E-01	7.349E-01	5.432E-02	-0.526
		1038.57		-1.489E+00	3.991E+00	6.308E+00	4.842E-01	-0.236
		1167.94		3.900E-01	2.729E+00	4.538E+00	2.602E-01	0.086
		1365.15		3.317E-01	1.322E+00	2.224E+00	1.730E-01	0.149
		268.24	*	4.711E-01	1.893E-01	3.343E-01	2.554E-02	1.409
		288.45		-3.481E+11	1.893E-01	Half-Life	too short	
I-135		417.63		-2.462E+11	1.893E-01	Half-Life	too short	
		546.56		-1.063E+11	1.893E-01	Half-Life	too short	
		836.80		-3.629E+10	1.893E-01	Half-Life	too short	
		1038.76		-1.120E+11	1.893E-01	Half-Life	too short	
		1124.00		-3.865E+11	1.893E-01	Half-Life	too short	
		1131.51		-3.717E+10	1.893E-01	Half-Life	too short	
		1260.41	*	1.001E+11	1.893E-01	Half-Life	too short	

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		9.634E+12	1.893E-01	Half-Life	too short	
		1678.03		-4.636E+09	1.893E-01	Half-Life	too short	
		1706.46		6.263E+10	1.893E-01	Half-Life	too short	
		1791.20		3.961E+10	1.893E-01	Half-Life	too short	
	+	66.91		-4.910E-01	1.111E+00	1.589E+00	2.459E-01	-0.309
		86.29		6.535E+00	1.871E+00	2.498E+00	3.383E-01	2.616
		153.22		3.760E-01	7.412E-01	1.235E+00	8.411E-02	0.304
		163.89		-1.263E-01	1.200E+00	1.945E+00	1.308E-01	-0.065
		176.55		-4.301E-01	4.284E-01	6.627E-01	3.951E-02	-0.649
		273.65		-7.247E-01	6.484E-01	8.222E-01	5.439E-02	-0.881
		340.57		1.633E-01	1.578E-01	2.475E-01	1.551E-02	0.660
		818.51		-4.727E-02	7.009E-02	1.081E-01	8.254E-03	-0.437
BA-137M		1048.07	*	-5.455E-02	1.049E-01	1.615E-01	1.287E-02	-0.338
		1235.34		7.332E-01	8.818E-01	1.350E+00	1.387E-01	0.543
		661.65	*	-3.371E-03	3.792E-02	6.088E-02	3.110E-03	-0.055
CS-137		661.65	*	-3.563E-03	4.009E-02	6.436E-02	3.306E-03	-0.055
CE-139		165.85	*	1.184E-02	3.223E-02	5.331E-02	2.718E-03	0.222
BA-140		162.64		-6.355E-01	8.653E-01	1.363E+00	8.099E-02	-0.466
		304.84		4.026E-01	1.572E+00	2.337E+00	6.381E-01	0.172
		423.70		1.486E+00	2.278E+00	3.849E+00	1.223E+00	0.386
LA-140	+	537.32	*	-2.242E-01	3.122E-01	4.671E-01	1.519E-01	-0.480
		328.77		7.837E-01	5.029E-01	6.601E-01	4.353E-02	1.187
		432.53		1.364E+00	2.389E+00	4.101E+00	2.644E-01	0.333
		487.03		1.039E-01	1.553E-01	2.680E-01	1.770E-02	0.388
		751.79		8.724E-01	2.008E+00	3.359E+00	2.577E-01	0.260
		815.85		5.988E-02	3.079E-01	5.263E-01	4.574E-02	0.114
		867.82		-1.603E-02	1.579E+00	2.512E+00	2.258E-01	-0.006
		919.63		-2.588E-01	3.386E+00	4.994E+00	5.443E-01	-0.052
		925.24		-8.260E-01	1.154E+00	1.754E+00	1.651E-01	-0.471
		1596.49	*	-6.656E-02	8.280E-02	1.158E-01	7.945E-03	-0.575
CE-141		145.44	*	3.383E-04	6.740E-02	1.102E-01	6.218E-03	0.003
CE-143		57.37		-9.810E-05	6.740E-02	Half-Life	too short	
		231.56		-2.183E-03	6.740E-02	Half-Life	too short	
		293.26	*	2.048E-03	6.740E-02	Half-Life	too short	
	+	350.59		4.808E-02	6.740E-02	Half-Life	too short	
		490.36		-1.479E-03	6.740E-02	Half-Life	too short	
		664.57		1.988E-04	6.740E-02	Half-Life	too short	
		721.93		1.783E-03	6.740E-02	Half-Life	too short	
CE-144		80.11		3.403E+00	3.255E+00	3.776E+00	3.461E-01	0.901
		133.54	*	3.625E-02	2.284E-01	3.769E-01	5.323E-02	0.096
PM-144		476.78		7.531E-02	6.817E-02	1.214E-01	8.481E-03	0.620
		618.01		4.360E-02	3.590E-02	6.388E-02	3.686E-03	0.682
		696.49	*	2.060E-03	3.949E-02	6.402E-02	3.602E-03	0.032
		778.57		-1.519E+00	2.327E+00	3.662E+00	2.540E-01	-0.415
PR-144		696.49	*	1.397E-01	2.677E+00	4.340E+00	2.440E-01	0.032
		1489.15		1.008E+00	1.278E+01	2.090E+01	1.491E+00	0.048
PM-146		453.90	*	-2.377E-02	5.428E-02	7.811E-02	6.765E-03	-0.304
		633.02		1.601E-01	1.442E+00	2.362E+00	8.680E-01	0.068
		735.90		-5.674E-02	1.758E-01	2.733E-01	7.645E-02	-0.208

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		2.468E-03	1.046E-01	1.685E-01	2.158E-02	0.015
		91.11		8.702E-01	3.162E-01	6.364E-01	6.257E-02	1.367
		319.41		-8.716E-01	3.854E+00	6.384E+00	3.772E-01	-0.137
		439.89		5.403E+00	7.069E+00	1.225E+01	7.173E-01	0.441
PM-149	*	531.02		4.055E-01	6.679E-01	1.141E+00	1.541E-01	0.355
		285.90		1.144E+02	1.337E+02	2.332E+02	3.310E+01	0.491
EU-152	*	121.78		6.749E-03	7.852E-02	1.296E-01	9.965E-03	0.052
		244.69		5.285E-01	3.568E-01	5.579E-01	3.156E-02	0.947
		344.27		-8.787E-03	1.104E-01	1.669E-01	1.106E-02	-0.053
		443.98		-6.733E-01	1.031E+00	1.622E+00	9.493E-02	-0.415
		778.89		-1.495E-01	2.706E-01	4.306E-01	2.988E-02	-0.347
		867.32		2.531E-01	8.955E-01	1.434E+00	1.222E-01	0.176
		964.01		6.930E-01	4.031E-01	6.765E-01	5.764E-02	1.024
		1085.78		-1.889E-01	4.544E-01	7.158E-01	5.037E-02	-0.264
		1112.02		2.393E-01	3.898E-01	6.000E-01	3.988E-02	0.399
		1407.95		8.657E-02	2.196E-01	3.739E-01	2.719E-02	0.232
GD-153	+	69.67		1.543E-01	2.163E+00	3.191E+00	2.788E-01	0.048
		83.37		3.412E+01	1.752E+01	2.839E+01	2.666E+00	1.202
		97.43	*	-1.287E-02	9.577E-02	1.382E-01	1.129E-02	-0.093
		103.18		3.411E-02	1.157E-01	1.934E-01	1.445E-02	0.176
EU-154		123.07		9.663E-03	5.693E-02	9.424E-02	8.895E-03	0.103
		247.94		-2.235E-01	4.120E-01	5.842E-01	5.530E-02	-0.383
		591.81		-1.602E-01	6.815E-01	1.087E+00	1.046E-01	-0.147
		723.30		1.487E-02	2.361E-01	3.302E-01	2.402E-02	0.045
		756.87		-8.249E-01	9.290E-01	1.310E+00	1.389E-01	-0.630
		873.19		-6.412E-02	3.318E-01	5.431E-01	6.653E-02	-0.118
		996.32		1.024E-01	4.003E-01	6.786E-01	1.191E-01	0.151
		1004.76		9.656E-02	2.291E-01	3.946E-01	4.439E-02	0.245
EU-155	*	1274.45		-4.480E-02	1.242E-01	1.926E-01	1.912E-02	-0.233
		48.70		1.477E+00	3.799E+00	6.490E+00	5.235E-01	0.228
		60.01		2.679E+00	6.843E+00	1.031E+01	8.957E-01	0.260
		86.54		5.730E-01	1.548E-01	2.154E-01	2.094E-02	2.660
TB-160	+	105.31	*	-2.308E-03	1.190E-01	1.965E-01	1.449E-02	-0.012
		86.79		1.544E+00	4.169E-01	5.739E-01	5.545E-02	2.691
		197.04		4.217E-01	6.320E-01	1.031E+00	5.490E-02	0.409
		215.65		-2.055E-01	8.625E-01	1.324E+00	7.234E-02	-0.155
	+	298.57		3.305E-01	1.602E-01	2.253E-01	1.324E-02	1.467
		879.36	*	-1.811E-02	1.553E-01	2.560E-01	2.239E-02	-0.071
		962.29		5.001E-01	7.195E-01	1.109E+00	9.470E-02	0.451
		966.15		1.240E+00	3.752E-01	6.559E-01	5.575E-02	1.890
		1177.93		-8.405E-02	3.943E-01	6.314E-01	3.592E-02	-0.133
		1271.85		1.728E-01	6.916E-01	1.164E+00	7.768E-02	0.148
		80.57		2.008E-01	4.270E-01	4.723E-01	4.343E-02	0.425
		184.41		1.648E-01	5.263E-02	7.899E-02	4.128E-03	2.087
HO-166M	+	280.46		-7.072E-02	9.085E-02	1.470E-01	8.564E-03	-0.481
		410.95		1.687E-01	2.816E-01	4.834E-01	2.810E-02	0.349
		711.68	*	-1.815E-02	6.812E-02	1.071E-01	6.268E-03	-0.169
		752.31		9.596E-02	3.097E-01	5.120E-01	3.327E-02	0.187
		810.29		-3.054E-02	6.025E-02	9.586E-02	7.170E-03	-0.319

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		-1.222E+01	4.552E+01	7.572E+01	6.582E+00	-0.161
		52.39		-1.159E+01	2.297E+01	3.780E+01	3.321E+00	-0.307
		59.40		1.685E+01	3.695E+01	5.589E+01	4.855E+00	0.301
		66.72	*	-2.213E+01	3.872E+01	5.509E+01	4.791E+00	-0.402
LU-176	+	88.36		1.128E+00	3.045E-01	4.360E-01	4.226E-02	2.587
		201.83		-2.383E-02	3.178E-02	4.951E-02	2.654E-03	-0.481
		306.84	*	7.418E-03	2.691E-02	4.436E-02	2.613E-03	0.167
		401.10		8.908E-01	7.078E+00	1.185E+01	6.865E-01	0.075
LU-177		112.95		-9.659E-01	2.000E+00	3.233E+00	2.120E-01	-0.299
	+	208.36	*	3.907E+00	1.737E+00	2.393E+00	1.295E-01	1.632
LU-177M		52.97		-1.460E+00	2.340E+00	3.829E+00	3.375E-01	-0.381
		54.07		-1.680E-02	1.211E+00	2.033E+00	1.797E-01	-0.008
	+	61.30		2.378E+00	2.617E+00	3.175E+00	2.758E-01	0.749
		121.62		-4.943E-03	4.049E-01	6.656E-01	3.934E-02	-0.007
		147.16		-2.727E-01	6.971E-01	1.120E+00	6.009E-02	-0.243
		171.86		3.429E-01	5.229E-01	8.746E-01	4.490E-02	0.392
		218.09		1.241E-01	9.393E-01	1.523E+00	8.350E-02	0.081
	+	268.79		3.122E+00	1.755E+00	1.750E+00	1.011E-01	1.784
		319.02		-1.583E-01	2.852E-01	4.635E-01	2.737E-02	-0.342
		367.43		1.389E-02	9.770E-01	1.630E+00	9.547E-02	0.009
		413.65	*	-1.725E-01	2.075E-01	3.260E-01	1.897E-02	-0.529
HF-181		56.28		-1.841E-01	1.333E+00	2.152E+00	1.895E-01	-0.086
		57.53		-1.095E-01	7.721E-01	1.133E+00	9.924E-02	-0.097
		65.20		-6.921E-01	1.306E+00	1.863E+00	1.618E-01	-0.372
		133.02		-2.368E-02	7.577E-02	1.227E-01	6.889E-03	-0.193
		136.25		7.950E-02	5.123E-01	8.449E-01	4.689E-02	0.094
		345.85		-8.381E-03	2.307E-01	3.343E-01	1.972E-02	-0.025
		482.03	*	-2.591E-02	4.500E-02	7.063E-02	4.131E-03	-0.367
W-181		56.28		-7.137E-02	5.164E-01	8.335E-01	7.339E-02	-0.086
		57.53		-4.237E-02	2.994E-01	4.391E-01	3.848E-02	-0.096
		65.20	*	-2.662E-01	5.023E-01	7.165E-01	6.224E-02	-0.372
TA-182		67.75		-6.930E-02	1.417E-01	2.149E-01	1.871E-02	-0.322
		100.10		5.963E-02	1.929E-01	3.229E-01	2.527E-02	0.185
		152.43		3.627E-02	3.639E-01	5.967E-01	3.154E-02	0.061
		222.10		-7.220E-02	3.765E-01	6.002E-01	3.307E-02	-0.120
		1001.68		9.093E-01	2.215E+00	3.809E+00	3.093E-01	0.239
		1121.28		5.494E-01	2.092E-01	3.750E-01	2.438E-02	1.465
		1189.05		-2.206E-01	3.621E-01	5.569E-01	3.232E-02	-0.396
		1221.42	*	-5.861E-02	2.295E-01	3.659E-01	2.246E-02	-0.160
		1230.97		-8.008E-03	6.632E-01	9.267E-01	5.781E-02	-0.009
RE-183		57.98		2.644E-02	2.923E-01	4.342E-01	3.797E-02	0.061
		59.32		7.550E-02	1.537E-01	2.330E-01	2.025E-02	0.324
		67.20		-8.499E-02	2.719E-01	3.924E-01	3.414E-02	-0.217
		162.32	*	-8.424E-02	1.181E-01	1.860E-01	9.569E-03	-0.453
	+	208.81		3.205E+00	1.425E+00	1.977E+00	1.070E-01	1.622
		291.72		9.019E-01	1.122E+00	1.739E+00	1.019E-01	0.518
RE-184		57.98		9.686E-02	1.071E+00	1.591E+00	1.391E-01	0.061
		59.32		2.764E-01	5.628E-01	8.528E-01	7.412E-02	0.324
		67.20		-3.113E-01	9.961E-01	1.437E+00	1.250E-01	-0.217

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		5.632E-02	3.766E-01	6.178E-01	3.187E-02	0.091
		216.55		4.329E-02	2.931E-01	4.757E-01	2.603E-02	0.091
		252.85	*	-5.120E-02	2.565E-01	4.061E-01	2.316E-02	-0.126
		318.01		-1.933E-01	4.917E-01	8.068E-01	4.764E-02	-0.240
		792.07		1.881E+00	1.211E+00	2.060E+00	1.476E-01	0.913
		903.28		4.887E-01	1.253E+00	1.891E+00	1.714E-01	0.258
		920.93		1.803E-01	4.777E-01	7.918E-01	7.062E-02	0.228
		59.72		1.306E-01	4.113E-01	6.177E-01	5.364E-02	0.211
		61.14		1.474E-01	2.268E-01	3.455E-01	3.001E-02	0.427
		69.30		4.537E-02	3.720E-01	5.796E-01	5.060E-02	0.078
		592.07		-9.241E-01	2.895E+00	4.590E+00	2.540E-01	-0.201
		646.12	*	1.704E-02	4.816E-02	8.045E-02	4.199E-03	0.212
		717.42		5.777E-01	1.028E+00	1.699E+00	1.010E-01	0.340
		874.81		4.449E-02	6.556E-01	1.100E+00	9.527E-02	0.040
RE-188		880.27		-2.148E-01	8.286E-01	1.345E+00	1.179E-01	-0.160
		155.03	*	8.036E-02	1.849E-01	3.072E-01	1.612E-02	0.262
		477.96		2.810E+00	3.223E+00	5.647E+00	3.305E-01	0.498
		633.10		3.477E-01	2.941E+00	4.825E+00	2.559E-01	0.072
W-188	+	63.58		9.001E+01	9.904E+01	1.099E+02	9.548E+00	0.819
IR-192		227.08		5.636E+00	1.391E+01	2.284E+01	1.266E+00	0.247
		290.67	*	-8.290E+00	8.877E+00	1.206E+01	7.061E-01	-0.688
	+	295.96		1.099E+00	1.976E-01	3.058E-01	1.822E-02	3.594
		308.46		5.471E-02	9.719E-02	1.684E-01	1.003E-02	0.325
AU-195		316.51	*	2.680E-02	3.632E-02	6.338E-02	3.760E-03	0.423
		468.07		3.554E-02	7.566E-02	1.137E-01	7.659E-03	0.313
		604.41		6.499E-02	6.237E-01	8.861E-01	9.912E-02	0.073
		612.46		-1.001E-02	8.719E-01	1.222E+00	8.914E-02	-0.008
		65.12		-1.189E-01	2.326E-01	3.322E-01	2.886E-02	-0.358
		66.83		-7.560E-02	1.281E-01	1.821E-01	1.584E-02	-0.415
	+	75.70		1.253E+00	2.821E-01	5.666E-01	5.060E-02	2.212
		98.88	*	-9.896E-03	2.614E-01	4.002E-01	3.193E-02	-0.025
		129.76		3.669E+00	3.218E+00	5.500E+00	3.126E-01	0.667
		367.94	*	-1.170E-06	3.218E+00	Half-Life	too short	
TL-200		579.30		1.222E-02	3.218E+00	Half-Life	too short	
		828.27		4.640E-04	3.218E+00	Half-Life	too short	
		1205.75		-4.667E-03	3.218E+00	Half-Life	too short	
		68.90		3.426E+00	7.430E+00	1.174E+01	1.024E+00	0.292
TL-201		70.82		1.313E+00	4.385E+00	6.535E+00	5.726E-01	0.201
		80.30		9.461E+00	9.577E+00	1.106E+01	1.015E+00	0.855
		135.34		4.520E+00	3.491E+01	5.753E+01	3.203E+00	0.079
		167.43	*	-1.420E+00	9.517E+00	1.538E+01	7.852E-01	-0.092
TL-202		68.90		2.606E-01	5.651E-01	8.927E-01	7.787E-02	0.292
		70.82		9.957E-02	3.326E-01	4.957E-01	4.343E-02	0.201
		80.30		7.178E-01	7.266E-01	8.392E-01	7.703E-02	0.855
		439.56	*	8.606E-02	8.208E-02	1.447E-01	8.468E-03	0.595
HG-203		70.83		4.119E-01	1.384E+00	2.061E+00	2.823E-01	0.200
		72.87		2.316E+00	9.060E-01	1.392E+00	1.856E-01	1.665
		82.60		1.704E+00	1.839E+00	2.091E+00	2.970E-01	0.815
		279.20	*	-2.090E-03	4.416E-02	7.430E-02	4.590E-03	-0.028

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		6.089E-01	2.506E-01	3.969E-01	3.500E-02	1.534
	+	74.97		6.925E-01	1.559E-01	2.825E-01	2.514E-02	2.451
	+	84.90		4.401E-01	2.259E-01	3.862E-01	3.672E-02	1.139
		569.67		1.395E-02	3.295E-02	5.560E-02	3.132E-03	0.251
		1063.62	*	1.288E-02	6.057E-02	1.019E-01	7.487E-03	0.126
TL-207		1770.23		-1.602E+00	6.733E-01	6.039E-01	3.739E-02	-2.652
		81.07		9.349E-02	3.379E-01	3.675E-01	3.391E-02	0.254
	+	83.78		2.901E-01	1.490E-01	2.389E-01	2.250E-02	1.215
		94.90		5.230E-01	2.850E-01	4.472E-01	3.815E-02	1.170
		122.32		9.971E-01	1.893E+00	3.179E+00	2.151E-01	0.314
		144.24		1.916E-02	7.441E-01	1.199E+00	8.304E-02	0.016
		154.21		2.939E-01	4.237E-01	7.112E-01	4.674E-02	0.413
	+	269.46		7.278E-01	4.093E-01	4.179E-01	2.526E-02	1.742
		323.87	*	-1.055E-01	8.059E-01	1.163E+00	1.925E-01	-0.091
	+	338.28		8.174E+00	1.773E+00	2.723E+00	2.884E-01	3.002
		445.03		-3.176E+00	2.448E+00	3.614E+00	3.723E-01	-0.879
PO-209		260.50		7.643E+00	1.032E+01	1.721E+01	9.879E-01	0.444
		262.80		-3.606E+01	3.370E+01	4.258E+01	2.449E+00	-0.847
		896.60	*	2.402E-01	7.419E+00	1.240E+01	1.125E+00	0.019
BI-210		46.50	*	-4.278E+00	5.985E+00	9.544E+00	7.431E-01	-0.448
PB-210		46.50	*	-4.278E+00	5.985E+00	9.544E+00	7.431E-01	-0.448
PO-210		46.50	*	-4.278E+00	5.982E+00	9.544E+00	6.403E-01	-0.448
PB-211		404.84	*	-1.486E+00	1.420E+00	1.634E+00	1.018E+00	-0.910
		427.08		-2.450E+00	2.751E+00	3.526E+00	2.180E+00	-0.695
		831.96		2.439E-02	1.190E+00	1.994E+00	1.248E+00	0.012
BI-212	+	727.18	*	1.074E+00	5.321E-01	7.490E-01	5.945E-02	1.433
		785.46		2.481E+00	1.934E+00	3.459E+00	2.439E-01	0.717
		1620.62		-8.480E-02	1.300E+00	2.142E+00	1.453E-01	-0.040
PO-215		81.07		9.349E-02	3.379E-01	3.675E-01	3.391E-02	0.254
	+	83.78		2.901E-01	1.490E-01	2.389E-01	2.250E-02	1.215
		94.90		5.230E-01	2.850E-01	4.472E-01	3.815E-02	1.170
		122.32		9.971E-01	1.893E+00	3.179E+00	2.151E-01	0.314
		144.24		1.916E-02	7.441E-01	1.199E+00	8.304E-02	0.016
		154.21		2.939E-01	4.237E-01	7.112E-01	4.674E-02	0.413
	+	269.46		7.278E-01	4.093E-01	4.179E-01	2.526E-02	1.742
		323.87	*	-1.055E-01	8.059E-01	1.163E+00	1.925E-01	-0.091
	+	338.28		8.174E+00	1.773E+00	2.723E+00	2.884E-01	3.002
		445.03		-3.176E+00	2.448E+00	3.614E+00	3.723E-01	-0.879
	+	271.23		9.338E-01	5.275E-01	5.258E-01	4.257E-02	1.776
RN-219		401.81	*	3.059E-01	4.325E-01	7.477E-01	1.017E-01	0.409
RN-220		549.76	*	8.490E-01	2.919E+01	4.784E+01	2.730E+00	0.018
RA-223		81.07		9.349E-02	3.379E-01	3.675E-01	3.391E-02	0.254
	+	83.78		2.901E-01	1.490E-01	2.389E-01	2.250E-02	1.215
		94.90		5.230E-01	2.850E-01	4.472E-01	3.815E-02	1.170
		122.32		9.971E-01	1.893E+00	3.179E+00	2.151E-01	0.314
		144.24		1.916E-02	7.441E-01	1.199E+00	8.304E-02	0.016
		154.21		2.939E-01	4.237E-01	7.112E-01	4.674E-02	0.413
	+	269.46		7.278E-01	4.093E-01	4.179E-01	2.526E-02	1.742
		323.87	*	-1.055E-01	8.059E-01	1.163E+00	1.925E-01	-0.091

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		8.174E+00	1.773E+00	2.723E+00	2.884E-01	3.002
		445.03		-3.176E+00	2.448E+00	3.614E+00	3.723E-01	-0.879
		79.80		2.107E+00	2.655E+00	2.978E+00	6.467E-01	0.708
		236.00		2.706E+00	4.361E-01	6.769E-01	7.002E-02	3.998
		256.20	*	-3.052E-02	4.343E-01	6.925E-01	9.644E-02	-0.044
TH-227		286.10		1.291E+00	1.636E+00	2.853E+00	3.305E-01	0.452
	+	299.80		4.170E+00	2.119E+00	2.916E+00	4.757E-01	1.430
		304.40		-2.298E-01	2.262E+00	3.277E+00	5.677E-01	-0.070
		334.20		8.734E-02	3.171E+00	4.056E+00	7.449E-01	0.022
		79.80		2.107E+00	2.656E+00	2.978E+00	6.548E-01	0.708
TH-229	+	94.00		9.295E+00	3.605E+00	4.180E+00	9.111E-01	2.224
		236.00		2.706E+00	4.126E-01	6.769E-01	6.046E-02	3.998
		256.20	*	-3.052E-02	4.343E-01	6.925E-01	1.168E-01	-0.044
		286.10		1.291E+00	2.080E+00	2.853E+00	2.858E+00	0.452
	+	299.80		4.170E+00	2.119E+00	2.916E+00	4.757E-01	1.430
PA-231		304.40		-2.298E-01	2.262E+00	3.277E+00	5.677E-01	-0.070
		334.20		8.734E-02	3.171E+00	4.056E+00	7.449E-01	0.022
	+	85.43		4.343E-01	2.230E-01	4.107E-01	3.922E-02	1.058
	+	88.47		3.246E-01	1.174E-01	2.491E-01	2.409E-02	1.303
		100.00		6.659E-02	1.993E-01	3.340E-01	2.618E-02	0.199
TH-231		193.63	*	-4.868E-01	5.572E-01	8.637E-01	4.575E-02	-0.564
		210.97		1.654E+00	9.448E-01	1.471E+00	7.989E-02	1.124
		283.67	*	6.067E-01	1.660E+00	2.845E+00	3.925E-01	0.213
		301.29		1.060E+00	7.142E-01	1.139E+00	1.196E-01	0.930
		81.07		9.349E-02	3.379E-01	3.675E-01	3.391E-02	0.254
U-231	+	83.78		2.901E-01	1.490E-01	2.389E-01	2.250E-02	1.215
		94.90		5.230E-01	2.850E-01	4.472E-01	3.815E-02	1.170
		122.32		9.971E-01	1.893E+00	3.179E+00	2.151E-01	0.314
		144.24		1.916E-02	7.441E-01	1.199E+00	8.304E-02	0.016
		154.21		2.939E-01	4.237E-01	7.112E-01	4.674E-02	0.413
PA-233	+	269.46		7.278E-01	4.093E-01	4.179E-01	2.526E-02	1.742
		323.87	*	-1.055E-01	8.059E-01	1.163E+00	1.925E-01	-0.091
	+	338.28		8.174E+00	1.773E+00	2.723E+00	2.884E-01	3.002
		445.03		-3.176E+00	2.448E+00	3.614E+00	3.723E-01	-0.879
	+	84.21		1.469E+01	7.540E+00	1.212E+01	1.146E+00	1.212
PA-234	+	92.29		1.079E+01	3.586E+00	5.113E+00	4.576E-01	2.111
		95.87	*	-1.354E-01	1.529E+00	2.215E+00	1.858E-01	-0.061
		108.00		-3.622E-01	2.663E+00	4.373E+00	3.056E-01	-0.083
	+	75.28		2.021E+01	5.223E+00	8.848E+00	1.373E+00	2.284
	+	86.59		9.310E+00	3.450E+00	3.489E+00	9.478E-01	2.669
PA-234	+	300.12		1.163E+00	5.809E-01	8.144E-01	1.097E-01	1.427
		311.98	*	-3.876E-02	6.516E-02	1.055E-01	6.596E-03	-0.367
		340.50		9.728E-01	7.699E-01	1.179E+00	2.710E-01	0.825
		398.62		-1.451E+00	2.227E+00	3.483E+00	9.006E-01	-0.416
		415.76		1.503E-01	1.842E+00	3.069E+00	6.320E-01	0.049
PA-234	+	63.00		2.585E+00	2.864E+00	3.252E+00	5.053E-01	0.795
		94.67		5.420E-01	2.157E-01	3.359E-01	4.153E-02	1.614
		98.44		2.652E-02	1.118E-01	1.633E-01	9.097E-02	0.162
		99.86		1.859E-01	5.055E-01	8.481E-01	6.663E-02	0.219

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		7.018E-02	2.021E-01	3.376E-01	3.652E-02	0.208
		131.20		-4.617E-02	1.200E-01	1.940E-01	1.096E-02	-0.238
		152.70		1.134E-01	3.471E-01	5.738E-01	8.966E-02	0.198
	+	186.00		5.933E+00	2.600E+00	2.874E+00	8.753E-01	2.064
		226.40		1.876E-01	4.407E-01	7.234E-01	8.270E-02	0.259
		227.20		2.121E-01	4.665E-01	7.676E-01	4.257E-02	0.276
		248.90		-2.111E-01	8.532E-01	1.345E+00	2.886E-01	-0.157
	+	293.70		6.853E+00	1.603E+00	1.939E+00	3.123E-01	3.534
		369.80		-4.689E-01	9.263E-01	1.486E+00	3.097E-01	-0.315
		568.70		4.762E-02	1.066E+00	1.747E+00	9.848E-02	0.027
		569.50		1.277E-01	2.927E-01	4.944E-01	2.785E-02	0.258
		574.00		5.027E-01	1.660E+00	2.772E+00	1.557E-01	0.181
		699.00		-5.177E-01	7.972E-01	1.201E+00	2.155E-01	-0.431
		706.10		1.197E+00	1.282E+00	2.048E+00	9.039E-01	0.584
		733.00		-8.721E-02	4.677E-01	6.934E-01	1.482E-01	-0.126
		742.81		5.261E-01	1.635E+00	2.645E+00	1.771E+00	0.199
		796.30		1.415E+00	1.230E+00	1.923E+00	5.123E-01	0.736
		805.60		8.040E-01	1.095E+00	1.905E+00	5.777E-01	0.422
		819.60		-6.915E-01	1.143E+00	1.731E+00	6.548E-01	-0.399
		826.30		1.455E-01	7.846E-01	1.333E+00	5.944E-01	0.109
		831.60		-7.046E-02	6.015E-01	9.936E-01	2.944E-01	-0.071
		876.40		6.145E-02	9.150E-01	1.532E+00	1.575E+00	0.040
		880.51		-6.227E-02	2.989E-01	4.880E-01	4.278E-02	-0.128
		883.24		-2.281E-02	3.075E-01	5.082E-01	3.418E-01	-0.045
		899.00		-3.717E-02	8.625E-01	1.430E+00	6.263E-01	-0.026
		925.00		-8.773E-01	1.144E+00	1.728E+00	1.535E-01	-0.508
		926.50		-1.854E-01	1.783E-01	2.499E-01	6.338E-02	-0.742
		946.00	*	-2.581E-01	3.339E-01	5.046E-01	9.487E-02	-0.512
		949.00		1.396E-01	4.736E-01	8.089E-01	7.011E-02	0.173
		980.50		3.145E-01	8.014E-01	1.379E+00	1.151E-01	0.228
PA-234M		1394.10		-1.757E+00	1.813E+00	1.841E+00	1.195E+00	-0.954
		766.42		1.320E+01	1.610E+01	2.513E+01	1.268E+01	0.525
		1001.03	*	7.064E-01	5.055E+00	8.477E+00	8.089E-01	0.083
U-235	+	89.95		3.258E+00	1.523E+00	2.142E+00	6.657E-01	1.521
	+	93.35		2.892E+00	1.232E+00	1.360E+00	3.819E-01	2.126
		105.00		4.821E-01	1.173E+00	1.954E+00	5.762E-01	0.247
		143.76	*	-3.395E-02	2.266E-01	3.623E-01	5.859E-02	-0.094
		163.35		-1.501E-01	5.092E-01	8.175E-01	1.453E-01	-0.184
	+	185.71		2.197E-01	7.017E-02	1.068E-01	5.594E-03	2.057
		205.31		-1.932E-01	6.349E-01	8.738E-01	1.560E-01	-0.221
NP-236		94.67		4.135E-01	1.595E-01	2.550E-01	2.185E-02	1.621
		98.44		2.007E-02	8.381E-02	1.235E-01	9.921E-03	0.163
		111.00		5.309E-02	1.528E-01	2.554E-01	1.716E-02	0.208
		160.31	*	-2.084E-02	8.603E-02	1.387E-01	7.174E-03	-0.150
NP-239		99.55		4.129E-02	1.737E-01	2.806E-01	2.215E-02	0.147
		117.00	*	6.632E-02	2.064E-01	3.443E-01	2.149E-02	0.193
	+	209.75		2.504E+00	1.114E+00	1.538E+00	8.336E-02	1.628
		228.18		2.363E-02	2.538E-01	4.101E-01	2.277E-02	0.058
		277.60		7.284E-02	2.024E-01	3.293E-01	1.914E-02	0.221



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		1.071E-01	1.799E+00	2.309E+00	1.364E-01	0.046
AM-241		59.54	*	9.506E-02	2.138E-01	3.231E-01	3.007E-02	0.294
CM-243		99.55		4.249E-02	1.788E-01	2.888E-01	2.280E-02	0.147
		103.76	*	1.728E-02	1.052E-01	1.750E-01	1.296E-02	0.099
		117.00		6.824E-02	2.124E-01	3.543E-01	2.211E-02	0.193
	+	209.75		2.469E+00	1.098E+00	1.516E+00	8.218E-02	1.628
		228.18		2.388E-02	2.565E-01	4.145E-01	2.301E-02	0.058
		277.60		7.344E-02	2.041E-01	3.320E-01	1.930E-02	0.221
AM-246		798.80		2.710E-03	1.719E-01	2.492E-01	1.814E-02	0.011
		1036.00		-1.180E-03	3.248E-01	5.361E-01	4.132E-02	-0.002
		1062.04		-3.716E-02	2.578E-01	4.187E-01	3.085E-02	-0.089
		1078.86	*	7.046E-02	1.676E-01	2.870E-01	2.048E-02	0.246
CM-247		278.00		2.120E-01	8.208E-01	1.367E+00	7.950E-02	0.155
		287.40		-3.632E-01	1.343E+00	2.171E+00	1.269E-01	-0.167
		402.60	*	1.645E-02	3.891E-02	6.635E-02	3.846E-03	0.248
CF-249		252.85		-1.913E-01	9.588E-01	1.518E+00	8.654E-02	-0.126
		333.44		-1.219E-01	3.112E-01	2.848E-01	1.683E-02	-0.428
		387.95	*	2.731E-02	4.185E-02	7.243E-02	4.191E-03	0.377
CF-251		176.60	*	-1.411E-01	1.402E-01	2.170E-01	1.121E-02	-0.651
		227.00		6.773E-02	4.181E-01	6.781E-01	3.759E-02	0.100
		285.00		1.484E+00	1.827E+00	3.203E+00	1.870E-01	0.463

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847004      *
* Acquisition date   : 27-JAN-2010 14:19:59 Detector SN#                   *
* Detector ID        : GAM23 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.64 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244847004 Analyst initials: MXR1                  *
* Batch Number       : 942717 Sample Quantity : 1.2593E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	1.948E+01	2.175E+00	3.060E-01	0.000E+00
CD-109	4.845E+00	1.282E+00	1.350E+00	0.000E+00
SN-126	4.756E-01	1.258E-01	1.333E-01	0.000E+00
TL-208	5.389E-01	9.186E-02	6.367E-02	0.000E+00
BI-211	3.700E+00	4.940E-01	3.542E-01	0.000E+00
PB-212	1.652E+00	1.630E-01	9.752E-02	0.000E+00
PO-212	1.652E+00	1.630E-01	9.752E-02	0.000E+00
BI-214	1.271E+00	2.038E-01	1.248E-01	0.000E+00
PB-214	1.287E+00	1.840E-01	1.229E-01	0.000E+00
PO-214	1.287E+00	1.840E-01	1.229E-01	0.000E+00
PO-216	1.652E+00	1.630E-01	9.752E-02	0.000E+00
PO-218	1.287E+00	1.840E-01	1.229E-01	0.000E+00
RA-224	5.083E+00	1.457E+00	1.110E+00	0.000E+00
RA-226	1.271E+00	2.038E-01	1.248E-01	0.000E+00
AC-228	1.447E+00	3.872E-01	2.346E-01	0.000E+00
RA-228	1.447E+00	3.872E-01	2.346E-01	0.000E+00
TH-228	1.678E+00	1.656E-01	9.909E-02	0.000E+00
TH-230	1.271E+00	2.038E-01	1.248E-01	0.000E+00
TH-232	1.447E+00	3.872E-01	2.346E-01	0.000E+00
TH-234	2.218E+00	2.416E+00	2.704E+00	0.000E+00
U-234	1.271E+00	2.038E-01	1.248E-01	0.000E+00
NP-237	1.396E+00	4.650E-01	3.973E-01	0.000E+00
U-238	2.218E+00	2.416E+00	2.704E+00	0.000E+00
AM-243	3.858E-01	8.511E-02	1.060E-01	0.000E+00
ANH-511	1.051E-01	6.738E-02	4.870E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	3.515E-01	3.294E-01	6.048E-01	0.000E+00 NOT IDENT.
NA-22	-1.654E-02	4.353E-02	6.888E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	2.332E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.106E-02	4.082E-02	6.352E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.740E-02	9.683E-02	0.000E+00	FAIL ABUN
SC-46	1.551E-02	4.023E-02	7.139E-02	0.000E+00	FAIL ABUN
V-48	-7.746E-02	8.081E-02	1.233E-01	0.000E+00	NOT IDENT.
CR-51	1.414E-01	4.103E-01	7.129E-01	0.000E+00	NOT IDENT.
MN-52	-2.855E-01	3.055E-01	4.282E-01	0.000E+00	NOT IDENT.
MN-54	-2.409E-02	3.809E-02	6.166E-02	0.000E+00	NOT IDENT.
CO-56	-8.018E-03	4.117E-02	6.942E-02	0.000E+00	FAIL ABUN
CO-57	8.114E-03	2.682E-02	4.718E-02	0.000E+00	NOT IDENT.
CO-58	-1.950E-02	3.933E-02	6.450E-02	0.000E+00	NOT IDENT.
FE-59	-5.105E-03	9.773E-02	1.638E-01	0.000E+00	NOT IDENT.
CO-60	-4.290E-03	4.178E-02	6.836E-02	0.000E+00	NOT IDENT.
ZN-65	9.174E-02	1.214E-01	1.927E-01	0.000E+00	NOT IDENT.
GE-68	7.393E-02	1.401E+00	2.375E+00	0.000E+00	NOT IDENT.
AS-73	-6.159E-01	1.176E+00	2.067E+00	0.000E+00	NOT IDENT.
AS-74	9.232E-02	1.104E-01	1.969E-01	0.000E+00	NOT IDENT.
SE-75	-5.538E-02	5.249E-02	6.923E-02	0.000E+00	NOT IDENT.
BR-77	1.058E+01	1.433E+01	2.569E+01	0.000E+00	FAIL ABUN
SR-82	-3.196E-01	3.899E-01	6.219E-01	0.000E+00	NOT IDENT.
RB-83	5.157E-02	7.161E-02	1.283E-01	0.000E+00	NOT IDENT.
RB-84	-2.396E-03	7.512E-02	1.283E-01	0.000E+00	NOT IDENT.
KR-85	6.794E+00	7.564E+00	1.222E+01	0.000E+00	NOT IDENT.
SR-85	3.520E-02	3.918E-02	6.328E-02	0.000E+00	NOT IDENT.
RB-86	1.366E-01	9.456E-01	1.617E+00	0.000E+00	NOT IDENT.
Y-88	1.760E-02	3.579E-02	6.586E-02	0.000E+00	NOT IDENT.
ZR-88	1.203E-02	3.223E-02	5.698E-02	0.000E+00	NOT IDENT.
Y-91	-1.050E+01	1.932E+01	3.043E+01	0.000E+00	NOT IDENT.
NB-94	3.346E-03	3.641E-02	6.103E-02	0.000E+00	NOT IDENT.
NB-95	4.878E-02	5.415E-02	9.537E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.844E-01	3.147E-01	0.000E+00	NOT IDENT.
ZR-95	-4.536E-02	8.344E-02	1.264E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.547E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.370E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.110E+00	1.794E+01	2.897E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.368E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.229E-02	3.606E-02	6.229E-02	0.000E+00	NOT IDENT.
RH-102	1.929E-03	3.049E-02	5.231E-02	0.000E+00	NOT IDENT.
RU-103	-7.770E-05	4.348E-02	7.403E-02	0.000E+00	NOT IDENT.
RH-106	-3.994E-02	3.468E-01	5.760E-01	0.000E+00	NOT IDENT.
RU-106	-3.994E-02	3.468E-01	5.760E-01	0.000E+00	NOT IDENT.
AG-108M	-2.652E-03	3.634E-02	6.211E-02	0.000E+00	NOT IDENT.
AG-110M	1.848E-02	3.503E-02	6.133E-02	0.000E+00	NOT IDENT.
IN-111	-2.644E-02	1.520E+00	2.182E+00	0.000E+00	NOT IDENT.
IN-113M	-2.154E-03	4.791E-02	8.255E-02	0.000E+00	NOT IDENT.
SN-113	-2.154E-03	4.791E-02	8.255E-02	0.000E+00	NOT IDENT.
IN-114M	1.354E-01	2.230E-01	3.440E-01	0.000E+00	NOT IDENT.
CD-115	-4.116E+00	1.561E+01	2.591E+01	0.000E+00	NOT IDENT.
SN-117M	2.663E-02	5.991E-02	1.048E-01	0.000E+00	NOT IDENT.
SB-122	4.138E-01	2.778E+00	4.747E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.085E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.817E-03	2.992E-02	5.157E-02	0.000E+00	NOT IDENT.
I-124	-5.414E-01	1.076E+00	1.479E+00	0.000E+00	NOT IDENT.
SB-124	-4.058E-02	6.339E-02	8.935E-02	0.000E+00	FAIL ABUN
SB-125	-8.974E-02	9.988E-02	1.610E-01	0.000E+00	FAIL ABUN
TE-125M	3.919E+00	1.003E+01	1.777E+01	0.000E+00	NOT IDENT.
I-126	5.828E-02	2.036E-01	3.482E-01	0.000E+00	NOT IDENT.
SB-126	8.743E-02	1.841E-01	2.797E-01	0.000E+00	NOT IDENT.
SB-127	-1.789E-01	1.758E+00	2.902E+00	0.000E+00	NOT IDENT.
XE-127	-6.560E-02	5.418E-02	8.295E-02	0.000E+00	NOT IDENT.
I-131	-3.318E-02	1.278E-01	2.181E-01	0.000E+00	NOT IDENT.
TE-132	8.376E-02	9.367E-01	1.585E+00	0.000E+00	NOT IDENT.
BA-133	1.699E-02	5.010E-02	7.785E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.459E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.674E-02	5.971E-02	1.023E-01	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.855E-01	3.424E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.598E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.455E-02	1.028E-01	1.622E-01	0.000E+00	FAIL ABUN
BA-137M	-3.371E-03	3.716E-02	6.156E-02	0.000E+00	NOT IDENT.
CS-137	-3.563E-03	3.929E-02	6.507E-02	0.000E+00	NOT IDENT.
CE-139	1.184E-02	3.159E-02	5.497E-02	0.000E+00	NOT IDENT.
BA-140	-2.242E-01	3.059E-01	4.737E-01	0.000E+00	NOT IDENT.
LA-140	-6.656E-02	8.114E-02	1.156E-01	0.000E+00	FAIL ABUN
CE-141	3.383E-04	6.605E-02	1.139E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.428E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	3.625E-02	2.239E-01	3.898E-01	0.000E+00	NOT IDENT.
PM-144	2.060E-03	3.870E-02	6.468E-02	0.000E+00	NOT IDENT.
PR-144	1.397E-01	2.624E+00	4.385E+00	0.000E+00	NOT IDENT.

PM-146	-2.377E-02	5.319E-02	7.940E-02	0.000E+00	NOT IDENT.
ND-147	4.055E-01	6.545E-01	1.157E+00	0.000E+00	FAIL ABUN
PM-149	1.144E+02	1.310E+02	2.386E+02	0.000E+00	NOT IDENT.
EU-152	-8.787E-03	1.081E-01	1.703E-01	0.000E+00	NOT IDENT.
GD-153	-1.287E-02	9.385E-02	1.436E-01	0.000E+00	FAIL ABUN
EU-154	-4.480E-02	1.217E-01	1.929E-01	0.000E+00	NOT IDENT.
EU-155	-2.308E-03	1.167E-01	2.039E-01	0.000E+00	FAIL ABUN
TB-160	-1.811E-02	1.522E-01	2.578E-01	0.000E+00	FAIL ABUN
HO-166M	-1.815E-02	6.676E-02	1.082E-01	0.000E+00	FAIL ABUN
TM-171	-2.213E+01	3.794E+01	5.753E+01	0.000E+00	NOT IDENT.
LU-176	7.418E-03	2.638E-02	4.535E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.703E+00	2.460E+00	0.000E+00	FAIL ABUN
LU-177M	-1.725E-01	2.033E-01	3.318E-01	0.000E+00	FAIL ABUN
HF-181	-2.591E-02	4.410E-02	7.174E-02	0.000E+00	NOT IDENT.
W-181	-2.662E-01	4.923E-01	7.484E-01	0.000E+00	NOT IDENT.
TA-182	-5.861E-02	2.249E-01	3.666E-01	0.000E+00	NOT IDENT.
RE-183	-8.424E-02	1.157E-01	1.919E-01	0.000E+00	FAIL ABUN
RE-184	-5.120E-02	2.514E-01	4.163E-01	0.000E+00	NOT IDENT.
OS-185	1.704E-02	4.720E-02	8.137E-02	0.000E+00	NOT IDENT.
RE-188	8.036E-02	1.812E-01	3.171E-01	0.000E+00	NOT IDENT.
W-188	-8.290E+00	8.699E+00	1.234E+01	0.000E+00	FAIL ABUN
IR-192	2.680E-02	3.559E-02	6.477E-02	0.000E+00	FAIL ABUN
AU-195	-9.896E-03	2.562E-01	4.156E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	9.073E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.420E+00	9.326E+00	1.586E+01	0.000E+00	NOT IDENT.
TL-202	8.606E-02	8.044E-02	1.472E-01	0.000E+00	NOT IDENT.
HG-203	-2.090E-03	4.328E-02	7.606E-02	0.000E+00	NOT IDENT.
BI-207	1.288E-02	5.936E-02	1.023E-01	0.000E+00	FAIL ABUN
TL-207	-1.055E-01	7.897E-01	1.188E+00	0.000E+00	FAIL ABUN
PO-209	2.402E-01	7.271E+00	1.248E+01	0.000E+00	NOT IDENT.
BI-210	-4.278E+00	5.865E+00	1.001E+01	0.000E+00	NOT IDENT.
PB-210	-4.278E+00	5.865E+00	1.001E+01	0.000E+00	NOT IDENT.
PO-210	-4.278E+00	5.863E+00	1.001E+01	0.000E+00	NOT IDENT.
PB-211	-1.486E+00	1.392E+00	1.663E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.215E-01	7.563E-01	0.000E+00	FAIL ABUN
PO-215	-1.055E-01	7.897E-01	1.188E+00	0.000E+00	FAIL ABUN
RN-219	3.059E-01	4.239E-01	7.614E-01	0.000E+00	FAIL ABUN
RN-220	8.490E-01	2.861E+01	4.850E+01	0.000E+00	NOT IDENT.
RA-223	-1.055E-01	7.897E-01	1.188E+00	0.000E+00	FAIL ABUN
AC-227	-3.052E-02	4.257E-01	7.097E-01	0.000E+00	FAIL ABUN
TH-227	-3.052E-02	4.257E-01	7.097E-01	0.000E+00	FAIL ABUN
TH-229	-4.868E-01	5.461E-01	8.887E-01	0.000E+00	FAIL ABUN
PA-231	6.067E-01	1.627E+00	2.912E+00	0.000E+00	NOT IDENT.
TH-231	-1.055E-01	7.897E-01	1.188E+00	0.000E+00	FAIL ABUN
U-231	-1.354E-01	1.499E+00	2.302E+00	0.000E+00	FAIL ABUN
PA-233	-3.876E-02	6.386E-02	1.078E-01	0.000E+00	FAIL ABUN
PA-234	-2.581E-01	3.272E-01	5.076E-01	0.000E+00	FAIL ABUN
PA-234M	7.064E-01	4.954E+00	8.520E+00	0.000E+00	NOT IDENT.
U-235	-3.395E-02	2.221E-01	3.743E-01	0.000E+00	FAIL ABUN
NP-236	-2.084E-02	8.431E-02	1.431E-01	0.000E+00	NOT IDENT.
NP-239	6.632E-02	2.023E-01	3.568E-01	0.000E+00	FAIL ABUN
AM-241	9.506E-02	2.095E-01	3.379E-01	0.000E+00	NOT IDENT.
CM-243	1.728E-02	1.031E-01	1.816E-01	0.000E+00	FAIL ABUN
AM-246	7.046E-02	1.642E-01	2.881E-01	0.000E+00	NOT IDENT.
CM-247	1.645E-02	3.813E-02	6.756E-02	0.000E+00	NOT IDENT.
CF-249	2.731E-02	4.101E-02	7.380E-02	0.000E+00	NOT IDENT.
CF-251	-1.411E-01	1.374E-01	2.236E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847004.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 14:19:59
Sample ID          : G244847004          Sample quantity  : 1.25930E+02 GRAM
Detector name      : GAM23              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time : 0 02:00:01.64  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 942717             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

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## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	696	10.67*	9.974E-01	1.948E+01	1.948E+01	11.39
CD-109	88.03	308	3.72*	5.213E+00	4.730E+00	4.845E+00	26.99
SN-126	64.28	-----	9.60	2.723E+00	-----	Line Not Found	-----
	86.94	308	8.90	5.213E+00	1.977E+00	1.977E+00	48.63
	87.57	308	37.00*	5.213E+00	4.756E-01	4.756E-01	26.99
TL-208	277.35	-----	6.80	4.140E+00	-----	Line Not Found	-----
	510.84	90	21.60	2.547E+00	4.864E-01	4.864E-01	65.97
	583.14	347	84.20*	2.278E+00	5.389E-01	5.389E-01	17.39
	860.37	65	12.46	1.610E+00	9.587E-01	9.587E-01	35.52
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	553	12.94*	3.442E+00	3.700E+00	3.700E+00	13.62
PB-212	74.81	345	10.70	4.035E+00	2.379E+00	2.379E+00	24.38
	77.11	596	18.00	4.296E+00	2.297E+00	2.297E+00	16.23
	87.30	308	8.00	5.213E+00	2.199E+00	2.199E+00	28.79
	238.63	1146	44.60*	4.638E+00	1.652E+00	1.652E+00	10.07
	300.09	100	3.41	3.902E+00	2.250E+00	2.250E+00	48.83
PO-212	74.81	345	10.70	4.035E+00	2.379E+00	2.379E+00	24.38
	77.11	596	18.00	4.296E+00	2.297E+00	2.297E+00	16.23
	87.30	308	8.00	5.213E+00	2.199E+00	2.199E+00	28.79
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	1146	44.60*	4.638E+00	1.652E+00	1.652E+00	10.07
	300.09	100	3.41	3.902E+00	2.250E+00	2.250E+00	48.83
BI-214	609.31	433	46.30*	2.194E+00	1.271E+00	1.271E+00	16.35
	1120.29	115	15.10	1.259E+00	1.806E+00	1.806E+00	32.26
	1764.49	56	15.80	8.744E-01	1.206E+00	1.206E+00	39.69
PB-214	74.81	345	6.21	4.035E+00	4.100E+00	4.100E+00	23.70
	77.11	596	10.50	4.296E+00	3.937E+00	3.937E+00	17.93
	87.30	308	4.67	5.213E+00	3.768E+00	3.768E+00	28.07
	241.98	309	7.49	4.594E+00	2.681E+00	2.681E+00	29.77
	295.21	363	19.20	3.950E+00	1.428E+00	1.428E+00	19.01
	351.92	553	37.20*	3.442E+00	1.287E+00	1.287E+00	14.59
PO-214	74.81	345	6.21	4.035E+00	4.100E+00	4.100E+00	23.70

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	596	10.50	4.296E+00	3.937E+00	3.937E+00	17.93
	87.30	308	4.67	5.213E+00	3.768E+00	3.768E+00	28.07
	241.98	309	7.49	4.594E+00	2.681E+00	2.681E+00	29.77
	295.21	363	19.20	3.950E+00	1.428E+00	1.428E+00	19.01
	351.92	553	37.20*	3.442E+00	1.287E+00	1.287E+00	14.59
PO-216	74.81	345	10.70	4.035E+00	2.379E+00	2.379E+00	24.38
	77.11	596	18.00	4.296E+00	2.297E+00	2.297E+00	16.23
	87.30	308	8.00	5.213E+00	2.199E+00	2.199E+00	28.79
	238.63	1146	44.60*	4.638E+00	1.652E+00	1.652E+00	10.07
	300.09	100	3.41	3.902E+00	2.250E+00	2.250E+00	48.83
PO-218	74.81	345	6.21	4.035E+00	4.100E+00	4.100E+00	23.70
	77.11	596	10.50	4.296E+00	3.937E+00	3.937E+00	17.93
	87.30	308	4.67	5.213E+00	3.768E+00	3.768E+00	28.07
	241.98	309	7.49	4.594E+00	2.681E+00	2.681E+00	29.77
	295.21	363	19.20	3.950E+00	1.428E+00	1.428E+00	19.01
	351.92	553	37.20*	3.442E+00	1.287E+00	1.287E+00	14.59
RA-224	240.98	309	3.95*	4.594E+00	5.083E+00	5.083E+00	29.24
RA-226	609.31	433	46.30*	2.194E+00	1.271E+00	1.271E+00	16.35
	1120.29	115	15.10	1.259E+00	1.806E+00	1.806E+00	32.26
	1764.49	56	15.80	8.744E-01	1.206E+00	1.206E+00	39.69
AC-228	338.32	266	11.40	3.552E+00	1.957E+00	1.957E+00	44.96
	911.07	205	27.70*	1.527E+00	1.447E+00	1.447E+00	27.31
	969.11	129	16.60	1.442E+00	1.612E+00	1.612E+00	38.71
RA-228	338.32	266	11.40	3.552E+00	1.957E+00	1.957E+00	44.96
	911.07	205	27.70*	1.527E+00	1.447E+00	1.447E+00	27.31
	969.11	129	16.60	1.442E+00	1.612E+00	1.612E+00	38.71
TH-228	74.81	345	10.70	4.035E+00	2.379E+00	2.418E+00	22.54
	77.11	596	18.00	4.296E+00	2.297E+00	2.334E+00	16.23
	87.30	308	8.00	5.213E+00	2.199E+00	2.235E+00	26.99
	238.63	1146	44.60*	4.638E+00	1.652E+00	1.678E+00	10.07
	300.09	100	3.41	3.902E+00	2.250E+00	2.286E+00	76.09
TH-230	609.31	433	46.30*	2.194E+00	1.271E+00	1.271E+00	16.35
	1120.29	115	15.10	1.259E+00	1.806E+00	1.806E+00	32.26
	1764.49	56	15.80	8.744E-01	1.206E+00	1.206E+00	39.69
TH-232	338.32	266	11.40	3.552E+00	1.957E+00	1.957E+00	19.83
	911.07	205	27.70*	1.527E+00	1.447E+00	1.447E+00	27.31
	969.11	129	16.60	1.442E+00	1.612E+00	1.612E+00	38.71
TH-234	63.29	71	3.80*	2.514E+00	2.218E+00	2.218E+00	111.16
	92.38	244	5.41	5.592E+00	2.405E+00	2.405E+00	36.84
U-234	609.31	433	46.30*	2.194E+00	1.271E+00	1.271E+00	16.35
	1120.29	115	15.10	1.259E+00	1.806E+00	1.806E+00	32.26
	1764.49	56	15.80	8.744E-01	1.206E+00	1.206E+00	39.69
NP-237	86.50	308	12.60*	5.213E+00	1.396E+00	1.396E+00	33.98
	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
U-238	63.29	71	3.80*	2.514E+00	2.218E+00	2.218E+00	111.16
	92.38	244	5.41	5.592E+00	2.405E+00	2.405E+00	33.23
AM-243	74.67	345	66.00*	4.035E+00	3.858E-01	3.858E-01	22.51
	86.72	308	0.34	5.213E+00	5.237E+01	5.237E+01	26.99
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	90	100.00*	2.547E+00	1.051E-01	1.051E-01	65.44

Flag: "\*" = Keyline

Total number of lines in spectrum 30  
Number of unidentified lines 1  
Number of lines tentatively identified by NID 29 96.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.948E+01	1.948E+01	0.222E+01	11.39	
CD-109	464.00D	1.02	4.730E+00	4.845E+00	1.308E+00	26.99	
SN-126	1.00E+05Y	1.00	4.756E-01	4.756E-01	1.284E-01	26.99	
TL-208	1.41E+10Y	1.00	5.389E-01	5.389E-01	0.937E-01	17.39	
BI-211	7.04E+08Y	1.00	3.700E+00	3.700E+00	0.504E+00	13.62	
PB-212	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.166E+00	10.07	
PO-212	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.166E+00	10.07	
BI-214	1600.00Y	1.00	1.271E+00	1.271E+00	0.208E+00	16.35	
PB-214	1600.00Y	1.00	1.287E+00	1.287E+00	0.188E+00	14.59	
PO-214	1600.00Y	1.00	1.287E+00	1.287E+00	0.188E+00	14.59	
PO-216	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.166E+00	10.07	
PO-218	1600.00Y	1.00	1.287E+00	1.287E+00	0.188E+00	14.59	
RA-224	1.41E+10Y	1.00	5.083E+00	5.083E+00	1.486E+00	29.24	
RA-226	1600.00Y	1.00	1.271E+00	1.271E+00	0.208E+00	16.35	
AC-228	1.41E+10Y	1.00	1.447E+00	1.447E+00	0.395E+00	27.31	
RA-228	1.41E+10Y	1.00	1.447E+00	1.447E+00	0.395E+00	27.31	
TH-228	1.91Y	1.02	1.652E+00	1.678E+00	0.169E+00	10.07	
TH-230	4.47E+09Y	1.00	1.271E+00	1.271E+00	0.208E+00	16.35	
TH-232	1.41E+10Y	1.00	1.447E+00	1.447E+00	0.395E+00	27.31	
TH-234	4.47E+09Y	1.00	2.218E+00	2.218E+00	2.465E+00	111.16	
U-234	4.47E+09Y	1.00	1.271E+00	1.271E+00	0.208E+00	16.35	
NP-237	2.14E+06Y	1.00	1.396E+00	1.396E+00	0.474E+00	33.98	
U-238	4.47E+09Y	1.00	2.218E+00	2.218E+00	2.465E+00	111.16	
AM-243	7380.00Y	1.00	3.858E-01	3.858E-01	0.869E-01	22.51	
ANH-511	1.00E+09Y	1.00	1.051E-01	1.051E-01	0.688E-01	65.44	
Total Activity :			6.023E+01	6.037E+01			

Grand Total Activity : 6.023E+01 6.037E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit



It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	84.20	120	290	1.45	168.40	165	27	1.67E-02	50.5	4.99E+00	T
2	89.80	160	234	1.08	179.60	165	27	2.22E-02	34.9	5.41E+00	T
0	185.49	219	272	1.51	370.99	366	9	3.04E-02	31.5	5.49E+00	T
0	209.10	138	227	1.14	418.21	414	10	1.92E-02	44.1	5.09E+00	T
0	269.79	140	280	1.72	539.59	531	16	1.95E-02	55.9	4.23E+00	T
0	327.39	82	161	1.06	654.78	650	11	1.14E-02	63.8	3.64E+00	T
0	462.72	90	156	1.94	925.44	916	18	1.25E-02	69.5	2.76E+00	T
0	726.18	80	69	1.16	1452.37	1445	13	1.11E-02	48.9	1.88E+00	T
0	793.95	60	42	3.32	1587.91	1581	13	8.31E-03	51.7	1.73E+00	
0	1237.33	36	38	1.32	2474.65	2470	10	4.99E-03	69.3	1.15E+00	T

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244847004.CNF;1
* Acquisition date   : 27-JAN-2010 14:19:59   Detector SN#      :
* Detector ID        : GAM23                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.64          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G244847004             Analyst initials: MXR1
* Batch Number       : 942717                 Sample Quantity  : 1.25930E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00.62MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.948E+01	2.220E+00	3.062E-01	2.291E-02	63.624
CD-109	4.845E+00	1.308E+00	1.298E+00	1.267E-01	3.734
SN-126	4.756E-01	1.284E-01	1.281E-01	1.247E-02	3.711
TL-208	5.389E-01	9.373E-02	6.286E-02	4.081E-03	8.573
BI-211	3.700E+00	5.041E-01	3.472E-01	2.262E-02	10.658
PB-212	1.652E+00	1.663E-01	9.505E-02	6.834E-03	17.377
PO-212	1.652E+00	1.663E-01	9.505E-02	6.834E-03	17.377
BI-214	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314
PB-214	1.287E+00	1.878E-01	1.204E-01	1.005E-02	10.689
PO-214	1.287E+00	1.878E-01	1.204E-01	1.005E-02	10.689
PO-216	1.652E+00	1.663E-01	9.505E-02	6.834E-03	17.377
PO-218	1.287E+00	1.878E-01	1.204E-01	1.005E-02	10.689
RA-224	5.083E+00	1.486E+00	1.082E+00	6.095E-02	4.699
RA-226	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314
AC-228	1.447E+00	3.951E-01	2.331E-01	2.689E-02	6.208
RA-228	1.447E+00	3.951E-01	2.331E-01	2.689E-02	6.208
TH-228	1.678E+00	1.690E-01	9.659E-02	6.944E-03	17.377
TH-230	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.447E+00	3.951E-01	2.331E-01	2.689E-02	6.208
TH-234	2.218E+00	2.465E+00	2.588E+00	4.663E-01	0.857
U-234	1.271E+00	2.079E-01	1.233E-01	9.267E-03	10.314
NP-237	1.396E+00	4.745E-01	3.819E-01	8.697E-02	3.657
U-238	2.218E+00	2.465E+00	2.588E+00	4.663E-01	0.857
AM-243	3.858E-01	8.685E-02	1.017E-01	9.036E-03	3.794
ANH-511	1.051E-01	6.876E-02	4.798E-02	2.787E-03	2.190

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.515E-01		3.361E-01	5.954E-01	4.046E-02	0.590
NA-22	-1.654E-02		4.441E-02	6.878E-02	4.619E-03	-0.240
NA-24	-2.252E+00		1.190E+00	Half-Life too short		
AL-26	-1.106E-02		4.165E-02	6.376E-02	3.832E-03	-0.173
TI-44	4.239E-01	+	6.878E-02	9.294E-02	8.424E-03	4.561
SC-46	1.551E-02		4.105E-02	7.091E-02	6.335E-03	0.219
V-48	-7.746E-02		8.246E-02	1.227E-01	1.021E-02	-0.631
CR-51	1.414E-01		4.187E-01	6.977E-01	4.575E-02	0.203
MN-52	-2.855E-01		3.118E-01	4.284E-01	3.099E-02	-0.666
MN-54	-2.409E-02		3.887E-02	6.119E-02	4.845E-03	-0.394
CO-56	-8.018E-03		4.201E-02	6.891E-02	5.606E-03	-0.116
CO-57	8.114E-03		2.737E-02	4.556E-02	2.686E-03	0.178
CO-58	-1.950E-02		4.014E-02	6.398E-02	4.807E-03	-0.305
FE-59	-5.105E-03		9.973E-02	1.632E-01	1.257E-02	-0.031
CO-60	-4.290E-03		4.263E-02	6.831E-02	5.015E-03	-0.063
ZN-65	9.174E-02		1.239E-01	1.921E-01	1.269E-02	0.478
GE-68	7.393E-02		1.429E+00	2.366E+00	1.693E-01	0.031
AS-73	-6.159E-01		1.200E+00	1.974E+00	1.742E-01	-0.312
AS-74	9.232E-02		1.126E-01	1.944E-01	1.072E-02	0.475
SE-75	-5.538E-02		5.356E-02	6.758E-02	3.934E-03	-0.819
BR-77	1.058E+01		1.462E+01	2.532E+01	1.466E+00	0.418
SR-82	-3.196E-01		3.978E-01	6.165E-01	4.253E-02	-0.518
RB-83	5.157E-02		7.307E-02	1.264E-01	7.319E-03	0.408
RB-84	-2.396E-03		7.666E-02	1.274E-01	1.119E-02	-0.019
KR-85	6.794E+00		7.718E+00	1.204E+01	6.985E-01	0.564
SR-85	3.520E-02		3.998E-02	6.236E-02	3.618E-03	0.564
RB-86	1.366E-01		9.649E-01	1.611E+00	1.155E-01	0.085
Y-88	1.760E-02		3.652E-02	6.612E-02	3.893E-03	0.266
ZR-88	1.203E-02		3.289E-02	5.593E-02	3.229E-03	0.215
Y-91	-1.050E+01		1.972E+01	3.036E+01	1.811E+00	-0.346
NB-94	3.346E-03		3.715E-02	6.042E-02	3.452E-03	0.055
NB-95	4.878E-02		5.525E-02	9.452E-02	6.352E-03	0.516
NB-95M	7.194E-01		1.882E-01	3.067E-01	2.263E-02	2.346
ZR-95	-4.536E-02		8.515E-02	1.253E-01	9.614E-03	-0.362
NB-97	1.243E-01		1.300E-01	Half-Life too short		
ZR-97	1.763E+01		3.250E+00	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-5.110E+00		1.831E+01	2.870E+01	4.016E+00	-0.178
TC-99M	-6.740E+11		3.249E+11	Half-Life	too short	
RH-101	3.229E-02		3.680E-02	6.056E-02	3.228E-03	0.533
RH-102	1.929E-03		3.111E-02	5.149E-02	3.014E-03	0.037
RU-103	-7.770E-05		4.437E-02	7.291E-02	9.230E-03	-0.001
RH-106	-3.994E-02		3.539E-01	5.691E-01	6.563E-02	-0.070
RU-106	-3.994E-02		3.539E-01	5.691E-01	3.058E-02	-0.070
AG-108M	-2.652E-03		3.708E-02	6.105E-02	3.871E-03	-0.043
AG-110M	1.848E-02		3.575E-02	6.065E-02	3.370E-03	0.305
IN-111	-2.644E-02		1.551E+00	2.128E+00	1.204E-01	-0.012
IN-113M	-2.154E-03		4.888E-02	8.104E-02	4.992E-03	-0.027
SN-113	-2.154E-03		4.888E-02	8.104E-02	4.992E-03	-0.027
IN-114M	1.354E-01		2.276E-01	3.342E-01	1.762E-02	0.405
CD-115	-4.116E+00		1.592E+01	2.554E+01	1.474E+00	-0.161
SN-117M	2.663E-02		6.114E-02	1.016E-01	5.278E-03	0.262
SB-122	4.138E-01		2.835E+00	4.684E+00	2.649E-01	0.088
I-123	1.963E+00		1.064E+01	Half-Life	too short	
TE-123M	2.817E-03		3.053E-02	4.998E-02	2.638E-03	0.056
I-124	-5.414E-01		1.098E+00	1.460E+00	8.004E-02	-0.371
SB-124	-4.058E-02		6.469E-02	8.960E-02	6.247E-03	-0.453
SB-125	-8.974E-02		1.019E-01	1.583E-01	9.627E-03	-0.567
TE-125M	3.919E+00		1.024E+01	1.714E+01	1.529E+00	0.229
I-126	5.828E-02		2.078E-01	3.445E-01	1.783E-02	0.169
SB-126	8.743E-02		1.878E-01	2.770E-01	1.659E-02	0.316
SB-127	-1.789E-01		1.794E+00	2.872E+00	2.750E-01	-0.062
XE-127	-6.560E-02		5.529E-02	8.067E-02	4.330E-03	-0.813
I-131	-3.318E-02		1.304E-01	2.138E-01	1.399E-02	-0.155
TE-132	8.376E-02		9.558E-01	1.544E+00	2.234E-01	0.054
BA-133	1.699E-02		5.112E-02	7.632E-02	8.855E-03	0.223
I-133	-3.460E-03		7.443E-03	Half-Life	too short	
CS-134	8.674E-02		6.092E-02	1.015E-01	7.413E-03	0.855
CS-135	4.711E-01		1.893E-01	3.343E-01	2.554E-02	1.409
I-135	1.001E+11		3.877E+10	Half-Life	too short	
CS-136	-5.455E-02		1.049E-01	1.615E-01	1.287E-02	-0.338
BA-137M	-3.371E-03		3.792E-02	6.088E-02	3.110E-03	-0.055
CS-137	-3.563E-03		4.009E-02	6.436E-02	3.306E-03	-0.055
CE-139	1.184E-02		3.223E-02	5.331E-02	2.718E-03	0.222
BA-140	-2.242E-01		3.122E-01	4.671E-01	1.519E-01	-0.480
LA-140	-6.656E-02		8.280E-02	1.158E-01	7.945E-03	-0.575
CE-141	3.383E-04		6.740E-02	1.102E-01	6.218E-03	0.003
CE-143	2.048E-03		2.769E-04	Half-Life	too short	
CE-144	3.625E-02		2.284E-01	3.769E-01	5.323E-02	0.096
PM-144	2.060E-03		3.949E-02	6.402E-02	3.602E-03	0.032
PR-144	1.397E-01		2.677E+00	4.340E+00	2.440E-01	0.032
PM-146	-2.377E-02		5.428E-02	7.811E-02	6.765E-03	-0.304
ND-147	4.055E-01		6.679E-01	1.141E+00	1.541E-01	0.355
PM-149	1.144E+02		1.337E+02	2.332E+02	3.310E+01	0.491
EU-152	-8.787E-03		1.104E-01	1.669E-01	1.106E-02	-0.053

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.287E-02		9.577E-02	1.382E-01	1.129E-02	-0.093
EU-154	-4.480E-02		1.242E-01	1.926E-01	1.912E-02	-0.233
EU-155	-2.308E-03		1.190E-01	1.965E-01	1.449E-02	-0.012
TB-160	-1.811E-02		1.553E-01	2.560E-01	2.239E-02	-0.071
HO-166M	-1.815E-02		6.812E-02	1.071E-01	6.268E-03	-0.169
TM-171	-2.213E+01		3.872E+01	5.509E+01	4.791E+00	-0.402
LU-176	7.418E-03		2.691E-02	4.436E-02	2.613E-03	0.167
LU-177	3.907E+00	+	1.737E+00	2.393E+00	1.295E-01	1.632
LU-177M	-1.725E-01		2.075E-01	3.260E-01	1.897E-02	-0.529
HF-181	-2.591E-02		4.500E-02	7.063E-02	4.131E-03	-0.367
W-181	-2.662E-01		5.023E-01	7.165E-01	6.224E-02	-0.372
TA-182	-5.861E-02		2.295E-01	3.659E-01	2.246E-02	-0.160
RE-183	-8.424E-02		1.181E-01	1.860E-01	9.569E-03	-0.453
RE-184	-5.120E-02		2.565E-01	4.061E-01	2.316E-02	-0.126
OS-185	1.704E-02		4.816E-02	8.045E-02	4.199E-03	0.212
RE-188	8.036E-02		1.849E-01	3.072E-01	1.612E-02	0.262
W-188	-8.290E+00		8.877E+00	1.206E+01	7.061E-01	-0.688
IR-192	2.680E-02		3.632E-02	6.338E-02	3.760E-03	0.423
AU-195	-9.896E-03		2.614E-01	4.002E-01	3.193E-02	-0.025
TL-200	-1.170E-06		4.629E-04	Half-Life too short		
TL-201	-1.420E+00		9.517E+00	1.538E+01	7.852E-01	-0.092
TL-202	8.606E-02		8.208E-02	1.447E-01	8.468E-03	0.595
HG-203	-2.090E-03		4.416E-02	7.430E-02	4.590E-03	-0.028
BI-207	1.288E-02		6.057E-02	1.019E-01	7.487E-03	0.126
TL-207	-1.055E-01		8.059E-01	1.163E+00	1.925E-01	-0.091
PO-209	2.402E-01		7.419E+00	1.240E+01	1.125E+00	0.019
BI-210	-4.278E+00		5.985E+00	9.544E+00	7.431E-01	-0.448
PB-210	-4.278E+00		5.985E+00	9.544E+00	7.431E-01	-0.448
PO-210	-4.278E+00		5.982E+00	9.544E+00	6.403E-01	-0.448
PB-211	-1.486E+00		1.420E+00	1.634E+00	1.018E+00	-0.910
BI-212	1.074E+00	+	5.321E-01	7.490E-01	5.945E-02	1.433
PO-215	-1.055E-01		8.059E-01	1.163E+00	1.925E-01	-0.091
RN-219	3.059E-01		4.325E-01	7.477E-01	1.017E-01	0.409
RN-220	8.490E-01		2.919E+01	4.784E+01	2.730E+00	0.018
RA-223	-1.055E-01		8.059E-01	1.163E+00	1.925E-01	-0.091
AC-227	-3.052E-02		4.343E-01	6.925E-01	9.644E-02	-0.044
TH-227	-3.052E-02		4.343E-01	6.925E-01	1.168E-01	-0.044
TH-229	-4.868E-01		5.572E-01	8.637E-01	4.575E-02	-0.564
PA-231	6.067E-01		1.660E+00	2.845E+00	3.925E-01	0.213
TH-231	-1.055E-01		8.059E-01	1.163E+00	1.925E-01	-0.091
U-231	-1.354E-01		1.529E+00	2.215E+00	1.858E-01	-0.061
PA-233	-3.876E-02		6.516E-02	1.055E-01	6.596E-03	-0.367
PA-234	-2.581E-01		3.339E-01	5.046E-01	9.487E-02	-0.512
PA-234M	7.064E-01		5.055E+00	8.477E+00	8.089E-01	0.083
U-235	-3.395E-02		2.266E-01	3.623E-01	5.859E-02	-0.094
NP-236	-2.084E-02		8.603E-02	1.387E-01	7.174E-03	-0.150
NP-239	6.632E-02		2.064E-01	3.443E-01	2.149E-02	0.193
AM-241	9.506E-02		2.138E-01	3.231E-01	3.007E-02	0.294

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.728E-02		1.052E-01	1.750E-01	1.296E-02	0.099
AM-246	7.046E-02		1.676E-01	2.870E-01	2.048E-02	0.246
CM-247	1.645E-02		3.891E-02	6.635E-02	3.846E-03	0.248
CF-249	2.731E-02		4.185E-02	7.243E-02	4.191E-03	0.377
CF-251	-1.411E-01		1.402E-01	2.170E-01	1.121E-02	-0.651

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G244847004            *
* Acquisition date   : 27-JAN-2010 14:19:59 Detector SN#      :              *
* Detector ID        : GAM23                      Sensitivity   : 5.000        *
* Geometry           : CAN                          Energy tolerance: 1.500      *
* Elapsed live time  : 0 02:00:00.00                Abundance limit : 75.000     *
* Elapsed real time  : 0 02:00:01.64                Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G244847004                    Analyst initials: MXR1      *
* Batch Number       : 942717                        Sample Quantity : 1.2593E+02 GRAM *
* Recovery           : 1.00000                      Carrier Weight  : 0.00000     *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope       :              *
* MSD DPM             : 0.000                          MSD Isotope       :              *
* LCS DPM             : 0.000                          LCS Isotope       :              *
* LCSD DPM            : 0.000                          LCSD Isotope      :              *
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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	1.948E+01	2.175E+00	1.531E-01	1.110E+00
CD-109	4.845E+00	1.282E+00	6.754E-01	6.540E-01
SN-126	4.756E-01	1.258E-01	6.670E-02	6.418E-02
TL-208	5.389E-01	9.186E-02	3.186E-02	4.687E-02
BI-211	3.700E+00	4.940E-01	1.772E-01	2.521E-01
PB-212	1.652E+00	1.630E-01	4.879E-02	8.315E-02
PO-212	1.652E+00	1.630E-01	4.879E-02	8.315E-02
BI-214	1.271E+00	2.038E-01	6.243E-02	1.040E-01
PB-214	1.287E+00	1.840E-01	6.147E-02	9.389E-02
PO-214	1.287E+00	1.840E-01	6.147E-02	9.389E-02
PO-216	1.652E+00	1.630E-01	4.879E-02	8.315E-02
PO-218	1.287E+00	1.840E-01	6.147E-02	9.389E-02
RA-224	5.083E+00	1.457E+00	5.552E-01	7.432E-01
RA-226	1.271E+00	2.038E-01	6.243E-02	1.040E-01
AC-228	1.447E+00	3.872E-01	1.173E-01	1.975E-01
RA-228	1.447E+00	3.872E-01	1.173E-01	1.975E-01
TH-228	1.678E+00	1.656E-01	4.958E-02	8.450E-02
TH-230	1.271E+00	2.038E-01	6.243E-02	1.040E-01
TH-232	1.447E+00	3.872E-01	1.173E-01	1.975E-01
TH-234	2.218E+00	2.416E+00	1.353E+00	1.233E+00
U-234	1.271E+00	2.038E-01	6.243E-02	1.040E-01
NP-237	1.396E+00	4.650E-01	1.988E-01	2.372E-01
U-238	2.218E+00	2.416E+00	1.353E+00	1.233E+00
AM-243	3.858E-01	8.511E-02	5.304E-02	4.343E-02
ANH-511	1.051E-01	6.738E-02	2.436E-02	3.438E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	3.515E-01	3.294E-01	3.026E-01	1.681E-01 NOT IDENT.
NA-22	-1.654E-02	4.353E-02	3.446E-02	2.221E-02 NOT IDENT.

NA-24	-2.252E+06	2.332E+06	0.000E+00	1.190E+06	SHORT HLIF
AL-26	-1.106E-02	4.082E-02	3.178E-02	2.083E-02	NOT IDENT.
TI-44	4.239E-01	6.740E-02	4.844E-02	3.439E-02	FAIL ABUN
SC-46	1.551E-02	4.023E-02	3.571E-02	2.052E-02	FAIL ABUN
V-48	-7.746E-02	8.081E-02	6.170E-02	4.123E-02	NOT IDENT.
CR-51	1.414E-01	4.103E-01	3.566E-01	2.094E-01	NOT IDENT.
MN-52	-2.855E-01	3.055E-01	2.142E-01	1.559E-01	NOT IDENT.
MN-54	-2.409E-02	3.809E-02	3.085E-02	1.944E-02	NOT IDENT.
CO-56	-8.018E-03	4.117E-02	3.473E-02	2.100E-02	FAIL ABUN
CO-57	8.114E-03	2.682E-02	2.360E-02	1.368E-02	NOT IDENT.
CO-58	-1.950E-02	3.933E-02	3.227E-02	2.007E-02	NOT IDENT.
FE-59	-5.105E-03	9.773E-02	8.193E-02	4.986E-02	NOT IDENT.
CO-60	-4.290E-03	4.178E-02	3.420E-02	2.132E-02	NOT IDENT.
ZN-65	9.174E-02	1.214E-01	9.643E-02	6.193E-02	NOT IDENT.
GE-68	7.393E-02	1.401E+00	1.188E+00	7.146E-01	NOT IDENT.
AS-73	-6.159E-01	1.176E+00	1.034E+00	6.000E-01	NOT IDENT.
AS-74	9.232E-02	1.104E-01	9.849E-02	5.630E-02	NOT IDENT.
SE-75	-5.538E-02	5.249E-02	3.464E-02	2.678E-02	NOT IDENT.
BR-77	1.058E+01	1.433E+01	1.285E+01	7.310E+00	FAIL ABUN
SR-82	-3.196E-01	3.899E-01	3.111E-01	1.989E-01	NOT IDENT.
RB-83	5.157E-02	7.161E-02	6.417E-02	3.654E-02	NOT IDENT.
RB-84	-2.396E-03	7.512E-02	6.417E-02	3.833E-02	NOT IDENT.
KR-85	6.794E+00	7.564E+00	6.111E+00	3.859E+00	NOT IDENT.
SR-85	3.520E-02	3.918E-02	3.166E-02	1.999E-02	NOT IDENT.
RB-86	1.366E-01	9.456E-01	8.092E-01	4.824E-01	NOT IDENT.
Y-88	1.760E-02	3.579E-02	3.295E-02	1.826E-02	NOT IDENT.
ZR-88	1.203E-02	3.223E-02	2.851E-02	1.645E-02	NOT IDENT.
Y-91	-1.050E+01	1.932E+01	1.522E+01	9.858E+00	NOT IDENT.
NB-94	3.346E-03	3.641E-02	3.053E-02	1.858E-02	NOT IDENT.
NB-95	4.878E-02	5.415E-02	4.771E-02	2.763E-02	NOT IDENT.
NB-95M	7.194E-01	1.844E-01	1.575E-01	9.408E-02	NOT IDENT.
ZR-95	-4.536E-02	8.344E-02	6.326E-02	4.257E-02	NOT IDENT.
NB-97	1.243E+05	2.547E+05	0.000E+00	1.300E+05	SHORT HLIF
ZR-97	1.763E+07	6.370E+06	0.000E+00	3.250E+06	SHORT HLIF
MO-99	-5.110E+00	1.794E+01	1.449E+01	9.154E+00	NOT IDENT.
TC-99M	-6.740E+17	6.368E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.229E-02	3.606E-02	3.116E-02	1.840E-02	NOT IDENT.
RH-102	1.929E-03	3.049E-02	2.617E-02	1.556E-02	NOT IDENT.
RU-103	-7.770E-05	4.348E-02	3.704E-02	2.219E-02	NOT IDENT.
RH-106	-3.994E-02	3.468E-01	2.881E-01	1.769E-01	NOT IDENT.
RU-106	-3.994E-02	3.468E-01	2.881E-01	1.769E-01	NOT IDENT.
AG-108M	-2.652E-03	3.634E-02	3.107E-02	1.854E-02	NOT IDENT.
AG-110M	1.848E-02	3.503E-02	3.068E-02	1.787E-02	NOT IDENT.
IN-111	-2.644E-02	1.520E+00	1.092E+00	7.754E-01	NOT IDENT.
IN-113M	-2.154E-03	4.791E-02	4.130E-02	2.444E-02	NOT IDENT.
SN-113	-2.154E-03	4.791E-02	4.130E-02	2.444E-02	NOT IDENT.
IN-114M	1.354E-01	2.230E-01	1.721E-01	1.138E-01	NOT IDENT.
CD-115	-4.116E+00	1.561E+01	1.296E+01	7.962E+00	NOT IDENT.
SN-117M	2.663E-02	5.991E-02	5.243E-02	3.057E-02	NOT IDENT.
SB-122	4.138E-01	2.778E+00	2.375E+00	1.417E+00	NOT IDENT.
I-123	1.963E+06	2.085E+07	0.000E+00	1.064E+07	SHORT HLIF
TE-123M	2.817E-03	2.992E-02	2.580E-02	1.527E-02	NOT IDENT.
I-124	-5.414E-01	1.076E+00	7.398E-01	5.490E-01	NOT IDENT.
SB-124	-4.058E-02	6.339E-02	4.470E-02	3.234E-02	FAIL ABUN
SB-125	-8.974E-02	9.988E-02	8.056E-02	5.096E-02	FAIL ABUN
TE-125M	3.919E+00	1.003E+01	8.892E+00	5.119E+00	NOT IDENT.
I-126	5.828E-02	2.036E-01	1.742E-01	1.039E-01	NOT IDENT.
SB-126	8.743E-02	1.841E-01	1.399E-01	9.392E-02	NOT IDENT.
SB-127	-1.789E-01	1.758E+00	1.452E+00	8.971E-01	NOT IDENT.
XE-127	-6.560E-02	5.418E-02	4.150E-02	2.765E-02	NOT IDENT.
I-131	-3.318E-02	1.278E-01	1.091E-01	6.518E-02	NOT IDENT.
TE-132	8.376E-02	9.367E-01	7.929E-01	4.779E-01	NOT IDENT.
BA-133	1.699E-02	5.010E-02	3.895E-02	2.556E-02	NOT IDENT.
I-133	-3.460E+03	1.459E+04	0.000E+00	7.443E+03	SHORT HLIF
CS-134	8.674E-02	5.971E-02	5.120E-02	3.046E-02	NOT IDENT.
CS-135	4.711E-01	1.855E-01	1.713E-01	9.465E-02	NOT IDENT.
I-135	1.001E+17	7.598E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.455E-02	1.028E-01	8.114E-02	5.245E-02	FAIL ABUN
BA-137M	-3.371E-03	3.716E-02	3.080E-02	1.896E-02	NOT IDENT.
CS-137	-3.563E-03	3.929E-02	3.256E-02	2.004E-02	NOT IDENT.
CE-139	1.184E-02	3.159E-02	2.750E-02	1.612E-02	NOT IDENT.
BA-140	-2.242E-01	3.059E-01	2.370E-01	1.561E-01	NOT IDENT.
LA-140	-6.656E-02	8.114E-02	5.783E-02	4.140E-02	FAIL ABUN
CE-141	3.383E-04	6.605E-02	5.698E-02	3.370E-02	NOT IDENT.
CE-143	2.048E+03	5.428E+02	0.000E+00	2.769E+02	SHORT HLIF
CE-144	3.625E-02	2.239E-01	1.950E-01	1.142E-01	NOT IDENT.
PM-144	2.060E-03	3.870E-02	3.236E-02	1.974E-02	NOT IDENT.
PR-144	1.397E-01	2.624E+00	2.194E+00	1.339E+00	NOT IDENT.



PM-146	-2.377E-02	5.319E-02	3.973E-02	2.714E-02	NOT IDENT.
ND-147	4.055E-01	6.545E-01	5.790E-01	3.339E-01	FAIL ABUN
PM-149	1.144E+02	1.310E+02	1.194E+02	6.684E+01	NOT IDENT.
EU-152	-8.787E-03	1.081E-01	8.521E-02	5.518E-02	NOT IDENT.
GD-153	-1.287E-02	9.385E-02	7.184E-02	4.788E-02	FAIL ABUN
EU-154	-4.480E-02	1.217E-01	9.649E-02	6.210E-02	NOT IDENT.
EU-155	-2.308E-03	1.167E-01	1.020E-01	5.952E-02	FAIL ABUN
TB-160	-1.811E-02	1.522E-01	1.290E-01	7.765E-02	FAIL ABUN
HO-166M	-1.815E-02	6.676E-02	5.411E-02	3.406E-02	FAIL ABUN
TM-171	-2.213E+01	3.794E+01	2.878E+01	1.936E+01	NOT IDENT.
LU-176	7.418E-03	2.638E-02	2.269E-02	1.346E-02	FAIL ABUN
LU-177	3.907E+00	1.703E+00	1.231E+00	8.687E-01	FAIL ABUN
LU-177M	-1.725E-01	2.033E-01	1.660E-01	1.037E-01	FAIL ABUN
HF-181	-2.591E-02	4.410E-02	3.589E-02	2.250E-02	NOT IDENT.
W-181	-2.662E-01	4.923E-01	3.744E-01	2.512E-01	NOT IDENT.
TA-182	-5.861E-02	2.249E-01	1.834E-01	1.147E-01	NOT IDENT.
RE-183	-8.424E-02	1.157E-01	9.600E-02	5.904E-02	FAIL ABUN
RE-184	-5.120E-02	2.514E-01	2.083E-01	1.283E-01	NOT IDENT.
OS-185	1.704E-02	4.720E-02	4.071E-02	2.408E-02	NOT IDENT.
RE-188	8.036E-02	1.812E-01	1.586E-01	9.244E-02	NOT IDENT.
W-188	-8.290E+00	8.699E+00	6.171E+00	4.438E+00	FAIL ABUN
IR-192	2.680E-02	3.559E-02	3.240E-02	1.816E-02	FAIL ABUN
AU-195	-9.896E-03	2.562E-01	2.079E-01	1.307E-01	FAIL ABUN
TL-200	-1.170E+00	9.073E+02	0.000E+00	4.629E+02	SHORT HLIF
TL-201	-1.420E+00	9.326E+00	7.936E+00	4.758E+00	NOT IDENT.
TL-202	8.606E-02	8.044E-02	7.365E-02	4.104E-02	NOT IDENT.
HG-203	-2.090E-03	4.328E-02	3.805E-02	2.208E-02	NOT IDENT.
BI-207	1.288E-02	5.936E-02	5.119E-02	3.029E-02	FAIL ABUN
TL-207	-1.055E-01	7.897E-01	5.944E-01	4.029E-01	FAIL ABUN
PO-209	2.402E-01	7.271E+00	6.243E+00	3.709E+00	NOT IDENT.
BI-210	-4.278E+00	5.865E+00	5.010E+00	2.992E+00	NOT IDENT.
PB-210	-4.278E+00	5.865E+00	5.010E+00	2.992E+00	NOT IDENT.
PO-210	-4.278E+00	5.863E+00	5.010E+00	2.991E+00	NOT IDENT.
PB-211	-1.486E+00	1.392E+00	8.322E-01	7.102E-01	NOT IDENT.
BI-212	1.074E+00	5.215E-01	3.784E-01	2.660E-01	FAIL ABUN
PO-215	-1.055E-01	7.897E-01	5.944E-01	4.029E-01	FAIL ABUN
RN-219	3.059E-01	4.239E-01	3.809E-01	2.163E-01	FAIL ABUN
RN-220	8.490E-01	2.861E+01	2.426E+01	1.460E+01	NOT IDENT.
RA-223	-1.055E-01	7.897E-01	5.944E-01	4.029E-01	FAIL ABUN
AC-227	-3.052E-02	4.257E-01	3.551E-01	2.172E-01	FAIL ABUN
TH-227	-3.052E-02	4.257E-01	3.551E-01	2.172E-01	FAIL ABUN
TH-229	-4.868E-01	5.461E-01	4.446E-01	2.786E-01	FAIL ABUN
PA-231	6.067E-01	1.627E+00	1.457E+00	8.301E-01	NOT IDENT.
TH-231	-1.055E-01	7.897E-01	5.944E-01	4.029E-01	FAIL ABUN
U-231	-1.354E-01	1.499E+00	1.151E+00	7.647E-01	FAIL ABUN
PA-233	-3.876E-02	6.386E-02	5.395E-02	3.258E-02	FAIL ABUN
PA-234	-2.581E-01	3.272E-01	2.539E-01	1.670E-01	FAIL ABUN
PA-234M	7.064E-01	4.954E+00	4.262E+00	2.528E+00	NOT IDENT.
U-235	-3.395E-02	2.221E-01	1.873E-01	1.133E-01	FAIL ABUN
NP-236	-2.084E-02	8.431E-02	7.159E-02	4.301E-02	NOT IDENT.
NP-239	6.632E-02	2.023E-01	1.785E-01	1.032E-01	FAIL ABUN
AM-241	9.506E-02	2.095E-01	1.691E-01	1.069E-01	NOT IDENT.
CM-243	1.728E-02	1.031E-01	9.085E-02	5.259E-02	FAIL ABUN
AM-246	7.046E-02	1.642E-01	1.441E-01	8.379E-02	NOT IDENT.
CM-247	1.645E-02	3.813E-02	3.380E-02	1.945E-02	NOT IDENT.
CF-249	2.731E-02	4.101E-02	3.692E-02	2.093E-02	NOT IDENT.
CF-251	-1.411E-01	1.374E-01	1.118E-01	7.011E-02	NOT IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON ,SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	293.6144
46.50	293.6144
46.50	293.6144
48.70	263.9419
49.72	276.2306
51.35	284.3044
52.39	292.1143
52.97	295.1430
53.15	292.4908
53.44	298.1205
54.07	286.5350
56.28	292.9630
56.28	292.9642
57.37	0.0000
57.53	299.0304
57.53	299.0310
57.60	291.6977
57.98	287.4536
57.98	287.4536
59.32	279.2041
59.32	279.2041
59.40	279.2393
59.54	279.3010
59.72	288.2498
60.01	288.3814
61.10	300.7241
61.14	305.1872
61.30	305.2632
63.00	337.2635
63.29	337.4121
63.29	337.4121
63.58	350.9449
64.28	355.7823
65.12	362.1937
65.20	362.2367
65.20	362.2367
66.05	338.8152
66.72	377.9944
66.83	378.0577
66.91	369.1357
67.20	367.7973
67.20	367.7973
67.75	387.7946
67.85	387.8515
68.90	358.4683
68.90	358.4683
69.30	372.4227
69.67	372.1226
70.82	377.2415
70.82	377.2415
70.83	377.2476
72.80	397.8917
72.87	397.9304
72.87	397.9304
74.67	382.4931
74.81	382.5673
74.81	382.5673
74.81	382.5673
74.81	382.5673
74.81	382.5673
74.81	382.5673
74.97	382.6507
75.28	382.8145
75.70	383.0339
77.11	383.7693
77.11	383.7693

77.11	383.7693
77.11	383.7693
77.11	383.7693
77.11	383.7693
77.11	383.7693
78.38	351.2039
79.62	323.2610
79.80	323.3375
79.80	323.3375
80.11	293.0267
80.18	293.0538
80.30	293.0996
80.30	293.0996
80.57	323.6669
81.00	323.8498
81.07	323.8796
81.07	323.8796
81.07	323.8796
81.07	323.8796
82.60	339.7987
83.37	354.1485
83.78	353.6993
83.78	353.6993
83.78	353.6993
83.78	353.6993
84.21	321.3754
84.90	321.6586
85.43	321.8752
86.29	322.2264
86.50	322.3123
86.54	322.3277
86.59	322.3482
86.72	322.4020
86.79	322.4290
86.94	322.4905
87.30	322.6366
87.30	322.6366
87.30	322.6366
87.30	322.6366
87.30	322.6366
87.30	322.6366
87.57	322.7455
87.88	322.8712
88.03	322.9314
88.36	323.0634
88.47	323.1083
89.95	323.7004
91.11	324.1619
92.29	324.6271
92.38	324.6630
92.38	324.6630
93.35	325.0437
94.00	302.0620
94.67	306.9525
94.67	306.9544
94.90	313.2418
94.90	313.2418
94.90	313.2418
94.90	313.2418
95.87	327.5754
95.87	327.5754
96.73	315.4764
97.43	309.5140
98.44	295.8638
98.44	295.8649
98.88	306.4022
99.55	298.4739
99.55	298.4739
99.86	298.3017
100.00	298.3495
100.10	298.3857
103.18	305.3076
103.76	301.5908
105.00	305.9336
105.31	318.7912
108.00	323.6786
109.28	301.4732

111.00	304.0123
111.00	304.0123
111.76	317.1036
112.95	336.3023
115.19	283.5649
116.30	285.8818
117.00	287.0851
117.00	287.0851
117.66	291.2597
121.11	291.3027
121.62	280.4758
121.78	277.5260
122.06	277.6055
122.32	273.6833
122.32	273.6833
122.32	273.6833
122.32	273.6833
123.07	293.8845
127.23	326.2317
129.76	305.9158
131.20	344.6406
133.02	335.1535
133.54	308.0530
135.34	300.4918
136.00	290.5560
136.25	298.7271
136.48	295.7538
140.51	313.1462
140.51	0.0000
142.18	296.3217
142.65	274.0384
143.76	272.2800
144.24	275.4609
144.24	275.4609
144.24	275.4609
144.24	275.4609
145.22	268.5601
145.44	282.9131
147.16	296.6553
152.43	283.6711
152.70	275.5142
153.22	271.5269
154.21	265.5862
154.21	265.5862
154.21	265.5862
154.21	265.5862
155.03	269.8997
156.02	304.1580
158.56	255.2313
159.00	0.0000
159.00	266.6983
160.31	280.4529
161.27	258.9340
162.32	283.0080
162.64	297.6022
163.35	280.1431
163.89	268.8534
165.85	259.9411
167.43	274.8604
171.28	243.3601
171.86	243.4775
172.10	243.5255
176.55	292.6614
176.60	292.6720
181.06	250.9773
184.41	282.0408
185.71	289.0906
186.00	289.1574
190.27	242.6112
192.34	265.5106
193.63	274.2766
197.04	232.3518
198.01	227.1884
198.60	241.1595
200.40	232.9373
201.83	274.8997
202.84	286.2689
205.31	238.5007

208.36	221.8353
208.81	245.9907
209.75	211.7291
209.75	211.7291
210.97	215.3610
215.65	239.5432
216.55	228.1122
218.09	225.1133
222.10	220.3199
223.80	236.8791
226.40	209.0010
227.00	212.3544
227.08	202.5648
227.20	202.5818
228.16	225.6008
228.18	225.6040
228.18	225.6040
231.56	0.0000
235.69	234.8582
236.00	200.5039
236.00	200.5039
238.63	200.8557
238.63	200.8557
238.63	200.8557
238.63	200.8557
239.00	200.9046
240.98	201.1685
241.98	201.3011
241.98	201.3011
241.98	201.3011
244.69	126.9457
245.39	151.6989
247.94	178.1582
248.90	169.0609
249.79	162.5241
252.40	193.8055
252.85	183.8916
252.85	183.8916
254.15	0.0000
256.20	194.2741
256.20	194.2741
260.50	153.6139
260.90	158.1076
262.80	189.0609
264.65	173.2075
268.24	161.0640
268.79	161.1189
269.46	161.1848
269.46	161.1848
269.46	161.1848
269.46	161.1848
271.23	179.2896
273.65	235.2147
276.40	154.6719
277.35	176.0975
277.60	177.7307
277.60	177.7307
278.00	182.0247
278.60	174.6853
279.20	181.9554
279.53	193.7021
280.46	192.0068
281.68	191.2451
283.67	165.2786
284.30	153.5956
285.00	143.7153
285.90	149.2191
286.10	149.2352
286.10	149.2352
287.40	168.9616
288.45	0.0000
290.67	176.8425
290.80	176.8544
291.72	149.7266
293.26	0.0000
293.70	133.2443
295.21	109.1118
295.21	109.1118

295.21	109.1118
295.96	109.1602
296.50	109.1938
297.23	109.2393
298.57	109.3228
299.80	132.1921
299.80	132.1921
300.09	145.8906
300.09	145.8906
300.09	145.8906
300.09	145.8906
300.12	145.8926
301.29	152.0732
302.84	152.2074
303.76	150.7639
303.91	150.7760
304.40	147.7715
304.40	147.7715
304.84	131.0454
306.84	133.2281
308.46	121.8463
311.98	142.2795
316.51	124.2307
318.01	156.5693
319.02	161.2619
319.41	153.9225
320.08	138.3051
323.87	147.8301
323.87	147.8301
323.87	147.8301
323.87	147.8301
325.23	155.6426
328.77	149.7647
333.44	153.2333
334.20	144.0051
334.20	144.0051
334.30	144.0126
338.28	117.9351
338.28	117.9351
338.28	117.9351
338.28	117.9351
338.32	117.9367
338.32	117.9367
338.32	117.9367
340.50	130.5015
340.57	130.5049
344.27	126.7550
345.85	124.6322
350.59	0.0000
351.07	124.6567
351.92	123.4600
351.92	123.4600
351.92	123.4600
355.39	0.0000
356.01	114.3209
364.48	116.0677
366.43	117.1264
367.43	119.0740
367.94	0.0000
369.80	128.6754
374.96	109.0829
383.85	114.3193
387.95	101.1814
388.63	109.8073
391.69	119.5297
391.69	119.5297
392.90	106.2034
398.62	118.0031
400.65	115.2349
401.10	108.5363
401.81	97.0424
402.60	102.8451
404.84	154.9094
410.95	121.5765
411.60	131.2652
413.65	144.9133
414.70	118.8860
415.30	110.2176

415.76	114.1094
417.63	0.0000
418.52	133.6167
423.70	100.9328
427.08	126.3580
427.89	120.5700
432.53	95.4866
433.93	111.1444
439.47	90.8930
439.56	90.8964
439.89	98.7302
443.98	105.7614
444.90	112.6613
445.03	112.6683
445.03	112.6683
445.03	112.6683
445.03	112.6683
453.90	110.9932
463.38	93.8102
468.07	72.5581
473.00	84.2758
475.06	87.3243
475.35	85.3502
476.78	64.5469
477.59	68.5426
477.96	71.5333
482.03	89.5671
484.57	86.6718
487.03	76.7876
490.36	0.0000
492.35	94.9432
497.08	84.1107
507.63	0.0000
510.53	0.0000
510.84	77.5259
511.00	77.5306
511.85	65.4705
511.85	65.4705
513.99	65.5253
513.99	65.5253
520.41	67.7115
520.65	67.7181
527.90	83.1131
528.96	0.0000
529.64	86.2119
529.87	0.0000
531.02	76.1096
537.32	92.5685
543.00	84.6130
546.56	0.0000
549.76	81.7637
552.65	65.4813
555.20	81.9297
563.23	77.0380
563.90	75.0032
568.70	76.1644
569.32	74.1234
569.50	72.0696
569.67	72.0730
573.80	75.2759
574.00	77.3438
574.64	89.7400
578.91	94.6991
579.30	0.0000
583.14	75.5308
585.48	63.8587
591.81	77.8418
592.07	84.0771
593.00	89.2964
595.88	77.9535
600.56	90.7256
602.52	0.0000
602.71	105.9259
602.71	105.9259
603.60	93.8013
604.41	95.5652
604.70	95.5741
609.31	81.4563

609.31	81.4563
609.31	81.4563
609.31	81.4563
610.33	73.1274
612.46	78.4094
614.37	85.4370
618.01	60.7542
621.84	73.4197
621.84	73.4197
631.29	74.7112
633.02	60.0142
633.10	60.0156
634.78	50.5688
635.90	61.1266
636.97	72.7465
645.85	67.6766
646.12	65.5677
656.30	60.4846
657.75	54.1439
657.90	0.0000
661.65	66.9698
661.65	66.9698
664.57	0.0000
666.33	66.0082
666.33	66.0082
675.00	71.5326
677.61	73.7303
685.20	66.4124
692.80	74.0908
695.00	68.7703
696.49	74.1784
696.49	74.1784
697.00	73.1149
697.49	75.2773
698.33	76.3718
698.50	73.1498
699.00	78.5409
702.63	68.9359
706.10	58.2280
706.58	0.0000
706.67	59.3170
709.31	73.3988
711.68	70.2130
713.82	63.7736
717.42	57.7135
720.50	55.9630
721.93	0.0000
722.20	52.3802
722.78	70.4542
722.78	70.4542
722.89	70.4574
722.95	70.4590
723.30	75.8875
724.18	77.7153
727.18	75.9780
733.00	72.0356
735.90	71.8282
739.58	77.3546
742.81	63.2534
744.21	69.8266
747.13	63.3370
751.79	55.7700
752.31	59.0599
753.82	51.4281
755.35	58.0192
756.15	68.9832
756.87	74.4746
763.93	92.1908
765.79	80.1628
766.42	82.3737
766.84	76.8923
776.49	62.4233
778.00	53.2670
778.57	59.7050
778.89	59.7103
783.80	43.2373
785.46	45.2832
792.07	44.2637



795.84	53.8069
796.30	55.3967
798.80	58.6048
801.93	66.5845
805.60	48.1385
810.29	54.6919
810.76	53.7720
815.85	36.2094
817.79	41.8030
818.51	42.7404
819.60	42.7535
826.30	40.0404
828.27	0.0000
831.60	46.6278
831.96	47.5656
834.83	62.5385
836.80	0.0000
846.75	53.3795
848.13	42.1582
856.28	0.0000
856.80	54.7342
860.37	39.4792
867.32	41.4371
867.82	46.3402
871.10	48.0781
873.19	54.7078
874.81	51.9016
875.33	0.0000
876.40	50.0347
879.36	52.9090
880.27	50.0875
880.51	50.0908
881.50	49.1584
883.24	49.1806
884.67	53.9304
889.25	41.6815
896.60	41.7629
898.02	52.2227
899.00	45.5879
903.28	47.2696
911.07	50.4962
911.07	50.4962
911.07	50.4962
919.63	44.4017
920.93	37.8259
925.00	44.9413
925.24	43.9879
926.50	48.7858
935.52	56.5693
937.48	66.1896
944.10	49.0057
946.00	56.7205
949.00	43.2944
962.29	61.2283
964.01	54.6321
966.15	76.1955
968.20	71.5385
969.11	54.7023
969.11	54.7023
969.11	54.7023
977.42	52.3235
980.50	42.6662
983.50	57.2547
989.30	39.8439
996.32	44.7796
1001.03	48.7295
1001.68	44.8376
1004.76	41.9449
1021.30	0.0000
1024.50	0.0000
1034.80	36.3541
1036.00	44.2255
1037.82	45.2288
1038.57	43.2695
1038.76	0.0000
1045.16	39.3978
1046.59	45.3224
1048.07	36.4670

1050.47	33.5296
1050.47	33.5296
1062.04	49.4425
1063.62	48.4716
1076.63	50.6016
1077.35	48.6252
1078.86	47.6484
1085.78	52.6959
1099.22	44.8792
1112.02	39.4366
1112.84	48.0195
1115.52	48.0469
1120.29	43.0892
1120.29	43.0892
1120.29	43.0892
1120.29	43.0892
1120.51	43.0910
1121.28	42.9548
1124.00	0.0000
1129.67	35.0540
1131.51	0.0000
1147.95	0.0000
1167.94	46.5802
1173.22	53.7311
1175.09	41.5822
1177.93	49.7257
1189.05	63.0697
1204.90	51.0335
1205.75	0.0000
1213.00	58.2780
1221.42	62.4793
1230.97	65.0958
1235.34	65.1552
1236.41	0.0000
1238.25	59.6143
1246.25	36.0339
1260.41	0.0000
1271.85	27.9437
1274.45	34.1709
1274.54	34.1722
1291.56	38.4453
1298.22	0.0000
1312.09	28.1700
1325.50	24.0603
1325.50	24.0603
1332.49	29.3319
1333.61	31.4331
1360.21	27.3838
1362.66	0.0000
1365.15	22.1382
1368.21	26.3713
1368.53	0.0000
1376.25	16.9036
1384.27	26.4526
1394.10	37.1021
1395.20	27.5679
1407.95	26.5706
1434.06	30.9730
1436.60	23.5075
1457.56	0.0000
1460.81	5.5199
1489.15	17.2617
1509.49	9.7449
1596.49	17.9033
1620.62	16.0845
1678.03	0.0000
1691.02	10.5300
1691.02	10.5300
1706.46	0.0000
1750.46	0.0000
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1770.23	38.7807
1771.40	21.3332
1791.20	0.0000
1808.65	15.6060

1836.01

8.8154

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244847004

Total Uranium Activity	6.5818E+00	ug/g
Total Uranium Counting Unc.	7.1880E+00	ug/g
Total Uranium Tpu	3.6674E-06	ug/g
Total Uranium Mda	4.0257E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 942717                SAMPLE ID   : G244847004                *
*  ANALYST       : MXR1                  DETECTOR    : GAM23                    *
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE : 27-JAN-2010 14:19:59.41  SAMPLE ALQT: 125.930 GRAM          *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.472E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.216E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.054E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.477E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 17:00:04.57

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018259.CNF;1
Sample date        : 20-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 14:59:34
Sample ID          : G1202018259          Sample quantity  : 1.57740E+02 GRAM
Detector name      : GAM14                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:00.47  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity        : 5.00000
Batch ID           : 942717               Detector SN#       :
Matrix Spike ID    :                     LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	92.57*	6	117	1.54	184.64	178	13	8.86E-04	407.0	
2	0	185.93*	8	83	1.48	371.17	364	12	1.12E-03	261.2	
3	0	238.83*	27	62	1.46	476.88	472	10	3.73E-03	64.8	
4	0	802.36*	15	8	2.39	1603.39	1596	15	2.12E-03	58.5	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018259.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 14:59:34
Sample ID         : G1202018259 Sample quantity   : 157.74 GRAM
Sample type       : SOLID Sample geometry      :
Detector name     : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.47 0.0%
Peak Width (FWHM): 3.00 Confidence level   : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio    : 8.00
Errors propagated: Yes Systematic Error      : 0.00 %
Efficiency type   : Empirical Efficiencies at   : Peak Energy
Abundance limit   : 75.00 WTM error limit      : 3.00

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## Full Combined Activity-MDA Report

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	477.59	*	-4.335E-02	1.212E-01	1.892E-01	1.275E-02	-0.229	
NA-22	1274.54	*	-1.427E-02	1.858E-02	2.572E-02	1.680E-03	-0.555	
NA-24	1368.53	*	1.294E-05	1.858E-02	Half-Life	too short		
AL-26	1129.67		-1.340E-01	6.953E-01	1.111E+00	7.016E-02	-0.121	
	1808.65	*	-1.379E-02	1.866E-02	2.342E-02	1.358E-03	-0.589	
K-40	1460.81	*	1.680E-01	1.630E-01	3.231E-01	2.346E-02	0.520	
TI-44	67.85		-8.129E-03	1.446E-02	2.138E-02	1.504E-03	-0.380	
	78.38	*	-6.324E-03	1.095E-02	1.699E-02	1.327E-03	-0.372	
SC-46	889.25	*	4.611E-03	1.688E-02	2.936E-02	2.713E-03	0.157	
	1120.51		-3.438E-04	1.949E-02	3.217E-02	2.083E-03	-0.011	
V-48	944.10		6.062E-02	2.702E-01	4.675E-01	4.178E-02	0.130	
	983.50	*	4.667E-03	1.603E-02	2.841E-02	2.413E-03	0.164	
	1312.09		2.145E-05	1.927E-02	3.168E-02	2.189E-03	0.001	
CR-51	320.08	*	3.794E-02	1.329E-01	2.265E-01	1.464E-02	0.167	
MN-52	744.21		-2.522E-02	4.756E-02	7.062E-02	4.984E-03	-0.357	
	848.13		1.625E+00	1.255E+00	2.441E+00	2.097E-01	0.666	
	935.52		-9.315E-03	4.436E-02	7.161E-02	6.463E-03	-0.130	
	1246.25		4.575E-01	9.003E-01	1.649E+00	1.027E-01	0.278	
	1333.61		-1.024E+00	8.184E-01	8.712E-01	6.208E-02	-1.176	
	1434.06	*	9.518E-03	3.499E-02	6.161E-02	4.318E-03	0.154	
MN-54	834.83	*	-1.023E-02	1.521E-02	2.282E-02	1.914E-03	-0.448	
CO-56	846.75	*	1.643E-02	1.765E-02	3.302E-02	2.830E-03	0.498	
	977.42		3.669E-01	9.317E-01	1.676E+00	1.435E-01	0.219	
	1037.82		-2.337E-02	1.303E-01	2.086E-01	1.728E-02	-0.112	
	1175.09		2.084E-01	7.807E-01	1.354E+00	7.484E-02	0.154	
	1238.25		1.217E-02	2.572E-02	4.640E-02	3.014E-03	0.262	
	1360.21		1.828E-01	3.472E-01	6.447E-01	4.580E-02	0.284	
	1771.40		-2.173E-02	1.069E-01	1.616E-01	9.642E-03	-0.134	
CO-57	122.06	*	1.133E-03	9.870E-03	1.604E-02	1.141E-03	0.071	
	136.48		-2.658E-02	7.876E-02	1.227E-01	9.011E-03	-0.217	
CO-58	810.76	*	4.174E-03	1.548E-02	2.601E-02	2.093E-03	0.160	
FE-59	142.65		-3.386E-01	1.032E+00	1.522E+00	9.546E-02	-0.222	
	192.34		-3.587E-02	3.240E-01	5.104E-01	5.958E-02	-0.070	
	1099.22	*	-1.874E-02	2.777E-02	3.877E-02	2.985E-03	-0.483	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.56			-4.576E-03	3.331E-02	5.266E-02	4.287E-03	-0.087
	1173.22			-2.101E-03	1.598E-02	2.570E-02	1.415E-03	-0.082
	1332.49	*		-1.226E-02	1.529E-02	1.963E-02	1.399E-03	-0.625
ZN-65	1115.52	*		-1.222E-02	3.352E-02	5.171E-02	3.399E-03	-0.236
GE-68	1077.35	*		4.037E-01	4.377E-01	8.514E-01	6.121E-02	0.474
AS-73	53.44	*		7.060E-02	1.949E-01	3.282E-01	2.140E-02	0.215
AS-74	595.88	*		-2.431E-03	3.397E-02	5.473E-02	3.274E-03	-0.044
SE-75	634.78			-4.251E-02	1.115E-01	1.697E-01	1.014E-02	-0.250
	66.05			-2.819E+00	1.575E+00	2.096E+00	1.906E-01	-1.345
	96.73			1.194E-01	2.719E-01	4.039E-01	5.365E-02	0.296
BR-77	121.11			1.916E-02	5.144E-02	8.526E-02	8.627E-03	0.225
	136.00			-3.574E-03	1.403E-02	2.202E-02	1.454E-03	-0.162
	198.60			-6.323E-02	7.721E-01	1.159E+00	8.023E-02	-0.055
	264.65	*		5.408E-03	1.689E-02	2.900E-02	1.703E-03	0.186
	279.53			4.276E-03	4.031E-02	6.787E-02	4.275E-03	0.063
	303.91			-1.733E-01	7.360E-01	1.193E+00	1.141E-01	-0.145
	400.65			-5.381E-02	1.068E-01	1.661E-01	1.479E-02	-0.324
	87.88			-3.937E+00	7.637E+00	9.991E+00	8.727E-01	-0.394
	200.40			4.286E+00	7.430E+00	1.300E+01	7.231E-01	0.330
	239.00	+		4.652E-01	6.039E-01	8.538E-01	4.902E-02	0.545
	249.79			-9.531E-02	3.057E+00	5.099E+00	2.946E-01	-0.019
	281.68			-3.597E+00	4.065E+00	6.196E+00	3.614E-01	-0.581
	297.23			1.673E+00	2.277E+00	4.041E+00	2.357E-01	0.414
	303.76			-4.023E-01	7.260E+00	1.201E+01	6.997E-01	-0.034
	439.47			1.378E+00	6.596E+00	1.112E+01	6.287E-01	0.124
	484.57			2.327E+00	1.036E+01	1.749E+01	1.015E+00	0.133
	520.65	*		3.381E-01	5.330E-01	9.373E-01	5.526E-02	0.361
	574.64			-1.415E+01	1.190E+01	1.640E+01	9.791E-01	-0.863
	578.91			5.698E-01	4.672E+00	7.715E+00	4.608E-01	0.074
	585.48			-1.101E+00	8.650E+00	1.385E+01	8.276E-01	-0.080
SR-82	755.35			-2.100E+00	7.875E+00	1.209E+01	8.724E-01	-0.174
	817.79			1.087E+00	5.776E+00	9.996E+00	8.126E-01	0.109
	698.33			6.055E+00	1.369E+01	2.334E+01	1.500E+00	0.259
RB-83	776.49	*		-4.570E-02	1.346E-01	2.037E-01	1.532E-02	-0.224
	1395.20			-1.030E+00	3.689E+00	5.601E+00	3.957E-01	-0.184
	520.41	*		1.784E-02	2.939E-02	5.154E-02	3.038E-03	0.346
RB-84	529.64			2.020E-02	3.901E-02	6.835E-02	4.041E-03	0.295
	552.65			-5.028E-02	7.519E-02	1.098E-01	6.530E-03	-0.458
KR-85	881.50	*		-7.469E-03	2.609E-02	4.168E-02	3.799E-03	-0.179
SR-85	513.99	*		-6.564E+00	5.083E+00	7.472E+00	4.395E-01	-0.879
RB-86	513.99	*		-3.111E-02	2.409E-02	3.541E-02	2.083E-03	-0.879
Y-88	1076.63	*		1.693E-01	2.170E-01	4.126E-01	2.970E-02	0.410
ZR-88	898.02			5.351E-03	1.543E-02	2.730E-02	2.572E-03	0.196
	1836.01	*		1.706E-03	1.509E-02	2.530E-02	1.437E-03	0.067
NB-94	392.90	*		3.589E-04	1.322E-02	2.188E-02	1.191E-03	0.016
NB-95	1204.90	*		-2.271E+00	6.831E+00	1.059E+01	6.162E-01	-0.214
	702.63	*		-3.587E-03	1.560E-02	2.436E-02	1.580E-03	-0.147
NB-95	871.10			-7.146E-03	1.357E-02	2.058E-02	1.842E-03	-0.347
	765.79	*		5.414E-03	1.532E-02	2.608E-02	1.920E-03	0.208



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	235.69	*		1.398E-02	4.893E-02	7.365E-02	5.505E-03	0.190
ZR-95	724.18			3.150E-03	3.528E-02	5.769E-02	4.445E-03	0.055
	756.15	*		1.321E-02	2.633E-02	4.594E-02	3.789E-03	0.287
NB-97	657.90	*		-2.009E-05	2.633E-02	Half-Life	too short	
	1024.50			-3.804E-03	2.633E-02	Half-Life	too short	
ZR-97	254.15			-5.594E-04	2.633E-02	Half-Life	too short	
	355.39			-2.870E-04	2.633E-02	Half-Life	too short	
	507.63	*		-1.674E-03	2.633E-02	Half-Life	too short	
	602.52			-7.155E-04	2.633E-02	Half-Life	too short	
	1021.30			2.685E-06	2.633E-02	Half-Life	too short	
	1147.95			6.865E-04	2.633E-02	Half-Life	too short	
	1362.66			-7.062E-04	2.633E-02	Half-Life	too short	
	1750.46			-4.161E-04	2.633E-02	Half-Life	too short	
MO-99	140.51			-6.568E-02	1.646E+00	2.511E+00	6.799E-01	-0.026
	181.06			-3.465E-01	1.136E+00	1.614E+00	2.747E-01	-0.215
	366.43			4.549E-01	5.319E+00	8.879E+00	4.982E-01	0.051
	739.58	*		-1.960E-01	8.364E-01	1.299E+00	1.861E-01	-0.151
	778.00			-1.381E+00	2.164E+00	3.066E+00	2.312E-01	-0.451
TC-99M	140.51	*		-6.429E-01	2.164E+00	Half-Life	too short	
RH-101	127.23			-3.433E-03	1.188E-02	1.864E-02	1.282E-03	-0.184
	198.01	*		-5.799E-03	1.464E-02	2.137E-02	1.186E-03	-0.271
	325.23			-8.470E-02	9.761E-02	1.438E-01	8.323E-03	-0.589
RH-102	418.52			3.901E-02	1.257E-01	2.139E-01	1.191E-02	0.182
	475.06	*		9.037E-03	1.273E-02	2.259E-02	1.305E-03	0.400
	631.29			-5.071E-03	2.050E-02	3.181E-02	1.901E-03	-0.159
	697.49			1.093E-02	3.840E-02	6.424E-02	4.122E-03	0.170
	766.84			-2.266E-02	4.388E-02	6.436E-02	4.749E-03	-0.352
	1046.59			6.274E-03	5.012E-02	8.497E-02	6.503E-03	0.074
	1112.84			1.337E-02	8.450E-02	1.441E-01	9.520E-03	0.093
RU-103	497.08	*		5.670E-03	1.413E-02	2.436E-02	3.085E-03	0.233
	610.33			-4.817E-02	3.309E-01	5.280E-01	8.178E-02	-0.091
RH-106	511.85			-1.803E-01	1.234E-01	2.209E-01	1.298E-02	-0.816
	621.84	*		-1.452E-02	1.451E-01	2.322E-01	2.746E-02	-0.063
	1050.47			6.795E-01	9.830E-01	1.811E+00	1.376E-01	0.375
RU-106	511.85			-1.803E-01	1.234E-01	2.209E-01	1.298E-02	-0.816
	621.84	*		-1.452E-02	1.451E-01	2.322E-01	1.388E-02	-0.063
	1050.47			6.795E-01	9.830E-01	1.811E+00	1.376E-01	0.375
AG-108M	433.93	*		2.245E-03	1.426E-02	2.387E-02	1.466E-03	0.094
	614.37			6.226E-03	1.903E-02	3.209E-02	2.073E-03	0.194
	722.95			-4.687E-03	1.841E-02	2.853E-02	2.050E-03	-0.164
CD-109	88.03	*		-1.493E-01	3.111E-01	4.088E-01	3.575E-02	-0.365
AG-110M	657.75	*		-1.251E-02	1.522E-02	2.147E-02	1.356E-03	-0.582
	677.61			-5.070E-02	1.139E-01	1.690E-01	1.097E-02	-0.300
	706.67			-9.384E-02	9.421E-02	1.282E-01	8.783E-03	-0.732
	763.93			-3.421E-03	6.560E-02	1.046E-01	7.974E-03	-0.033
	884.67			-4.924E-04	2.162E-02	3.605E-02	3.399E-03	-0.014
	937.48			-5.774E-03	4.804E-02	7.868E-02	7.321E-03	-0.073
	1384.27			3.128E-02	5.514E-02	1.041E-01	7.678E-03	0.300
IN-111	171.28			5.180E-02	6.502E-02	1.107E-01	5.971E-03	0.468

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	245.39	*		7.735E-03	7.194E-02	1.149E-01	6.624E-03	0.067
IN-113M	391.69	*		2.863E-03	1.886E-02	3.161E-02	1.849E-03	0.091
SN-113	391.69	*		2.863E-03	1.886E-02	3.161E-02	1.849E-03	0.091
IN-114M	190.27	*		1.818E-02	6.589E-02	9.982E-02	5.494E-03	0.182
CD-115	260.90			-5.332E+00	5.370E+00	8.176E+00	4.745E-01	-0.652
	492.35			4.218E-01	1.398E+00	2.383E+00	1.389E-01	0.177
	527.90	*		-3.435E-01	4.473E-01	6.490E-01	3.835E-02	-0.529
SN-117M	156.02			5.734E-02	5.675E-01	9.166E-01	5.276E-02	0.063
	158.56	*		-1.553E-03	1.450E-02	2.297E-02	1.300E-03	-0.068
SB-122	563.90	*		-1.630E-01	1.237E-01	1.584E-01	9.442E-03	-1.029
	692.80			-1.214E+00	3.018E+00	4.596E+00	2.920E-01	-0.264
I-123	159.00	*		-1.808E-05	3.018E+00	Half-Life	too short	
	528.96			3.929E-04	3.018E+00	Half-Life	too short	
TE-123M	159.00	*		-1.134E-03	1.063E-02	1.684E-02	9.631E-04	-0.067
I-124	602.71	*		-2.972E-02	9.742E-02	1.526E-01	9.128E-03	-0.195
	722.78			-1.544E-01	5.533E-01	8.541E-01	5.773E-02	-0.181
	1325.50			6.065E-01	4.275E+00	7.233E+00	5.101E-01	0.084
	1376.25			-1.621E+00	3.539E+00	5.135E+00	3.640E-01	-0.316
	1509.49			1.831E-02	2.374E+00	3.880E+00	2.662E-01	0.005
SB-124	1691.02			-1.418E-02	5.983E-01	9.639E-01	6.074E-02	-0.015
	602.71			-5.488E-03	1.799E-02	2.818E-02	1.687E-03	-0.195
	645.85			2.354E-01	2.043E-01	3.822E-01	2.557E-02	0.616
	709.31			1.813E-01	1.179E+00	1.945E+00	1.279E-01	0.093
	713.82			-4.043E-01	7.393E-01	1.097E+00	1.175E-01	-0.369
	722.78			-4.133E-02	1.481E-01	2.287E-01	1.600E-02	-0.181
	968.20			4.295E-01	9.192E-01	1.642E+00	1.423E-01	0.262
	1045.16			7.710E-01	9.677E-01	1.810E+00	1.389E-01	0.426
	1325.50			1.734E-01	1.222E+00	2.068E+00	1.459E-01	0.084
	1368.21			-2.164E-02	6.878E-01	1.119E+00	1.406E-01	-0.019
	1436.60			-3.173E-01	1.525E+00	2.361E+00	1.654E-01	-0.134
SB-125	1691.02	*		-8.955E-04	3.778E-02	6.087E-02	4.115E-03	-0.015
	427.89	*		5.534E-03	3.595E-02	6.030E-02	3.534E-03	0.092
	463.38			-6.593E-02	1.215E-01	1.864E-01	1.251E-02	-0.354
	600.56			3.054E-02	9.006E-02	1.520E-01	1.044E-02	0.201
	635.90			4.657E-03	1.096E-01	1.790E-01	1.242E-02	0.026
TE-125M	109.28	*		-1.964E+00	3.231E+00	4.945E+00	4.634E-01	-0.397
I-126	388.63			-2.254E-02	6.140E-02	9.747E-02	5.324E-03	-0.231
	666.33	*		-9.354E-04	5.272E-02	8.510E-02	5.111E-03	-0.011
	753.82			-2.087E-01	4.332E-01	6.406E-01	4.608E-02	-0.326
SB-126	223.80			-7.390E-01	9.974E-01	1.565E+00	8.888E-02	-0.472
	278.60			2.392E-01	6.204E-01	1.071E+00	6.243E-02	0.223
	296.50			2.883E-01	3.420E-01	6.125E-01	3.573E-02	0.471
	414.70			-6.817E-03	2.130E-02	3.380E-02	1.876E-03	-0.202
	415.30			-2.200E+00	1.882E+00	2.684E+00	1.490E-01	-0.820
	555.20			-6.077E-01	1.115E+00	1.673E+00	9.957E-02	-0.363
	573.80			-3.119E-01	3.479E-01	5.029E-01	3.002E-02	-0.620
	593.00			-1.391E-01	3.027E-01	4.631E-01	2.769E-02	-0.300
	656.30			-4.097E-01	9.769E-01	1.481E+00	8.819E-02	-0.277
	666.33			-3.842E-04	2.166E-02	3.496E-02	2.099E-03	-0.011

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-126	675.00			3.337E-01	4.796E-01	8.673E-01	5.307E-02	0.385
	695.00			-4.768E-03	2.517E-02	3.963E-02	2.530E-03	-0.120
	697.00			3.556E-02	8.433E-02	1.438E-01	9.215E-03	0.247
	720.50	*		-1.976E-02	4.266E-02	6.381E-02	4.293E-03	-0.310
	856.80			8.365E-03	1.185E-01	2.009E-01	1.753E-02	0.042
	989.30			-3.437E-01	3.335E-01	4.386E-01	3.693E-02	-0.784
	1034.80			1.468E+00	2.556E+00	4.633E+00	3.624E-01	0.317
	1213.00			-2.155E-01	9.996E-01	1.572E+00	9.268E-02	-0.137
	64.28			-6.442E-02	1.661E-01	2.645E-01	3.769E-02	-0.244
	86.94			-1.681E-02	1.282E-01	1.750E-01	7.236E-02	-0.096
SB-127	87.57	*		-9.886E-03	3.056E-02	4.086E-02	3.555E-03	-0.242
	61.10			5.064E+00	4.505E+00	7.888E+00	5.990E-01	0.642
	252.40			3.686E-02	4.563E-01	7.679E-01	3.155E-01	0.048
	290.80			-1.277E+00	2.163E+00	3.394E+00	2.324E-01	-0.376
	411.60			1.559E+00	1.233E+00	2.297E+00	2.961E-01	0.679
	444.90			3.233E-01	1.031E+00	1.760E+00	1.550E-01	0.184
	473.00			1.815E-01	2.020E-01	3.628E-01	3.387E-02	0.500
	543.00			8.687E-01	1.713E+00	2.992E+00	3.421E-01	0.290
	603.60			1.980E-01	1.484E+00	2.449E+00	2.198E-01	0.081
	685.20	*		-5.159E-02	1.314E-01	1.967E-01	1.485E-02	-0.262
XE-127	698.50			8.211E-01	1.945E+00	3.305E+00	4.432E-01	0.248
	722.20			-1.212E+00	3.306E+00	5.019E+00	3.837E-01	-0.241
	783.80			8.508E-02	3.467E-01	5.827E-01	5.844E-02	0.146
	57.60			-1.082E+00	1.469E+00	2.250E+00	1.482E-01	-0.481
	145.22			-1.985E-01	2.575E-01	3.635E-01	2.243E-02	-0.546
	172.10			2.422E-02	4.169E-02	6.986E-02	3.771E-03	0.347
	202.84	*		3.478E-04	1.646E-02	2.772E-02	1.545E-03	0.013
	374.96			4.810E-03	6.522E-02	1.087E-01	6.045E-03	0.044
	80.18			-7.693E-02	7.362E-01	1.186E+00	9.463E-02	-0.065
	284.30			7.868E-02	3.171E-01	5.404E-01	3.471E-02	0.146
I-131	364.48	*		1.569E-04	2.602E-02	4.308E-02	2.697E-03	0.004
	636.97			1.337E-01	3.552E-01	6.070E-01	4.003E-02	0.220
	722.89			-4.273E-01	1.623E+00	2.512E+00	1.703E-01	-0.170
	49.72			-1.338E+00	1.044E+00	1.523E+00	1.105E-01	-0.879
	111.76			4.100E-01	2.498E+00	3.880E+00	3.143E-01	0.106
	116.30			-1.188E+00	2.197E+00	3.380E+00	2.696E-01	-0.351
	228.16	*		3.947E-02	6.093E-02	9.334E-02	1.227E-02	0.423
	53.15			4.409E-01	8.910E-01	1.516E+00	9.879E-02	0.291
	79.62			5.662E-03	3.881E-01	6.308E-01	9.360E-02	0.009
	81.00			-9.662E-03	3.019E-02	4.773E-02	7.432E-03	-0.202
TE-132	276.40			2.429E-02	1.479E-01	2.502E-01	3.247E-02	0.097
	302.84			-5.052E-02	5.461E-02	8.145E-02	9.507E-03	-0.620
	356.01	*		3.924E-03	1.882E-02	3.179E-02	3.654E-03	0.123
	383.85			3.273E-02	1.230E-01	2.090E-01	2.239E-02	0.157
	510.53			-7.999E-04	1.230E-01	Half-Life	too short	
	529.87	*		3.893E-06	1.230E-01	Half-Life	too short	
	706.58			-3.939E-04	1.230E-01	Half-Life	too short	
	856.28			-2.016E-04	1.230E-01	Half-Life	too short	
	875.33			4.600E-05	1.230E-01	Half-Life	too short	
BA-133								
I-133								

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	1236.41			-1.027E-04	1.230E-01	Half-Life	too short	
	1298.22			1.928E-04	1.230E-01	Half-Life	too short	
	475.35			5.066E-01	8.325E-01	1.461E+00	8.447E-02	0.347
	563.23			-1.661E-01	1.381E-01	1.787E-01	1.087E-02	-0.929
	569.32			1.849E-02	1.101E-01	1.761E-01	1.080E-02	0.105
	604.70			-1.559E-03	1.642E-02	2.638E-02	1.587E-03	-0.059
	795.84	*		-3.641E-03	1.981E-02	2.597E-02	2.044E-03	-0.140
	801.93		+	2.023E-01	2.371E-01	3.609E-01	2.868E-02	0.560
	1038.57			-1.516E+00	1.754E+00	2.450E+00	1.903E-01	-0.619
	1167.94			5.552E-01	8.814E-01	1.630E+00	9.145E-02	0.341
CS-135	1365.15			-1.999E-01	4.775E-01	6.921E-01	5.240E-02	-0.289
I-135	268.24	*		-1.075E-02	6.267E-02	1.030E-01	7.904E-03	-0.104
CS-136	288.45			-1.923E+00	6.267E-02	Half-Life	too short	
	417.63			1.022E+01	6.267E-02	Half-Life	too short	
	546.56			-3.478E+00	6.267E-02	Half-Life	too short	
	836.80			-1.309E+01	6.267E-02	Half-Life	too short	
	1038.76			-4.891E+01	6.267E-02	Half-Life	too short	
	1124.00			8.679E+01	6.267E-02	Half-Life	too short	
	1131.51			-6.514E+00	6.267E-02	Half-Life	too short	
	1260.41	*		-8.687E+00	6.267E-02	Half-Life	too short	
	1457.56			-2.168E+01	6.267E-02	Half-Life	too short	
	1678.03			-1.226E+01	6.267E-02	Half-Life	too short	
	1706.46			4.922E+01	6.267E-02	Half-Life	too short	
	1791.20			-7.130E+01	6.267E-02	Half-Life	too short	
	66.91			-3.127E-01	1.796E-01	2.331E-01	3.399E-02	-1.341
	86.29			9.280E-02	2.669E-01	3.828E-01	4.904E-02	0.242
	153.22			-1.440E-01	1.673E-01	2.463E-01	1.790E-02	-0.585
	163.89			-7.802E-03	2.715E-01	4.329E-01	3.015E-02	-0.018
	176.55			-6.537E-03	9.760E-02	1.548E-01	9.561E-03	-0.042
	273.65			3.264E-02	1.217E-01	2.077E-01	1.377E-02	0.157
	340.57			1.582E-02	3.307E-02	5.737E-02	3.499E-03	0.276
BA-137M	818.51			1.324E-02	1.995E-02	3.686E-02	3.001E-03	0.359
	1048.07	*		-1.265E-02	3.267E-02	5.071E-02	4.075E-03	-0.250
	1235.34			-6.571E-02	1.279E-01	1.894E-01	1.926E-02	-0.347
CS-137	661.65	*		1.200E-02	1.528E-02	2.745E-02	1.632E-03	0.437
CE-139	661.65	*		1.268E-02	1.615E-02	2.901E-02	1.732E-03	0.437
BA-140	165.85	*		-9.193E-03	1.144E-02	1.694E-02	9.096E-04	-0.543
LA-140	162.64			-3.743E-02	1.944E-01	3.054E-01	1.910E-02	-0.123
	304.84			1.267E-02	2.982E-01	4.983E-01	1.360E-01	0.025
	423.70			-1.684E-01	5.616E-01	8.889E-01	2.822E-01	-0.189
	537.32	*		-2.605E-02	7.428E-02	1.145E-01	3.727E-02	-0.227
	328.77			2.193E-02	7.442E-02	1.272E-01	8.237E-03	0.172
	432.53			3.977E-01	5.598E-01	9.974E-01	6.234E-02	0.399
	487.03			-7.370E-03	3.699E-02	5.893E-02	3.877E-03	-0.125
	751.79			-1.711E-01	5.133E-01	7.815E-01	6.447E-02	-0.219
	815.85			-5.803E-02	8.839E-02	1.321E-01	1.208E-02	-0.439
	867.82			1.418E-01	3.595E-01	6.411E-01	5.990E-02	0.221
	919.63			-3.181E-01	7.256E-01	1.113E+00	1.236E-01	-0.286
	925.24			1.084E-01	2.629E-01	4.735E-01	4.565E-02	0.229

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-141	1596.49	*		-4.336E-03	2.461E-02	3.799E-02	2.518E-03	-0.114
	145.44	*		6.381E-03	1.974E-02	3.253E-02	2.076E-03	0.196
CE-143	57.37			-6.349E+00	6.738E+00	1.010E+01	8.163E-01	-0.628
	231.56			-1.285E+01	2.518E+01	3.677E+01	1.136E+01	-0.349
	293.26	*		5.604E-01	1.114E+00	1.934E+00	3.957E-01	0.290
	350.59			-6.080E+00	1.600E+01	2.532E+01	7.677E+00	-0.240
	490.36			6.062E+00	2.630E+01	4.430E+01	1.370E+01	0.137
	664.57			-1.388E+01	1.433E+01	1.870E+01	5.926E+00	-0.742
CE-144	721.93			-5.390E+00	1.363E+01	2.044E+01	5.857E+00	-0.264
	80.11			-1.758E-02	6.348E-01	1.022E+00	8.138E-02	-0.065
PM-144	133.54	*		-1.721E-02	7.247E-02	1.138E-01	1.657E-02	-0.151
	476.78			-8.645E-03	2.949E-02	4.659E-02	3.227E-03	-0.186
	618.01			2.775E-03	1.512E-02	2.513E-02	1.587E-03	0.110
	696.49	*		2.604E-03	1.656E-02	2.730E-02	1.749E-03	0.095
PR-144	778.57			-3.025E-01	8.854E-01	1.330E+00	1.004E-01	-0.227
	696.49	*		1.758E-01	1.118E+00	1.843E+00	1.180E-01	0.095
PM-146	1489.15			2.873E+00	4.809E+00	9.104E+00	6.287E-01	0.316
	453.90	*		1.348E-02	2.033E-02	3.569E-02	3.055E-03	0.378
	633.02			-4.131E-01	5.702E-01	7.747E-01	2.855E-01	-0.533
	735.90			-7.990E-03	6.031E-02	9.487E-02	2.670E-02	-0.084
ND-147	747.13			8.771E-03	4.336E-02	7.188E-02	9.459E-03	0.122
	91.11	+		1.205E-02	9.806E-02	1.076E-01	9.888E-03	0.112
	319.41			-3.296E-01	9.061E-01	1.453E+00	8.432E-02	-0.227
	439.89			6.388E-02	1.503E+00	2.484E+00	1.405E-01	0.026
PM-149	531.02	*		1.743E-01	1.370E-01	2.596E-01	3.524E-02	0.671
	285.90	*		2.001E+00	3.448E+00	6.037E+00	8.553E-01	0.331
EU-152	121.78			9.765E-03	2.891E-02	4.779E-02	4.134E-03	0.204
	244.69			1.370E-01	1.353E-01	2.284E-01	1.316E-02	0.600
	344.27	*		9.897E-03	4.108E-02	6.969E-02	4.509E-03	0.142
	443.98			2.373E-02	3.943E-01	6.528E-01	3.703E-02	0.036
	778.89			-4.086E-02	1.060E-01	1.580E-01	1.194E-02	-0.259
	867.32			4.512E-02	3.256E-01	5.579E-01	4.961E-02	0.081
	964.01			-9.299E-02	1.109E-01	1.575E-01	1.373E-02	-0.591
	1085.78			2.893E-02	1.451E-01	2.500E-01	1.764E-02	0.116
	1112.02			-4.495E-02	1.250E-01	1.930E-01	1.278E-02	-0.233
	1407.95			-1.058E-01	8.546E-02	9.379E-02	6.610E-03	-1.128
GD-153	69.67			-2.781E-01	4.695E-01	7.279E-01	5.205E-02	-0.382
	83.37			-6.828E-01	5.092E+00	7.443E+00	6.154E-01	-0.092
	97.43	*		1.085E-02	2.942E-02	4.337E-02	3.478E-03	0.250
	103.18			1.450E-02	3.426E-02	5.738E-02	4.427E-03	0.253
EU-154	123.07			1.114E-03	1.987E-02	3.214E-02	3.288E-03	0.035
	247.94			-5.194E-02	1.470E-01	2.384E-01	2.271E-02	-0.218
	591.81			1.814E-01	2.843E-01	4.991E-01	4.932E-02	0.363
	723.30			-2.260E-02	7.807E-02	1.204E-01	9.501E-03	-0.188
	756.87			2.462E-01	2.979E-01	5.456E-01	6.014E-02	0.451
	873.19			-6.547E-02	1.216E-01	1.842E-01	2.303E-02	-0.355
	996.32			-1.019E-01	1.627E-01	2.405E-01	4.239E-02	-0.424
	1004.76			-3.346E-02	9.819E-02	1.545E-01	1.754E-02	-0.217
	1274.45	*		-3.734E-02	5.268E-02	7.407E-02	7.263E-03	-0.504

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	48.70			-3.510E-02	6.148E-01	1.002E+00	6.419E-02	-0.035
	60.01			-4.899E-01	1.546E+00	2.465E+00	1.639E-01	-0.199
	86.54			4.494E-03	3.676E-02	5.158E-02	4.476E-03	0.087
TB-160	105.31	*		3.476E-03	3.744E-02	6.095E-02	4.717E-03	0.057
	86.79			-2.365E-02	9.386E-02	1.267E-01	1.092E-02	-0.187
	197.04			9.436E-03	2.043E-01	3.450E-01	1.912E-02	0.027
	215.65			-7.498E-02	2.631E-01	4.314E-01	2.434E-02	-0.174
	298.57			-2.856E-03	3.930E-02	6.495E-02	3.788E-03	-0.044
	879.36	*		4.644E-04	5.513E-02	9.240E-02	8.392E-03	0.005
	962.29			-1.135E-01	2.022E-01	2.910E-01	2.543E-02	-0.390
	966.15			2.596E-02	6.844E-02	1.211E-01	1.053E-02	0.214
	1177.93			4.785E-02	1.229E-01	2.178E-01	1.210E-02	0.220
HO-166M	1271.85			1.204E-04	2.734E-01	4.500E-01	2.922E-02	0.000
	80.57			-1.074E-02	8.316E-02	1.336E-01	1.070E-02	-0.080
	184.41			2.790E-02	1.395E-02	2.627E-02	1.437E-03	1.062
	280.46			-1.348E-03	3.270E-02	5.431E-02	3.167E-03	-0.025
	410.95			8.320E-02	9.478E-02	1.717E-01	9.499E-03	0.485
	711.68	*		1.305E-02	2.848E-02	4.887E-02	3.229E-03	0.267
	752.31			-7.485E-02	1.272E-01	1.853E-01	1.329E-02	-0.404
TM-171	810.29			1.075E-02	2.339E-02	4.068E-02	3.261E-03	0.264
	51.35			-4.369E+00	7.682E+00	1.194E+01	7.745E-01	-0.366
	52.39			2.954E+00	3.836E+00	6.669E+00	4.337E-01	0.443
	59.40			-3.977E+00	7.913E+00	1.242E+01	8.229E-01	-0.320
LU-176	66.72	*		-1.914E+01	9.437E+00	1.225E+01	8.538E-01	-1.563
	88.36			-2.063E-02	7.225E-02	9.700E-02	8.452E-03	-0.213
	201.83			-3.829E-03	1.189E-02	1.954E-02	1.088E-03	-0.196
LU-177	306.84	*		-7.262E-04	9.319E-03	1.537E-02	8.951E-04	-0.047
	401.10			-2.012E+00	2.955E+00	4.505E+00	2.471E-01	-0.447
	112.95			8.009E-02	3.092E-01	4.833E-01	3.549E-02	0.166
LU-177M	208.36	*		7.967E-02	1.887E-01	3.271E-01	1.833E-02	0.244
	52.97			2.257E-01	3.899E-01	6.680E-01	4.350E-02	0.338
	54.07			1.584E-02	2.048E-01	3.369E-01	2.200E-02	0.047
HF-181	61.30			5.845E-01	4.413E-01	7.811E-01	5.235E-02	0.748
	121.62			7.563E-02	1.420E-01	2.384E-01	1.695E-02	0.317
	147.16			-1.708E-01	2.439E-01	3.667E-01	2.236E-02	-0.466
	171.86			1.055E-01	1.873E-01	3.135E-01	1.692E-02	0.337
	218.09			-6.947E-02	3.335E-01	5.508E-01	3.114E-02	-0.126
	268.79			-1.853E-01	3.122E-01	4.939E-01	2.873E-02	-0.375
	319.02			-3.460E-02	1.073E-01	1.727E-01	1.002E-02	-0.200
	367.43			-1.235E-01	3.778E-01	6.030E-01	3.380E-02	-0.205
	413.65	*		6.200E-02	7.052E-02	1.272E-01	7.055E-03	0.487
	56.28			-2.550E-01	2.222E-01	3.254E-01	2.135E-02	-0.784
	57.53			-9.812E-02	1.256E-01	1.917E-01	1.262E-02	-0.512
	65.20			-1.284E-01	2.778E-01	4.192E-01	2.888E-02	-0.306
	133.02			-1.477E-02	2.182E-02	3.291E-02	2.186E-03	-0.449
	136.25			-4.833E-02	1.527E-01	2.383E-01	1.553E-02	-0.203
W-181	345.85			3.943E-02	7.208E-02	1.257E-01	7.185E-03	0.314
	482.03	*		8.364E-03	1.466E-02	2.585E-02	1.499E-03	0.324
	56.28			-1.082E-01	9.419E-02	1.379E-01	9.048E-03	-0.785

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182	57.53			-4.169E-02	5.329E-02	8.129E-02	5.352E-03	-0.513
	65.20	*		-5.404E-02	1.169E-01	1.764E-01	1.215E-02	-0.306
	67.75			-1.854E-02	3.298E-02	4.876E-02	3.429E-03	-0.380
	100.10			7.987E-04	5.585E-02	9.039E-02	7.112E-03	0.009
	152.43			1.735E-02	1.184E-01	1.920E-01	1.132E-02	0.090
	222.10			1.909E-02	1.300E-01	2.206E-01	1.251E-02	0.087
	1001.68			4.436E-01	9.564E-01	1.662E+00	1.373E-01	0.267
	1121.28			1.035E-02	5.517E-02	9.412E-02	6.082E-03	0.110
	1189.05			1.096E-02	1.127E-01	1.894E-01	1.072E-02	0.058
	1221.42	*		-6.481E-03	6.463E-02	1.044E-01	6.246E-03	-0.062
RE-183	1230.97			-1.862E-01	1.560E-01	1.936E-01	1.177E-02	-0.962
	57.98			-2.857E-02	5.260E-02	8.210E-02	5.413E-03	-0.348
	59.32			-1.564E-02	3.040E-02	4.768E-02	3.158E-03	-0.328
	67.20			-9.284E-02	6.101E-02	8.323E-02	5.826E-03	-1.115
	162.32	*		-2.691E-03	3.850E-02	6.117E-02	3.369E-03	-0.044
RE-184	208.81			7.545E-02	3.466E-01	5.918E-01	3.318E-02	0.127
	291.72			-2.473E-01	3.363E-01	5.191E-01	3.028E-02	-0.476
	57.98			-1.099E-01	2.024E-01	3.159E-01	2.083E-02	-0.348
	59.32			-6.012E-02	1.169E-01	1.833E-01	1.214E-02	-0.328
	67.20			-3.572E-01	2.347E-01	3.202E-01	2.241E-02	-1.115
	161.27			1.256E-02	1.298E-01	2.095E-01	1.163E-02	0.060
	216.55			2.172E-02	1.014E-01	1.731E-01	9.770E-03	0.126
	252.85	*		-4.916E-02	9.443E-02	1.508E-01	8.725E-03	-0.326
	318.01			-8.262E-02	1.878E-01	2.987E-01	1.734E-02	-0.277
	792.07			-1.175E-01	3.564E-01	5.350E-01	4.144E-02	-0.220
OS-185	903.28			-2.729E-01	3.798E-01	5.504E-01	5.138E-02	-0.496
	920.93			-2.158E-01	1.739E-01	2.162E-01	1.983E-02	-0.998
	59.72			-2.757E-02	8.510E-02	1.355E-01	8.995E-03	-0.203
	61.14			5.458E-02	4.683E-02	8.224E-02	5.507E-03	0.664
	69.30			-1.120E-02	7.875E-02	1.267E-01	9.031E-03	-0.088
	592.07			4.823E-01	1.108E+00	1.902E+00	1.137E-01	0.254
	646.12	*		1.711E-02	1.816E-02	3.317E-02	1.978E-03	0.516
	717.42			1.343E-01	3.707E-01	6.308E-01	4.218E-02	0.213
	874.81			-7.466E-03	2.270E-01	3.781E-01	3.406E-02	-0.020
	880.27			1.093E-01	3.145E-01	5.542E-01	5.042E-02	0.197
RE-188	155.03	*		-3.349E-02	5.950E-02	9.029E-02	5.232E-03	-0.371
	477.96			-7.321E-01	1.168E+00	1.749E+00	1.012E-01	-0.419
	633.10			-7.767E-01	1.034E+00	1.457E+00	8.702E-02	-0.533
W-188	63.58			-3.956E+00	1.630E+01	2.626E+01	1.788E+00	-0.151
	227.08			-3.975E-01	5.133E+00	7.385E+00	4.205E-01	-0.054
IR-192	290.67	*		-1.337E+00	2.702E+00	4.285E+00	2.500E-01	-0.312
	295.96			1.430E-02	3.636E-02	6.277E-02	3.719E-03	0.228
	308.46			-2.296E-02	3.473E-02	5.365E-02	3.158E-03	-0.428
	316.51	*		1.509E-03	1.423E-02	2.387E-02	1.393E-03	0.063
	468.07			-1.873E-02	2.782E-02	4.187E-02	2.784E-03	-0.447
AU-195	604.41			-3.954E-02	2.146E-01	3.412E-01	3.904E-02	-0.116
	612.46			-1.008E-01	3.253E-01	5.086E-01	3.922E-02	-0.198
	65.12			-1.961E-02	5.528E-02	8.419E-02	5.797E-03	-0.233
	66.83			-6.025E-02	3.065E-02	4.011E-02	2.799E-03	-1.502

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	75.70			2.144E-02	5.843E-02	9.200E-02	6.978E-03	0.233
	98.88	*		8.706E-03	7.609E-02	1.151E-01	9.132E-03	0.076
	129.76			4.088E-01	9.902E-01	1.648E+00	1.117E-01	0.248
	367.94	*		-3.756E-01	1.665E+00	2.688E+00	1.506E-01	-0.140
	579.30			-2.911E+00	1.448E+01	2.300E+01	1.374E+00	-0.127
TL-201	828.27			-2.345E+00	1.638E+01	2.683E+01	2.224E+00	-0.087
	1205.75			8.527E-01	8.154E+00	1.370E+01	7.984E-01	0.062
	68.90			1.119E-02	2.438E-01	3.983E-01	2.828E-02	0.028
	70.82			-1.825E-01	1.481E-01	2.170E-01	1.568E-02	-0.841
	80.30			-2.906E-02	2.780E-01	4.476E-01	3.571E-02	-0.065
TL-202	135.34			3.323E-01	1.701E+00	2.778E+00	1.821E-01	0.120
	167.43	*		4.178E-02	5.112E-01	8.226E-01	4.419E-02	0.051
	68.90			3.623E-03	7.897E-02	1.290E-01	9.162E-03	0.028
	70.82			-5.896E-02	4.783E-02	7.009E-02	5.065E-03	-0.841
	80.30			-9.391E-03	8.982E-02	1.446E-01	1.154E-02	-0.065
HG-203	439.56	*		4.085E-03	1.859E-02	3.138E-02	1.774E-03	0.130
	70.83			-3.519E-01	2.857E-01	4.149E-01	5.297E-02	-0.848
	72.87			6.254E-02	1.670E-01	2.784E-01	3.458E-02	0.225
	82.60			-4.628E-02	3.089E-01	4.953E-01	6.677E-02	-0.093
	279.20	*		2.614E-03	1.406E-02	2.385E-02	1.476E-03	0.110
BI-207	72.80			1.869E-02	5.460E-02	9.089E-02	6.694E-03	0.206
	74.97			5.193E-02	3.112E-02	5.592E-02	4.210E-03	0.929
	84.90			1.585E-02	6.705E-02	9.809E-02	8.261E-03	0.162
	569.67			2.449E-03	1.704E-02	2.717E-02	1.621E-03	0.090
	1063.62	*		-1.657E-02	2.076E-02	2.788E-02	2.063E-03	-0.594
TL-207	1770.23			2.270E-02	2.031E-01	3.409E-01	2.036E-02	0.067
	81.07			-2.202E-02	6.661E-02	1.053E-01	8.477E-03	-0.209
	83.78			-1.250E-02	4.456E-02	6.445E-02	5.355E-03	-0.194
	94.90			5.243E-02	9.480E-02	1.414E-01	1.157E-02	0.371
	122.32			9.495E-03	6.904E-01	1.113E+00	8.731E-02	0.009
TL-208	144.24			-2.320E-01	2.979E-01	4.221E-01	3.193E-02	-0.549
	154.21			-1.407E-01	1.501E-01	2.190E-01	1.541E-02	-0.643
	269.46			-4.804E-02	7.651E-02	1.207E-01	7.339E-03	-0.398
	323.87	*		7.620E-02	2.890E-01	4.775E-01	7.885E-02	0.160
	338.28			2.383E-01	3.960E-01	6.934E-01	7.282E-02	0.344
PO-209	445.03			2.902E-01	9.259E-01	1.580E+00	1.611E-01	0.184
	277.35			-3.832E-02	1.468E-01	2.389E-01	2.527E-02	-0.160
	510.84			-1.221E-01	1.157E-01	2.113E-01	2.154E-02	-0.578
	583.14	*		-6.117E-03	1.914E-02	3.031E-02	2.073E-03	-0.202
	860.37			2.874E-02	1.133E-01	1.973E-01	1.856E-02	0.146
BI-210	260.50			-2.368E+00	4.065E+00	6.449E+00	3.742E-01	-0.367
	262.80			-6.040E+00	1.101E+01	1.748E+01	1.015E+00	-0.346
	896.60	*		8.872E-01	3.152E+00	5.503E+00	5.150E-01	0.161
	46.50	*		-1.644E+00	1.038E+00	1.523E+00	1.129E-01	-1.080
	46.50	*		-1.644E+00	1.038E+00	1.523E+00	1.129E-01	-1.080
PB-211	46.50	*		-1.644E+00	1.036E+00	1.523E+00	9.557E-02	-1.080
	72.87			3.515E-01	9.378E-01	1.564E+00	1.153E-01	0.225
	351.07	*		-3.464E-02	8.587E-02	1.364E-01	8.639E-03	-0.254
	404.84	*		4.193E-02	3.544E-01	5.911E-01	3.684E-01	0.071



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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-212		427.08		1.254E-01	8.221E-01	1.372E+00	8.479E-01	0.091
		831.96		5.893E-01	5.824E-01	9.062E-01	5.675E-01	0.650
		727.18	*	1.748E-02	1.188E-01	1.960E-01	1.667E-02	0.089
		785.46		1.570E-01	6.282E-01	1.058E+00	8.095E-02	0.148
PB-212		1620.62		1.976E-01	6.473E-01	1.129E+00	7.398E-02	0.175
		74.81		1.675E-01	1.081E-01	1.912E-01	2.293E-02	0.876
		77.11		-1.033E-01	6.871E-02	9.286E-02	7.150E-03	-1.113
		87.30		-3.355E-02	1.424E-01	1.923E-01	2.545E-02	-0.175
PO-212	+	238.63	*	2.576E-02	3.346E-02	4.724E-02	3.441E-03	0.545
		300.09		4.382E-02	2.897E-01	4.891E-01	4.045E-02	0.090
		74.81		1.675E-01	1.081E-01	1.912E-01	2.293E-02	0.876
		77.11		-1.033E-01	6.871E-02	9.286E-02	7.150E-03	-1.113
BI-214		87.30		-3.355E-02	1.424E-01	1.923E-01	2.545E-02	-0.175
		115.19		-4.081E-01	1.384E+00	2.176E+00	1.583E-01	-0.188
	+	238.63	*	2.576E-02	3.346E-02	4.724E-02	3.441E-03	0.545
		300.09		4.382E-02	2.897E-01	4.891E-01	4.045E-02	0.090
PB-214		609.31	*	-2.604E-03	3.424E-02	5.511E-02	4.362E-03	-0.047
		1120.29		1.246E-02	1.202E-01	2.024E-01	1.876E-02	0.062
		1764.49		2.472E-02	9.238E-02	1.620E-01	9.718E-03	0.153
		74.81		2.886E-01	1.854E-01	3.294E-01	3.476E-02	0.876
PO-214		77.11		-1.771E-01	1.186E-01	1.592E-01	1.724E-02	-1.113
		87.30		-5.748E-02	2.439E-01	3.294E-01	3.822E-02	-0.175
		241.98		4.574E-03	1.521E-01	2.224E-01	1.786E-02	0.021
		295.21		-1.516E-02	5.374E-02	8.711E-02	7.447E-03	-0.174
PO-215		351.92	*	4.861E-03	2.956E-02	4.975E-02	4.082E-03	0.098
		74.81		2.886E-01	1.854E-01	3.294E-01	3.476E-02	0.876
		77.11		-1.771E-01	1.186E-01	1.592E-01	1.724E-02	-1.113
		87.30		-5.748E-02	2.439E-01	3.294E-01	3.822E-02	-0.175
PO-216		241.98		4.574E-03	1.521E-01	2.224E-01	1.786E-02	0.021
		295.21		-1.516E-02	5.374E-02	8.711E-02	7.447E-03	-0.174
		351.92	*	4.861E-03	2.956E-02	4.975E-02	4.082E-03	0.098
		81.07		-2.202E-02	6.661E-02	1.053E-01	8.477E-03	-0.209
PO-218		83.78		-1.250E-02	4.456E-02	6.445E-02	5.355E-03	-0.194
		94.90		5.243E-02	9.480E-02	1.414E-01	1.157E-02	0.371
		122.32		9.495E-03	6.904E-01	1.113E+00	8.731E-02	0.009
		144.24		-2.320E-01	2.979E-01	4.221E-01	3.193E-02	-0.549
PO-216		154.21		-1.407E-01	1.501E-01	2.190E-01	1.541E-02	-0.643
		269.46		-4.804E-02	7.651E-02	1.207E-01	7.339E-03	-0.398
		323.87	*	7.620E-02	2.890E-01	4.775E-01	7.885E-02	0.160
		338.28		2.383E-01	3.960E-01	6.934E-01	7.282E-02	0.344
PO-216		445.03		2.902E-01	9.259E-01	1.580E+00	1.611E-01	0.184
		74.81		1.675E-01	1.081E-01	1.912E-01	2.293E-02	0.876
		77.11		-1.033E-01	6.871E-02	9.286E-02	7.150E-03	-1.113
		87.30		-3.355E-02	1.424E-01	1.923E-01	2.545E-02	-0.175
PO-218	+	238.63	*	2.576E-02	3.346E-02	4.724E-02	3.441E-03	0.545
		300.09		4.382E-02	2.897E-01	4.891E-01	4.045E-02	0.090
		74.81		2.886E-01	1.854E-01	3.294E-01	3.476E-02	0.876
		77.11		-1.771E-01	1.186E-01	1.592E-01	1.724E-02	-1.113
		87.30		-5.748E-02	2.439E-01	3.294E-01	3.822E-02	-0.175

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		241.98		4.574E-03	1.521E-01	2.224E-01	1.786E-02	0.021
		295.21		-1.516E-02	5.374E-02	8.711E-02	7.447E-03	-0.174
		351.92	*	4.861E-03	2.956E-02	4.975E-02	4.082E-03	0.098
		271.23		1.006E-02	9.565E-02	1.611E-01	1.308E-02	0.062
		401.81	*	-2.300E-02	1.721E-01	2.795E-01	3.766E-02	-0.082
RN-220		549.76	*	2.998E+00	1.012E+01	1.722E+01	1.024E+00	0.174
RA-223		81.07		-2.202E-02	6.661E-02	1.053E-01	8.477E-03	-0.209
		83.78		-1.250E-02	4.456E-02	6.445E-02	5.355E-03	-0.194
		94.90		5.243E-02	9.480E-02	1.414E-01	1.157E-02	0.371
		122.32		9.495E-03	6.904E-01	1.113E+00	8.731E-02	0.009
		144.24		-2.320E-01	2.979E-01	4.221E-01	3.193E-02	-0.549
		154.21		-1.407E-01	1.501E-01	2.190E-01	1.541E-02	-0.643
		269.46		-4.804E-02	7.651E-02	1.207E-01	7.339E-03	-0.398
		323.87	*	7.620E-02	2.890E-01	4.775E-01	7.885E-02	0.160
RA-224		338.28		2.383E-01	3.960E-01	6.934E-01	7.282E-02	0.344
		445.03		2.902E-01	9.259E-01	1.580E+00	1.611E-01	0.184
		240.98	*	2.149E-01	2.999E-01	4.705E-01	2.704E-02	0.457
RA-226		609.31	*	-2.604E-03	3.424E-02	5.511E-02	4.362E-03	-0.047
		1120.29		1.246E-02	1.202E-01	2.024E-01	1.876E-02	0.062
AC-227		1764.49		2.472E-02	9.238E-02	1.620E-01	9.718E-03	0.153
		79.80		1.368E-02	4.936E-01	8.030E-01	1.705E-01	0.017
		236.00		5.653E-02	1.003E-01	1.550E-01	1.614E-02	0.365
		256.20	*	8.028E-02	1.611E-01	2.795E-01	3.902E-02	0.287
		286.10		5.284E-01	6.011E-01	1.078E+00	1.248E-01	0.490
TH-227		299.80		8.047E-02	5.365E-01	9.054E-01	1.476E-01	0.089
		304.40		-5.356E-02	6.540E-01	1.078E+00	1.865E-01	-0.050
		334.20		-9.211E-01	9.121E-01	1.321E+00	2.420E-01	-0.697
		79.80		1.368E-02	4.936E-01	8.030E-01	1.728E-01	0.017
	+	94.00		1.485E-01	1.209E+00	1.325E+00	2.866E-01	0.112
		236.00		5.653E-02	1.002E-01	1.550E-01	1.397E-02	0.365
		256.20	*	8.028E-02	1.613E-01	2.795E-01	4.724E-02	0.287
		286.10		5.284E-01	7.986E-01	1.078E+00	1.080E+00	0.490
		299.80		8.047E-02	5.365E-01	9.054E-01	1.476E-01	0.089
		304.40		-5.356E-02	6.540E-01	1.078E+00	1.865E-01	-0.050
AC-228		334.20		-9.211E-01	9.121E-01	1.321E+00	2.420E-01	-0.697
		338.32		5.747E-02	9.755E-02	1.662E-01	6.773E-02	0.346
		911.07	*	-3.856E-02	6.588E-02	1.000E-01	1.175E-02	-0.385
RA-228		969.11		3.211E-02	1.004E-01	1.751E-01	4.088E-02	0.183
		338.32		5.747E-02	9.755E-02	1.662E-01	6.773E-02	0.346
		911.07	*	-3.856E-02	6.588E-02	1.000E-01	1.175E-02	-0.385
TH-228		969.11		3.211E-02	1.004E-01	1.751E-01	4.088E-02	0.183
		74.81		1.688E-01	1.077E-01	1.926E-01	1.464E-02	0.876
		77.11		-1.041E-01	6.924E-02	9.357E-02	7.205E-03	-1.113
		87.30		-3.381E-02	1.434E-01	1.937E-01	1.680E-02	-0.175
	+	238.63	*	2.595E-02	3.371E-02	4.760E-02	3.467E-03	0.545
		300.09		4.415E-02	2.930E-01	4.928E-01	2.905E-01	0.090
TH-229		85.43		1.802E-02	6.920E-02	9.843E-02	8.343E-03	0.183
		88.47		-1.154E-02	4.158E-02	5.587E-02	4.862E-03	-0.207
		100.00		3.512E-03	6.087E-02	9.889E-02	7.787E-03	0.036

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	193.63	*		-4.112E-02	1.914E-01	3.168E-01	1.750E-02	-0.130
	210.97			4.942E-02	2.826E-01	4.813E-01	2.703E-02	0.103
	609.31	*		-2.604E-03	3.424E-02	5.511E-02	4.362E-03	-0.047
	1120.29			1.246E-02	1.202E-01	2.024E-01	1.876E-02	0.062
PA-231	1764.49			2.472E-02	9.238E-02	1.620E-01	9.718E-03	0.153
	283.67	*		-1.664E-01	6.087E-01	9.875E-01	1.362E-01	-0.169
	301.29			-1.127E-01	2.026E-01	3.166E-01	3.314E-02	-0.356
TH-231	81.07			-2.202E-02	6.661E-02	1.053E-01	8.477E-03	-0.209
	83.78			-1.250E-02	4.456E-02	6.445E-02	5.355E-03	-0.194
U-231	94.90			5.243E-02	9.480E-02	1.414E-01	1.157E-02	0.371
	122.32			9.495E-03	6.904E-01	1.113E+00	8.731E-02	0.009
	144.24			-2.320E-01	2.979E-01	4.221E-01	3.193E-02	-0.549
	154.21			-1.407E-01	1.501E-01	2.190E-01	1.541E-02	-0.643
	269.46			-4.804E-02	7.651E-02	1.207E-01	7.339E-03	-0.398
	323.87	*		7.620E-02	2.890E-01	4.775E-01	7.885E-02	0.160
	338.28			2.383E-01	3.960E-01	6.934E-01	7.282E-02	0.344
	445.03			2.902E-01	9.259E-01	1.580E+00	1.611E-01	0.184
	84.21			-6.228E-02	5.535E-01	8.115E-01	6.778E-02	-0.077
	92.29		+	4.258E-02	3.466E-01	3.966E-01	3.321E-02	0.107
	95.87	*		4.593E-03	1.210E-01	1.718E-01	1.395E-02	0.027
	108.00			-1.195E-01	2.170E-01	3.335E-01	2.506E-02	-0.358
	338.32			5.747E-02	9.476E-02	1.662E-01	9.548E-03	0.346
	911.07	*		-3.856E-02	6.588E-02	1.000E-01	1.175E-02	-0.385
	969.11			3.211E-02	1.004E-01	1.751E-01	4.088E-02	0.183
PA-233	75.28			1.382E+00	9.690E-01	1.602E+00	2.366E-01	0.863
	86.59			5.888E-02	5.983E-01	8.371E-01	2.245E-01	0.070
	300.12			2.264E-02	1.497E-01	2.527E-01	3.399E-02	0.090
	311.98	*		-6.120E-03	2.644E-02	4.294E-02	2.651E-03	-0.143
PA-234	340.50			1.242E-01	2.406E-01	4.162E-01	9.552E-02	0.298
	398.62			8.070E-01	9.044E-01	1.593E+00	4.106E-01	0.507
	415.76			-9.611E-01	7.816E-01	1.066E+00	2.187E-01	-0.902
	63.00			-3.503E-02	5.225E-01	8.512E-01	1.239E-01	-0.041
	94.67			7.829E-02	6.733E-02	1.052E-01	1.275E-02	0.744
	98.44			-8.972E-03	3.617E-02	4.908E-02	2.733E-02	-0.183
	99.86			1.101E-02	1.554E-01	2.529E-01	1.993E-02	0.044
	111.00			3.837E-02	6.931E-02	1.165E-01	1.312E-02	0.329
	131.20			1.913E-02	3.744E-02	6.284E-02	4.221E-03	0.304
	152.70			7.021E-03	1.184E-01	1.906E-01	3.020E-02	0.037
	186.00		+	1.475E-01	7.720E-01	9.147E-01	2.789E-01	0.161
	226.40			-1.028E-01	1.778E-01	2.444E-01	2.812E-02	-0.421
	227.20			-4.036E-03	1.877E-01	2.719E-01	1.548E-02	-0.015
	248.90			-8.563E-02	3.284E-01	5.361E-01	1.152E-01	-0.160
	293.70			1.125E-01	2.508E-01	4.338E-01	6.983E-02	0.259
	369.80			1.123E-01	3.476E-01	5.938E-01	1.233E-01	0.189
	568.70			-1.091E-01	5.469E-01	8.373E-01	4.995E-02	-0.130
	569.50			3.218E-02	1.524E-01	2.448E-01	1.460E-02	0.131
	574.00			-7.236E-01	7.549E-01	1.080E+00	6.446E-02	-0.670
	699.00			1.156E-01	3.490E-01	5.869E-01	1.068E-01	0.197
	706.10			-3.512E-01	5.019E-01	6.840E-01	3.026E-01	-0.513

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		733.00		-4.356E-02	1.461E-01	2.222E-01	4.796E-02	-0.196
		742.81		-4.936E-02	6.771E-01	1.078E+00	7.226E-01	-0.046
		796.30		-5.797E-02	3.901E-01	5.167E-01	1.385E-01	-0.112
		805.60		3.449E-01	4.736E-01	7.554E-01	2.301E-01	0.457
		819.60		2.252E-01	5.079E-01	8.987E-01	3.408E-01	0.251
		826.30		-2.301E-01	3.524E-01	5.014E-01	2.240E-01	-0.459
		831.60		2.160E-01	2.523E-01	4.636E-01	1.380E-01	0.466
		876.40		1.019E-01	3.683E-01	6.178E-01	6.353E-01	0.165
		880.51		3.685E-02	1.193E-01	2.093E-01	1.904E-02	0.176
		883.24		-6.413E-02	1.370E-01	2.010E-01	1.352E-01	-0.319
		899.00		1.029E-01	3.279E-01	5.724E-01	2.511E-01	0.180
		925.00		2.609E-01	3.959E-01	7.448E-01	6.800E-02	0.350
		926.50		-8.462E-04	6.529E-02	1.088E-01	2.769E-02	-0.008
		946.00	*	3.176E-02	1.150E-01	2.011E-01	3.802E-02	0.158
		949.00		-8.117E-02	1.739E-01	2.647E-01	2.352E-02	-0.307
		980.50		-3.869E-01	2.557E-01	2.569E-01	2.191E-02	-1.506
		1394.10		-1.280E-01	4.342E-01	6.345E-01	4.118E-01	-0.202
PA-234M		766.42		-1.419E+00	4.600E+00	6.923E+00	3.499E+00	-0.205
		1001.03	*	1.674E+00	2.274E+00	4.081E+00	3.946E-01	0.410
TH-234		63.29	*	-1.016E-01	4.435E-01	7.145E-01	1.228E-01	-0.142
	+	92.38		3.842E-02	3.128E-01	3.567E-01	6.408E-02	0.108
U-234		609.31	*	-2.604E-03	3.424E-02	5.511E-02	4.362E-03	-0.047
		1120.29		1.246E-02	1.202E-01	2.024E-01	1.876E-02	0.062
		1764.49		2.472E-02	9.238E-02	1.620E-01	9.718E-03	0.153
U-235		89.95		1.749E-01	3.964E-01	5.817E-01	1.794E-01	0.301
	+	93.35		4.619E-02	3.762E-01	4.197E-01	1.172E-01	0.110
		105.00		1.099E-01	3.623E-01	5.982E-01	1.769E-01	0.184
		143.76	*	-7.901E-02	9.205E-02	1.282E-01	2.110E-02	-0.617
		163.35		9.266E-03	1.773E-01	2.848E-01	5.091E-02	0.033
	+	185.71		5.464E-03	2.855E-02	3.400E-02	1.862E-03	0.161
		205.31		-9.222E-03	2.113E-01	3.541E-01	6.343E-02	-0.026
NP-236		94.67		5.971E-02	5.081E-02	7.989E-02	6.550E-03	0.747
		98.44		-6.777E-03	2.709E-02	3.710E-02	2.954E-03	-0.183
		111.00		2.902E-02	5.237E-02	8.815E-02	6.529E-03	0.329
		160.31	*	-1.513E-03	3.056E-02	4.867E-02	2.720E-03	-0.031
NP-237		86.50	*	1.271E-02	9.005E-02	1.266E-01	2.828E-02	0.100
		95.87		1.396E-02	3.677E-01	5.220E-01	1.277E-01	0.027
U-238		63.29	*	-1.016E-01	4.435E-01	7.145E-01	1.228E-01	-0.142
	+	92.38		3.842E-02	3.128E-01	3.567E-01	2.984E-02	0.108
NP-239		99.55		5.717E-03	5.440E-02	8.572E-02	6.771E-03	0.067
		117.00	*	-5.915E-02	7.530E-02	1.132E-01	8.182E-03	-0.522
		209.75		3.245E-02	2.910E-01	4.931E-01	2.767E-02	0.066
		228.18		6.354E-02	9.782E-02	1.503E-01	8.564E-03	0.423
		277.60		-5.957E-03	6.965E-02	1.153E-01	6.718E-03	-0.052
		334.30		-5.327E-01	5.077E-01	7.444E-01	4.288E-02	-0.716
AM-241		59.54	*	-2.184E-02	4.693E-02	7.390E-02	5.487E-03	-0.296
AM-243		74.67	*	2.573E-02	1.726E-02	3.075E-02	2.308E-03	0.837
		86.72		-8.153E-01	3.457E+00	4.676E+00	4.026E-01	-0.174
		117.66		-7.844E-01	1.462E+00	2.247E+00	1.620E-01	-0.349

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	142.18			1.809E+00	6.642E+00	1.090E+01	6.852E-01	0.166
	99.55			5.880E-03	5.595E-02	8.816E-02	6.963E-03	0.067
	103.76	*		9.011E-03	3.244E-02	5.367E-02	4.127E-03	0.168
	117.00			-6.082E-02	7.743E-02	1.164E-01	8.413E-03	-0.522
	209.75			3.197E-02	2.867E-01	4.859E-01	2.726E-02	0.066
	228.18			6.418E-02	9.879E-02	1.518E-01	8.649E-03	0.423
AM-246	277.60			-6.002E-03	7.018E-02	1.161E-01	6.770E-03	-0.052
	798.80			-1.777E-02	6.712E-02	8.639E-02	6.777E-03	-0.206
	1036.00			-9.680E-03	1.367E-01	2.232E-01	1.742E-02	-0.043
	1062.04			-2.965E-02	8.680E-02	1.342E-01	9.965E-03	-0.221
	1078.86	*		-1.534E-02	5.285E-02	8.246E-02	5.909E-03	-0.186
CM-247	278.00			-1.027E-02	2.930E-01	4.872E-01	2.840E-02	-0.021
	287.40			2.050E-01	4.900E-01	8.479E-01	4.947E-02	0.242
	402.60	*		-1.324E-03	1.493E-02	2.436E-02	1.338E-03	-0.054
CF-249	252.85			-1.902E-01	3.654E-01	5.836E-01	3.376E-02	-0.326
	333.44			-7.374E-02	6.663E-02	9.700E-02	5.590E-03	-0.760
CF-251	387.95	*		-8.801E-03	1.769E-02	2.765E-02	1.512E-03	-0.318
	176.60	*		-3.545E-03	4.992E-02	7.915E-02	4.293E-03	-0.045
	227.00			-1.930E-02	1.655E-01	2.369E-01	1.349E-02	-0.081
	285.00			1.339E-01	7.172E-01	1.216E+00	7.091E-02	0.110
ANH-511	511.00	*		-2.754E-02	2.504E-02	4.572E-02	2.686E-03	-0.602

# VAX/VMS Nuclide Identification Report Generated

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*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018259      *
* Acquisition date   : 27-JAN-2010 14:59:34 Detector SN#                   *
* Detector ID        : GAM14 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:00.47 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-JAN-2010 00:00:00 Nuclide Library : SOLID         *
* Sample ID          : G1202018259 Analyst initials: MXR1                 *
* Batch Number       : 942717 Sample Quantity : 1.5774E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
*****

```

## Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )		
---- Non-Identified Nuclides ----					
BE-7	-4.335E-02	1.188E-01	1.971E-01	0.000E+00	NOT IDENT.
NA-22	-1.427E-02	1.821E-02	2.606E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	7.555E+01	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.379E-02	1.828E-02	2.349E-02	0.000E+00	NOT IDENT.
K-40	1.680E-01	1.597E-01	3.261E-01	0.000E+00	NOT IDENT.
TI-44	-6.324E-03	1.073E-02	1.856E-02	0.000E+00	NOT IDENT.
SC-46	4.611E-03	1.654E-02	3.006E-02	0.000E+00	NOT IDENT.
V-48	4.667E-03	1.571E-02	2.901E-02	0.000E+00	NOT IDENT.
CR-51	3.794E-02	1.302E-01	2.386E-01	0.000E+00	NOT IDENT.
MN-52	9.518E-03	3.429E-02	6.221E-02	0.000E+00	NOT IDENT.
MN-54	-1.023E-02	1.491E-02	2.340E-02	0.000E+00	NOT IDENT.
CO-56	1.643E-02	1.730E-02	3.385E-02	0.000E+00	NOT IDENT.
CO-57	1.133E-03	9.673E-03	1.732E-02	0.000E+00	NOT IDENT.
CO-58	4.174E-03	1.517E-02	2.670E-02	0.000E+00	NOT IDENT.
FE-59	-1.874E-02	2.722E-02	3.946E-02	0.000E+00	NOT IDENT.
CO-60	-1.226E-02	1.498E-02	1.986E-02	0.000E+00	NOT IDENT.
ZN-65	-1.222E-02	3.285E-02	5.260E-02	0.000E+00	NOT IDENT.
GE-68	4.037E-01	4.290E-01	8.669E-01	0.000E+00	NOT IDENT.
AS-73	7.060E-02	1.910E-01	3.620E-01	0.000E+00	NOT IDENT.
AS-74	-2.431E-03	3.329E-02	5.667E-02	0.000E+00	NOT IDENT.
SE-75	5.408E-03	1.655E-02	3.070E-02	0.000E+00	NOT IDENT.
BR-77	3.381E-01	5.224E-01	9.741E-01	0.000E+00	FAIL ABUN
SR-82	-4.570E-02	1.319E-01	2.094E-01	0.000E+00	NOT IDENT.
RB-83	1.784E-02	2.880E-02	5.357E-02	0.000E+00	NOT IDENT.
RB-84	-7.469E-03	2.557E-02	4.268E-02	0.000E+00	NOT IDENT.
KR-85	-6.564E+00	4.982E+00	7.769E+00	0.000E+00	NOT IDENT.

SR-85	-3.111E-02	2.361E-02	3.682E-02	0.000E+00	NOT IDENT.
RB-86	1.693E-01	2.127E-01	4.201E-01	0.000E+00	NOT IDENT.
Y-88	1.706E-03	1.479E-02	2.536E-02	0.000E+00	NOT IDENT.
ZR-88	3.589E-04	1.296E-02	2.291E-02	0.000E+00	NOT IDENT.
Y-91	-2.271E+00	6.695E+00	1.075E+01	0.000E+00	NOT IDENT.
NB-94	-3.587E-03	1.529E-02	2.511E-02	0.000E+00	NOT IDENT.
NB-95	5.414E-03	1.501E-02	2.681E-02	0.000E+00	NOT IDENT.
NB-95M	1.398E-02	4.795E-02	7.820E-02	0.000E+00	NOT IDENT.
ZR-95	1.321E-02	2.580E-02	4.725E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.690E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.469E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.960E-01	8.197E-01	1.337E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.579E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.799E-03	1.435E-02	2.280E-02	0.000E+00	NOT IDENT.
RH-102	9.037E-03	1.247E-02	2.353E-02	0.000E+00	NOT IDENT.
RU-103	5.670E-03	1.385E-02	2.535E-02	0.000E+00	NOT IDENT.
RH-106	-1.452E-02	1.422E-01	2.401E-01	0.000E+00	NOT IDENT.
RU-106	-1.452E-02	1.422E-01	2.401E-01	0.000E+00	NOT IDENT.
AG-108M	2.245E-03	1.397E-02	2.493E-02	0.000E+00	NOT IDENT.
CD-109	-1.493E-01	3.049E-01	4.452E-01	0.000E+00	NOT IDENT.
AG-110M	-1.251E-02	1.492E-02	2.217E-02	0.000E+00	NOT IDENT.
IN-111	7.735E-03	7.051E-02	1.219E-01	0.000E+00	NOT IDENT.
IN-113M	2.863E-03	1.848E-02	3.311E-02	0.000E+00	NOT IDENT.
SN-113	2.863E-03	1.848E-02	3.311E-02	0.000E+00	NOT IDENT.
IN-114M	1.818E-02	6.457E-02	1.066E-01	0.000E+00	NOT IDENT.
CD-115	-3.435E-01	4.383E-01	6.743E-01	0.000E+00	NOT IDENT.
SN-117M	-1.553E-03	1.421E-02	2.465E-02	0.000E+00	NOT IDENT.
SB-122	-1.630E-01	1.212E-01	1.643E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.660E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.134E-03	1.041E-02	1.807E-02	0.000E+00	NOT IDENT.
I-124	-2.972E-02	9.548E-02	1.580E-01	0.000E+00	NOT IDENT.
SB-124	-8.955E-04	3.703E-02	6.117E-02	0.000E+00	NOT IDENT.
SB-125	5.534E-03	3.523E-02	6.301E-02	0.000E+00	NOT IDENT.
TE-125M	-1.964E+00	3.167E+00	5.356E+00	0.000E+00	NOT IDENT.
I-126	-9.354E-04	5.167E-02	8.784E-02	0.000E+00	NOT IDENT.
SB-126	-1.976E-02	4.181E-02	6.572E-02	0.000E+00	NOT IDENT.
SN-126	-9.886E-03	2.995E-02	4.451E-02	0.000E+00	NOT IDENT.
SB-127	-5.159E-02	1.288E-01	2.029E-01	0.000E+00	NOT IDENT.
XE-127	3.478E-04	1.613E-02	2.955E-02	0.000E+00	NOT IDENT.
I-131	1.569E-04	2.550E-02	4.521E-02	0.000E+00	NOT IDENT.
TE-132	3.947E-02	5.972E-02	9.919E-02	0.000E+00	NOT IDENT.
BA-133	3.924E-03	1.844E-02	3.338E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.806E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-3.641E-03	1.941E-02	2.667E-02	0.000E+00	FAIL ABUN
CS-135	-1.075E-02	6.141E-02	1.090E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.329E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.265E-02	3.201E-02	5.167E-02	0.000E+00	NOT IDENT.
BA-137M	1.200E-02	1.497E-02	2.834E-02	0.000E+00	NOT IDENT.
CS-137	1.268E-02	1.582E-02	2.995E-02	0.000E+00	NOT IDENT.
CE-139	-9.193E-03	1.121E-02	1.815E-02	0.000E+00	NOT IDENT.
BA-140	-2.605E-02	7.280E-02	1.189E-01	0.000E+00	NOT IDENT.
LA-140	-4.336E-03	2.412E-02	3.824E-02	0.000E+00	NOT IDENT.
CE-141	6.381E-03	1.934E-02	3.498E-02	0.000E+00	NOT IDENT.
CE-143	5.604E-01	1.092E+00	2.041E+00	0.000E+00	NOT IDENT.
CE-144	-1.721E-02	7.102E-02	1.227E-01	0.000E+00	NOT IDENT.
PM-144	2.604E-03	1.623E-02	2.815E-02	0.000E+00	NOT IDENT.
PR-144	1.758E-01	1.095E+00	1.900E+00	0.000E+00	NOT IDENT.
PM-146	1.348E-02	1.992E-02	3.723E-02	0.000E+00	NOT IDENT.
ND-147	1.743E-01	1.343E-01	2.697E-01	0.000E+00	FAIL ABUN
PM-149	2.001E+00	3.379E+00	6.377E+00	0.000E+00	NOT IDENT.
EU-152	9.897E-03	4.026E-02	7.326E-02	0.000E+00	NOT IDENT.
GD-153	1.085E-02	2.883E-02	4.712E-02	0.000E+00	NOT IDENT.
EU-154	-3.734E-02	5.162E-02	7.505E-02	0.000E+00	NOT IDENT.
EU-155	3.476E-03	3.669E-02	6.608E-02	0.000E+00	NOT IDENT.
TB-160	4.644E-04	5.402E-02	9.463E-02	0.000E+00	NOT IDENT.
HO-166M	1.305E-02	2.791E-02	5.035E-02	0.000E+00	NOT IDENT.
TM-171	-1.914E+01	9.248E+00	1.343E+01	0.000E+00	NOT IDENT.
LU-176	-7.262E-04	9.133E-03	1.621E-02	0.000E+00	NOT IDENT.
LU-177	7.967E-02	1.849E-01	3.484E-01	0.000E+00	NOT IDENT.
LU-177M	6.200E-02	6.911E-02	1.331E-01	0.000E+00	NOT IDENT.
HF-181	8.364E-03	1.437E-02	2.692E-02	0.000E+00	NOT IDENT.
W-181	-5.404E-02	1.146E-01	1.936E-01	0.000E+00	NOT IDENT.
TA-182	-6.481E-03	6.334E-02	1.059E-01	0.000E+00	NOT IDENT.
RE-183	-2.691E-03	3.773E-02	6.559E-02	0.000E+00	NOT IDENT.
RE-184	-4.916E-02	9.254E-02	1.599E-01	0.000E+00	NOT IDENT.
OS-185	1.711E-02	1.780E-02	3.427E-02	0.000E+00	NOT IDENT.
RE-188	-3.349E-02	5.831E-02	9.693E-02	0.000E+00	NOT IDENT.
W-188	-1.337E+00	2.648E+00	4.525E+00	0.000E+00	NOT IDENT.

IR-192	1.509E-03	1.394E-02	2.515E-02	0.000E+00	NOT IDENT.
AU-195	8.706E-03	7.457E-02	1.250E-01	0.000E+00	NOT IDENT.
TL-200	-3.756E-01	1.632E+00	2.820E+00	0.000E+00	NOT IDENT.
TL-201	4.178E-02	5.010E-01	8.814E-01	0.000E+00	NOT IDENT.
TL-202	4.085E-03	1.822E-02	3.277E-02	0.000E+00	NOT IDENT.
HG-203	2.614E-03	1.378E-02	2.521E-02	0.000E+00	NOT IDENT.
BI-207	-1.657E-02	2.034E-02	2.840E-02	0.000E+00	NOT IDENT.
TL-207	7.620E-02	2.832E-01	5.027E-01	0.000E+00	NOT IDENT.
TL-208	-6.117E-03	1.876E-02	3.141E-02	0.000E+00	NOT IDENT.
PO-209	8.872E-01	3.089E+00	5.632E+00	0.000E+00	NOT IDENT.
BI-210	-1.644E+00	1.017E+00	1.685E+00	0.000E+00	NOT IDENT.
PB-210	-1.644E+00	1.017E+00	1.685E+00	0.000E+00	NOT IDENT.
PO-210	-1.644E+00	1.015E+00	1.685E+00	0.000E+00	NOT IDENT.
BI-211	-3.464E-02	8.416E-02	1.433E-01	0.000E+00	NOT IDENT.
PB-211	4.193E-02	3.473E-01	6.186E-01	0.000E+00	NOT IDENT.
BI-212	1.748E-02	1.164E-01	2.018E-01	0.000E+00	NOT IDENT.
PB-212	2.576E-02	3.279E-02	5.014E-02	0.000E+00	FAIL ABUN
PO-212	2.576E-02	3.279E-02	5.014E-02	0.000E+00	FAIL ABUN
BI-214	-2.604E-03	3.356E-02	5.703E-02	0.000E+00	NOT IDENT.
PB-214	4.861E-03	2.897E-02	5.227E-02	0.000E+00	NOT IDENT.
PO-214	4.861E-03	2.897E-02	5.227E-02	0.000E+00	NOT IDENT.
PO-215	7.620E-02	2.832E-01	5.027E-01	0.000E+00	NOT IDENT.
PO-216	2.576E-02	3.279E-02	5.014E-02	0.000E+00	FAIL ABUN
PO-218	4.861E-03	2.897E-02	5.227E-02	0.000E+00	NOT IDENT.
RN-219	-2.300E-02	1.687E-01	2.926E-01	0.000E+00	NOT IDENT.
RN-220	2.998E+00	9.914E+00	1.787E+01	0.000E+00	NOT IDENT.
RA-223	7.620E-02	2.832E-01	5.027E-01	0.000E+00	NOT IDENT.
RA-224	2.149E-01	2.939E-01	4.993E-01	0.000E+00	NOT IDENT.
RA-226	-2.604E-03	3.356E-02	5.703E-02	0.000E+00	NOT IDENT.
AC-227	8.028E-02	1.579E-01	2.962E-01	0.000E+00	NOT IDENT.
TH-227	8.028E-02	1.581E-01	2.962E-01	0.000E+00	FAIL ABUN
AC-228	-3.856E-02	6.456E-02	1.023E-01	0.000E+00	NOT IDENT.
RA-228	-3.856E-02	6.456E-02	1.023E-01	0.000E+00	NOT IDENT.
TH-228	2.595E-02	3.304E-02	5.053E-02	0.000E+00	FAIL ABUN
TH-229	-4.112E-02	1.876E-01	3.382E-01	0.000E+00	NOT IDENT.
TH-230	-2.604E-03	3.356E-02	5.703E-02	0.000E+00	NOT IDENT.
PA-231	-1.664E-01	5.965E-01	1.043E+00	0.000E+00	NOT IDENT.
TH-231	7.620E-02	2.832E-01	5.027E-01	0.000E+00	NOT IDENT.
U-231	4.593E-03	1.186E-01	1.867E-01	0.000E+00	FAIL ABUN
TH-232	-3.856E-02	6.456E-02	1.023E-01	0.000E+00	NOT IDENT.
PA-233	-6.120E-03	2.591E-02	4.525E-02	0.000E+00	NOT IDENT.
PA-234	3.176E-02	1.127E-01	2.056E-01	0.000E+00	FAIL ABUN
PA-234M	1.674E+00	2.229E+00	4.164E+00	0.000E+00	NOT IDENT.
TH-234	-1.016E-01	4.346E-01	7.847E-01	0.000E+00	FAIL ABUN
U-234	-2.604E-03	3.356E-02	5.703E-02	0.000E+00	NOT IDENT.
U-235	-7.901E-02	9.021E-02	1.378E-01	0.000E+00	FAIL ABUN
NP-236	-1.513E-03	2.995E-02	5.221E-02	0.000E+00	NOT IDENT.
NP-237	1.271E-02	8.825E-02	1.379E-01	0.000E+00	NOT IDENT.
U-238	-1.016E-01	4.346E-01	7.847E-01	0.000E+00	FAIL ABUN
NP-239	-5.915E-02	7.379E-02	1.224E-01	0.000E+00	NOT IDENT.
AM-241	-2.184E-02	4.599E-02	8.128E-02	0.000E+00	NOT IDENT.
AM-243	2.573E-02	1.691E-02	3.364E-02	0.000E+00	NOT IDENT.
CM-243	9.011E-03	3.179E-02	5.822E-02	0.000E+00	NOT IDENT.
AM-246	-1.534E-02	5.180E-02	8.396E-02	0.000E+00	NOT IDENT.
CM-247	-1.324E-03	1.463E-02	2.550E-02	0.000E+00	NOT IDENT.
CF-249	-8.801E-03	1.734E-02	2.897E-02	0.000E+00	NOT IDENT.
CF-251	-3.545E-03	4.892E-02	8.468E-02	0.000E+00	NOT IDENT.
ANH-511	-2.754E-02	2.454E-02	4.754E-02	0.000E+00	NOT IDENT.



```
*****
*                                     GEL Laboratories LLC                               *
*                                     2040 Savage Road                               *
*                                     Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018259.CNF;1
Sample date        : 20-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 14:59:34
Sample ID          : G1202018259           Sample quantity  : 1.57740E+02 GRAM
Detector name      : GAM14                 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00          Elapsed real time: 0 02:00:00.47  0.0%
Energy tolerance   : 1.50000 keV           Analyst Initials : MXR1
Abundance limit    : 75.00000              Sensitivity       : 5.00000
Batch ID           : 942717                Detector SN#      :
Matrix Spike ID    :                      LCS ID          : 1032-A
*****
```

Nuclide Line Activity Report

Flag: "\*" = Keyline

Summary of Nuclide Activity  
Sample ID : G1202018259

Page : 2  
Acquisition date : 27-JAN-2010 14:59:34

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

\*\*\*\* There are no nuclides meeting summary criteria \*\*\*\*

Flags: "K" = Keyline not found	"M" = Manually accepted
"E" = Manually edited	"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G1202018259

Page : 3  
Acquisition date : 27-JAN-2010 14:59:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.57	6	117	1.54	184.64	178	13	8.86E-04	****	7.31E+00	T
0	185.93	8	83	1.48	371.17	364	12	1.12E-03	****	6.53E+00	T
0	238.83	27	62	1.46	476.88	472	10	3.73E-03	****	5.56E+00	T
0	802.36	15	8	2.39	1603.39	1596	15	2.12E-03	****	2.07E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018259.CNF;1
* Acquisition date   : 27-JAN-2010 14:59:34   Detector SN#      :
* Detector ID        : GAM14                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.47          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 20-JAN-2010 00:00:00   Nuclide Library  : SOLID
* Sample ID          : G1202018259           Analyst initials: MXR1
* Batch Number       : 942717                Sample Quantity  : 1.57740E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06.61MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.335E-02		1.212E-01	1.892E-01	1.275E-02	-0.229
NA-22	-1.427E-02		1.858E-02	2.572E-02	1.680E-03	-0.555
NA-24	1.294E-05		3.855E-05	Half-Life too short		
AL-26	-1.379E-02		1.866E-02	2.342E-02	1.358E-03	-0.589
K-40	1.680E-01		1.630E-01	3.231E-01	2.346E-02	0.520
TI-44	-6.324E-03		1.095E-02	1.699E-02	1.327E-03	-0.372
SC-46	4.611E-03		1.688E-02	2.936E-02	2.713E-03	0.157
V-48	4.667E-03		1.603E-02	2.841E-02	2.413E-03	0.164
CR-51	3.794E-02		1.329E-01	2.265E-01	1.464E-02	0.167
MN-52	9.518E-03		3.499E-02	6.161E-02	4.318E-03	0.154
MN-54	-1.023E-02		1.521E-02	2.282E-02	1.914E-03	-0.448
CO-56	1.643E-02		1.765E-02	3.302E-02	2.830E-03	0.498
CO-57	1.133E-03		9.870E-03	1.604E-02	1.141E-03	0.071
CO-58	4.174E-03		1.548E-02	2.601E-02	2.093E-03	0.160
FE-59	-1.874E-02		2.777E-02	3.877E-02	2.985E-03	-0.483
CO-60	-1.226E-02		1.529E-02	1.963E-02	1.399E-03	-0.625
ZN-65	-1.222E-02		3.352E-02	5.171E-02	3.399E-03	-0.236

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	4.037E-01		4.377E-01	8.514E-01	6.121E-02	0.474
AS-73	7.060E-02		1.949E-01	3.282E-01	2.140E-02	0.215
AS-74	-2.431E-03		3.397E-02	5.473E-02	3.274E-03	-0.044
SE-75	5.408E-03		1.689E-02	2.900E-02	1.703E-03	0.186
BR-77	3.381E-01		5.330E-01	9.373E-01	5.526E-02	0.361
SR-82	-4.570E-02		1.346E-01	2.037E-01	1.532E-02	-0.224
RB-83	1.784E-02		2.939E-02	5.154E-02	3.038E-03	0.346
RB-84	-7.469E-03		2.609E-02	4.168E-02	3.799E-03	-0.179
KR-85	-6.564E+00		5.083E+00	7.472E+00	4.395E-01	-0.879
SR-85	-3.111E-02		2.409E-02	3.541E-02	2.083E-03	-0.879
RB-86	1.693E-01		2.170E-01	4.126E-01	2.970E-02	0.410
Y-88	1.706E-03		1.509E-02	2.530E-02	1.437E-03	0.067
ZR-88	3.589E-04		1.322E-02	2.188E-02	1.191E-03	0.016
Y-91	-2.271E+00		6.831E+00	1.059E+01	6.162E-01	-0.214
NB-94	-3.587E-03		1.560E-02	2.436E-02	1.580E-03	-0.147
NB-95	5.414E-03		1.532E-02	2.608E-02	1.920E-03	0.208
NB-95M	1.398E-02		4.893E-02	7.365E-02	5.505E-03	0.190
ZR-95	1.321E-02		2.633E-02	4.594E-02	3.789E-03	0.287
NB-97	-2.009E-05		1.372E-05	Half-Life too short		
ZR-97	-1.674E-03		3.811E-04	Half-Life too short		
MO-99	-1.960E-01		8.364E-01	1.299E+00	1.861E-01	-0.151
TC-99M	-6.429E-01		8.057E+00	Half-Life too short		
RH-101	-5.799E-03		1.464E-02	2.137E-02	1.186E-03	-0.271
RH-102	9.037E-03		1.273E-02	2.259E-02	1.305E-03	0.400
RU-103	5.670E-03		1.413E-02	2.436E-02	3.085E-03	0.233
RH-106	-1.452E-02		1.451E-01	2.322E-01	2.746E-02	-0.063
RU-106	-1.452E-02		1.451E-01	2.322E-01	1.388E-02	-0.063
AG-108M	2.245E-03		1.426E-02	2.387E-02	1.466E-03	0.094
CD-109	-1.493E-01		3.111E-01	4.088E-01	3.575E-02	-0.365
AG-110M	-1.251E-02		1.522E-02	2.147E-02	1.356E-03	-0.582
IN-111	7.735E-03		7.194E-02	1.149E-01	6.624E-03	0.067
IN-113M	2.863E-03		1.886E-02	3.161E-02	1.849E-03	0.091
SN-113	2.863E-03		1.886E-02	3.161E-02	1.849E-03	0.091
IN-114M	1.818E-02		6.589E-02	9.982E-02	5.494E-03	0.182
CD-115	-3.435E-01		4.473E-01	6.490E-01	3.835E-02	-0.529
SN-117M	-1.553E-03		1.450E-02	2.297E-02	1.300E-03	-0.068
SB-122	-1.630E-01		1.237E-01	1.584E-01	9.442E-03	-1.029
I-123	-1.808E-05		8.469E-05	Half-Life too short		
TE-123M	-1.134E-03		1.063E-02	1.684E-02	9.631E-04	-0.067
I-124	-2.972E-02		9.742E-02	1.526E-01	9.128E-03	-0.195
SB-124	-8.955E-04		3.778E-02	6.087E-02	4.115E-03	-0.015
SB-125	5.534E-03		3.595E-02	6.030E-02	3.534E-03	0.092
TE-125M	-1.964E+00		3.231E+00	4.945E+00	4.634E-01	-0.397
I-126	-9.354E-04		5.272E-02	8.510E-02	5.111E-03	-0.011
SB-126	-1.976E-02		4.266E-02	6.381E-02	4.293E-03	-0.310
SN-126	-9.886E-03		3.056E-02	4.086E-02	3.555E-03	-0.242
SB-127	-5.159E-02		1.314E-01	1.967E-01	1.485E-02	-0.262
XE-127	3.478E-04		1.646E-02	2.772E-02	1.545E-03	0.013

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	1.569E-04		2.602E-02	4.308E-02	2.697E-03	0.004
TE-132	3.947E-02		6.093E-02	9.334E-02	1.227E-02	0.423
BA-133	3.924E-03		1.882E-02	3.179E-02	3.654E-03	0.123
I-133	3.893E-06		2.962E-06	Half-Life	too short	
CS-134	-3.641E-03		1.981E-02	2.597E-02	2.044E-03	-0.140
CS-135	-1.075E-02		6.267E-02	1.030E-01	7.904E-03	-0.104
I-135	-8.687E+00		6.778E+00	Half-Life	too short	
CS-136	-1.265E-02		3.267E-02	5.071E-02	4.075E-03	-0.250
BA-137M	1.200E-02		1.528E-02	2.745E-02	1.632E-03	0.437
CS-137	1.268E-02		1.615E-02	2.901E-02	1.732E-03	0.437
CE-139	-9.193E-03		1.144E-02	1.694E-02	9.096E-04	-0.543
BA-140	-2.605E-02		7.428E-02	1.145E-01	3.727E-02	-0.227
LA-140	-4.336E-03		2.461E-02	3.799E-02	2.518E-03	-0.114
CE-141	6.381E-03		1.974E-02	3.253E-02	2.076E-03	0.196
CE-143	5.604E-01		1.114E+00	1.934E+00	3.957E-01	0.290
CE-144	-1.721E-02		7.247E-02	1.138E-01	1.657E-02	-0.151
PM-144	2.604E-03		1.656E-02	2.730E-02	1.749E-03	0.095
PR-144	1.758E-01		1.118E+00	1.843E+00	1.180E-01	0.095
PM-146	1.348E-02		2.033E-02	3.569E-02	3.055E-03	0.378
ND-147	1.743E-01		1.370E-01	2.596E-01	3.524E-02	0.671
PM-149	2.001E+00		3.448E+00	6.037E+00	8.553E-01	0.331
EU-152	9.897E-03		4.108E-02	6.969E-02	4.509E-03	0.142
GD-153	1.085E-02		2.942E-02	4.337E-02	3.478E-03	0.250
EU-154	-3.734E-02		5.268E-02	7.407E-02	7.263E-03	-0.504
EU-155	3.476E-03		3.744E-02	6.095E-02	4.717E-03	0.057
TB-160	4.644E-04		5.513E-02	9.240E-02	8.392E-03	0.005
HO-166M	1.305E-02		2.848E-02	4.887E-02	3.229E-03	0.267
TM-171	-1.914E+01		9.437E+00	1.225E+01	8.538E-01	-1.563
LU-176	-7.262E-04		9.319E-03	1.537E-02	8.951E-04	-0.047
LU-177	7.967E-02		1.887E-01	3.271E-01	1.833E-02	0.244
LU-177M	6.200E-02		7.052E-02	1.272E-01	7.055E-03	0.487
HF-181	8.364E-03		1.466E-02	2.585E-02	1.499E-03	0.324
W-181	-5.404E-02		1.169E-01	1.764E-01	1.215E-02	-0.306
TA-182	-6.481E-03		6.463E-02	1.044E-01	6.246E-03	-0.062
RE-183	-2.691E-03		3.850E-02	6.117E-02	3.369E-03	-0.044
RE-184	-4.916E-02		9.443E-02	1.508E-01	8.725E-03	-0.326
OS-185	1.711E-02		1.816E-02	3.317E-02	1.978E-03	0.516
RE-188	-3.349E-02		5.950E-02	9.029E-02	5.232E-03	-0.371
W-188	-1.337E+00		2.702E+00	4.285E+00	2.500E-01	-0.312
IR-192	1.509E-03		1.423E-02	2.387E-02	1.393E-03	0.063
AU-195	8.706E-03		7.609E-02	1.151E-01	9.132E-03	0.076
TL-200	-3.756E-01		1.665E+00	2.688E+00	1.506E-01	-0.140
TL-201	4.178E-02		5.112E-01	8.226E-01	4.419E-02	0.051
TL-202	4.085E-03		1.859E-02	3.138E-02	1.774E-03	0.130
HG-203	2.614E-03		1.406E-02	2.385E-02	1.476E-03	0.110
BI-207	-1.657E-02		2.076E-02	2.788E-02	2.063E-03	-0.594
TL-207	7.620E-02		2.890E-01	4.775E-01	7.885E-02	0.160
TL-208	-6.117E-03		1.914E-02	3.031E-02	2.073E-03	-0.202

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209	8.872E-01		3.152E+00	5.503E+00	5.150E-01	0.161
BI-210	-1.644E+00		1.038E+00	1.523E+00	1.129E-01	-1.080
PB-210	-1.644E+00		1.038E+00	1.523E+00	1.129E-01	-1.080
PO-210	-1.644E+00		1.036E+00	1.523E+00	9.557E-02	-1.080
BI-211	-3.464E-02		8.587E-02	1.364E-01	8.639E-03	-0.254
PB-211	4.193E-02		3.544E-01	5.911E-01	3.684E-01	0.071
BI-212	1.748E-02		1.188E-01	1.960E-01	1.667E-02	0.089
PB-212	2.576E-02	+	3.346E-02	4.724E-02	3.441E-03	0.545
PO-212	2.576E-02	+	3.346E-02	4.724E-02	3.441E-03	0.545
BI-214	-2.604E-03		3.424E-02	5.511E-02	4.362E-03	-0.047
PB-214	4.861E-03		2.956E-02	4.975E-02	4.082E-03	0.098
PO-214	4.861E-03		2.956E-02	4.975E-02	4.082E-03	0.098
PO-215	7.620E-02		2.890E-01	4.775E-01	7.885E-02	0.160
PO-216	2.576E-02	+	3.346E-02	4.724E-02	3.441E-03	0.545
PO-218	4.861E-03		2.956E-02	4.975E-02	4.082E-03	0.098
RN-219	-2.300E-02		1.721E-01	2.795E-01	3.766E-02	-0.082
RN-220	2.998E+00		1.012E+01	1.722E+01	1.024E+00	0.174
RA-223	7.620E-02		2.890E-01	4.775E-01	7.885E-02	0.160
RA-224	2.149E-01		2.999E-01	4.705E-01	2.704E-02	0.457
RA-226	-2.604E-03		3.424E-02	5.511E-02	4.362E-03	-0.047
AC-227	8.028E-02		1.611E-01	2.795E-01	3.902E-02	0.287
TH-227	8.028E-02		1.613E-01	2.795E-01	4.724E-02	0.287
AC-228	-3.856E-02		6.588E-02	1.000E-01	1.175E-02	-0.385
RA-228	-3.856E-02		6.588E-02	1.000E-01	1.175E-02	-0.385
TH-228	2.595E-02	+	3.371E-02	4.760E-02	3.467E-03	0.545
TH-229	-4.112E-02		1.914E-01	3.168E-01	1.750E-02	-0.130
TH-230	-2.604E-03		3.424E-02	5.511E-02	4.362E-03	-0.047
PA-231	-1.664E-01		6.087E-01	9.875E-01	1.362E-01	-0.169
TH-231	7.620E-02		2.890E-01	4.775E-01	7.885E-02	0.160
U-231	4.593E-03		1.210E-01	1.718E-01	1.395E-02	0.027
TH-232	-3.856E-02		6.588E-02	1.000E-01	1.175E-02	-0.385
PA-233	-6.120E-03		2.644E-02	4.294E-02	2.651E-03	-0.143
PA-234	3.176E-02		1.150E-01	2.011E-01	3.802E-02	0.158
PA-234M	1.674E+00		2.274E+00	4.081E+00	3.946E-01	0.410
TH-234	-1.016E-01		4.435E-01	7.145E-01	1.228E-01	-0.142
U-234	-2.604E-03		3.424E-02	5.511E-02	4.362E-03	-0.047
U-235	-7.901E-02		9.205E-02	1.282E-01	2.110E-02	-0.617
NP-236	-1.513E-03		3.056E-02	4.867E-02	2.720E-03	-0.031
NP-237	1.271E-02		9.005E-02	1.266E-01	2.828E-02	0.100
U-238	-1.016E-01		4.435E-01	7.145E-01	1.228E-01	-0.142
NP-239	-5.915E-02		7.530E-02	1.132E-01	8.182E-03	-0.522
AM-241	-2.184E-02		4.693E-02	7.390E-02	5.487E-03	-0.296
AM-243	2.573E-02		1.726E-02	3.075E-02	2.308E-03	0.837
CM-243	9.011E-03		3.244E-02	5.367E-02	4.127E-03	0.168
AM-246	-1.534E-02		5.285E-02	8.246E-02	5.909E-03	-0.186
CM-247	-1.324E-03		1.493E-02	2.436E-02	1.338E-03	-0.054
CF-249	-8.801E-03		1.769E-02	2.765E-02	1.512E-03	-0.318
CF-251	-3.545E-03		4.992E-02	7.915E-02	4.293E-03	-0.045

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	-2.754E-02		2.504E-02	4.572E-02	2.686E-03	-0.602



# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202018259          *
* Acquisition date   : 27-JAN-2010 14:59:34 Detector SN# :                  *
* Detector ID        : GAM14                                           Sensitivity      : 5.000          *
* Geometry           : CAN                                           Energy tolerance: 1.500          *
* Elapsed live time  : 0 02:00:00.00                               Abundance limit : 75.000          *
* Elapsed real time  : 0 02:00:00.47                               Half life ratio  : 8.000          *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018259                               Analyst initials: MXR1          *
* Batch Number       : 942717                                     Sample Quantity : 1.5774E+02 GRAM *
* Recovery           : 1.00000                                   Carrier Weight   : 0.00000          *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope      :                  *
* MSD DPM             : 0.000                                   MSD Isotope      :                  *
* LCS DPM             : 0.000                                   LCS Isotope      :                  *
* LCSD DPM            : 0.000                                   LCSD Isotope     :                  *
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## Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act Error	DLC (pCi/GRAM )	TPU
BE-7	-4.335E-02	1.188E-01	9.861E-02	6.059E-02 NOT IDENT.
NA-22	-1.427E-02	1.821E-02	1.304E-02	9.292E-03 NOT IDENT.
NA-24	1.294E+01	7.555E+01	0.000E+00	3.855E+01 SHORT HLIF
AL-26	-1.379E-02	1.828E-02	1.175E-02	9.328E-03 NOT IDENT.
K-40	1.680E-01	1.597E-01	1.631E-01	8.150E-02 NOT IDENT.
TI-44	-6.324E-03	1.073E-02	9.287E-03	5.474E-03 NOT IDENT.
SC-46	4.611E-03	1.654E-02	1.504E-02	8.441E-03 NOT IDENT.
V-48	4.667E-03	1.571E-02	1.451E-02	8.014E-03 NOT IDENT.
CR-51	3.794E-02	1.302E-01	1.193E-01	6.643E-02 NOT IDENT.
MN-52	9.518E-03	3.429E-02	3.112E-02	1.750E-02 NOT IDENT.
MN-54	-1.023E-02	1.491E-02	1.171E-02	7.605E-03 NOT IDENT.
CO-56	1.643E-02	1.730E-02	1.694E-02	8.825E-03 NOT IDENT.
CO-57	1.133E-03	9.673E-03	8.666E-03	4.935E-03 NOT IDENT.
CO-58	4.174E-03	1.517E-02	1.336E-02	7.742E-03 NOT IDENT.
FE-59	-1.874E-02	2.722E-02	1.974E-02	1.389E-02 NOT IDENT.
CO-60	-1.226E-02	1.498E-02	9.938E-03	7.643E-03 NOT IDENT.
ZN-65	-1.222E-02	3.285E-02	2.631E-02	1.676E-02 NOT IDENT.
GE-68	4.037E-01	4.290E-01	4.337E-01	2.189E-01 NOT IDENT.
AS-73	7.060E-02	1.910E-01	1.811E-01	9.746E-02 NOT IDENT.
AS-74	-2.431E-03	3.329E-02	2.835E-02	1.698E-02 NOT IDENT.
SE-75	5.408E-03	1.655E-02	1.536E-02	8.445E-03 NOT IDENT.
BR-77	3.381E-01	5.224E-01	4.874E-01	2.665E-01 FAIL ABUN
SR-82	-4.570E-02	1.319E-01	1.048E-01	6.728E-02 NOT IDENT.
RB-83	1.784E-02	2.880E-02	2.680E-02	1.470E-02 NOT IDENT.
RB-84	-7.469E-03	2.557E-02	2.135E-02	1.305E-02 NOT IDENT.
KR-85	-6.564E+00	4.982E+00	3.887E+00	2.542E+00 NOT IDENT.

SR-85	-3.111E-02	2.361E-02	1.842E-02	1.204E-02	NOT IDENT.
RB-86	1.693E-01	2.127E-01	2.102E-01	1.085E-01	NOT IDENT.
Y-88	1.706E-03	1.479E-02	1.269E-02	7.546E-03	NOT IDENT.
ZR-88	3.589E-04	1.296E-02	1.146E-02	6.611E-03	NOT IDENT.
Y-91	-2.271E+00	6.695E+00	5.378E+00	3.416E+00	NOT IDENT.
NB-94	-3.587E-03	1.529E-02	1.256E-02	7.800E-03	NOT IDENT.
NB-95	5.414E-03	1.501E-02	1.341E-02	7.660E-03	NOT IDENT.
NB-95M	1.398E-02	4.795E-02	3.913E-02	2.446E-02	NOT IDENT.
ZR-95	1.321E-02	2.580E-02	2.364E-02	1.316E-02	NOT IDENT.
NB-97	-2.009E+01	2.690E+01	0.000E+00	1.372E+01	SHORT HLIF
ZR-97	-1.674E+03	7.469E+02	0.000E+00	3.811E+02	SHORT HLIF
MO-99	-1.960E-01	8.197E-01	6.688E-01	4.182E-01	NOT IDENT.
TC-99M	-6.429E+05	1.579E+07	0.000E+00	8.057E+06	SHORT HLIF
RH-101	-5.799E-03	1.435E-02	1.141E-02	7.320E-03	NOT IDENT.
RH-102	9.037E-03	1.247E-02	1.177E-02	6.364E-03	NOT IDENT.
RU-103	5.670E-03	1.385E-02	1.268E-02	7.065E-03	NOT IDENT.
RH-106	-1.452E-02	1.422E-01	1.201E-01	7.254E-02	NOT IDENT.
RU-106	-1.452E-02	1.422E-01	1.201E-01	7.254E-02	NOT IDENT.
AG-108M	2.245E-03	1.397E-02	1.247E-02	7.128E-03	NOT IDENT.
CD-109	-1.493E-01	3.049E-01	2.228E-01	1.555E-01	NOT IDENT.
AG-110M	-1.251E-02	1.492E-02	1.109E-02	7.610E-03	NOT IDENT.
IN-111	7.735E-03	7.051E-02	6.100E-02	3.597E-02	NOT IDENT.
IN-113M	2.863E-03	1.848E-02	1.656E-02	9.428E-03	NOT IDENT.
SN-113	2.863E-03	1.848E-02	1.656E-02	9.428E-03	NOT IDENT.
IN-114M	1.818E-02	6.457E-02	5.333E-02	3.294E-02	NOT IDENT.
CD-115	-3.435E-01	4.383E-01	3.373E-01	2.236E-01	NOT IDENT.
SN-117M	-1.553E-03	1.421E-02	1.233E-02	7.248E-03	NOT IDENT.
SB-122	-1.630E-01	1.212E-01	8.218E-02	6.183E-02	NOT IDENT.
I-123	-1.808E+01	1.660E+02	0.000E+00	8.469E+01	SHORT HLIF
TE-123M	-1.134E-03	1.041E-02	9.038E-03	5.313E-03	NOT IDENT.
I-124	-2.972E-02	9.548E-02	7.902E-02	4.871E-02	NOT IDENT.
SB-124	-8.955E-04	3.703E-02	3.060E-02	1.889E-02	NOT IDENT.
SB-125	5.534E-03	3.523E-02	3.152E-02	1.798E-02	NOT IDENT.
TE-125M	-1.964E+00	3.167E+00	2.680E+00	1.616E+00	NOT IDENT.
I-126	-9.354E-04	5.167E-02	4.395E-02	2.636E-02	NOT IDENT.
SB-126	-1.976E-02	4.181E-02	3.288E-02	2.133E-02	NOT IDENT.
SN-126	-9.886E-03	2.995E-02	2.227E-02	1.528E-02	NOT IDENT.
SB-127	-5.159E-02	1.288E-01	1.015E-01	6.570E-02	NOT IDENT.
XE-127	3.478E-04	1.613E-02	1.478E-02	8.228E-03	NOT IDENT.
I-131	1.569E-04	2.550E-02	2.262E-02	1.301E-02	NOT IDENT.
TE-132	3.947E-02	5.972E-02	4.963E-02	3.047E-02	NOT IDENT.
BA-133	3.924E-03	1.844E-02	1.670E-02	9.410E-03	NOT IDENT.
I-133	3.893E+00	5.806E+00	0.000E+00	2.962E+00	SHORT HLIF
CS-134	-3.641E-03	1.941E-02	1.334E-02	9.904E-03	FAIL ABUN
CS-135	-1.075E-02	6.141E-02	5.455E-02	3.133E-02	NOT IDENT.
I-135	-8.687E+06	1.329E+07	0.000E+00	6.778E+06	SHORT HLIF
CS-136	-1.265E-02	3.201E-02	2.585E-02	1.633E-02	NOT IDENT.
BA-137M	1.200E-02	1.497E-02	1.418E-02	7.638E-03	NOT IDENT.
CS-137	1.268E-02	1.582E-02	1.499E-02	8.074E-03	NOT IDENT.
CE-139	-9.193E-03	1.121E-02	9.083E-03	5.718E-03	NOT IDENT.
BA-140	-2.605E-02	7.280E-02	5.949E-02	3.714E-02	NOT IDENT.
LA-140	-4.336E-03	2.412E-02	1.913E-02	1.231E-02	NOT IDENT.
CE-141	6.381E-03	1.934E-02	1.750E-02	9.868E-03	NOT IDENT.
CE-143	5.604E-01	1.092E+00	1.021E+00	5.571E-01	NOT IDENT.
CE-144	-1.721E-02	7.102E-02	6.138E-02	3.624E-02	NOT IDENT.
PM-144	2.604E-03	1.623E-02	1.408E-02	8.281E-03	NOT IDENT.
PR-144	1.758E-01	1.095E+00	9.505E-01	5.589E-01	NOT IDENT.
PM-146	1.348E-02	1.992E-02	1.863E-02	1.016E-02	NOT IDENT.
ND-147	1.743E-01	1.343E-01	1.349E-01	6.852E-02	FAIL ABUN
PM-149	2.001E+00	3.379E+00	3.191E+00	1.724E+00	NOT IDENT.
EU-152	9.897E-03	4.026E-02	3.665E-02	2.054E-02	NOT IDENT.
GD-153	1.085E-02	2.883E-02	2.357E-02	1.471E-02	NOT IDENT.
EU-154	-3.734E-02	5.162E-02	3.755E-02	2.634E-02	NOT IDENT.
EU-155	3.476E-03	3.669E-02	3.306E-02	1.872E-02	NOT IDENT.
TB-160	4.644E-04	5.402E-02	4.734E-02	2.756E-02	NOT IDENT.
HO-166M	1.305E-02	2.791E-02	2.519E-02	1.424E-02	NOT IDENT.
TM-171	-1.914E+01	9.248E+00	6.719E+00	4.718E+00	NOT IDENT.
LU-176	-7.262E-04	9.133E-03	8.108E-03	4.659E-03	NOT IDENT.
LU-177	7.967E-02	1.849E-01	1.743E-01	9.435E-02	NOT IDENT.
LU-177M	6.200E-02	6.911E-02	6.658E-02	3.526E-02	NOT IDENT.
HF-181	8.364E-03	1.437E-02	1.347E-02	7.332E-03	NOT IDENT.
W-181	-5.404E-02	1.146E-01	9.686E-02	5.845E-02	NOT IDENT.
TA-182	-6.481E-03	6.334E-02	5.300E-02	3.231E-02	NOT IDENT.
RE-183	-2.691E-03	3.773E-02	3.282E-02	1.925E-02	NOT IDENT.
RE-184	-4.916E-02	9.254E-02	7.998E-02	4.721E-02	NOT IDENT.
OS-185	1.711E-02	1.780E-02	1.715E-02	9.082E-03	NOT IDENT.
RE-188	-3.349E-02	5.831E-02	4.849E-02	2.975E-02	NOT IDENT.
W-188	-1.337E+00	2.648E+00	2.264E+00	1.351E+00	NOT IDENT.

IR-192	1.509E-03	1.394E-02	1.258E-02	7.114E-03	NOT IDENT.
AU-195	8.706E-03	7.457E-02	6.253E-02	3.805E-02	NOT IDENT.
TL-200	-3.756E-01	1.632E+00	1.411E+00	8.326E-01	NOT IDENT.
TL-201	4.178E-02	5.010E-01	4.409E-01	2.556E-01	NOT IDENT.
TL-202	4.085E-03	1.822E-02	1.639E-02	9.296E-03	NOT IDENT.
HG-203	2.614E-03	1.378E-02	1.261E-02	7.030E-03	NOT IDENT.
BI-207	-1.657E-02	2.034E-02	1.421E-02	1.038E-02	NOT IDENT.
TL-207	7.620E-02	2.832E-01	2.515E-01	1.445E-01	NOT IDENT.
TL-208	-6.117E-03	1.876E-02	1.571E-02	9.571E-03	NOT IDENT.
PO-209	8.872E-01	3.089E+00	2.818E+00	1.576E+00	NOT IDENT.
BI-210	-1.644E+00	1.017E+00	8.432E-01	5.190E-01	NOT IDENT.
PB-210	-1.644E+00	1.017E+00	8.432E-01	5.190E-01	NOT IDENT.
PO-210	-1.644E+00	1.015E+00	8.432E-01	5.180E-01	NOT IDENT.
BI-211	-3.464E-02	8.416E-02	7.167E-02	4.294E-02	NOT IDENT.
PB-211	4.193E-02	3.473E-01	3.095E-01	1.772E-01	NOT IDENT.
BI-212	1.748E-02	1.164E-01	1.010E-01	5.940E-02	NOT IDENT.
PB-212	2.576E-02	3.279E-02	2.509E-02	1.673E-02	FAIL ABUN
PO-212	2.576E-02	3.279E-02	2.509E-02	1.673E-02	FAIL ABUN
BI-214	-2.604E-03	3.356E-02	2.853E-02	1.712E-02	NOT IDENT.
PB-214	4.861E-03	2.897E-02	2.615E-02	1.478E-02	NOT IDENT.
PO-214	4.861E-03	2.897E-02	2.615E-02	1.478E-02	NOT IDENT.
PO-215	7.620E-02	2.832E-01	2.515E-01	1.445E-01	NOT IDENT.
PO-216	2.576E-02	3.279E-02	2.509E-02	1.673E-02	FAIL ABUN
PO-218	4.861E-03	2.897E-02	2.615E-02	1.478E-02	NOT IDENT.
RN-219	-2.300E-02	1.687E-01	1.464E-01	8.605E-02	NOT IDENT.
RN-220	2.998E+00	9.914E+00	8.941E+00	5.058E+00	NOT IDENT.
RA-223	7.620E-02	2.832E-01	2.515E-01	1.445E-01	NOT IDENT.
RA-224	2.149E-01	2.939E-01	2.498E-01	1.500E-01	NOT IDENT.
RA-226	-2.604E-03	3.356E-02	2.853E-02	1.712E-02	NOT IDENT.
AC-227	8.028E-02	1.579E-01	1.482E-01	8.055E-02	NOT IDENT.
TH-227	8.028E-02	1.581E-01	1.482E-01	8.064E-02	FAIL ABUN
AC-228	-3.856E-02	6.456E-02	5.120E-02	3.294E-02	NOT IDENT.
RA-228	-3.856E-02	6.456E-02	5.120E-02	3.294E-02	NOT IDENT.
TH-228	2.595E-02	3.304E-02	2.528E-02	1.686E-02	FAIL ABUN
TH-229	-4.112E-02	1.876E-01	1.692E-01	9.569E-02	NOT IDENT.
TH-230	-2.604E-03	3.356E-02	2.853E-02	1.712E-02	NOT IDENT.
PA-231	-1.664E-01	5.965E-01	5.220E-01	3.043E-01	NOT IDENT.
TH-231	7.620E-02	2.832E-01	2.515E-01	1.445E-01	NOT IDENT.
U-231	4.593E-03	1.186E-01	9.341E-02	6.049E-02	FAIL ABUN
TH-232	-3.856E-02	6.456E-02	5.120E-02	3.294E-02	NOT IDENT.
PA-233	-6.120E-03	2.591E-02	2.264E-02	1.322E-02	NOT IDENT.
PA-234	3.176E-02	1.127E-01	1.028E-01	5.752E-02	FAIL ABUN
PA-234M	1.674E+00	2.229E+00	2.083E+00	1.137E+00	NOT IDENT.
TH-234	-1.016E-01	4.346E-01	3.926E-01	2.218E-01	FAIL ABUN
U-234	-2.604E-03	3.356E-02	2.853E-02	1.712E-02	NOT IDENT.
U-235	-7.901E-02	9.021E-02	6.896E-02	4.603E-02	FAIL ABUN
NP-236	-1.513E-03	2.995E-02	2.612E-02	1.528E-02	NOT IDENT.
NP-237	1.271E-02	8.825E-02	6.899E-02	4.503E-02	NOT IDENT.
U-238	-1.016E-01	4.346E-01	3.926E-01	2.218E-01	FAIL ABUN
NP-239	-5.915E-02	7.379E-02	6.125E-02	3.765E-02	NOT IDENT.
AM-241	-2.184E-02	4.599E-02	4.067E-02	2.346E-02	NOT IDENT.
AM-243	2.573E-02	1.691E-02	1.683E-02	8.628E-03	NOT IDENT.
CM-243	9.011E-03	3.179E-02	2.913E-02	1.622E-02	NOT IDENT.
AM-246	-1.534E-02	5.180E-02	4.201E-02	2.643E-02	NOT IDENT.
CM-247	-1.324E-03	1.463E-02	1.276E-02	7.464E-03	NOT IDENT.
CF-249	-8.801E-03	1.734E-02	1.449E-02	8.846E-03	NOT IDENT.
CF-251	-3.545E-03	4.892E-02	4.237E-02	2.496E-02	NOT IDENT.
ANH-511	-2.754E-02	2.454E-02	2.379E-02	1.252E-02	NOT IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON ,SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	77.2216
46.50	77.2216
46.50	77.2216
48.70	84.5530
49.72	104.0313
51.35	81.7448
52.39	59.3343
52.97	62.4436
53.15	63.4800
53.44	65.5487
54.07	66.6191
56.28	89.3811
56.28	89.3813
57.37	93.5997
57.53	92.5868
57.53	92.5869
57.60	92.5936
57.98	93.6601
57.98	93.6601
59.32	105.1293
59.32	105.1293
59.40	105.1381
59.54	107.2153
59.72	107.2353
60.01	112.4245
61.10	86.7365
61.14	86.7400
61.30	86.7543
63.00	94.1460
63.29	96.2433
63.29	96.2433
63.58	95.2360
64.28	92.1951
65.12	104.7131
65.20	104.7215
65.20	104.7215
66.05	127.6387
66.72	126.6837
66.83	126.6977
66.91	121.5145
67.20	114.2767
67.20	114.2767
67.75	87.3123
67.85	87.3207
68.90	85.3279
68.90	85.3279
69.30	87.4424
69.67	98.9284
70.82	115.7158
70.82	115.7158
70.83	115.7166
72.80	100.2640
72.87	100.2704
72.87	100.2704
74.67	80.5589
74.81	80.5691
74.81	80.5691
74.81	80.5691
74.81	80.5691
74.81	80.5691
74.81	80.5691
74.81	80.5691
74.97	79.5344
75.28	71.1824
75.70	95.2951
77.11	131.0668
77.11	131.0668

77.11	131.0668
77.11	131.0668
77.11	131.0668
77.11	131.0668
77.11	131.0668
78.38	109.1714
79.62	89.3248
79.80	89.3391
79.80	89.3391
80.11	93.5688
80.18	93.5745
80.30	93.5844
80.30	93.5844
80.57	94.6582
81.00	97.8504
81.07	97.8564
81.07	97.8564
81.07	97.8564
81.07	97.8564
82.60	95.8794
83.37	94.8882
83.78	99.1406
83.78	99.1406
83.78	99.1406
83.78	99.1406
84.21	96.0120
84.90	85.6624
85.43	88.7184
86.29	84.5551
86.50	89.6442
86.54	89.6474
86.59	89.6510
86.72	99.8113
86.79	99.8167
86.94	94.7536
87.30	96.4745
87.30	96.4745
87.30	96.4745
87.30	96.4745
87.30	96.4745
87.30	96.4745
87.30	96.4745
87.57	96.4964
87.88	101.6016
88.03	101.6140
88.36	96.5601
88.47	96.5688
89.95	89.9020
91.11	96.7789
92.29	87.0997
92.38	87.1062
92.38	87.1062
93.35	87.1744
94.00	79.9872
94.67	83.4352
94.67	83.4355
94.90	93.6692
94.90	93.6692
94.90	93.6692
94.90	93.6692
95.87	81.8109
95.87	81.8109
96.73	66.5169
97.43	69.9663
98.44	78.5608
98.44	78.5608
98.88	65.4898
99.55	70.8147
99.55	70.8147
99.86	69.4577
100.00	68.3967
100.10	68.4021
103.18	63.2072
103.76	65.3787
105.00	67.5854
105.31	72.9662
108.00	87.0902
109.28	94.7061

111.00	76.5068
111.00	76.5068
111.76	78.7054
112.95	75.5359
115.19	90.7887
116.30	94.1055
117.00	97.3989
117.00	97.3989
117.66	88.7826
121.11	79.2286
121.62	74.9139
121.78	79.2654
122.06	83.6248
122.32	83.6398
122.32	83.6398
122.32	83.6398
122.32	83.6398
123.07	79.3358
127.23	82.8299
129.76	68.7779
131.20	64.4727
133.02	85.3375
133.54	73.3273
135.34	71.2222
136.00	77.8296
136.25	80.0348
136.48	83.3366
140.51	80.2537
140.51	0.0000
142.18	75.9362
142.65	77.0597
143.76	87.0283
144.24	87.0542
144.24	87.0542
144.24	87.0542
144.24	87.0542
145.22	81.5941
145.44	70.5776
147.16	89.4200
152.43	69.7733
152.70	69.7849
153.22	85.3191
154.21	86.4789
154.21	86.4789
154.21	86.4789
154.21	86.4789
155.03	79.8662
156.02	68.8144
158.56	76.6990
159.00	0.0000
159.00	77.8309
160.31	74.5525
161.27	70.1415
162.32	72.4124
162.64	77.9970
163.35	70.2266
163.89	71.3633
165.85	88.1891
167.43	78.2133
171.28	68.3062
171.86	69.4487
172.10	69.4581
176.55	74.1236
176.60	74.1256
181.06	84.0649
184.41	70.3823
185.71	70.4318
186.00	64.7231
190.27	61.8533
192.34	69.0946
193.63	75.2623
197.04	79.0301
198.01	83.6139
198.60	80.0030
200.40	75.5273
201.83	91.9739
202.84	82.9103
205.31	86.6637

208.36	70.3513
208.81	74.9366
209.75	74.0574
209.75	74.0574
210.97	69.5281
215.65	70.6065
216.55	69.7202
218.09	78.0351
222.10	68.0693
223.80	71.8072
226.40	70.0532
227.00	59.9310
227.08	59.9334
227.20	59.9366
228.16	49.8162
228.18	49.8168
228.18	49.8168
231.56	72.8937
235.69	66.3485
236.00	66.3582
236.00	66.3582
238.63	69.5293
238.63	69.5293
238.63	69.5293
238.63	69.5293
239.00	67.9958
240.98	66.5112
241.98	68.0894
241.98	68.0894
241.98	68.0894
244.69	47.8100
245.39	63.9332
247.94	67.0329
248.90	63.3362
249.79	63.3615
252.40	59.7039
252.85	70.9128
252.85	70.9128
254.15	0.0000
256.20	59.8049
256.20	59.8049
260.50	71.1526
260.90	75.8475
262.80	66.5382
264.65	53.4612
268.24	61.9983
268.79	69.5304
269.46	71.4300
269.46	71.4300
269.46	71.4300
269.46	71.4300
271.23	59.2563
273.65	58.3763
276.40	57.5017
277.35	59.4101
277.60	55.6445
277.60	55.6445
278.00	56.5972
278.60	49.0629
279.20	50.9632
279.53	51.9136
280.46	51.9338
281.68	64.2422
283.67	54.8402
284.30	51.0713
285.00	52.9785
285.90	44.4807
286.10	40.6983
286.10	40.6983
287.40	47.3492
288.45	0.0000
290.67	57.8435
290.80	57.8465
291.72	58.8167
293.26	44.6150
293.70	47.4713
295.21	57.9507
295.21	57.9507

295.21	57.9507
295.96	45.6141
296.50	42.7725
297.23	44.6867
298.57	50.4192
299.80	47.5885
299.80	47.5885
300.09	47.5940
300.09	47.5940
300.09	47.5940
300.09	47.5940
300.12	47.5946
301.29	48.5695
302.84	55.2699
303.76	41.9445
303.91	44.8066
304.40	39.0946
304.40	39.0946
304.84	38.1475
306.84	42.9500
308.46	50.6178
311.98	51.6448
316.51	54.6099
318.01	57.5178
319.02	55.6218
319.41	58.5077
320.08	49.8881
323.87	43.2356
323.87	43.2356
323.87	43.2356
323.87	43.2356
325.23	57.6775
328.77	41.3912
333.44	55.9284
334.20	54.9801
334.20	54.9801
334.30	54.9822
338.28	42.5052
338.28	42.5052
338.28	42.5052
338.28	42.5052
338.32	42.5063
338.32	42.5063
338.32	42.5063
340.50	42.5407
340.57	42.5417
344.27	45.5043
345.85	42.6245
350.59	54.3437
351.07	52.4120
351.92	45.6322
351.92	45.6322
351.92	45.6322
355.39	0.0000
356.01	46.6717
364.48	43.8876
366.43	40.0145
367.43	46.8627
367.94	45.8944
369.80	36.1536
374.96	33.2824
383.85	36.3306
387.95	50.1477
388.63	50.1595
391.69	43.3200
391.69	43.3200
392.90	47.2775
398.62	31.5793
400.65	47.4012
401.10	50.3712
401.81	40.5040
402.60	37.5505
404.84	31.6449
410.95	26.7545
411.60	22.7959
413.65	29.7535
414.70	42.6614
415.30	55.5700



415.76	56.5714
417.63	0.0000
418.52	37.7481
423.70	42.7869
427.08	30.8797
427.89	29.8916
432.53	26.9423
433.93	35.9389
439.47	31.0019
439.56	31.0030
439.89	33.0064
443.98	32.0477
444.90	29.0513
445.03	29.0527
445.03	29.0527
445.03	29.0527
445.03	29.0527
453.90	35.1602
463.38	43.3228
468.07	43.3848
473.00	30.3135
475.06	28.3104
475.35	29.3239
476.78	37.4291
477.59	33.3907
477.96	34.4067
482.03	22.2900
484.57	26.3628
487.03	29.4259
490.36	25.3922
492.35	24.3908
497.08	23.4068
507.63	0.0000
510.53	0.0000
510.84	32.6959
511.00	34.7411
511.85	39.8596
511.85	39.8596
513.99	117.6062
513.99	117.6062
520.41	27.6625
520.65	27.6645
527.90	33.8814
528.96	0.0000
529.64	20.5439
529.87	0.0000
531.02	14.3862
537.32	30.8818
543.00	20.6201
546.56	0.0000
549.76	20.6587
552.65	28.9447
555.20	31.0342
563.23	31.1016
563.90	35.2542
568.70	26.9940
569.32	25.9601
569.50	24.9229
569.67	24.9240
573.80	46.7842
574.00	46.7864
574.64	48.8738
578.91	35.3962
579.30	39.5642
583.14	31.2664
585.48	35.4568
591.81	25.0699
592.07	27.1610
593.00	38.6612
595.88	36.5988
600.56	36.6432
602.52	0.0000
602.71	42.9489
602.71	42.9489
603.60	37.7200
604.41	42.9679
604.70	39.8267
609.31	38.8247

609.31	38.8247
609.31	38.8247
609.31	38.8247
610.33	40.9338
612.46	42.0059
614.37	33.6211
618.01	30.4974
621.84	29.4745
621.84	29.4745
631.29	20.0479
633.02	25.3342
633.10	25.3348
634.78	25.3453
635.90	21.1270
636.97	22.1895
645.85	16.9434
646.12	19.0626
656.30	28.6651
657.75	31.8611
657.90	0.0000
661.65	19.1351
661.65	19.1351
664.57	36.1690
666.33	25.5422
666.33	25.5422
675.00	12.7975
677.61	20.2756
685.20	19.2432
692.80	32.1292
695.00	33.2175
696.49	30.0132
696.49	30.0132
697.00	26.8005
697.49	31.0922
698.33	28.9538
698.50	28.9551
699.00	28.9584
702.63	30.0562
706.10	32.2288
706.58	0.0000
706.67	34.3820
709.31	25.8023
711.68	23.6650
713.82	33.3628
717.42	20.4649
720.50	28.0243
721.93	25.8773
722.20	25.8791
722.78	26.9604
722.78	26.9604
722.89	26.9617
722.95	26.9617
723.30	28.0427
724.18	21.5757
727.18	20.5108
733.00	19.4568
735.90	19.4695
739.58	27.0636
742.81	28.1665
744.21	32.5100
747.13	23.8563
751.79	24.9665
752.31	28.2261
753.82	24.9777
755.35	21.7271
756.15	15.2117
756.87	11.9539
763.93	20.6801
765.79	17.4219
766.42	22.8693
766.84	25.0496
776.49	22.9195
778.00	22.9272
778.57	18.5622
778.89	19.6559
783.80	14.2108
785.46	13.1224
792.07	17.5215

795.84	16.4396
796.30	16.4414
798.80	20.1058
801.93	14.2664
805.60	12.8131
810.29	13.1924
810.76	16.4919
815.85	22.0127
817.79	14.6813
818.51	12.8481
819.60	14.6868
826.30	22.0610
828.27	17.4723
831.60	11.9630
831.96	8.2828
834.83	24.8626
836.80	0.0000
846.75	17.5392
848.13	13.8507
856.28	0.0000
856.80	15.7251
860.37	15.7366
867.32	14.8317
867.82	12.9792
871.10	18.5539
873.19	19.4897
874.81	16.7109
875.33	0.0000
876.40	15.7877
879.36	17.6556
880.27	15.7998
880.51	15.8005
881.50	20.4518
883.24	23.2488
884.67	19.5345
889.25	18.6214
896.60	15.8514
898.02	13.0575
899.00	13.0601
903.28	19.6068
911.07	21.5068
911.07	21.5068
911.07	21.5068
919.63	16.8596
920.93	21.5480
925.00	7.5010
925.24	9.3766
926.50	13.1304
935.52	20.6693
937.48	19.7375
944.10	15.0570
946.00	12.2383
949.00	16.9548
962.29	14.1647
964.01	22.6709
966.15	14.1748
968.20	15.1257
969.11	17.0193
969.11	17.0193
969.11	17.0193
977.42	8.5228
980.50	18.0031
983.50	7.5845
989.30	19.9306
996.32	21.8573
1001.03	10.4624
1001.68	12.3662
1004.76	21.8910
1021.30	0.0000
1024.50	0.0000
1034.80	13.3973
1036.00	15.3145
1037.82	15.3197
1038.57	20.1096
1038.76	0.0000
1045.16	11.5049
1046.59	16.3027
1048.07	20.1438

1050.47	12.4753
1050.47	12.4753
1062.04	14.4238
1063.62	14.4281
1076.63	7.7126
1077.35	6.7493
1078.86	13.5021
1085.78	10.6218
1099.22	13.5500
1112.02	16.4895
1112.84	12.6112
1115.52	16.4992
1120.29	16.5123
1120.29	16.5123
1120.29	16.5123
1120.29	16.5123
1120.51	17.4844
1121.28	16.5151
1124.00	0.0000
1129.67	16.5386
1131.51	0.0000
1147.95	0.0000
1167.94	8.8118
1173.22	12.7392
1175.09	11.7632
1177.93	10.7878
1189.05	13.7550
1204.90	17.7305
1205.75	14.7772
1213.00	11.8354
1221.42	12.8392
1230.97	15.8262
1235.34	9.8983
1236.41	0.0000
1238.25	8.9125
1246.25	6.9408
1260.41	0.0000
1271.85	12.9418
1274.45	17.9268
1274.54	17.9268
1291.56	6.9897
1298.22	0.0000
1312.09	7.0117
1325.50	10.0370
1325.50	10.0370
1332.49	12.0571
1333.61	15.0745
1360.21	5.0448
1362.66	0.0000
1365.15	9.0872
1368.21	9.0912
1368.53	0.0000
1376.25	11.1249
1384.27	4.0501
1394.10	7.0980
1395.20	9.1274
1407.95	16.2565
1434.06	5.0993
1436.60	9.1820
1457.56	0.0000
1460.81	5.1186
1489.15	4.1112
1509.49	11.3375
1596.49	7.2999
1620.62	7.3233
1678.03	0.0000
1691.02	7.3899
1691.02	7.3899
1706.46	0.0000
1750.46	0.0000
1764.49	4.2619
1764.49	4.2619
1764.49	4.2619
1764.49	4.2619
1770.23	4.2648
1771.40	6.3982
1791.20	0.0000
1808.65	7.4987

1836.01

4.2990

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202018259

Total Uranium Activity	-3.3893E-01	ug/g
Total Uranium Counting Unc.	1.2937E+00	ug/g
Total Uranium Tpu	6.6006E-07	ug/g
Total Uranium Mda	1.1684E+00	ug/g

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*****
*
*               GEL Laboratories LLC                      *
*               2040 SAVAGE ROAD                          *
*               CHARLESTON ,SC 29417                      *
*               GROSS GAMMA REPORT                        *
*
*****
*
*  BATCH ID      : 942717                                *
*  ANALYST       : MXR1                                  *
*  SAMPLE DATE   : 20-JAN-2010 00:00:00.00              *
*  ANALYSIS DATE : 27-JAN-2010 14:59:34.01              *
*
*  SAMPLE ID     : G1202018259                          *
*  DETECTOR      : GAM14                                  *
*  COUNT TIME    : 0 02:00:00.00                        *
*  SAMPLE ALQT   : 157.740 GRAM                         *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 3.405E-02
GROSS GAMMA ERROR (pCi/GRAM ) : 6.028E-02
GROSS GAMMA MDA (pCi/GRAM ) : 1.009E-01
GROSS GAMMA DLC (pCi/GRAM ) : 4.740E-02

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VAX/VMS Nuclide Identification Report Generated 28-JAN-2010 09:29:33.50

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018260.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 15:56:54
Sample ID          : G1202018260      Sample quantity   : 1.34720E+02 GRAM
Detector name      : GAM15            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.38  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 942717           Detector SN#      :
Matrix Spike ID    :                  LCS ID             : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.51*	71	521	1.00	125.53	121	10	9.87E-03	62.3	
2	2	74.03*	209	506	1.58	148.55	144	15	2.90E-02	21.5	6.34E+00
3	2	76.48*	508	543	1.59	153.45	144	15	7.05E-02	10.0	
4	3	83.73*	87	336	1.35	167.93	165	13	1.21E-02	36.3	6.28E-01
5	3	86.55	188	446	1.19	173.58	165	13	2.61E-02	19.7	
6	0	92.45*	282	587	1.55	185.37	181	11	3.92E-02	18.5	
7	0	185.34*	344	527	1.57	371.06	363	17	4.77E-02	16.6	
8	0	208.74	40	306	1.32	417.85	415	8	5.52E-03	77.9	
9	4	238.06*	1200	236	1.38	476.47	468	20	1.67E-01	3.8	4.70E-01
10	4	240.84	270	319	2.03	482.01	468	20	3.75E-02	19.1	
11	0	269.66	158	296	1.50	539.63	532	15	2.20E-02	25.0	
12	0	277.55	69	216	1.54	555.42	549	11	9.62E-03	42.9	
13	1	294.70*	349	177	1.68	589.69	582	25	4.84E-02	9.1	1.52E+00
14	1	299.47	130	185	1.73	599.23	582	25	1.80E-02	21.5	
15	0	328.43	39	285	0.76	657.14	650	14	5.44E-03	94.7	
16	0	337.81	245	240	1.44	675.88	669	13	3.40E-02	14.6	
17	0	351.33*	600	193	1.34	702.92	696	14	8.34E-02	6.5	
18	0	462.79	76	115	1.63	925.74	921	10	1.06E-02	28.9	
19	0	476.95	92	133	3.87	954.07	946	16	1.28E-02	29.8	
20	0	510.22*	125	160	1.60	1020.58	1013	16	1.74E-02	27.5	
21	0	582.67*	378	112	1.84	1165.43	1158	15	5.25E-02	8.2	
22	0	608.64*	447	109	1.34	1217.35	1210	14	6.21E-02	7.0	
23	0	661.29	196	155	1.65	1322.62	1316	16	2.72E-02	16.0	
24	0	726.88*	76	72	1.05	1453.76	1447	12	1.06E-02	25.9	
25	0	795.44	80	70	2.35	1590.83	1582	16	1.12E-02	26.5	
26	0	860.35	56	41	2.11	1720.63	1716	10	7.76E-03	25.9	
27	0	910.88*	280	89	1.68	1821.66	1813	17	3.89E-02	9.9	
28	2	964.10	85	49	2.40	1928.08	1919	23	1.18E-02	20.1	6.40E-01
29	2	968.58	167	26	1.73	1937.03	1919	23	2.31E-02	9.8	
30	0	1120.26	102	68	1.80	2240.34	2232	18	1.42E-02	21.3	
31	0	1460.36*	1298	36	2.11	2920.45	2910	20	1.80E-01	3.0	
32	0	1559.51	8	7	0.62	3118.74	3113	9	1.12E-03	68.1	
33	0	1590.53	48	16	6.33	3180.77	3171	21	6.65E-03	25.3	
34	0	1764.00*	85	7	1.86	3527.70	3520	14	1.18E-02	13.3	
35	0	1847.84	13	4	1.02	3695.39	3691	8	1.85E-03	37.6	

Flag: "\*" = Peak area was modified by background subtraction



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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018260.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 15:56:54
Sample ID         : G1202018260 Sample quantity   : 134.72 GRAM
Sample type       : SOLID Sample geometry      :
Detector name     : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.38 0.0%
Peak Width (FWHM): 3.00 Confidence level   : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio    : 8.00
Errors propagated: Yes Systematic Error   : 0.00 %
Efficiency type   : Empirical Efficiencies at  : Peak Energy
Abundance limit   : 75.00 WTM error limit    : 3.00

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	+	477.59	*	1.177E+00	7.048E-01	6.275E-01	4.182E-02	1.876
K-40	+	1460.81	*	3.393E+01	3.300E+00	6.135E-01	4.689E-02	55.306
CD-109	+	88.03	*	3.274E+00	1.345E+00	1.912E+00	2.211E-01	1.712
SN-126		64.28		9.506E-02	1.051E+00	1.538E+00	2.636E-01	0.062
	+	86.94		1.336E+00	7.700E-01	8.415E-01	3.539E-01	1.587
	+	87.57	*	3.213E-01	1.320E-01	1.826E-01	2.107E-02	1.759
CS-135	+	268.24	*	7.132E-01	3.617E-01	2.929E-01	2.504E-02	2.435
BA-137M	+	661.65	*	3.002E-01	9.705E-02	6.886E-02	3.464E-03	4.360
CS-137	+	661.65	*	3.174E-01	1.026E-01	7.279E-02	3.683E-03	4.360
TL-208	+	277.35		7.493E-01	6.484E-01	7.028E-01	7.874E-02	1.066
	+	510.84		6.570E-01	3.670E-01	2.640E-01	2.657E-02	2.489
	+	583.14	*	5.613E-01	9.902E-02	6.761E-02	4.305E-03	8.302
	+	860.37		7.747E-01	4.068E-01	4.784E-01	4.112E-02	1.619
BI-211	+	72.87		1.465E+01	6.506E+00	7.061E+00	7.874E-01	2.074
	+	351.07	*	4.031E+00	5.949E-01	3.979E-01	2.734E-02	10.131
PB-212	+	74.81		1.738E+00	7.892E-01	7.977E-01	1.158E-01	2.179
	+	77.11		2.303E+00	5.274E-01	4.418E-01	4.906E-02	5.214
	+	87.30		1.486E+00	6.281E-01	8.789E-01	1.341E-01	1.691
	+	238.63	*	1.776E+00	2.002E-01	1.168E-01	9.667E-03	15.208
	+	300.09		2.955E+00	1.300E+00	1.495E+00	1.341E-01	1.977
PO-212	+	74.81		1.738E+00	7.892E-01	7.977E-01	1.158E-01	2.179
	+	77.11		2.303E+00	5.274E-01	4.418E-01	4.906E-02	5.214
	+	87.30		1.486E+00	6.281E-01	8.789E-01	1.341E-01	1.691
		115.19		2.399E+00	4.537E+00	7.544E+00	5.772E-01	0.318
	+	238.63	*	1.776E+00	2.002E-01	1.168E-01	9.667E-03	15.208
	+	300.09		2.955E+00	1.300E+00	1.495E+00	1.341E-01	1.977
BI-214	+	609.31	*	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584
	+	1120.29		1.490E+00	6.506E-01	5.015E-01	4.627E-02	2.972
	+	1764.49		1.705E+00	4.647E-01	3.467E-01	2.157E-02	4.920
PB-214	+	74.81		2.995E+00	1.349E+00	1.375E+00	1.836E-01	2.179
	+	77.11		3.949E+00	9.529E-01	7.573E-01	1.020E-01	5.214
	+	87.30		2.546E+00	1.064E+00	1.506E+00	2.087E-01	1.691
	+	241.98		2.402E+00	9.431E-01	6.357E-01	5.682E-02	3.779
	+	295.21		1.394E+00	2.851E-01	2.621E-01	2.424E-02	5.317

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.402E+00	2.195E-01	1.387E-01	1.195E-02	10.111
	+	74.81		2.995E+00	1.349E+00	1.375E+00	1.836E-01	2.179
	+	77.11		3.949E+00	9.529E-01	7.573E-01	1.020E-01	5.214
	+	87.30		2.546E+00	1.064E+00	1.506E+00	2.087E-01	1.691
	+	241.98		2.402E+00	9.431E-01	6.357E-01	5.682E-02	3.779
PO-216	+	295.21		1.394E+00	2.851E-01	2.621E-01	2.424E-02	5.317
	+	351.92	*	1.402E+00	2.195E-01	1.387E-01	1.195E-02	10.111
	+	74.81		1.738E+00	7.892E-01	7.977E-01	1.158E-01	2.179
	+	77.11		2.303E+00	5.274E-01	4.418E-01	4.906E-02	5.214
	+	87.30		1.486E+00	6.281E-01	8.789E-01	1.341E-01	1.691
PO-218	+	238.63	*	1.776E+00	2.002E-01	1.168E-01	9.667E-03	15.208
	+	300.09		2.955E+00	1.300E+00	1.495E+00	1.341E-01	1.977
	+	74.81		2.995E+00	1.349E+00	1.375E+00	1.836E-01	2.179
	+	77.11		3.949E+00	9.529E-01	7.573E-01	1.020E-01	5.214
	+	87.30		2.546E+00	1.064E+00	1.506E+00	2.087E-01	1.691
RA-224	+	241.98		2.402E+00	9.431E-01	6.357E-01	5.682E-02	3.779
	+	295.21		1.394E+00	2.851E-01	2.621E-01	2.424E-02	5.317
	+	351.92	*	1.402E+00	2.195E-01	1.387E-01	1.195E-02	10.111
	+	240.98	*	4.555E+00	1.770E+00	1.329E+00	9.248E-02	3.428
	+	609.31	*	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584
AC-228	+	1120.29		1.490E+00	6.506E-01	5.015E-01	4.627E-02	2.972
	+	1764.49		1.705E+00	4.647E-01	3.467E-01	2.157E-02	4.920
	+	338.32		1.814E+00	9.099E-01	4.846E-01	1.980E-01	3.743
	+	911.07	*	1.838E+00	4.166E-01	2.399E-01	2.667E-02	7.662
	+	969.11		1.933E+00	5.864E-01	4.105E-01	9.493E-02	4.707
RA-228	+	338.32		1.814E+00	9.099E-01	4.846E-01	1.980E-01	3.743
	+	911.07	*	1.838E+00	4.166E-01	2.399E-01	2.667E-02	7.662
	+	969.11		1.933E+00	5.864E-01	4.105E-01	9.493E-02	4.707
	+	74.81		1.767E+00	7.850E-01	8.107E-01	9.053E-02	2.179
	+	77.11		2.341E+00	5.360E-01	4.489E-01	4.985E-02	5.214
TH-228	+	87.30		1.510E+00	6.202E-01	8.932E-01	1.029E-01	1.691
	+	238.63	*	1.805E+00	2.035E-01	1.187E-01	9.824E-03	15.208
	+	300.09		3.003E+00	2.195E+00	1.519E+00	8.971E-01	1.977
	+	609.31	*	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584
	+	1120.29		1.490E+00	6.506E-01	5.015E-01	4.627E-02	2.972
TH-230	+	1764.49		1.705E+00	4.647E-01	3.466E-01	2.157E-02	4.920
	+	338.32		1.814E+00	5.406E-01	4.846E-01	3.119E-02	3.743
	+	911.07	*	1.838E+00	4.166E-01	2.399E-01	2.667E-02	7.662
	+	969.11		1.933E+00	5.864E-01	4.105E-01	9.493E-02	4.707
	+	63.29	*	3.042E+00	3.840E+00	4.040E+00	7.974E-01	0.753
TH-234	+	92.38		3.007E+00	1.250E+00	1.095E+00	2.088E-01	2.745
	+	609.31	*	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584
	+	1120.29		1.490E+00	6.506E-01	5.015E-01	4.627E-02	2.972
	+	1764.49		1.705E+00	4.647E-01	3.466E-01	2.157E-02	4.920
	+	86.50	*	9.435E-01	4.336E-01	5.468E-01	1.291E-01	1.725
NP-237	+	95.87		-1.025E+00	1.423E+00	1.940E+00	4.868E-01	-0.528
	+	63.29	*	3.042E+00	3.840E+00	4.040E+00	7.974E-01	0.753
	+	92.38		3.007E+00	1.155E+00	1.095E+00	1.152E-01	2.745
	+	74.67	*	2.818E-01	1.252E-01	1.300E-01	1.444E-02	2.168
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		3.538E+01	1.453E+01	2.238E+01	2.569E+00	1.581
		117.66		-3.683E+00	4.749E+00	7.500E+00	5.603E-01	-0.491
		142.18		9.201E+00	2.270E+01	3.687E+01	2.512E+00	0.250
ANH-511	+	511.00	*	1.419E-01	7.838E-02	5.704E-02	3.221E-03	2.488

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22		1274.54	*	-2.388E-02	5.353E-02	8.268E-02	5.674E-03	-0.289
NA-24		1368.53	*	1.400E+00	5.353E-02	Half-Life too short		
AL-26		1129.67		-3.465E-01	2.126E+00	3.148E+00	1.983E-01	-0.110
		1808.65	*	-2.089E-02	2.679E-02	3.484E-02	2.085E-03	-0.600
TI-44		67.85		-3.059E-02	9.427E-02	1.255E-01	1.431E-02	-0.244
		78.38	*	1.754E-01	6.460E-02	9.427E-02	1.048E-02	1.861
SC-46		889.25	*	-2.613E-02	4.803E-02	7.575E-02	6.354E-03	-0.345
	+	1120.51		2.574E-01	1.110E-01	1.398E-01	8.978E-03	1.840
V-48		944.10		1.280E+00	1.061E+00	1.926E+00	1.583E-01	0.665
		983.50	*	4.148E-02	9.001E-02	1.539E-01	1.215E-02	0.270
		1312.09		4.394E-02	9.004E-02	1.541E-01	1.125E-02	0.285
CR-51		320.08	*	-8.304E-02	4.958E-01	7.963E-01	5.743E-02	-0.104
MN-52		744.21		-7.427E-02	3.141E-01	5.155E-01	3.162E-02	-0.144
		848.13		2.905E+00	8.815E+00	1.502E+01	1.158E+00	0.193
		935.52		3.806E-01	3.128E-01	5.691E-01	4.714E-02	0.669
		1246.25		5.371E+00	9.662E+00	1.646E+01	1.073E+00	0.326
		1333.61		1.323E+00	6.480E+00	1.073E+01	8.094E-01	0.123
		1434.06	*	1.641E-01	2.789E-01	5.018E-01	3.720E-02	0.327
MN-54		834.83	*	2.149E-02	4.373E-02	7.527E-02	5.642E-03	0.286
CO-56		846.75	*	-4.024E-03	4.643E-02	7.651E-02	5.881E-03	-0.053
		977.42		1.943E+00	3.564E+00	6.137E+00	4.880E-01	0.317
		1037.82		7.286E-02	3.729E-01	6.224E-01	4.925E-02	0.117
		1175.09		-7.873E-01	2.738E+00	4.340E+00	2.481E-01	-0.181
		1238.25		1.308E-01	1.238E-01	2.149E-01	1.453E-02	0.608
		1360.21		3.706E-02	1.043E+00	1.691E+00	1.272E-01	0.022
		1771.40		-1.356E-01	2.564E-01	3.453E-01	2.136E-02	-0.393
CO-57		122.06	*	4.486E-03	3.136E-02	5.140E-02	3.695E-03	0.087
		136.48		1.453E-01	2.600E-01	4.308E-01	3.307E-02	0.337
CO-58		810.76	*	-6.938E-03	4.413E-02	7.244E-02	5.175E-03	-0.096
FE-59		142.65		3.735E+00	3.556E+00	5.898E+00	4.016E-01	0.633
		192.34		-7.509E-01	1.407E+00	1.902E+00	2.345E-01	-0.395
		1099.22	*	8.891E-02	1.118E-01	1.950E-01	1.476E-02	0.456
		1291.56		-5.907E-02	1.481E-01	2.289E-01	1.931E-02	-0.258
CO-60		1173.22		1.329E-02	5.554E-02	9.225E-02	5.254E-03	0.144
		1332.49	*	2.792E-03	4.621E-02	7.515E-02	5.672E-03	0.037
ZN-65		1115.52	*	-7.090E-02	1.293E-01	1.681E-01	1.092E-02	-0.422
GE-68		1077.35	*	1.240E+00	1.520E+00	2.660E+00	1.848E-01	0.466
AS-73		53.44	*	1.120E+00	2.157E+00	3.581E+00	4.894E-01	0.313
AS-74		595.88	*	4.340E-02	1.200E-01	1.988E-01	1.069E-02	0.218
		634.78		-5.708E-02	4.234E-01	6.740E-01	3.496E-02	-0.085

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		66.05		-2.164E-01	9.465E+00	1.377E+01	1.786E+00	-0.016
		96.73		1.042E+00	1.096E+00	1.639E+00	2.351E-01	0.636
		121.11		-7.821E-02	1.678E-01	2.682E-01	2.735E-02	-0.292
		136.00		1.853E-02	4.965E-02	8.176E-02	5.693E-03	0.227
		198.60		3.609E-01	2.286E+00	3.688E+00	2.944E-01	0.098
		264.65	*	-4.869E-02	5.884E-02	8.073E-02	5.646E-03	-0.603
		279.53		1.183E-01	1.472E-01	2.253E-01	1.644E-02	0.525
		303.91		1.550E+00	2.893E+00	4.343E+00	4.409E-01	0.357
		400.65		5.825E-02	3.118E-01	5.192E-01	4.689E-02	0.112
BR-77	+	87.88		9.586E+02	3.937E+02	6.278E+02	7.259E+01	1.527
		200.40		-5.408E+01	2.831E+02	4.499E+02	3.075E+01	-0.120
	+	239.00		3.871E+02	4.004E+01	6.248E+01	4.347E+00	6.196
		249.79		-3.111E+01	1.074E+02	1.782E+02	1.240E+01	-0.175
		281.68		4.014E+00	1.654E+02	2.410E+02	1.660E+01	0.017
		297.23		4.177E+02	1.053E+02	1.944E+02	1.323E+01	2.149
		303.76		2.051E+02	3.335E+02	5.036E+02	3.404E+01	0.407
		439.47		5.919E+01	2.377E+02	3.961E+02	2.264E+01	0.149
		484.57		2.988E+01	4.263E+02	6.308E+02	3.589E+01	0.047
		520.65	*	-8.472E+00	1.739E+01	2.732E+01	1.537E+00	-0.310
		574.64		-8.590E+01	3.811E+02	5.465E+02	2.985E+01	-0.157
		578.91		9.933E+01	1.673E+02	2.471E+02	1.346E+01	0.402
		585.48		1.164E+03	3.898E+02	6.582E+02	3.567E+01	1.769
		755.35		6.884E+01	2.660E+02	4.526E+02	2.848E+01	0.152
		817.79		-1.168E+02	2.036E+02	3.215E+02	2.324E+01	-0.363
SR-82		698.33		-3.955E+01	4.063E+01	6.334E+01	3.487E+00	-0.624
		776.49	*	-4.177E-01	4.380E-01	6.716E-01	4.433E-02	-0.622
		1395.20		-1.569E+01	1.228E+01	1.683E+01	1.259E+00	-0.932
RB-83		520.41	*	-3.488E-02	8.466E-02	1.337E-01	7.523E-03	-0.261
		529.64		-6.399E-02	1.280E-01	2.004E-01	1.123E-02	-0.319
		552.65		-1.876E-01	2.523E-01	3.873E-01	2.145E-02	-0.484
RB-84		881.50	*	6.241E-02	8.070E-02	1.422E-01	1.174E-02	0.439
KR-85		513.99	*	1.334E+01	9.912E+00	1.554E+01	8.764E-01	0.858
SR-85		513.99	*	6.914E-02	5.138E-02	8.054E-02	4.543E-03	0.858
RB-86		1076.63	*	4.771E-01	1.032E+00	1.755E+00	1.221E-01	0.272
Y-88		898.02		-4.557E-02	4.905E-02	7.417E-02	6.363E-03	-0.614
		1836.01	*	4.530E-02	3.582E-02	7.216E-02	4.215E-03	0.628
ZR-88		392.90	*	-2.653E-02	3.840E-02	6.076E-02	3.446E-03	-0.437
Y-91		1204.90	*	8.690E+00	2.486E+01	4.150E+01	2.510E+00	0.209
NB-94		702.63	*	3.145E-02	3.987E-02	7.023E-02	3.906E-03	0.448
		871.10		6.815E-03	3.645E-02	6.143E-02	4.965E-03	0.111
NB-95		765.79	*	6.502E-02	5.152E-02	9.280E-02	5.980E-03	0.701
NB-95M		235.69	*	1.684E+00	2.680E-01	4.237E-01	3.580E-02	3.975
ZR-95		724.18		1.417E-01	1.378E-01	2.168E-01	1.497E-02	0.654
		756.15	*	5.725E-03	8.503E-02	1.427E-01	1.064E-02	0.040
NB-97		657.90	*	1.134E+00	8.503E-02	Half-Life	too short	
		1024.50		-9.435E+00	8.503E-02	Half-Life	too short	
ZR-97		254.15		1.336E+01	8.503E-02	Half-Life	too short	
		355.39		6.913E+00	8.503E-02	Half-Life	too short	
		507.63	*	2.072E+01	8.503E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	602.52			-1.706E+01	8.503E-02	Half-Life	too short	
	1021.30			1.877E+01	8.503E-02	Half-Life	too short	
	1147.95			1.704E+01	8.503E-02	Half-Life	too short	
	1362.66			2.107E-01	8.503E-02	Half-Life	too short	
	1750.46			-2.163E+00	8.503E-02	Half-Life	too short	
MO-99	140.51			-5.357E+01	4.689E+01	6.783E+01	1.844E+01	-0.790
	181.06			4.581E+00	3.199E+01	4.526E+01	7.909E+00	0.101
	366.43			-7.710E+01	1.352E+02	2.163E+02	1.314E+01	-0.356
	739.58	*		1.454E+01	1.683E+01	2.978E+01	4.139E+00	0.488
	778.00			-4.963E+01	4.938E+01	7.525E+01	4.985E+00	-0.660
TC-99M	140.51	*		-1.081E+12	4.938E+01	Half-Life	too short	
RH-101	127.23			2.860E-02	4.197E-02	6.988E-02	4.923E-03	0.409
	198.01	*		1.214E-02	4.149E-02	6.733E-02	4.593E-03	0.180
	325.23			3.232E-01	3.355E-01	5.139E-01	3.380E-02	0.629
RH-102	418.52			1.349E-01	3.562E-01	5.987E-01	3.415E-02	0.225
	475.06	*		5.220E-02	4.203E-02	6.577E-02	3.749E-03	0.794
	631.29			-5.671E-02	6.556E-02	9.798E-02	5.100E-03	-0.579
	697.49			-8.353E-02	9.032E-02	1.415E-01	7.773E-03	-0.590
	766.84			9.670E-02	1.339E-01	2.287E-01	1.477E-02	0.423
	1046.59			3.666E-02	1.336E-01	2.245E-01	1.637E-02	0.163
	1112.84			1.479E-01	3.069E-01	4.562E-01	2.973E-02	0.324
RU-103	497.08	*		-7.917E-02	5.076E-02	7.176E-02	9.032E-03	-1.103
	610.33			1.274E+01	2.510E+00	3.216E+00	4.902E-01	3.960
RH-106	511.85			2.590E-01	2.932E-01	4.954E-01	2.797E-02	0.523
	621.84	*		-2.671E-01	4.079E-01	6.233E-01	7.154E-02	-0.429
	1050.47			-6.564E-01	2.654E+00	4.246E+00	3.078E-01	-0.155
RU-106	511.85			2.590E-01	2.932E-01	4.954E-01	2.797E-02	0.523
	621.84	*		-2.671E-01	4.070E-01	6.233E-01	3.275E-02	-0.429
	1050.47			-6.564E-01	2.654E+00	4.246E+00	3.078E-01	-0.155
AG-108M	433.93	*		1.761E-02	3.974E-02	6.700E-02	4.166E-03	0.263
	614.37			-2.672E-02	5.381E-02	7.047E-02	4.106E-03	-0.379
	722.95			2.457E-03	5.421E-02	7.865E-02	4.975E-03	0.031
AG-110M	657.75	*		1.272E-01	4.893E-02	8.484E-02	4.650E-03	1.499
	677.61			6.169E-02	3.674E-01	5.976E-01	3.361E-02	0.103
	706.67			2.414E-02	2.382E-01	4.020E-01	2.402E-02	0.060
	763.93			-6.822E-02	2.002E-01	3.262E-01	2.199E-02	-0.209
	884.67			-2.632E-02	5.730E-02	9.094E-02	7.819E-03	-0.289
	937.48			-1.120E-01	1.260E-01	1.858E-01	1.597E-02	-0.603
	1384.27			-6.127E-02	1.746E-01	2.792E-01	2.170E-02	-0.219
IN-111	171.28			5.473E-01	1.670E+00	2.727E+00	1.820E-01	0.201
	245.39	*		8.917E-01	1.823E+00	2.750E+00	1.915E-01	0.324
IN-113M	391.69	*		-5.438E-02	5.573E-02	8.656E-02	5.251E-03	-0.628
SN-113	391.69	*		-5.438E-02	5.573E-02	8.656E-02	5.251E-03	-0.628
IN-114M	190.27	*		-9.703E-02	2.621E-01	3.588E-01	2.433E-02	-0.270
CD-115	260.90			-1.209E+01	2.128E+02	3.468E+02	2.411E+01	-0.035
	492.35			6.104E+01	5.981E+01	1.041E+02	5.913E+00	0.586
	527.90	*		1.634E+00	1.743E+01	2.854E+01	1.601E+00	0.057
SN-117M	156.02			4.276E-01	3.024E+00	4.915E+00	3.294E-01	0.087
	158.56	*		-3.607E-02	7.626E-02	1.190E-01	7.953E-03	-0.303

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		1.958E+00	3.350E+00	5.644E+00	3.105E-01	0.347
	692.80			5.226E+01	6.506E+01	1.151E+02	6.249E+00	0.454
I-123	159.00	*		-6.581E+00	6.506E+01	Half-Life too short		
	528.96			-6.956E+02	6.506E+01	Half-Life too short		
TE-123M	159.00	*		-8.674E-03	3.735E-02	5.883E-02	3.971E-03	-0.147
I-124	602.71	*		-6.424E-01	1.095E+00	1.428E+00	7.636E-02	-0.450
	722.78			3.817E-01	6.741E+00	9.792E+00	5.714E-01	0.039
	1325.50			6.433E+00	5.221E+01	8.546E+01	6.378E+00	0.075
	1376.25			1.468E+01	4.265E+01	7.152E+01	5.367E+00	0.205
	1509.49			2.206E+01	1.944E+01	3.710E+01	2.687E+00	0.595
	1691.02			1.276E+00	4.422E+00	7.714E+00	5.078E-01	0.165
SB-124	602.71			-3.176E-02	5.417E-02	7.063E-02	3.777E-03	-0.450
	645.85			-4.215E-01	5.942E-01	8.975E-01	5.344E-02	-0.470
	709.31			-2.562E+00	3.063E+00	4.794E+00	2.710E-01	-0.534
	713.82			-7.033E-01	1.776E+00	2.880E+00	2.926E-01	-0.244
	722.78			2.736E-02	4.832E-01	7.019E-01	4.287E-02	0.039
+	968.20			2.014E+01	4.274E+00	8.133E+00	6.531E-01	2.476
	1045.16			-1.170E+00	3.002E+00	4.743E+00	3.465E-01	-0.247
	1325.50			4.925E-01	3.997E+00	6.542E+00	4.882E-01	0.075
	1368.21			1.133E+00	1.983E+00	3.431E+00	4.391E-01	0.330
	1436.60			2.020E-01	3.797E+00	6.388E+00	4.734E-01	0.032
	1691.02	*		2.158E-02	7.477E-02	1.304E-01	9.159E-03	0.165
SB-125	427.89	*		-1.871E-02	1.126E-01	1.830E-01	1.091E-02	-0.102
+	463.38			7.863E-01	4.568E-01	6.623E-01	4.428E-02	1.187
	600.56			-2.801E-02	2.324E-01	3.357E-01	2.124E-02	-0.083
	635.90			-1.478E-01	3.124E-01	4.826E-01	3.026E-02	-0.306
TE-125M	109.28	*		9.334E-01	1.196E+01	1.961E+01	1.949E+00	0.048
I-126	388.63			3.810E-02	2.691E-01	4.475E-01	2.561E-02	0.085
	666.33	*		1.518E-01	2.581E-01	3.805E-01	1.937E-02	0.399
	753.82			2.204E-01	1.846E+00	3.110E+00	1.950E-01	0.071
SB-126	223.80			-3.116E+00	5.650E+00	8.781E+00	6.083E-01	-0.355
+	278.60			5.253E+00	4.522E+00	5.621E+00	3.879E-01	0.935
	296.50			1.219E+01	2.350E+00	4.346E+00	2.959E-01	2.806
	414.70			-3.911E-02	9.793E-02	1.572E-01	8.964E-03	-0.249
	415.30			1.557E+00	8.051E+00	1.340E+01	7.638E-01	0.116
	555.20			3.575E+00	5.048E+00	8.598E+00	4.755E-01	0.416
	573.80			-8.993E-01	1.414E+00	2.115E+00	1.156E-01	-0.425
	593.00			9.299E-01	1.250E+00	2.124E+00	1.145E-01	0.438
	656.30			4.038E-01	4.788E+00	6.694E+00	3.390E-01	0.060
	666.33			6.360E-02	1.081E-01	1.594E-01	8.112E-03	0.399
	675.00			1.969E+00	2.536E+00	4.316E+00	2.244E-01	0.456
	695.00			-3.009E-02	9.463E-02	1.552E-01	8.473E-03	-0.194
	697.00			-2.538E-01	3.280E-01	5.193E-01	2.850E-02	-0.489
	720.50	*		1.341E-01	2.011E-01	3.104E-01	1.802E-02	0.432
	856.80			3.884E-01	6.552E-01	9.994E-01	7.844E-02	0.389
	989.30			3.581E-01	1.583E+00	2.656E+00	2.084E-01	0.135
	1034.80			9.701E-01	1.108E+01	1.831E+01	1.358E+00	0.053
	1213.00			-1.952E+00	6.619E+00	1.050E+01	6.446E-01	-0.186
SB-127	61.10			1.506E+02	1.890E+02	2.388E+02	3.409E+01	0.631

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		252.40		4.136E+00	6.468E+00	1.077E+01	4.505E+00	0.384
		290.80		-1.701E+01	3.591E+01	5.041E+01	5.147E+00	-0.337
		411.60		-6.796E+00	1.890E+01	3.044E+01	4.438E+00	-0.223
		444.90		-4.739E+00	1.407E+01	2.255E+01	2.496E+00	-0.210
		473.00		-1.115E-01	2.799E+00	3.943E+00	4.511E-01	-0.028
		543.00		7.779E+00	2.343E+01	3.894E+01	5.094E+00	0.200
		603.60		5.343E-01	1.904E+01	2.659E+01	2.886E+00	0.020
		685.20	*	7.884E-02	1.818E+00	3.062E+00	2.919E-01	0.026
		698.50		-2.357E+01	2.187E+01	3.346E+01	4.888E+00	-0.704
		722.20		6.975E+00	4.687E+01	6.874E+01	6.571E+00	0.101
		783.80		7.393E+00	5.023E+00	9.146E+00	1.051E+00	0.808
		57.60		-5.399E+00	1.492E+01	2.137E+01	2.721E+00	-0.253
		145.22		-9.882E-02	9.057E-01	1.462E+00	9.915E-02	-0.068
		172.10		-2.647E-02	1.584E-01	2.534E-01	1.693E-02	-0.104
I-131		202.84	*	-3.147E-02	6.199E-02	9.706E-02	6.645E-03	-0.324
		374.96		6.434E-02	2.511E-01	4.208E-01	2.501E-02	0.153
		80.18		3.142E+00	1.036E+01	1.110E+01	1.244E+00	0.283
		284.30		-3.632E-01	2.055E+00	3.317E+00	2.468E-01	-0.109
TE-132		364.48	*	1.228E-02	1.530E-01	2.544E-01	1.718E-02	0.048
		636.97		-1.457E-01	1.971E+00	3.154E+00	1.878E-01	-0.046
		722.89		4.929E-01	9.995E+00	1.451E+01	8.602E-01	0.034
		49.72		2.324E+01	7.410E+01	1.249E+02	1.899E+01	0.186
BA-133		111.76		-1.100E+00	4.908E+01	7.883E+01	8.365E+00	-0.014
		116.30		2.803E+00	4.350E+01	7.117E+01	7.363E+00	0.039
		228.16	*	2.136E-01	1.083E+00	1.840E+00	2.772E-01	0.116
		53.15		3.627E+00	9.380E+00	1.552E+01	2.127E+00	0.234
+ I-133		79.62		9.359E-01	2.734E+00	2.934E+00	4.924E-01	0.319
		81.00		1.179E-01	1.964E-01	2.146E-01	3.735E-02	0.549
		276.40		7.406E-01	6.433E-01	7.890E-01	1.065E-01	0.939
		302.84		2.621E-01	1.959E-01	3.062E-01	3.726E-02	0.856
+ I-133		356.01	*	1.932E-02	5.823E-02	8.587E-02	1.011E-02	0.225
		383.85		-2.771E-01	3.761E-01	5.928E-01	6.445E-02	-0.467
		510.53	+	3.337E+00	3.761E-01	Half-Life	too short	
		529.87	*	-3.496E-03	3.761E-01	Half-Life	too short	
CS-134		706.58		1.549E-01	3.761E-01	Half-Life	too short	
		856.28		7.958E-01	3.761E-01	Half-Life	too short	
		875.33		1.027E-01	3.761E-01	Half-Life	too short	
		1236.41		3.840E+00	3.761E-01	Half-Life	too short	
+ I-135		1298.22		-3.676E-01	3.761E-01	Half-Life	too short	
		475.35		3.525E+00	2.477E+00	4.378E+00	2.495E-01	0.805
		563.23		6.003E-01	4.402E-01	7.775E-01	4.378E-02	0.772
		569.32		2.486E-02	2.404E-01	3.922E-01	2.222E-02	0.063
+ I-135		604.70		4.022E-02	4.633E-02	6.998E-02	3.759E-03	0.575
		795.84	*	1.711E-01	9.146E-02	1.086E-01	7.565E-03	1.576
		801.93		1.104E-01	4.514E-01	6.682E-01	4.706E-02	0.165
		1038.57		-2.569E-01	4.842E+00	7.904E+00	5.829E-01	-0.033
I-135		1167.94		3.325E-01	3.132E+00	5.146E+00	2.970E-01	0.065
		1365.15		-5.661E-01	1.377E+00	2.089E+00	1.664E-01	-0.271
		288.45		3.058E+11	1.377E+00	Half-Life	too short	

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		417.63		1.612E+11	1.377E+00	Half-Life	too short	
		546.56		6.137E+10	1.377E+00	Half-Life	too short	
		836.80		2.924E+11	1.377E+00	Half-Life	too short	
		1038.76		3.850E+09	1.377E+00	Half-Life	too short	
		1124.00		-1.306E+11	1.377E+00	Half-Life	too short	
		1131.51		-6.149E+10	1.377E+00	Half-Life	too short	
		1260.41	*	9.782E+09	1.377E+00	Half-Life	too short	
		1457.56		1.538E+13	1.377E+00	Half-Life	too short	
		1678.03		-1.777E+10	1.377E+00	Half-Life	too short	
		1706.46		8.886E+10	1.377E+00	Half-Life	too short	
		1791.20		5.407E+10	1.377E+00	Half-Life	too short	
	+	66.91		-1.748E-01	1.592E+00	2.305E+00	3.965E-01	-0.076
		86.29		4.431E+00	1.868E+00	2.903E+00	4.324E-01	1.526
		153.22		9.128E-01	8.862E-01	1.485E+00	1.185E-01	0.615
		163.89		9.663E-01	1.433E+00	2.372E+00	1.887E-01	0.407
		176.55		1.059E-01	5.075E-01	8.237E-01	6.041E-02	0.129
		273.65		-3.533E-01	9.579E-01	8.911E-01	6.787E-02	-0.396
		340.57		4.861E-01	1.844E-01	3.082E-01	2.079E-02	1.577
		818.51		-3.292E-02	8.674E-02	1.394E-01	1.011E-02	-0.236
		1048.07	*	1.480E-02	1.296E-01	2.147E-01	1.655E-02	0.069
		1235.34		9.775E-01	8.388E-01	1.462E+00	1.512E-01	0.669
CE-139		165.85	*	-2.399E-03	3.829E-02	6.162E-02	4.098E-03	-0.039
BA-140		162.64		-3.344E-01	1.049E+00	1.646E+00	1.202E-01	-0.203
		304.84		-8.555E-01	1.915E+00	2.666E+00	7.334E-01	-0.321
		423.70		5.595E-01	2.491E+00	4.139E+00	1.315E+00	0.135
LA-140	+	537.32	*	-8.853E-02	3.367E-01	5.347E-01	1.737E-01	-0.166
		328.77		3.815E-01	7.228E-01	6.928E-01	4.964E-02	0.551
		432.53		-1.668E+00	2.645E+00	4.164E+00	2.635E-01	-0.401
		487.03		3.300E-02	1.808E-01	2.952E-01	1.909E-02	0.112
		751.79		-2.161E+00	2.209E+00	3.412E+00	2.547E-01	-0.633
		815.85		-7.462E-02	3.791E-01	6.198E-01	5.182E-02	-0.120
		867.82		-1.054E+00	1.723E+00	2.412E+00	2.055E-01	-0.437
		919.63		1.063E+00	3.744E+00	5.899E+00	6.174E-01	0.180
		925.24		-3.595E-01	1.310E+00	2.105E+00	1.877E-01	-0.171
		1596.49	*	3.592E-02	1.200E-01	1.806E-01	1.259E-02	0.199
CE-141		145.44	*	-3.448E-02	8.230E-02	1.312E-01	9.159E-03	-0.263
CE-143		57.37		-1.765E-03	8.230E-02	Half-Life	too short	
		231.56		8.132E-04	8.230E-02	Half-Life	too short	
	+	293.26	*	2.250E-03	8.230E-02	Half-Life	too short	
	+	350.59		5.419E-02	8.230E-02	Half-Life	too short	
		490.36		-9.822E-05	8.230E-02	Half-Life	too short	
		664.57		3.226E-03	8.230E-02	Half-Life	too short	
		721.93		6.888E-04	8.230E-02	Half-Life	too short	
CE-144		80.11		1.413E+00	4.375E+00	4.693E+00	5.236E-01	0.301
		133.54	*	-9.923E-02	2.637E-01	4.218E-01	6.199E-02	-0.235
PM-144	+	476.78		2.441E-01	1.462E-01	1.570E-01	1.077E-02	1.555
		618.01		-3.783E-03	3.923E-02	6.281E-02	3.552E-03	-0.060
		696.49	*	-3.094E-02	3.962E-02	6.267E-02	3.438E-03	-0.494
		778.57		-2.046E+00	2.466E+00	3.811E+00	2.529E-01	-0.537



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		696.49	*	-2.098E+00	2.686E+00	4.249E+00	2.329E-01	-0.494
		1489.15		-1.185E+00	1.370E+01	2.255E+01	1.645E+00	-0.053
PM-146		453.90	*	6.811E-02	5.468E-02	9.576E-02	8.201E-03	0.711
		633.02		-6.107E-01	1.596E+00	2.462E+00	9.045E-01	-0.248
		735.90		-3.916E-02	1.687E-01	2.766E-01	7.724E-02	-0.142
		747.13		5.021E-02	1.073E-01	1.851E-01	2.348E-02	0.271
ND-147	+	91.11		1.616E+00	6.237E-01	7.940E-01	9.031E-02	2.035
		319.41		-1.307E+00	4.413E+00	7.234E+00	4.799E-01	-0.181
		439.89		5.203E-01	7.712E+00	1.271E+01	7.266E-01	0.041
		531.02	*	-5.352E-01	7.304E-01	1.118E+00	1.502E-01	-0.479
PM-149		285.90	*	2.284E+01	1.598E+02	2.620E+02	3.838E+01	0.087
EU-152		121.78		3.226E-02	8.951E-02	1.479E-01	1.290E-02	0.218
		244.69		2.237E-01	4.354E-01	6.577E-01	4.579E-02	0.340
		344.27	*	-1.115E-01	1.809E-01	1.896E-01	1.336E-02	-0.588
		443.98		-9.217E-01	1.158E+00	1.798E+00	1.028E-01	-0.513
		778.89		-2.232E-01	2.930E-01	4.570E-01	3.033E-02	-0.488
		867.32		-4.791E-01	9.781E-01	1.346E+00	1.080E-01	-0.356
	+	964.01		1.130E+00	4.627E-01	7.029E-01	5.668E-02	1.608
		1085.78		-3.462E-01	4.710E-01	7.147E-01	4.895E-02	-0.484
		1112.02		4.233E-01	4.269E-01	6.722E-01	4.388E-02	0.630
		1407.95		2.702E-01	2.077E-01	3.955E-01	2.950E-02	0.683
GD-153		69.67		-3.005E-01	2.971E+00	4.297E+00	4.851E-01	-0.070
	+	83.37		2.781E+01	2.046E+01	3.447E+01	3.888E+00	0.807
		97.43	*	1.553E-01	1.119E-01	1.710E-01	1.641E-02	0.908
		103.18		-1.760E-02	1.286E-01	2.095E-01	1.843E-02	-0.084
EU-154		123.07		1.469E-02	6.370E-02	1.047E-01	1.078E-02	0.140
		247.94		-5.017E-01	4.522E-01	6.964E-01	7.165E-02	-0.720
		591.81		3.447E-01	7.855E-01	1.308E+00	1.248E-01	0.264
		723.30		2.013E-02	2.335E-01	3.401E-01	2.420E-02	0.059
		756.87		2.662E-01	9.113E-01	1.554E+00	1.622E-01	0.171
		873.19		1.057E-01	3.207E-01	5.468E-01	6.505E-02	0.193
		996.32		-5.970E-01	4.461E-01	6.202E-01	1.078E-01	-0.963
		1004.76		-2.407E-01	2.569E-01	3.837E-01	4.213E-02	-0.628
		1274.45	*	-6.668E-02	1.495E-01	2.308E-01	2.315E-02	-0.289
EU-155		48.70		1.073E-01	8.029E+00	1.340E+01	1.724E+00	0.008
		60.01		1.483E+01	1.071E+01	1.649E+01	2.016E+00	0.899
	+	86.54		3.871E-01	1.591E-01	2.523E-01	2.910E-02	1.534
		105.31	*	2.828E-02	1.329E-01	2.192E-01	1.898E-02	0.129
TB-160	+	86.79		1.044E+00	4.288E-01	6.784E-01	7.790E-02	1.539
		197.04		4.056E-01	7.195E-01	1.180E+00	8.044E-02	0.344
		215.65		-1.250E-01	9.766E-01	1.551E+00	1.071E-01	-0.081
	+	298.57		4.344E-01	1.894E-01	2.724E-01	1.851E-02	1.595
		879.36	*	7.496E-02	1.642E-01	2.821E-01	2.319E-02	0.266
		962.29		1.619E+00	6.715E-01	1.269E+00	1.025E-01	1.276
		966.15		1.681E+00	3.445E-01	6.635E-01	5.339E-02	2.533
		1177.93		-1.071E-01	4.385E-01	6.978E-01	4.010E-02	-0.153
		1271.85		-3.192E-01	8.612E-01	1.340E+00	9.141E-02	-0.238
HO-166M		80.57		1.277E-01	5.542E-01	5.902E-01	6.592E-02	0.216
	+	184.41		2.668E-01	9.046E-02	9.094E-02	6.136E-03	2.934

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		2.298E-02	1.112E-01	1.641E-01	1.131E-02	0.140
		410.95		7.282E-02	3.147E-01	5.244E-01	2.988E-02	0.139
		711.68	*	-7.917E-02	6.591E-02	9.954E-02	5.658E-03	-0.795
		752.31		-2.081E-01	3.336E-01	5.314E-01	3.321E-02	-0.392
		810.29		-2.204E-02	6.567E-02	1.061E-01	7.546E-03	-0.208
		51.35		-9.539E+01	9.043E+01	1.401E+02	1.936E+01	-0.681
		52.39		-4.081E+01	4.431E+01	6.924E+01	9.552E+00	-0.589
		59.40		3.974E+01	5.950E+01	8.949E+01	1.101E+01	0.444
		66.72	*	-1.004E+01	5.496E+01	7.932E+01	9.122E+00	-0.127
		88.36		3.798E-01	4.346E-01	4.778E-01	5.482E-02	0.795
LU-176		201.83		-3.897E-02	3.746E-02	5.717E-02	3.911E-03	-0.682
		306.84	*	3.896E-04	3.261E-02	4.949E-02	3.334E-03	0.008
		401.10		3.448E+00	8.239E+00	1.389E+01	7.898E-01	0.248
LU-177		112.95		7.872E-01	2.402E+00	3.904E+00	3.056E-01	0.202
LU-177M	+	208.36	*	1.162E+00	1.812E+00	2.670E+00	1.834E-01	0.435
		52.97		6.279E-02	4.338E+00	7.087E+00	9.733E-01	0.009
	+	54.07		1.874E+00	2.107E+00	3.598E+00	4.877E-01	0.521
		61.30		3.263E+00	4.087E+00	5.142E+00	6.207E-01	0.635
HF-181		121.62		1.350E-01	4.598E-01	7.580E-01	5.461E-02	0.178
		147.16		-4.617E-01	8.267E-01	1.309E+00	8.859E-02	-0.353
		171.86		-4.206E-02	6.278E-01	1.009E+00	6.736E-02	-0.042
		218.09		-2.787E-01	1.099E+00	1.734E+00	1.198E-01	-0.161
	+	268.79		3.600E+00	1.817E+00	1.930E+00	1.338E-01	1.866
		319.02		3.673E-02	3.254E-01	5.446E-01	3.614E-02	0.067
		367.43		2.170E-01	1.085E+00	1.815E+00	1.099E-01	0.120
		413.65	*	-3.875E-01	2.281E-01	3.359E-01	1.915E-02	-1.154
		56.28		-6.376E-01	2.233E+00	3.545E+00	4.630E-01	-0.180
		57.53		-4.085E-01	1.254E+00	1.800E+00	2.295E-01	-0.227
W-181		65.20		-2.978E-01	1.917E+00	2.772E+00	3.227E-01	-0.107
		133.02		-6.994E-02	8.727E-02	1.374E-01	9.529E-03	-0.509
		136.25		3.640E-01	5.785E-01	9.614E-01	6.620E-02	0.379
		345.85		-2.941E-01	2.769E-01	3.642E-01	2.312E-02	-0.807
		482.03	*	-3.590E-02	6.310E-02	8.425E-02	4.796E-03	-0.426
TA-182		56.28		-2.463E-01	8.644E-01	1.372E+00	1.792E-01	-0.179
		57.53		-1.581E-01	4.858E-01	6.973E-01	8.893E-02	-0.227
		65.20	*	-1.144E-01	7.368E-01	1.066E+00	1.240E-01	-0.107
RE-183		67.75		-7.177E-02	2.270E-01	3.023E-01	3.451E-02	-0.237
		100.10		1.025E-01	2.240E-01	3.731E-01	3.432E-02	0.275
		152.43		7.595E-02	4.345E-01	7.077E-01	4.759E-02	0.107
		222.10		-8.572E-02	4.598E-01	7.275E-01	5.037E-02	-0.118
	+	1001.68		3.585E+00	2.388E+00	4.354E+00	3.368E-01	0.823
RE-183		1121.28		7.091E-01	3.060E-01	3.931E-01	2.520E-02	1.804
		1189.05		-1.957E-01	3.944E-01	6.140E-01	3.604E-02	-0.319
		1221.42	*	1.358E-01	2.482E-01	4.205E-01	2.622E-02	0.323
		1230.97		8.847E-02	6.024E-01	9.890E-01	6.274E-02	0.089
		57.98		-3.084E-01	4.851E-01	6.831E-01	8.637E-02	-0.452
		59.32		1.471E-01	2.469E-01	3.705E-01	4.566E-02	0.397
		67.20		1.027E-01	3.796E-01	5.589E-01	6.405E-02	0.184
		162.32	*	-5.884E-02	1.458E-01	2.278E-01	1.518E-02	-0.258

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		9.470E-01	1.477E+00	2.176E+00	1.496E-01	0.435
		291.72		1.316E+00	1.348E+00	2.075E+00	1.419E-01	0.634
		57.98		-1.130E+00	1.777E+00	2.502E+00	3.163E-01	-0.452
		59.32		5.382E-01	9.037E-01	1.356E+00	1.671E-01	0.397
		67.20		3.761E-01	1.390E+00	2.046E+00	2.345E-01	0.184
		161.27		1.029E-01	4.643E-01	7.440E-01	4.964E-02	0.138
		216.55		-3.218E-02	3.443E-01	5.477E-01	3.782E-02	-0.059
	*	252.85		1.122E-01	2.771E-01	4.735E-01	3.296E-02	0.237
		318.01		-2.323E-01	5.706E-01	9.303E-01	6.181E-02	-0.250
		792.07		1.760E+00	1.362E+00	2.205E+00	1.507E-01	0.798
OS-185		903.28		3.027E-01	1.271E+00	1.863E+00	1.584E-01	0.162
		920.93		6.344E-01	5.130E-01	9.333E-01	7.827E-02	0.680
	+	59.72		7.973E-01	6.454E-01	9.902E-01	1.214E-01	0.805
	+	61.14		3.580E-01	4.485E-01	5.671E-01	6.857E-02	0.631
		69.30		-4.866E-02	5.406E-01	7.825E-01	8.850E-02	-0.062
		592.07		1.713E+00	3.217E+00	5.393E+00	2.908E-01	0.318
	*	646.12		-2.268E-02	4.932E-02	7.620E-02	3.904E-03	-0.298
		717.42		2.282E-01	1.052E+00	1.789E+00	1.031E-01	0.128
		874.81		3.586E-01	7.120E-01	1.151E+00	9.372E-02	0.312
		880.27		2.664E-01	8.927E-01	1.516E+00	1.249E-01	0.176
RE-188	*	155.03		2.092E-01	2.222E-01	3.715E-01	2.492E-02	0.563
	+	477.96		1.124E+01	6.717E+00	7.254E+00	4.133E-01	1.549
W-188	+	633.10		-1.148E+00	3.235E+00	5.054E+00	2.626E-01	-0.227
	+	63.58		1.235E+02	1.548E+02	1.703E+02	2.011E+01	0.725
IR-192		227.08		1.196E+01	1.612E+01	2.790E+01	1.936E+00	0.429
	*	290.67		-5.122E+00	1.039E+01	1.458E+01	9.975E-01	-0.351
	+	295.96		1.073E+00	2.093E-01	3.286E-01	2.264E-02	3.266
		308.46		2.406E-02	1.164E-01	1.960E-01	1.329E-02	0.123
	*	316.51		4.784E-02	4.256E-02	7.459E-02	4.985E-03	0.641
		468.07		2.326E-02	9.798E-02	1.339E-01	8.846E-03	0.174
AU-195		604.41		3.649E-01	6.220E-01	9.159E-01	1.019E-01	0.398
		612.46		9.801E-01	9.330E-01	1.435E+00	1.033E-01	0.683
		65.12		-5.145E-02	3.414E-01	4.939E-01	5.752E-02	-0.104
		66.83		-2.550E-02	1.819E-01	2.631E-01	3.023E-02	-0.097
	+	75.70		2.041E+00	4.674E-01	6.233E-01	6.921E-02	3.274
	*	98.88		4.331E-01	3.029E-01	4.854E-01	4.549E-02	0.892
TL-200		129.76		6.360E+00	3.698E+00	6.336E+00	4.431E-01	1.004
	*	367.94		5.422E-04	3.698E+00	Half-Life	too short	
		579.30		1.854E-02	3.698E+00	Half-Life	too short	
		828.27		-4.659E-03	3.698E+00	Half-Life	too short	
TL-201		1205.75		3.072E-03	3.698E+00	Half-Life	too short	
		68.90		2.073E-01	1.183E+01	1.604E+01	1.819E+00	0.013
		70.82		-1.258E-01	5.994E+00	8.700E+00	9.768E-01	-0.014
		80.30		3.522E+00	1.306E+01	1.395E+01	1.557E+00	0.252
TL-202		135.34		-1.678E+00	4.063E+01	6.590E+01	4.546E+00	-0.025
	*	167.43		-3.809E-01	1.135E+01	1.827E+01	1.216E+00	-0.021
		68.90		1.559E-02	8.898E-01	1.206E+00	1.367E-01	0.013
		70.82		-9.434E-03	4.494E-01	6.523E-01	7.324E-02	-0.014
		80.30		2.641E-01	9.797E-01	1.047E+00	1.168E-01	0.252

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	1.939E-02	8.979E-02	1.493E-01	8.531E-03	0.130
		70.83		-3.912E-02	1.864E+00	2.705E+00	4.163E-01	-0.014
	+	72.87		2.959E+00	1.347E+00	1.802E+00	2.699E-01	1.642
	+	82.60		2.094E+00	1.556E+00	2.621E+00	4.070E-01	0.799
BI-207		279.20	*	5.291E-02	5.678E-02	8.745E-02	6.298E-03	0.605
	+	72.80		8.541E-01	3.794E-01	5.185E-01	5.783E-02	1.647
	+	74.97		5.059E-01	2.247E-01	3.529E-01	3.920E-02	1.434
	+	84.90		3.586E-01	2.638E-01	4.926E-01	5.597E-02	0.728
		569.67		1.998E-02	3.631E-02	6.113E-02	3.350E-03	0.327
		1063.62	*	-4.535E-02	6.687E-02	1.028E-01	7.307E-03	-0.441
TL-207		1770.23		-1.963E-02	4.912E-01	6.812E-01	4.219E-02	-0.029
		81.07		2.711E-01	4.320E-01	4.743E-01	5.305E-02	0.572
	+	83.78		2.364E-01	1.739E-01	2.946E-01	3.330E-02	0.803
		94.90		1.275E-01	3.306E-01	4.844E-01	4.857E-02	0.263
		122.32		4.848E-01	2.156E+00	3.544E+00	2.806E-01	0.137
		144.24		6.302E-01	8.819E-01	1.446E+00	1.164E-01	0.436
		154.21		6.874E-01	5.032E-01	8.513E-01	6.627E-02	0.808
	+	269.46		8.391E-01	4.237E-01	4.530E-01	3.240E-02	1.852
		323.87	*	6.834E-01	9.623E-01	1.448E+00	2.434E-01	0.472
	+	338.28		7.574E+00	2.354E+00	2.955E+00	3.220E-01	2.563
PO-209		445.03		-1.028E+00	2.707E+00	4.325E+00	4.420E-01	-0.238
		260.50		9.163E-01	1.110E+01	1.869E+01	1.299E+00	0.049
		262.80		-5.754E+00	3.489E+01	5.034E+01	3.498E+00	-0.114
		896.60	*	-4.195E+00	8.889E+00	1.410E+01	1.200E+00	-0.297
BI-210		46.50	*	-5.474E+00	1.375E+01	2.217E+01	2.303E+00	-0.247
PB-210		46.50	*	-5.474E+00	1.375E+01	2.217E+01	2.303E+00	-0.247
PO-210		46.50	*	-5.474E+00	1.374E+01	2.217E+01	2.130E+00	-0.247
PB-211		404.84	*	-1.544E+00	1.539E+00	1.833E+00	1.143E+00	-0.842
BI-212		427.08		4.970E-01	2.507E+00	4.138E+00	2.557E+00	0.120
		831.96		-1.224E+00	1.561E+00	2.088E+00	1.305E+00	-0.586
	+	727.18	*	9.636E-01	5.051E-01	7.537E-01	5.868E-02	1.278
		785.46		1.173E+00	2.169E+00	3.603E+00	2.426E-01	0.325
		1620.62		1.230E+00	1.089E+00	2.160E+00	1.486E-01	0.569
		81.07		2.711E-01	4.320E-01	4.743E-01	5.305E-02	0.572
PO-215	+	83.78		2.364E-01	1.739E-01	2.946E-01	3.330E-02	0.803
		94.90		1.275E-01	3.306E-01	4.844E-01	4.857E-02	0.263
		122.32		4.848E-01	2.156E+00	3.544E+00	2.806E-01	0.137
		144.24		6.302E-01	8.819E-01	1.446E+00	1.164E-01	0.436
		154.21		6.874E-01	5.032E-01	8.513E-01	6.627E-02	0.808
	+	269.46		8.391E-01	4.237E-01	4.530E-01	3.240E-02	1.852
		323.87	*	6.834E-01	9.623E-01	1.448E+00	2.434E-01	0.472
	+	338.28		7.574E+00	2.354E+00	2.955E+00	3.220E-01	2.563
		445.03		-1.028E+00	2.707E+00	4.325E+00	4.420E-01	-0.238
		271.23		5.740E-01	5.068E-01	5.601E-01	5.010E-02	1.025
RN-219		401.81	*	-9.449E-02	5.034E-01	8.201E-01	1.112E-01	-0.115
RN-220		549.76	*	9.470E+00	3.229E+01	5.346E+01	2.966E+00	0.177
RA-223		81.07		2.711E-01	4.320E-01	4.743E-01	5.305E-02	0.572
	+	83.78		2.364E-01	1.739E-01	2.946E-01	3.330E-02	0.803
		94.90		1.275E-01	3.306E-01	4.844E-01	4.857E-02	0.263

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		4.848E-01	2.156E+00	3.544E+00	2.806E-01	0.137
		144.24		6.302E-01	8.819E-01	1.446E+00	1.164E-01	0.436
		154.21		6.874E-01	5.032E-01	8.513E-01	6.627E-02	0.808
	+	269.46		8.391E-01	4.237E-01	4.530E-01	3.240E-02	1.852
		323.87	*	6.834E-01	9.623E-01	1.448E+00	2.434E-01	0.472
	+	338.28		7.574E+00	2.354E+00	2.955E+00	3.220E-01	2.563
		445.03		-1.028E+00	2.707E+00	4.325E+00	4.420E-01	-0.238
		79.80		9.182E-01	3.454E+00	3.683E+00	8.337E-01	0.249
		236.00		4.633E+00	6.656E-01	8.794E-01	9.791E-02	5.269
		256.20	*	-6.622E-02	4.506E-01	7.513E-01	1.088E-01	-0.088
		286.10		3.826E-01	1.924E+00	3.163E+00	3.837E-01	0.121
	+	299.80		5.477E+00	2.529E+00	3.527E+00	5.877E-01	1.553
TH-227		304.40		2.631E-01	2.567E+00	3.747E+00	6.611E-01	0.070
		334.20		1.933E+00	4.497E+00	4.612E+00	8.559E-01	0.419
		79.80		9.182E-01	3.454E+00	3.683E+00	8.434E-01	0.249
		94.00		1.079E+01	3.696E+00	4.687E+00	1.052E+00	2.301
		236.00		4.633E+00	6.201E-01	8.794E-01	8.650E-02	5.269
		256.20	*	-6.622E-02	4.507E-01	7.513E-01	1.302E-01	-0.088
TH-229		286.10		3.826E-01	1.961E+00	3.163E+00	3.171E+00	0.121
	+	299.80		5.477E+00	2.529E+00	3.527E+00	5.877E-01	1.553
		304.40		2.631E-01	2.567E+00	3.747E+00	6.611E-01	0.070
		334.20		1.933E+00	4.497E+00	4.612E+00	8.559E-01	0.419
	+	85.43		7.205E-01	2.959E-01	4.877E-01	5.557E-02	1.477
		88.47		1.840E-01	2.488E-01	2.715E-01	3.107E-02	0.678
PA-231		100.00		1.459E-01	2.309E-01	3.867E-01	3.562E-02	0.377
		193.63	*	3.306E-01	6.608E-01	1.046E+00	7.112E-02	0.316
		210.97		1.255E+00	1.114E+00	1.650E+00	1.135E-01	0.761
		283.67	*	-8.485E-01	1.984E+00	3.053E+00	4.357E-01	-0.278
TH-231		301.29		1.758E+00	8.423E-01	1.344E+00	1.482E-01	1.308
		81.07		2.711E-01	4.320E-01	4.743E-01	5.305E-02	0.572
	+	83.78		2.364E-01	1.739E-01	2.946E-01	3.330E-02	0.803
		94.90		1.275E-01	3.306E-01	4.844E-01	4.857E-02	0.263
U-231		122.32		4.848E-01	2.156E+00	3.544E+00	2.806E-01	0.137
		144.24		6.302E-01	8.819E-01	1.446E+00	1.164E-01	0.436
		154.21		6.874E-01	5.032E-01	8.513E-01	6.627E-02	0.808
	+	269.46		8.391E-01	4.237E-01	4.530E-01	3.240E-02	1.852
		323.87	*	6.834E-01	9.623E-01	1.448E+00	2.434E-01	0.472
	+	338.28		7.574E+00	2.354E+00	2.955E+00	3.220E-01	2.563
		445.03		-1.028E+00	2.707E+00	4.325E+00	4.420E-01	-0.238
	+	84.21		1.210E+01	8.903E+00	1.557E+01	1.763E+00	0.777
	+	92.29		1.364E+01	5.241E+00	6.389E+00	6.733E-01	2.135
		95.87	*	-1.380E+00	1.890E+00	2.613E+00	2.575E-01	-0.528
		108.00		-1.226E+00	3.055E+00	4.918E+00	4.069E-01	-0.249
	+	75.28		3.291E+01	8.616E+00	1.027E+01	1.732E+00	3.204
PA-233	+	86.59		6.290E+00	3.037E+00	4.097E+00	1.142E+00	1.535
	+	300.12		1.527E+00	6.910E-01	9.821E-01	1.364E-01	1.555
		311.98	*	-3.496E-02	7.821E-02	1.273E-01	8.920E-03	-0.275
		340.50		2.390E+00	1.005E+00	1.437E+00	3.324E-01	1.663
		398.62		4.344E-01	2.597E+00	4.317E+00	1.115E+00	0.101

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		1.091E+00	2.015E+00	3.400E+00	6.990E-01	0.321
		63.00		3.546E+00	4.465E+00	5.078E+00	8.896E-01	0.698
		94.67		2.238E-01	2.421E-01	3.609E-01	4.854E-02	0.620
		98.44		2.023E-01	1.706E-01	1.986E-01	1.110E-01	1.019
		99.86		3.754E-01	5.884E-01	9.856E-01	9.099E-02	0.381
		111.00		-3.049E-02	2.464E-01	3.943E-01	4.594E-02	-0.077
		131.20		-7.318E-02	1.388E-01	2.213E-01	1.542E-02	-0.331
		152.70		1.889E-01	4.152E-01	6.815E-01	1.102E-01	0.277
		186.00		9.604E+00	4.348E+00	3.291E+00	1.012E+00	2.918
		226.40		7.850E-02	5.023E-01	8.520E-01	1.037E-01	0.092
		227.20		4.242E-01	5.399E-01	9.360E-01	6.493E-02	0.453
		248.90		-8.833E-01	1.000E+00	1.583E+00	3.456E-01	-0.558
		293.70		6.690E+00	1.645E+00	2.023E+00	3.334E-01	3.307
		369.80		-5.216E-01	1.048E+00	1.674E+00	3.496E-01	-0.312
		568.70		-3.266E-02	1.206E+00	1.950E+00	1.069E-01	-0.017
		569.50		1.681E-01	3.232E-01	5.430E-01	2.976E-02	0.310
		574.00		-8.609E-01	1.886E+00	2.862E+00	1.564E-01	-0.301
		699.00		-3.900E-01	8.325E-01	1.346E+00	2.408E-01	-0.290
		706.10		6.037E-01	1.221E+00	2.068E+00	9.121E-01	0.292
		733.00		-3.242E-01	5.035E-01	6.663E-01	1.420E-01	-0.487
		742.81		-2.122E+00	2.161E+00	2.450E+00	1.640E+00	-0.866
		796.30		3.322E+00	1.969E+00	2.045E+00	5.431E-01	1.624
		805.60		3.709E-03	1.062E+00	1.767E+00	5.344E-01	0.002
		819.60		8.078E-02	1.399E+00	2.336E+00	8.817E-01	0.035
		826.30		-1.721E-01	9.053E-01	1.474E+00	6.562E-01	-0.117
		831.60		-6.945E-01	7.329E-01	1.071E+00	3.162E-01	-0.649
		876.40		-2.977E-01	1.055E+00	1.516E+00	1.558E+00	-0.196
		880.51		1.563E-01	3.134E-01	5.412E-01	4.460E-02	0.289
		883.24		3.366E-02	3.278E-01	5.463E-01	3.670E-01	0.062
		899.00		-5.914E-01	9.842E-01	1.482E+00	6.477E-01	-0.399
		925.00		-2.349E-01	1.297E+00	2.104E+00	1.759E-01	-0.112
		926.50		-2.744E-02	1.869E-01	3.039E-01	7.655E-02	-0.090
		946.00	*	1.434E-01	3.492E-01	5.949E-01	1.105E-01	0.241
		949.00		-1.300E-01	5.159E-01	8.312E-01	6.801E-02	-0.156
		980.50		-6.119E-01	9.337E-01	1.448E+00	1.148E-01	-0.423
		1394.10		-8.424E-02	1.174E+00	1.942E+00	1.261E+00	-0.043
PA-234M		766.42		9.826E+00	1.511E+01	2.436E+01	1.228E+01	0.403
		1001.03	*	7.568E+00	5.431E+00	9.805E+00	9.037E-01	0.772
U-235	+	89.95		2.254E+00	2.543E+00	2.702E+00	8.547E-01	0.834
		93.35		3.615E+00	1.691E+00	1.620E+00	4.633E-01	2.231
		105.00		5.736E-02	1.305E+00	2.139E+00	6.382E-01	0.027
		143.76	*	2.277E-01	2.744E-01	4.484E-01	7.482E-02	0.508
	+	163.35		-1.200E-01	6.190E-01	9.750E-01	1.782E-01	-0.123
		185.71		3.557E-01	1.206E-01	1.218E-01	8.225E-03	2.921
		205.31		5.239E-01	7.671E-01	1.105E+00	2.027E-01	0.474
NP-236		94.67		1.719E-01	1.831E-01	2.740E-01	2.759E-02	0.628
		98.44		1.530E-01	9.761E-02	1.501E-01	1.417E-02	1.019
		111.00		-2.306E-02	1.864E-01	2.983E-01	2.384E-02	-0.077
		160.31	*	1.777E-02	1.036E-01	1.658E-01	1.107E-02	0.107

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.638E-01	1.983E-01	3.339E-01	3.097E-02	0.490
		117.00	*	-1.619E-01	2.423E-01	3.849E-01	2.893E-02	-0.421
	+	209.75		7.394E-01	1.154E+00	1.724E+00	1.185E-01	0.429
		228.18		5.135E-02	2.833E-01	4.809E-01	3.337E-02	0.107
	+	277.60		3.614E-01	3.111E-01	3.861E-01	2.666E-02	0.936
AM-241		334.30		1.323E+00	2.549E+00	2.652E+00	1.719E-01	0.499
		59.54	*	3.953E-01	3.389E-01	5.185E-01	6.599E-02	0.762
		99.55		1.685E-01	2.040E-01	3.436E-01	3.187E-02	0.490
		103.76	*	4.221E-02	1.184E-01	1.964E-01	1.714E-02	0.215
		117.00		-1.666E-01	2.493E-01	3.960E-01	2.977E-02	-0.421
CM-243	+	209.75		7.289E-01	1.137E+00	1.699E+00	1.169E-01	0.429
		228.18		5.189E-02	2.863E-01	4.859E-01	3.372E-02	0.107
	+	277.60		3.644E-01	3.136E-01	3.893E-01	2.688E-02	0.936
		798.80		3.526E-02	1.580E-01	2.332E-01	1.617E-02	0.151
		1036.00		2.088E-01	3.605E-01	6.210E-01	4.596E-02	0.336
AM-246		1062.04		4.011E-02	2.865E-01	4.748E-01	3.382E-02	0.084
		1078.86	*	2.379E-01	1.753E-01	3.185E-01	2.208E-02	0.747
	+	278.00		1.499E+00	1.290E+00	1.603E+00	1.107E-01	0.935
		287.40		1.021E+00	1.704E+00	2.576E+00	1.767E-01	0.396
		402.60	*	-2.483E-02	4.571E-02	7.290E-02	4.146E-03	-0.341
CM-247		252.85		4.193E-01	1.035E+00	1.769E+00	1.232E-01	0.237
		333.44		-3.164E-02	3.502E-01	3.337E-01	2.166E-02	-0.095
		387.95	*	1.738E-02	4.903E-02	8.251E-02	4.731E-03	0.211
CF-249		176.60	*	3.423E-02	1.656E-01	2.688E-01	1.802E-02	0.127
		227.00		3.403E-01	4.779E-01	8.266E-01	5.734E-02	0.412
		285.00		4.061E-01	2.141E+00	3.611E+00	2.482E-01	0.112

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018260      *
* Acquisition date   : 27-JAN-2010 15:56:54 Detector SN#                   *
* Detector ID        : GAM15 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.38 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018260 Analyst initials: MXR1                 *
* Batch Number       : 942717 Sample Quantity : 1.3472E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
BE-7	1.177E+00	6.907E-01	6.420E-01	0.000E+00
K-40	3.393E+01	3.234E+00	6.148E-01	0.000E+00
CD-109	3.274E+00	1.318E+00	2.016E+00	0.000E+00
SN-126	3.213E-01	1.293E-01	1.925E-01	0.000E+00
CS-135	7.132E-01	3.545E-01	3.028E-01	0.000E+00
BA-137M	3.002E-01	9.511E-02	7.003E-02	0.000E+00
CS-137	3.174E-01	1.006E-01	7.403E-02	0.000E+00
TL-208	5.613E-01	9.704E-02	6.892E-02	0.000E+00
BI-211	4.031E+00	5.830E-01	4.094E-01	0.000E+00
PB-212	1.776E+00	1.962E-01	1.210E-01	0.000E+00
PO-212	1.776E+00	1.962E-01	1.210E-01	0.000E+00
BI-214	1.247E+00	1.937E-01	1.325E-01	0.000E+00
PB-214	1.402E+00	2.151E-01	1.427E-01	0.000E+00
PO-214	1.402E+00	2.151E-01	1.427E-01	0.000E+00
PO-216	1.776E+00	1.962E-01	1.210E-01	0.000E+00
PO-218	1.402E+00	2.151E-01	1.427E-01	0.000E+00
RA-224	4.555E+00	1.735E+00	1.376E+00	0.000E+00
RA-226	1.247E+00	1.937E-01	1.325E-01	0.000E+00
AC-228	1.838E+00	4.083E-01	2.425E-01	0.000E+00
RA-228	1.838E+00	4.083E-01	2.425E-01	0.000E+00
TH-228	1.805E+00	1.994E-01	1.229E-01	0.000E+00
TH-230	1.247E+00	1.936E-01	1.325E-01	0.000E+00
TH-232	1.838E+00	4.083E-01	2.425E-01	0.000E+00
TH-234	3.042E+00	3.764E+00	4.282E+00	0.000E+00
U-234	1.247E+00	1.936E-01	1.325E-01	0.000E+00
NP-237	9.435E-01	4.250E-01	5.765E-01	0.000E+00
U-238	3.042E+00	3.764E+00	4.282E+00	0.000E+00
AM-243	2.818E-01	1.227E-01	1.374E-01	0.000E+00
ANH-511	1.419E-01	7.681E-02	5.828E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line	Activity	K.L. Act error	MDA
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Nuclide	(pCi/GRAM	) Ided	(pCi/GRAM	)	
NA-22	-2.388E-02	5.246E-02	8.307E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.572E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.089E-02	2.626E-02	3.478E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.331E-02	9.956E-02	0.000E+00	NOT IDENT.
SC-46	-2.613E-02	4.707E-02	7.662E-02	0.000E+00	FAIL ABUN
V-48	4.148E-02	8.821E-02	1.553E-01	0.000E+00	NOT IDENT.
CR-51	-8.304E-02	4.859E-01	8.206E-01	0.000E+00	NOT IDENT.
MN-52	1.641E-01	2.734E-01	5.030E-01	0.000E+00	NOT IDENT.
MN-54	2.149E-02	4.286E-02	7.623E-02	0.000E+00	NOT IDENT.
CO-56	-4.024E-03	4.550E-02	7.746E-02	0.000E+00	NOT IDENT.
CO-57	4.486E-03	3.074E-02	5.387E-02	0.000E+00	NOT IDENT.
CO-58	-6.938E-03	4.325E-02	7.340E-02	0.000E+00	NOT IDENT.
FE-59	8.891E-02	1.095E-01	1.965E-01	0.000E+00	NOT IDENT.
CO-60	2.792E-03	4.529E-02	7.544E-02	0.000E+00	NOT IDENT.
ZN-65	-7.090E-02	1.267E-01	1.693E-01	0.000E+00	NOT IDENT.
GE-68	1.240E+00	1.490E+00	2.681E+00	0.000E+00	NOT IDENT.
AS-73	1.120E+00	2.114E+00	3.806E+00	0.000E+00	NOT IDENT.
AS-74	4.340E-02	1.176E-01	2.026E-01	0.000E+00	NOT IDENT.
SE-75	-4.869E-02	5.767E-02	8.347E-02	0.000E+00	NOT IDENT.
BR-77	-8.472E+00	1.705E+01	2.791E+01	0.000E+00	FAIL ABUN
SR-82	-4.177E-01	4.292E-01	6.810E-01	0.000E+00	NOT IDENT.
RB-83	-3.488E-02	8.297E-02	1.366E-01	0.000E+00	NOT IDENT.
RB-84	6.241E-02	7.909E-02	1.439E-01	0.000E+00	NOT IDENT.
KR-85	1.334E+01	9.714E+00	1.587E+01	0.000E+00	NOT IDENT.
SR-85	6.914E-02	5.035E-02	8.229E-02	0.000E+00	NOT IDENT.
RB-86	4.771E-01	1.011E+00	1.769E+00	0.000E+00	NOT IDENT.
Y-88	4.530E-02	3.510E-02	7.201E-02	0.000E+00	NOT IDENT.
ZR-88	-2.653E-02	3.764E-02	6.238E-02	0.000E+00	NOT IDENT.
Y-91	8.690E+00	2.436E+01	4.174E+01	0.000E+00	NOT IDENT.
NB-94	3.145E-02	3.907E-02	7.134E-02	0.000E+00	NOT IDENT.
NB-95	6.502E-02	5.049E-02	9.413E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.627E-01	4.390E-01	0.000E+00	NOT IDENT.
ZR-95	5.725E-03	8.333E-02	1.448E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.829E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.766E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.454E+01	1.650E+01	3.023E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	9.391E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.214E-02	4.066E-02	6.997E-02	0.000E+00	NOT IDENT.
RH-102	5.220E-02	4.119E-02	6.729E-02	0.000E+00	NOT IDENT.
RU-103	-7.917E-02	4.975E-02	7.336E-02	0.000E+00	NOT IDENT.
RH-106	-2.671E-01	3.997E-01	6.347E-01	0.000E+00	NOT IDENT.
RU-106	-2.671E-01	3.988E-01	6.347E-01	0.000E+00	NOT IDENT.
AG-108M	1.761E-02	3.894E-02	6.867E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	4.795E-02	8.629E-02	0.000E+00	NOT IDENT.
IN-111	8.917E-01	1.786E+00	2.847E+00	0.000E+00	NOT IDENT.
IN-113M	-5.438E-02	5.462E-02	8.887E-02	0.000E+00	NOT IDENT.
SN-113	-5.438E-02	5.462E-02	8.887E-02	0.000E+00	NOT IDENT.
IN-114M	-9.703E-02	2.569E-01	3.731E-01	0.000E+00	NOT IDENT.
CD-115	1.634E+00	1.708E+01	2.914E+01	0.000E+00	NOT IDENT.
SN-117M	-3.607E-02	7.473E-02	1.241E-01	0.000E+00	NOT IDENT.
SB-122	1.958E+00	3.283E+00	5.757E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.777E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-8.674E-03	3.660E-02	6.137E-02	0.000E+00	NOT IDENT.
I-124	-6.424E-01	1.074E+00	1.455E+00	0.000E+00	NOT IDENT.
SB-124	2.158E-02	7.327E-02	1.303E-01	0.000E+00	FAIL ABUN
SB-125	-1.871E-02	1.103E-01	1.876E-01	0.000E+00	FAIL ABUN
TE-125M	9.334E-01	1.172E+01	2.059E+01	0.000E+00	NOT IDENT.
I-126	1.518E-01	2.529E-01	3.869E-01	0.000E+00	NOT IDENT.
SB-126	1.341E-01	1.971E-01	3.152E-01	0.000E+00	FAIL ABUN
SB-127	7.884E-02	1.782E+00	3.112E+00	0.000E+00	FAIL ABUN
XE-127	-3.147E-02	6.075E-02	1.008E-01	0.000E+00	NOT IDENT.
I-131	1.228E-02	1.500E-01	2.615E-01	0.000E+00	NOT IDENT.
TE-132	2.136E-01	1.062E+00	1.907E+00	0.000E+00	NOT IDENT.
BA-133	1.932E-02	5.707E-02	8.832E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.613E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.963E-02	1.100E-01	0.000E+00	FAIL ABUN
I-135	0.000E+00	9.780E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.480E-02	1.270E-01	2.165E-01	0.000E+00	FAIL ABUN
CE-139	-2.399E-03	3.752E-02	6.424E-02	0.000E+00	NOT IDENT.
BA-140	-8.853E-02	3.299E-01	5.459E-01	0.000E+00	NOT IDENT.
LA-140	3.592E-02	1.176E-01	1.807E-01	0.000E+00	FAIL ABUN
CE-141	-3.448E-02	8.066E-02	1.371E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.392E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-9.923E-02	2.584E-01	4.414E-01	0.000E+00	NOT IDENT.
PM-144	-3.094E-02	3.882E-02	6.368E-02	0.000E+00	FAIL ABUN
PR-144	-2.098E+00	2.632E+00	4.318E+00	0.000E+00	NOT IDENT.

PM-146	6.811E-02	5.358E-02	9.806E-02	0.000E+00	NOT IDENT.
ND-147	-5.352E-01	7.158E-01	1.142E+00	0.000E+00	FAIL ABUN
PM-149	2.284E+01	1.566E+02	2.705E+02	0.000E+00	NOT IDENT.
EU-152	-1.115E-01	1.773E-01	1.952E-01	0.000E+00	FAIL ABUN
GD-153	1.553E-01	1.097E-01	1.799E-01	0.000E+00	FAIL ABUN
EU-154	-6.668E-02	1.465E-01	2.319E-01	0.000E+00	NOT IDENT.
EU-155	2.828E-02	1.302E-01	2.303E-01	0.000E+00	FAIL ABUN
TB-160	7.496E-02	1.609E-01	2.854E-01	0.000E+00	FAIL ABUN
HO-166M	-7.917E-02	6.460E-02	1.011E-01	0.000E+00	FAIL ABUN
TM-171	-1.004E+01	5.386E+01	8.400E+01	0.000E+00	NOT IDENT.
LU-176	3.896E-04	3.196E-02	5.104E-02	0.000E+00	NOT IDENT.
LU-177	1.162E+00	1.776E+00	2.772E+00	0.000E+00	FAIL ABUN
LU-177M	-3.875E-01	2.235E-01	3.446E-01	0.000E+00	FAIL ABUN
HF-181	-3.590E-02	6.184E-02	8.619E-02	0.000E+00	NOT IDENT.
W-181	-1.144E-01	7.221E-01	1.129E+00	0.000E+00	NOT IDENT.
TA-182	1.358E-01	2.433E-01	4.229E-01	0.000E+00	FAIL ABUN
RE-183	-5.884E-02	1.428E-01	2.375E-01	0.000E+00	FAIL ABUN
RE-184	1.122E-01	2.715E-01	4.900E-01	0.000E+00	NOT IDENT.
OS-185	-2.268E-02	4.834E-02	7.754E-02	0.000E+00	FAIL ABUN
RE-188	2.092E-01	2.178E-01	3.877E-01	0.000E+00	FAIL ABUN
W-188	-5.122E+00	1.018E+01	1.505E+01	0.000E+00	FAIL ABUN
IR-192	4.784E-02	4.171E-02	7.688E-02	0.000E+00	FAIL ABUN
AU-195	4.331E-01	2.968E-01	5.106E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.042E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.809E-01	1.112E+01	1.905E+01	0.000E+00	NOT IDENT.
TL-202	1.939E-02	8.799E-02	1.530E-01	0.000E+00	NOT IDENT.
HG-203	5.291E-02	5.565E-02	9.033E-02	0.000E+00	FAIL ABUN
BI-207	-4.535E-02	6.553E-02	1.037E-01	0.000E+00	FAIL ABUN
TL-207	6.834E-01	9.431E-01	1.492E+00	0.000E+00	FAIL ABUN
PO-209	-4.195E+00	8.712E+00	1.426E+01	0.000E+00	NOT IDENT.
BI-210	-5.474E+00	1.347E+01	2.363E+01	0.000E+00	NOT IDENT.
PB-210	-5.474E+00	1.347E+01	2.363E+01	0.000E+00	NOT IDENT.
PO-210	-5.474E+00	1.347E+01	2.363E+01	0.000E+00	NOT IDENT.
PB-211	-1.544E+00	1.508E+00	1.881E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.950E-01	7.652E-01	0.000E+00	FAIL ABUN
PO-215	6.834E-01	9.431E-01	1.492E+00	0.000E+00	FAIL ABUN
RN-219	-9.449E-02	4.933E-01	8.417E-01	0.000E+00	NOT IDENT.
RN-220	9.470E+00	3.164E+01	5.456E+01	0.000E+00	NOT IDENT.
RA-223	6.834E-01	9.431E-01	1.492E+00	0.000E+00	FAIL ABUN
AC-227	-6.622E-02	4.416E-01	7.773E-01	0.000E+00	FAIL ABUN
TH-227	-6.622E-02	4.417E-01	7.773E-01	0.000E+00	FAIL ABUN
TH-229	3.306E-01	6.476E-01	1.088E+00	0.000E+00	FAIL ABUN
PA-231	-8.485E-01	1.944E+00	3.153E+00	0.000E+00	NOT IDENT.
TH-231	6.834E-01	9.431E-01	1.492E+00	0.000E+00	FAIL ABUN
U-231	-1.380E+00	1.852E+00	2.750E+00	0.000E+00	FAIL ABUN
PA-233	-3.496E-02	7.664E-02	1.312E-01	0.000E+00	FAIL ABUN
PA-234	1.434E-01	3.422E-01	6.010E-01	0.000E+00	FAIL ABUN
PA-234M	7.568E+00	5.323E+00	9.895E+00	0.000E+00	NOT IDENT.
U-235	2.277E-01	2.689E-01	4.687E-01	0.000E+00	FAIL ABUN
NP-236	1.777E-02	1.016E-01	1.730E-01	0.000E+00	NOT IDENT.
NP-239	-1.619E-01	2.375E-01	4.037E-01	0.000E+00	FAIL ABUN
AM-241	3.953E-01	3.321E-01	5.502E-01	0.000E+00	NOT IDENT.
CM-243	4.221E-02	1.160E-01	2.064E-01	0.000E+00	FAIL ABUN
AM-246	2.379E-01	1.718E-01	3.210E-01	0.000E+00	NOT IDENT.
CM-247	-2.483E-02	4.480E-02	7.482E-02	0.000E+00	FAIL ABUN
CF-249	1.738E-02	4.805E-02	8.474E-02	0.000E+00	NOT IDENT.
CF-251	3.423E-02	1.623E-01	2.799E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018260.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 15:56:54
Sample ID          : G1202018260          Sample quantity  : 1.34720E+02 GRAM
Detector name      : GAM15                Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00        Elapsed real time: 0 02:00:01.38  0.0%
Energy tolerance    : 1.50000 keV          Analyst Initials : MXR1
Abundance limit     : 75.00000             Sensitivity        : 5.00000
Batch ID           : 942717                Detector SN#       :
Matrix Spike ID     :                      LCS ID          : 1032-A
*****

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## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BE-7	477.59	92	10.42*	2.585E+00	9.538E-01	1.177E+00	59.88
K-40	1460.81	1298	10.67*	9.990E-01	3.393E+01	3.393E+01	9.73
CD-109	88.03	188	3.72*	4.400E+00	3.196E+00	3.274E+00	41.07
SN-126	64.28	----	9.60	1.930E+00	-----	Line Not Found	-----
	86.94	188	8.90	4.400E+00	1.336E+00	1.336E+00	57.65
	87.57	188	37.00*	4.400E+00	3.213E-01	3.213E-01	41.07
CS-135	268.24	158	16.00*	3.865E+00	7.132E-01	7.132E-01	50.71
BA-137M	661.65	196	89.98*	2.019E+00	2.999E-01	3.002E-01	32.32
CS-137	661.65	196	85.12*	2.019E+00	3.170E-01	3.174E-01	32.33
TL-208	277.35	69	6.80	3.786E+00	7.493E-01	7.493E-01	86.53
	510.84	125	21.60	2.462E+00	6.570E-01	6.570E-01	55.85
	583.14	378	84.20*	2.230E+00	5.613E-01	5.613E-01	17.64
	860.37	56	12.46	1.613E+00	7.747E-01	7.747E-01	52.52
BI-211	72.87	209	1.27	3.130E+00	1.465E+01	1.465E+01	44.42
	351.07	600	12.94*	3.206E+00	4.031E+00	4.031E+00	14.76
PB-212	74.81	209	10.70	3.130E+00	1.738E+00	1.738E+00	45.39
	77.11	508	18.00	3.412E+00	2.303E+00	2.303E+00	22.90
	87.30	188	8.00	4.400E+00	1.486E+00	1.486E+00	42.27
	238.63	1200	44.60*	4.220E+00	1.776E+00	1.776E+00	11.27
	300.09	130	3.41	3.588E+00	2.955E+00	2.955E+00	44.00
PO-212	74.81	209	10.70	3.130E+00	1.738E+00	1.738E+00	45.39
	77.11	508	18.00	3.412E+00	2.303E+00	2.303E+00	22.90
	87.30	188	8.00	4.400E+00	1.486E+00	1.486E+00	42.27
	115.19	-----	0.60	5.666E+00	-----	Line Not Found	-----
	238.63	1200	44.60*	4.220E+00	1.776E+00	1.776E+00	11.27
	300.09	130	3.41	3.588E+00	2.955E+00	2.955E+00	44.00
BI-214	609.31	447	46.30*	2.156E+00	1.247E+00	1.247E+00	15.85
	1120.29	102	15.10	1.263E+00	1.490E+00	1.490E+00	43.66
	1764.49	85	15.80	8.816E-01	1.705E+00	1.705E+00	27.25
PB-214	74.81	209	6.21	3.130E+00	2.995E+00	2.995E+00	45.03
	77.11	508	10.50	3.412E+00	3.949E+00	3.949E+00	24.13
	87.30	188	4.67	4.400E+00	2.546E+00	2.546E+00	41.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	270	7.49	4.186E+00	2.402E+00	2.402E+00	39.26
	295.21	349	19.20	3.629E+00	1.394E+00	1.394E+00	20.46
	351.92	600	37.20*	3.206E+00	1.402E+00	1.402E+00	15.65
	74.81	209	6.21	3.130E+00	2.995E+00	2.995E+00	45.03
	77.11	508	10.50	3.412E+00	3.949E+00	3.949E+00	24.13
	87.30	188	4.67	4.400E+00	2.546E+00	2.546E+00	41.79
PO-216	241.98	270	7.49	4.186E+00	2.402E+00	2.402E+00	39.26
	295.21	349	19.20	3.629E+00	1.394E+00	1.394E+00	20.46
	351.92	600	37.20*	3.206E+00	1.402E+00	1.402E+00	15.65
	74.81	209	10.70	3.130E+00	1.738E+00	1.738E+00	45.39
	77.11	508	18.00	3.412E+00	2.303E+00	2.303E+00	22.90
	87.30	188	8.00	4.400E+00	1.486E+00	1.486E+00	42.27
PO-218	238.63	1200	44.60*	4.220E+00	1.776E+00	1.776E+00	11.27
	300.09	130	3.41	3.588E+00	2.955E+00	2.955E+00	44.00
	74.81	209	6.21	3.130E+00	2.995E+00	2.995E+00	45.03
	77.11	508	10.50	3.412E+00	3.949E+00	3.949E+00	24.13
	87.30	188	4.67	4.400E+00	2.546E+00	2.546E+00	41.79
	241.98	270	7.49	4.186E+00	2.402E+00	2.402E+00	39.26
RA-224	295.21	349	19.20	3.629E+00	1.394E+00	1.394E+00	20.46
	351.92	600	37.20*	3.206E+00	1.402E+00	1.402E+00	15.65
RA-226	240.98	270	3.95*	4.186E+00	4.555E+00	4.555E+00	38.86
AC-228	609.31	447	46.30*	2.156E+00	1.247E+00	1.247E+00	15.85
	1120.29	102	15.10	1.263E+00	1.490E+00	1.490E+00	43.66
	1764.49	85	15.80	8.816E-01	1.705E+00	1.705E+00	27.25
RA-228	338.32	245	11.40	3.296E+00	1.814E+00	1.814E+00	50.17
	911.07	280	27.70*	1.532E+00	1.838E+00	1.838E+00	22.67
	969.11	167	16.60	1.447E+00	1.933E+00	1.933E+00	30.35
TH-228	338.32	245	11.40	3.296E+00	1.814E+00	1.814E+00	50.17
	911.07	280	27.70*	1.532E+00	1.838E+00	1.838E+00	22.67
	969.11	167	16.60	1.447E+00	1.933E+00	1.933E+00	30.35
TH-230	74.81	209	10.70	3.130E+00	1.738E+00	1.767E+00	44.44
	77.11	508	18.00	3.412E+00	2.303E+00	2.341E+00	22.90
	87.30	188	8.00	4.400E+00	1.486E+00	1.510E+00	41.07
TH-232	238.63	1200	44.60*	4.220E+00	1.776E+00	1.805E+00	11.27
	300.09	130	3.41	3.588E+00	2.955E+00	3.003E+00	73.08
	609.31	447	46.30*	2.156E+00	1.247E+00	1.247E+00	15.85
TH-234	1120.29	102	15.10	1.263E+00	1.490E+00	1.490E+00	43.66
	1764.49	85	15.80	8.816E-01	1.705E+00	1.705E+00	27.25
	338.32	245	11.40	3.296E+00	1.814E+00	1.814E+00	29.81
U-234	911.07	280	27.70*	1.532E+00	1.838E+00	1.838E+00	22.67
	969.11	167	16.60	1.447E+00	1.933E+00	1.933E+00	30.35
	63.29	71	3.80*	1.713E+00	3.042E+00	3.042E+00	126.26
NP-237	92.38	282	5.41	4.836E+00	3.007E+00	3.007E+00	41.59
	609.31	447	46.30*	2.156E+00	1.247E+00	1.247E+00	15.85
	1120.29	102	15.10	1.263E+00	1.490E+00	1.490E+00	43.66
U-238	1764.49	85	15.80	8.816E-01	1.705E+00	1.705E+00	27.25
	86.50	188	12.60*	4.400E+00	9.435E-01	9.435E-01	45.96
	95.87	-----	2.60	5.041E+00	-----	Line Not Found	-----
	63.29	71	3.80*	1.713E+00	3.042E+00	3.042E+00	126.26

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	92.38	282	5.41	4.836E+00	3.007E+00	3.007E+00	38.43
	74.67	209	66.00*	3.130E+00	2.818E-01	2.818E-01	44.42
	86.72	188	0.34	4.400E+00	3.538E+01	3.538E+01	41.07
	117.66	-----	0.55	5.694E+00	-----	Line Not Found	-----
ANH-511	142.18	-----	0.13	5.637E+00	-----	Line Not Found	-----
	511.00	125	100.00*	2.462E+00	1.419E-01	1.419E-01	55.23

Flag: "\*" = Keyline

Total number of lines in spectrum 35  
Number of unidentified lines 3  
Number of lines tentatively identified by NID 32 91.43%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BE-7	53.44D	1.23	9.538E-01	1.177E+00	0.705E+00	59.88	
K-40	1.28E+09Y	1.00	3.393E+01	3.393E+01	0.330E+01	9.73	
CD-109	464.00D	1.02	3.196E+00	3.274E+00	1.345E+00	41.07	
SN-126	1.00E+05Y	1.00	3.213E-01	3.213E-01	1.320E-01	41.07	
CS-135	2.30E+06Y	1.00	7.132E-01	7.132E-01	3.617E-01	50.71	
BA-137M	30.17Y	1.00	2.999E-01	3.002E-01	0.970E-01	32.32	
CS-137	30.17Y	1.00	3.170E-01	3.174E-01	1.026E-01	32.33	
TL-208	1.41E+10Y	1.00	5.613E-01	5.613E-01	0.990E-01	17.64	
BI-211	7.04E+08Y	1.00	4.031E+00	4.031E+00	0.595E+00	14.76	
PB-212	1.41E+10Y	1.00	1.776E+00	1.776E+00	0.200E+00	11.27	
PO-212	1.41E+10Y	1.00	1.776E+00	1.776E+00	0.200E+00	11.27	
BI-214	1600.00Y	1.00	1.247E+00	1.247E+00	0.198E+00	15.85	
PB-214	1600.00Y	1.00	1.402E+00	1.402E+00	0.219E+00	15.65	
PO-214	1600.00Y	1.00	1.402E+00	1.402E+00	0.219E+00	15.65	
PO-216	1.41E+10Y	1.00	1.776E+00	1.776E+00	0.200E+00	11.27	
PO-218	1600.00Y	1.00	1.402E+00	1.402E+00	0.219E+00	15.65	
RA-224	1.41E+10Y	1.00	4.555E+00	4.555E+00	1.770E+00	38.86	
RA-226	1600.00Y	1.00	1.247E+00	1.247E+00	0.198E+00	15.85	
AC-228	1.41E+10Y	1.00	1.838E+00	1.838E+00	0.417E+00	22.67	
RA-228	1.41E+10Y	1.00	1.838E+00	1.838E+00	0.417E+00	22.67	
TH-228	1.91Y	1.02	1.776E+00	1.805E+00	0.203E+00	11.27	
TH-230	4.47E+09Y	1.00	1.247E+00	1.247E+00	0.198E+00	15.85	
TH-232	1.41E+10Y	1.00	1.838E+00	1.838E+00	0.417E+00	22.67	
TH-234	4.47E+09Y	1.00	3.042E+00	3.042E+00	3.840E+00	126.26	
U-234	4.47E+09Y	1.00	1.247E+00	1.247E+00	0.198E+00	15.85	
NP-237	2.14E+06Y	1.00	9.435E-01	9.435E-01	4.336E-01	45.96	
U-238	4.47E+09Y	1.00	3.042E+00	3.042E+00	3.840E+00	126.26	
AM-243	7380.00Y	1.00	2.818E-01	2.818E-01	1.252E-01	44.42	
ANH-511	1.00E+09Y	1.00	1.419E-01	1.419E-01	0.784E-01	55.23	
Total Activity :			7.814E+01	7.847E+01			

Grand Total Activity : 7.814E+01 7.847E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	83.73	87	336	1.35	167.93	165	13	1.21E-02	72.7	4.15E+00	T
0	185.34	344	527	1.57	371.06	363	17	4.77E-02	33.2	4.98E+00	T
0	208.74	40	306	1.32	417.85	415	8	5.52E-03	****	4.62E+00	T
0	328.43	39	285	0.76	657.14	650	14	5.44E-03	****	3.36E+00	T
0	462.79	76	115	1.63	925.74	921	10	1.06E-02	57.7	2.64E+00	T
0	726.88	76	72	1.05	1453.76	1447	12	1.06E-02	51.8	1.87E+00	T
0	795.44	80	70	2.35	1590.83	1582	16	1.12E-02	53.0	1.73E+00	T
2	964.10	85	49	2.40	1928.08	1919	23	1.18E-02	40.1	1.45E+00	T
0	1559.51	8	7	0.62	3118.74	3113	9	1.12E-03	****	9.51E-01	
0	1590.53	48	16	6.33	3180.77	3171	21	6.65E-03	50.6	9.38E-01	
0	1847.84	13	4	1.02	3695.39	3691	8	1.85E-03	75.2	8.64E-01	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018260.CNF;1
* Acquisition date   : 27-JAN-2010 15:56:54   Detector SN#      :
* Detector ID        : GAM15                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.38          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G1202018260           Analyst initials: MXR1
* Batch Number       : 942717                Sample Quantity  : 1.34720E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12.9MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.177E+00	7.048E-01	6.275E-01	4.182E-02	1.876
K-40	3.393E+01	3.300E+00	6.135E-01	4.689E-02	55.306
CD-109	3.274E+00	1.345E+00	1.912E+00	2.211E-01	1.712
SN-126	3.213E-01	1.320E-01	1.826E-01	2.107E-02	1.759
CS-135	7.132E-01	3.617E-01	2.929E-01	2.504E-02	2.435
BA-137M	3.002E-01	9.705E-02	6.886E-02	3.464E-03	4.360
CS-137	3.174E-01	1.026E-01	7.279E-02	3.683E-03	4.360
TL-208	5.613E-01	9.902E-02	6.761E-02	4.305E-03	8.302
BI-211	4.031E+00	5.949E-01	3.979E-01	2.734E-02	10.131
PB-212	1.776E+00	2.002E-01	1.168E-01	9.667E-03	15.208
PO-212	1.776E+00	2.002E-01	1.168E-01	9.667E-03	15.208
BI-214	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584
PB-214	1.402E+00	2.195E-01	1.387E-01	1.195E-02	10.111
PO-214	1.402E+00	2.195E-01	1.387E-01	1.195E-02	10.111
PO-216	1.776E+00	2.002E-01	1.168E-01	9.667E-03	15.208
PO-218	1.402E+00	2.195E-01	1.387E-01	1.195E-02	10.111
RA-224	4.555E+00	1.770E+00	1.329E+00	9.248E-02	3.428
RA-226	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584



---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.838E+00	4.166E-01	2.399E-01	2.667E-02	7.662
RA-228	1.838E+00	4.166E-01	2.399E-01	2.667E-02	7.662
TH-228	1.805E+00	2.035E-01	1.187E-01	9.824E-03	15.208
TH-230	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584
TH-232	1.838E+00	4.166E-01	2.399E-01	2.667E-02	7.662
TH-234	3.042E+00	3.840E+00	4.040E+00	7.974E-01	0.753
U-234	1.247E+00	1.976E-01	1.301E-01	9.660E-03	9.584
NP-237	9.435E-01	4.336E-01	5.468E-01	1.291E-01	1.725
U-238	3.042E+00	3.840E+00	4.040E+00	7.974E-01	0.753
AM-243	2.818E-01	1.252E-01	1.300E-01	1.444E-02	2.168
ANH-511	1.419E-01	7.838E-02	5.704E-02	3.221E-03	2.488

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	-2.388E-02		5.353E-02	8.268E-02	5.674E-03	-0.289
NA-24	1.400E+00		1.312E+00	Half-Life too short		
AL-26	-2.089E-02		2.679E-02	3.484E-02	2.085E-03	-0.600
TI-44	1.754E-01		6.460E-02	9.427E-02	1.048E-02	1.861
SC-46	-2.613E-02		4.803E-02	7.575E-02	6.354E-03	-0.345
V-48	4.148E-02		9.001E-02	1.539E-01	1.215E-02	0.270
CR-51	-8.304E-02		4.958E-01	7.963E-01	5.743E-02	-0.104
MN-52	1.641E-01		2.789E-01	5.018E-01	3.720E-02	0.327
MN-54	2.149E-02		4.373E-02	7.527E-02	5.642E-03	0.286
CO-56	-4.024E-03		4.643E-02	7.651E-02	5.881E-03	-0.053
CO-57	4.486E-03		3.136E-02	5.140E-02	3.695E-03	0.087
CO-58	-6.938E-03		4.413E-02	7.244E-02	5.175E-03	-0.096
FE-59	8.891E-02		1.118E-01	1.950E-01	1.476E-02	0.456
CO-60	2.792E-03		4.621E-02	7.515E-02	5.672E-03	0.037
ZN-65	-7.090E-02		1.293E-01	1.681E-01	1.092E-02	-0.422
GE-68	1.240E+00		1.520E+00	2.660E+00	1.848E-01	0.466
AS-73	1.120E+00		2.157E+00	3.581E+00	4.894E-01	0.313
AS-74	4.340E-02		1.200E-01	1.988E-01	1.069E-02	0.218
SE-75	-4.869E-02		5.884E-02	8.073E-02	5.646E-03	-0.603
BR-77	-8.472E+00		1.739E+01	2.732E+01	1.537E+00	-0.310
SR-82	-4.177E-01		4.380E-01	6.716E-01	4.433E-02	-0.622
RB-83	-3.488E-02		8.466E-02	1.337E-01	7.523E-03	-0.261
RB-84	6.241E-02		8.070E-02	1.422E-01	1.174E-02	0.439
KR-85	1.334E+01		9.912E+00	1.554E+01	8.764E-01	0.858
SR-85	6.914E-02		5.138E-02	8.054E-02	4.543E-03	0.858
RB-86	4.771E-01		1.032E+00	1.755E+00	1.221E-01	0.272
Y-88	4.530E-02		3.582E-02	7.216E-02	4.215E-03	0.628
ZR-88	-2.653E-02		3.840E-02	6.076E-02	3.446E-03	-0.437
Y-91	8.690E+00		2.486E+01	4.150E+01	2.510E+00	0.209
NB-94	3.145E-02		3.987E-02	7.023E-02	3.906E-03	0.448
NB-95	6.502E-02		5.152E-02	9.280E-02	5.980E-03	0.701
NB-95M	1.684E+00		2.680E-01	4.237E-01	3.580E-02	3.975

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	5.725E-03		8.503E-02	1.427E-01	1.064E-02	0.040
NB-97	1.134E+00		1.953E-01	Half-Life too short		
ZR-97	2.072E+01		3.962E+00	Half-Life too short		
MO-99	1.454E+01		1.683E+01	2.978E+01	4.139E+00	0.488
TC-99M	-1.081E+12		4.791E+11	Half-Life too short		
RH-101	1.214E-02		4.149E-02	6.733E-02	4.593E-03	0.180
RH-102	5.220E-02		4.203E-02	6.577E-02	3.749E-03	0.794
RU-103	-7.917E-02		5.076E-02	7.176E-02	9.032E-03	-1.103
RH-106	-2.671E-01		4.079E-01	6.233E-01	7.154E-02	-0.429
RU-106	-2.671E-01		4.070E-01	6.233E-01	3.275E-02	-0.429
AG-108M	1.761E-02		3.974E-02	6.700E-02	4.166E-03	0.263
AG-110M	1.272E-01		4.893E-02	8.484E-02	4.650E-03	1.499
IN-111	8.917E-01		1.823E+00	2.750E+00	1.915E-01	0.324
IN-113M	-5.438E-02		5.573E-02	8.656E-02	5.251E-03	-0.628
SN-113	-5.438E-02		5.573E-02	8.656E-02	5.251E-03	-0.628
IN-114M	-9.703E-02		2.621E-01	3.588E-01	2.433E-02	-0.270
CD-115	1.634E+00		1.743E+01	2.854E+01	1.601E+00	0.057
SN-117M	-3.607E-02		7.626E-02	1.190E-01	7.953E-03	-0.303
SB-122	1.958E+00		3.350E+00	5.644E+00	3.105E-01	0.347
I-123	-6.581E+00		1.417E+01	Half-Life too short		
TE-123M	-8.674E-03		3.735E-02	5.883E-02	3.971E-03	-0.147
I-124	-6.424E-01		1.095E+00	1.428E+00	7.636E-02	-0.450
SB-124	2.158E-02		7.477E-02	1.304E-01	9.159E-03	0.165
SB-125	-1.871E-02		1.126E-01	1.830E-01	1.091E-02	-0.102
TE-125M	9.334E-01		1.196E+01	1.961E+01	1.949E+00	0.048
I-126	1.518E-01		2.581E-01	3.805E-01	1.937E-02	0.399
SB-126	1.341E-01		2.011E-01	3.104E-01	1.802E-02	0.432
SB-127	7.884E-02		1.818E+00	3.062E+00	2.919E-01	0.026
XE-127	-3.147E-02		6.199E-02	9.706E-02	6.645E-03	-0.324
I-131	1.228E-02		1.530E-01	2.544E-01	1.718E-02	0.048
TE-132	2.136E-01		1.083E+00	1.840E+00	2.772E-01	0.116
BA-133	1.932E-02		5.823E-02	8.587E-02	1.011E-02	0.225
I-133	-3.496E-03		8.228E-03	Half-Life too short		
CS-134	1.711E-01	+	9.146E-02	1.086E-01	7.565E-03	1.576
I-135	9.782E+09		4.990E+10	Half-Life too short		
CS-136	1.480E-02		1.296E-01	2.147E-01	1.655E-02	0.069
CE-139	-2.399E-03		3.829E-02	6.162E-02	4.098E-03	-0.039
BA-140	-8.853E-02		3.367E-01	5.347E-01	1.737E-01	-0.166
LA-140	3.592E-02		1.200E-01	1.806E-01	1.259E-02	0.199
CE-141	-3.448E-02		8.230E-02	1.312E-01	9.159E-03	-0.263
CE-143	2.250E-03	+	3.261E-04	Half-Life too short		
CE-144	-9.923E-02		2.637E-01	4.218E-01	6.199E-02	-0.235
PM-144	-3.094E-02		3.962E-02	6.267E-02	3.438E-03	-0.494
PR-144	-2.098E+00		2.686E+00	4.249E+00	2.329E-01	-0.494
PM-146	6.811E-02		5.468E-02	9.576E-02	8.201E-03	0.711
ND-147	-5.352E-01		7.304E-01	1.118E+00	1.502E-01	-0.479
PM-149	2.284E+01		1.598E+02	2.620E+02	3.838E+01	0.087
EU-152	-1.115E-01		1.809E-01	1.896E-01	1.336E-02	-0.588

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.553E-01		1.119E-01	1.710E-01	1.641E-02	0.908
EU-154	-6.668E-02		1.495E-01	2.308E-01	2.315E-02	-0.289
EU-155	2.828E-02		1.329E-01	2.192E-01	1.898E-02	0.129
TB-160	7.496E-02		1.642E-01	2.821E-01	2.319E-02	0.266
HO-166M	-7.917E-02		6.591E-02	9.954E-02	5.658E-03	-0.795
TM-171	-1.004E+01		5.496E+01	7.932E+01	9.122E+00	-0.127
LU-176	3.896E-04		3.261E-02	4.949E-02	3.334E-03	0.008
LU-177	1.162E+00	+	1.812E+00	2.670E+00	1.834E-01	0.435
LU-177M	-3.875E-01		2.281E-01	3.359E-01	1.915E-02	-1.154
HF-181	-3.590E-02		6.310E-02	8.425E-02	4.796E-03	-0.426
W-181	-1.144E-01		7.368E-01	1.066E+00	1.240E-01	-0.107
TA-182	1.358E-01		2.482E-01	4.205E-01	2.622E-02	0.323
RE-183	-5.884E-02		1.458E-01	2.278E-01	1.518E-02	-0.258
RE-184	1.122E-01		2.771E-01	4.735E-01	3.296E-02	0.237
OS-185	-2.268E-02		4.932E-02	7.620E-02	3.904E-03	-0.298
RE-188	2.092E-01		2.222E-01	3.715E-01	2.492E-02	0.563
W-188	-5.122E+00		1.039E+01	1.458E+01	9.975E-01	-0.351
IR-192	4.784E-02		4.256E-02	7.459E-02	4.985E-03	0.641
AU-195	4.331E-01		3.029E-01	4.854E-01	4.549E-02	0.892
TL-200	5.422E-04		5.318E-04	Half-Life too short		
TL-201	-3.809E-01		1.135E+01	1.827E+01	1.216E+00	-0.021
TL-202	1.939E-02		8.979E-02	1.493E-01	8.531E-03	0.130
HG-203	5.291E-02		5.678E-02	8.745E-02	6.298E-03	0.605
BI-207	-4.535E-02		6.687E-02	1.028E-01	7.307E-03	-0.441
TL-207	6.834E-01		9.623E-01	1.448E+00	2.434E-01	0.472
PO-209	-4.195E+00		8.889E+00	1.410E+01	1.200E+00	-0.297
BI-210	-5.474E+00		1.375E+01	2.217E+01	2.303E+00	-0.247
PB-210	-5.474E+00		1.375E+01	2.217E+01	2.303E+00	-0.247
PO-210	-5.474E+00		1.374E+01	2.217E+01	2.130E+00	-0.247
PB-211	-1.544E+00		1.539E+00	1.833E+00	1.143E+00	-0.842
BI-212	9.636E-01	+	5.051E-01	7.537E-01	5.868E-02	1.278
PO-215	6.834E-01		9.623E-01	1.448E+00	2.434E-01	0.472
RN-219	-9.449E-02		5.034E-01	8.201E-01	1.112E-01	-0.115
RN-220	9.470E+00		3.229E+01	5.346E+01	2.966E+00	0.177
RA-223	6.834E-01		9.623E-01	1.448E+00	2.434E-01	0.472
AC-227	-6.622E-02		4.506E-01	7.513E-01	1.088E-01	-0.088
TH-227	-6.622E-02		4.507E-01	7.513E-01	1.302E-01	-0.088
TH-229	3.306E-01		6.608E-01	1.046E+00	7.112E-02	0.316
PA-231	-8.485E-01		1.984E+00	3.053E+00	4.357E-01	-0.278
TH-231	6.834E-01		9.623E-01	1.448E+00	2.434E-01	0.472
U-231	-1.380E+00		1.890E+00	2.613E+00	2.575E-01	-0.528
PA-233	-3.496E-02		7.821E-02	1.273E-01	8.920E-03	-0.275
PA-234	1.434E-01		3.492E-01	5.949E-01	1.105E-01	0.241
PA-234M	7.568E+00		5.431E+00	9.805E+00	9.037E-01	0.772
U-235	2.277E-01		2.744E-01	4.484E-01	7.482E-02	0.508
NP-236	1.777E-02		1.036E-01	1.658E-01	1.107E-02	0.107
NP-239	-1.619E-01		2.423E-01	3.849E-01	2.893E-02	-0.421
AM-241	3.953E-01		3.389E-01	5.185E-01	6.599E-02	0.762

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.221E-02		1.184E-01	1.964E-01	1.714E-02	0.215
AM-246	2.379E-01		1.753E-01	3.185E-01	2.208E-02	0.747
CM-247	-2.483E-02		4.571E-02	7.290E-02	4.146E-03	-0.341
CF-249	1.738E-02		4.903E-02	8.251E-02	4.731E-03	0.211
CF-251	3.423E-02		1.656E-01	2.688E-01	1.802E-02	0.127

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202018260          *
* Acquisition date   : 27-JAN-2010 15:56:54 Detector SN#      :              *
* Detector ID        : GAM15                                           Sensitivity      : 5.000          *
* Geometry           : CAN                                           Energy tolerance: 1.500          *
* Elapsed live time  : 0 02:00:00.00                               Abundance limit : 75.000          *
* Elapsed real time  : 0 02:00:01.38                               Half life ratio  : 8.000          *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018260                               Analyst initials: MXR1          *
* Batch Number       : 942717                                   Sample Quantity : 1.3472E+02 GRAM  *
* Recovery           : 1.00000                                Carrier Weight  : 0.00000          *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 MS Isotope          :              *
* MSD DPM             : 0.000                                       MSD Isotope      :              *
* LCS DPM             : 0.000                                       LCS Isotope      :              *
* LCSD DPM            : 0.000                                       LCSD Isotope     :              *
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
BE-7	1.177E+00	6.907E-01	3.212E-01	3.524E-01
K-40	3.393E+01	3.234E+00	3.076E-01	1.650E+00
CD-109	3.274E+00	1.318E+00	1.008E+00	6.723E-01
SN-126	3.213E-01	1.293E-01	9.630E-02	6.598E-02
CS-135	7.132E-01	3.545E-01	1.515E-01	1.808E-01
BA-137M	3.002E-01	9.511E-02	3.504E-02	4.852E-02
CS-137	3.174E-01	1.006E-01	3.704E-02	5.130E-02
TL-208	5.613E-01	9.704E-02	3.448E-02	4.951E-02
BI-211	4.031E+00	5.830E-01	2.048E-01	2.974E-01
PB-212	1.776E+00	1.962E-01	6.052E-02	1.001E-01
PO-212	1.776E+00	1.962E-01	6.052E-02	1.001E-01
BI-214	1.247E+00	1.937E-01	6.630E-02	9.880E-02
PB-214	1.402E+00	2.151E-01	7.137E-02	1.097E-01
PO-214	1.402E+00	2.151E-01	7.137E-02	1.097E-01
PO-216	1.776E+00	1.962E-01	6.052E-02	1.001E-01
PO-218	1.402E+00	2.151E-01	7.137E-02	1.097E-01
RA-224	4.555E+00	1.735E+00	6.885E-01	8.850E-01
RA-226	1.247E+00	1.937E-01	6.630E-02	9.880E-02
AC-228	1.838E+00	4.083E-01	1.213E-01	2.083E-01
RA-228	1.838E+00	4.083E-01	1.213E-01	2.083E-01
TH-228	1.805E+00	1.994E-01	6.151E-02	1.017E-01
TH-230	1.247E+00	1.936E-01	6.630E-02	9.880E-02
TH-232	1.838E+00	4.083E-01	1.213E-01	2.083E-01
TH-234	3.042E+00	3.764E+00	2.142E+00	1.920E+00
U-234	1.247E+00	1.936E-01	6.630E-02	9.880E-02
NP-237	9.435E-01	4.250E-01	2.884E-01	2.168E-01
U-238	3.042E+00	3.764E+00	2.142E+00	1.920E+00
AM-243	2.818E-01	1.227E-01	6.873E-02	6.260E-02
ANH-511	1.419E-01	7.681E-02	2.916E-02	3.919E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM )		(pCi/GRAM )		
NA-22	-2.388E-02	5.246E-02	4.156E-02	2.676E-02	NOT IDENT.
NA-24	1.400E+06	2.572E+06	0.000E+00	1.312E+06	SHORT HLIF
AL-26	-2.089E-02	2.626E-02	1.740E-02	1.340E-02	NOT IDENT.
TI-44	1.754E-01	6.331E-02	4.981E-02	3.230E-02	NOT IDENT.
SC-46	-2.613E-02	4.707E-02	3.833E-02	2.401E-02	FAIL ABUN
V-48	4.148E-02	8.821E-02	7.771E-02	4.500E-02	NOT IDENT.
CR-51	-8.304E-02	4.859E-01	4.106E-01	2.479E-01	NOT IDENT.
MN-52	1.641E-01	2.734E-01	2.517E-01	1.395E-01	NOT IDENT.
MN-54	2.149E-02	4.286E-02	3.814E-02	2.187E-02	NOT IDENT.
CO-56	-4.024E-03	4.550E-02	3.876E-02	2.322E-02	NOT IDENT.
CO-57	4.486E-03	3.074E-02	2.695E-02	1.568E-02	NOT IDENT.
CO-58	-6.938E-03	4.325E-02	3.672E-02	2.206E-02	NOT IDENT.
FE-59	8.891E-02	1.095E-01	9.830E-02	5.588E-02	NOT IDENT.
CO-60	2.792E-03	4.529E-02	3.774E-02	2.311E-02	NOT IDENT.
ZN-65	-7.090E-02	1.267E-01	8.472E-02	6.466E-02	NOT IDENT.
GE-68	1.240E+00	1.490E+00	1.341E+00	7.600E-01	NOT IDENT.
AS-73	1.120E+00	2.114E+00	1.904E+00	1.078E+00	NOT IDENT.
AS-74	4.340E-02	1.176E-01	1.014E-01	6.001E-02	NOT IDENT.
SE-75	-4.869E-02	5.767E-02	4.176E-02	2.942E-02	NOT IDENT.
BR-77	-8.472E+00	1.705E+01	1.396E+01	8.697E+00	FAIL ABUN
SR-82	-4.177E-01	4.292E-01	3.407E-01	2.190E-01	NOT IDENT.
RB-83	-3.488E-02	8.297E-02	6.833E-02	4.233E-02	NOT IDENT.
RB-84	6.241E-02	7.909E-02	7.198E-02	4.035E-02	NOT IDENT.
KR-85	1.334E+01	9.714E+00	7.942E+00	4.956E+00	NOT IDENT.
SR-85	6.914E-02	5.035E-02	4.117E-02	2.569E-02	NOT IDENT.
RB-86	4.771E-01	1.011E+00	8.849E-01	5.161E-01	NOT IDENT.
Y-88	4.530E-02	3.510E-02	3.602E-02	1.791E-02	NOT IDENT.
ZR-88	-2.653E-02	3.764E-02	3.121E-02	1.920E-02	NOT IDENT.
Y-91	8.690E+00	2.436E+01	2.088E+01	1.243E+01	NOT IDENT.
NB-94	3.145E-02	3.907E-02	3.569E-02	1.993E-02	NOT IDENT.
NB-95	6.502E-02	5.049E-02	4.709E-02	2.576E-02	NOT IDENT.
NB-95M	1.684E+00	2.627E-01	2.196E-01	1.340E-01	NOT IDENT.
ZR-95	5.725E-03	8.333E-02	7.243E-02	4.252E-02	NOT IDENT.
NB-97	1.134E+06	3.829E+05	0.000E+00	1.953E+05	SHORT HLIF
ZR-97	2.072E+07	7.766E+06	0.000E+00	3.962E+06	SHORT HLIF
MO-99	1.454E+01	1.650E+01	1.512E+01	8.416E+00	NOT IDENT.
TC-99M	-1.081E+18	9.391E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.214E-02	4.066E-02	3.501E-02	2.075E-02	NOT IDENT.
RH-102	5.220E-02	4.119E-02	3.367E-02	2.101E-02	NOT IDENT.
RU-103	-7.917E-02	4.975E-02	3.670E-02	2.538E-02	NOT IDENT.
RH-106	-2.671E-01	3.997E-01	3.175E-01	2.039E-01	NOT IDENT.
RU-106	-2.671E-01	3.988E-01	3.175E-01	2.035E-01	NOT IDENT.
AG-108M	1.761E-02	3.894E-02	3.436E-02	1.987E-02	NOT IDENT.
AG-110M	1.272E-01	4.795E-02	4.317E-02	2.447E-02	NOT IDENT.
IN-111	8.917E-01	1.786E+00	1.424E+00	9.114E-01	NOT IDENT.
IN-113M	-5.438E-02	5.462E-02	4.446E-02	2.787E-02	NOT IDENT.
SN-113	-5.438E-02	5.462E-02	4.446E-02	2.787E-02	NOT IDENT.
IN-114M	-9.703E-02	2.569E-01	1.867E-01	1.311E-01	NOT IDENT.
CD-115	1.634E+00	1.708E+01	1.458E+01	8.715E+00	NOT IDENT.
SN-117M	-3.607E-02	7.473E-02	6.209E-02	3.813E-02	NOT IDENT.
SB-122	1.958E+00	3.283E+00	2.880E+00	1.675E+00	NOT IDENT.
I-123	-6.581E+06	2.777E+07	0.000E+00	1.417E+07	SHORT HLIF
TE-123M	-8.674E-03	3.660E-02	3.071E-02	1.867E-02	NOT IDENT.
I-124	-6.424E-01	1.074E+00	7.280E-01	5.477E-01	NOT IDENT.
SB-124	2.158E-02	7.327E-02	6.520E-02	3.738E-02	FAIL ABUN
SB-125	-1.871E-02	1.103E-01	9.387E-02	5.628E-02	FAIL ABUN
TE-125M	9.334E-01	1.172E+01	1.030E+01	5.979E+00	NOT IDENT.
I-126	1.518E-01	2.529E-01	1.936E-01	1.291E-01	NOT IDENT.
SB-126	1.341E-01	1.971E-01	1.577E-01	1.005E-01	FAIL ABUN
SB-127	7.884E-02	1.782E+00	1.557E+00	9.091E-01	FAIL ABUN
XE-127	-3.147E-02	6.075E-02	5.045E-02	3.100E-02	NOT IDENT.
I-131	1.228E-02	1.500E-01	1.308E-01	7.651E-02	NOT IDENT.
TE-132	2.136E-01	1.062E+00	9.541E-01	5.417E-01	NOT IDENT.
BA-133	1.932E-02	5.707E-02	4.419E-02	2.912E-02	FAIL ABUN
I-133	-3.496E+03	1.613E+04	0.000E+00	8.228E+03	SHORT HLIF
CS-134	1.711E-01	8.963E-02	5.505E-02	4.573E-02	FAIL ABUN
I-135	9.782E+15	9.780E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.480E-02	1.270E-01	1.083E-01	6.480E-02	FAIL ABUN
CE-139	-2.399E-03	3.752E-02	3.214E-02	1.914E-02	NOT IDENT.
BA-140	-8.853E-02	3.299E-01	2.731E-01	1.683E-01	NOT IDENT.
LA-140	3.592E-02	1.176E-01	9.038E-02	6.001E-02	FAIL ABUN
CE-141	-3.448E-02	8.066E-02	6.860E-02	4.115E-02	NOT IDENT.
CE-143	2.250E+03	6.392E+02	0.000E+00	3.261E+02	SHORT HLIF
CE-144	-9.923E-02	2.584E-01	2.208E-01	1.318E-01	NOT IDENT.
PM-144	-3.094E-02	3.882E-02	3.186E-02	1.981E-02	FAIL ABUN
PR-144	-2.098E+00	2.632E+00	2.160E+00	1.343E+00	NOT IDENT.

PM-146	6.811E-02	5.358E-02	4.906E-02	2.734E-02	NOT IDENT.
ND-147	-5.352E-01	7.158E-01	5.711E-01	3.652E-01	FAIL ABUN
PM-149	2.284E+01	1.566E+02	1.353E+02	7.988E+01	NOT IDENT.
EU-152	-1.115E-01	1.773E-01	9.764E-02	9.047E-02	FAIL ABUN
GD-153	1.553E-01	1.097E-01	8.999E-02	5.597E-02	FAIL ABUN
EU-154	-6.668E-02	1.465E-01	1.160E-01	7.476E-02	NOT IDENT.
EU-155	2.828E-02	1.302E-01	1.152E-01	6.643E-02	FAIL ABUN
TB-160	7.496E-02	1.609E-01	1.428E-01	8.208E-02	FAIL ABUN
HO-166M	-7.917E-02	6.460E-02	5.058E-02	3.296E-02	FAIL ABUN
TM-171	-1.004E+01	5.386E+01	4.203E+01	2.748E+01	NOT IDENT.
LU-176	3.896E-04	3.196E-02	2.553E-02	1.630E-02	NOT IDENT.
LU-177	1.162E+00	1.776E+00	1.387E+00	9.062E-01	FAIL ABUN
LU-177M	-3.875E-01	2.235E-01	1.724E-01	1.140E-01	FAIL ABUN
HF-181	-3.590E-02	6.184E-02	4.312E-02	3.155E-02	NOT IDENT.
W-181	-1.144E-01	7.221E-01	5.648E-01	3.684E-01	NOT IDENT.
TA-182	1.358E-01	2.433E-01	2.116E-01	1.241E-01	FAIL ABUN
RE-183	-5.884E-02	1.428E-01	1.188E-01	7.288E-02	FAIL ABUN
RE-184	1.122E-01	2.715E-01	2.452E-01	1.385E-01	NOT IDENT.
OS-185	-2.268E-02	4.834E-02	3.879E-02	2.466E-02	FAIL ABUN
RE-188	2.092E-01	2.178E-01	1.940E-01	1.111E-01	FAIL ABUN
W-188	-5.122E+00	1.018E+01	7.528E+00	5.196E+00	FAIL ABUN
IR-192	4.784E-02	4.171E-02	3.846E-02	2.128E-02	FAIL ABUN
AU-195	4.331E-01	2.968E-01	2.554E-01	1.514E-01	FAIL ABUN
TL-200	5.422E+02	1.042E+03	0.000E+00	5.318E+02	SHORT HLIF
TL-201	-3.809E-01	1.112E+01	9.530E+00	5.673E+00	NOT IDENT.
TL-202	1.939E-02	8.799E-02	7.653E-02	4.489E-02	NOT IDENT.
HG-203	5.291E-02	5.565E-02	4.519E-02	2.839E-02	FAIL ABUN
BI-207	-4.535E-02	6.553E-02	5.187E-02	3.344E-02	FAIL ABUN
TL-207	6.834E-01	9.431E-01	7.464E-01	4.812E-01	FAIL ABUN
PO-209	-4.195E+00	8.712E+00	7.134E+00	4.445E+00	NOT IDENT.
BI-210	-5.474E+00	1.347E+01	1.182E+01	6.873E+00	NOT IDENT.
PB-210	-5.474E+00	1.347E+01	1.182E+01	6.873E+00	NOT IDENT.
PO-210	-5.474E+00	1.347E+01	1.182E+01	6.872E+00	NOT IDENT.
PB-211	-1.544E+00	1.508E+00	9.411E-01	7.693E-01	NOT IDENT.
BI-212	9.636E-01	4.950E-01	3.828E-01	2.525E-01	FAIL ABUN
PO-215	6.834E-01	9.431E-01	7.464E-01	4.812E-01	FAIL ABUN
RN-219	-9.449E-02	4.933E-01	4.211E-01	2.517E-01	NOT IDENT.
RN-220	9.470E+00	3.164E+01	2.730E+01	1.614E+01	NOT IDENT.
RA-223	6.834E-01	9.431E-01	7.464E-01	4.812E-01	FAIL ABUN
AC-227	-6.622E-02	4.416E-01	3.889E-01	2.253E-01	FAIL ABUN
TH-227	-6.622E-02	4.417E-01	3.889E-01	2.253E-01	FAIL ABUN
TH-229	3.306E-01	6.476E-01	5.441E-01	3.304E-01	FAIL ABUN
PA-231	-8.485E-01	1.944E+00	1.578E+00	9.920E-01	NOT IDENT.
TH-231	6.834E-01	9.431E-01	7.464E-01	4.812E-01	FAIL ABUN
U-231	-1.380E+00	1.852E+00	1.376E+00	9.449E-01	FAIL ABUN
PA-233	-3.496E-02	7.664E-02	6.564E-02	3.910E-02	FAIL ABUN
PA-234	1.434E-01	3.422E-01	3.007E-01	1.746E-01	FAIL ABUN
PA-234M	7.568E+00	5.323E+00	4.951E+00	2.716E+00	NOT IDENT.
U-235	2.277E-01	2.689E-01	2.345E-01	1.372E-01	FAIL ABUN
NP-236	1.777E-02	1.016E-01	8.655E-02	5.182E-02	NOT IDENT.
NP-239	-1.619E-01	2.375E-01	2.020E-01	1.212E-01	FAIL ABUN
AM-241	3.953E-01	3.321E-01	2.753E-01	1.694E-01	NOT IDENT.
CM-243	4.221E-02	1.160E-01	1.033E-01	5.918E-02	FAIL ABUN
AM-246	2.379E-01	1.718E-01	1.606E-01	8.766E-02	NOT IDENT.
CM-247	-2.483E-02	4.480E-02	3.743E-02	2.286E-02	FAIL ABUN
CF-249	1.738E-02	4.805E-02	4.239E-02	2.452E-02	NOT IDENT.
CF-251	3.423E-02	1.623E-01	1.400E-01	8.280E-02	NOT IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON ,SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	323.2605
46.50	323.2605
46.50	323.2605
48.70	323.5585
49.72	306.1682
51.35	343.9633
52.39	347.4036
52.97	312.5810
53.15	296.5169
53.44	291.9026
54.07	296.9602
56.28	346.0395
56.28	346.0409
57.37	0.0000
57.53	350.6577
57.53	350.6590
57.60	352.2275
57.98	370.8232
57.98	370.8232
59.32	339.3444
59.32	339.3444
59.40	339.3862
59.54	313.3462
59.72	313.4327
60.01	312.0338
61.10	352.5795
61.14	352.6005
61.30	352.6850
63.00	413.9887
63.29	458.7675
63.29	458.7675
63.58	460.5090
64.28	462.5284
65.12	442.9592
65.20	443.0102
65.20	443.0102
66.05	437.3496
66.72	450.1868
66.83	450.2593
66.91	450.3107
67.20	436.5156
67.20	436.5156
67.75	470.2801
67.85	470.3465
68.90	449.6316
68.90	449.6316
69.30	456.5052
69.67	455.1825
70.82	459.0287
70.82	459.0287
70.83	459.0359
72.80	428.9612
72.87	429.0013
72.87	429.0013
74.67	450.2488
74.81	450.3328
74.81	450.3328
74.81	450.3328
74.81	450.3328
74.81	450.3328
74.81	450.3328
74.81	450.3328
74.97	450.4291
75.28	450.6147
75.70	450.8651
77.11	456.6226
77.11	456.6226



77.11	456.6226
77.11	456.6226
77.11	456.6226
77.11	456.6226
77.11	456.6226
78.38	437.6638
79.62	434.4157
79.80	434.5164
79.80	434.5164
80.11	418.8824
80.18	418.9196
80.30	418.9843
80.30	418.9843
80.57	419.1283
81.00	395.6207
81.07	395.6558
81.07	395.6558
81.07	395.6558
81.07	395.6558
82.60	443.9907
83.37	434.8947
83.78	450.9991
83.78	450.9991
83.78	450.9991
83.78	450.9991
84.21	544.7565
84.90	545.2232
85.43	545.5789
86.29	546.1544
86.50	546.2946
86.54	655.9656
86.59	656.0058
86.72	656.1088
86.79	656.1641
86.94	656.2847
87.30	586.1315
87.30	586.1315
87.30	586.1315
87.30	586.1315
87.30	586.1315
87.30	586.1315
87.30	586.1315
87.57	546.4363
87.88	546.6412
88.03	586.6497
88.36	586.8830
88.47	586.9615
89.95	588.0023
91.11	588.8142
92.29	488.2092
92.38	488.2612
92.38	488.2612
93.35	488.8146
94.00	356.8992
94.67	410.2677
94.67	410.2692
94.90	410.3782
94.90	410.3782
94.90	410.3782
94.90	410.3782
95.87	433.3931
95.87	433.3931
96.73	340.2832
97.43	322.7991
98.44	310.2422
98.44	310.2422
98.88	315.2456
99.55	346.8298
99.55	346.8298
99.86	346.9502
100.00	342.9572
100.10	349.0680
103.18	346.1981
103.76	334.2272
105.00	352.9897
105.31	348.0196
108.00	380.6651
109.28	380.1611

111.00	398.2552
111.00	398.2552
111.76	392.4251
112.95	382.6514
115.19	365.0280
116.30	367.5012
117.00	388.3663
117.00	388.3663
117.66	375.2250
121.11	348.5957
121.62	323.9347
121.78	323.9860
122.06	339.6063
122.32	335.5501
122.32	335.5501
122.32	335.5501
122.32	335.5501
123.07	336.8349
127.23	394.3960
129.76	355.7141
131.20	428.2741
133.02	421.6846
133.54	393.6250
135.34	370.1663
136.00	354.6535
136.25	338.9933
136.48	340.1145
140.51	409.8550
140.51	0.0000
142.18	353.4915
142.65	335.6951
143.76	343.4256
144.24	345.6862
144.24	345.6862
144.24	345.6862
144.24	345.6862
145.22	393.6010
145.44	401.0856
147.16	388.9771
152.43	372.6628
152.70	362.1008
153.22	343.0831
154.21	328.4437
154.21	328.4437
154.21	328.4437
154.21	328.4437
155.03	347.8822
156.02	357.7879
158.56	372.4714
159.00	0.0000
159.00	358.6876
160.31	345.1467
161.27	343.2764
162.32	367.1949
162.64	368.3681
163.35	359.9860
163.89	331.1202
165.85	352.1103
167.43	347.1722
171.28	332.0267
171.86	346.2476
172.10	349.5602
176.55	343.1900
176.60	343.2021
181.06	331.3171
184.41	314.6858
185.71	314.9978
186.00	315.0659
190.27	317.8371
192.34	330.6385
193.63	296.7522
197.04	306.6353
198.01	307.9575
198.60	313.6086
200.40	321.7602
201.83	356.4031
202.84	337.8311
205.31	308.9137

208.36	348.0558
208.81	345.9410
209.75	339.4926
209.75	339.4926
210.97	295.8881
215.65	301.7704
216.55	297.4824
218.09	294.4383
222.10	303.1011
223.80	309.0687
226.40	290.0182
227.00	273.9154
227.08	273.9303
227.20	273.9507
228.16	289.4564
228.18	289.4603
228.18	289.4603
231.56	0.0000
235.69	311.1312
236.00	286.4194
236.00	286.4194
238.63	286.9073
238.63	286.9073
238.63	286.9073
238.63	286.9073
239.00	286.9748
240.98	287.3413
241.98	235.0543
241.98	235.0543
241.98	235.0543
244.69	221.7892
245.39	218.8477
247.94	258.7786
248.90	247.6630
249.79	231.3427
252.40	206.0747
252.85	210.7131
252.85	210.7131
254.15	0.0000
256.20	220.3301
256.20	220.3301
260.50	200.6614
260.90	200.5060
262.80	196.6406
264.65	213.7770
268.24	196.8435
268.79	196.9084
269.46	196.9890
269.46	196.9890
269.46	196.9890
269.46	196.9890
271.23	226.9719
273.65	227.2979
276.40	227.6658
277.35	195.2498
277.60	195.2780
277.60	195.2780
278.00	203.0751
278.60	200.0455
279.20	195.4625
279.53	189.2921
280.46	186.2891
281.68	198.8490
283.67	215.7976
284.30	210.5607
285.00	202.6561
285.90	203.4861
286.10	201.4334
286.10	201.4334
287.40	188.5948
288.45	0.0000
290.67	218.6133
290.80	218.6304
291.72	203.1197
293.26	0.0000
293.70	198.0289
295.21	198.1963
295.21	198.1963

295.21	198.1963
295.96	198.2787
296.50	198.3405
297.23	198.4204
298.57	198.5697
299.80	198.7037
299.80	198.7037
300.09	198.7372
300.09	198.7372
300.09	198.7372
300.09	198.7372
300.12	198.7397
301.29	186.9301
302.84	163.5072
303.76	180.8924
303.91	180.9088
304.40	187.2497
304.40	187.2497
304.84	206.1827
306.84	180.9738
308.46	175.9961
311.98	191.5005
316.51	157.7567
318.01	201.6329
319.02	187.4674
319.41	193.2167
320.08	196.7773
323.87	184.4526
323.87	184.4526
323.87	184.4526
323.87	184.4526
325.23	200.4972
328.77	199.9124
333.44	182.1792
334.20	158.2707
334.20	158.2707
334.30	158.2787
338.28	197.0522
338.28	197.0522
338.28	197.0522
338.28	197.0522
338.32	197.0573
338.32	197.0573
338.32	197.0573
340.50	141.1398
340.57	141.1452
344.27	192.8320
345.85	189.7694
350.59	0.0000
351.07	162.5347
351.92	162.6023
351.92	162.6023
351.92	162.6023
355.39	0.0000
356.01	145.4755
364.48	149.0032
366.43	163.7672
367.43	141.4157
367.94	0.0000
369.80	161.1046
374.96	152.6941
383.85	169.0668
387.95	145.7543
388.63	153.6825
391.69	170.6728
391.69	170.6728
392.90	163.8581
398.62	148.4546
400.65	141.6576
401.10	142.6781
401.81	150.6529
402.60	160.6236
404.84	188.5759
410.95	161.2307
411.60	169.2405
413.65	189.3251
414.70	149.5367
415.30	135.6165

415.76	128.6630
417.63	0.0000
418.52	135.8107
423.70	135.1203
427.08	128.3047
427.89	136.3719
432.53	138.6570
433.93	121.6484
439.47	125.9705
439.56	125.9750
439.89	132.0410
443.98	137.3198
444.90	126.2619
445.03	126.2695
445.03	126.2695
445.03	126.2695
445.03	126.2695
453.90	111.5334
463.38	108.5807
468.07	116.2697
473.00	115.8236
475.06	107.3969
475.35	111.5015
476.78	111.5667
477.59	111.6026
477.96	111.6199
482.03	133.3420
484.57	114.4102
487.03	109.9715
490.36	0.0000
492.35	93.7249
497.08	134.1434
507.63	0.0000
510.53	0.0000
510.84	117.2278
511.00	117.2354
511.85	131.4576
511.85	131.4576
513.99	110.7917
513.99	110.7917
520.41	114.5359
520.65	117.6706
527.90	96.0654
528.96	0.0000
529.64	111.8014
529.87	0.0000
531.02	116.0405
537.32	111.0749
543.00	92.4086
546.56	0.0000
549.76	103.1656
552.65	122.2446
555.20	89.6588
563.23	87.8045
563.90	102.6386
568.70	105.9961
569.32	106.0205
569.50	94.3626
569.67	93.3088
573.80	119.1676
574.00	113.2760
574.64	107.7381
578.91	104.6088
579.30	0.0000
583.14	95.8865
585.48	117.2913
591.81	101.5220
592.07	99.3915
593.00	97.2874
595.88	103.8037
600.56	102.5938
602.52	0.0000
602.71	112.6315
602.71	112.6315
603.60	103.7231
604.41	96.5973
604.70	96.6072
609.31	100.3424

609.31	100.3424
609.31	100.3424
609.31	100.3424
610.33	91.4165
612.46	84.3059
614.37	104.1055
618.01	100.2793
621.84	113.3646
621.84	113.3646
631.29	100.7265
633.02	85.6135
633.10	85.6155
634.78	82.4106
635.90	87.8640
636.97	84.6403
645.85	92.5060
646.12	85.9839
656.30	83.7213
657.75	60.0891
657.90	0.0000
661.65	92.9812
661.65	92.9812
664.57	0.0000
666.33	80.3390
666.33	80.3390
675.00	76.8992
677.61	82.4615
685.20	78.9838
692.80	78.2522
695.00	95.8094
696.49	102.3055
696.49	102.3055
697.00	103.2432
697.49	109.7128
698.33	107.8951
698.50	113.4357
699.00	101.4622
702.63	86.8016
706.10	82.2714
706.58	0.0000
706.67	86.9087
709.31	89.7554
711.68	91.6725
713.82	78.7589
717.42	83.4833
720.50	76.3996
721.93	0.0000
722.20	84.4004
722.78	86.0079
722.78	86.0079
722.89	86.0117
722.95	86.0135
723.30	90.8020
724.18	97.1996
727.18	78.1484
733.00	89.4688
735.90	80.2173
739.58	62.5644
742.81	102.8162
744.21	83.2220
747.13	75.8057
751.79	102.1498
752.31	97.4788
753.82	83.4574
755.35	80.6792
756.15	83.5135
756.87	79.7774
763.93	101.5730
765.79	79.9849
766.42	91.2927
766.84	87.5394
776.49	84.9518
778.00	84.0441
778.57	76.5011
778.89	80.2876
783.80	59.5906
785.46	77.2205
792.07	69.8885

795.84	60.7422
796.30	55.3259
798.80	53.7366
801.93	52.1540
805.60	62.8123
810.29	70.5177
810.76	68.6221
815.85	66.8099
817.79	72.5751
818.51	67.8134
819.60	65.9229
826.30	65.0878
828.27	0.0000
831.60	82.4359
831.96	81.4860
834.83	73.8747
836.80	0.0000
846.75	72.1878
848.13	63.5494
856.28	0.0000
856.80	62.8699
860.37	55.0634
867.32	56.7772
867.82	60.3992
871.10	53.2824
873.19	52.3422
874.81	51.3944
875.33	0.0000
876.40	61.1171
879.36	60.1937
880.27	59.2377
880.51	54.3856
881.50	52.4564
883.24	61.2274
884.67	69.0283
889.25	76.8977
896.60	74.1182
898.02	77.0713
899.00	69.2854
903.28	56.9398
911.07	61.6683
911.07	61.6683
911.07	61.6683
919.63	61.4759
920.93	45.1409
925.00	57.9581
925.24	57.9617
926.50	54.0489
935.52	43.3376
937.48	67.0081
944.10	45.4038
946.00	57.2755
949.00	65.2239
962.29	55.5238
964.01	55.5465
966.15	55.5762
968.20	54.4688
969.11	57.8861
969.11	57.8861
969.11	57.8861
977.42	57.7192
980.50	79.6712
983.50	59.7974
989.30	58.8824
996.32	78.9759
1001.03	44.0358
1001.68	42.0410
1004.76	76.1299
1021.30	0.0000
1024.50	0.0000
1034.80	58.5098
1036.00	55.4991
1037.82	58.5522
1038.57	67.6488
1038.76	0.0000
1045.16	66.7412
1046.59	55.6356
1048.07	54.6416

1050.47	59.7346
1050.47	59.7346
1062.04	65.9839
1063.62	78.1937
1076.63	62.1294
1077.35	53.9899
1078.86	48.9121
1085.78	67.3589
1099.22	54.2551
1112.02	51.0352
1112.84	58.0861
1115.52	79.2522
1120.29	54.5074
1120.29	54.5074
1120.29	54.5074
1120.29	54.5074
1120.51	54.5096
1121.28	54.5182
1124.00	0.0000
1129.67	61.8335
1131.51	0.0000
1147.95	0.0000
1167.94	70.6563
1173.22	67.6158
1175.09	70.7642
1177.93	69.7644
1189.05	82.4524
1204.90	78.5370
1205.75	0.0000
1213.00	92.3040
1221.42	72.5011
1230.97	81.0637
1235.34	85.3506
1236.41	0.0000
1238.25	91.7295
1246.25	54.9157
1260.41	0.0000
1271.85	56.2607
1274.45	59.4749
1274.54	59.4749
1291.56	51.1523
1298.22	0.0000
1312.09	31.0284
1325.50	43.9812
1325.50	43.9812
1332.49	37.5962
1333.61	33.3071
1360.21	25.9170
1362.66	0.0000
1365.15	32.4268
1368.21	24.8746
1368.53	0.0000
1376.25	34.6602
1384.27	32.5427
1394.10	24.2190
1395.20	38.2001
1407.95	21.4799
1434.06	19.7058
1436.60	21.5930
1457.56	0.0000
1460.81	25.4585
1489.15	25.5875
1509.49	15.2176
1596.49	21.9621
1620.62	6.7847
1678.03	0.0000
1691.02	10.7848
1691.02	10.7848
1706.46	0.0000
1750.46	0.0000
1764.49	13.8862
1764.49	13.8862
1764.49	13.8862
1764.49	13.8862
1770.23	10.4238
1771.40	10.8118
1791.20	0.0000
1808.65	11.9833



1836.01

6.0165

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202018260

Total Uranium Activity	9.1545E+00	ug/g
Total Uranium Counting Unc.	1.1197E+01	ug/g
Total Uranium Tpu	5.7128E-06	ug/g
Total Uranium Mda	6.3746E+00	ug/g

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*****
*
*               GEL Laboratories LLC                      *
*               2040 SAVAGE ROAD                          *
*               CHARLESTON ,SC 29417                      *
*               GROSS GAMMA REPORT                        *
*
*****
*
*  BATCH ID      : 942717                                *
*  ANALYST       : MXR1                                  *
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00              *
*  ANALYSIS DATE : 27-JAN-2010 15:56:54.08              *
*
*  SAMPLE ID     : G1202018260                          *
*  DETECTOR      : GAM15                                  *
*  COUNT TIME    : 0 02:00:00.00                        *
*  SAMPLE ALQT   : 134.720 GRAM                          *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.084E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.915E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.426E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.149E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 16:01:19.68

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018261.CNF;1
Sample date        : 20-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 15:00:50
Sample ID          : G1202018261      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM22             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00     Elapsed real time: 0 01:00:02.19  0.1%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID          : 942717              Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.47	3532	1075	1.06	119.19	114	11	9.81E-01	2.5	
2	0	77.47*	177	809	1.00	155.16	151	9	4.91E-02	30.4	
3	0	88.01	1750	770	1.05	176.22	171	11	4.86E-01	3.9	
4	0	92.74*	29	446	1.03	185.68	182	8	8.07E-03	132.8	
5	0	122.05	335	345	1.18	244.24	240	8	9.30E-02	11.1	
6	0	185.91*	103	368	1.17	371.83	367	9	2.87E-02	36.0	
7	2	238.67*	681	314	1.32	477.26	471	18	1.89E-01	5.9	1.28E+00
8	2	241.75	152	342	1.71	483.41	471	18	4.23E-02	27.4	
9	0	295.31*	189	329	1.15	590.43	584	12	5.24E-02	20.7	
10	0	338.34*	126	238	1.24	676.43	672	9	3.51E-02	24.2	
11	0	351.90*	314	302	1.17	703.53	698	12	8.73E-02	12.5	
12	0	510.79*	74	281	1.98	1021.07	1014	17	2.06E-02	56.1	
13	0	583.36*	227	161	1.58	1166.13	1159	14	6.30E-02	13.9	
14	0	609.43*	198	224	1.72	1218.24	1211	14	5.49E-02	17.8	
15	0	661.66	3668	235	1.78	1322.65	1313	17	1.02E+00	1.9	
16	0	911.80*	194	197	1.86	1822.72	1814	16	5.38E-02	18.0	
17	0	968.87*	122	164	1.95	1936.82	1930	14	3.38E-02	24.5	
18	0	1173.15	2924	137	2.24	2345.30	2336	19	8.12E-01	2.1	
19	0	1332.36	2741	68	2.45	2663.73	2651	23	7.61E-01	2.1	
20	0	1461.77*	6	34	0.85	2922.57	2916	14	1.80E-03	225.9	

Flag: "\*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018261.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 15:00:50
Sample ID         : G1202018261 Sample quantity   : 155.44 GRAM
Sample type       : SOLID Sample geometry      :
Detector name     : GAMMA22 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:02.19 0.1%
Peak Width (FWHM): 3.00 Confidence level   : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio    : 8.00
Errors propagated: Yes Systematic Error   : 0.00 %
Efficiency type   : Empirical Efficiencies at  : Peak Energy
Abundance limit   : 75.00 WTM error limit    : 3.00

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.535E-01	6.936E-01	5.001E-01	4.582E-02	0.307
CO-57	+	122.06	*	2.252E-01	5.327E-02	5.683E-02	4.686E-03	3.963
		136.48		-7.616E-02	2.720E-01	4.551E-01	4.223E-02	-0.167
CO-60	+	1173.22		6.273E+00	5.683E-01	9.434E-02	7.587E-03	66.496
	+	1332.49	*	6.506E+00	6.393E-01	7.120E-02	6.349E-03	91.368
CD-109	+	88.03	*	4.738E+01	3.744E+00	1.748E+00	1.659E-01	17.434
SN-126		64.28		-2.572E-01	6.790E-01	1.009E+00	1.465E-01	-0.255
	+	86.94		1.259E+01	5.323E+00	7.293E-01	3.028E-01	17.264
	+	87.57	*	3.029E+00	3.721E-01	1.744E-01	1.647E-02	17.364
BA-137M	+	661.65	*	5.487E+00	6.152E-01	9.094E-02	9.590E-03	60.328
CS-137	+	661.65	*	5.800E+00	6.510E-01	9.614E-02	1.015E-02	60.328
TL-208		277.35		4.738E-01	5.804E-01	9.537E-01	1.573E-01	0.497
	+	510.84		3.852E-01	4.353E-01	3.283E-01	4.279E-02	1.173
	+	583.14	*	3.311E-01	9.892E-02	8.843E-02	9.588E-03	3.744
		860.37		5.982E-01	4.993E-01	8.713E-01	1.015E-01	0.687
BI-211		72.87		-3.971E+00	4.392E+00	6.169E+00	4.938E-01	-0.644
	+	351.07	*	2.173E+00	5.984E-01	4.990E-01	5.822E-02	4.354
PB-212		74.81		2.706E-01	5.342E-01	7.978E-01	9.900E-02	0.339
	+	77.11		7.291E-01	4.479E-01	4.335E-01	3.625E-02	1.682
	+	87.30		1.401E+01	2.219E+00	8.087E-01	1.111E-01	17.322
	+	238.63	*	1.100E+00	1.954E-01	1.356E-01	1.792E-02	8.111
		300.09		5.632E-01	1.287E+00	1.928E+00	2.812E-01	0.292
PO-212		74.81		2.706E-01	5.342E-01	7.978E-01	9.900E-02	0.339
	+	77.11		7.291E-01	4.479E-01	4.335E-01	3.625E-02	1.682
	+	87.30		1.401E+01	2.219E+00	8.087E-01	1.111E-01	17.322
		115.19		6.601E-01	4.932E+00	7.896E+00	6.541E-01	0.084
	+	238.63	*	1.100E+00	1.954E-01	1.356E-01	1.792E-02	8.111
		300.09		5.632E-01	1.287E+00	1.928E+00	2.812E-01	0.292
PB-214		74.81		4.663E-01	9.200E-01	1.375E+00	1.515E-01	0.339
	+	77.11		1.250E+00	7.736E-01	7.432E-01	8.407E-02	1.682
	+	87.30		2.400E+01	3.481E+00	1.385E+00	1.685E-01	17.322
	+	241.98		1.473E+00	8.328E-01	8.153E-01	1.121E-01	1.806
	+	295.21		7.954E-01	3.506E-01	3.509E-01	5.225E-02	2.267
	+	351.92	*	7.557E-01	2.119E-01	1.744E-01	2.222E-02	4.334

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214		74.81		4.663E-01	9.200E-01	1.375E+00	1.515E-01	0.339
	+	77.11		1.250E+00	7.736E-01	7.432E-01	8.407E-02	1.682
	+	87.30		2.400E+01	3.481E+00	1.385E+00	1.685E-01	17.322
	+	241.98		1.473E+00	8.328E-01	8.153E-01	1.121E-01	1.806
	+	295.21		7.954E-01	3.506E-01	3.509E-01	5.225E-02	2.267
	+	351.92	*	7.557E-01	2.119E-01	1.744E-01	2.222E-02	4.334
PO-216		74.81		2.706E-01	5.342E-01	7.978E-01	9.900E-02	0.339
	+	77.11		7.291E-01	4.479E-01	4.335E-01	3.625E-02	1.682
	+	87.30		1.401E+01	2.219E+00	8.087E-01	1.111E-01	17.322
	+	238.63	*	1.100E+00	1.954E-01	1.356E-01	1.792E-02	8.111
		300.09		5.632E-01	1.287E+00	1.928E+00	2.812E-01	0.292
PO-218		74.81		4.663E-01	9.200E-01	1.375E+00	1.515E-01	0.339
	+	77.11		1.250E+00	7.736E-01	7.432E-01	8.407E-02	1.682
	+	87.30		2.400E+01	3.481E+00	1.385E+00	1.685E-01	17.322
	+	241.98		1.473E+00	8.328E-01	8.153E-01	1.121E-01	1.806
	+	295.21		7.954E-01	3.506E-01	3.509E-01	5.225E-02	2.267
	+	351.92	*	7.557E-01	2.119E-01	1.744E-01	2.222E-02	4.334
RA-224	+	240.98	*	2.793E+00	1.571E+00	1.542E+00	1.930E-01	1.812
AC-228	+	338.32		9.694E-01	6.215E-01	5.780E-01	2.431E-01	1.677
	+	911.07	*	1.212E+00	4.645E-01	4.078E-01	5.403E-02	2.973
	+	969.11		1.336E+00	7.295E-01	7.234E-01	1.747E-01	1.847
RA-228	+	338.32		9.694E-01	6.215E-01	5.780E-01	2.431E-01	1.677
	+	911.07	*	1.212E+00	4.645E-01	4.078E-01	5.403E-02	2.973
	+	969.11		1.336E+00	7.295E-01	7.234E-01	1.747E-01	1.847
TH-228		74.81		2.727E-01	5.376E-01	8.039E-01	6.624E-02	0.339
	+	77.11		7.346E-01	4.513E-01	4.368E-01	3.653E-02	1.682
	+	87.30		1.412E+01	1.734E+00	8.149E-01	7.669E-02	17.322
	+	238.63	*	1.108E+00	1.969E-01	1.366E-01	1.805E-02	8.111
		300.09		5.675E-01	1.339E+00	1.943E+00	1.169E+00	0.292
TH-232	+	338.32		9.694E-01	4.830E-01	5.780E-01	6.874E-02	1.677
	+	911.07	*	1.212E+00	4.645E-01	4.078E-01	5.403E-02	2.973
	+	969.11		1.336E+00	7.295E-01	7.234E-01	1.747E-01	1.847
AM-241	+	59.54	*	1.311E+01	1.214E+00	4.160E-01	3.252E-02	31.501
ANH-511	+	511.00	*	8.320E-02	9.376E-02	7.094E-02	7.108E-03	1.173

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-1.001E-01	4.838E-01	7.733E-01	8.071E-02	-0.129
NA-22		1274.54	*	3.884E-03	4.273E-02	7.139E-02	6.152E-03	0.054
NA-24		1368.53	*	-2.859E-05	4.273E-02	Half-Life too short		
AL-26		1129.67		-3.262E-02	2.569E+00	4.157E+00	3.620E-01	-0.008
		1808.65	*	1.424E-02	3.903E-02	6.749E-02	5.519E-03	0.211
TI-44		67.85		5.569E-04	5.680E-02	9.374E-02	7.155E-03	0.006
	+	78.38	*	1.345E-01	8.262E-02	9.029E-02	7.655E-03	1.490
SC-46		889.25	*	2.646E-02	6.757E-02	1.142E-01	1.278E-02	0.232
		1120.51		1.216E-01	8.185E-02	1.435E-01	1.268E-02	0.848
V-48		944.10		-1.578E-01	1.327E+00	2.176E+00	2.360E-01	-0.073

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CR-51 MN-52	983.50	*		2.326E-02	9.417E-02	1.567E-01	1.644E-02	0.148
	1312.09			-8.026E-02	6.564E-02	9.337E-02	8.226E-03	-0.860
	320.08	*		2.245E-01	4.731E-01	8.054E-01	1.043E-01	0.279
	744.21			3.676E-02	1.435E-01	2.365E-01	2.570E-02	0.155
	848.13			1.563E+00	4.467E+00	7.576E+00	8.436E-01	0.206
MN-54 CO-56	935.52			4.677E-02	2.067E-01	3.446E-01	3.763E-02	0.136
	1246.25			-1.358E+00	2.909E+00	4.612E+00	3.898E-01	-0.294
	+	1333.61		3.302E+02	3.245E+01	2.922E+01	2.606E+00	11.299
	1434.06	*		2.873E-02	9.475E-02	1.613E-01	1.441E-02	0.178
	834.83	*		-3.636E-02	5.878E-02	9.460E-02	1.051E-02	-0.384
CO-58 FE-59	846.75	*		-3.997E-03	6.263E-02	1.040E-01	1.158E-02	-0.038
	977.42			-2.953E-01	5.569E+00	8.324E+00	8.779E-01	-0.035
	1037.82			-1.679E-01	5.050E-01	8.080E-01	8.332E-02	-0.208
	1175.09			2.810E+02	2.514E+01	2.501E+01	2.014E+00	11.234
	1238.25			2.702E-02	8.602E-02	1.463E-01	1.268E-02	0.185
ZN-65 GE-68	1360.21			-5.050E-03	8.465E-01	1.391E+00	1.242E-01	-0.004
	1771.40			-7.982E-01	3.921E-01	4.886E-01	4.060E-02	-1.634
	810.76	*		-2.895E-02	6.125E-02	9.979E-02	1.105E-02	-0.290
	142.65			7.844E-01	3.210E+00	5.433E+00	4.807E-01	0.144
	192.34			-6.232E-01	1.258E+00	2.030E+00	3.015E-01	-0.307
AS-73 AS-74	1099.22	*		-5.281E-02	1.493E-01	2.375E-01	2.328E-02	-0.222
	1291.56			5.076E-02	1.167E-01	2.010E-01	1.981E-02	0.253
	1115.52	*		-2.002E-01	1.640E-01	2.465E-01	2.199E-02	-0.813
	1077.35	*		-1.203E+00	2.238E+00	3.527E+00	3.325E-01	-0.341
	53.44	*		-1.640E-01	1.451E+00	2.420E+00	1.829E-01	-0.068
SE-75	595.88	*		-3.030E-03	1.031E-01	1.707E-01	1.769E-02	-0.018
	634.78			-1.050E-01	4.173E-01	6.781E-01	7.107E-02	-0.155
	66.05			-5.175E-01	5.673E+00	9.301E+00	8.874E-01	-0.056
	96.73			-9.942E-01	1.078E+00	1.454E+00	2.001E-01	-0.684
	+	121.11		1.182E+00	2.922E-01	4.115E-01	4.498E-02	2.873
BR-77	136.00			-2.123E-02	4.972E-02	8.271E-02	7.178E-03	-0.257
	198.60			-3.534E+00	2.546E+00	3.877E+00	4.531E-01	-0.912
	264.65	*		-1.481E-02	6.568E-02	1.045E-01	1.406E-02	-0.142
	279.53			1.771E-02	1.644E-01	2.642E-01	3.750E-02	0.067
	303.91			-2.059E+00	3.056E+00	4.970E+00	7.573E-01	-0.414
	400.65			2.041E-01	4.056E-01	6.793E-01	7.951E-02	0.300
	+	87.88		7.445E+02	9.147E+01	9.257E+01	8.774E+00	8.042
	200.40			-3.837E+00	2.588E+01	4.229E+01	4.650E+00	-0.091
	+	239.00		1.975E+01	3.396E+00	4.381E+00	5.452E-01	4.508
	249.79			2.362E+00	1.140E+01	1.857E+01	2.388E+00	0.127
	281.68			-1.925E+00	1.593E+01	2.532E+01	3.528E+00	-0.076
	297.23			1.585E+01	1.088E+01	1.680E+01	2.259E+00	0.943
	303.76			-1.892E+01	3.042E+01	4.967E+01	6.570E+00	-0.381
	439.47			2.766E+01	2.840E+01	4.800E+01	4.620E+00	0.576
	484.57			-6.646E+01	4.283E+01	6.254E+01	6.182E+00	-1.063
	520.65	*		1.023E+00	1.894E+00	3.119E+00	3.140E-01	0.328
	574.64			-6.764E+00	3.627E+01	5.691E+01	5.856E+00	-0.119
	578.91			6.051E+00	1.644E+01	2.417E+01	2.491E+00	0.250
	585.48			1.179E+02	3.770E+01	6.130E+01	6.332E+00	1.923

---- Non-Identified Nuclides ----

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	755.35			4.770E+00	2.889E+01	4.729E+01	5.156E+00	0.101
	817.79			1.908E+01	2.556E+01	4.410E+01	4.883E+00	0.433
SR-82	698.33			1.923E+01	4.069E+01	6.819E+01	7.295E+00	0.282
	776.49	*		-1.733E-01	4.978E-01	7.873E-01	8.634E-02	-0.220
	1395.20			-4.785E+00	9.729E+00	1.494E+01	1.336E+00	-0.320
RB-83	520.41	*		6.198E-02	1.057E-01	1.744E-01	1.756E-02	0.355
	529.64			3.511E-02	1.582E-01	2.677E-01	2.705E-02	0.131
	552.65			-6.099E-02	2.758E-01	4.549E-01	4.642E-02	-0.134
RB-84	881.50	*		1.645E-02	1.084E-01	1.813E-01	2.028E-02	0.091
KR-85	513.99	*		1.754E+01	1.300E+01	1.951E+01	1.957E+00	0.899
SR-85	513.99	*		8.309E-02	6.159E-02	9.242E-02	9.273E-03	0.899
RB-86	1076.63	*		-2.036E-01	1.078E+00	1.736E+00	1.638E-01	-0.117
Y-88	898.02			-3.476E-04	7.470E-02	1.233E-01	1.385E-02	-0.003
	1836.01	*		8.276E-03	3.675E-02	6.253E-02	5.056E-03	0.132
ZR-88	392.90	*		-3.244E-02	4.719E-02	7.504E-02	6.987E-03	-0.432
Y-91	1204.90	*		-5.006E+00	1.892E+01	3.080E+01	2.532E+00	-0.163
NB-94	702.63	*		9.878E-03	5.020E-02	8.285E-02	8.878E-03	0.119
	871.10			4.870E-03	6.018E-02	1.004E-01	1.122E-02	0.048
NB-95	765.79	*		1.993E-02	5.813E-02	9.595E-02	1.049E-02	0.208
NB-95M	235.69	*		1.486E-01	1.985E-01	2.913E-01	3.850E-02	0.510
ZR-95	724.18			6.481E-02	1.392E-01	2.318E-01	2.643E-02	0.280
	756.15	*		5.031E-02	1.030E-01	1.715E-01	1.991E-02	0.293
NB-97	657.90	*		1.581E-03	1.030E-01	Half-Life	too short	
	1024.50			3.828E-03	1.030E-01	Half-Life	too short	
ZR-97	254.15			-2.517E-03	1.030E-01	Half-Life	too short	
	355.39			3.421E-03	1.030E-01	Half-Life	too short	
	507.63	*		1.635E-03	1.030E-01	Half-Life	too short	
	602.52			3.695E-03	1.030E-01	Half-Life	too short	
	1021.30			7.608E-03	1.030E-01	Half-Life	too short	
	1147.95			3.191E-03	1.030E-01	Half-Life	too short	
	1362.66			-4.459E-04	1.030E-01	Half-Life	too short	
	1750.46			-1.915E-03	1.030E-01	Half-Life	too short	
MO-99	140.51			-5.477E+00	5.486E+00	8.544E+00	2.370E+00	-0.641
	181.06			7.668E-01	3.987E+00	5.861E+00	1.122E+00	0.131
	366.43			-1.115E+01	2.047E+01	3.299E+01	3.499E+00	-0.338
	739.58	*		-1.636E+00	2.779E+00	4.331E+00	7.169E-01	-0.378
	778.00			-9.837E+00	8.363E+00	1.242E+01	1.362E+00	-0.792
TC-99M	140.51	*		-5.107E+01	8.363E+00	Half-Life	too short	
RH-101	127.23			-1.042E-02	4.502E-02	7.041E-02	5.886E-03	-0.148
	198.01	*		-6.329E-02	4.856E-02	7.451E-02	8.128E-03	-0.849
	325.23			-2.150E-01	3.321E-01	5.382E-01	6.690E-02	-0.399
RH-102	418.52			-1.848E-01	4.794E-01	7.696E-01	7.304E-02	-0.240
	475.06	*		-4.157E-02	5.113E-02	7.913E-02	7.782E-03	-0.525
	631.29			-2.533E-03	8.231E-02	1.355E-01	1.419E-02	-0.019
	697.49			2.273E-02	1.138E-01	1.880E-01	2.011E-02	0.121
	766.84			1.152E-01	1.575E-01	2.652E-01	2.901E-02	0.435
	1046.59			1.259E-01	1.937E-01	3.279E-01	3.216E-02	0.384
	1112.84			-1.204E-01	4.130E-01	6.589E-01	5.897E-02	-0.183
RU-103	497.08	*		8.382E-03	5.646E-02	9.160E-02	1.375E-02	0.092



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RH-106	+	610.33		5.121E+00	2.034E+00	2.426E+00	4.289E-01	2.111
	+	511.85		4.097E-01	4.618E-01	5.109E-01	5.121E-02	0.802
		621.84	*	1.287E-01	4.599E-01	7.708E-01	1.126E-01	0.167
RU-106		1050.47		-3.222E+00	4.085E+00	6.335E+00	6.183E-01	-0.509
	+	511.85		4.097E-01	4.618E-01	5.109E-01	5.121E-02	0.802
		621.84	*	1.287E-01	4.597E-01	7.708E-01	8.051E-02	0.167
AG-108M		1050.47		-3.222E+00	4.085E+00	6.335E+00	6.183E-01	-0.509
		433.93	*	-3.580E-02	5.483E-02	8.640E-02	8.553E-03	-0.414
		614.37		-1.404E-02	6.655E-02	9.298E-02	9.953E-03	-0.151
AG-110M		722.95		-6.815E-02	6.864E-02	1.050E-01	1.162E-02	-0.649
		657.75	*	6.934E-01	1.162E-01	1.719E-01	1.847E-02	4.034
		677.61		-2.693E-01	4.311E-01	6.768E-01	7.318E-02	-0.398
		706.67		-7.116E-02	3.090E-01	4.972E-01	5.431E-02	-0.143
		763.93		-1.235E-01	2.472E-01	3.876E-01	4.311E-02	-0.319
		884.67		5.301E-02	8.837E-02	1.508E-01	1.720E-02	0.351
		937.48		2.490E-01	2.249E-01	3.871E-01	4.316E-02	0.643
		1384.27		-2.152E-01	1.750E-01	2.399E-01	2.201E-02	-0.897
IN-111		171.28		5.471E-02	2.143E-01	3.600E-01	3.593E-02	0.152
		245.39	*	-4.540E-02	2.826E-01	3.954E-01	5.017E-02	-0.115
		391.69	*	2.468E-04	6.862E-02	1.129E-01	1.078E-02	0.002
IN-113M		391.69	*	2.468E-04	6.862E-02	1.129E-01	1.078E-02	0.002
SN-113		391.69	*	2.468E-04	6.862E-02	1.129E-01	1.078E-02	0.002
IN-114M		190.27	*	-8.675E-03	2.686E-01	3.886E-01	4.131E-02	-0.022
CD-115		260.90		-1.946E+00	1.971E+01	3.148E+01	4.183E+00	-0.062
		492.35		-1.484E+00	5.938E+00	9.442E+00	9.372E-01	-0.157
		527.90	*	5.722E-01	1.678E+00	2.855E+00	2.883E-01	0.200
SN-117M		156.02		-1.597E+00	2.065E+00	3.348E+00	3.139E-01	-0.477
		158.56	*	1.034E-04	4.999E-02	8.364E-02	7.932E-03	0.001
		563.90	*	-3.761E-01	4.469E-01	7.088E-01	7.264E-02	-0.531
SB-122		692.80		-2.629E+00	9.329E+00	1.499E+01	1.600E+00	-0.175
		159.00	*	-1.491E-04	9.329E+00	Half-Life	too short	
		528.96		3.355E-02	9.329E+00	Half-Life	too short	
TE-123M		159.00	*	-9.588E-03	3.652E-02	6.046E-02	5.774E-03	-0.159
I-124		602.71	*	1.717E-01	3.322E-01	4.907E-01	5.097E-02	0.350
		722.78		-2.282E+00	2.054E+00	3.113E+00	3.360E-01	-0.733
		1325.50		3.321E+01	1.702E+01	2.871E+01	2.550E+00	1.157
		1376.25		1.220E+01	1.011E+01	1.852E+01	1.655E+00	0.659
		1509.49		-1.234E+00	5.147E+00	8.110E+00	7.208E-01	-0.152
		1691.02		6.293E-01	1.301E+00	2.298E+00	1.965E-01	0.274
SB-124		602.71		3.181E-02	6.155E-02	9.091E-02	9.444E-03	0.350
		645.85		-2.871E-01	7.095E-01	1.140E+00	1.246E-01	-0.252
		709.31		-1.279E+00	3.972E+00	6.312E+00	6.780E-01	-0.203
		713.82		1.447E+00	2.358E+00	3.964E+00	5.411E-01	0.365
		722.78		-6.127E-01	5.516E-01	8.361E-01	9.148E-02	-0.733
	+	968.20		1.261E+01	6.322E+00	8.351E+00	8.880E-01	1.510
		1045.16		1.418E+00	3.857E+00	6.433E+00	6.319E-01	0.220
		1325.50		9.526E+00	4.881E+00	8.236E+00	7.314E-01	1.157
		1368.21		2.292E-03	1.760E+00	2.893E+00	3.958E-01	0.001
		1436.60		4.600E-02	3.650E+00	5.979E+00	5.343E-01	0.008
		1691.02	*	3.986E-02	8.239E-02	1.456E-01	1.295E-02	0.274

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SB-125	427.89	*		-6.758E-02	1.564E-01	2.500E-01	2.426E-02	-0.270
	463.38			2.955E-01	5.059E-01	8.385E-01	8.694E-02	0.352
	600.56			-6.585E-02	2.830E-01	4.410E-01	4.813E-02	-0.149
	635.90			-1.095E-01	4.204E-01	6.825E-01	7.551E-02	-0.161
TE-125M	109.28	*		1.977E+00	1.168E+01	1.874E+01	1.895E+00	0.105
I-126	388.63			-1.002E-01	2.218E-01	3.574E-01	3.384E-02	-0.280
	666.33	*		2.319E-01	2.145E-01	3.257E-01	3.441E-02	0.712
	753.82			9.606E-01	1.540E+00	2.584E+00	2.816E-01	0.372
SB-126	223.80			8.613E-01	4.207E+00	6.908E+00	8.196E-01	0.125
	278.60			2.820E+00	2.540E+00	4.211E+00	5.886E-01	0.670
	296.50	+		5.204E+00	2.270E+00	2.650E+00	3.570E-01	1.963
	414.70			-2.208E-02	8.308E-02	1.343E-01	1.271E-02	-0.164
	415.30			-2.279E+00	6.788E+00	1.093E+01	1.035E+00	-0.208
	555.20			-1.968E+00	3.874E+00	6.279E+00	6.414E-01	-0.313
	573.80			-9.104E-01	1.034E+00	1.591E+00	1.637E-01	-0.572
	593.00			-2.372E-01	9.161E-01	1.498E+00	1.551E-01	-0.158
	656.30			4.296E+00	4.109E+00	6.218E+00	6.550E-01	0.691
	666.33			9.525E-02	8.810E-02	1.338E-01	1.413E-02	0.712
	675.00			9.190E-01	1.845E+00	3.112E+00	3.299E-01	0.295
	695.00			-2.531E-02	7.667E-02	1.228E-01	1.312E-02	-0.206
	697.00			9.920E-03	2.616E-01	4.284E-01	4.581E-02	0.023
	720.50	*		-1.101E-01	1.506E-01	2.342E-01	2.525E-02	-0.470
	856.80			-2.368E-01	5.265E-01	8.546E-01	9.528E-02	-0.277
	989.30			1.024E-01	1.495E+00	2.463E+00	2.569E-01	0.042
	1034.80			2.359E+00	9.805E+00	1.626E+01	1.617E+00	0.145
	1213.00			1.292E-01	3.187E+00	5.319E+00	4.398E-01	0.024
SB-127	61.10			4.310E+02	4.683E+01	6.399E+01	5.133E+00	6.736
	252.40			-1.824E-01	1.746E+00	2.803E+00	1.197E+00	-0.065
	290.80			2.902E+00	9.525E+00	1.422E+01	2.007E+00	0.204
	411.60			2.893E-01	5.300E+00	8.700E+00	1.304E+00	0.033
	444.90			-2.043E+00	4.739E+00	7.554E+00	8.893E-01	-0.271
	473.00			-1.465E-03	7.696E-01	1.245E+00	1.525E-01	-0.001
	543.00			3.489E+00	6.510E+00	1.114E+01	1.571E+00	0.313
	603.60			4.428E+00	5.061E+00	7.639E+00	9.437E-01	0.580
	685.20	*		4.869E-01	5.239E-01	8.989E-01	1.029E-01	0.542
	698.50			2.504E+00	5.765E+00	9.630E+00	1.532E+00	0.260
	722.20			-2.437E+01	1.300E+01	1.844E+01	2.096E+00	-1.322
	783.80			3.062E+00	1.520E+00	2.654E+00	3.389E-01	1.154
XE-127	57.60			7.423E+01	1.387E+01	2.211E+01	1.588E+00	3.358
	145.22			5.190E-01	7.912E-01	1.355E+00	1.212E-01	0.383
	172.10			-4.961E-02	1.418E-01	2.325E-01	2.327E-02	-0.213
	202.84	*		2.310E-02	5.782E-02	9.635E-02	1.068E-02	0.240
	374.96			2.397E-02	2.809E-01	4.655E-01	4.740E-02	0.051
I-131	80.18			-1.772E+00	3.500E+00	4.979E+00	4.314E-01	-0.356
	284.30			-4.099E-01	1.254E+00	1.970E+00	2.781E-01	-0.208
	364.48	*		5.438E-02	9.447E-02	1.600E-01	1.768E-02	0.340
	636.97			3.266E-03	1.254E+00	2.066E+00	2.243E-01	0.002
	722.89			-6.248E+00	6.039E+00	9.209E+00	9.949E-01	-0.678
TE-132	49.72			-1.629E+00	6.626E+00	1.105E+01	9.582E-01	-0.147

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133		111.76		-2.441E+00	8.477E+00	1.336E+01	1.199E+00	-0.183
		116.30		-7.309E+00	7.884E+00	1.199E+01	1.069E+00	-0.609
		228.16	*	4.006E-02	2.175E-01	3.563E-01	6.014E-02	0.112
		53.15		1.272E+00	6.598E+00	1.109E+01	8.418E-01	0.115
		79.62		3.736E-01	1.840E+00	2.709E+00	4.120E-01	0.138
		81.00		-1.658E-01	1.485E-01	2.018E-01	3.217E-02	-0.822
		276.40		-1.857E-02	5.772E-01	9.229E-01	1.670E-01	-0.020
I-133	+	302.84		-1.247E-02	2.135E-01	3.579E-01	5.968E-02	-0.035
		356.01	*	5.082E-02	7.530E-02	1.125E-01	1.680E-02	0.452
		383.85		-7.871E-02	4.862E-01	7.953E-01	1.064E-01	-0.099
		510.53		2.081E-03	4.862E-01	Half-Life	too short	
		529.87	*	1.420E-05	4.862E-01	Half-Life	too short	
		706.58		-3.222E-04	4.862E-01	Half-Life	too short	
		856.28		-2.604E-03	4.862E-01	Half-Life	too short	
CS-134		875.33		-8.782E-05	4.862E-01	Half-Life	too short	
		1236.41		1.958E-03	4.862E-01	Half-Life	too short	
		1298.22		-7.792E-04	4.862E-01	Half-Life	too short	
		475.35		-1.920E+00	3.285E+00	5.150E+00	5.065E-01	-0.373
		563.23		-1.252E-01	5.288E-01	8.700E-01	8.975E-02	-0.144
		569.32		-1.699E-02	2.817E-01	4.673E-01	4.846E-02	-0.036
		604.70		3.273E-02	5.805E-02	8.592E-02	8.946E-03	0.381
CS-135		795.84	*	3.003E-02	7.299E-02	1.205E-01	1.333E-02	0.249
		801.93		8.153E-02	6.449E-01	1.047E+00	1.159E-01	0.078
		1038.57		-3.811E+00	6.637E+00	1.044E+01	1.034E+00	-0.365
		1167.94		3.377E+01	6.234E+00	1.086E+01	8.823E-01	3.110
		1365.15		-1.405E-01	1.240E+00	2.009E+00	1.871E-01	-0.070
		268.24	*	4.794E-02	2.462E-01	3.984E-01	5.763E-02	0.120
		288.45		1.634E+02	2.462E-01	Half-Life	too short	
I-135		417.63		-2.140E+02	2.462E-01	Half-Life	too short	
		546.56		-1.265E+02	2.462E-01	Half-Life	too short	
		836.80		5.895E+01	2.462E-01	Half-Life	too short	
		1038.76		-1.333E+02	2.462E-01	Half-Life	too short	
		1124.00		-2.084E+02	2.462E-01	Half-Life	too short	
		1131.51		2.659E+01	2.462E-01	Half-Life	too short	
		1260.41	*	6.687E+00	2.462E-01	Half-Life	too short	
CS-136		1457.56		9.397E+01	2.462E-01	Half-Life	too short	
		1678.03		6.469E+01	2.462E-01	Half-Life	too short	
		1706.46		-3.410E+01	2.462E-01	Half-Life	too short	
		1791.20		-5.905E+01	2.462E-01	Half-Life	too short	
		66.91		2.382E-01	6.471E-01	1.076E+00	1.600E-01	0.221
		86.29		1.011E+01	1.927E+00	2.463E+00	3.279E-01	4.105
		153.22		-1.682E-01	5.950E-01	9.871E-01	1.007E-01	-0.170
		163.89		6.398E-01	9.582E-01	1.632E+00	1.737E-01	0.392
		176.55		1.526E-01	3.404E-01	5.741E-01	6.073E-02	0.266
		273.65		-6.549E-01	4.922E-01	7.295E-01	1.032E-01	-0.898
		340.57		1.700E-01	1.497E-01	2.283E-01	2.734E-02	0.745
		818.51		5.821E-02	8.522E-02	1.467E-01	1.625E-02	0.397
		1048.07	*	-2.921E-02	1.266E-01	2.037E-01	2.059E-02	-0.143
		1235.34		4.660E-01	3.918E-01	7.062E-01	8.249E-02	0.660

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-139	165.85	*		-3.117E-02	3.840E-02	6.180E-02	6.061E-03	-0.504
BA-140	162.64			2.966E-01	6.781E-01	1.147E+00	1.160E-01	0.259
	304.84			-1.160E+00	1.330E+00	2.079E+00	6.184E-01	-0.558
	423.70			1.659E+00	2.240E+00	3.669E+00	1.199E+00	0.452
	537.32	*		-1.388E-01	2.743E-01	4.402E-01	1.478E-01	-0.315
LA-140	328.77			1.464E-01	2.933E-01	4.985E-01	6.298E-02	0.294
	432.53			6.400E-01	2.274E+00	3.755E+00	3.740E-01	0.170
	487.03			1.466E-01	1.487E-01	2.508E-01	2.600E-02	0.584
	751.79			-8.168E-02	1.785E+00	2.887E+00	3.359E-01	-0.028
	815.85			1.153E-01	3.657E-01	6.211E-01	7.365E-02	0.186
	867.82			1.128E-01	1.619E+00	2.702E+00	3.113E-01	0.042
	919.63			-1.601E+00	4.169E+00	5.939E+00	7.537E-01	-0.269
	925.24			9.914E-02	1.495E+00	2.478E+00	2.832E-01	0.040
	1596.49	*		-2.304E-02	7.658E-02	1.234E-01	1.082E-02	-0.187
CE-141	145.44	*		4.589E-02	7.006E-02	1.205E-01	1.097E-02	0.381
CE-143	57.37			2.109E+02	5.853E+01	9.231E+01	7.922E+00	2.285
	231.56			2.529E+00	9.365E+01	1.471E+02	4.811E+01	0.017
	293.26	*		4.657E+00	5.485E+00	8.227E+00	1.962E+00	0.566
	350.59			3.903E+02	1.580E+02	1.333E+02	4.247E+01	2.929
	490.36			5.265E+01	1.100E+02	1.796E+02	5.735E+01	0.293
	664.57			2.589E+03	8.594E+02	2.699E+02	8.870E+01	9.590
	721.93			-9.556E+01	5.916E+01	7.562E+01	2.258E+01	-1.264
CE-144	80.11			-1.486E+00	3.025E+00	4.306E+00	3.722E-01	-0.345
	133.54	*		2.363E-02	2.611E-01	4.436E-01	6.886E-02	0.053
PM-144	476.78			-1.808E-02	1.125E-01	1.803E-01	1.903E-02	-0.100
	618.01			-7.752E-03	4.726E-02	7.562E-02	8.039E-03	-0.103
	696.49	*		-6.742E-03	5.062E-02	8.205E-02	8.773E-03	-0.082
	778.57			-2.689E+00	3.670E+00	5.647E+00	6.196E-01	-0.476
PR-144	696.49	*		-4.550E-01	3.416E+00	5.538E+00	5.921E-01	-0.082
	1489.15			-8.704E-01	1.421E+01	2.296E+01	2.045E+00	-0.038
PM-146	453.90	*		-4.378E-02	8.037E-02	1.271E-01	1.477E-02	-0.345
	633.02			-1.149E-01	2.107E+00	3.462E+00	1.310E+00	-0.033
	735.90			1.735E-01	2.343E-01	3.884E-01	1.140E-01	0.447
	747.13			2.021E-02	1.397E-01	2.286E-01	3.549E-02	0.088
ND-147	91.11			2.311E-01	2.985E-01	3.578E-01	3.535E-02	0.646
	319.41			3.509E-01	3.175E+00	5.336E+00	6.754E-01	0.066
	439.89			7.301E+00	6.454E+00	1.096E+01	1.056E+00	0.666
	531.02	*		8.818E-03	5.515E-01	9.244E-01	1.466E-01	0.010
PM-149	285.90	*		-8.401E+00	1.415E+01	2.184E+01	4.129E+00	-0.385
EU-152	121.78			6.657E-01	1.608E-01	2.326E-01	2.233E-02	2.862
	244.69			1.136E-01	5.485E-01	7.849E-01	9.937E-02	0.145
	344.27	*		-4.349E-02	1.656E-01	2.466E-01	2.964E-02	-0.176
	443.98			-6.336E-02	1.776E+00	2.885E+00	2.785E-01	-0.022
	778.89			-1.767E-01	4.331E-01	6.822E-01	7.486E-02	-0.259
	867.32			-4.030E-01	1.483E+00	2.430E+00	2.713E-01	-0.166
	964.01			-1.877E-01	6.490E-01	8.945E-01	9.546E-02	-0.210
	1085.78			-3.879E-01	7.472E-01	1.178E+00	1.097E-01	-0.329
	1112.02			6.563E-02	5.712E-01	9.329E-01	8.360E-02	0.070
	1407.95			-1.957E-01	2.133E-01	3.098E-01	2.770E-02	-0.632

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GD-153		69.67		-9.351E-01	1.993E+00	3.225E+00	2.504E-01	-0.290
		83.37		9.645E+00	2.136E+01	3.165E+01	2.841E+00	0.305
		97.43	*	-1.062E-01	1.075E-01	1.564E-01	1.375E-02	-0.679
EU-154	+	103.18		-4.195E-02	1.313E-01	2.075E-01	1.773E-02	-0.202
		123.07		4.671E-01	1.158E-01	1.604E-01	1.780E-02	2.911
		247.94		-1.868E-02	5.723E-01	8.912E-01	1.324E-01	-0.021
		591.81		2.156E-01	9.679E-01	1.552E+00	2.018E-01	0.139
		723.30		-2.809E-01	2.900E-01	4.444E-01	5.125E-02	-0.632
		756.87		4.086E-01	1.228E+00	2.028E+00	2.781E-01	0.201
		873.19		-2.669E-01	5.280E-01	8.512E-01	1.205E-01	-0.314
		996.32		-1.228E-01	6.429E-01	1.043E+00	1.947E-01	-0.118
		1004.76		5.397E-02	3.792E-01	6.264E-01	8.087E-02	0.086
		1274.45	*	9.730E-03	1.197E-01	1.998E-01	2.258E-02	0.049
EU-155	+	48.70		-1.293E+00	3.976E+00	6.618E+00	5.390E-01	-0.195
		60.01		4.251E+02	3.673E+01	3.384E+01	2.403E+00	12.563
		86.54		3.637E+00	4.491E-01	3.869E-01	3.638E-02	9.402
		105.31	*	-5.349E-02	1.405E-01	2.213E-01	1.899E-02	-0.242
TB-160	+	86.79		9.067E+00	1.114E+00	1.041E+00	9.739E-02	8.707
		197.04		-4.517E-02	7.600E-01	1.239E+00	1.347E-01	-0.036
		215.65		6.602E-01	1.058E+00	1.766E+00	2.041E-01	0.374
		298.57		2.377E-01	1.730E-01	2.685E-01	3.599E-02	0.885
		879.36	*	9.134E-03	2.382E-01	3.963E-01	4.431E-02	0.023
		962.29		-2.564E-01	1.096E+00	1.517E+00	1.621E-01	-0.169
		966.15		6.957E-01	4.281E-01	6.538E-01	6.964E-02	1.064
		1177.93		7.342E+00	1.022E+00	1.730E+00	1.396E-01	4.243
		1271.85		2.527E-01	6.434E-01	1.108E+00	9.523E-02	0.228
		80.57		-1.863E-01	3.946E-01	5.621E-01	4.884E-02	-0.331
HO-166M	+	184.41		9.117E-02	6.634E-02	8.773E-02	9.147E-03	1.039
		280.46		-3.046E-02	1.351E-01	2.138E-01	2.986E-02	-0.142
		410.95		3.652E-01	4.061E-01	6.885E-01	6.499E-02	0.530
		711.68	*	2.626E-02	9.528E-02	1.567E-01	1.685E-02	0.168
		752.31		9.782E-02	4.270E-01	7.018E-01	7.645E-02	0.139
		810.29		-4.923E-02	9.910E-02	1.612E-01	1.782E-02	-0.305
		51.35		1.544E+01	5.359E+01	9.052E+01	7.061E+00	0.171
TM-171	+	52.39		-3.934E-01	2.845E+01	4.762E+01	3.655E+00	-0.008
		59.40		2.226E+03	1.923E+02	1.868E+02	1.320E+01	11.915
		66.72	*	1.300E+01	3.466E+01	5.773E+01	4.362E+00	0.225
LU-176	+	88.36		7.184E+00	8.826E-01	8.840E-01	8.360E-02	8.127
		201.83		-4.835E-03	4.067E-02	6.651E-02	7.348E-03	-0.073
		306.84	*	-6.139E-03	3.742E-02	6.239E-02	8.185E-03	-0.098
LU-177	+	401.10		1.570E+00	1.107E+01	1.828E+01	1.713E+00	0.086
		112.95		9.163E-01	1.038E+00	1.712E+00	1.423E-01	0.535
		208.36	*	7.591E-01	7.373E-01	1.246E+00	1.406E-01	0.609
LU-177M	+	52.97		5.625E-01	2.883E+00	4.850E+00	3.690E-01	0.116
		54.07		5.933E-02	1.614E+00	2.579E+00	1.932E-01	0.023
		61.30		2.622E+01	3.305E+00	5.233E+00	3.764E-01	5.011
		121.62		3.309E+00	7.825E-01	1.162E+00	9.574E-02	2.847
		147.16		-9.070E-01	8.378E-01	1.346E+00	1.213E-01	-0.674
		171.86		-1.676E-01	6.403E-01	1.054E+00	1.054E-01	-0.159

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181		218.09		-1.577E-02	1.293E+00	2.110E+00	2.458E-01	-0.007
		268.79		1.048E+00	1.191E+00	1.970E+00	2.678E-01	0.532
		319.02		6.400E-02	3.819E-01	6.434E-01	8.153E-02	0.099
		367.43		-2.529E-01	1.423E+00	2.335E+00	2.465E-01	-0.108
		413.65	*	-2.163E-01	2.878E-01	4.540E-01	4.294E-02	-0.476
		56.28		2.415E+00	1.801E+00	2.799E+00	2.039E-01	0.863
		57.53		5.778E+00	1.157E+00	1.851E+00	1.330E-01	3.122
		65.20		-4.202E-01	1.042E+00	1.690E+00	1.260E-01	-0.249
		133.02		-1.539E-02	7.694E-02	1.294E-01	1.103E-02	-0.119
		136.25		-1.960E-01	5.370E-01	8.956E-01	7.725E-02	-0.219
W-181		345.85		3.668E-02	2.995E-01	4.356E-01	5.038E-02	0.084
		482.03	*	-2.028E-02	6.079E-02	9.635E-02	9.512E-03	-0.211
		56.28		1.027E+00	7.636E-01	1.187E+00	8.646E-02	0.865
		57.53		2.442E+00	4.906E-01	7.847E-01	5.640E-02	3.112
TA-182		65.20	*	-1.769E-01	4.385E-01	7.114E-01	5.303E-02	-0.249
		67.75		-6.331E-04	1.295E-01	2.137E-01	1.630E-02	-0.003
		100.10		1.816E-01	2.204E-01	3.660E-01	3.171E-02	0.496
		152.43		1.453E-01	4.284E-01	7.273E-01	6.711E-02	0.200
RE-183		222.10		1.315E-01	5.257E-01	8.649E-01	1.021E-01	0.152
		1001.68		-2.506E+00	3.434E+00	5.415E+00	5.580E-01	-0.463
		1121.28		3.227E-01	2.295E-01	4.011E-01	3.542E-02	0.804
		1189.05		-6.605E-02	3.446E-01	5.657E-01	4.601E-02	-0.117
		1221.42	*	-3.483E-02	1.808E-01	2.953E-01	2.455E-02	-0.118
		1230.97		-5.137E-01	4.751E-01	7.123E-01	5.961E-02	-0.721
	+	57.98		1.484E+01	1.282E+00	1.011E+00	7.234E-02	14.680
	+	59.32		8.529E+00	7.370E-01	7.206E-01	5.097E-02	11.836
		67.20		-2.722E-02	2.316E-01	3.791E-01	2.877E-02	-0.072
		162.32	*	-2.809E-02	1.396E-01	2.308E-01	2.227E-02	-0.122
RE-184		208.81		1.871E+00	1.334E+00	2.270E+00	2.567E-01	0.824
		291.72		-5.955E-02	1.525E+00	2.236E+00	3.047E-01	-0.027
	+	57.98		5.711E+01	4.936E+00	3.891E+00	2.784E-01	14.680
	+	59.32		3.280E+01	2.835E+00	2.771E+00	1.960E-01	11.836
		67.20		-1.047E-01	8.912E-01	1.459E+00	1.107E-01	-0.072
		161.27		-2.821E-01	4.676E-01	7.622E-01	7.318E-02	-0.370
		216.55		2.955E-01	3.933E-01	6.586E-01	7.635E-02	0.449
		252.85	*	-7.486E-02	3.495E-01	5.585E-01	7.246E-02	-0.134
		318.01		-1.414E-01	6.633E-01	1.100E+00	1.398E-01	-0.129
		792.07		6.852E-01	1.489E+00	2.466E+00	2.715E-01	0.278
OS-185		903.28		-1.246E+00	2.139E+00	2.888E+00	3.224E-01	-0.431
		920.93		1.647E-01	9.065E-01	1.422E+00	1.569E-01	0.116
	+	59.72		2.371E+01	2.049E+00	1.936E+00	1.371E-01	12.246
		61.14		4.156E+00	4.386E-01	6.464E-01	4.643E-02	6.430
		69.30		-9.126E-03	3.425E-01	5.638E-01	4.361E-02	-0.016
		592.07		1.161E+00	3.615E+00	5.972E+00	6.182E-01	0.194
		646.12	*	-1.961E-02	6.197E-02	1.001E-01	1.052E-02	-0.196
		717.42		-5.443E-01	1.339E+00	2.128E+00	2.292E-01	-0.256
		874.81		-5.045E-01	9.955E-01	1.607E+00	1.796E-01	-0.314
		880.27		3.692E-01	1.335E+00	2.247E+00	2.513E-01	0.164
RE-188		155.03	*	5.561E-02	2.104E-01	3.560E-01	3.323E-02	0.156

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-188		477.96		1.107E-01	4.698E+00	7.600E+00	7.486E-01	0.015
		633.10		6.484E-01	3.922E+00	6.525E+00	6.836E-01	0.099
		63.58		-3.391E+01	6.556E+01	9.692E+01	7.121E+00	-0.350
		227.08		-9.661E+00	1.870E+01	2.977E+01	3.569E+00	-0.325
IR-192	+	290.67	*	3.206E+00	1.182E+01	1.761E+01	2.405E+00	0.182
		295.96		5.653E-01	2.467E-01	2.891E-01	3.911E-02	1.955
		308.46		-2.994E-02	1.371E-01	2.280E-01	2.984E-02	-0.131
		316.51	*	-2.763E-02	4.988E-02	8.142E-02	1.041E-02	-0.339
AU-195		468.07		-5.202E-02	1.162E-01	1.842E-01	1.905E-02	-0.282
		604.41		5.083E-01	7.266E-01	1.083E+00	1.544E-01	0.469
		612.46		3.040E+00	1.235E+00	1.972E+00	2.267E-01	1.542
		65.12		-5.336E-02	2.046E-01	3.338E-01	2.486E-02	-0.160
TL-200		66.83		4.165E-02	1.122E-01	1.868E-01	1.413E-02	0.223
		75.70		7.959E-01	2.901E-01	4.569E-01	3.764E-02	1.742
		98.88	*	4.047E-01	2.825E-01	4.786E-01	4.174E-02	0.846
		129.76		1.467E+00	3.585E+00	6.166E+00	5.196E-01	0.238
TL-201		367.94	*	-3.921E-01	6.202E+00	1.023E+01	1.077E+00	-0.038
		579.30		3.536E+01	5.009E+01	7.524E+01	7.755E+00	0.470
		828.27		2.543E+01	6.691E+01	1.139E+02	1.264E+01	0.223
		1205.75		5.439E+00	2.197E+01	3.729E+01	3.068E+00	0.146
TL-202		68.90		2.145E-01	1.054E+00	1.749E+00	1.348E-01	0.123
		70.82		-6.874E-02	5.943E-01	9.738E-01	7.641E-02	-0.071
		80.30		-6.540E-01	1.318E+00	1.875E+00	1.625E-01	-0.349
		135.34		-1.397E+00	6.069E+00	1.018E+01	8.751E-01	-0.137
HG-203		167.43	*	-1.867E+00	1.688E+00	2.672E+00	2.634E-01	-0.699
		68.90		6.970E-02	3.425E-01	5.685E-01	4.381E-02	0.123
		70.82		-2.228E-02	1.926E-01	3.156E-01	2.477E-02	-0.071
		80.30		-2.120E-01	4.273E-01	6.080E-01	5.267E-02	-0.349
BI-207		439.56	*	9.874E-02	7.983E-02	1.361E-01	1.310E-02	0.725
		70.83		-1.293E-01	1.143E+00	1.873E+00	2.459E-01	-0.069
		72.87		-7.063E-01	7.843E-01	1.097E+00	1.406E-01	-0.644
		82.60		4.589E-01	1.605E+00	2.163E+00	3.010E-01	0.212
TL-207		279.20	*	1.290E-02	5.768E-02	9.313E-02	1.318E-02	0.139
		72.80		-2.534E-01	2.558E-01	3.577E-01	2.861E-02	-0.708
		74.97		1.124E-01	1.558E-01	2.347E-01	1.919E-02	0.479
		84.90		1.944E-01	2.811E-01	4.196E-01	3.835E-02	0.463
		569.67		9.848E-03	4.389E-02	7.391E-02	7.591E-03	0.133
		1063.62	*	-3.738E-02	8.962E-02	1.422E-01	1.365E-02	-0.263
		1770.23		-9.246E-01	8.183E-01	1.180E+00	9.812E-02	-0.783
		81.07		-3.717E-01	3.245E-01	4.453E-01	3.892E-02	-0.835
		83.78		6.480E-02	1.882E-01	2.774E-01	2.502E-02	0.234
		94.90		5.202E-02	3.129E-01	4.543E-01	4.061E-02	0.114
		122.32	+	1.587E+01	3.791E+00	5.517E+00	4.909E-01	2.877
		144.24		7.842E-01	8.996E-01	1.550E+00	1.534E-01	0.506
		154.21		1.214E-01	5.279E-01	8.923E-01	9.013E-02	0.136
		269.46		2.355E-01	2.928E-01	4.828E-01	6.632E-02	0.488
		323.87	*	-9.444E-01	1.031E+00	1.629E+00	3.238E-01	-0.580
		338.28	+	4.048E+00	2.048E+00	2.944E+00	4.355E-01	1.375
		445.03		-1.978E+00	4.266E+00	6.786E+00	8.720E-01	-0.291

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209		260.50		-5.058E+00	1.503E+01	2.381E+01	3.160E+00	-0.212
		262.80		-2.834E+01	4.177E+01	6.462E+01	8.634E+00	-0.439
		896.60	*	7.958E+00	1.385E+01	2.356E+01	2.640E+00	0.338
BI-210		46.50	*	2.343E+00	5.425E+00	9.228E+00	8.573E-01	0.254
PB-210		46.50	*	2.343E+00	5.425E+00	9.228E+00	8.573E-01	0.254
PO-210		46.50	*	2.343E+00	5.424E+00	9.228E+00	7.759E-01	0.254
PB-211		404.84	*	-1.794E+00	1.901E+00	2.378E+00	1.493E+00	-0.754
		427.08		1.737E-01	3.535E+00	5.780E+00	3.600E+00	0.030
		831.96		-1.721E+00	2.218E+00	3.071E+00	1.936E+00	-0.561
BI-212		727.18	*	9.295E-01	4.924E-01	8.575E-01	1.024E-01	1.084
		785.46		1.542E+00	2.841E+00	4.724E+00	5.192E-01	0.326
		1620.62		3.947E-01	1.544E+00	2.646E+00	2.307E-01	0.149
BI-214	+	609.31	*	5.413E-01	2.026E-01	2.573E-01	2.992E-02	2.104
		1120.29		7.362E-01	5.160E-01	8.978E-01	9.920E-02	0.820
		1764.49		7.759E-01	3.619E-01	7.237E-01	6.030E-02	1.072
PO-215		81.07		-3.717E-01	3.245E-01	4.453E-01	3.892E-02	-0.835
		83.78		6.480E-02	1.882E-01	2.774E-01	2.502E-02	0.234
		94.90		5.202E-02	3.129E-01	4.543E-01	4.061E-02	0.114
	+	122.32		1.587E+01	3.791E+00	5.517E+00	4.909E-01	2.877
		144.24		7.842E-01	8.996E-01	1.550E+00	1.534E-01	0.506
		154.21		1.214E-01	5.279E-01	8.923E-01	9.013E-02	0.136
		269.46		2.355E-01	2.928E-01	4.828E-01	6.632E-02	0.488
		323.87	*	-9.444E-01	1.031E+00	1.629E+00	3.238E-01	-0.580
	+	338.28		4.048E+00	2.048E+00	2.944E+00	4.355E-01	1.375
		445.03		-1.978E+00	4.266E+00	6.786E+00	8.720E-01	-0.291
RN-219		271.23		2.870E-01	3.751E-01	6.172E-01	9.143E-02	0.465
		401.81	*	-4.232E-02	6.748E-01	1.104E+00	1.709E-01	-0.038
RN-220		549.76	*	1.862E+01	3.785E+01	6.475E+01	6.600E+00	0.288
RA-223		81.07		-3.717E-01	3.245E-01	4.453E-01	3.892E-02	-0.835
		83.78		6.480E-02	1.882E-01	2.774E-01	2.502E-02	0.234
		94.90		5.202E-02	3.129E-01	4.543E-01	4.061E-02	0.114
	+	122.32		1.587E+01	3.791E+00	5.517E+00	4.909E-01	2.877
		144.24		7.842E-01	8.996E-01	1.550E+00	1.534E-01	0.506
		154.21		1.214E-01	5.279E-01	8.923E-01	9.013E-02	0.136
		269.46		2.355E-01	2.928E-01	4.828E-01	6.632E-02	0.488
		323.87	*	-9.444E-01	1.031E+00	1.629E+00	3.238E-01	-0.580
	+	338.28		4.048E+00	2.048E+00	2.944E+00	4.355E-01	1.375
		445.03		-1.978E+00	4.266E+00	6.786E+00	8.720E-01	-0.291
RA-226	+	609.31	*	5.413E-01	2.026E-01	2.573E-01	2.992E-02	2.104
		1120.29		7.362E-01	5.160E-01	8.978E-01	9.920E-02	0.820
		1764.49		7.759E-01	3.619E-01	7.237E-01	6.030E-02	1.072
AC-227		79.80		2.448E-01	2.329E+00	3.414E+00	7.340E-01	0.072
		236.00		7.195E-01	4.287E-01	6.380E-01	9.625E-02	1.128
		256.20	*	-1.514E-01	6.033E-01	9.609E-01	1.753E-01	-0.158
		286.10		-1.449E+00	2.519E+00	3.898E+00	6.643E-01	-0.372
		299.80		4.116E-01	2.401E+00	3.549E+00	7.188E-01	0.116
		304.40		-2.580E+00	2.889E+00	4.594E+00	9.635E-01	-0.562
TH-227		334.20		3.670E-01	3.989E+00	5.811E+00	1.230E+00	0.063
		79.80		2.448E-01	2.329E+00	3.414E+00	7.434E-01	0.072



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	+	94.00		1.275E+00	3.397E+00	4.195E+00	9.199E-01	0.304
		236.00		7.195E-01	4.270E-01	6.380E-01	9.031E-02	1.128
		256.20	*	-1.514E-01	6.035E-01	9.609E-01	1.978E-01	-0.158
		286.10		-1.449E+00	2.902E+00	3.898E+00	3.935E+00	-0.372
		299.80		4.116E-01	2.401E+00	3.549E+00	7.188E-01	0.116
		304.40		-2.580E+00	2.889E+00	4.594E+00	9.635E-01	-0.562
		334.20		3.670E-01	3.989E+00	5.811E+00	1.230E+00	0.063
		85.43		1.745E-01	2.861E-01	4.252E-01	3.911E-02	0.411
	+	88.47		4.135E+00	5.081E-01	5.066E-01	4.785E-02	8.163
		100.00		2.239E-01	2.385E-01	3.976E-01	3.447E-02	0.563
TH-230		193.63	*	3.991E-01	7.594E-01	1.274E+00	1.370E-01	0.313
		210.97		7.381E-01	1.116E+00	1.867E+00	2.126E-01	0.395
	+	609.31	*	5.413E-01	2.026E-01	2.573E-01	2.992E-02	2.104
		1120.29		7.362E-01	5.160E-01	8.978E-01	9.920E-02	0.820
PA-231		1764.49		7.759E-01	3.619E-01	7.237E-01	6.030E-02	1.072
		283.67	*	-5.403E-01	2.448E+00	3.868E+00	7.224E-01	-0.140
TH-231		301.29		2.110E-01	9.190E-01	1.423E+00	2.263E-01	0.148
		81.07		-3.717E-01	3.245E-01	4.453E-01	3.892E-02	-0.835
U-231		83.78		6.480E-02	1.882E-01	2.774E-01	2.502E-02	0.234
		94.90		5.202E-02	3.129E-01	4.543E-01	4.061E-02	0.114
	+	122.32		1.587E+01	3.791E+00	5.517E+00	4.909E-01	2.877
		144.24		7.842E-01	8.996E-01	1.550E+00	1.534E-01	0.506
		154.21		1.214E-01	5.279E-01	8.923E-01	9.013E-02	0.136
		269.46		2.355E-01	2.928E-01	4.828E-01	6.632E-02	0.488
		323.87	*	-9.444E-01	1.031E+00	1.629E+00	3.238E-01	-0.580
	+	338.28		4.048E+00	2.048E+00	2.944E+00	4.355E-01	1.375
		445.03		-1.978E+00	4.266E+00	6.786E+00	8.720E-01	-0.291
		84.21		1.353E+00	2.334E+00	3.471E+00	3.147E-01	0.390
PA-233	+	92.29		3.644E-01	9.683E-01	1.281E+00	1.169E-01	0.284
		95.87	*	-3.257E-01	4.419E-01	6.073E-01	5.393E-02	-0.536
		108.00		1.699E-01	8.041E-01	1.298E+00	1.091E-01	0.131
		75.28		6.427E+00	4.707E+00	7.121E+00	1.076E+00	0.903
PA-234	+	86.59		5.929E+01	1.673E+01	6.439E+00	1.742E+00	9.208
		300.12		2.977E-01	6.662E-01	9.972E-01	1.798E-01	0.299
		311.98	*	-1.300E-02	9.891E-02	1.649E-01	2.160E-02	-0.079
		340.50		1.360E+00	1.127E+00	1.662E+00	4.181E-01	0.819
		398.62		2.222E+00	3.495E+00	5.814E+00	1.563E+00	0.382
		415.76		-1.230E+00	2.756E+00	4.395E+00	9.628E-01	-0.280
		63.00		-1.883E+00	2.107E+00	3.034E+00	4.494E-01	-0.621
		94.67		9.679E-02	2.258E-01	3.321E-01	4.196E-02	0.291
		98.44		1.021E-01	1.312E-01	1.971E-01	1.100E-01	0.518
		99.86		5.973E-01	6.051E-01	1.011E+00	8.768E-02	0.591
PA-234		111.00		-2.890E-01	2.651E-01	3.989E-01	4.745E-02	-0.724
		131.20		-1.942E-02	1.383E-01	2.332E-01	1.975E-02	-0.083
		152.70		8.859E-04	4.342E-01	7.285E-01	1.265E-01	0.001
	+	186.00		3.282E+00	2.583E+00	3.185E+00	1.012E+00	1.030
		226.40		-3.558E-03	6.334E-01	1.031E+00	1.608E-01	-0.003
		227.20		-1.754E-01	6.725E-01	1.083E+00	1.299E-01	-0.162
		248.90		8.519E-02	1.258E+00	2.038E+00	4.960E-01	0.042

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		293.70		2.081E+00	1.282E+00	1.925E+00	3.892E-01	1.081
		369.80		6.003E-01	1.373E+00	2.301E+00	5.192E-01	0.261
		568.70		-7.819E-01	1.450E+00	2.341E+00	2.404E-01	-0.334
		569.50		7.623E-02	3.890E-01	6.541E-01	6.718E-02	0.117
		574.00		-1.535E+00	2.267E+00	3.539E+00	3.640E-01	-0.434
		699.00		1.414E-01	1.055E+00	1.736E+00	3.490E-01	0.081
		706.10		-3.722E-01	1.588E+00	2.542E+00	1.145E+00	-0.146
		733.00		-1.121E+00	6.884E-01	9.327E-01	2.159E-01	-1.202
		742.81		-1.064E+00	2.258E+00	3.370E+00	2.276E+00	-0.316
		796.30		8.234E-01	1.439E+00	2.370E+00	6.616E-01	0.347
		805.60		5.582E-02	1.630E+00	2.733E+00	8.587E-01	0.020
		819.60		-8.846E-01	2.170E+00	3.495E+00	1.351E+00	-0.253
		826.30		7.874E-01	1.421E+00	2.366E+00	1.071E+00	0.333
		831.60		-9.428E-01	1.045E+00	1.590E+00	4.874E-01	-0.593
		876.40		7.429E-02	1.503E+00	2.499E+00	2.575E+00	0.030
		880.51		1.716E-01	5.066E-01	8.552E-01	9.564E-02	0.201
		883.24		1.285E-02	5.237E-01	8.703E-01	5.883E-01	0.015
		899.00		-2.568E-01	1.598E+00	2.610E+00	1.156E+00	-0.098
		925.00		-2.914E-01	2.345E+00	3.852E+00	4.238E-01	-0.076
		926.50		7.058E-02	3.467E-01	5.777E-01	1.512E-01	0.122
		946.00	*	-3.630E-02	6.190E-01	1.018E+00	2.023E-01	-0.036
		949.00		-5.168E-02	8.947E-01	1.471E+00	1.589E-01	-0.035
		980.50		1.807E-01	1.358E+00	2.248E+00	2.364E-01	0.080
PA-234M		1394.10		3.203E-01	1.208E+00	2.021E+00	1.316E+00	0.158
		766.42		2.319E+00	1.683E+01	2.740E+01	1.403E+01	0.085
		1001.03		-4.166E+00	8.092E+00	1.294E+01	1.483E+00	-0.322
TH-234		63.29	*	-1.473E+00	1.808E+00	2.609E+00	4.541E-01	-0.565
	+	92.38		3.299E-01	8.782E-01	1.158E+00	2.122E-01	0.285
U-234	+	609.31	*	5.413E-01	2.026E-01	2.573E-01	2.992E-02	2.104
		1120.29		7.362E-01	5.160E-01	8.978E-01	9.920E-02	0.820
		1764.49		7.759E-01	3.619E-01	7.237E-01	6.030E-02	1.072
U-235		89.95		9.249E+00	3.557E+00	3.039E+00	9.440E-01	3.043
	+	93.35		3.966E-01	1.059E+00	1.373E+00	3.866E-01	0.289
		105.00		1.873E-01	1.359E+00	2.190E+00	6.528E-01	0.086
		143.76	*	1.247E-01	2.828E-01	4.804E-01	8.475E-02	0.260
		163.35		6.498E-01	6.475E-01	1.098E+00	2.151E-01	0.592
	+	185.71		1.216E-01	8.845E-02	1.186E-01	1.242E-02	1.025
		205.31		-6.253E-01	7.842E-01	1.226E+00	2.496E-01	-0.510
NP-236		94.67		7.475E-02	1.712E-01	2.520E-01	2.257E-02	0.297
		98.44		7.716E-02	8.956E-02	1.490E-01	1.303E-02	0.518
		111.00		-2.186E-01	1.996E-01	3.018E-01	2.518E-02	-0.724
		160.31	*	1.393E-02	1.071E-01	1.798E-01	1.719E-02	0.077
NP-237		86.50	*	5.031E+00	1.242E+00	9.275E-01	2.100E-01	5.424
		95.87		-9.930E-01	1.367E+00	1.852E+00	4.578E-01	-0.536
U-238		63.29	*	-1.473E+00	1.808E+00	2.609E+00	4.541E-01	-0.565
	+	92.38		3.299E-01	8.766E-01	1.158E+00	1.055E-01	0.285
NP-239		99.55		2.330E-01	2.039E-01	3.421E-01	2.973E-02	0.681
		117.00	*	-2.411E-01	3.020E-01	4.058E-01	3.354E-02	-0.594
		209.75		1.779E+00	1.131E+00	1.930E+00	2.188E-01	0.922

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243		228.18		6.583E-02	3.517E-01	5.762E-01	6.932E-02	0.114
		277.60		1.969E-01	2.813E-01	4.617E-01	6.436E-02	0.427
		334.30		2.378E-01	2.255E+00	3.287E+00	3.965E-01	0.072
		74.67	*	2.733E-02	8.623E-02	1.280E-01	1.044E-02	0.213
	+	86.72		3.335E+02	4.098E+01	3.761E+01	3.514E+00	8.869
		117.66		-4.063E+00	5.999E+00	8.121E+00	6.708E-01	-0.500
CM-243		142.18		3.025E+00	2.317E+01	3.925E+01	3.466E+00	0.077
		99.55		2.397E-01	2.097E-01	3.519E-01	3.057E-02	0.681
		103.76	*	-5.456E-03	1.236E-01	1.979E-01	1.687E-02	-0.028
		117.00		-2.479E-01	3.106E-01	4.173E-01	3.449E-02	-0.594
		209.75		1.753E+00	1.114E+00	1.901E+00	2.156E-01	0.922
		228.18		6.649E-02	3.552E-01	5.819E-01	7.001E-02	0.114
AM-246		277.60		1.984E-01	2.834E-01	4.652E-01	6.485E-02	0.427
		798.80		-1.401E-01	2.254E-01	3.487E-01	3.845E-02	-0.402
		1036.00		4.122E-01	5.024E-01	8.591E-01	8.531E-02	0.480
		1062.04		6.519E-02	3.863E-01	6.362E-01	6.120E-02	0.102
		1078.86	*	1.226E-01	2.597E-01	4.340E-01	4.083E-02	0.282
		278.00		7.849E-01	1.170E+00	1.919E+00	2.678E-01	0.409
CM-247		287.40		-4.511E-01	1.997E+00	3.153E+00	4.338E-01	-0.143
		402.60	*	-8.103E-03	6.045E-02	9.859E-02	9.249E-03	-0.082
		252.85		-2.897E-01	1.352E+00	2.161E+00	2.804E-01	-0.134
		333.44		2.660E-02	2.937E-01	4.279E-01	5.176E-02	0.062
		387.95	*	-2.132E-02	6.476E-02	1.050E-01	9.980E-03	-0.203
		176.60	*	8.028E-02	1.744E-01	2.943E-01	2.990E-02	0.273
CF-251		227.00		-3.088E-01	6.048E-01	9.633E-01	1.155E-01	-0.321
		285.00		-1.996E+00	2.813E+00	4.324E+00	5.980E-01	-0.462

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018261      *
* Acquisition date   : 27-JAN-2010 15:00:50 Detector SN# :                  *
* Detector ID        : GAM22                      Sensitivity      : 5.000    *
* Geometry           : CAN                        Energy tolerance: 1.500    *
* Elapsed live time  : 0 01:00:00.00             Abundance limit : 75.000    *
* Elapsed real time  : 0 01:00:02.19             Half life ratio  : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018261             Analyst initials: MXR1        *
* Batch Number       : 942717                  Sample Quantity : 1.5544E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000    *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                                         *
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope :                      *
* MSD DPM             : 0.000                  MSD Isotope :                      *
* LCS DPM             : 0.000                  LCS Isotope :                      *
* LCSD DPM            : 0.000                  LCSD Isotope :                      *
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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	1.535E-01	6.797E-01	5.044E-01	0.000E+00
CO-57	2.252E-01	5.221E-02	6.121E-02	0.000E+00
CO-60	6.506E+00	6.265E-01	7.200E-02	0.000E+00
CD-109	3.047E+01	3.669E+00	1.898E+00	0.000E+00
SN-126	3.029E+00	3.647E-01	1.894E-01	0.000E+00
BA-137M	5.487E+00	6.029E-01	9.375E-02	0.000E+00
CS-137	5.800E+00	6.380E-01	9.911E-02	0.000E+00
TL-208	3.311E-01	9.695E-02	9.147E-02	0.000E+00
BI-211	2.173E+00	5.865E-01	5.232E-01	0.000E+00
PB-212	1.100E+00	1.915E-01	1.436E-01	0.000E+00
PO-212	1.100E+00	1.915E-01	1.436E-01	0.000E+00
PB-214	7.557E-01	2.076E-01	1.828E-01	0.000E+00
PO-214	7.557E-01	2.076E-01	1.828E-01	0.000E+00
PO-216	1.100E+00	1.915E-01	1.436E-01	0.000E+00
PO-218	7.557E-01	2.076E-01	1.828E-01	0.000E+00
RA-224	2.793E+00	1.540E+00	1.632E+00	0.000E+00
AC-228	1.212E+00	4.552E-01	4.167E-01	0.000E+00
RA-228	1.212E+00	4.552E-01	4.167E-01	0.000E+00
TH-228	1.108E+00	1.930E-01	1.447E-01	0.000E+00
TH-232	1.212E+00	4.552E-01	4.167E-01	0.000E+00
AM-241	1.311E+01	1.190E+00	4.560E-01	0.000E+00
ANH-511	8.320E-02	9.189E-02	7.364E-02	0.000E+00

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-1.001E-01	4.741E-01	8.042E-01	0.000E+00 NOT IDENT.
NA-22	3.884E-03	4.187E-02	7.227E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.958E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	1.424E-02	3.825E-02	6.765E-02	0.000E+00 NOT IDENT.
TI-44	0.000E+00	8.097E-02	9.830E-02	0.000E+00 FAIL ABUN

SC-46	2.646E-02	6.622E-02	1.168E-01	0.000E+00	NOT IDENT.
V-48	2.326E-02	9.229E-02	1.598E-01	0.000E+00	NOT IDENT.
CR-51	2.245E-01	4.637E-01	8.464E-01	0.000E+00	NOT IDENT.
MN-52	2.873E-02	9.285E-02	1.628E-01	0.000E+00	FAIL ABUN
MN-54	-3.636E-02	5.760E-02	9.691E-02	0.000E+00	NOT IDENT.
CO-56	-3.997E-03	6.137E-02	1.065E-01	0.000E+00	NOT IDENT.
CO-58	-2.895E-02	6.002E-02	1.023E-01	0.000E+00	NOT IDENT.
FE-59	-5.281E-02	1.464E-01	2.415E-01	0.000E+00	NOT IDENT.
ZN-65	-2.002E-01	1.607E-01	2.505E-01	0.000E+00	NOT IDENT.
GE-68	-1.203E+00	2.193E+00	3.588E+00	0.000E+00	NOT IDENT.
AS-73	-1.640E-01	1.422E+00	2.659E+00	0.000E+00	NOT IDENT.
AS-74	-3.030E-03	1.011E-01	1.764E-01	0.000E+00	NOT IDENT.
SE-75	-1.481E-02	6.437E-02	1.103E-01	0.000E+00	FAIL ABUN
BR-77	1.023E+00	1.856E+00	3.237E+00	0.000E+00	FAIL ABUN
SR-82	-1.733E-01	4.879E-01	8.081E-01	0.000E+00	NOT IDENT.
RB-83	6.198E-02	1.036E-01	1.810E-01	0.000E+00	NOT IDENT.
RB-84	1.645E-02	1.062E-01	1.854E-01	0.000E+00	NOT IDENT.
KR-85	1.754E+01	1.274E+01	2.025E+01	0.000E+00	NOT IDENT.
SR-85	8.309E-02	6.036E-02	9.592E-02	0.000E+00	NOT IDENT.
RB-86	-2.036E-01	1.056E+00	1.766E+00	0.000E+00	NOT IDENT.
Y-88	8.276E-03	3.601E-02	6.266E-02	0.000E+00	NOT IDENT.
ZR-88	-3.244E-02	4.625E-02	7.845E-02	0.000E+00	NOT IDENT.
Y-91	-5.006E+00	1.854E+01	3.123E+01	0.000E+00	NOT IDENT.
NB-94	9.878E-03	4.919E-02	8.527E-02	0.000E+00	NOT IDENT.
NB-95	1.993E-02	5.696E-02	9.852E-02	0.000E+00	NOT IDENT.
NB-95M	1.486E-01	1.945E-01	3.086E-01	0.000E+00	NOT IDENT.
ZR-95	5.031E-02	1.009E-01	1.762E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.315E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.934E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.636E+00	2.723E+00	4.452E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.888E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.329E-02	4.758E-02	7.928E-02	0.000E+00	NOT IDENT.
RH-102	-4.157E-02	5.011E-02	8.231E-02	0.000E+00	NOT IDENT.
RU-103	8.382E-03	5.533E-02	9.515E-02	0.000E+00	FAIL ABUN
RH-106	1.287E-01	4.507E-01	7.960E-01	0.000E+00	FAIL ABUN
RU-106	1.287E-01	4.505E-01	7.960E-01	0.000E+00	FAIL ABUN
AG-108M	-3.580E-02	5.374E-02	9.008E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	1.139E-01	1.772E-01	0.000E+00	NOT IDENT.
IN-111	-4.540E-02	2.770E-01	4.185E-01	0.000E+00	NOT IDENT.
IN-113M	2.468E-04	6.724E-02	1.180E-01	0.000E+00	NOT IDENT.
SN-113	2.468E-04	6.724E-02	1.180E-01	0.000E+00	NOT IDENT.
IN-114M	-8.675E-03	2.632E-01	4.139E-01	0.000E+00	NOT IDENT.
CD-115	5.722E-01	1.645E+00	2.961E+00	0.000E+00	NOT IDENT.
SN-117M	1.034E-04	4.899E-02	8.950E-02	0.000E+00	NOT IDENT.
SB-122	-3.761E-01	4.380E-01	7.338E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.565E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.588E-03	3.579E-02	6.469E-02	0.000E+00	NOT IDENT.
I-124	1.717E-01	3.256E-01	5.072E-01	0.000E+00	NOT IDENT.
SB-124	3.986E-02	8.075E-02	1.462E-01	0.000E+00	FAIL ABUN
SB-125	-6.758E-02	1.533E-01	2.607E-01	0.000E+00	NOT IDENT.
TE-125M	1.977E+00	1.145E+01	2.024E+01	0.000E+00	NOT IDENT.
I-126	2.319E-01	2.102E-01	3.357E-01	0.000E+00	NOT IDENT.
SB-126	-1.101E-01	1.476E-01	2.408E-01	0.000E+00	FAIL ABUN
SB-127	4.869E-01	5.134E-01	9.257E-01	0.000E+00	NOT IDENT.
XE-127	2.310E-02	5.667E-02	1.025E-01	0.000E+00	NOT IDENT.
I-131	5.438E-02	9.258E-02	1.676E-01	0.000E+00	NOT IDENT.
TE-132	4.006E-02	2.132E-01	3.777E-01	0.000E+00	NOT IDENT.
BA-133	5.082E-02	7.380E-02	1.179E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.287E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.003E-02	7.153E-02	1.236E-01	0.000E+00	NOT IDENT.
CS-135	4.794E-02	2.413E-01	4.207E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.276E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.921E-02	1.240E-01	2.074E-01	0.000E+00	NOT IDENT.
CE-139	-3.117E-02	3.764E-02	6.606E-02	0.000E+00	NOT IDENT.
BA-140	-1.388E-01	2.689E-01	4.563E-01	0.000E+00	NOT IDENT.
LA-140	-2.304E-02	7.505E-02	1.242E-01	0.000E+00	NOT IDENT.
CE-141	4.589E-02	6.866E-02	1.292E-01	0.000E+00	NOT IDENT.
CE-143	4.657E+00	5.375E+00	8.666E+00	0.000E+00	FAIL ABUN
CE-144	2.363E-02	2.559E-01	4.767E-01	0.000E+00	NOT IDENT.
PM-144	-6.742E-03	4.960E-02	8.447E-02	0.000E+00	NOT IDENT.
PR-144	-4.550E-01	3.348E+00	5.701E+00	0.000E+00	NOT IDENT.
PM-146	-4.378E-02	7.877E-02	1.323E-01	0.000E+00	NOT IDENT.
ND-147	8.818E-03	5.405E-01	9.586E-01	0.000E+00	NOT IDENT.
PM-149	-8.401E+00	1.387E+01	2.302E+01	0.000E+00	NOT IDENT.
EU-152	-4.349E-02	1.623E-01	2.587E-01	0.000E+00	FAIL ABUN
GD-153	-1.062E-01	1.053E-01	1.693E-01	0.000E+00	NOT IDENT.
EU-154	9.730E-03	1.173E-01	2.022E-01	0.000E+00	FAIL ABUN
EU-155	-5.349E-02	1.377E-01	2.392E-01	0.000E+00	FAIL ABUN

TB-160	9.134E-03	2.334E-01	4.054E-01	0.000E+00	FAIL	ABUN
HO-166M	2.626E-02	9.337E-02	1.612E-01	0.000E+00	FAIL	ABUN
TM-171	1.300E+01	3.397E+01	6.310E+01	0.000E+00	FAIL	ABUN
LU-176	-6.139E-03	3.668E-02	6.564E-02	0.000E+00	FAIL	ABUN
LU-177	7.591E-01	7.226E-01	1.324E+00	0.000E+00	NOT IDENT.	
LU-177M	-2.163E-01	2.820E-01	4.740E-01	0.000E+00	FAIL	ABUN
HF-181	-2.028E-02	5.957E-02	1.002E-01	0.000E+00	NOT IDENT.	
W-181	-1.769E-01	4.298E-01	7.780E-01	0.000E+00	NOT IDENT.	
TA-182	-3.483E-02	1.772E-01	2.993E-01	0.000E+00	NOT IDENT.	
RE-183	-2.809E-02	1.368E-01	2.469E-01	0.000E+00	FAIL	ABUN
RE-184	-7.486E-02	3.425E-01	5.905E-01	0.000E+00	FAIL	ABUN
OS-185	-1.961E-02	6.073E-02	1.032E-01	0.000E+00	FAIL	ABUN
RE-188	5.561E-02	2.062E-01	3.812E-01	0.000E+00	NOT IDENT.	
W-188	3.206E+00	1.158E+01	1.856E+01	0.000E+00	NOT IDENT.	
IR-192	-2.763E-02	4.889E-02	8.560E-02	0.000E+00	FAIL	ABUN
AU-195	4.047E-01	2.769E-01	5.181E-01	0.000E+00	NOT IDENT.	
TL-200	-3.921E-01	6.078E+00	1.071E+01	0.000E+00	NOT IDENT.	
TL-201	-1.867E+00	1.654E+00	2.856E+00	0.000E+00	NOT IDENT.	
TL-202	9.874E-02	7.823E-02	1.419E-01	0.000E+00	NOT IDENT.	
HG-203	1.290E-02	5.653E-02	9.823E-02	0.000E+00	NOT IDENT.	
BI-207	-3.738E-02	8.783E-02	1.447E-01	0.000E+00	NOT IDENT.	
TL-207	-9.444E-01	1.010E+00	1.712E+00	0.000E+00	FAIL	ABUN
PO-209	7.958E+00	1.357E+01	2.409E+01	0.000E+00	NOT IDENT.	
BI-210	2.343E+00	5.317E+00	1.017E+01	0.000E+00	NOT IDENT.	
PB-210	2.343E+00	5.317E+00	1.017E+01	0.000E+00	NOT IDENT.	
PO-210	2.343E+00	5.316E+00	1.017E+01	0.000E+00	NOT IDENT.	
PB-211	-1.794E+00	1.863E+00	2.484E+00	0.000E+00	NOT IDENT.	
BI-212	0.000E+00	4.825E-01	8.817E-01	0.000E+00	NOT IDENT.	
BI-214	0.000E+00	1.986E-01	2.659E-01	0.000E+00	FAIL	ABUN
PO-215	-9.444E-01	1.010E+00	1.712E+00	0.000E+00	FAIL	ABUN
RN-219	-4.232E-02	6.613E-01	1.154E+00	0.000E+00	NOT IDENT.	
RN-220	1.862E+01	3.709E+01	6.708E+01	0.000E+00	NOT IDENT.	
RA-223	-9.444E-01	1.010E+00	1.712E+00	0.000E+00	FAIL	ABUN
RA-226	0.000E+00	1.986E-01	2.659E-01	0.000E+00	FAIL	ABUN
AC-227	-1.514E-01	5.912E-01	1.016E+00	0.000E+00	NOT IDENT.	
TH-227	-1.514E-01	5.914E-01	1.016E+00	0.000E+00	FAIL	ABUN
TH-229	3.991E-01	7.442E-01	1.356E+00	0.000E+00	FAIL	ABUN
TH-230	0.000E+00	1.986E-01	2.659E-01	0.000E+00	FAIL	ABUN
PA-231	-5.403E-01	2.399E+00	4.078E+00	0.000E+00	NOT IDENT.	
TH-231	-9.444E-01	1.010E+00	1.712E+00	0.000E+00	FAIL	ABUN
U-231	-3.257E-01	4.331E-01	6.580E-01	0.000E+00	FAIL	ABUN
PA-233	-1.300E-02	9.693E-02	1.734E-01	0.000E+00	FAIL	ABUN
PA-234	-3.630E-02	6.066E-01	1.039E+00	0.000E+00	FAIL	ABUN
PA-234M	-4.166E+00	7.930E+00	1.319E+01	0.000E+00	NOT IDENT.	
TH-234	-1.473E+00	1.771E+00	2.855E+00	0.000E+00	FAIL	ABUN
U-234	0.000E+00	1.986E-01	2.659E-01	0.000E+00	FAIL	ABUN
U-235	1.247E-01	2.772E-01	5.153E-01	0.000E+00	FAIL	ABUN
NP-236	1.393E-02	1.049E-01	1.924E-01	0.000E+00	NOT IDENT.	
NP-237	0.000E+00	1.218E+00	1.007E+00	0.000E+00	NOT IDENT.	
U-238	-1.473E+00	1.771E+00	2.855E+00	0.000E+00	FAIL	ABUN
NP-239	-2.411E-01	2.960E-01	4.375E-01	0.000E+00	NOT IDENT.	
AM-243	2.733E-02	8.451E-02	1.396E-01	0.000E+00	FAIL	ABUN
CM-243	-5.456E-03	1.211E-01	2.140E-01	0.000E+00	NOT IDENT.	
AM-246	1.226E-01	2.545E-01	4.414E-01	0.000E+00	NOT IDENT.	
CM-247	-8.103E-03	5.924E-02	1.030E-01	0.000E+00	NOT IDENT.	
CF-249	-2.132E-02	6.346E-02	1.098E-01	0.000E+00	NOT IDENT.	
CF-251	8.028E-02	1.709E-01	3.141E-01	0.000E+00	NOT IDENT.	

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018261.CNF;1
Sample date        : 20-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 15:00:50
Sample ID          : G1202018261      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM22            Detector geometry: CAN
Elapsed live time   : 0 01:00:00.00    Elapsed real time: 0 01:00:02.19  0.1%
Energy tolerance    : 1.50000 keV      Analyst Initials : MXR1
Abundance limit     : 75.00000          Sensitivity      : 5.00000
Batch ID           : 942717            Detector SN#     :
Matrix Spike ID     :                  LCS ID           : 1032-A
*****

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## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	6	10.67*	1.908E+00	1.535E-01	1.535E-01	451.88
CO-57	122.06	335	85.51*	8.558E+00	2.209E-01	2.252E-01	23.65
	136.48	-----	10.60	8.461E+00	-----	Line Not Found	-----
CO-60	1173.22	2924	100.00	2.258E+00	6.256E+00	6.273E+00	9.06
	1332.49	2741	100.00*	2.041E+00	6.488E+00	6.506E+00	9.83
CD-109	88.03	1750	3.72*	7.542E+00	3.013E+01	3.047E+01	12.29
SN-126	64.28	-----	9.60	4.512E+00	-----	Line Not Found	-----
	86.94	1750	8.90	7.542E+00	1.259E+01	1.259E+01	42.27
	87.57	1750	37.00*	7.542E+00	3.029E+00	3.029E+00	12.29
BA-137M	661.65	3668	89.98*	3.590E+00	5.484E+00	5.487E+00	11.21
CS-137	661.65	3668	85.12*	3.590E+00	5.797E+00	5.800E+00	11.22
TL-208	277.35	-----	6.80	6.182E+00	-----	Line Not Found	-----
	510.84	74	21.60	4.299E+00	3.852E-01	3.852E-01	113.01
	583.14	227	84.20*	3.930E+00	3.311E-01	3.311E-01	29.88
	860.37	-----	12.46	2.924E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	314	12.94*	5.402E+00	2.173E+00	2.173E+00	27.54
PB-212	74.81	-----	10.70	6.166E+00	-----	Line Not Found	-----
	77.11	177	18.00	6.505E+00	7.291E-01	7.291E-01	61.43
	87.30	1750	8.00	7.542E+00	1.401E+01	1.401E+01	15.84
	238.63	681	44.60*	6.709E+00	1.100E+00	1.100E+00	17.77
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
PO-212	74.81	-----	10.70	6.166E+00	-----	Line Not Found	-----
	77.11	177	18.00	6.505E+00	7.291E-01	7.291E-01	61.43
	87.30	1750	8.00	7.542E+00	1.401E+01	1.401E+01	15.84
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	681	44.60*	6.709E+00	1.100E+00	1.100E+00	17.77
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
PB-214	74.81	-----	6.21	6.166E+00	-----	Line Not Found	-----
	77.11	177	10.50	6.505E+00	1.250E+00	1.250E+00	61.90
	87.30	1750	4.67	7.542E+00	2.400E+01	2.400E+01	14.50
	241.98	152	7.49	6.664E+00	1.473E+00	1.473E+00	56.54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	295.21	189	19.20	5.969E+00	7.954E-01	7.954E-01	44.08
	351.92	314	37.20*	5.402E+00	7.557E-01	7.557E-01	28.04
PO-214	74.81	-----	6.21	6.166E+00	-----	Line Not Found	-----
	77.11	177	10.50	6.505E+00	1.250E+00	1.250E+00	61.90
	87.30	1750	4.67	7.542E+00	2.400E+01	2.400E+01	14.50
	241.98	152	7.49	6.664E+00	1.473E+00	1.473E+00	56.54
	295.21	189	19.20	5.969E+00	7.954E-01	7.954E-01	44.08
	351.92	314	37.20*	5.402E+00	7.557E-01	7.557E-01	28.04
PO-216	74.81	-----	10.70	6.166E+00	-----	Line Not Found	-----
	77.11	177	18.00	6.505E+00	7.291E-01	7.291E-01	61.43
	87.30	1750	8.00	7.542E+00	1.401E+01	1.401E+01	15.84
	238.63	681	44.60*	6.709E+00	1.100E+00	1.100E+00	17.77
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
PO-218	74.81	-----	6.21	6.166E+00	-----	Line Not Found	-----
	77.11	177	10.50	6.505E+00	1.250E+00	1.250E+00	61.90
	87.30	1750	4.67	7.542E+00	2.400E+01	2.400E+01	14.50
	241.98	152	7.49	6.664E+00	1.473E+00	1.473E+00	56.54
	295.21	189	19.20	5.969E+00	7.954E-01	7.954E-01	44.08
	351.92	314	37.20*	5.402E+00	7.557E-01	7.557E-01	28.04
RA-224	240.98	152	3.95*	6.664E+00	2.793E+00	2.793E+00	56.26
AC-228	338.32	126	11.40	5.526E+00	9.694E-01	9.694E-01	64.12
	911.07	194	27.70*	2.787E+00	1.212E+00	1.212E+00	38.32
	969.11	122	16.60	2.649E+00	1.336E+00	1.336E+00	54.61
RA-228	338.32	126	11.40	5.526E+00	9.694E-01	9.694E-01	64.12
	911.07	194	27.70*	2.787E+00	1.212E+00	1.212E+00	38.32
	969.11	122	16.60	2.649E+00	1.336E+00	1.336E+00	54.61
TH-228	74.81	-----	10.70	6.166E+00	-----	Line Not Found	-----
	77.11	177	18.00	6.505E+00	7.291E-01	7.346E-01	61.43
	87.30	1750	8.00	7.542E+00	1.401E+01	1.412E+01	12.29
	238.63	681	44.60*	6.709E+00	1.100E+00	1.108E+00	17.77
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
TH-232	338.32	126	11.40	5.526E+00	9.694E-01	9.694E-01	49.83
	911.07	194	27.70*	2.787E+00	1.212E+00	1.212E+00	38.32
	969.11	122	16.60	2.649E+00	1.336E+00	1.336E+00	54.61
AM-241	59.54	3532	35.90*	3.626E+00	1.311E+01	1.311E+01	9.27
ANH-511	511.00	74	100.00*	4.299E+00	8.320E-02	8.320E-02	112.70

Flag: "\*" = Keyline



Total number of lines in spectrum 20  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 20 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.535E-01	1.535E-01	6.936E-01	451.88	
CO-57	270.90D	1.02	2.209E-01	2.252E-01	0.533E-01	23.65	
CO-60	5.27Y	1.00	6.488E+00	6.506E+00	0.639E+00	9.83	
CD-109	464.00D	1.01	3.013E+01	3.047E+01	0.374E+01	12.29	
SN-126	1.00E+05Y	1.00	3.029E+00	3.029E+00	0.372E+00	12.29	
BA-137M	30.17Y	1.00	5.484E+00	5.487E+00	0.615E+00	11.21	
CS-137	30.17Y	1.00	5.797E+00	5.800E+00	0.651E+00	11.22	
TL-208	1.41E+10Y	1.00	3.311E-01	3.311E-01	0.989E-01	29.88	
BI-211	7.04E+08Y	1.00	2.173E+00	2.173E+00	0.598E+00	27.54	
PB-212	1.41E+10Y	1.00	1.100E+00	1.100E+00	0.195E+00	17.77	
PO-212	1.41E+10Y	1.00	1.100E+00	1.100E+00	0.195E+00	17.77	
PB-214	1600.00Y	1.00	7.557E-01	7.557E-01	2.119E-01	28.04	
PO-214	1600.00Y	1.00	7.557E-01	7.557E-01	2.119E-01	28.04	
PO-216	1.41E+10Y	1.00	1.100E+00	1.100E+00	0.195E+00	17.77	
PO-218	1600.00Y	1.00	7.557E-01	7.557E-01	2.119E-01	28.04	
RA-224	1.41E+10Y	1.00	2.793E+00	2.793E+00	1.571E+00	56.26	
AC-228	1.41E+10Y	1.00	1.212E+00	1.212E+00	0.464E+00	38.32	
RA-228	1.41E+10Y	1.00	1.212E+00	1.212E+00	0.464E+00	38.32	
TH-228	1.91Y	1.01	1.100E+00	1.108E+00	0.197E+00	17.77	
TH-232	1.41E+10Y	1.00	1.212E+00	1.212E+00	0.464E+00	38.32	
AM-241	432.20Y	1.00	1.311E+01	1.311E+01	0.121E+01	9.27	
ANH-511	1.00E+09Y	1.00	8.320E-02	8.320E-02	9.376E-02	112.70	

Total Activity : 8.009E+01 8.047E+01

Grand Total Activity : 8.009E+01 8.047E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G1202018261

Page : 4  
Acquisition date : 27-JAN-2010 15:00:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.74	29	446	1.03	185.68	182	8	8.07E-03	****	7.86E+00	T
0	185.91	103	368	1.17	371.83	367	9	2.87E-02	72.0	7.61E+00	T
0	609.43	198	224	1.72	1218.24	1211	14	5.49E-02	35.6	3.81E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018261.CNF;1
* Acquisition date   : 27-JAN-2010 15:00:50   Detector SN#      :
* Detector ID        : GAM22                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 01:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 01:00:02.19          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 20-JAN-2010 00:00:00   Nuclide Library  : SOLID
* Sample ID          : G1202018261           Analyst initials: MXR1
* Batch Number       : 942717                Sample Quantity  : 1.55440E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28.08MS Isotope       :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope       :
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.535E-01	6.936E-01	5.001E-01	4.582E-02	0.307
CO-57	2.252E-01	5.327E-02	5.683E-02	4.686E-03	3.963
CO-60	6.506E+00	6.393E-01	7.120E-02	6.349E-03	91.368
CD-109	3.047E+01	3.744E+00	1.748E+00	1.659E-01	17.434
SN-126	3.029E+00	3.721E-01	1.744E-01	1.647E-02	17.364
BA-137M	5.487E+00	6.152E-01	9.094E-02	9.590E-03	60.328
CS-137	5.800E+00	6.510E-01	9.614E-02	1.015E-02	60.328
TL-208	3.311E-01	9.892E-02	8.843E-02	9.588E-03	3.744
BI-211	2.173E+00	5.984E-01	4.990E-01	5.822E-02	4.354
PB-212	1.100E+00	1.954E-01	1.356E-01	1.792E-02	8.111
PO-212	1.100E+00	1.954E-01	1.356E-01	1.792E-02	8.111
PB-214	7.557E-01	2.119E-01	1.744E-01	2.222E-02	4.334
PO-214	7.557E-01	2.119E-01	1.744E-01	2.222E-02	4.334
PO-216	1.100E+00	1.954E-01	1.356E-01	1.792E-02	8.111
PO-218	7.557E-01	2.119E-01	1.744E-01	2.222E-02	4.334
RA-224	2.793E+00	1.571E+00	1.542E+00	1.930E-01	1.812
AC-228	1.212E+00	4.645E-01	4.078E-01	5.403E-02	2.973
RA-228	1.212E+00	4.645E-01	4.078E-01	5.403E-02	2.973

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.108E+00	1.969E-01	1.366E-01	1.805E-02	8.111
TH-232	1.212E+00	4.645E-01	4.078E-01	5.403E-02	2.973
AM-241	1.311E+01	1.214E+00	4.160E-01	3.252E-02	31.501
ANH-511	8.320E-02	9.376E-02	7.094E-02	7.108E-03	1.173

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.001E-01		4.838E-01	7.733E-01	8.071E-02	-0.129
NA-22	3.884E-03		4.273E-02	7.139E-02	6.152E-03	0.054
NA-24	-2.859E-05		9.992E-05	Half-Life too short		
AL-26	1.424E-02		3.903E-02	6.749E-02	5.519E-03	0.211
TI-44	1.345E-01	+	8.262E-02	9.029E-02	7.655E-03	1.490
SC-46	2.646E-02		6.757E-02	1.142E-01	1.278E-02	0.232
V-48	2.326E-02		9.417E-02	1.567E-01	1.644E-02	0.148
CR-51	2.245E-01		4.731E-01	8.054E-01	1.043E-01	0.279
MN-52	2.873E-02		9.475E-02	1.613E-01	1.441E-02	0.178
MN-54	-3.636E-02		5.878E-02	9.460E-02	1.051E-02	-0.384
CO-56	-3.997E-03		6.263E-02	1.040E-01	1.158E-02	-0.038
CO-58	-2.895E-02		6.125E-02	9.979E-02	1.105E-02	-0.290
FE-59	-5.281E-02		1.493E-01	2.375E-01	2.328E-02	-0.222
ZN-65	-2.002E-01		1.640E-01	2.465E-01	2.199E-02	-0.813
GE-68	-1.203E+00		2.238E+00	3.527E+00	3.325E-01	-0.341
AS-73	-1.640E-01		1.451E+00	2.420E+00	1.829E-01	-0.068
AS-74	-3.030E-03		1.031E-01	1.707E-01	1.769E-02	-0.018
SE-75	-1.481E-02		6.568E-02	1.045E-01	1.406E-02	-0.142
BR-77	1.023E+00		1.894E+00	3.119E+00	3.140E-01	0.328
SR-82	-1.733E-01		4.978E-01	7.873E-01	8.634E-02	-0.220
RB-83	6.198E-02		1.057E-01	1.744E-01	1.756E-02	0.355
RB-84	1.645E-02		1.084E-01	1.813E-01	2.028E-02	0.091
KR-85	1.754E+01		1.300E+01	1.951E+01	1.957E+00	0.899
SR-85	8.309E-02		6.159E-02	9.242E-02	9.273E-03	0.899
RB-86	-2.036E-01		1.078E+00	1.736E+00	1.638E-01	-0.117
Y-88	8.276E-03		3.675E-02	6.253E-02	5.056E-03	0.132
ZR-88	-3.244E-02		4.719E-02	7.504E-02	6.987E-03	-0.432
Y-91	-5.006E+00		1.892E+01	3.080E+01	2.532E+00	-0.163
NB-94	9.878E-03		5.020E-02	8.285E-02	8.878E-03	0.119
NB-95	1.993E-02		5.813E-02	9.595E-02	1.049E-02	0.208
NB-95M	1.486E-01		1.985E-01	2.913E-01	3.850E-02	0.510
ZR-95	5.031E-02		1.030E-01	1.715E-01	1.991E-02	0.293
NB-97	1.581E-03		1.181E-04	Half-Life too short		
ZR-97	1.635E-03		9.865E-04	Half-Life too short		
MO-99	-1.636E+00		2.779E+00	4.331E+00	7.169E-01	-0.378
TC-99M	-5.107E+01		2.494E+01	Half-Life too short		
RH-101	-6.329E-02		4.856E-02	7.451E-02	8.128E-03	-0.849
RH-102	-4.157E-02		5.113E-02	7.913E-02	7.782E-03	-0.525
RU-103	8.382E-03		5.646E-02	9.160E-02	1.375E-02	0.092

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-106	1.287E-01		4.599E-01	7.708E-01	1.126E-01	0.167
RU-106	1.287E-01		4.597E-01	7.708E-01	8.051E-02	0.167
AG-108M	-3.580E-02		5.483E-02	8.640E-02	8.553E-03	-0.414
AG-110M	6.934E-01		1.162E-01	1.719E-01	1.847E-02	4.034
IN-111	-4.540E-02		2.826E-01	3.954E-01	5.017E-02	-0.115
IN-113M	2.468E-04		6.862E-02	1.129E-01	1.078E-02	0.002
SN-113	2.468E-04		6.862E-02	1.129E-01	1.078E-02	0.002
IN-114M	-8.675E-03		2.686E-01	3.886E-01	4.131E-02	-0.022
CD-115	5.722E-01		1.678E+00	2.855E+00	2.883E-01	0.200
SN-117M	1.034E-04		4.999E-02	8.364E-02	7.932E-03	0.001
SB-122	-3.761E-01		4.469E-01	7.088E-01	7.264E-02	-0.531
I-123	-1.491E-04		2.839E-04	Half-Life too short		
TE-123M	-9.588E-03		3.652E-02	6.046E-02	5.774E-03	-0.159
I-124	1.717E-01		3.322E-01	4.907E-01	5.097E-02	0.350
SB-124	3.986E-02		8.239E-02	1.456E-01	1.295E-02	0.274
SB-125	-6.758E-02		1.564E-01	2.500E-01	2.426E-02	-0.270
TE-125M	1.977E+00		1.168E+01	1.874E+01	1.895E+00	0.105
I-126	2.319E-01		2.145E-01	3.257E-01	3.441E-02	0.712
SB-126	-1.101E-01		1.506E-01	2.342E-01	2.525E-02	-0.470
SB-127	4.869E-01		5.239E-01	8.989E-01	1.029E-01	0.542
XE-127	2.310E-02		5.782E-02	9.635E-02	1.068E-02	0.240
I-131	5.438E-02		9.447E-02	1.600E-01	1.768E-02	0.340
TE-132	4.006E-02		2.175E-01	3.563E-01	6.014E-02	0.112
BA-133	5.082E-02		7.530E-02	1.125E-01	1.680E-02	0.452
I-133	1.420E-05		1.167E-05	Half-Life too short		
CS-134	3.003E-02		7.299E-02	1.205E-01	1.333E-02	0.249
CS-135	4.794E-02		2.462E-01	3.984E-01	5.763E-02	0.120
I-135	6.687E+00		1.671E+01	Half-Life too short		
CS-136	-2.921E-02		1.266E-01	2.037E-01	2.059E-02	-0.143
CE-139	-3.117E-02		3.840E-02	6.180E-02	6.061E-03	-0.504
BA-140	-1.388E-01		2.743E-01	4.402E-01	1.478E-01	-0.315
LA-140	-2.304E-02		7.658E-02	1.234E-01	1.082E-02	-0.187
CE-141	4.589E-02		7.006E-02	1.205E-01	1.097E-02	0.381
CE-143	4.657E+00		5.485E+00	8.227E+00	1.962E+00	0.566
CE-144	2.363E-02		2.611E-01	4.436E-01	6.886E-02	0.053
PM-144	-6.742E-03		5.062E-02	8.205E-02	8.773E-03	-0.082
PR-144	-4.550E-01		3.416E+00	5.538E+00	5.921E-01	-0.082
PM-146	-4.378E-02		8.037E-02	1.271E-01	1.477E-02	-0.345
ND-147	8.818E-03		5.515E-01	9.244E-01	1.466E-01	0.010
PM-149	-8.401E+00		1.415E+01	2.184E+01	4.129E+00	-0.385
EU-152	-4.349E-02		1.656E-01	2.466E-01	2.964E-02	-0.176
GD-153	-1.062E-01		1.075E-01	1.564E-01	1.375E-02	-0.679
EU-154	9.730E-03		1.197E-01	1.998E-01	2.258E-02	0.049
EU-155	-5.349E-02		1.405E-01	2.213E-01	1.899E-02	-0.242
TB-160	9.134E-03		2.382E-01	3.963E-01	4.431E-02	0.023
HO-166M	2.626E-02		9.528E-02	1.567E-01	1.685E-02	0.168
TM-171	1.300E+01		3.466E+01	5.773E+01	4.362E+00	0.225
LU-176	-6.139E-03		3.742E-02	6.239E-02	8.185E-03	-0.098

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-177	7.591E-01		7.373E-01	1.246E+00	1.406E-01	0.609
LU-177M	-2.163E-01		2.878E-01	4.540E-01	4.294E-02	-0.476
HF-181	-2.028E-02		6.079E-02	9.635E-02	9.512E-03	-0.211
W-181	-1.769E-01		4.385E-01	7.114E-01	5.303E-02	-0.249
TA-182	-3.483E-02		1.808E-01	2.953E-01	2.455E-02	-0.118
RE-183	-2.809E-02		1.396E-01	2.308E-01	2.227E-02	-0.122
RE-184	-7.486E-02		3.495E-01	5.585E-01	7.246E-02	-0.134
OS-185	-1.961E-02		6.197E-02	1.001E-01	1.052E-02	-0.196
RE-188	5.561E-02		2.104E-01	3.560E-01	3.323E-02	0.156
W-188	3.206E+00		1.182E+01	1.761E+01	2.405E+00	0.182
IR-192	-2.763E-02		4.988E-02	8.142E-02	1.041E-02	-0.339
AU-195	4.047E-01		2.825E-01	4.786E-01	4.174E-02	0.846
TL-200	-3.921E-01		6.202E+00	1.023E+01	1.077E+00	-0.038
TL-201	-1.867E+00		1.688E+00	2.672E+00	2.634E-01	-0.699
TL-202	9.874E-02		7.983E-02	1.361E-01	1.310E-02	0.725
HG-203	1.290E-02		5.768E-02	9.313E-02	1.318E-02	0.139
BI-207	-3.738E-02		8.962E-02	1.422E-01	1.365E-02	-0.263
TL-207	-9.444E-01		1.031E+00	1.629E+00	3.238E-01	-0.580
PO-209	7.958E+00		1.385E+01	2.356E+01	2.640E+00	0.338
BI-210	2.343E+00		5.425E+00	9.228E+00	8.573E-01	0.254
PB-210	2.343E+00		5.425E+00	9.228E+00	8.573E-01	0.254
PO-210	2.343E+00		5.424E+00	9.228E+00	7.759E-01	0.254
PB-211	-1.794E+00		1.901E+00	2.378E+00	1.493E+00	-0.754
BI-212	9.295E-01		4.924E-01	8.575E-01	1.024E-01	1.084
BI-214	5.413E-01	+	2.026E-01	2.573E-01	2.992E-02	2.104
PO-215	-9.444E-01		1.031E+00	1.629E+00	3.238E-01	-0.580
RN-219	-4.232E-02		6.748E-01	1.104E+00	1.709E-01	-0.038
RN-220	1.862E+01		3.785E+01	6.475E+01	6.600E+00	0.288
RA-223	-9.444E-01		1.031E+00	1.629E+00	3.238E-01	-0.580
RA-226	5.413E-01	+	2.026E-01	2.573E-01	2.992E-02	2.104
AC-227	-1.514E-01		6.033E-01	9.609E-01	1.753E-01	-0.158
TH-227	-1.514E-01		6.035E-01	9.609E-01	1.978E-01	-0.158
TH-229	3.991E-01		7.594E-01	1.274E+00	1.370E-01	0.313
TH-230	5.413E-01	+	2.026E-01	2.573E-01	2.992E-02	2.104
PA-231	-5.403E-01		2.448E+00	3.868E+00	7.224E-01	-0.140
TH-231	-9.444E-01		1.031E+00	1.629E+00	3.238E-01	-0.580
U-231	-3.257E-01		4.419E-01	6.073E-01	5.393E-02	-0.536
PA-233	-1.300E-02		9.891E-02	1.649E-01	2.160E-02	-0.079
PA-234	-3.630E-02		6.190E-01	1.018E+00	2.023E-01	-0.036
PA-234M	-4.166E+00		8.092E+00	1.294E+01	1.483E+00	-0.322
TH-234	-1.473E+00		1.808E+00	2.609E+00	4.541E-01	-0.565
U-234	5.413E-01	+	2.026E-01	2.573E-01	2.992E-02	2.104
U-235	1.247E-01		2.828E-01	4.804E-01	8.475E-02	0.260
NP-236	1.393E-02		1.071E-01	1.798E-01	1.719E-02	0.077
NP-237	5.031E+00		1.242E+00	9.275E-01	2.100E-01	5.424
U-238	-1.473E+00		1.808E+00	2.609E+00	4.541E-01	-0.565
NP-239	-2.411E-01		3.020E-01	4.058E-01	3.354E-02	-0.594
AM-243	2.733E-02		8.623E-02	1.280E-01	1.044E-02	0.213

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-5.456E-03		1.236E-01	1.979E-01	1.687E-02	-0.028
AM-246	1.226E-01		2.597E-01	4.340E-01	4.083E-02	0.282
CM-247	-8.103E-03		6.045E-02	9.859E-02	9.249E-03	-0.082
CF-249	-2.132E-02		6.476E-02	1.050E-01	9.980E-03	-0.203
CF-251	8.028E-02		1.744E-01	2.943E-01	2.990E-02	0.273

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202018261          *
* Acquisition date   : 27-JAN-2010 15:00:50 Detector SN# :                  *
* Detector ID        : GAM22                                           Sensitivity      : 5.000          *
* Geometry           : CAN                                             Energy tolerance: 1.500          *
* Elapsed live time  : 0 01:00:00.00 Abundance limit : 75.000          *
* Elapsed real time  : 0 01:00:02.19 Half life ratio : 8.000          *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018261 Analyst initials: MXR1                *
* Batch Number       : 942717 Sample Quantity : 1.5544E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                  *
* LCS DPM             : 0.000 LCS Isotope :                  *
* LCSD DPM            : 0.000 LCSD Isotope :                  *
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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	1.535E-01	6.797E-01	2.524E-01	3.468E-01
CO-57	2.252E-01	5.221E-02	3.062E-02	2.664E-02
CO-60	6.506E+00	6.265E-01	3.602E-02	3.197E-01
CD-109	3.047E+01	3.669E+00	9.494E-01	1.872E+00
SN-126	3.029E+00	3.647E-01	9.476E-02	1.861E-01
BA-137M	5.487E+00	6.029E-01	4.690E-02	3.076E-01
CS-137	5.800E+00	6.380E-01	4.958E-02	3.255E-01
TL-208	3.311E-01	9.695E-02	4.576E-02	4.946E-02
BI-211	2.173E+00	5.865E-01	2.617E-01	2.992E-01
PB-212	1.100E+00	1.915E-01	7.184E-02	9.772E-02
PO-212	1.100E+00	1.915E-01	7.184E-02	9.772E-02
PB-214	7.557E-01	2.076E-01	9.145E-02	1.059E-01
PO-214	7.557E-01	2.076E-01	9.145E-02	1.059E-01
PO-216	1.100E+00	1.915E-01	7.184E-02	9.772E-02
PO-218	7.557E-01	2.076E-01	9.145E-02	1.059E-01
RA-224	2.793E+00	1.540E+00	8.165E-01	7.856E-01
AC-228	1.212E+00	4.552E-01	2.085E-01	2.322E-01
RA-228	1.212E+00	4.552E-01	2.085E-01	2.322E-01
TH-228	1.108E+00	1.930E-01	7.239E-02	9.847E-02
TH-232	1.212E+00	4.552E-01	2.085E-01	2.322E-01
AM-241	1.311E+01	1.190E+00	2.281E-01	6.072E-01
ANH-511	8.320E-02	9.189E-02	3.684E-02	4.688E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-1.001E-01	4.741E-01	4.024E-01	2.419E-01 NOT IDENT.
NA-22	3.884E-03	4.187E-02	3.616E-02	2.136E-02 NOT IDENT.
NA-24	-2.859E+01	1.958E+02	0.000E+00	9.992E+01 SHORT HLIF
AL-26	1.424E-02	3.825E-02	3.385E-02	1.952E-02 NOT IDENT.
TI-44	1.345E-01	8.097E-02	4.918E-02	4.131E-02 FAIL ABUN



SC-46	2.646E-02	6.622E-02	5.843E-02	3.378E-02	NOT IDENT.
V-48	2.326E-02	9.229E-02	7.996E-02	4.709E-02	NOT IDENT.
CR-51	2.245E-01	4.637E-01	4.235E-01	2.366E-01	NOT IDENT.
MN-52	2.873E-02	9.285E-02	8.143E-02	4.737E-02	FAIL ABUN
MN-54	-3.636E-02	5.760E-02	4.848E-02	2.939E-02	NOT IDENT.
CO-56	-3.997E-03	6.137E-02	5.328E-02	3.131E-02	NOT IDENT.
CO-58	-2.895E-02	6.002E-02	5.118E-02	3.062E-02	NOT IDENT.
FE-59	-5.281E-02	1.464E-01	1.208E-01	7.467E-02	NOT IDENT.
ZN-65	-2.002E-01	1.607E-01	1.253E-01	8.200E-02	NOT IDENT.
GE-68	-1.203E+00	2.193E+00	1.795E+00	1.119E+00	NOT IDENT.
AS-73	-1.640E-01	1.422E+00	1.330E+00	7.255E-01	NOT IDENT.
AS-74	-3.030E-03	1.011E-01	8.827E-02	5.156E-02	NOT IDENT.
SE-75	-1.481E-02	6.437E-02	5.520E-02	3.284E-02	FAIL ABUN
BR-77	1.023E+00	1.856E+00	1.619E+00	9.468E-01	FAIL ABUN
SR-82	-1.733E-01	4.879E-01	4.043E-01	2.489E-01	NOT IDENT.
RB-83	6.198E-02	1.036E-01	9.055E-02	5.283E-02	NOT IDENT.
RB-84	1.645E-02	1.062E-01	9.277E-02	5.419E-02	NOT IDENT.
KR-85	1.754E+01	1.274E+01	1.013E+01	6.500E+00	NOT IDENT.
SR-85	8.309E-02	6.036E-02	4.799E-02	3.080E-02	NOT IDENT.
RB-86	-2.036E-01	1.056E+00	8.834E-01	5.388E-01	NOT IDENT.
Y-88	8.276E-03	3.601E-02	3.135E-02	1.837E-02	NOT IDENT.
ZR-88	-3.244E-02	4.625E-02	3.925E-02	2.360E-02	NOT IDENT.
Y-91	-5.006E+00	1.854E+01	1.562E+01	9.458E+00	NOT IDENT.
NB-94	9.878E-03	4.919E-02	4.266E-02	2.510E-02	NOT IDENT.
NB-95	1.993E-02	5.696E-02	4.929E-02	2.906E-02	NOT IDENT.
NB-95M	1.486E-01	1.945E-01	1.544E-01	9.925E-02	NOT IDENT.
ZR-95	5.031E-02	1.009E-01	8.813E-02	5.149E-02	NOT IDENT.
NB-97	1.581E+03	2.315E+02	0.000E+00	1.181E+02	SHORT HLIF
ZR-97	1.635E+03	1.934E+03	0.000E+00	9.865E+02	SHORT HLIF
MO-99	-1.636E+00	2.723E+00	2.227E+00	1.389E+00	NOT IDENT.
TC-99M	-5.107E+07	4.888E+07	0.000E+00	2.494E+07	SHORT HLIF
RH-101	-6.329E-02	4.758E-02	3.966E-02	2.428E-02	NOT IDENT.
RH-102	-4.157E-02	5.011E-02	4.118E-02	2.557E-02	NOT IDENT.
RU-103	8.382E-03	5.533E-02	4.761E-02	2.823E-02	FAIL ABUN
RH-106	1.287E-01	4.507E-01	3.982E-01	2.300E-01	FAIL ABUN
RU-106	1.287E-01	4.505E-01	3.982E-01	2.299E-01	FAIL ABUN
AG-108M	-3.580E-02	5.374E-02	4.507E-02	2.742E-02	NOT IDENT.
AG-110M	6.934E-01	1.139E-01	8.867E-02	5.811E-02	NOT IDENT.
IN-111	-4.540E-02	2.770E-01	2.094E-01	1.413E-01	NOT IDENT.
IN-113M	2.468E-04	6.724E-02	5.904E-02	3.431E-02	NOT IDENT.
SN-113	2.468E-04	6.724E-02	5.904E-02	3.431E-02	NOT IDENT.
IN-114M	-8.675E-03	2.632E-01	2.071E-01	1.343E-01	NOT IDENT.
CD-115	5.722E-01	1.645E+00	1.482E+00	8.391E-01	NOT IDENT.
SN-117M	1.034E-04	4.899E-02	4.477E-02	2.499E-02	NOT IDENT.
SB-122	-3.761E-01	4.380E-01	3.671E-01	2.235E-01	NOT IDENT.
I-123	-1.491E+02	5.565E+02	0.000E+00	2.839E+02	SHORT HLIF
TE-123M	-9.588E-03	3.579E-02	3.236E-02	1.826E-02	NOT IDENT.
I-124	1.717E-01	3.256E-01	2.537E-01	1.661E-01	NOT IDENT.
SB-124	3.986E-02	8.075E-02	7.315E-02	4.120E-02	FAIL ABUN
SB-125	-6.758E-02	1.533E-01	1.304E-01	7.821E-02	NOT IDENT.
TE-125M	1.977E+00	1.145E+01	1.013E+01	5.839E+00	NOT IDENT.
I-126	2.319E-01	2.102E-01	1.679E-01	1.072E-01	NOT IDENT.
SB-126	-1.101E-01	1.476E-01	1.205E-01	7.531E-02	FAIL ABUN
SB-127	4.869E-01	5.134E-01	4.631E-01	2.619E-01	NOT IDENT.
XE-127	2.310E-02	5.667E-02	5.126E-02	2.891E-02	NOT IDENT.
I-131	5.438E-02	9.258E-02	8.386E-02	4.724E-02	NOT IDENT.
TE-132	4.006E-02	2.132E-01	1.890E-01	1.088E-01	NOT IDENT.
BA-133	5.082E-02	7.380E-02	5.897E-02	3.765E-02	NOT IDENT.
I-133	1.420E+01	2.287E+01	0.000E+00	1.167E+01	SHORT HLIF
CS-134	3.003E-02	7.153E-02	6.182E-02	3.650E-02	NOT IDENT.
CS-135	4.794E-02	2.413E-01	2.105E-01	1.231E-01	NOT IDENT.
I-135	6.687E+06	3.276E+07	0.000E+00	1.671E+07	SHORT HLIF
CS-136	-2.921E-02	1.240E-01	1.037E-01	6.329E-02	NOT IDENT.
CE-139	-3.117E-02	3.764E-02	3.305E-02	1.920E-02	NOT IDENT.
BA-140	-1.388E-01	2.689E-01	2.283E-01	1.372E-01	NOT IDENT.
LA-140	-2.304E-02	7.505E-02	6.211E-02	3.829E-02	NOT IDENT.
CE-141	4.589E-02	6.866E-02	6.465E-02	3.503E-02	NOT IDENT.
CE-143	4.657E+00	5.375E+00	4.336E+00	2.743E+00	FAIL ABUN
CE-144	2.363E-02	2.559E-01	2.385E-01	1.306E-01	NOT IDENT.
PM-144	-6.742E-03	4.960E-02	4.226E-02	2.531E-02	NOT IDENT.
PR-144	-4.550E-01	3.348E+00	2.852E+00	1.708E+00	NOT IDENT.
PM-146	-4.378E-02	7.877E-02	6.620E-02	4.019E-02	NOT IDENT.
ND-147	8.818E-03	5.405E-01	4.796E-01	2.757E-01	NOT IDENT.
PM-149	-8.401E+00	1.387E+01	1.152E+01	7.077E+00	NOT IDENT.
EU-152	-4.349E-02	1.623E-01	1.294E-01	8.278E-02	FAIL ABUN
GD-153	-1.062E-01	1.053E-01	8.472E-02	5.375E-02	NOT IDENT.
EU-154	9.730E-03	1.173E-01	1.012E-01	5.984E-02	FAIL ABUN
EU-155	-5.349E-02	1.377E-01	1.197E-01	7.026E-02	FAIL ABUN

TB-160	9.134E-03	2.334E-01	2.028E-01	1.191E-01	FAIL	ABUN
HO-166M	2.626E-02	9.337E-02	8.066E-02	4.764E-02	FAIL	ABUN
TM-171	1.300E+01	3.397E+01	3.157E+01	1.733E+01	FAIL	ABUN
LU-176	-6.139E-03	3.668E-02	3.284E-02	1.871E-02	FAIL	ABUN
LU-177	7.591E-01	7.226E-01	6.622E-01	3.687E-01	NOT	IDENT.
LU-177M	-2.163E-01	2.820E-01	2.371E-01	1.439E-01	FAIL	ABUN
HF-181	-2.028E-02	5.957E-02	5.012E-02	3.039E-02	NOT	IDENT.
W-181	-1.769E-01	4.298E-01	3.892E-01	2.193E-01	NOT	IDENT.
TA-182	-3.483E-02	1.772E-01	1.497E-01	9.042E-02	NOT	IDENT.
RE-183	-2.809E-02	1.368E-01	1.235E-01	6.979E-02	FAIL	ABUN
RE-184	-7.486E-02	3.425E-01	2.954E-01	1.748E-01	FAIL	ABUN
OS-185	-1.961E-02	6.073E-02	5.165E-02	3.098E-02	FAIL	ABUN
RE-188	5.561E-02	2.062E-01	1.907E-01	1.052E-01	NOT	IDENT.
W-188	3.206E+00	1.158E+01	9.283E+00	5.908E+00	NOT	IDENT.
IR-192	-2.763E-02	4.889E-02	4.282E-02	2.494E-02	FAIL	ABUN
AU-195	4.047E-01	2.769E-01	2.592E-01	1.413E-01	NOT	IDENT.
TL-200	-3.921E-01	6.078E+00	5.358E+00	3.101E+00	NOT	IDENT.
TL-201	-1.867E+00	1.654E+00	1.429E+00	8.441E-01	NOT	IDENT.
TL-202	9.874E-02	7.823E-02	7.097E-02	3.991E-02	NOT	IDENT.
HG-203	1.290E-02	5.653E-02	4.914E-02	2.884E-02	NOT	IDENT.
BI-207	-3.738E-02	8.783E-02	7.239E-02	4.481E-02	NOT	IDENT.
TL-207	-9.444E-01	1.010E+00	8.564E-01	5.155E-01	FAIL	ABUN
PO-209	7.958E+00	1.357E+01	1.205E+01	6.924E+00	NOT	IDENT.
BI-210	2.343E+00	5.317E+00	5.090E+00	2.713E+00	NOT	IDENT.
PB-210	2.343E+00	5.317E+00	5.090E+00	2.713E+00	NOT	IDENT.
PO-210	2.343E+00	5.316E+00	5.090E+00	2.712E+00	NOT	IDENT.
PB-211	-1.794E+00	1.863E+00	1.243E+00	9.504E-01	NOT	IDENT.
BI-212	9.295E-01	4.825E-01	4.411E-01	2.462E-01	NOT	IDENT.
BI-214	5.413E-01	1.986E-01	1.330E-01	1.013E-01	FAIL	ABUN
PO-215	-9.444E-01	1.010E+00	8.564E-01	5.155E-01	FAIL	ABUN
RN-219	-4.232E-02	6.613E-01	5.772E-01	3.374E-01	NOT	IDENT.
RN-220	1.862E+01	3.709E+01	3.356E+01	1.892E+01	NOT	IDENT.
RA-223	-9.444E-01	1.010E+00	8.564E-01	5.155E-01	FAIL	ABUN
RA-226	5.413E-01	1.986E-01	1.330E-01	1.013E-01	FAIL	ABUN
AC-227	-1.514E-01	5.912E-01	5.081E-01	3.017E-01	NOT	IDENT.
TH-227	-1.514E-01	5.914E-01	5.081E-01	3.017E-01	FAIL	ABUN
TH-229	3.991E-01	7.442E-01	6.785E-01	3.797E-01	FAIL	ABUN
TH-230	5.413E-01	1.986E-01	1.330E-01	1.013E-01	FAIL	ABUN
PA-231	-5.403E-01	2.399E+00	2.040E+00	1.224E+00	NOT	IDENT.
TH-231	-9.444E-01	1.010E+00	8.564E-01	5.155E-01	FAIL	ABUN
U-231	-3.257E-01	4.331E-01	3.292E-01	2.210E-01	FAIL	ABUN
PA-233	-1.300E-02	9.693E-02	8.677E-02	4.945E-02	FAIL	ABUN
PA-234	-3.630E-02	6.066E-01	5.198E-01	3.095E-01	FAIL	ABUN
PA-234M	-4.166E+00	7.930E+00	6.597E+00	4.046E+00	NOT	IDENT.
TH-234	-1.473E+00	1.771E+00	1.428E+00	9.038E-01	FAIL	ABUN
U-234	5.413E-01	1.986E-01	1.330E-01	1.013E-01	FAIL	ABUN
U-235	1.247E-01	2.772E-01	2.578E-01	1.414E-01	FAIL	ABUN
NP-236	1.393E-02	1.049E-01	9.624E-02	5.353E-02	NOT	IDENT.
NP-237	5.031E+00	1.218E+00	5.040E-01	6.212E-01	NOT	IDENT.
U-238	-1.473E+00	1.771E+00	1.428E+00	9.038E-01	FAIL	ABUN
NP-239	-2.411E-01	2.960E-01	2.189E-01	1.510E-01	NOT	IDENT.
AM-243	2.733E-02	8.451E-02	6.983E-02	4.312E-02	FAIL	ABUN
CM-243	-5.456E-03	1.211E-01	1.070E-01	6.179E-02	NOT	IDENT.
AM-246	1.226E-01	2.545E-01	2.208E-01	1.299E-01	NOT	IDENT.
CM-247	-8.103E-03	5.924E-02	5.153E-02	3.023E-02	NOT	IDENT.
CF-249	-2.132E-02	6.346E-02	5.493E-02	3.238E-02	NOT	IDENT.
CF-251	8.028E-02	1.709E-01	1.571E-01	8.721E-02	NOT	IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON ,SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	435.3293
46.50	435.3293
46.50	435.3293
48.70	516.4843
49.72	547.3168
51.35	577.1859
52.39	630.8542
52.97	639.8875
53.15	645.9709
53.44	675.6681
54.07	675.0638
56.28	701.7269
56.28	701.7345
57.37	747.5210
57.53	748.0086
57.53	748.0146
57.60	761.0256
57.98	762.2011
57.98	762.2011
59.32	585.3600
59.32	585.3600
59.40	585.5455
59.54	585.8713
59.72	586.2906
60.01	586.9641
61.10	354.8421
61.14	354.8970
61.30	363.7794
63.00	374.8861
63.29	381.1190
63.29	381.1190
63.58	368.4315
64.28	366.4847
65.12	387.6544
65.20	397.5375
65.20	397.5375
66.05	377.2318
66.72	367.3535
66.83	367.5019
66.91	367.6103
67.20	393.5811
67.20	393.5811
67.75	385.4912
67.85	385.6314
68.90	381.1462
68.90	381.1462
69.30	389.6199
69.67	408.9950
70.82	397.6910
70.82	397.6910
70.83	397.7052
72.80	484.7221
72.87	484.8401
72.87	484.8401
74.67	512.0440
74.81	512.2838
74.81	512.2838
74.81	512.2838
74.81	512.2838
74.81	512.2838
74.81	512.2838
74.81	512.2838
74.97	512.5598
75.28	514.6090
75.70	497.0863
77.11	503.9857
77.11	503.9857

77.11	503.9857
77.11	503.9857
77.11	503.9857
77.11	503.9857
77.11	503.9857
78.38	412.5281
79.62	417.2575
79.80	417.4974
79.80	417.4974
80.11	453.3794
80.18	453.4803
80.30	453.6530
80.30	453.6530
80.57	454.0410
81.00	496.4146
81.07	496.5248
81.07	496.5248
81.07	496.5248
81.07	496.5248
82.60	435.1865
83.37	429.9908
83.78	447.6974
83.78	447.6974
83.78	447.6974
83.78	447.6974
84.21	440.4809
84.90	435.1492
85.43	471.9108
86.29	517.1499
86.50	517.4762
86.54	517.5389
86.59	517.6168
86.72	517.8201
86.79	464.4013
86.94	464.6129
87.30	465.1125
87.30	465.1125
87.30	465.1125
87.30	465.1125
87.30	465.1125
87.30	465.1125
87.30	465.1125
87.57	465.4861
87.88	465.9160
88.03	466.1230
88.36	466.5777
88.47	466.7307
89.95	390.8989
91.11	392.2183
92.29	334.3582
92.38	334.4443
92.38	334.4443
93.35	311.2981
94.00	292.5800
94.67	317.2874
94.67	317.2919
94.90	317.4963
94.90	317.4963
94.90	317.4963
94.90	317.4963
95.87	339.3643
95.87	339.3643
96.73	345.0346
97.43	353.1634
98.44	286.4351
98.44	286.4364
98.88	267.2257
99.55	278.5938
99.55	278.5938
99.86	277.7364
100.00	277.8414
100.10	283.3686
103.18	294.4827
103.76	287.2277
105.00	287.0516
105.31	309.3803
108.00	315.9682
109.28	313.6410

111.00	366.5544
111.00	366.5544
111.76	353.7678
112.95	308.6235
115.19	319.3671
116.30	352.0154
117.00	341.2292
117.00	341.2292
117.66	333.2207
121.11	299.7502
121.62	325.4008
121.78	325.5203
122.06	329.7589
122.32	329.9556
122.32	329.9556
122.32	329.9556
122.32	329.9556
123.07	297.6459
127.23	341.2156
129.76	318.8325
131.20	332.1732
133.02	334.3693
133.54	311.7195
135.34	329.8105
136.00	332.9425
136.25	333.1194
136.48	331.4998
140.51	357.6631
140.51	0.0000
142.18	329.1355
142.65	319.5215
143.76	318.4333
144.24	293.3877
144.24	293.3877
144.24	293.3877
144.24	293.3877
145.22	295.7832
145.44	305.8999
147.16	355.2258
152.43	315.6614
152.70	328.7172
153.22	338.2637
154.21	318.5917
154.21	318.5917
154.21	318.5917
154.21	318.5917
155.03	311.6926
156.02	341.0076
158.56	312.8518
159.00	0.0000
159.00	321.4950
160.31	312.9405
161.27	336.8930
162.32	319.7291
162.64	296.4646
163.35	277.1229
163.89	277.3953
165.85	328.4006
167.43	329.3378
171.28	294.4378
171.86	319.5371
172.10	319.6726
176.55	302.9212
176.60	302.9477
181.06	317.8526
184.41	350.8237
185.71	344.7427
186.00	342.3693
190.27	347.9131
192.34	376.1253
193.63	349.2053
197.04	333.1956
198.01	371.5544
198.60	370.8988
200.40	330.9495
201.83	331.6844
202.84	319.1524
205.31	380.8061

208.36	341.0726
208.81	324.0869
209.75	313.3873
209.75	313.3873
210.97	341.3910
215.65	334.5493
216.55	330.8907
218.09	368.5945
222.10	365.5648
223.80	363.3452
226.40	361.5645
227.00	374.3481
227.08	374.3893
227.20	359.8905
228.16	345.7920
228.18	345.8021
228.18	345.8021
231.56	356.3980
235.69	358.6601
236.00	370.6055
236.00	370.6055
238.63	326.4902
238.63	326.4902
238.63	326.4902
238.63	326.4902
239.00	326.6528
240.98	327.5204
241.98	327.9589
241.98	327.9589
241.98	327.9589
244.69	288.0220
245.39	291.6999
247.94	297.0779
248.90	294.5416
249.79	290.5923
252.40	301.2576
252.85	302.5072
252.85	302.5072
254.15	0.0000
256.20	315.6981
256.20	315.6981
260.50	304.3701
260.90	291.4729
262.80	299.7952
264.65	296.1127
268.24	309.4917
268.79	284.4431
269.46	295.6677
269.46	295.6677
269.46	295.6677
269.46	295.6677
271.23	292.9994
273.65	364.5580
276.40	309.2346
277.35	277.4048
277.60	285.2545
277.60	285.2545
278.00	287.6127
278.60	271.1492
279.20	299.1443
279.53	299.2592
280.46	306.2698
281.68	295.5573
283.67	294.0089
284.30	296.4631
285.00	304.5432
285.90	308.2253
286.10	313.9020
286.10	313.9020
287.40	300.8989
288.45	0.0000
290.67	290.0105
290.80	290.0536
291.72	311.4223
293.26	330.0505
293.70	318.1527
295.21	320.8125
295.21	320.8125

295.21	320.8125
295.96	323.5035
296.50	317.6489
297.23	308.8264
298.57	245.6136
299.80	286.9415
299.80	286.9415
300.09	276.4066
300.09	276.4066
300.09	276.4066
300.09	276.4066
300.12	276.4140
301.29	284.1595
302.84	280.6022
303.76	301.0157
303.91	301.0639
304.40	304.8909
304.40	304.8909
304.84	302.2892
306.84	270.8224
308.46	276.8193
311.98	275.1043
316.51	282.9366
318.01	266.6662
319.02	258.5787
319.41	264.2704
320.08	254.2112
323.87	297.2982
323.87	297.2982
323.87	297.2982
323.87	297.2982
325.23	282.7379
328.77	262.1653
333.44	265.9432
334.20	269.2993
334.20	269.2993
334.30	267.7521
338.28	262.8220
338.28	262.8220
338.28	262.8220
338.28	262.8220
338.32	262.8355
338.32	262.8355
338.32	262.8355
340.50	266.2632
340.57	266.2803
344.27	265.9011
345.85	251.7514
350.59	251.3271
351.07	241.8359
351.92	243.3179
351.92	243.3179
351.92	243.3179
355.39	0.0000
356.01	225.2954
364.48	225.8290
366.43	263.3027
367.43	260.6216
367.94	258.7923
369.80	240.6548
374.96	259.5076
383.85	256.6699
387.95	262.5917
388.63	265.7387
391.69	249.4995
391.69	249.4995
392.90	269.7495
398.62	242.9985
400.65	249.4652
401.10	258.6219
401.81	257.7750
402.60	258.9608
404.84	286.7214
410.95	244.5921
411.60	270.1140
413.65	282.7917
414.70	265.7376
415.30	256.7035

415.76	260.8813
417.63	0.0000
418.52	261.4875
423.70	244.1592
427.08	257.1899
427.89	263.5375
432.53	228.3757
433.93	252.4322
439.47	242.1385
439.56	231.7626
439.89	239.1023
443.98	288.9091
444.90	302.6910
445.03	302.7229
445.03	302.7229
445.03	302.7229
445.03	302.7229
453.90	295.3930
463.38	280.6373
468.07	300.7808
473.00	249.6362
475.06	261.7780
475.35	250.0818
476.78	230.0227
477.59	221.5977
477.96	213.0942
482.03	209.4465
484.57	243.2038
487.03	181.1168
490.36	203.1763
492.35	222.9563
497.08	186.8002
507.63	0.0000
510.53	0.0000
510.84	184.2668
511.00	184.2873
511.85	184.3970
511.85	184.3970
513.99	192.3718
513.99	192.3718
520.41	179.9884
520.65	180.0203
527.90	194.2474
528.96	0.0000
529.64	194.4781
529.87	0.0000
531.02	193.7392
537.32	198.2964
543.00	166.3499
546.56	0.0000
549.76	151.1439
552.65	170.2472
555.20	175.2454
563.23	177.1158
563.90	189.5142
568.70	175.8464
569.32	164.5035
569.50	156.9165
569.67	156.9333
573.80	184.1380
574.00	182.0806
574.64	172.8943
578.91	167.2975
579.30	164.0555
583.14	169.8015
585.48	164.7007
591.81	159.7343
592.07	154.7063
593.00	169.8913
595.88	172.1297
600.56	188.5346
602.52	0.0000
602.71	171.4703
602.71	171.4703
603.60	158.2383
604.41	168.3169
604.70	176.6790
609.31	177.4567



609.31	177.4567
609.31	177.4567
609.31	177.4567
610.33	155.5460
612.46	155.7471
614.37	174.3683
618.01	158.2551
621.84	145.4014
621.84	145.4014
631.29	157.0850
633.02	159.2247
633.10	152.3081
634.78	172.2583
635.90	169.3997
636.97	162.5686
645.85	166.3986
646.12	163.4361
656.30	158.0929
657.75	171.9831
657.90	0.0000
661.65	170.9269
661.65	170.9269
664.57	131.2134
666.33	145.1689
666.33	145.1689
675.00	123.5885
677.61	144.0570
685.20	127.3448
692.80	154.4715
695.00	162.8495
696.49	157.8569
696.49	157.8569
697.00	153.7994
697.49	152.8135
698.33	144.6747
698.50	144.6891
699.00	151.9114
702.63	153.2379
706.10	161.7657
706.58	0.0000
706.67	160.7861
709.31	164.1078
711.68	151.9138
713.82	147.9488
717.42	166.8895
720.50	178.5823
721.93	221.3160
722.20	223.4247
722.78	204.7835
722.78	204.7835
722.89	204.7955
722.95	204.7995
723.30	208.9988
724.18	175.8044
727.18	147.9484
733.00	215.2790
735.90	131.8755
739.58	161.4851
742.81	157.5531
744.21	136.6412
747.13	138.9502
751.79	149.8321
752.31	143.5399
753.82	138.3666
755.35	144.8155
756.15	141.7016
756.87	148.1006
763.93	164.5519
765.79	146.6390
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766.84	138.2096
776.49	160.2371
778.00	174.2520
778.57	166.8164
778.89	164.7028
783.80	116.8570
785.46	150.2140
792.07	141.0078

795.84	147.7338
796.30	143.4529
798.80	165.2239
801.93	147.0871
805.60	161.5836
810.29	174.9747
810.76	175.0140
815.85	160.5031
817.79	150.3760
818.51	149.4922
819.60	176.6766
826.30	150.0391
828.27	146.4214
831.60	174.8486
831.96	172.9974
834.83	176.0527
836.80	0.0000
846.75	166.6052
848.13	152.5013
856.28	0.0000
856.80	180.6796
860.37	149.5366
867.32	180.5790
867.82	166.2837
871.10	164.6124
873.19	176.2606
874.81	181.1788
875.33	0.0000
876.40	170.7551
879.36	178.6630
880.27	170.0859
880.51	166.2603
881.50	172.1015
883.24	176.0813
884.67	163.6766
889.25	169.7941
896.60	172.2730
898.02	185.9364
899.00	191.8263
903.28	205.5279
911.07	196.7196
911.07	196.7196
911.07	196.7196
919.63	211.3393
920.93	190.4350
925.00	205.7227
925.24	199.8662
926.50	196.0519
935.52	225.3300
937.48	199.9095
944.10	218.2329
946.00	218.4063
949.00	209.7707
962.29	231.5608
964.01	240.4303
966.15	216.2280
968.20	235.6032
969.11	200.5268
969.11	200.5268
969.11	200.5268
977.42	169.5654
980.50	167.3699
983.50	162.5537
989.30	157.9008
996.32	159.3501
1001.03	165.7074
1001.68	171.8143
1004.76	158.8672
1021.30	0.0000
1024.50	0.0000
1034.80	132.0594
1036.00	120.8521
1037.82	150.6555
1038.57	152.7520
1038.76	0.0000
1045.16	134.6323
1046.59	128.5357
1048.07	151.2451

1050.47	169.9146
1050.47	169.9146
1062.04	135.4867
1063.62	149.0223
1076.63	158.0594
1077.35	168.5033
1078.86	149.8661
1085.78	178.4133
1099.22	172.9991
1112.02	165.3669
1112.84	182.2739
1115.52	213.0328
1120.29	136.2751
1120.29	136.2751
1120.29	136.2751
1120.29	136.2751
1120.51	132.0626
1121.28	133.1543
1124.00	0.0000
1129.67	116.5911
1131.51	0.0000
1147.95	0.0000
1167.94	100.2506
1173.22	89.4452
1175.09	68.6714
1177.93	80.4740
1189.05	81.4071
1204.90	75.1787
1205.75	64.7295
1213.00	64.8851
1221.42	59.3246
1230.97	82.5461
1235.34	52.8667
1236.41	0.0000
1238.25	64.4626
1246.25	61.7344
1260.41	0.0000
1271.85	38.9014
1274.45	42.8264
1274.54	42.8278
1291.56	43.0574
1298.22	0.0000
1312.09	60.0748
1325.50	50.9829
1325.50	50.9829
1332.49	41.6219
1333.61	29.9603
1360.21	24.9825
1362.66	0.0000
1365.15	31.0237
1368.21	35.0587
1368.53	0.0000
1376.25	33.1339
1384.27	46.2962
1394.10	26.2428
1395.20	37.3568
1407.95	47.6297
1434.06	24.5039
1436.60	28.6093
1457.56	0.0000
1460.81	20.5750
1489.15	33.1787
1509.49	34.4059
1596.49	44.5712
1620.62	29.5805
1678.03	0.0000
1691.02	19.4222
1691.02	19.4222
1706.46	0.0000
1750.46	0.0000
1764.49	17.7905
1764.49	17.7905
1764.49	17.7905
1764.49	17.7905
1770.23	60.3712
1771.40	70.2874
1791.20	0.0000
1808.65	20.9698

1836.01

17.0821

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202018261

Total Uranium Activity	-4.3246E+00	ug/g
Total Uranium Counting Unc.	5.2717E+00	ug/g
Total Uranium Tpu	2.6897E-06	ug/g
Total Uranium Mda	4.2512E+00	ug/g

```

*****
*
*               GEL Laboratories LLC                      *
*               2040 SAVAGE ROAD                          *
*               CHARLESTON ,SC 29417                      *
*               GROSS GAMMA REPORT                        *
*
*****
*
*  BATCH ID      : 942717                                *
*  ANALYST       : MXR1                                    *
*  SAMPLE DATE   : 20-JAN-2010 00:00:00.00              *
*  ANALYSIS DATE : 27-JAN-2010 15:00:50.34              *
*
*  SAMPLE ID     : G1202018261                          *
*  DETECTOR      : GAM22                                  *
*  COUNT TIME    : 0 01:00:00.00                        *
*  SAMPLE ALQT   : 155.440 GRAM                         *
*
*****

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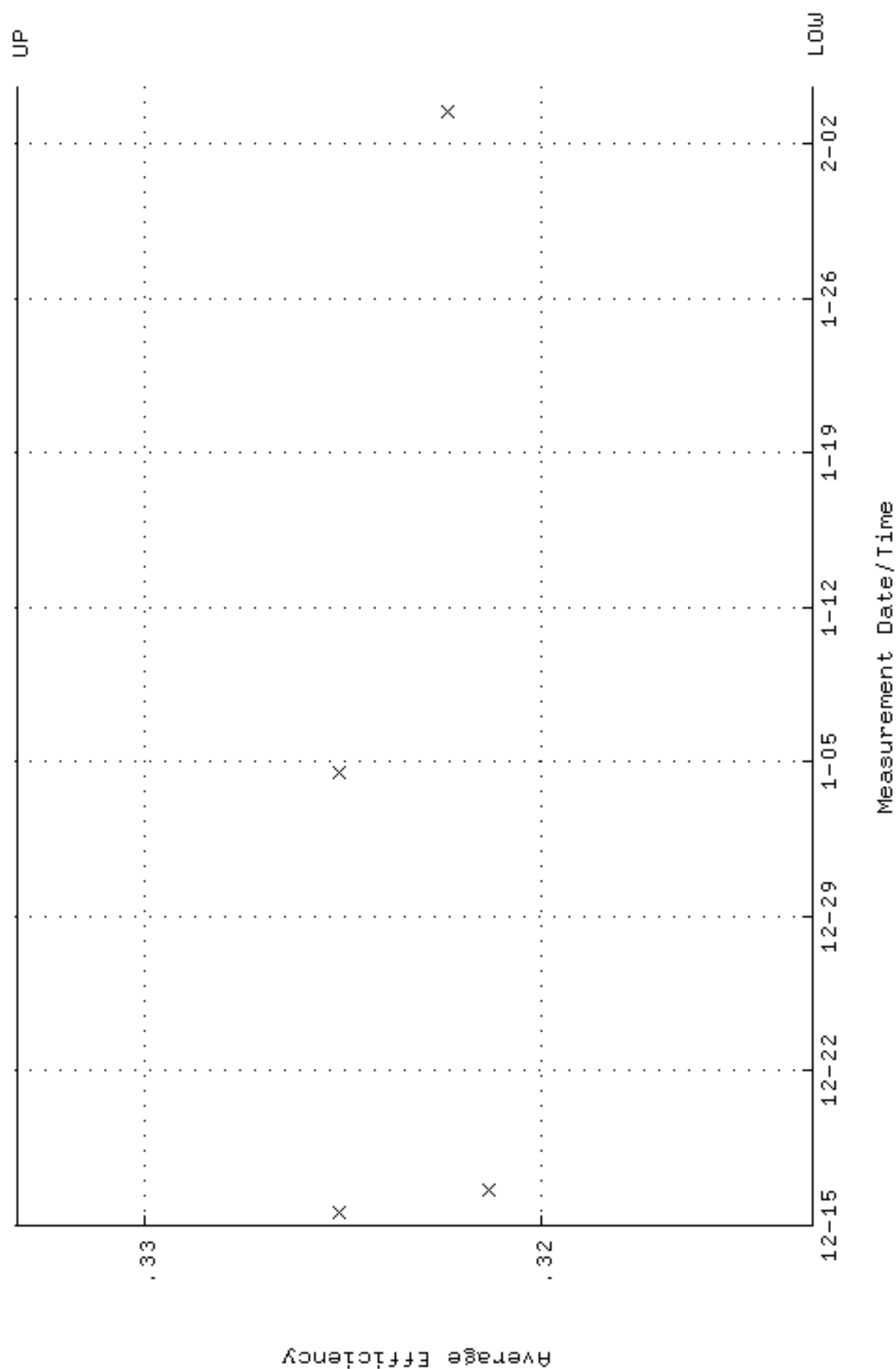
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.624E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.861E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.944E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.440E+00

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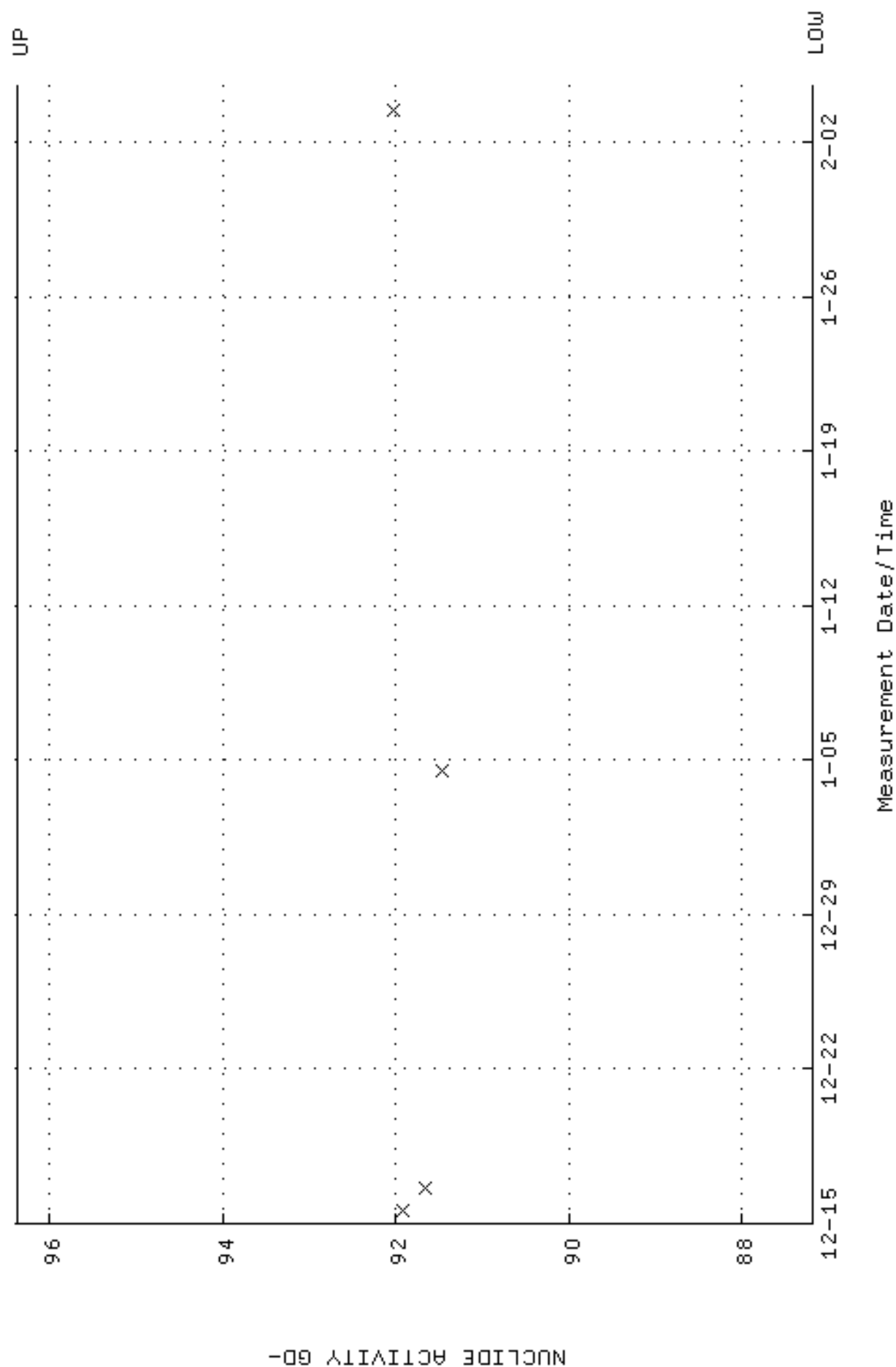
# BACKGROUND AND EFFICIENCY DATA

QA filename : DKA100:[ENV\_ALPHA.QA.W]W001.QAF;7  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 0.313195 through 0.333195



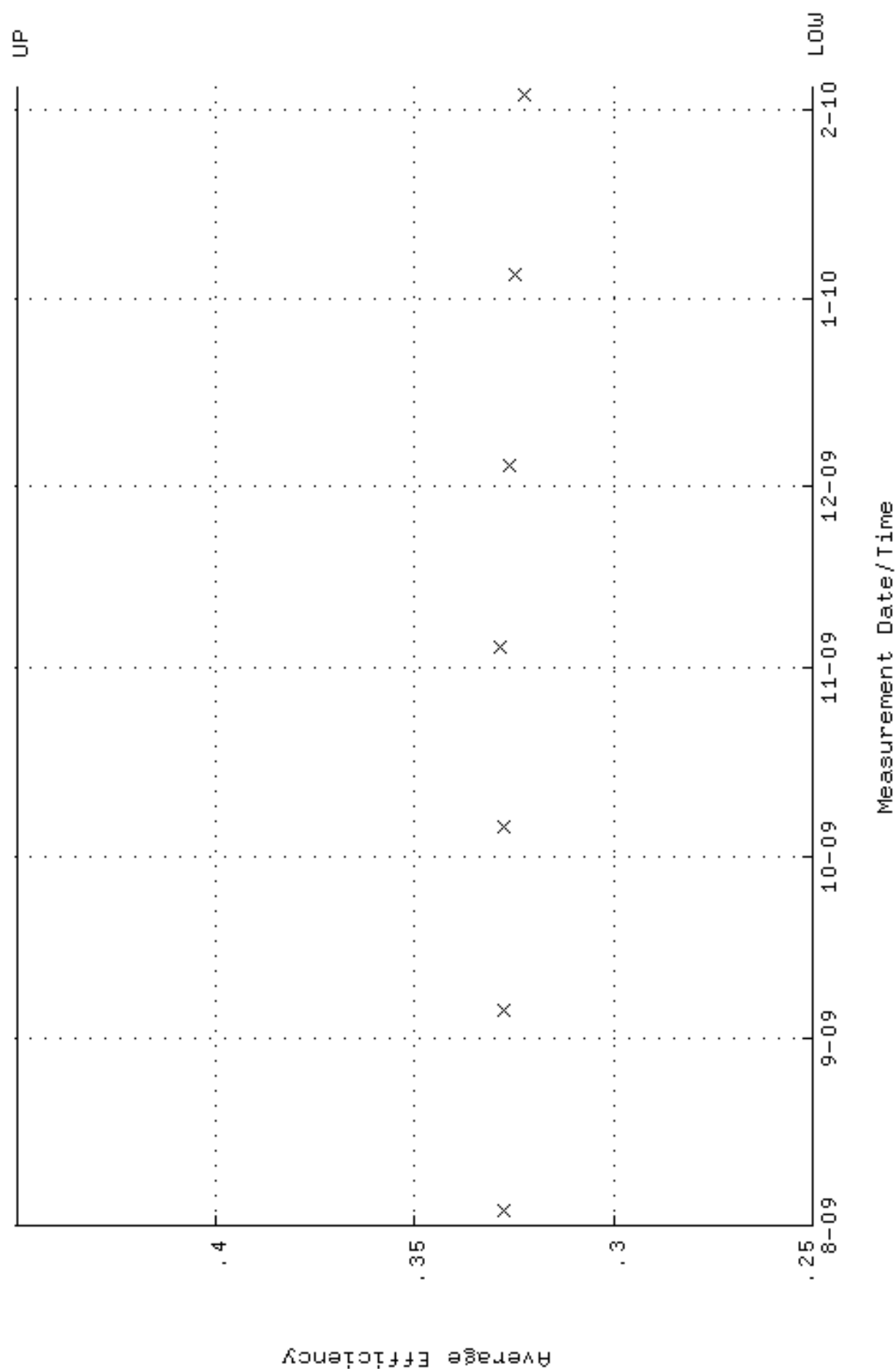


QA filename : DKA100:[ENV\_ALPHA.QA.W]W001.QAF;7  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 87.1884 through 96.3662

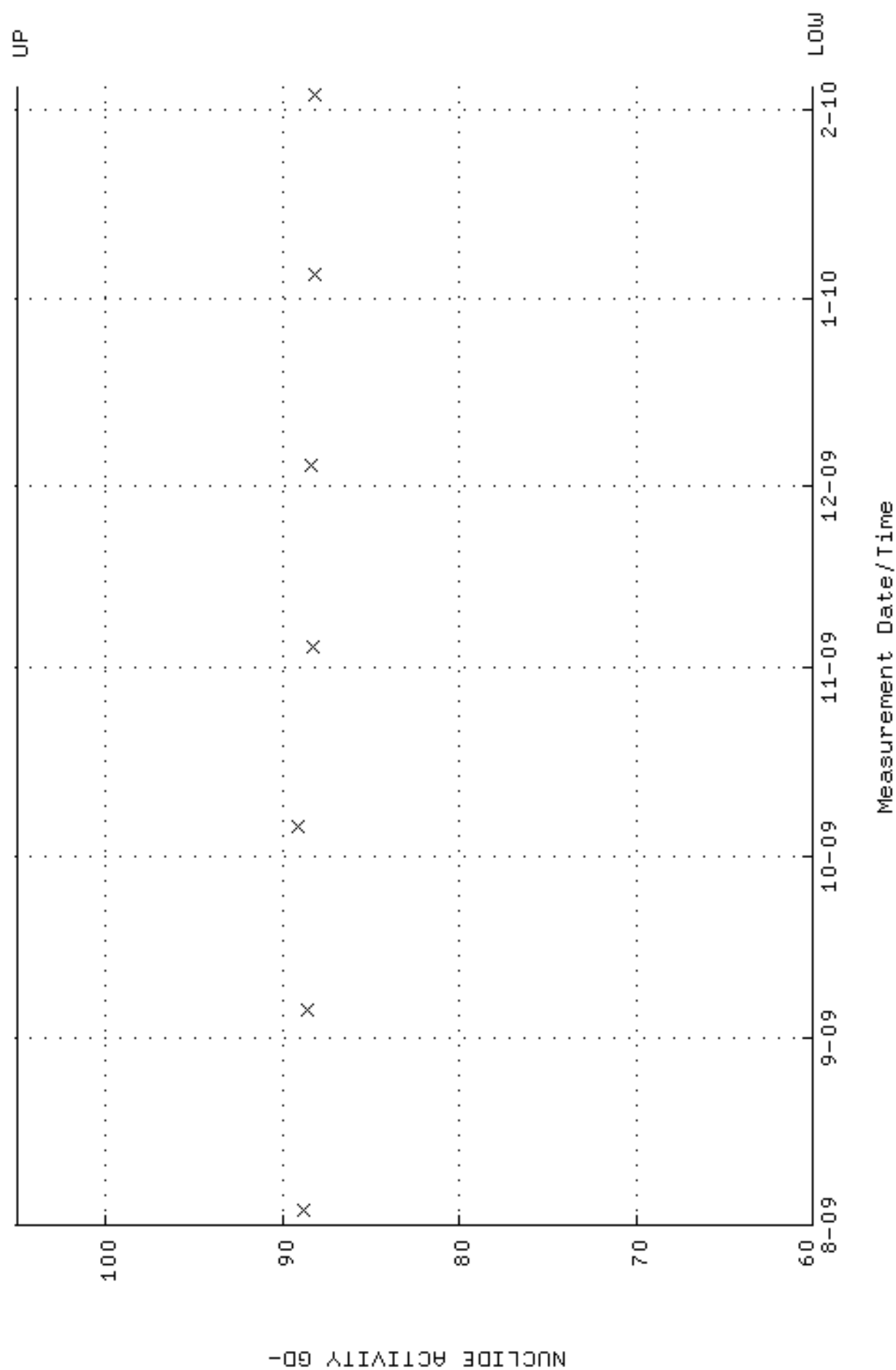




QA filename : DKA100:[ENV\_ALPHA.QA.W]W025.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 0.250000 through 0.450000

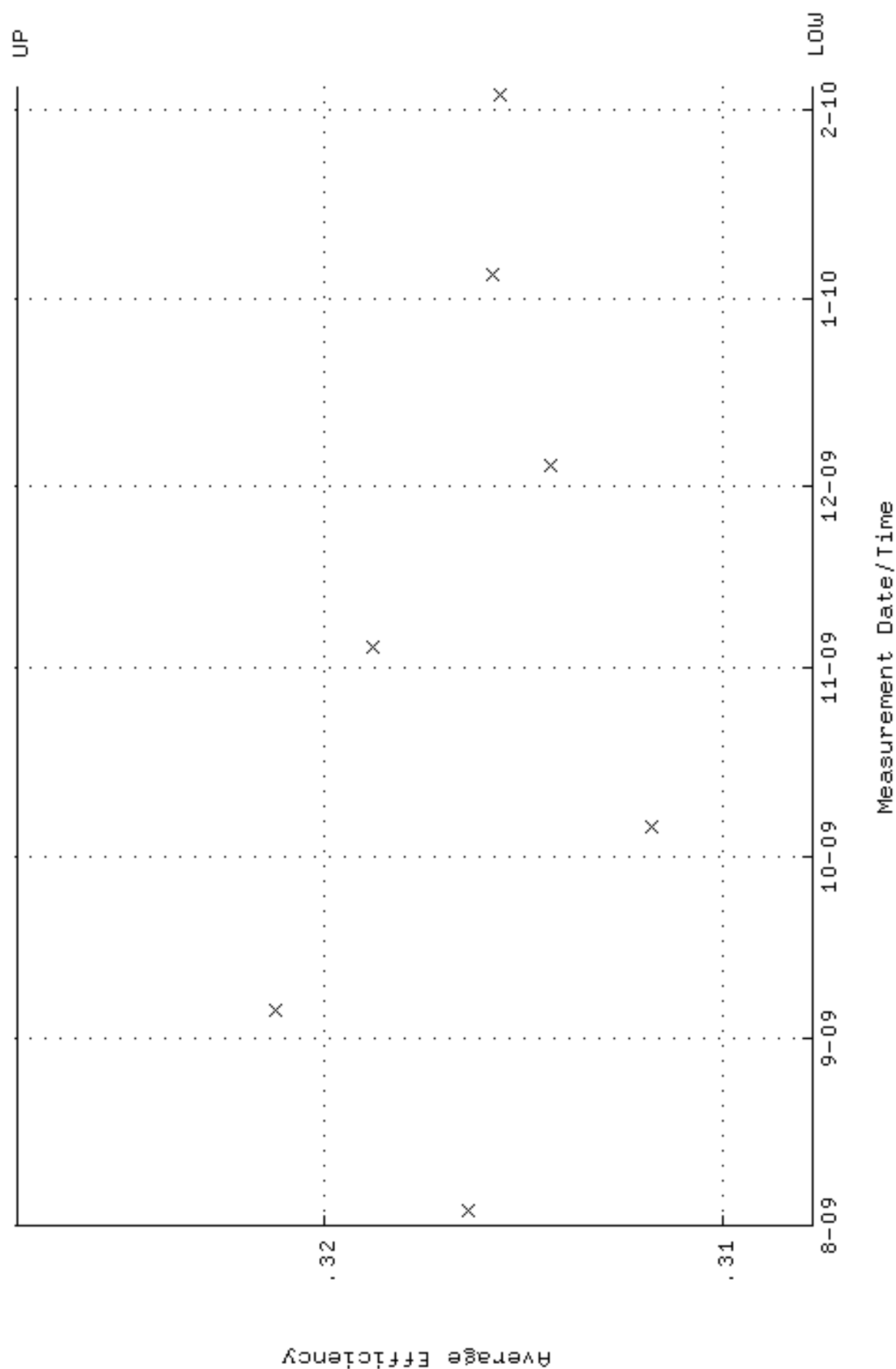


QA filename : DKA100:[ENV\_ALPHA.QA.W]W025.QAF;4  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 60.0000 through 105.000

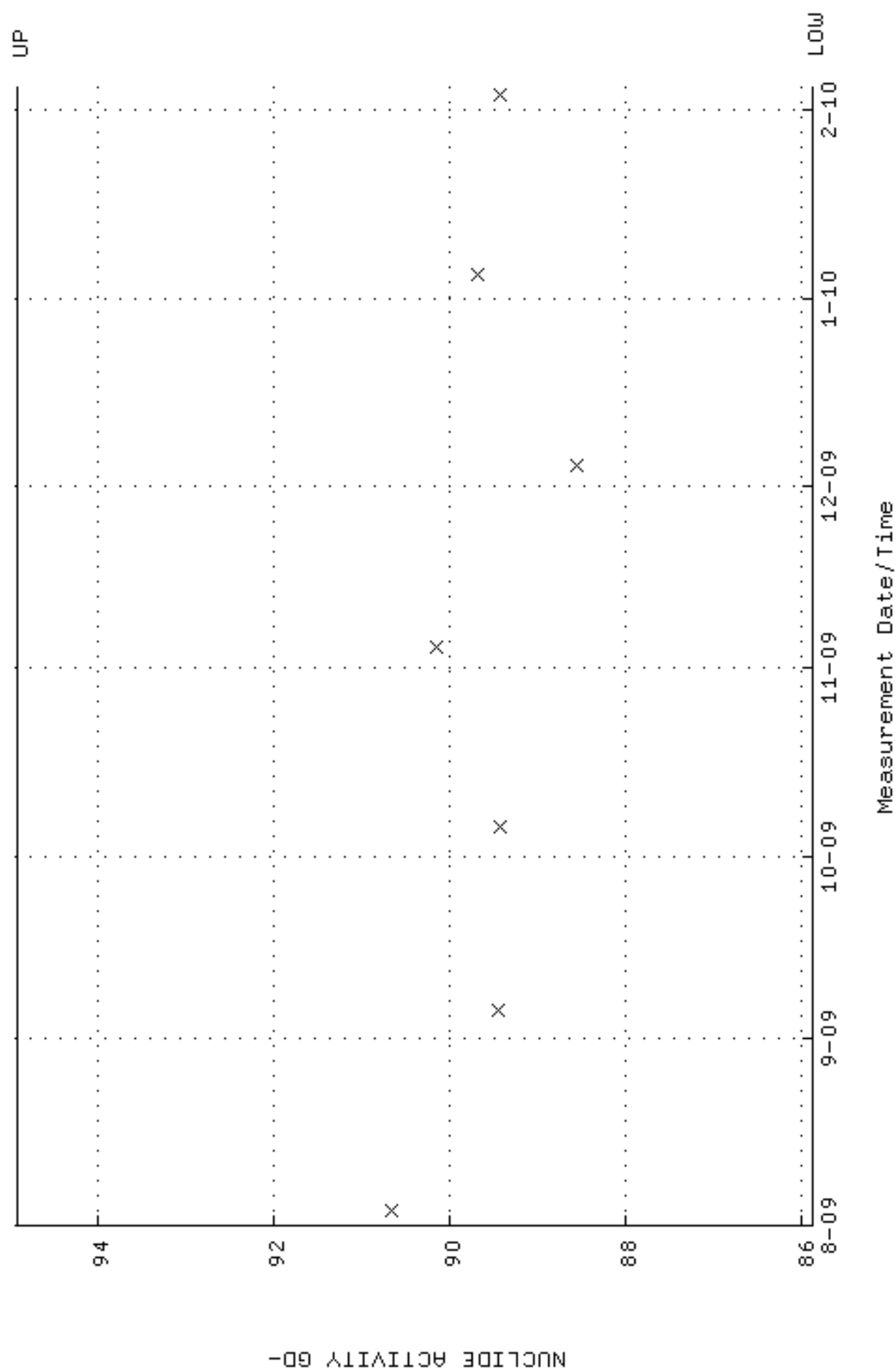




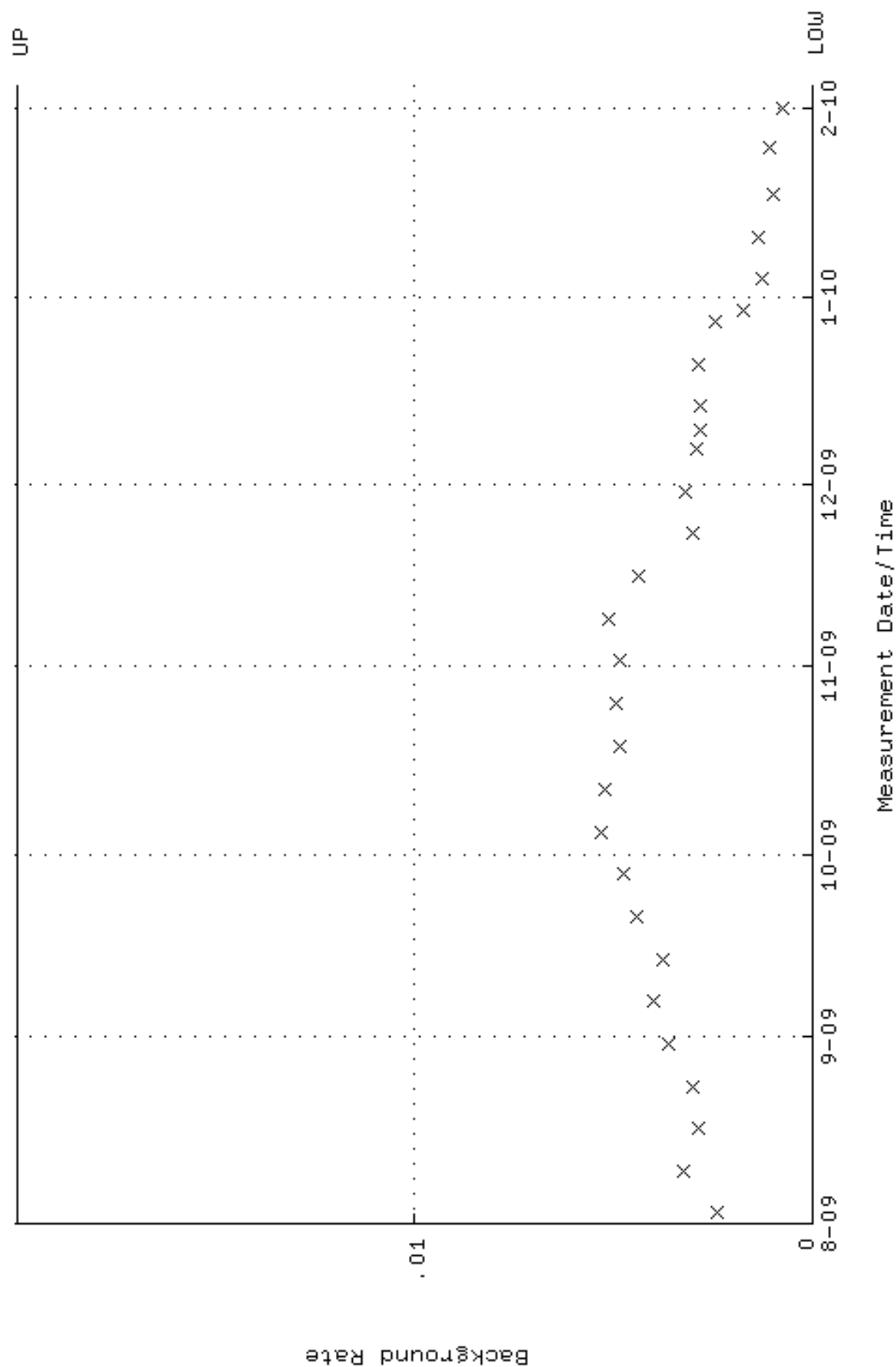
QA filename : DKA100:[ENV\_ALPHA.QA.W]W026.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 0.307728 through 0.327728



QA filename : DKA100:[ENV\_ALPHA.QA.W]W026.QAF;3  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 85.8763 through 94.9159

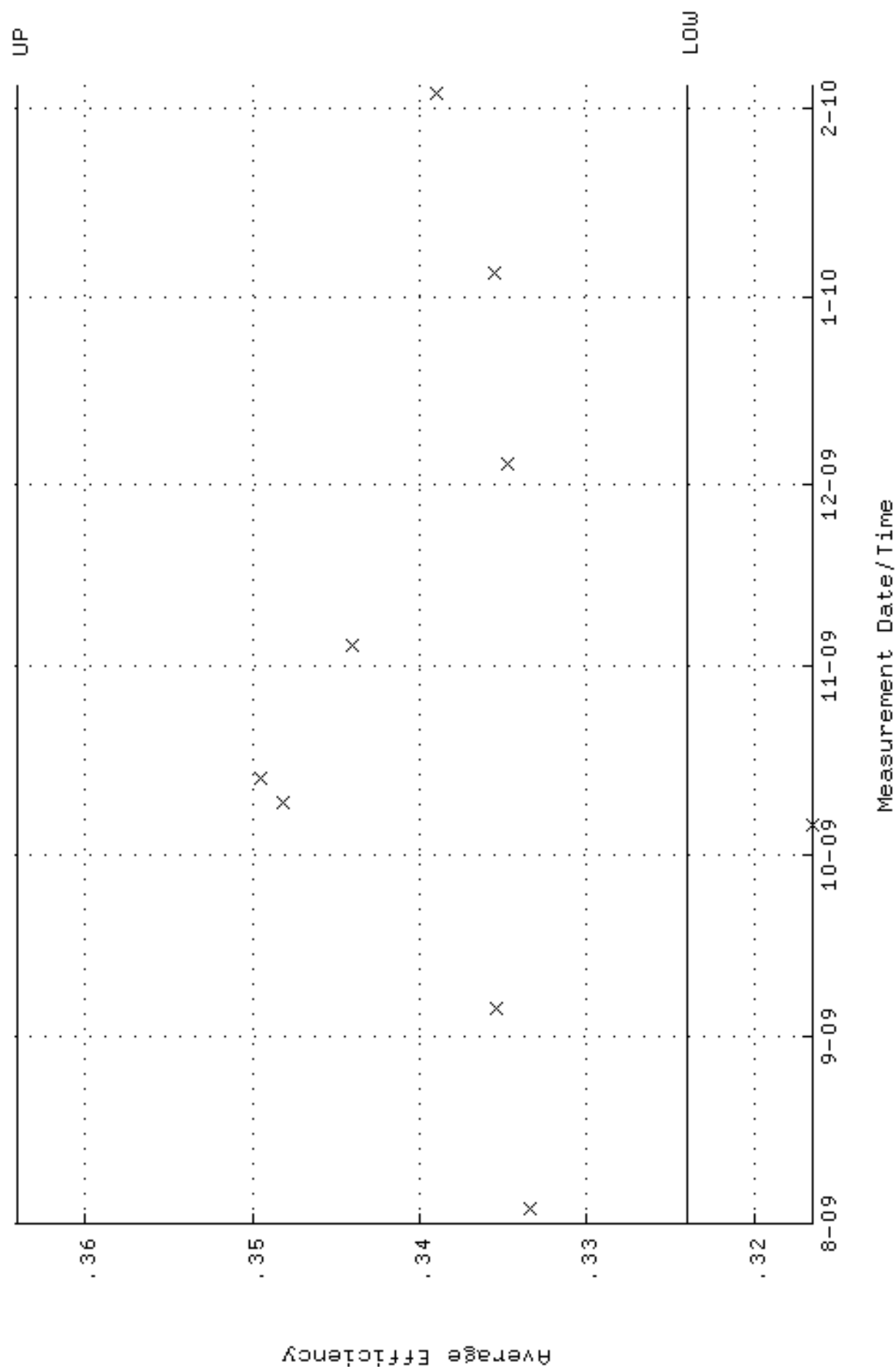


QA filename : DKA100:[ENV\_ALPHA.QA.B]B026.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 2-AUG-2009 17:38:35 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

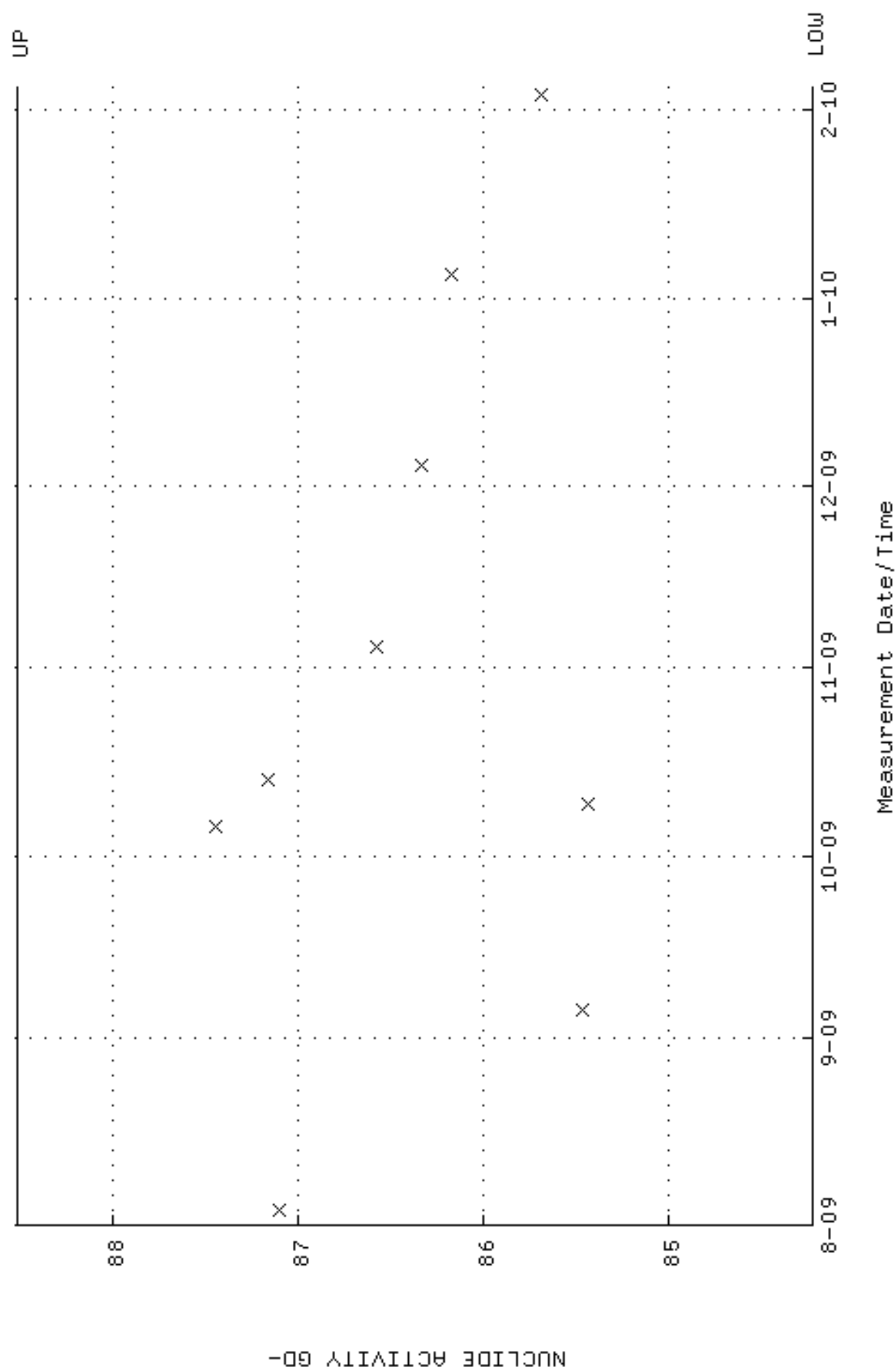




QA filename : DKA100:[ENV\_ALPHA.QA.W]W031.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
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 Lower/Upper Lmts: 0.324029 through 0.364065

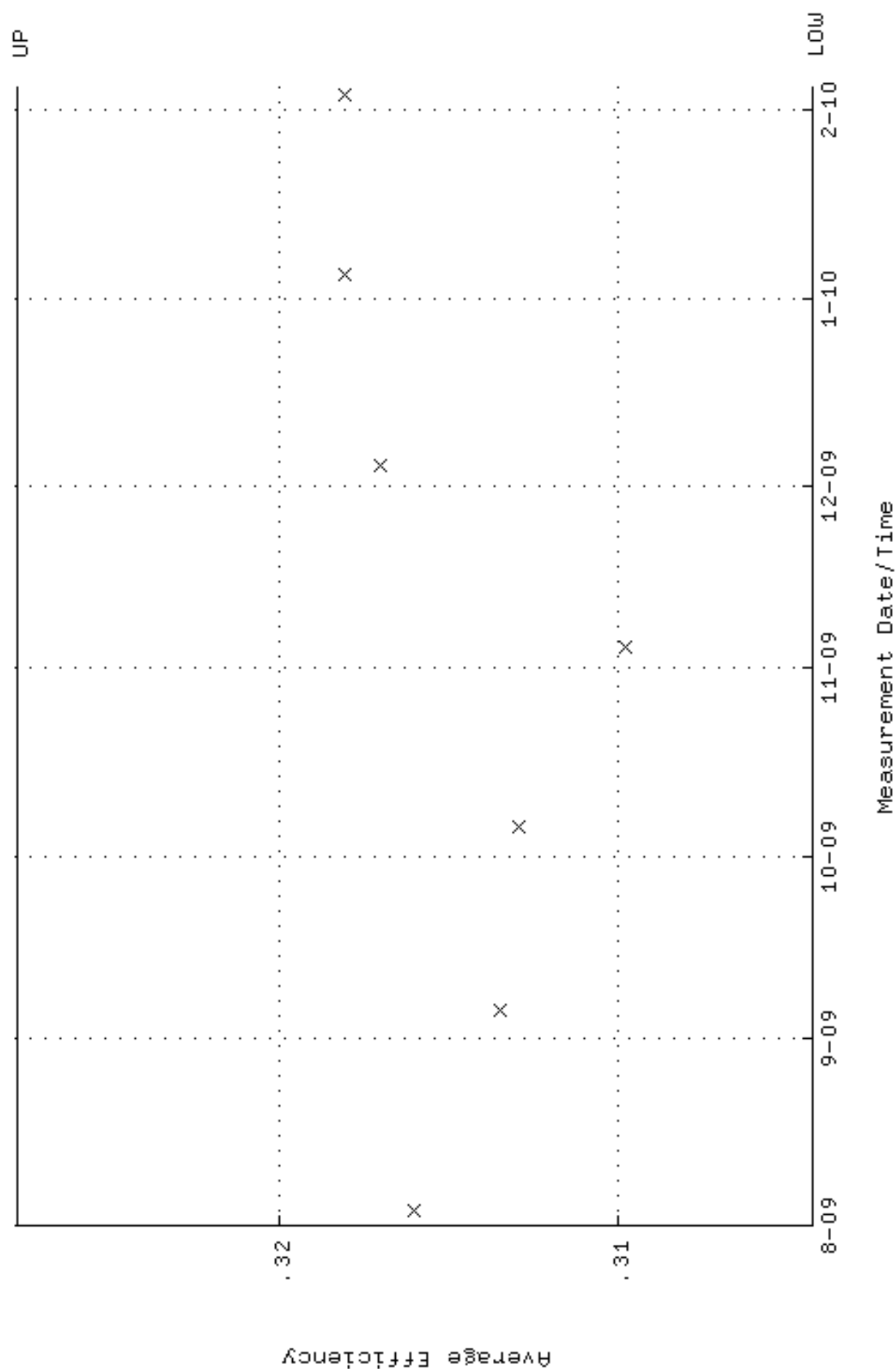


QA filename : DKA100:[ENV\_ALPHA.QA.W]W031.QAF;4  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00  
 Lower/Upper Lmts: 84.2165 through 88.5165

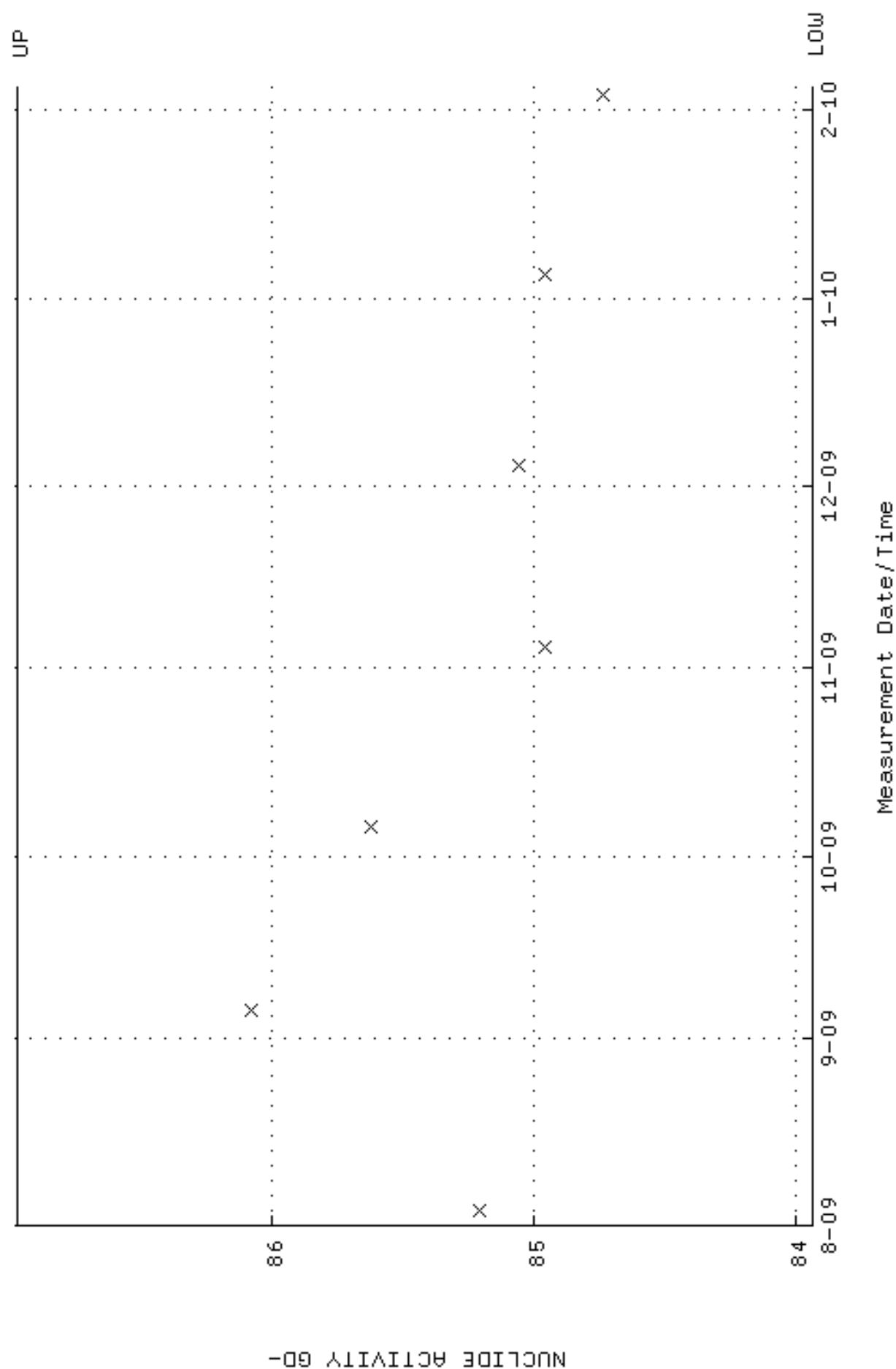




QA filename : DKA100:[ENV\_ALPHA.QA.W]W033.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
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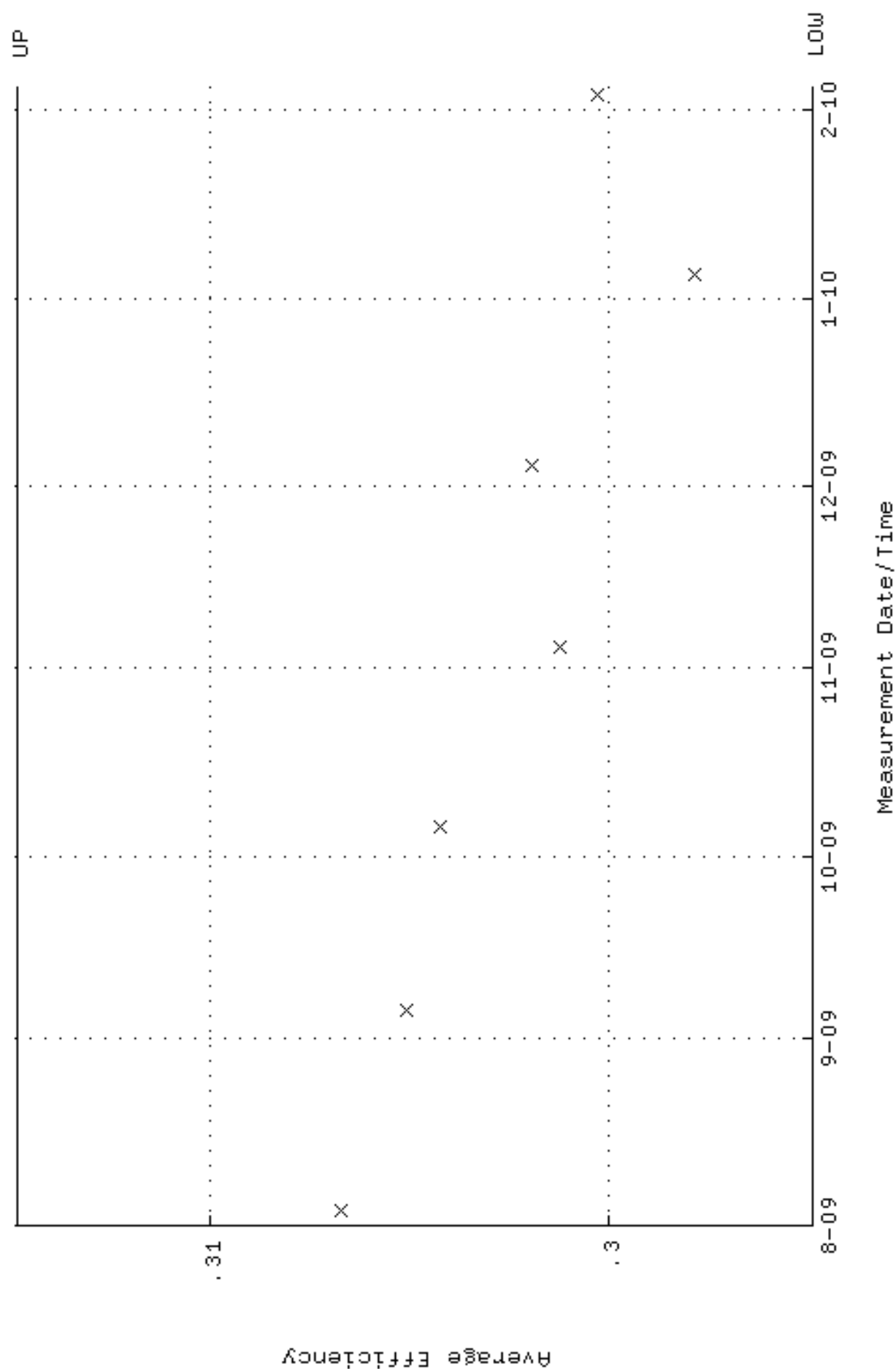


QA filename : DKA100:[ENV\_ALPHA.QA.W]W033.QAF;3  
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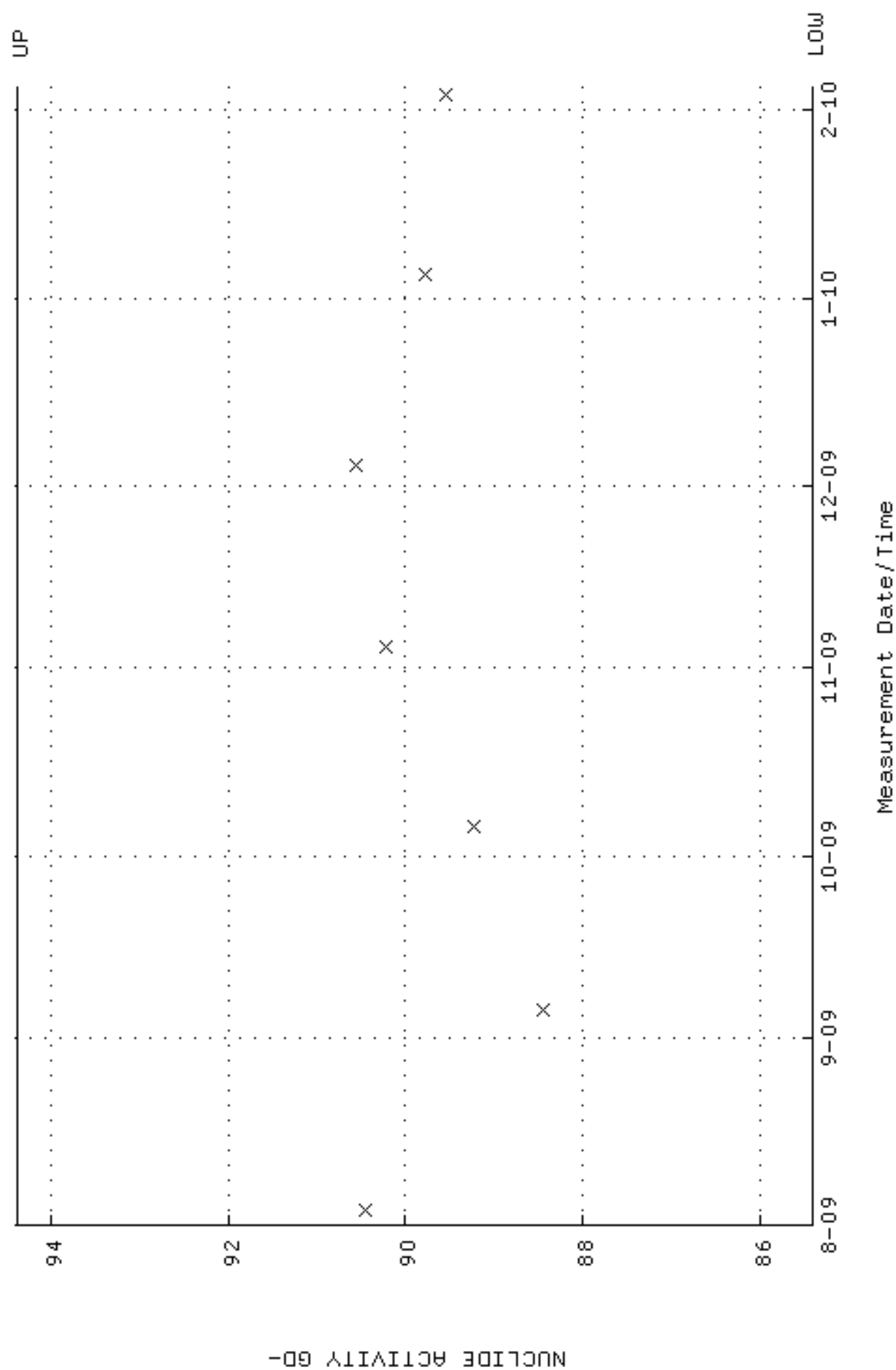




QA filename : DKA100:[ENV\_ALPHA.QA.W]W035.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
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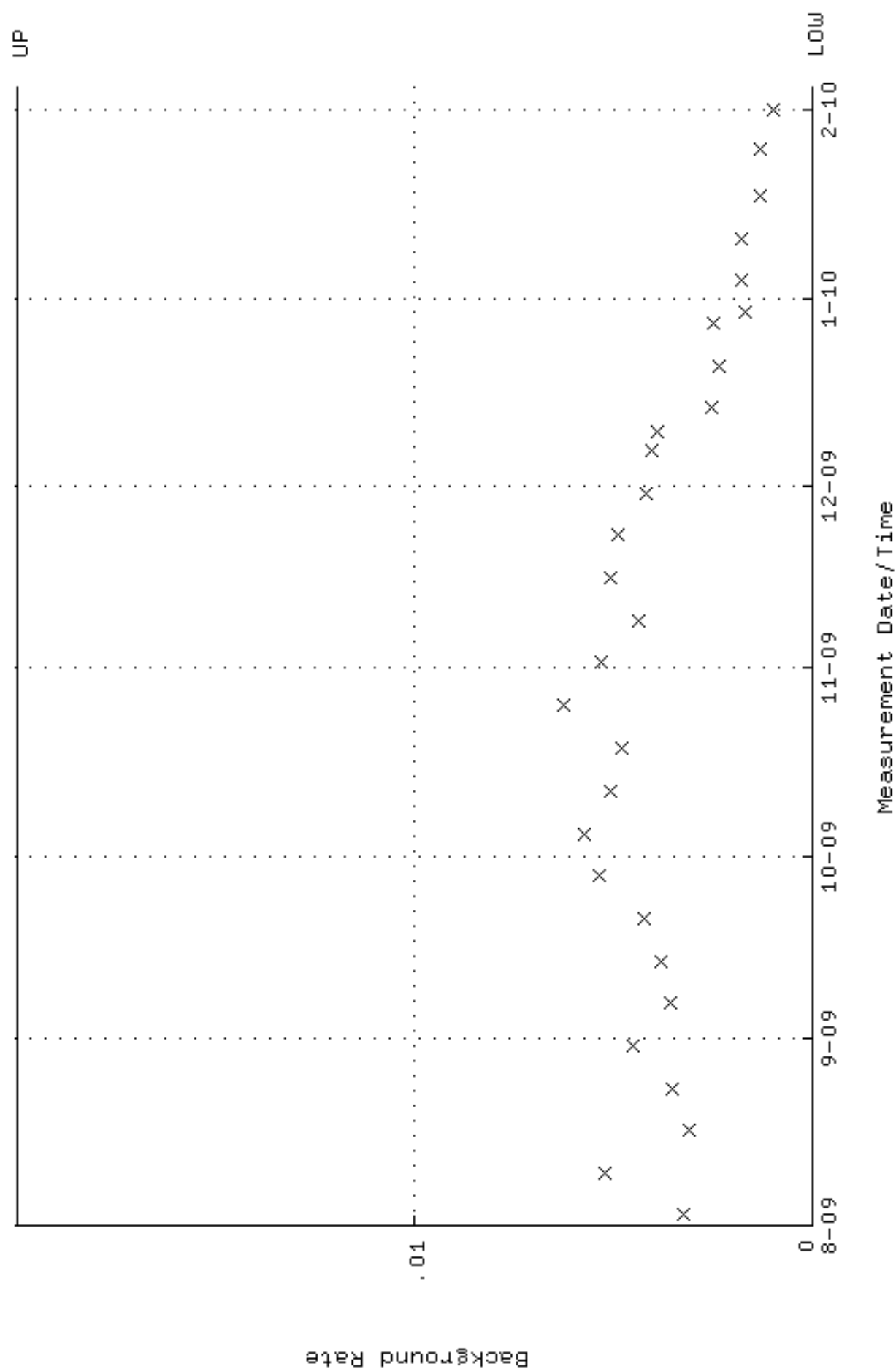


QA filename : DKA100:[ENV\_ALPHA.QA.W]W035.QAF;3  
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 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00  
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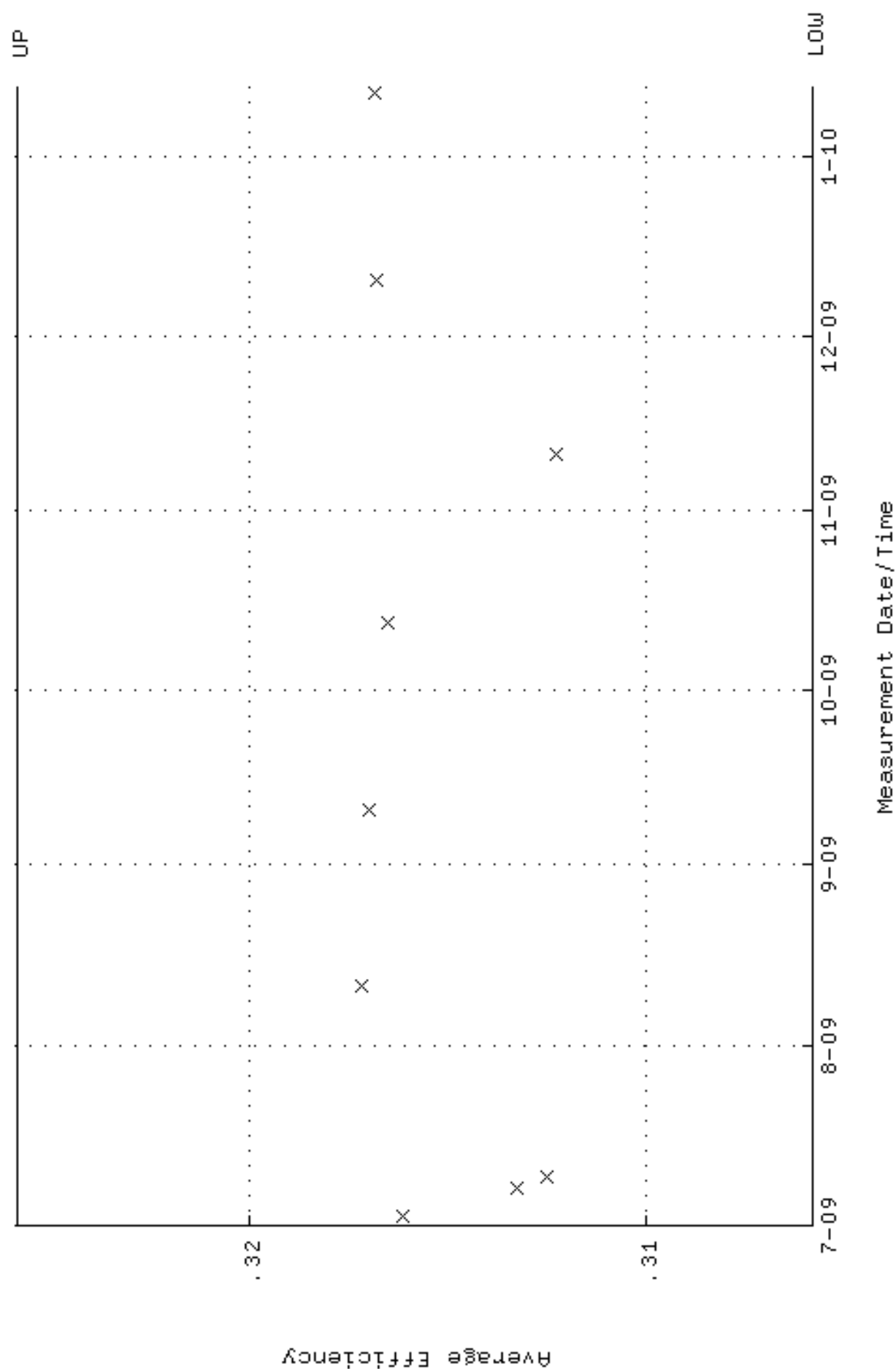




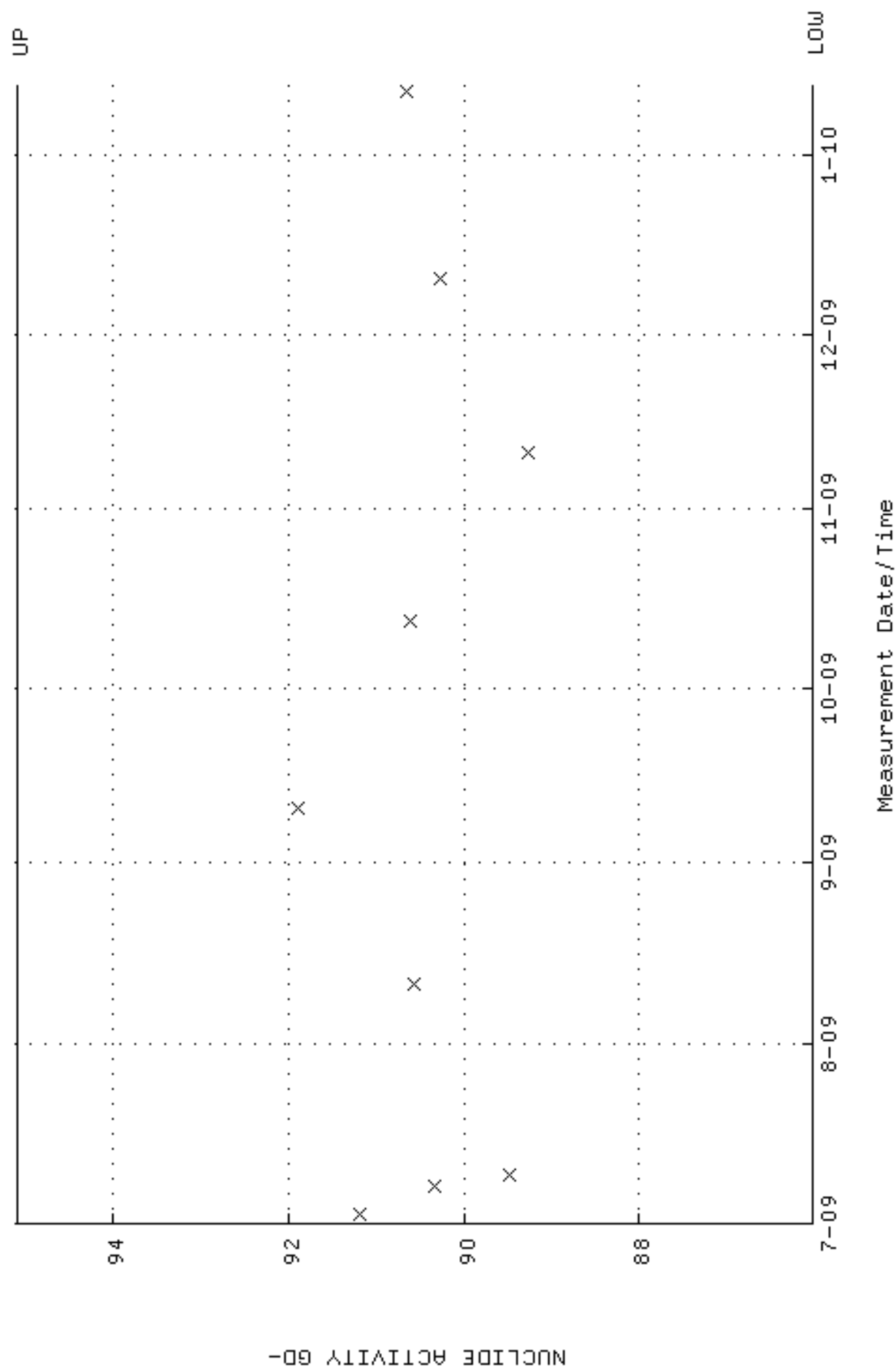
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 Parameter Name : BACKRATE (Background Rate)  
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV\_ALPHA.QA.W]W074.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 2-JUL-2009 15:04:13 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.305830 through 0.325830

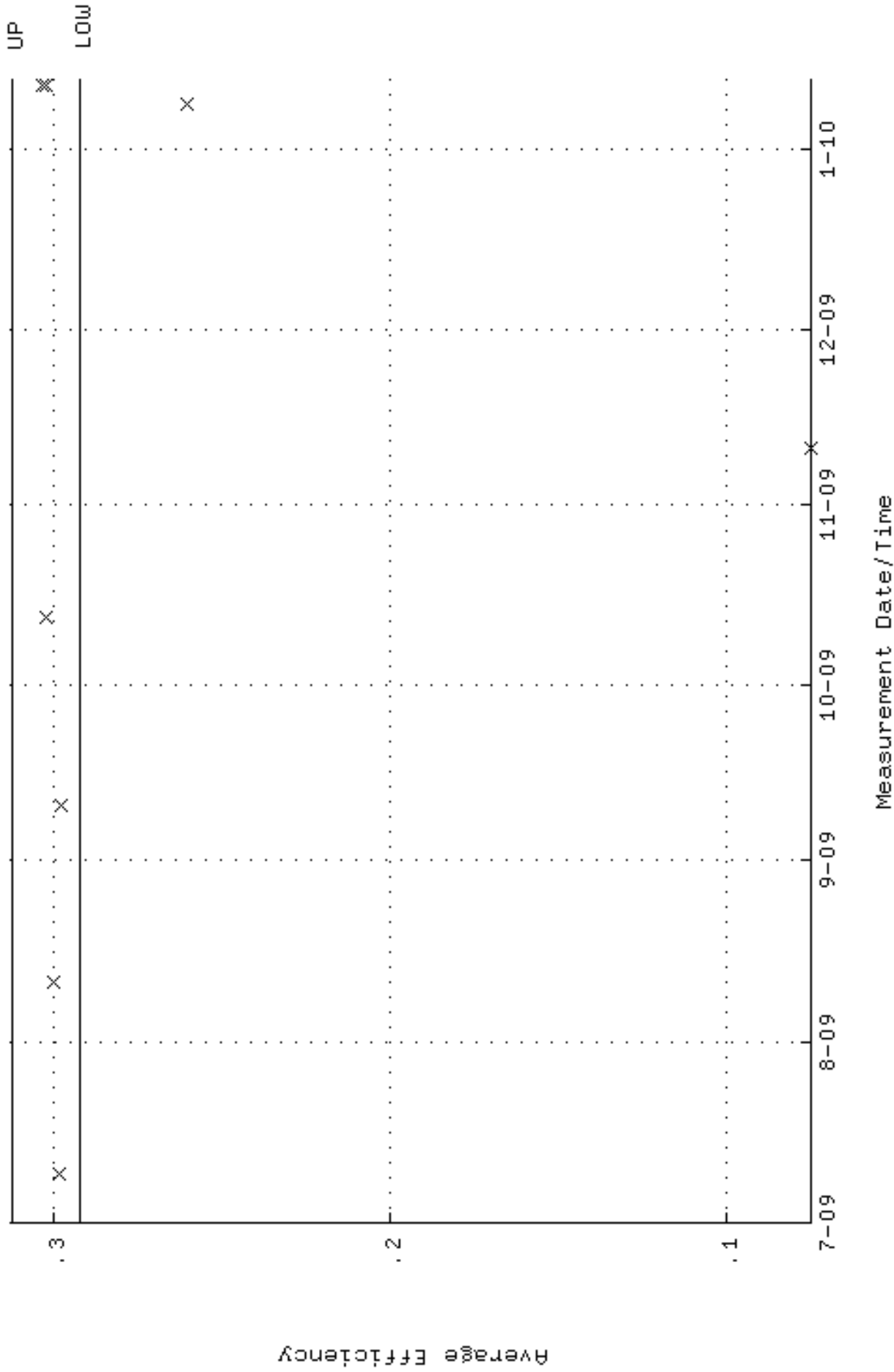


QA filename : DKA100:[ENV\_ALPHA.QA.W]W074.QAF;4  
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 Lower/Upper Lmts: 86.0289 through 95.0845





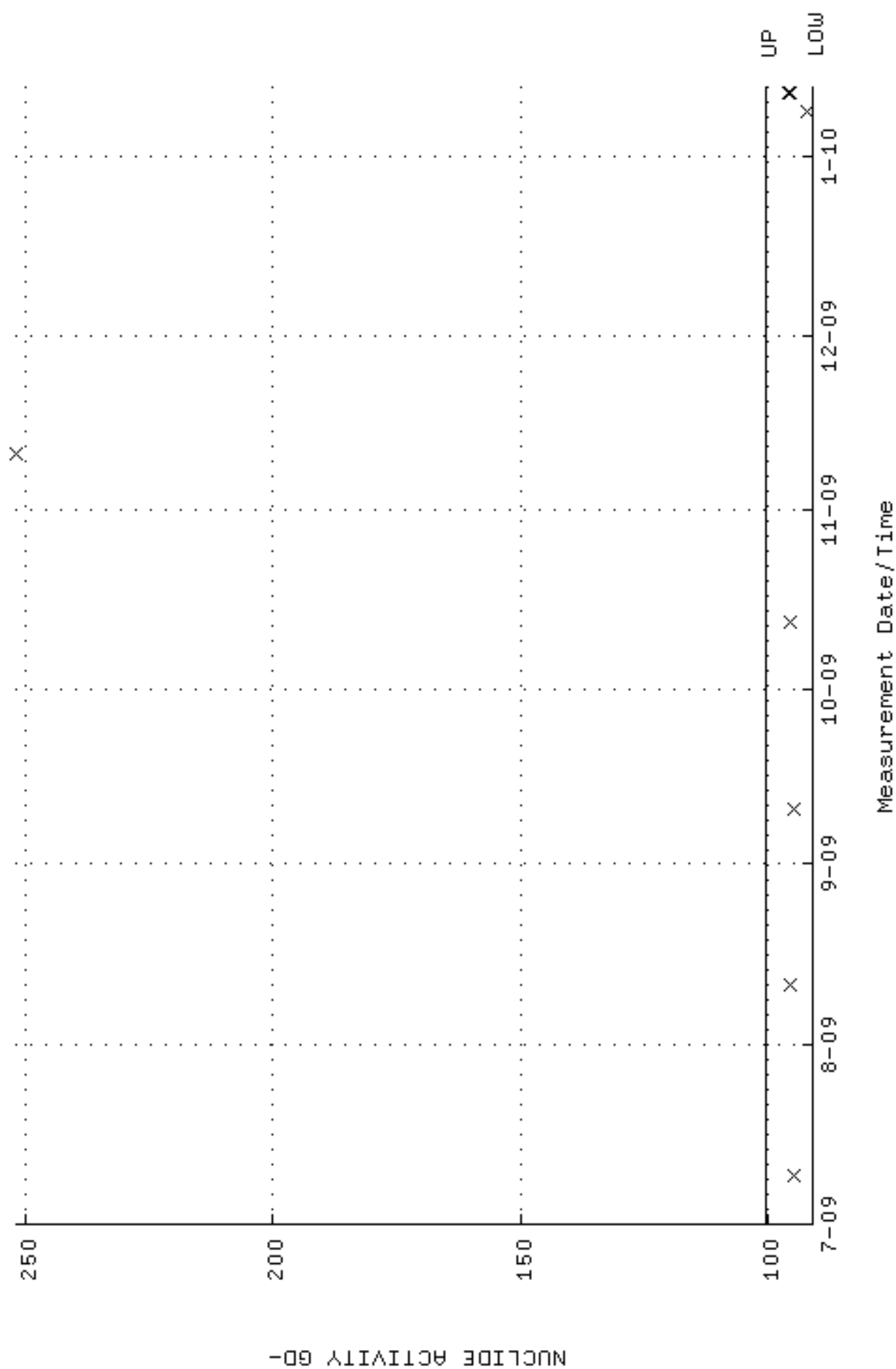
QA filename : DKA100:[ENV\_ALPHA.QA.W]W075.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.292134 through 0.312134



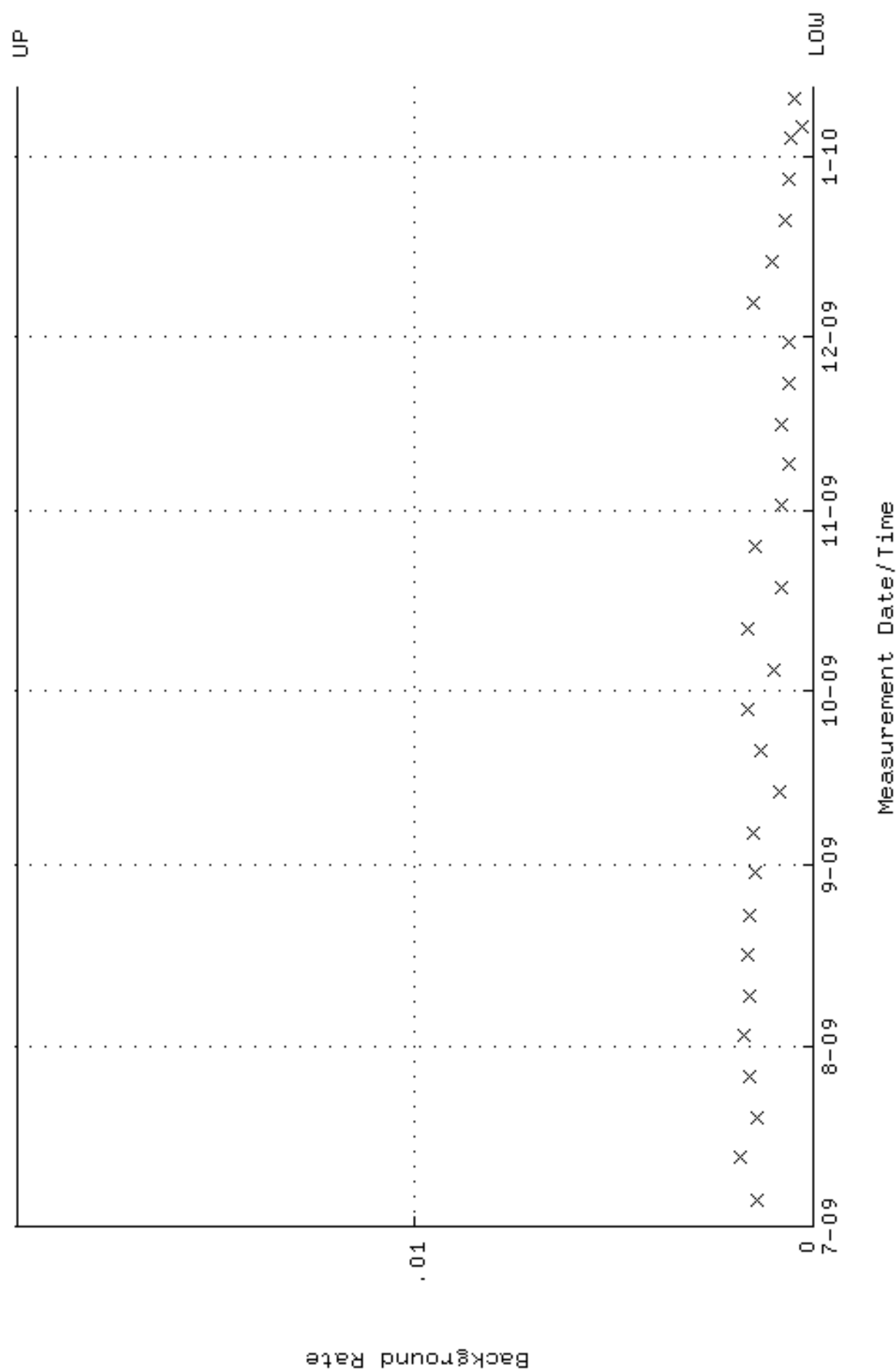
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QQA filename      : DKA100:[ENV_ALPHA.QA.W]W075.QAF;3
Parameter Name    : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates   : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 91.1212 through 100.713

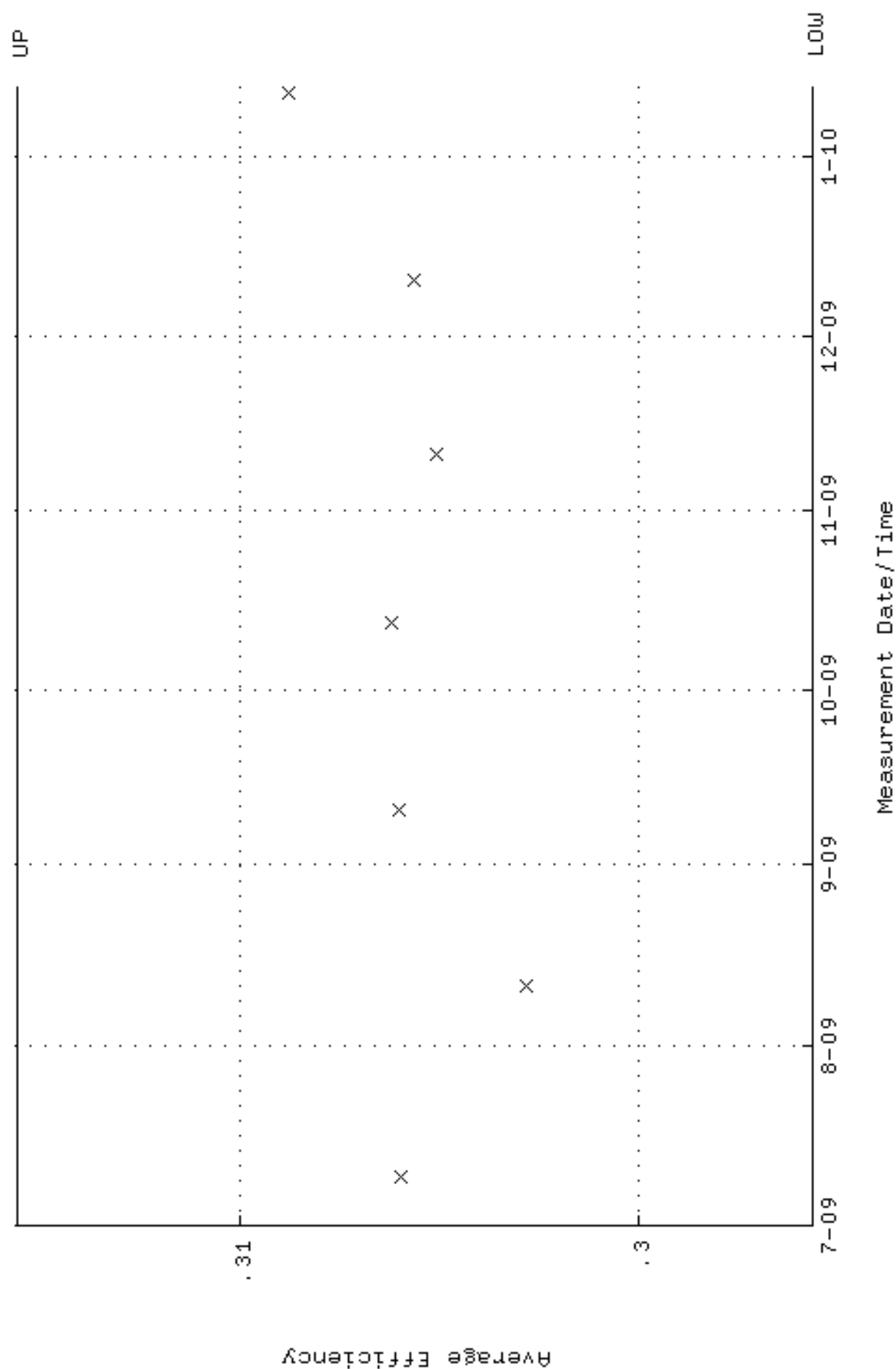
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QA filename : DKA100:[ENV\_ALPHA.QA.B]B075.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

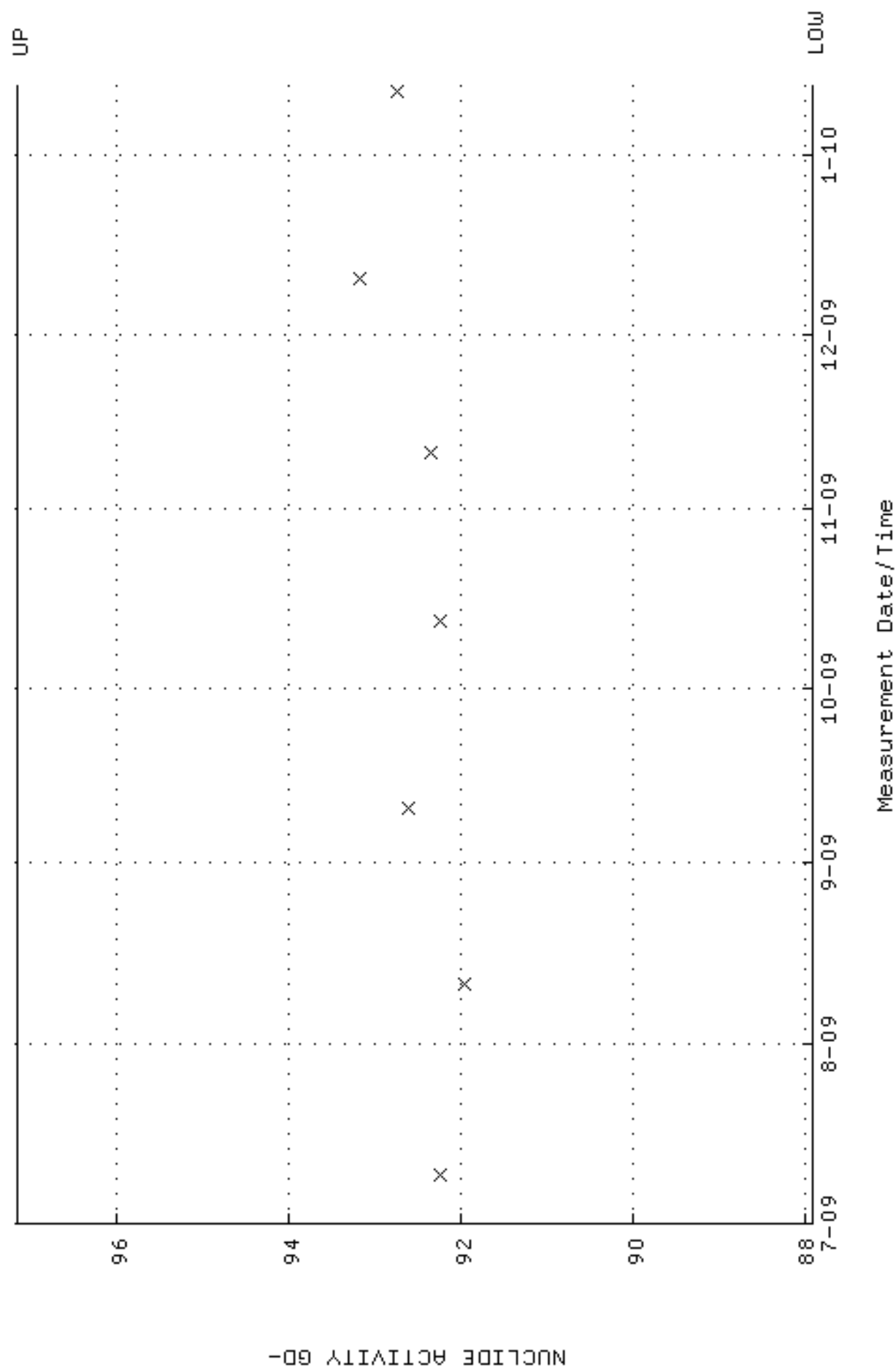


QA filename : DKA100:[ENV\_ALPHA.QA.W]W076.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.295613 through 0.315613

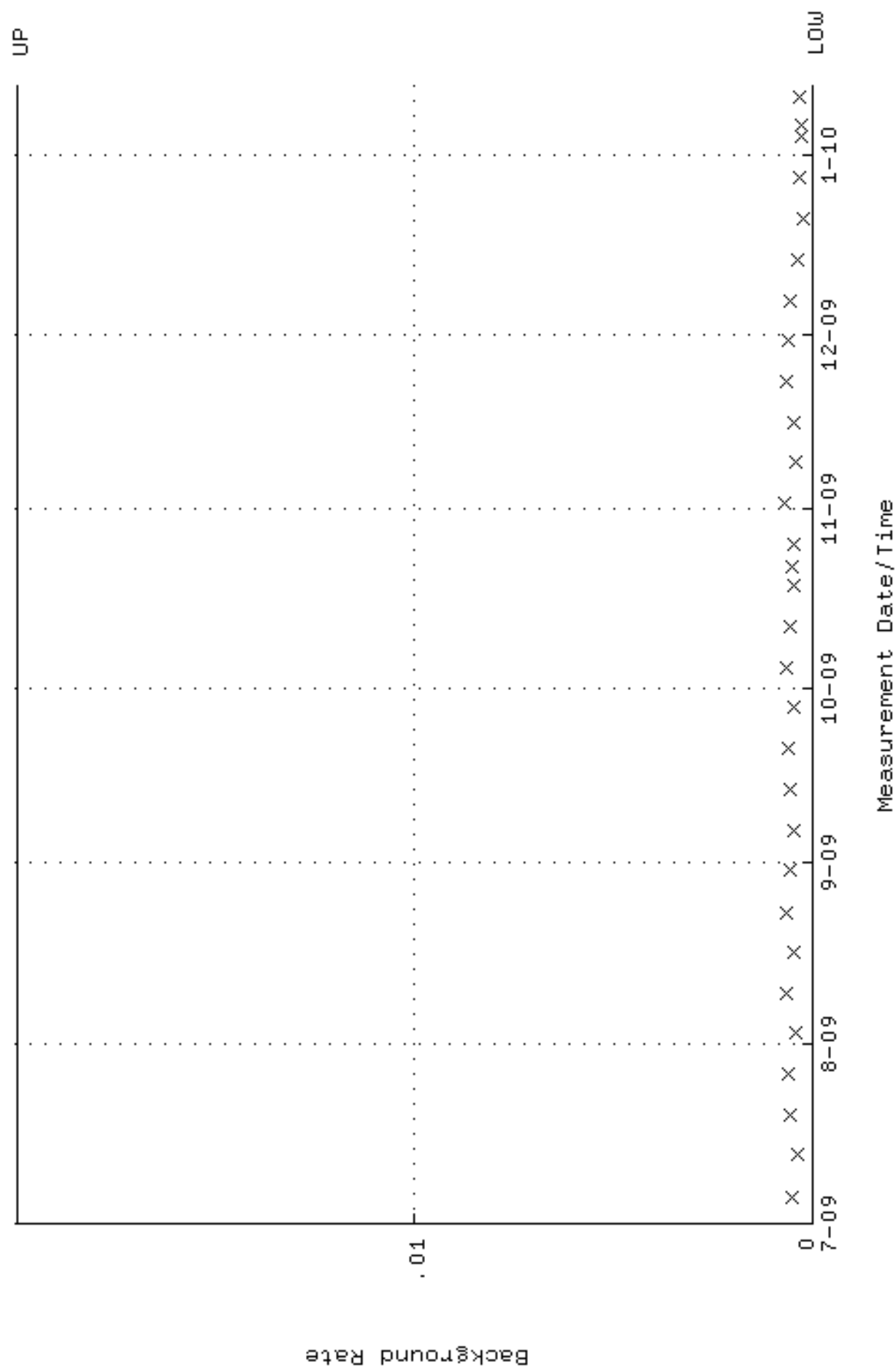




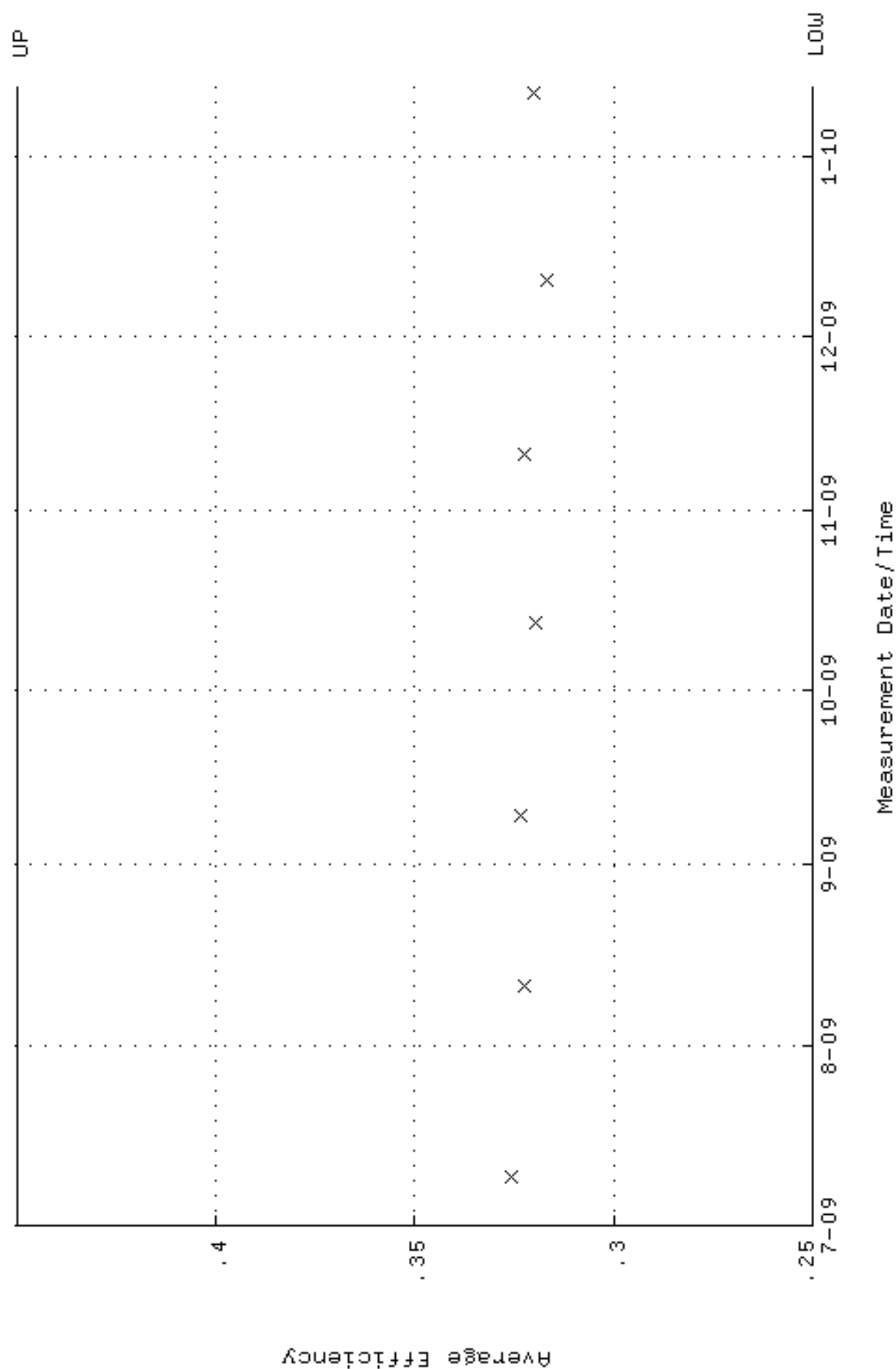
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 87.9031 through 97.1561



QA filename : DKA100:[ENV\_ALPHA.QA.B]B076.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



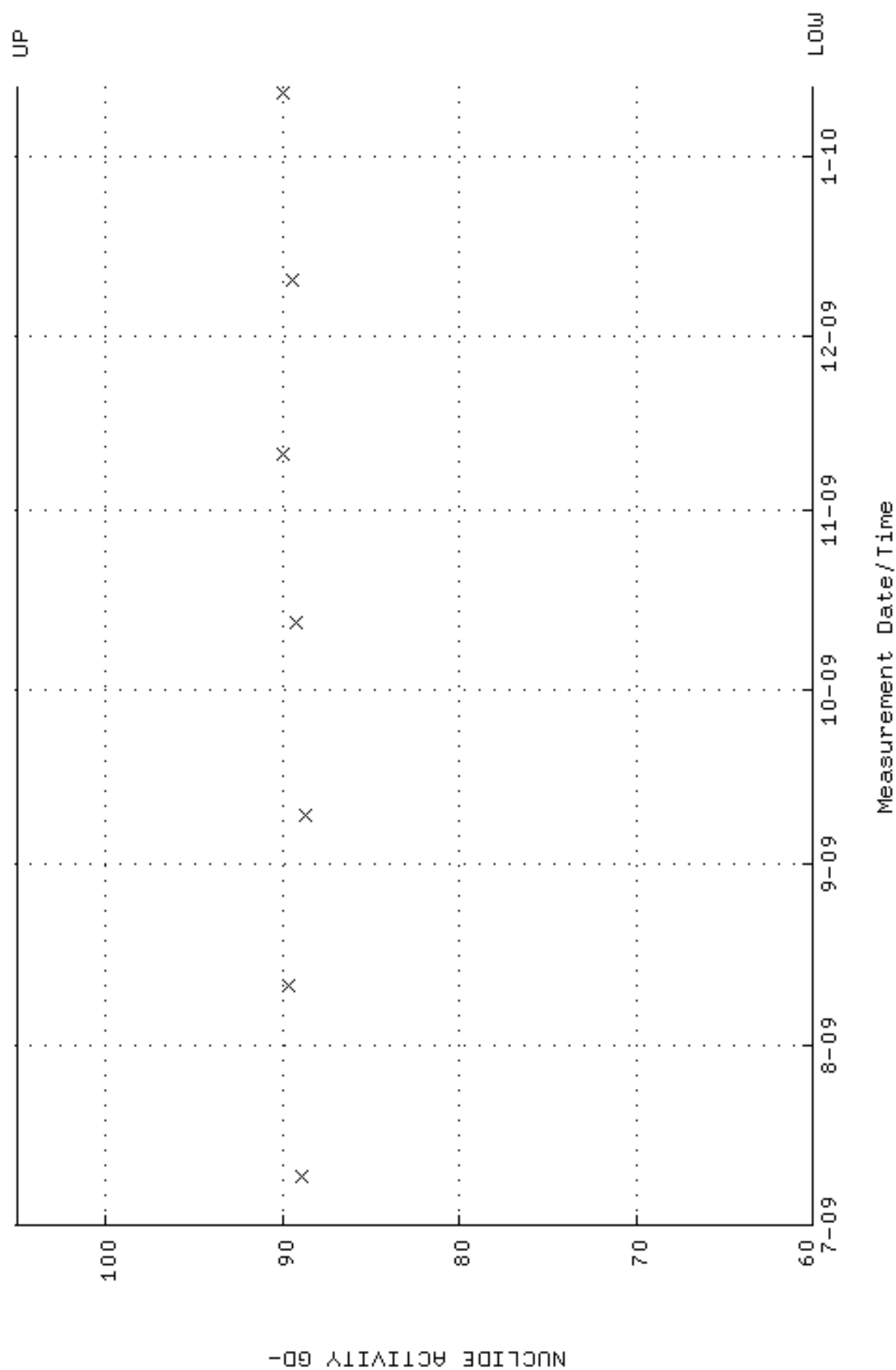
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 Parameter Name : AVRGEFF (Average Efficiency)  
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 Lower/Upper Lmts: 0.250000 through 0.450000



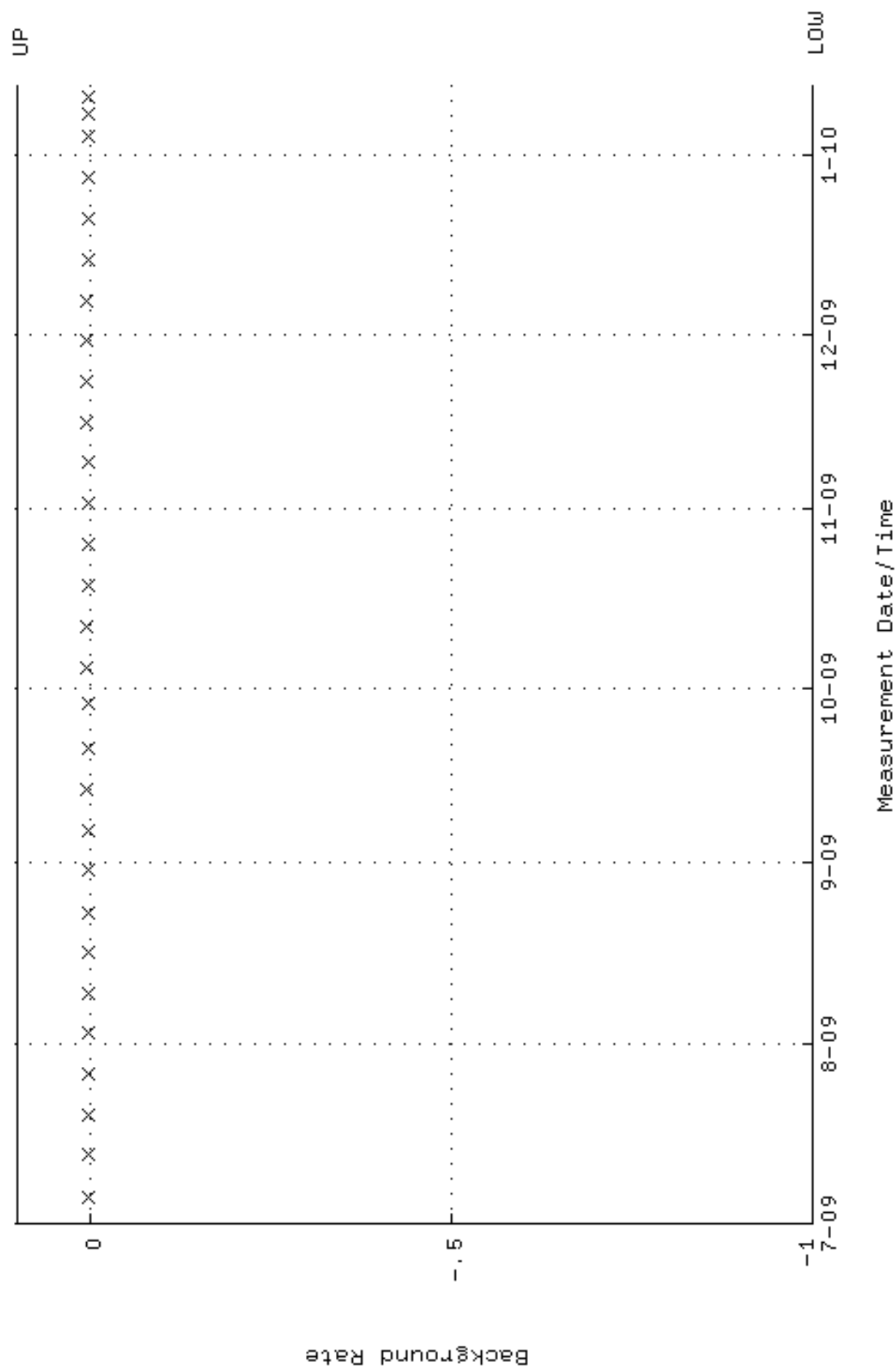
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Lower/Upper Lmts: 60.0000 through 105.000

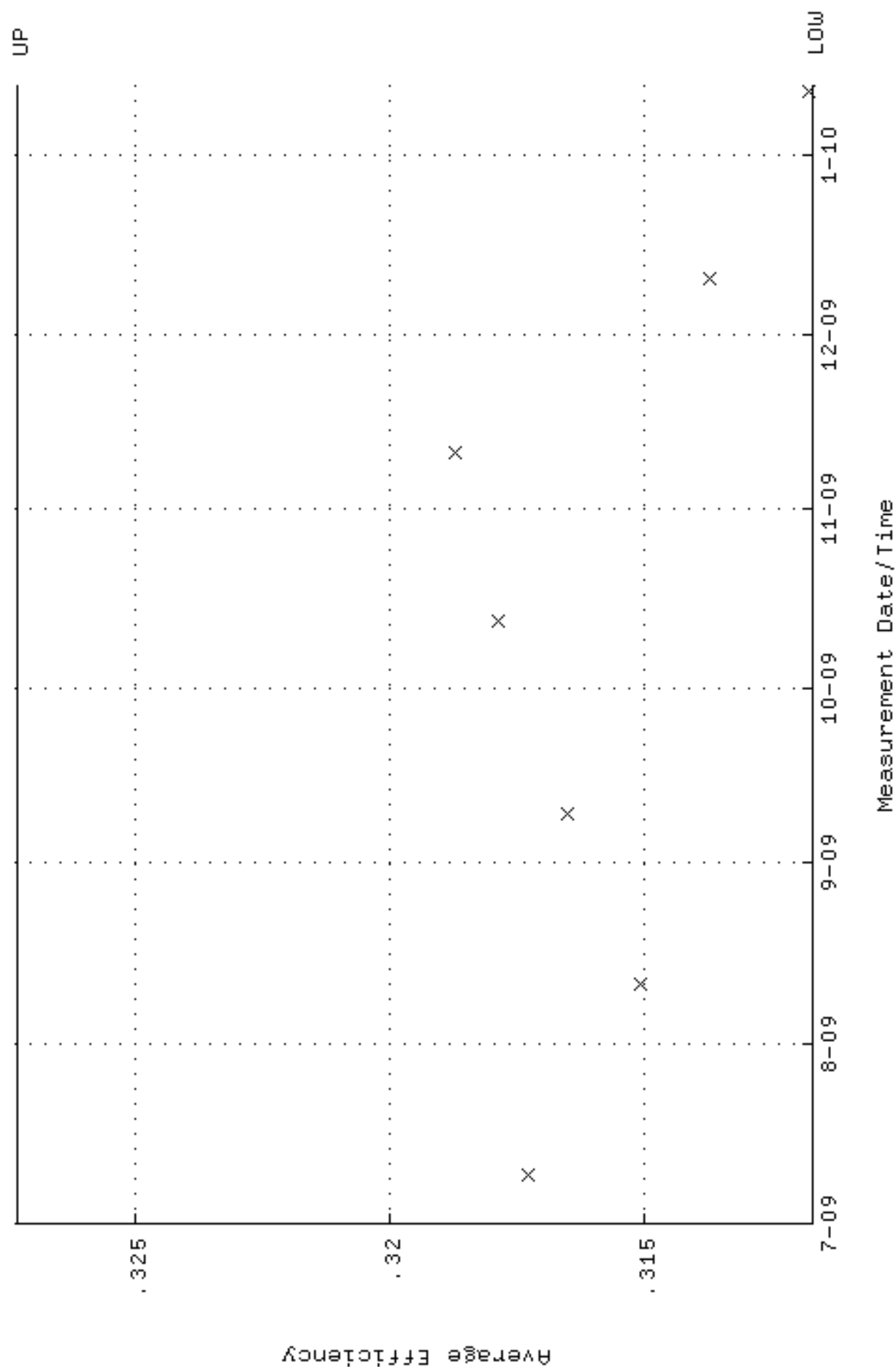
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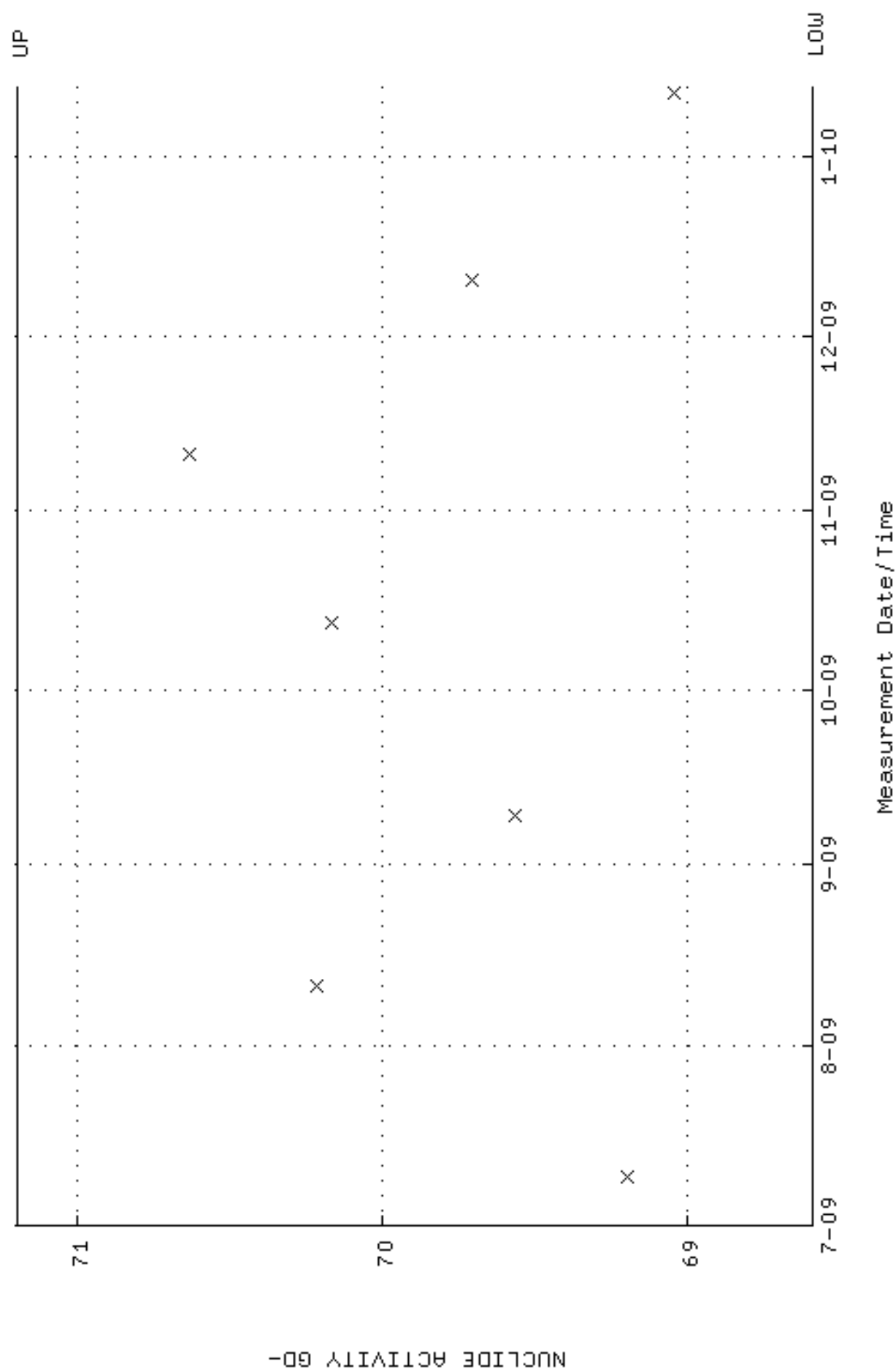
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 Lower/Upper Lmts: -1.00000 through 0.100000



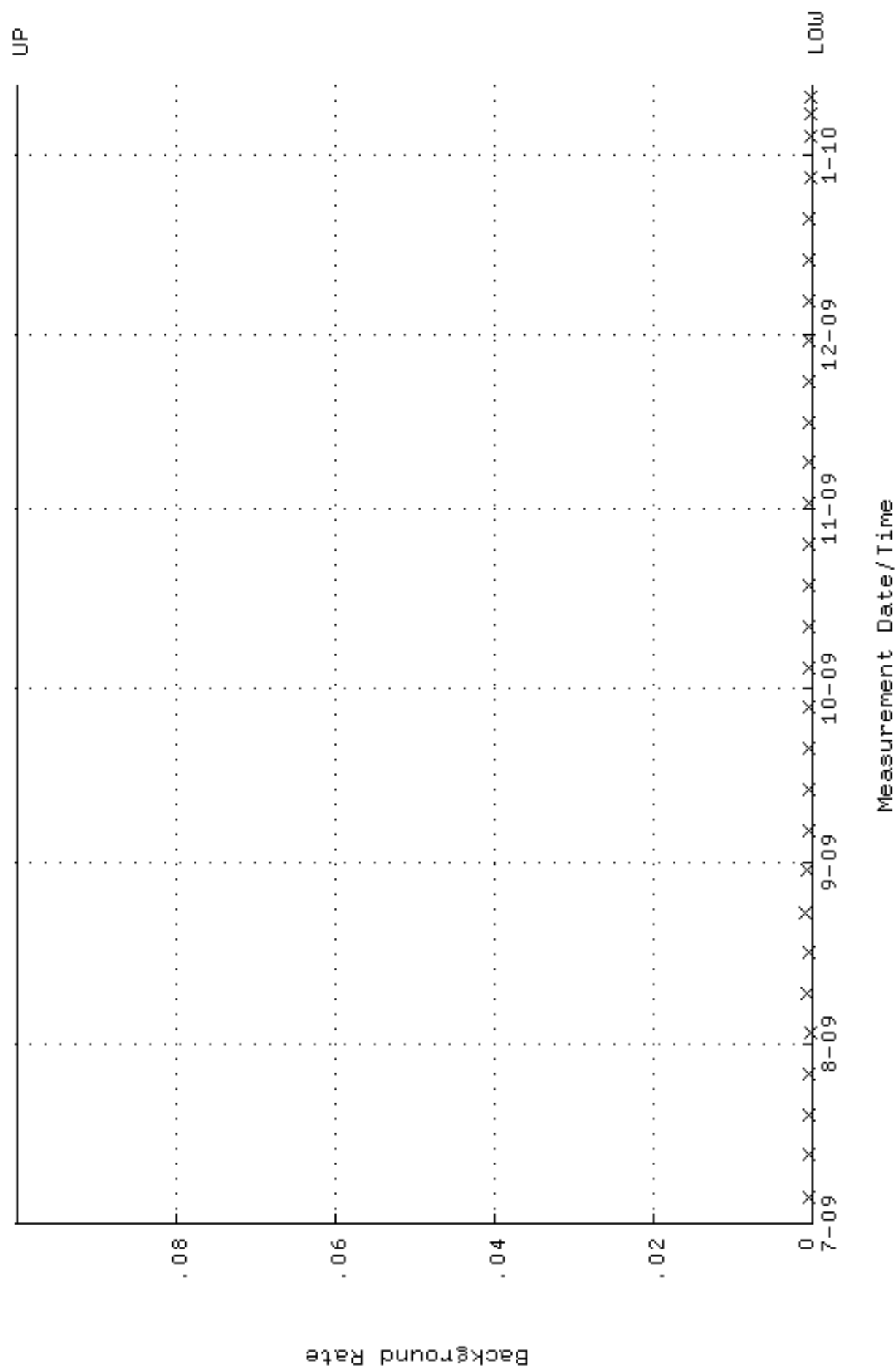
QA filename : DKA100:[ENV\_ALPHA.QA.W]W104.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
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 Lower/Upper Lmts: 0.311685 through 0.327337



QA filename : DKA100:[ENV\_ALPHA.QA.W]W104.QAF;3  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
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 Lower/Upper Lmts: 68.5906 through 71.1932

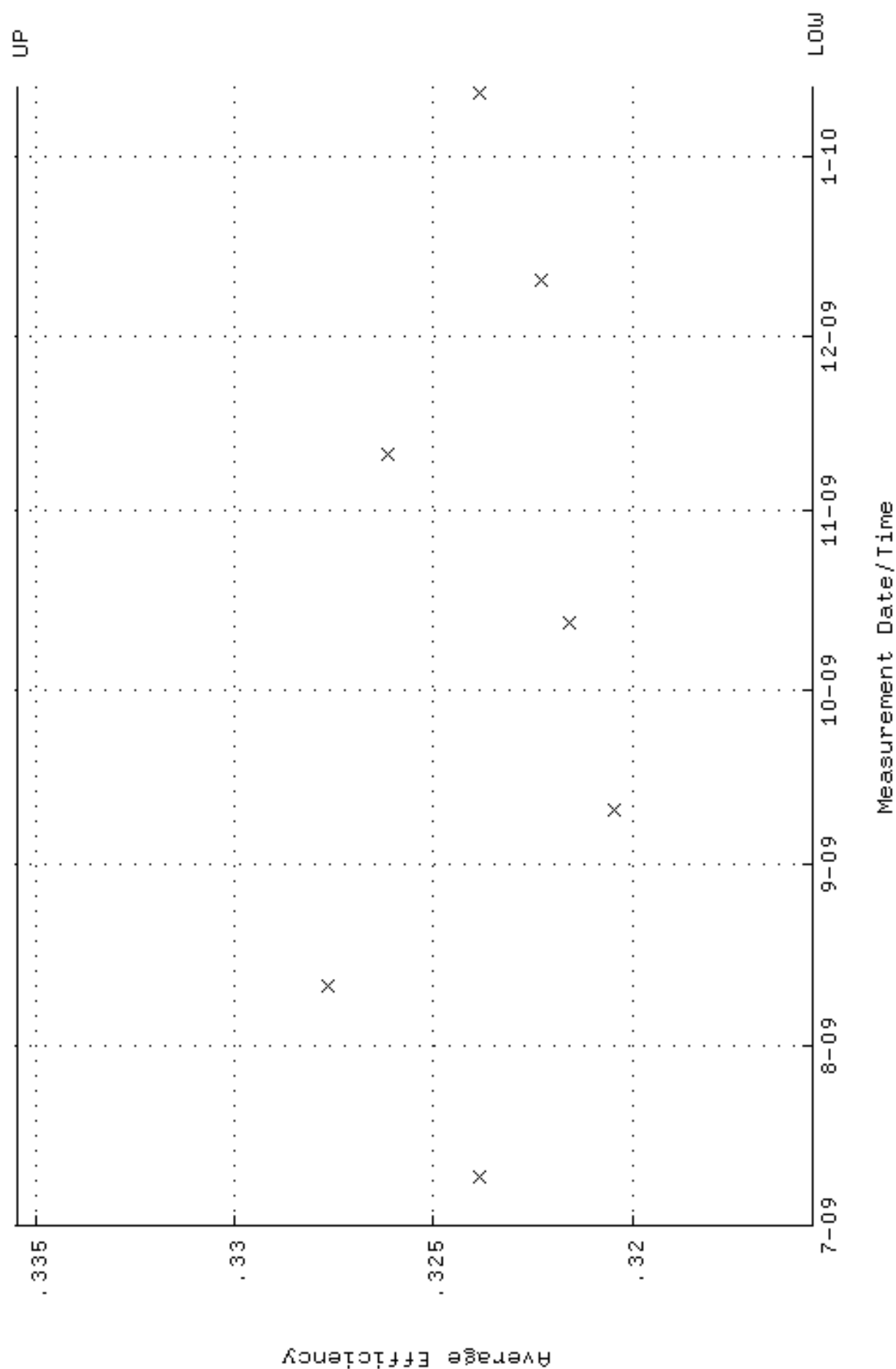


QA filename : DKA100:[ENV\_ALPHA.QA.B]B104.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:06 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

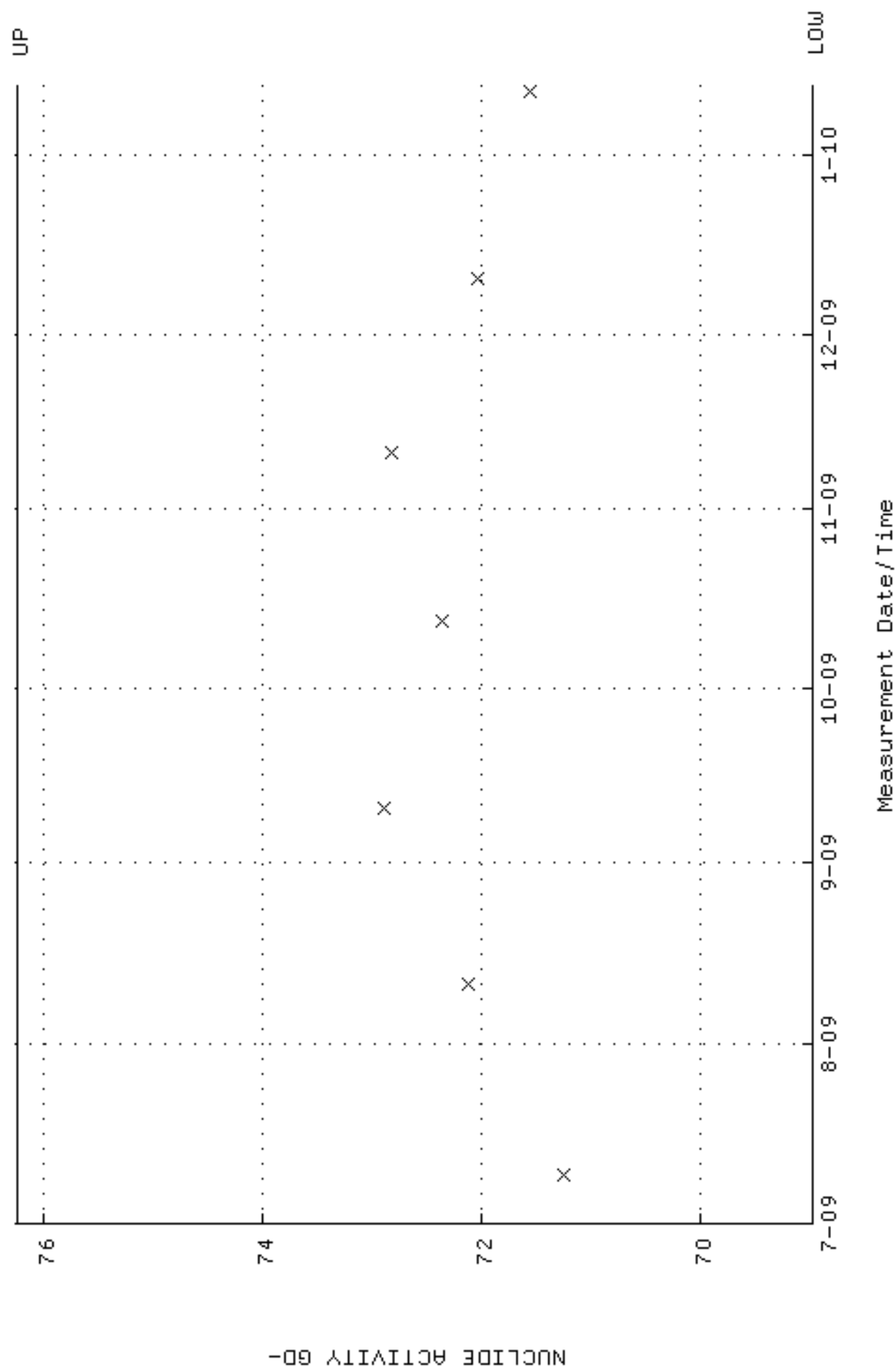




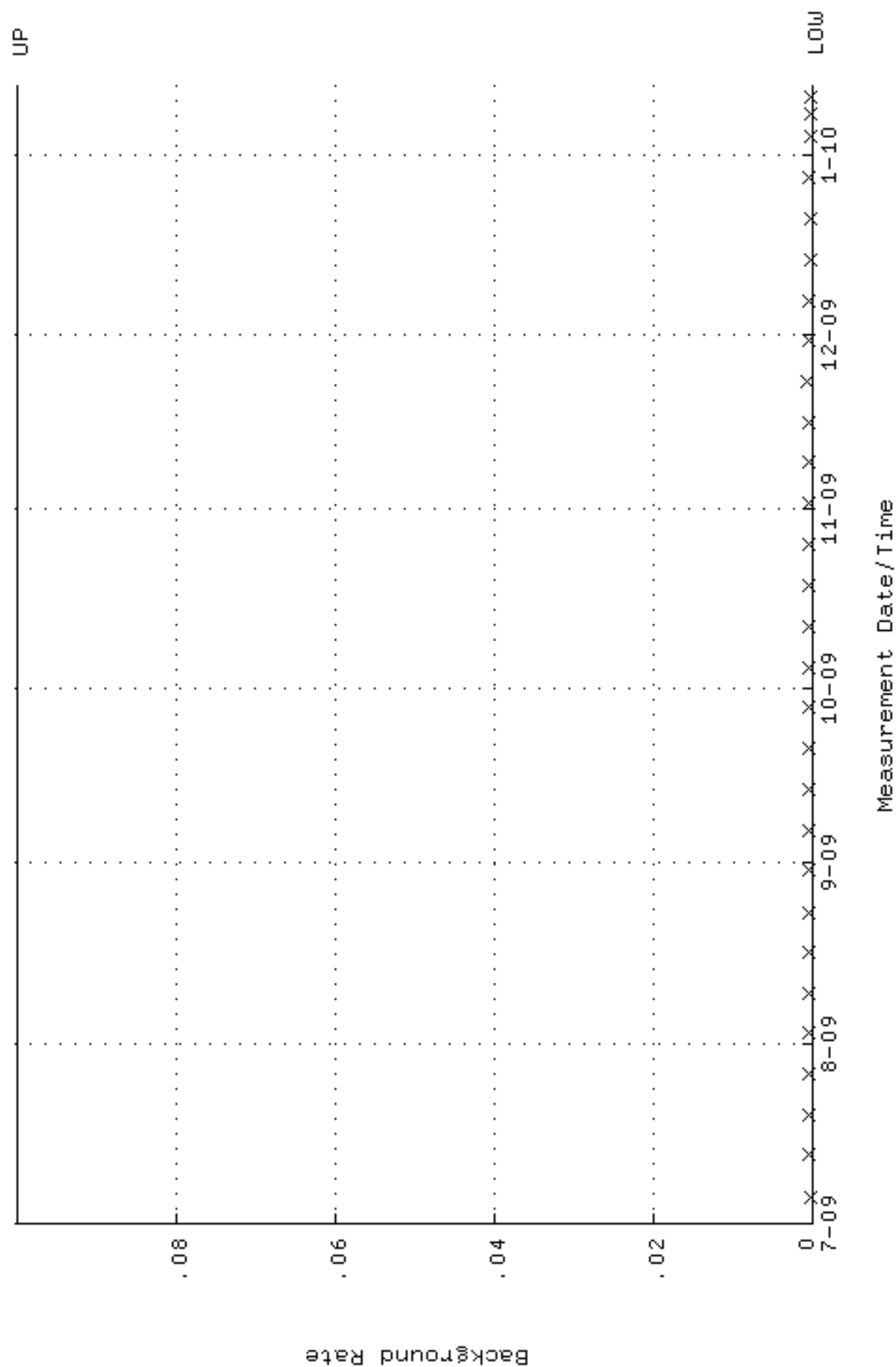
QA filename : DKA100:[ENV\_ALPHA.QA.W]W105.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.315468 through 0.335468



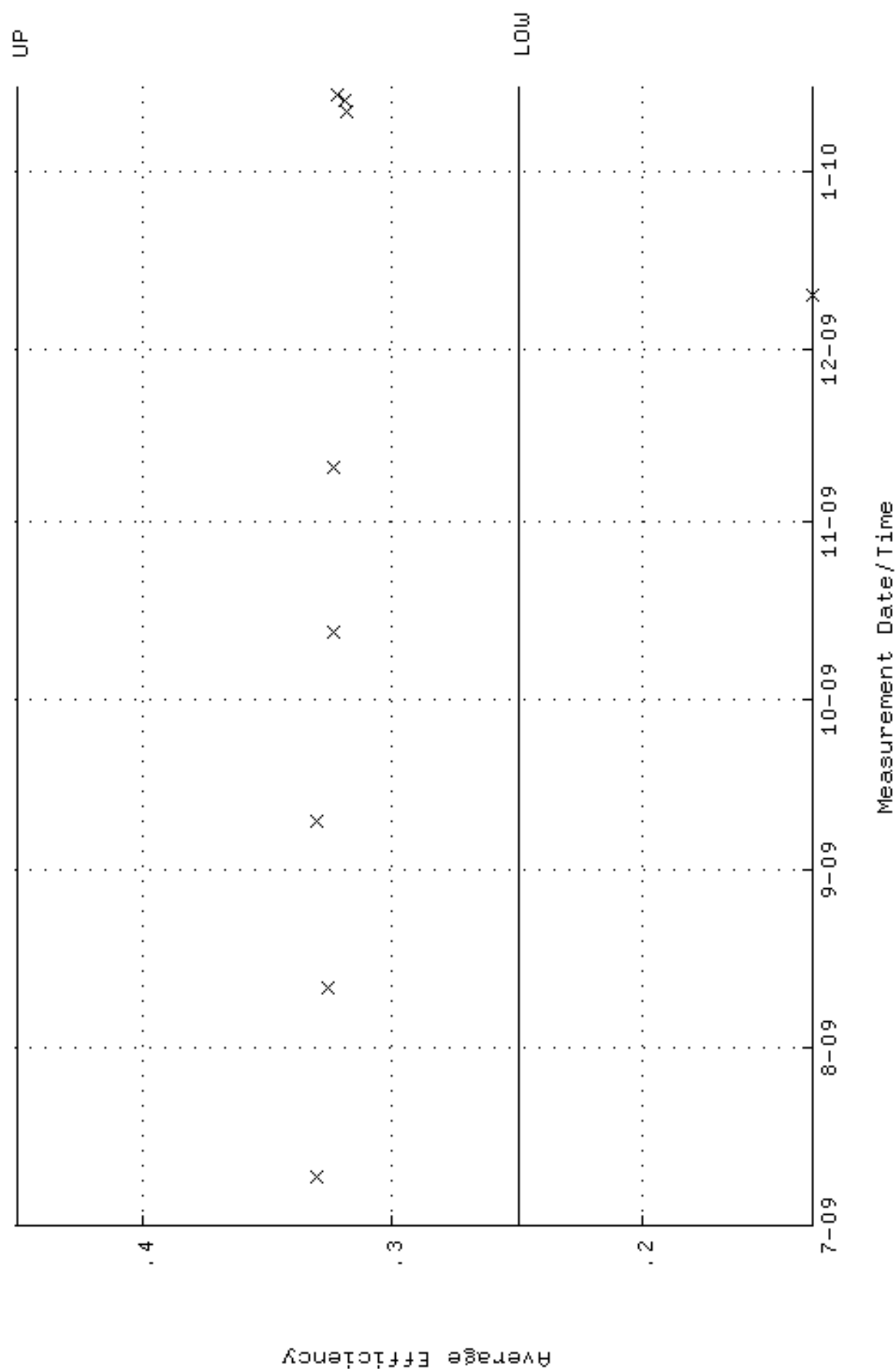
QA filename : DKA100:[ENV\_ALPHA.QA.W]W105.QAF;2  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 68.9774 through 76.2382



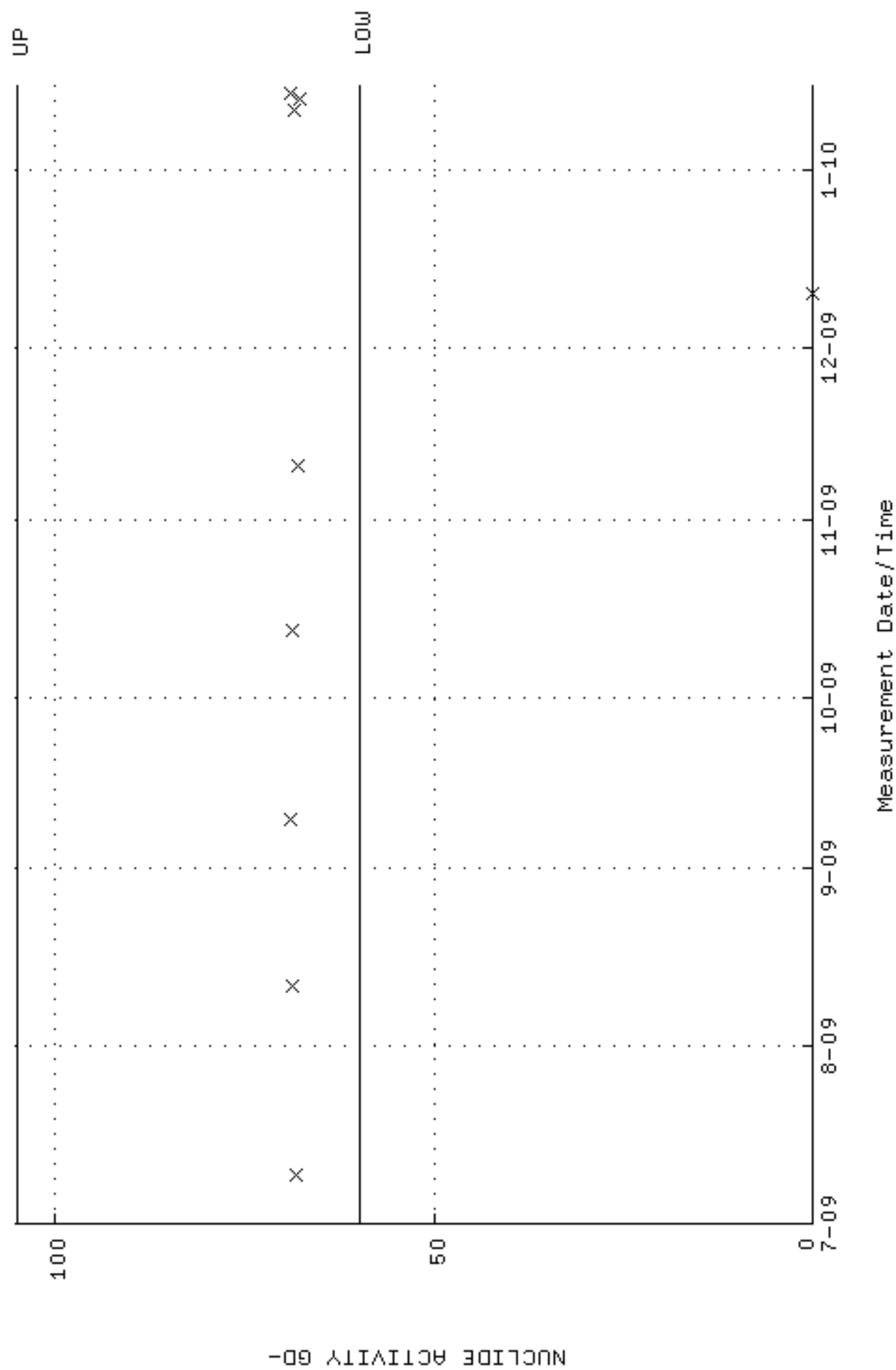
QA filename : DKA100:[ENV\_ALPHA.QA.B]B105.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:06 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



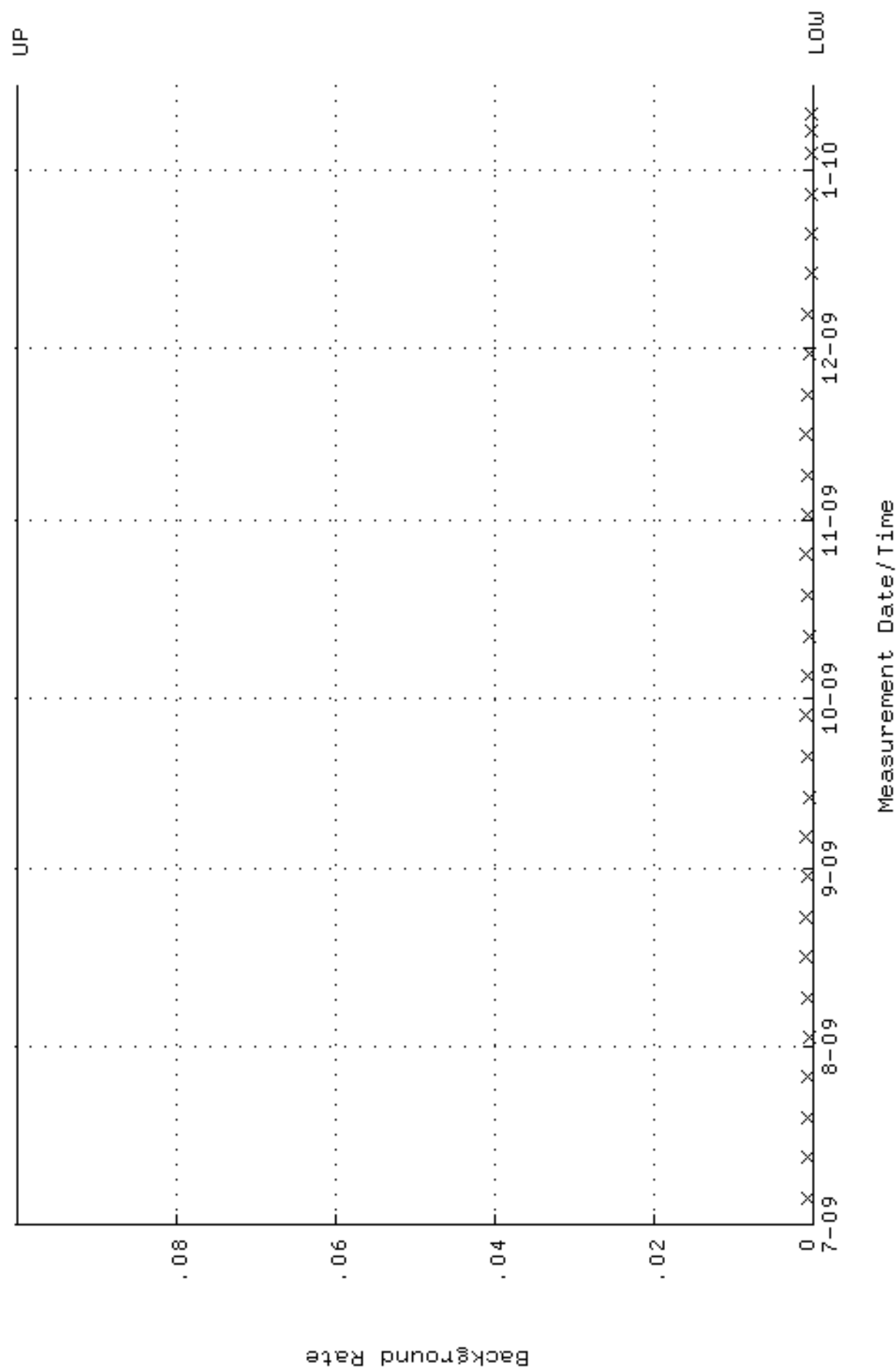
QA filename : DKA100:[ENV\_ALPHA.QA.W]W106.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:15 through 15-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.250000 through 0.450000



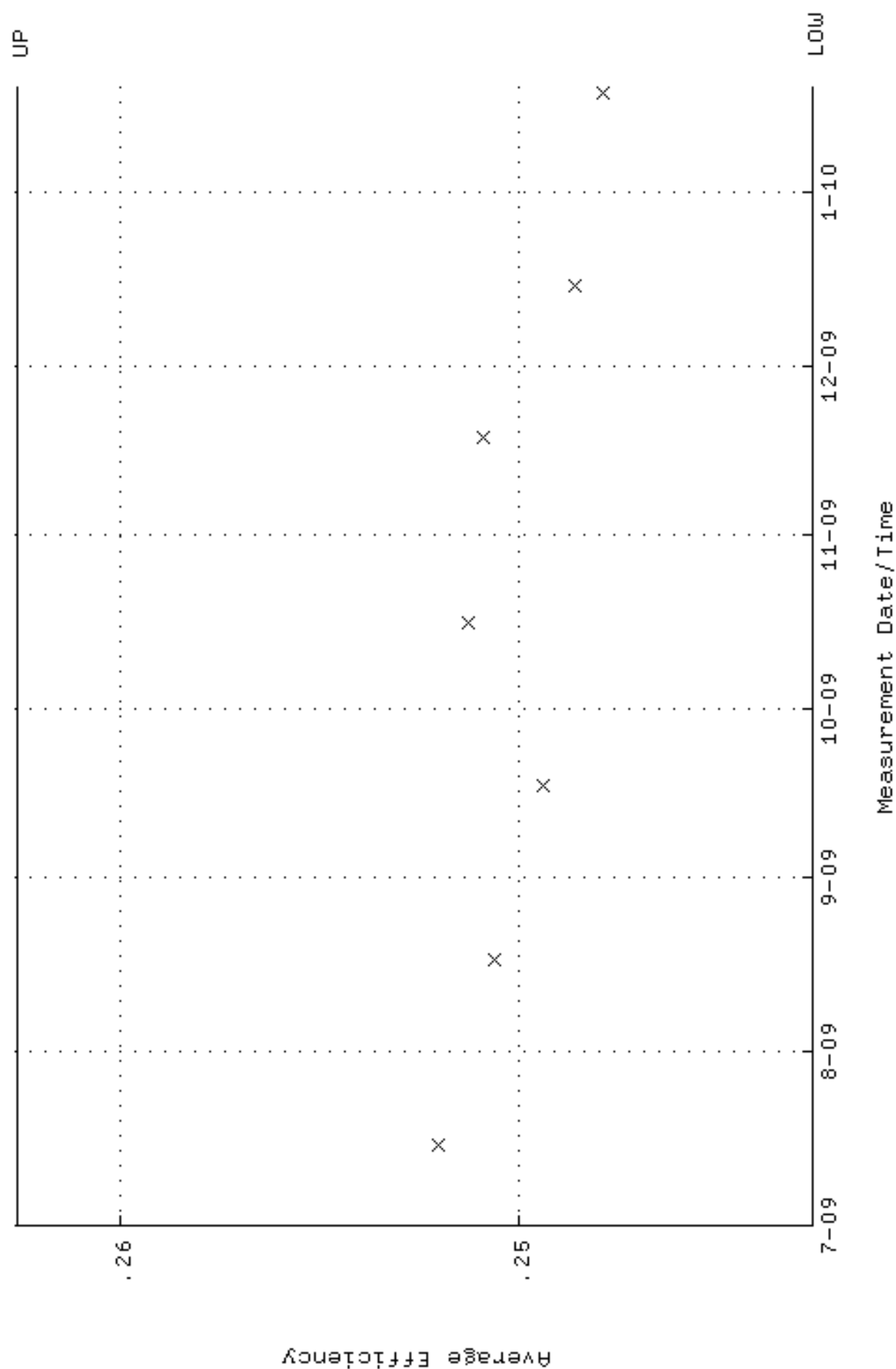
QA filename : DKA100:[ENV\_ALPHA.QA.W]W106.QAF;2  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:15 through 15-JAN-2010 12:00:00  
 Lower/Upper Lmts: 60.0000 through 105.000



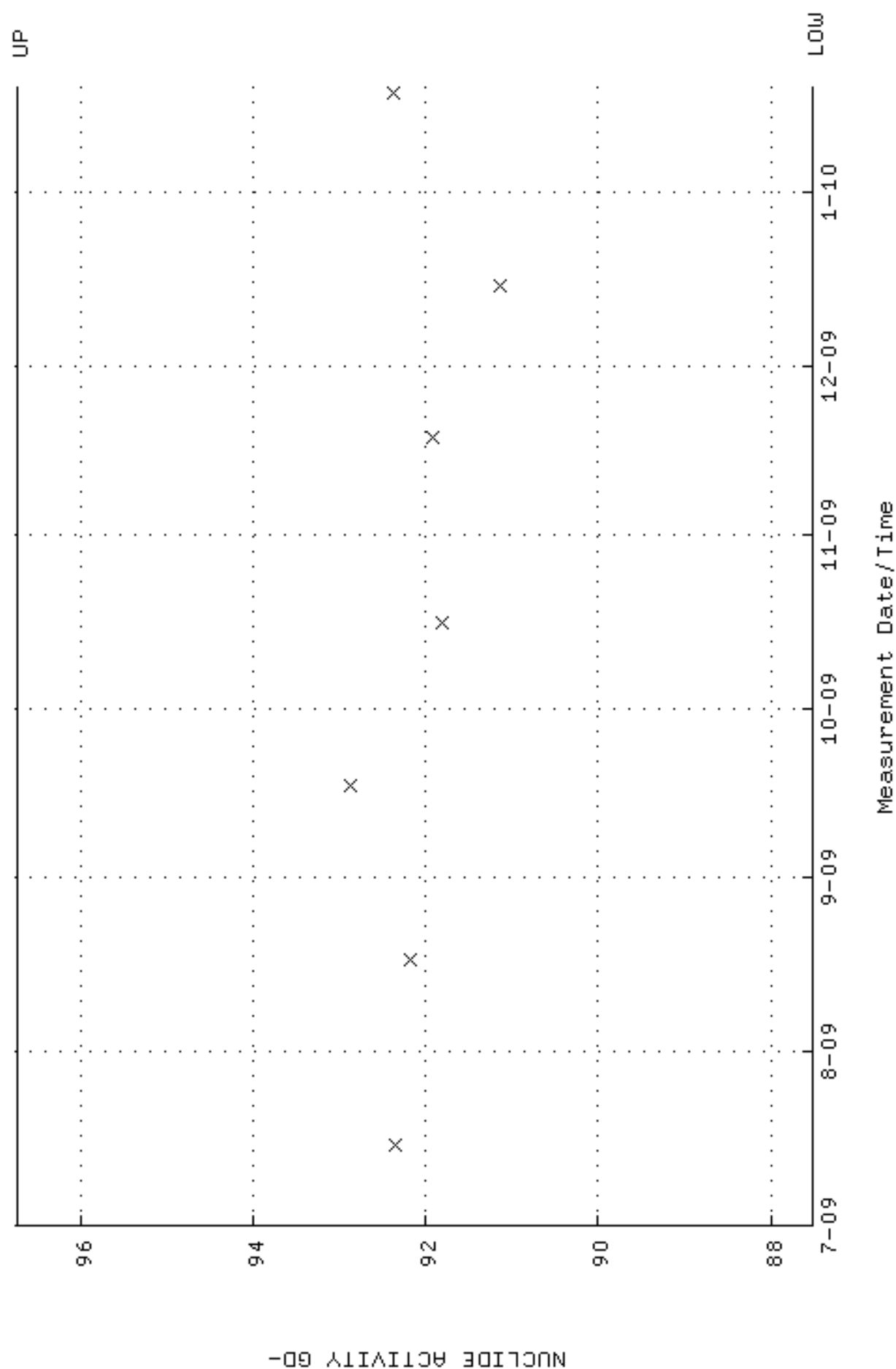
QA filename : DKA100:[ENV\_ALPHA.QA.B]B106.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:06 through 15-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV\_ALPHA.QA.W]W113.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-JUL-2009 08:37:50 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.242598 through 0.262598

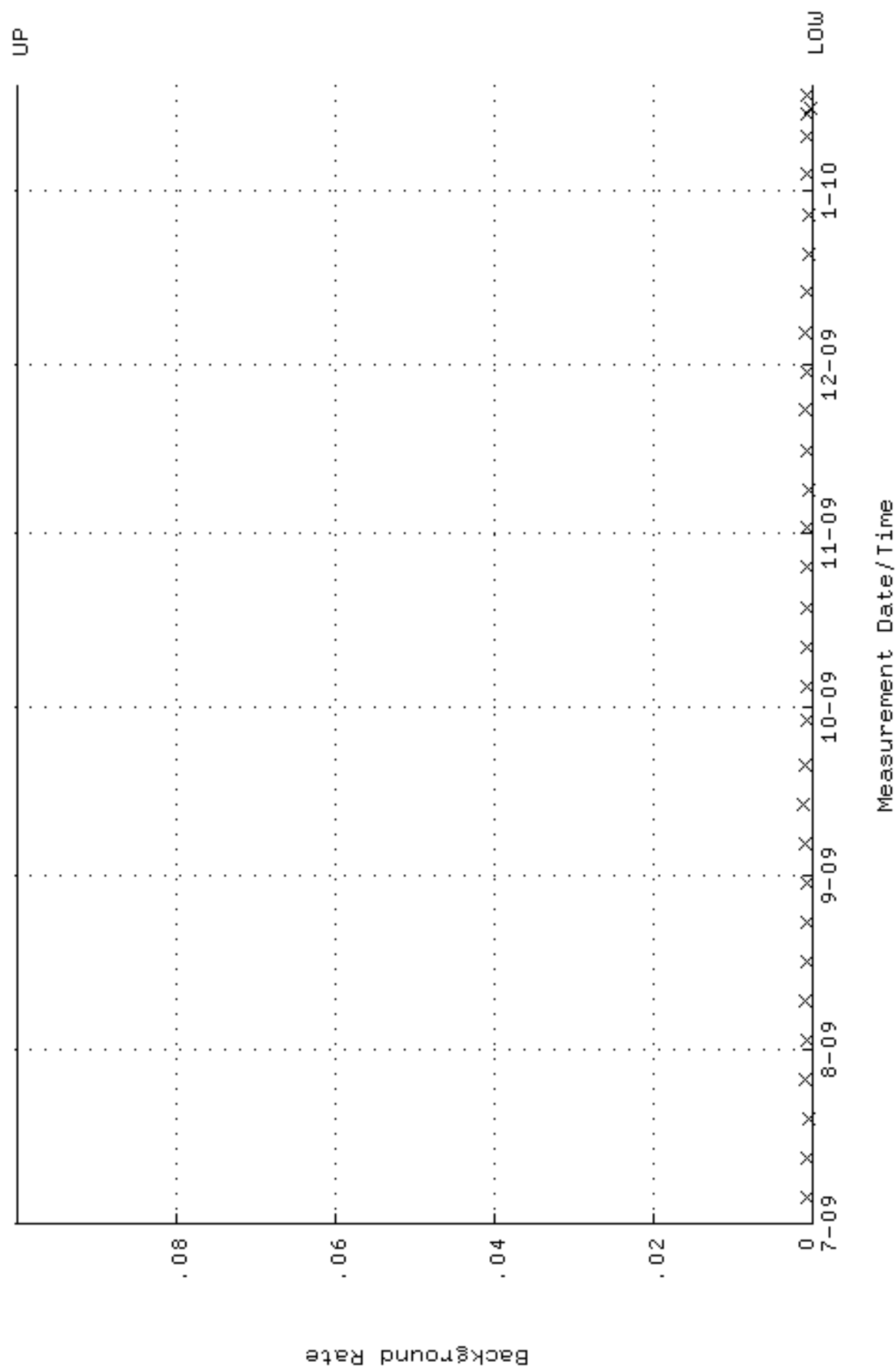


QA filename : DKA100:[ENV\_ALPHA.QA.W]W113.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-JUL-2009 08:37:50 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 87.5172 through 96.7296

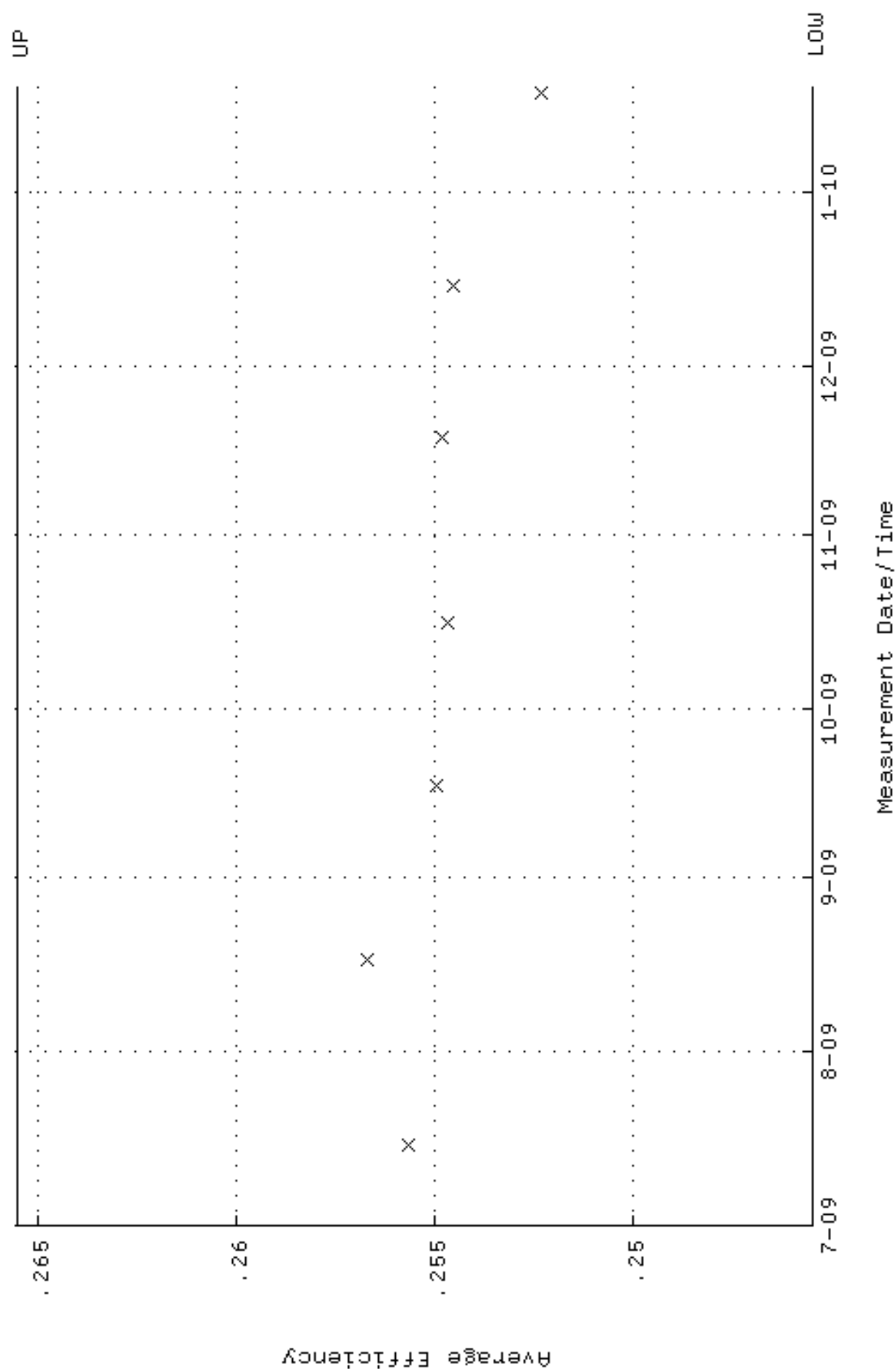




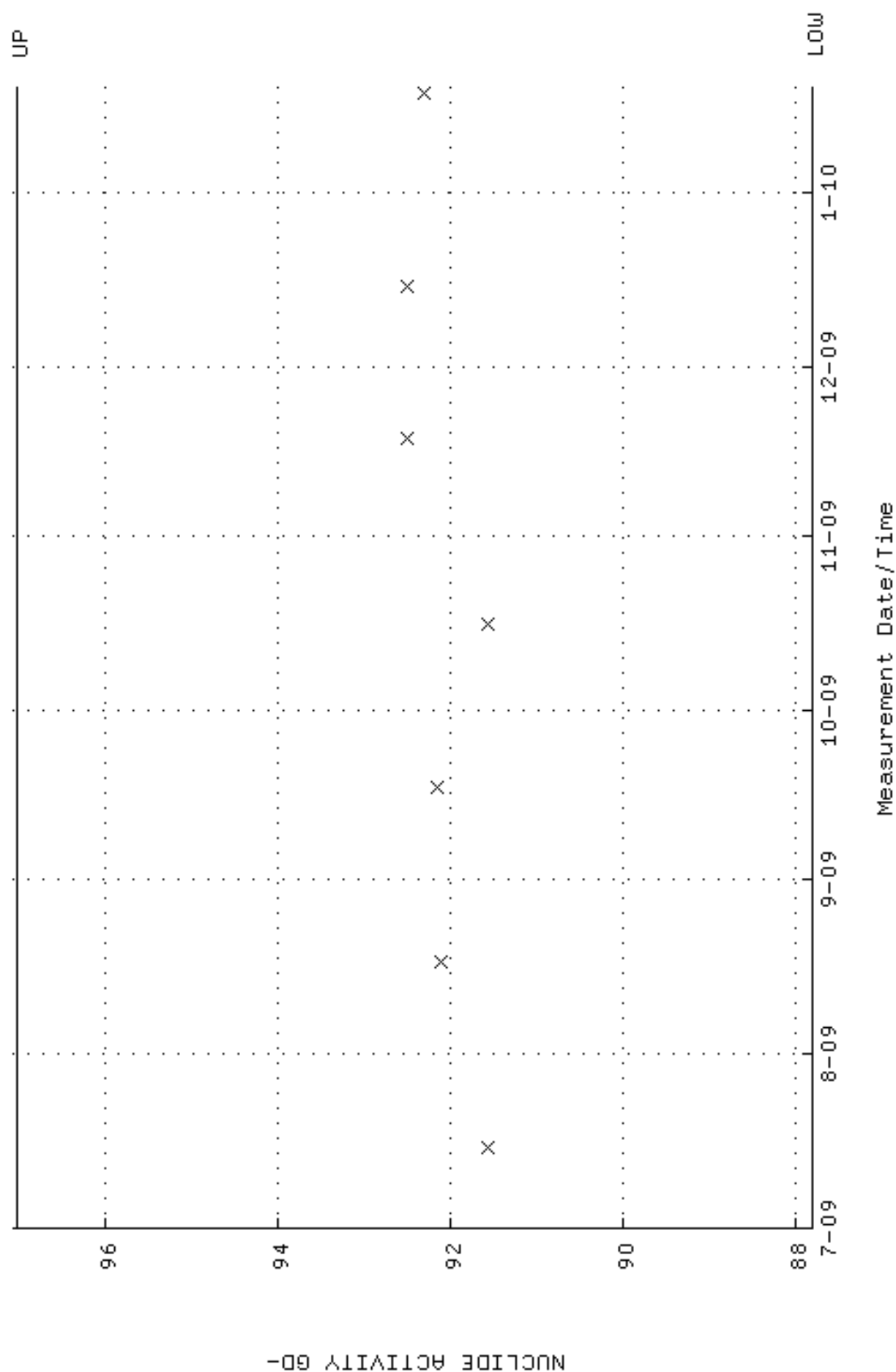
QA filename : DKA100:[ENV\_ALPHA.QA.B]B113.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:54:44 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



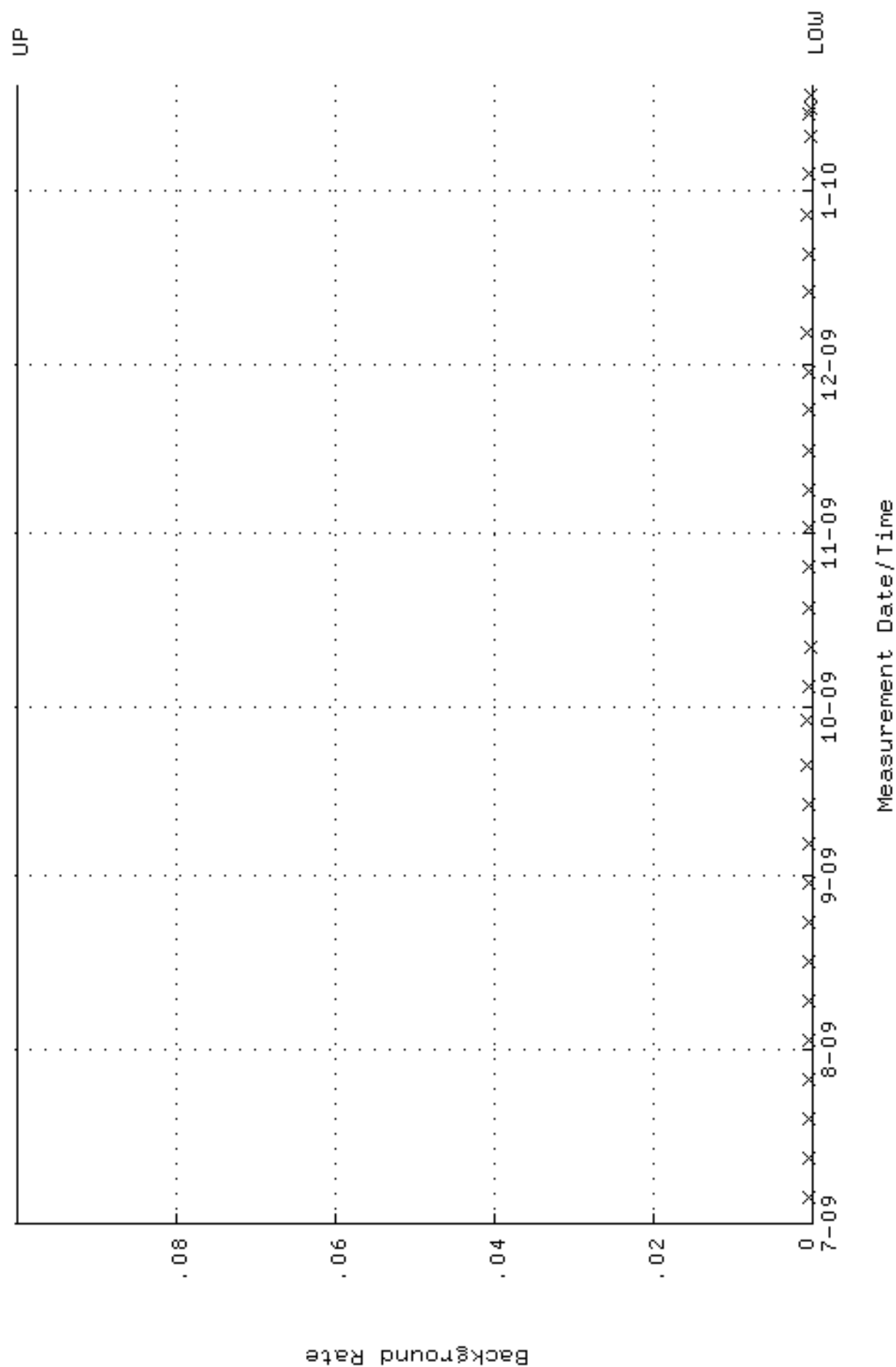
QA filename : DKA100:[ENV\_ALPHA.QA.W]W114.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-JUL-2009 08:37:55 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.245499 through 0.265499



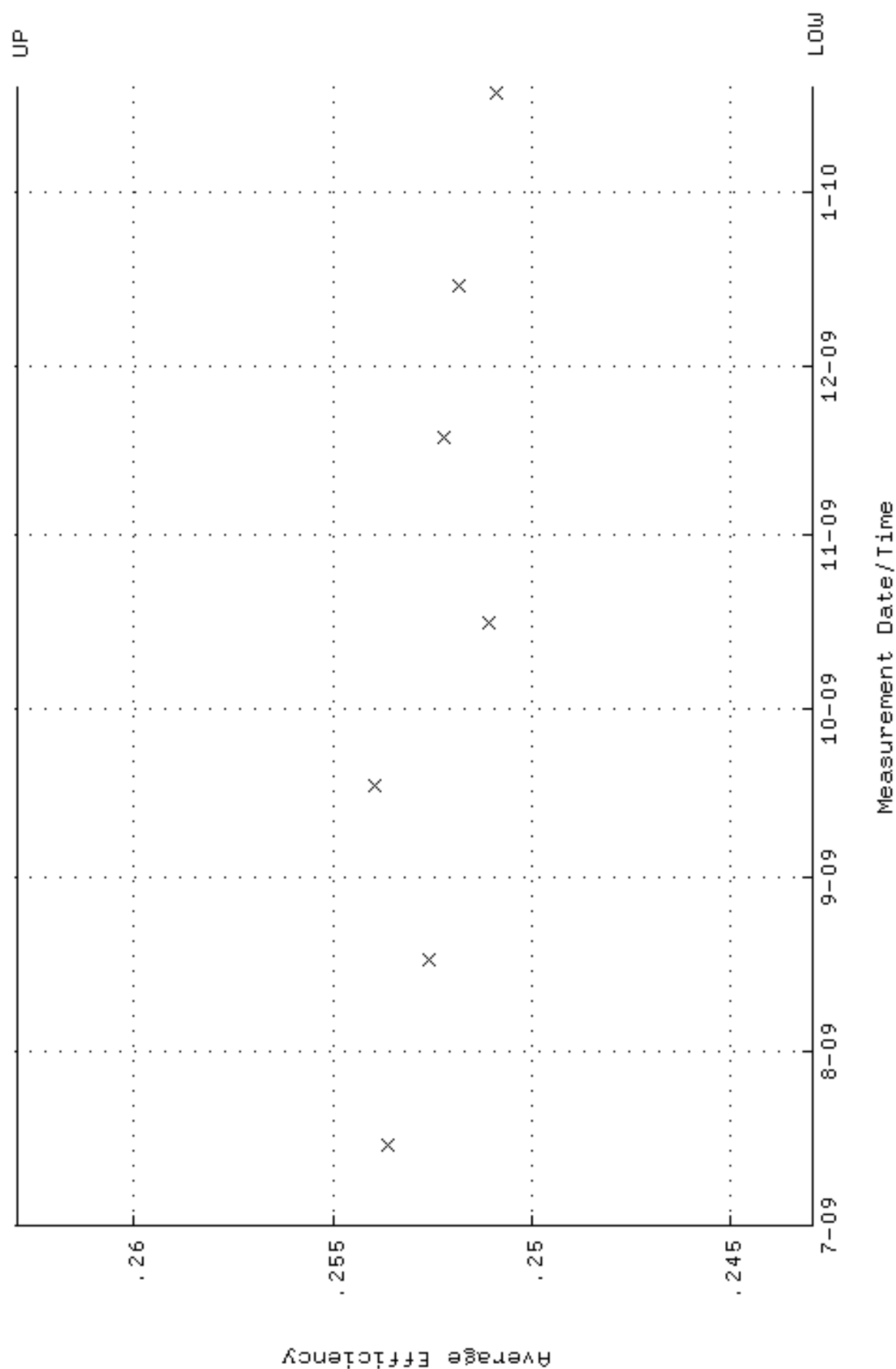
QA filename : DKA100:[ENV\_ALPHA.QA.W]W114.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-JUL-2009 08:37:55 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 87.8108 through 97.0540



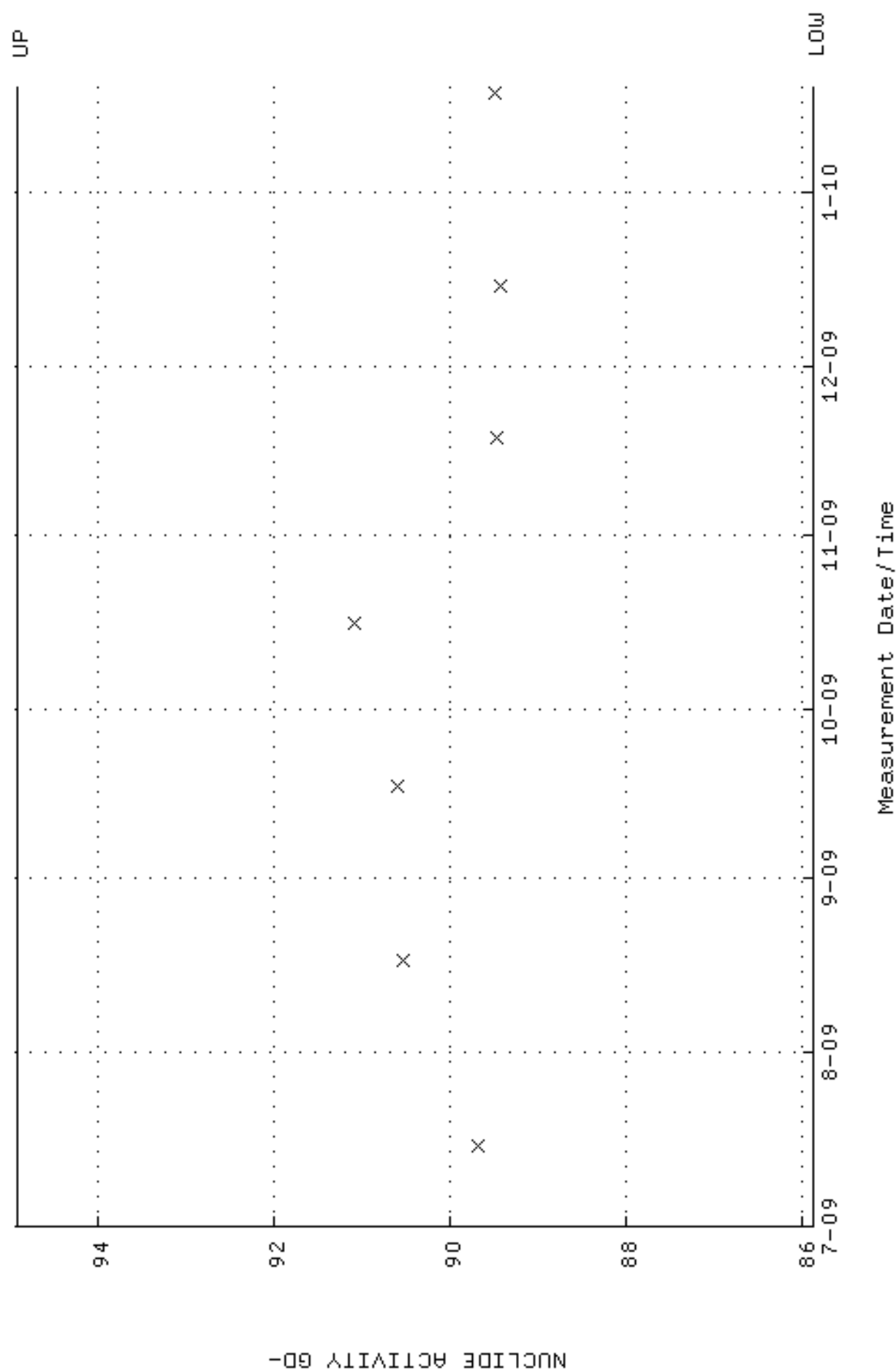
QA filename : DKA100:[ENV\_ALPHA.QA.B]B114.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:54:49 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



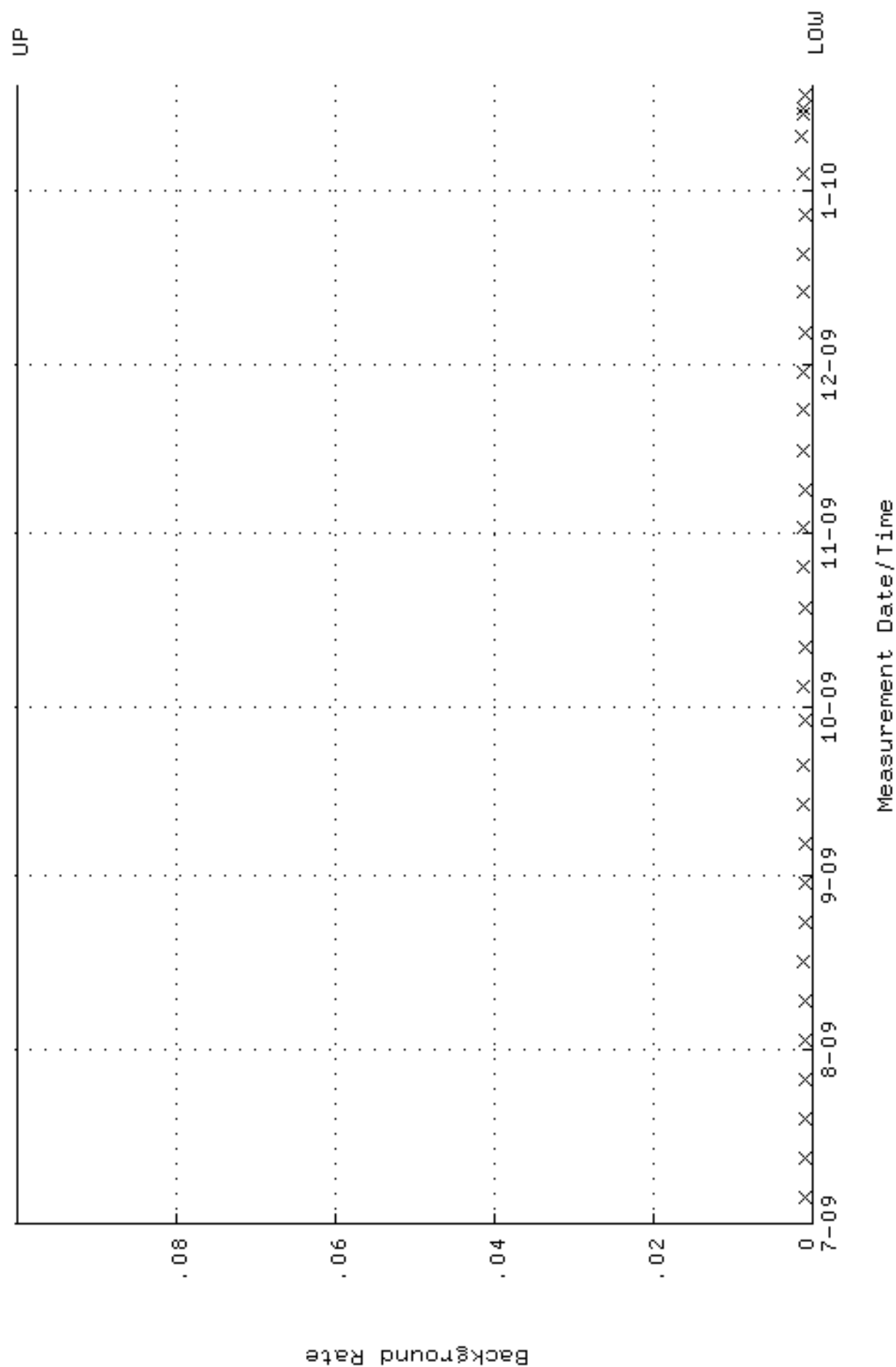
QA filename : DKA100:[ENV\_ALPHA.QA.W]W117.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-JUL-2009 08:38:07 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.242940 through 0.262940



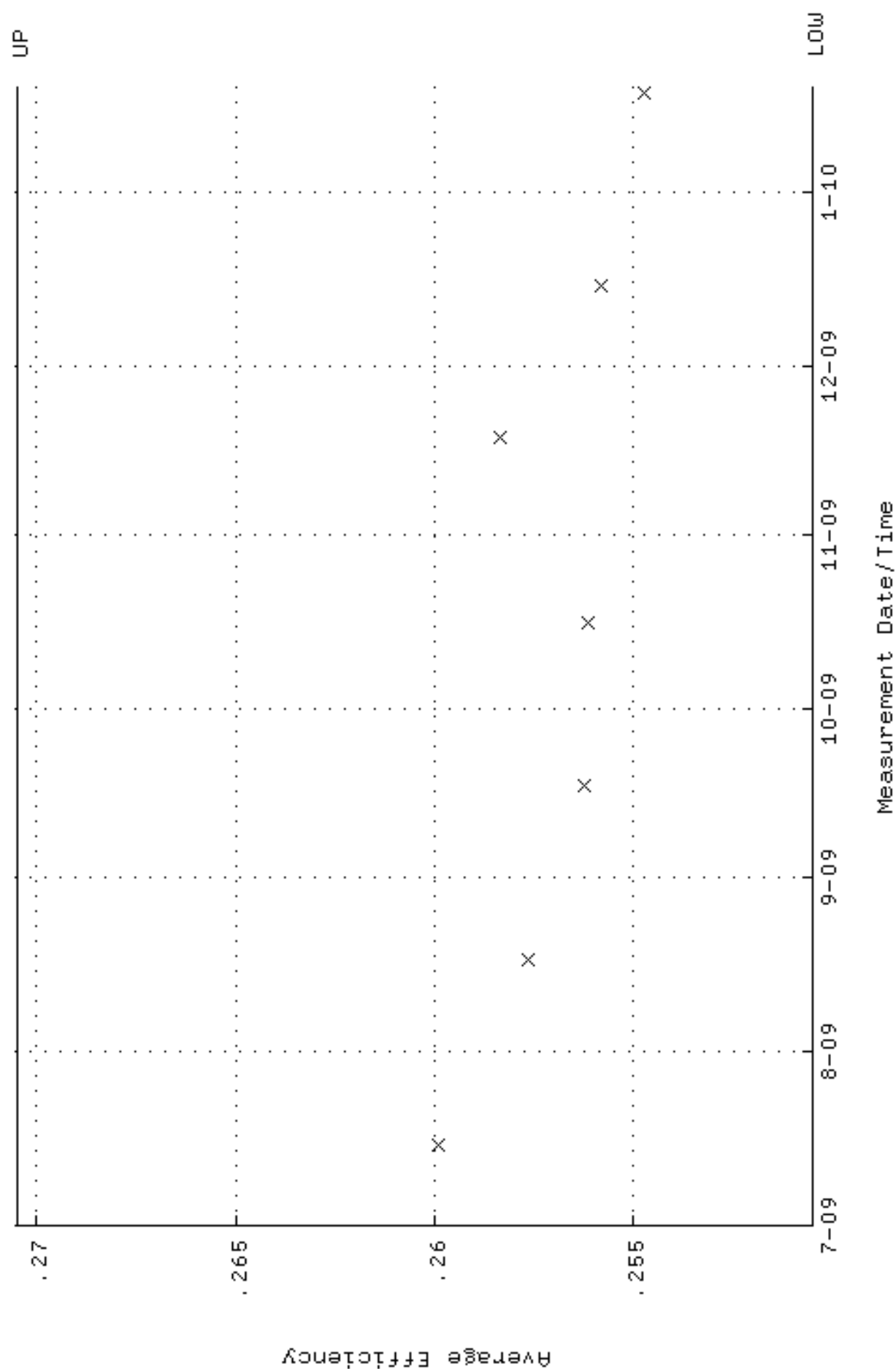
QA filename : DKA100:[ENV\_ALPHA.QA.W]W117.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-JUL-2009 08:38:07 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 85.8693 through 94.9081



QA filename : DKA100:[ENV\_ALPHA.QA.B]B117.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:55:03 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

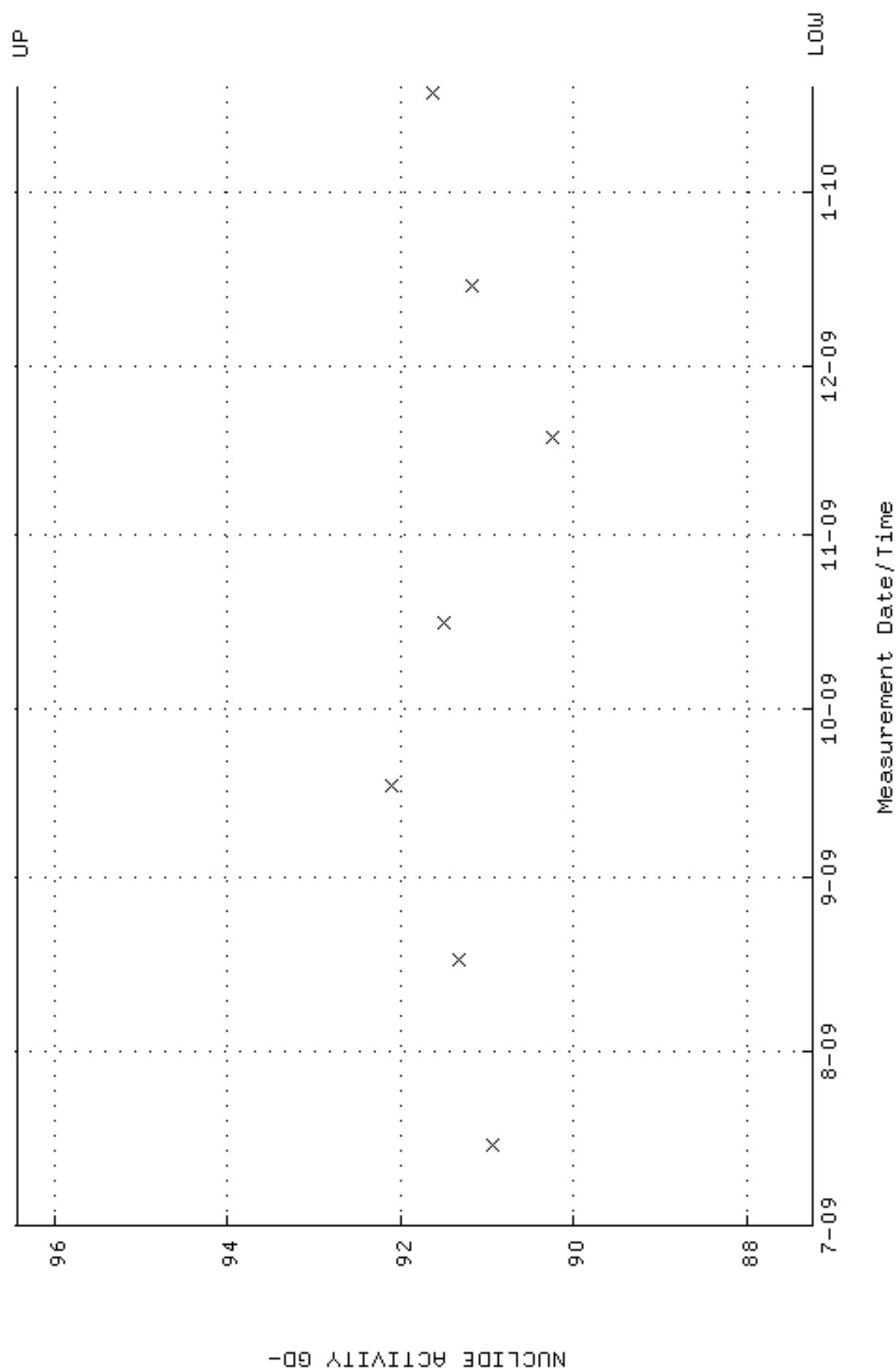


QA filename : DKA100:[ENV\_ALPHA.QA.W]W118.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-JUL-2009 08:38:11 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.250490 through 0.270490

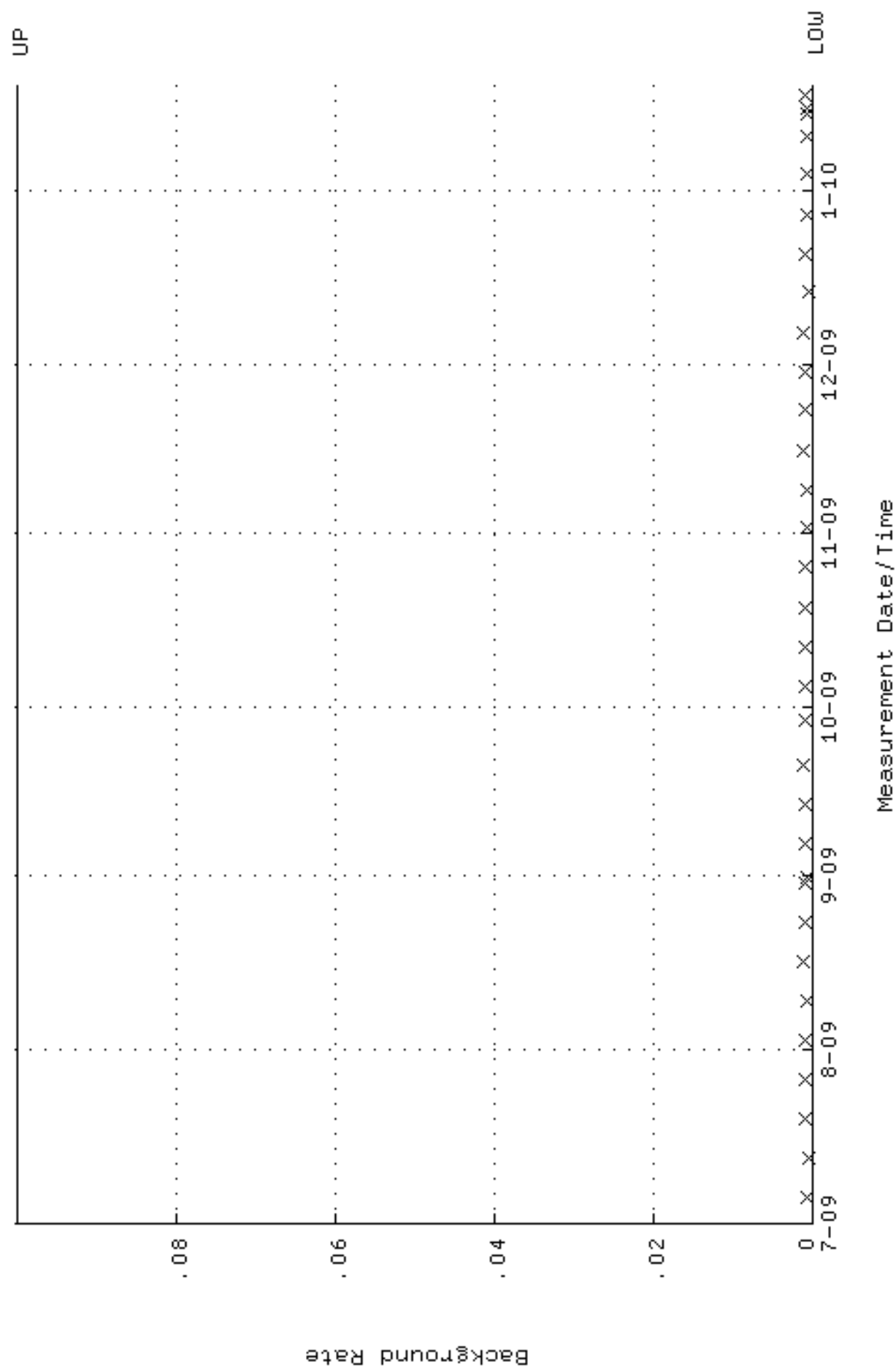




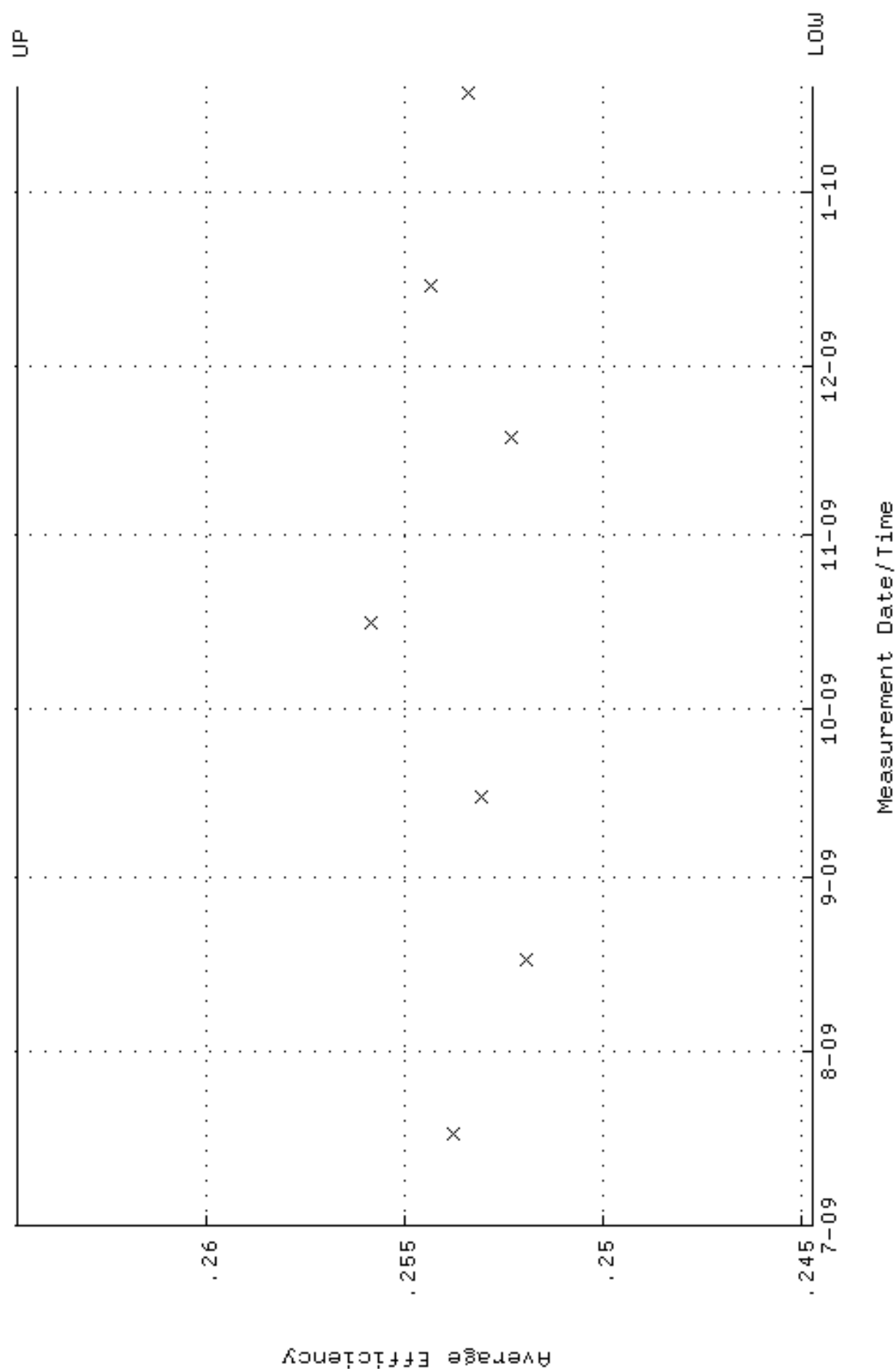
QA filename : DKA100:[ENV\_ALPHA.QA.W]W118.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-JUL-2009 08:38:11 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 87.2440 through 96.4276



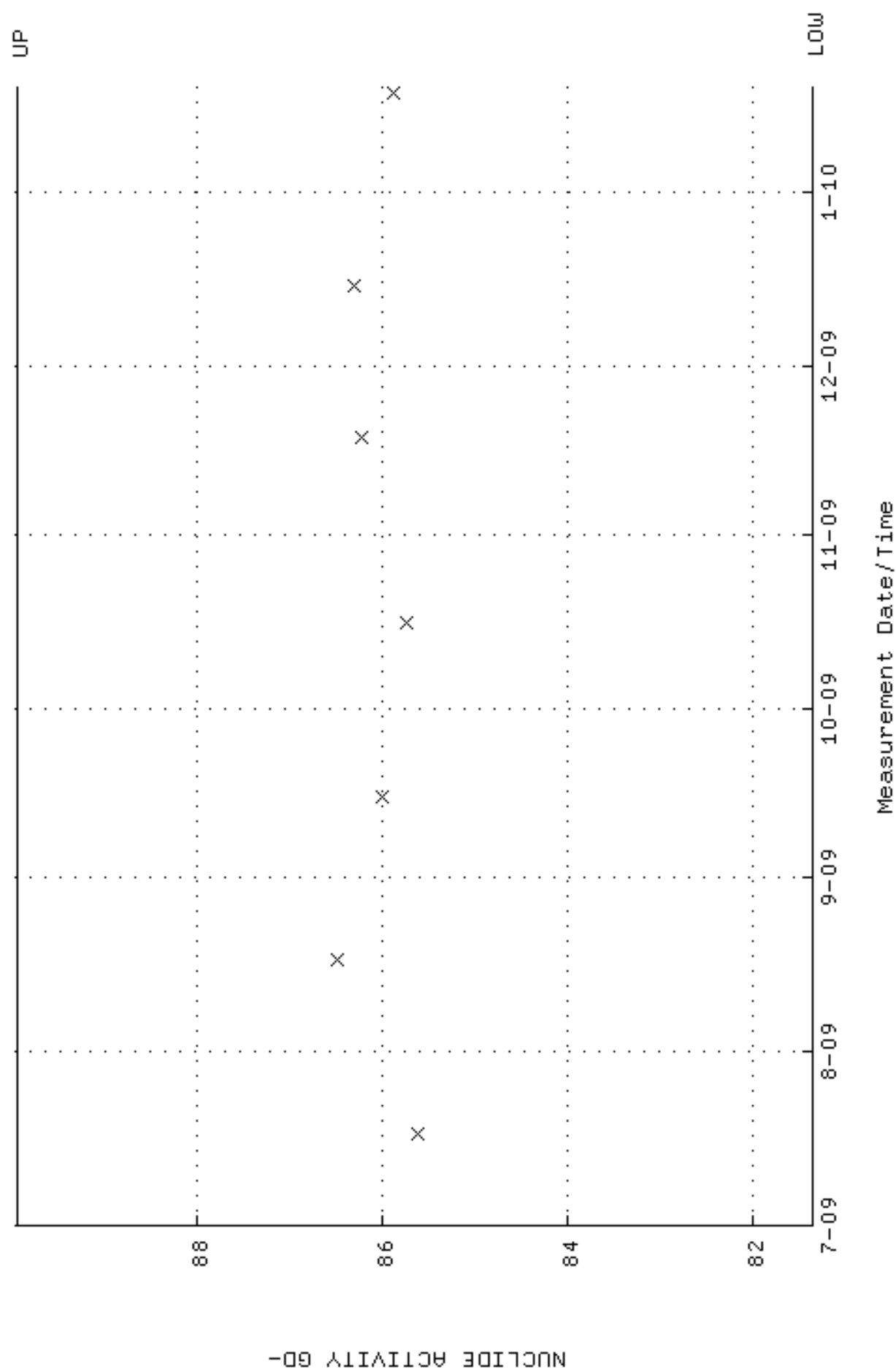
QA filename : DKA100:[ENV\_ALPHA.QA.B]B118.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:55:08 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



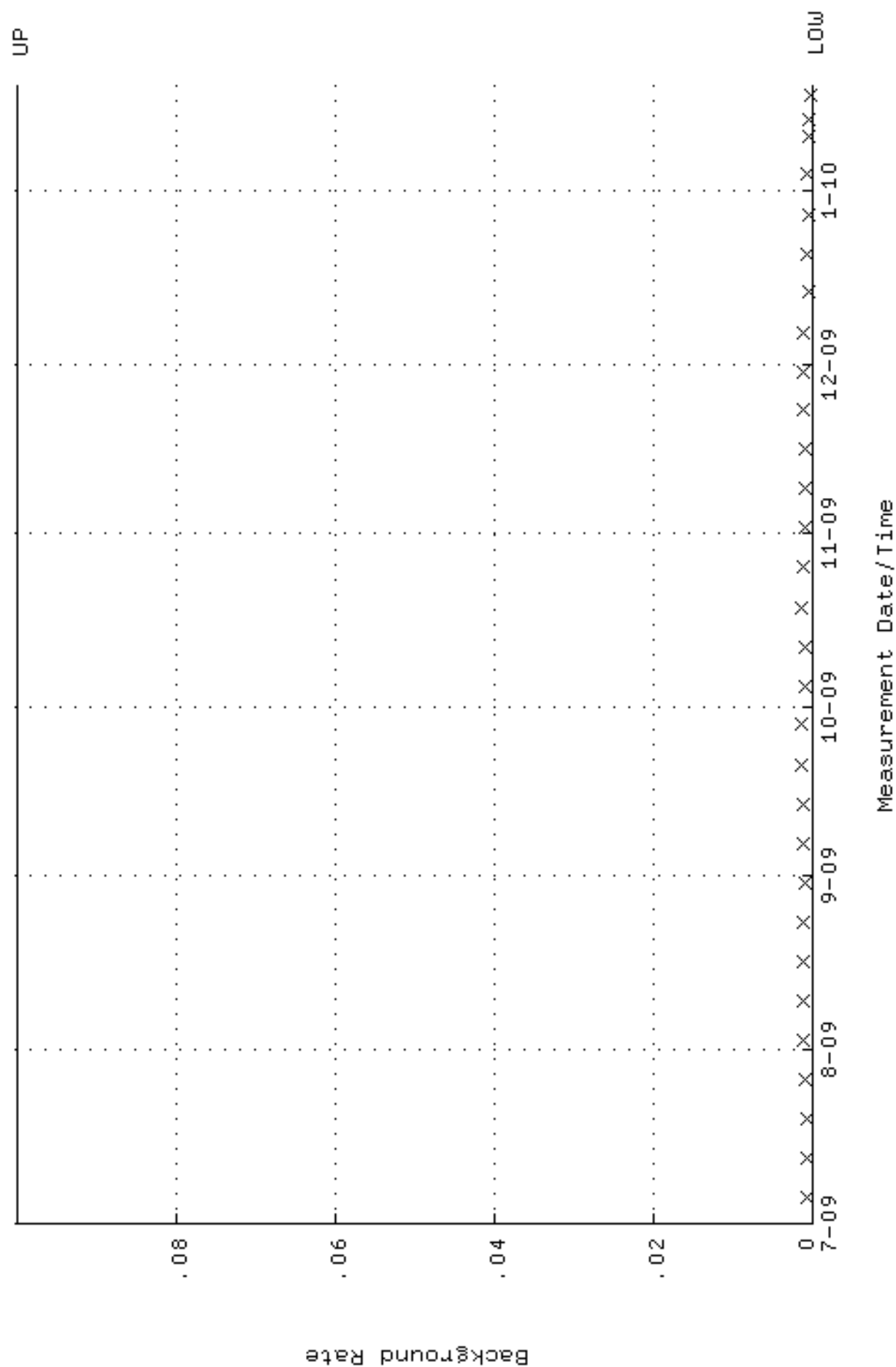
QA filename : DKA100:[ENV\_ALPHA.QA.W]W153.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:13:59 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.244738 through 0.264738



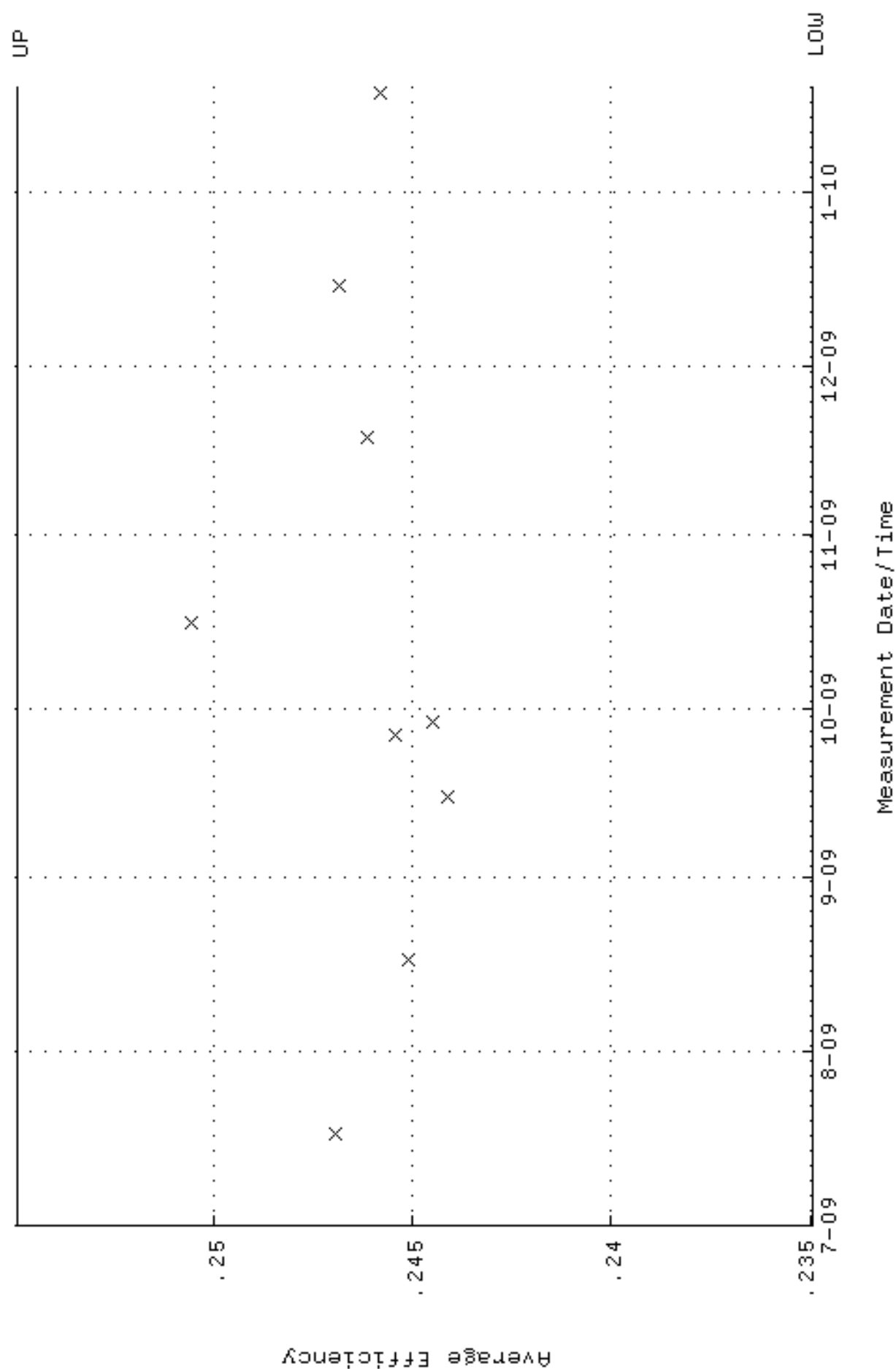
QA filename : DKA100:[ENV\_ALPHA.QA.W]W153.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:13:59 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 81.3634 through 89.9280



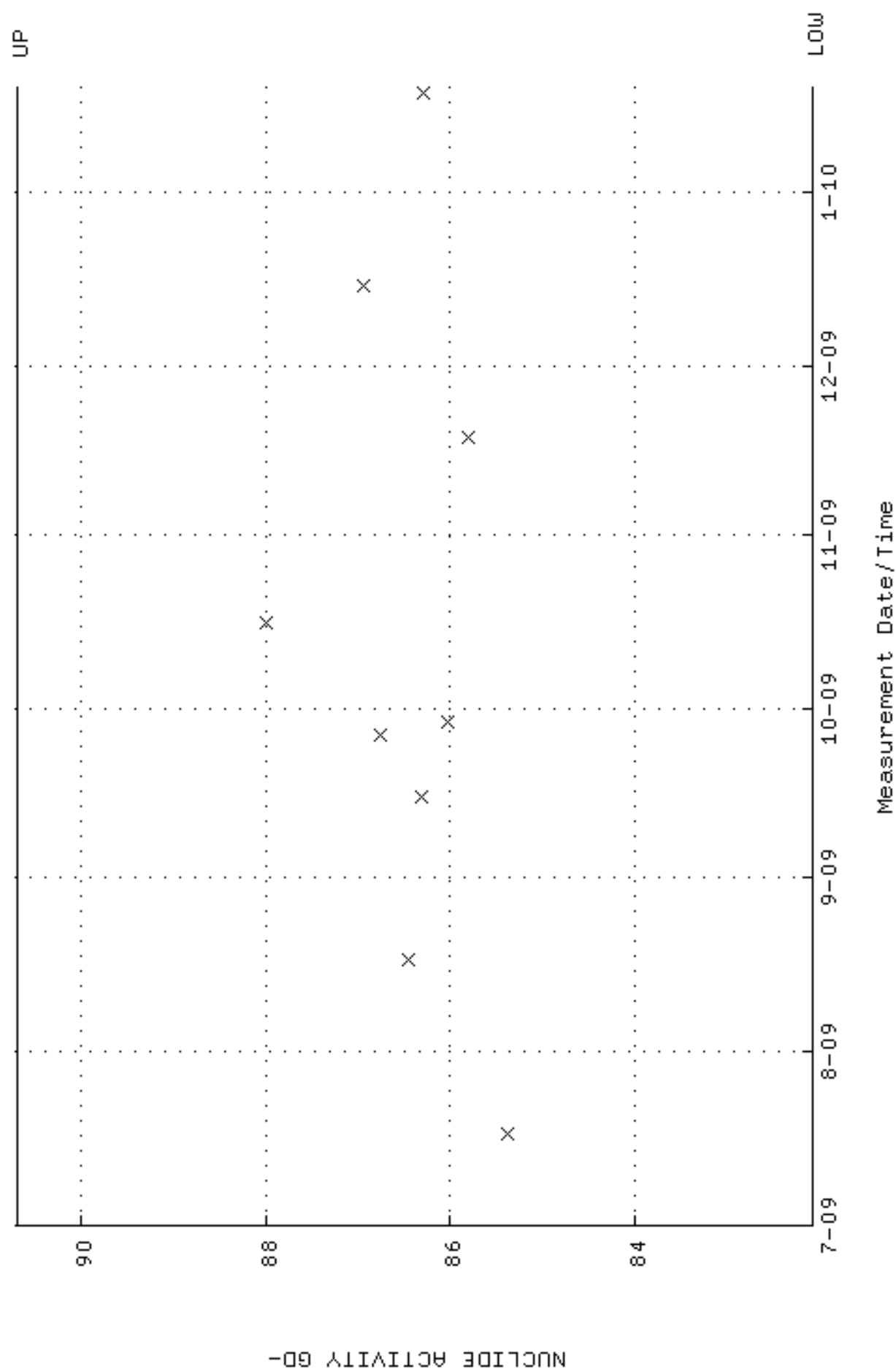
QA filename : DKA100:[ENV\_ALPHA.QA.B]B153.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:58:02 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



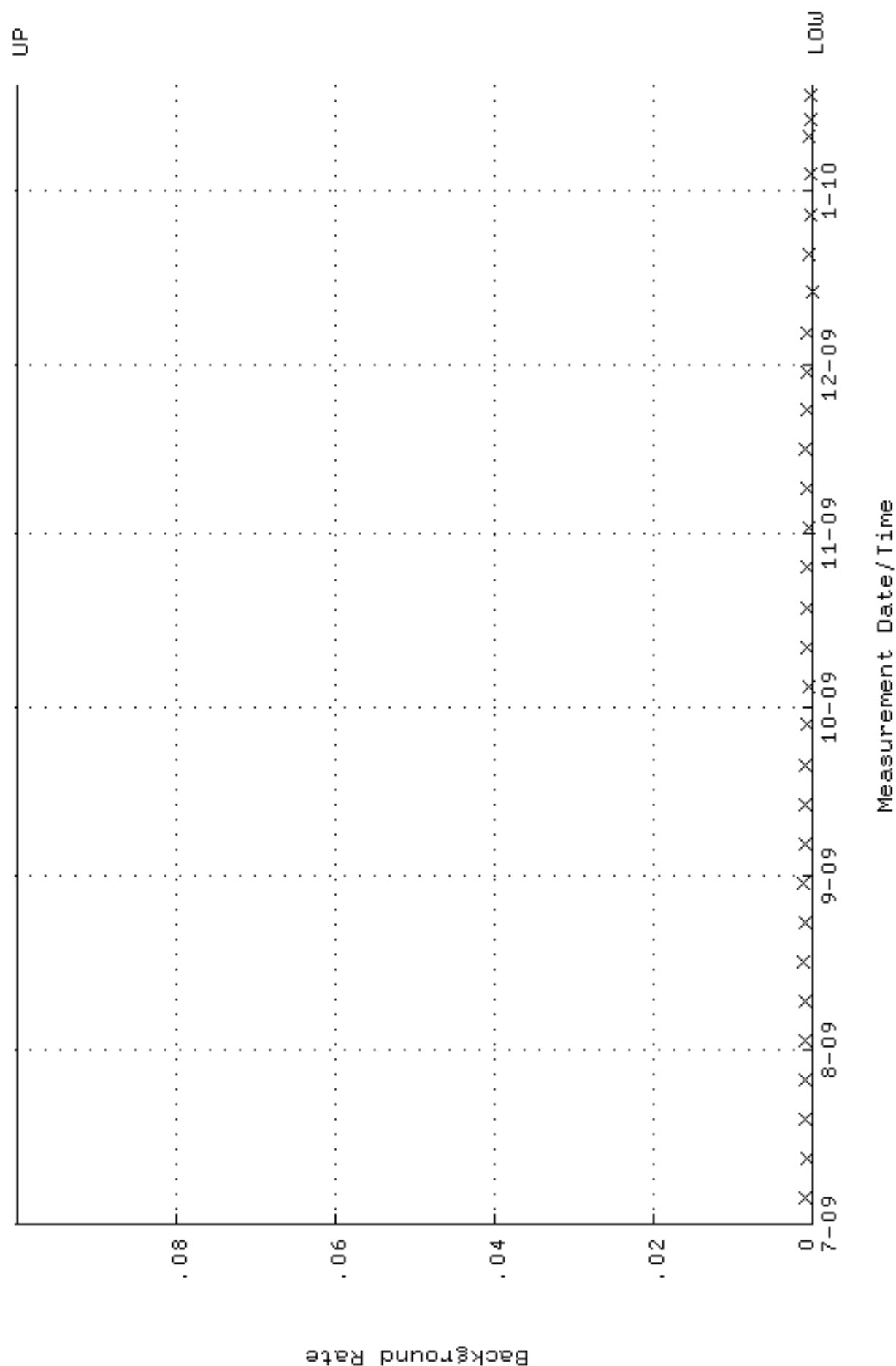
QA filename : DKA100:[ENV\_ALPHA.QA.W]W160.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:14:34 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.234941 through 0.254941



QA filename : DKA100:[ENV\_ALPHA.QA.W]W160.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:14:34 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 82.0594 through 90.6972

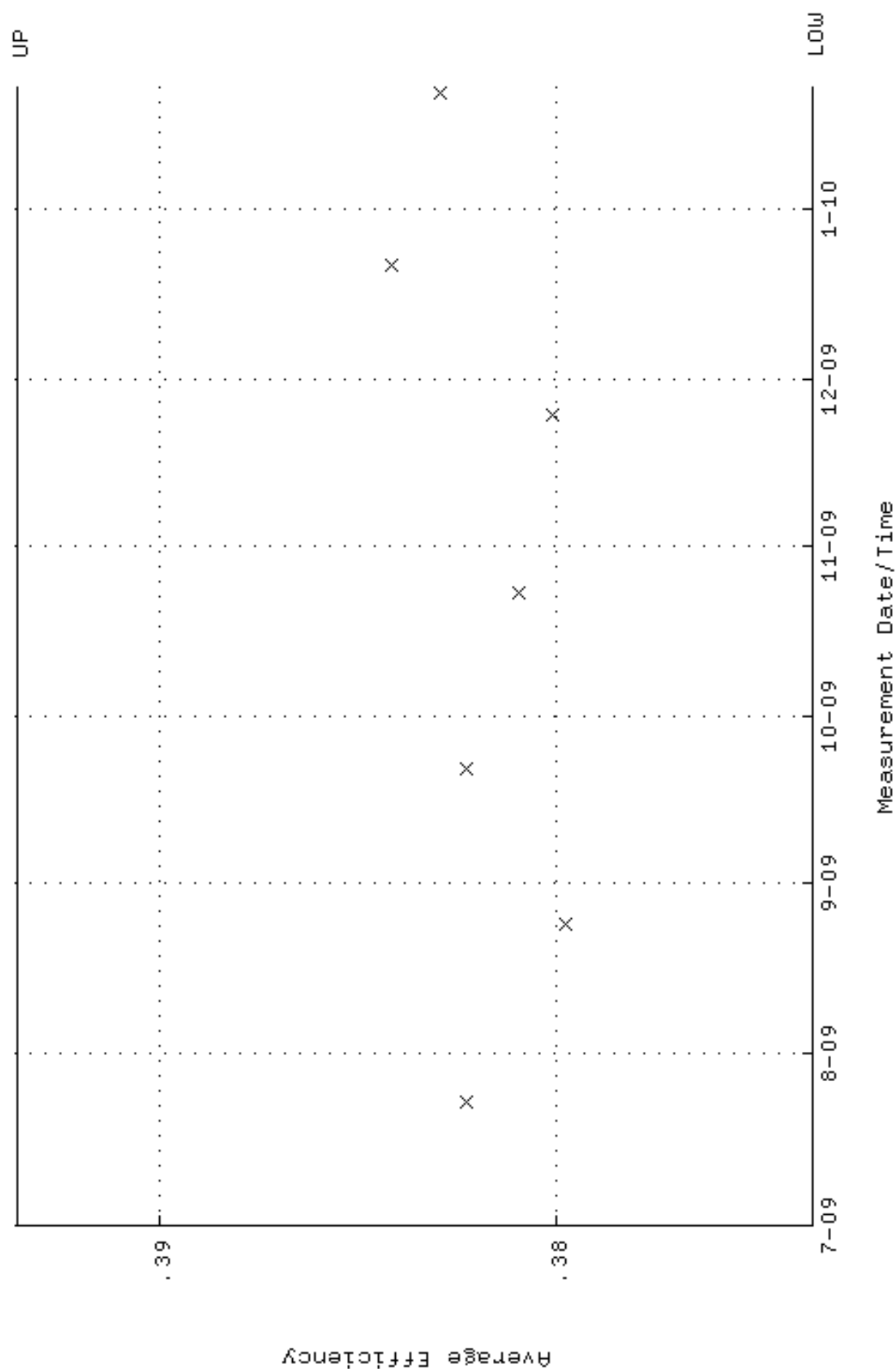


QA filename : DKA100:[ENV\_ALPHA.QA.B]B160.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:58:36 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

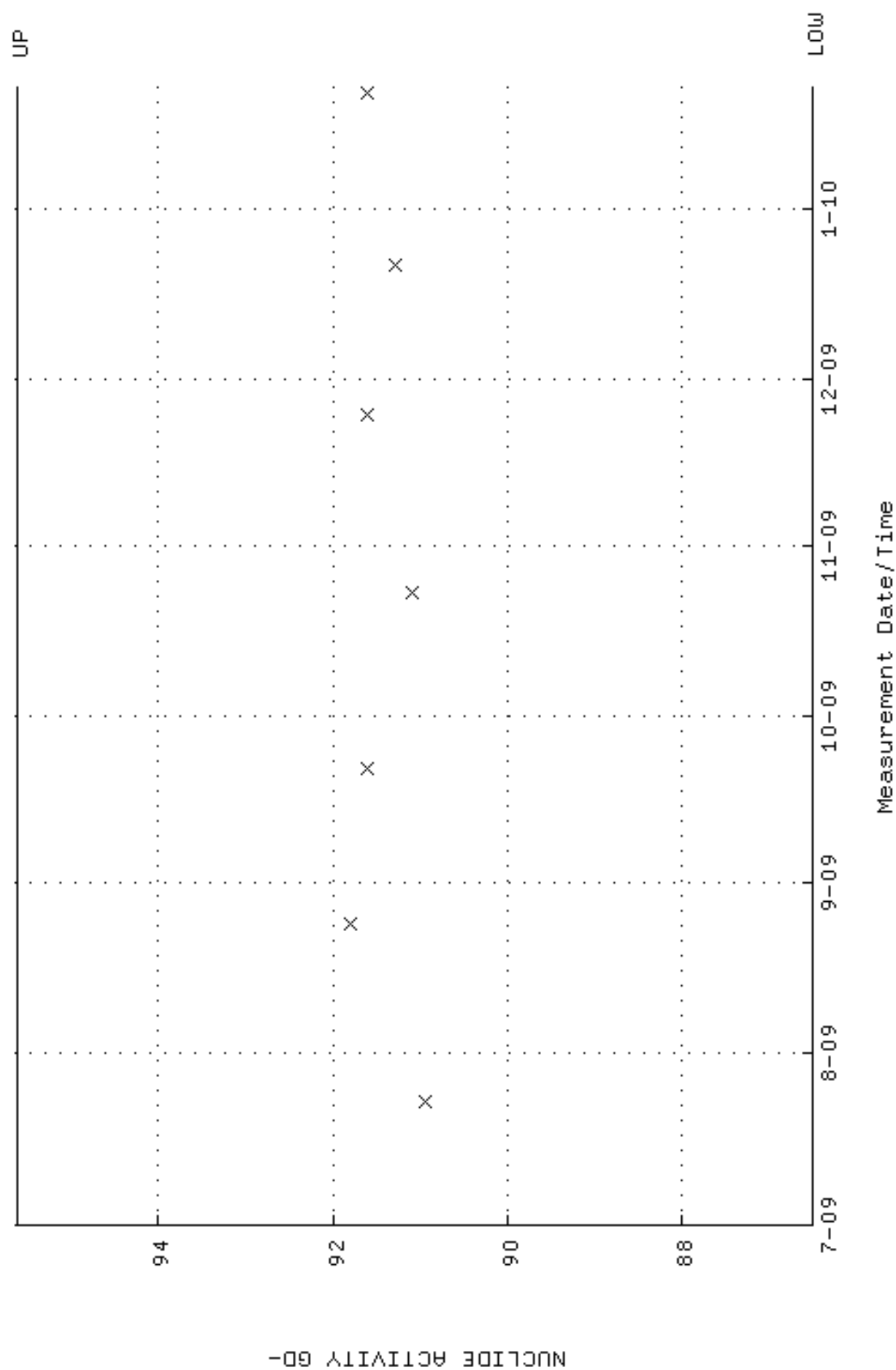




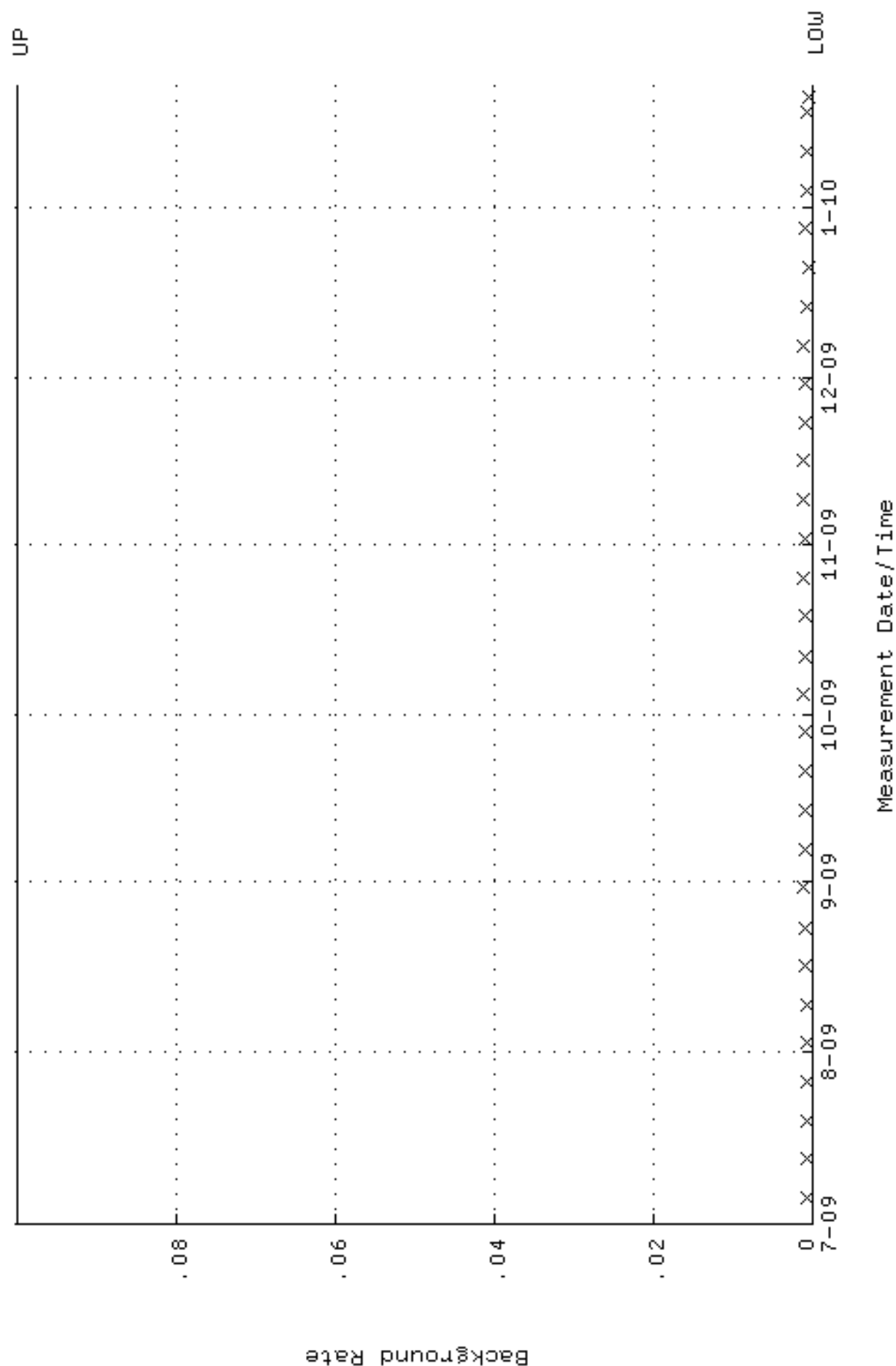
QA filename : DKA100:[ENV\_ALPHA.QA.W]W172.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 23-JUL-2009 08:07:46 through 22-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.373575 through 0.393575



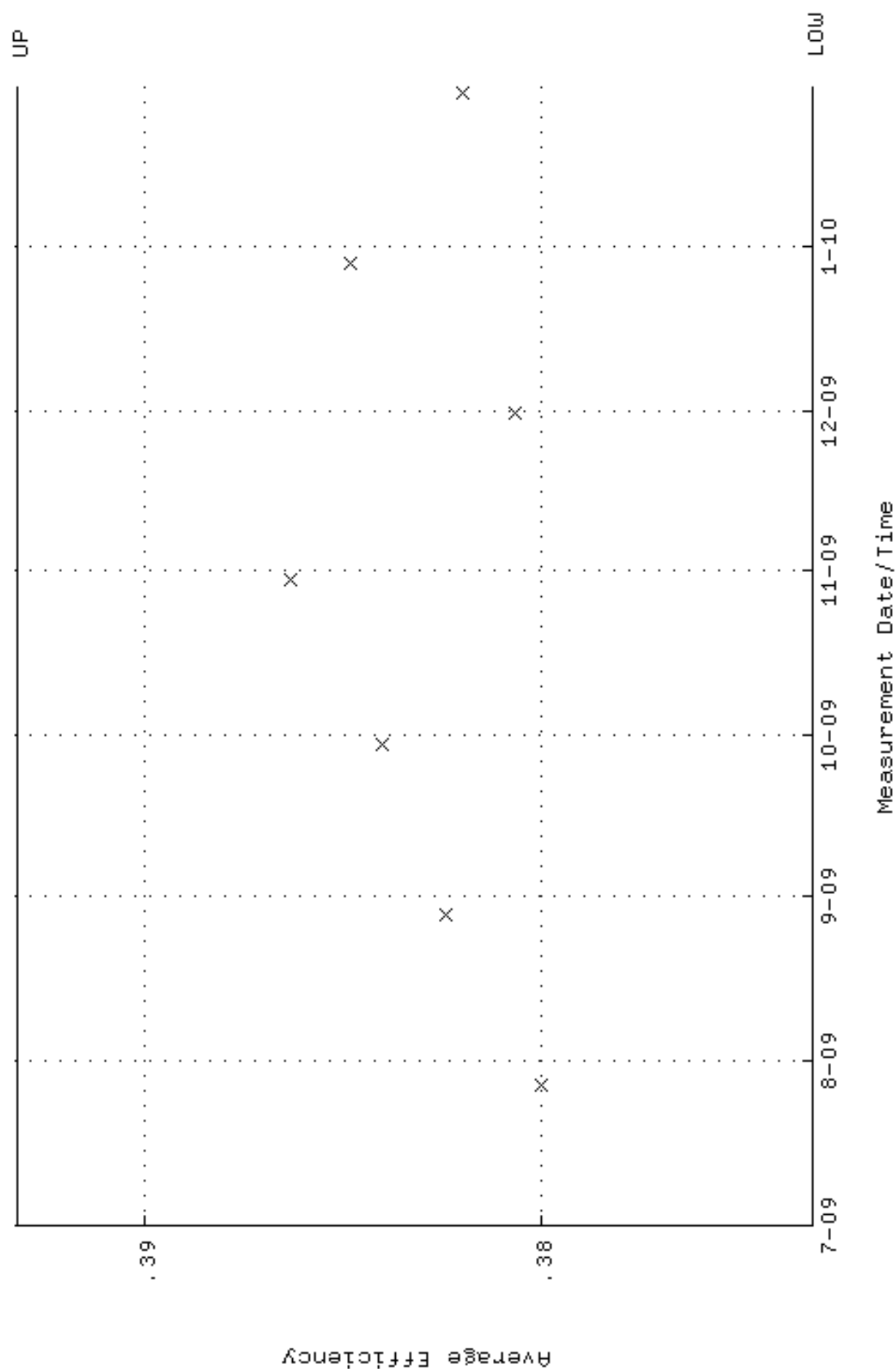
QA filename : DKA100:[ENV\_ALPHA.QA.W]W172.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 23-JUL-2009 08:07:46 through 22-JAN-2010 12:00:00  
 Lower/Upper Lmts: 86.5089 through 95.6151



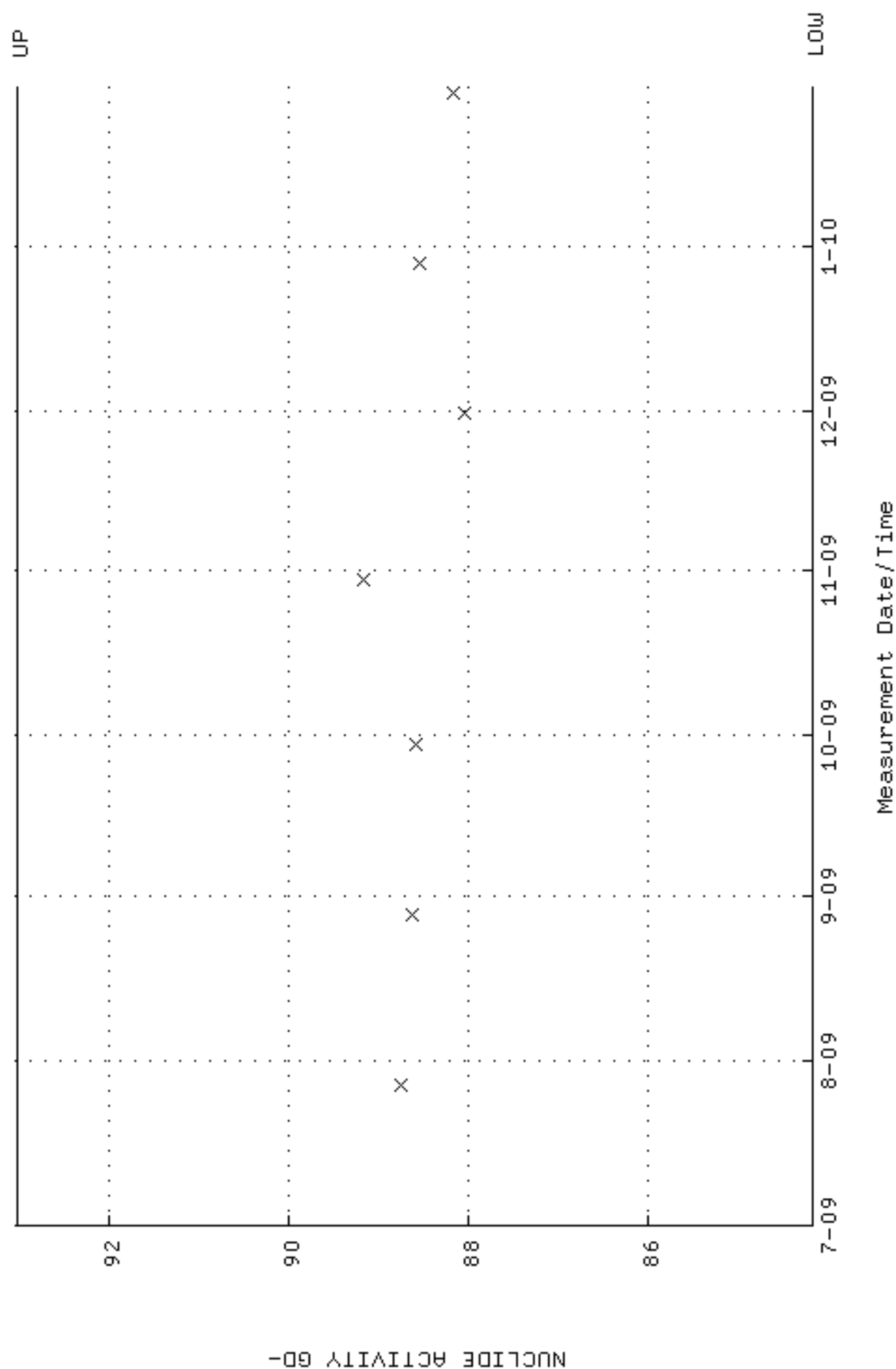
QA filename : DKA100:[ENV\_ALPHA.QA.B]B172.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:00:24 through 22-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



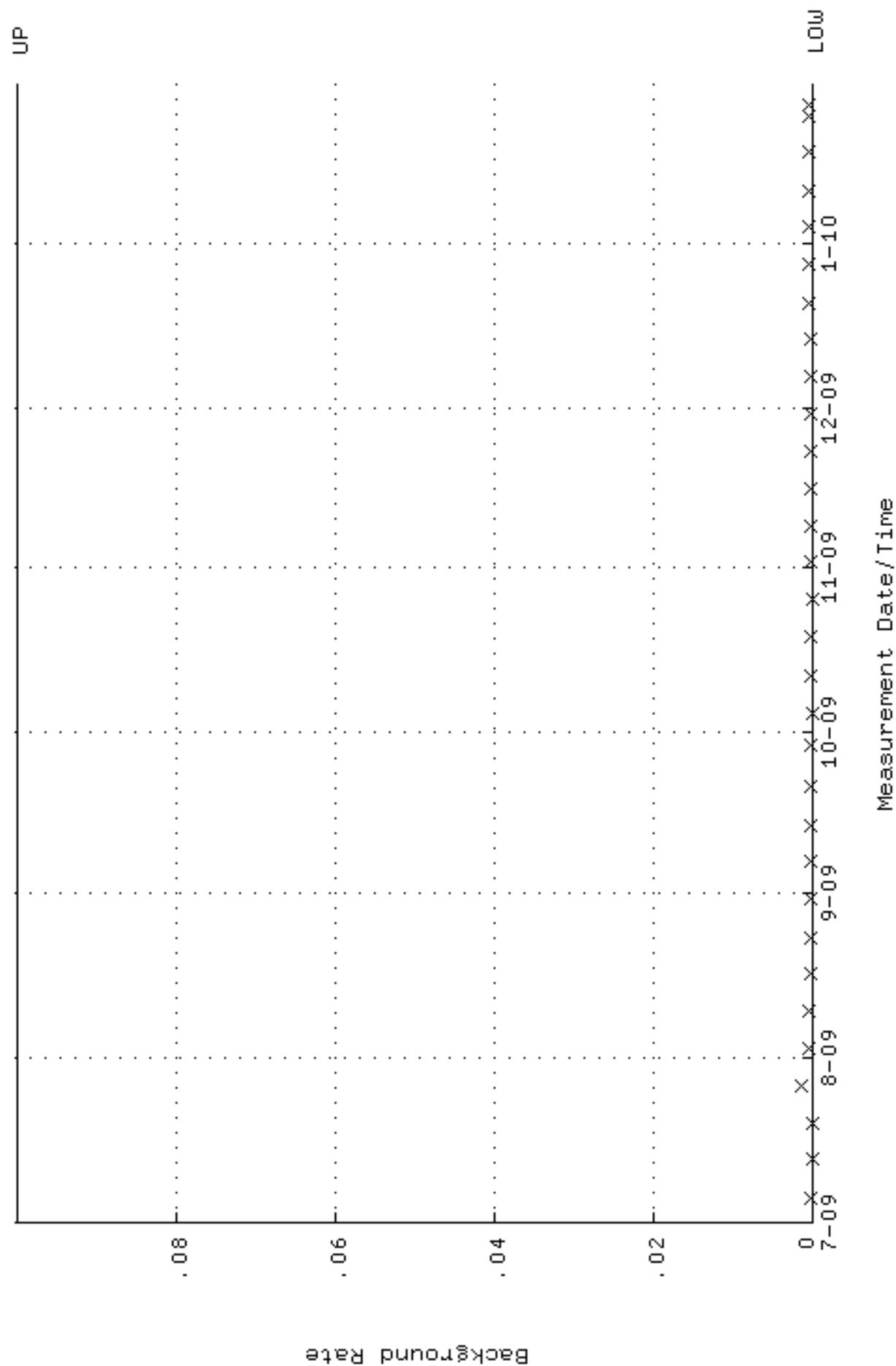
QA filename : DKA100:[ENV\_ALPHA.QA.W]W211.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 27-JUL-2009 11:47:25 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.373189 through 0.393189



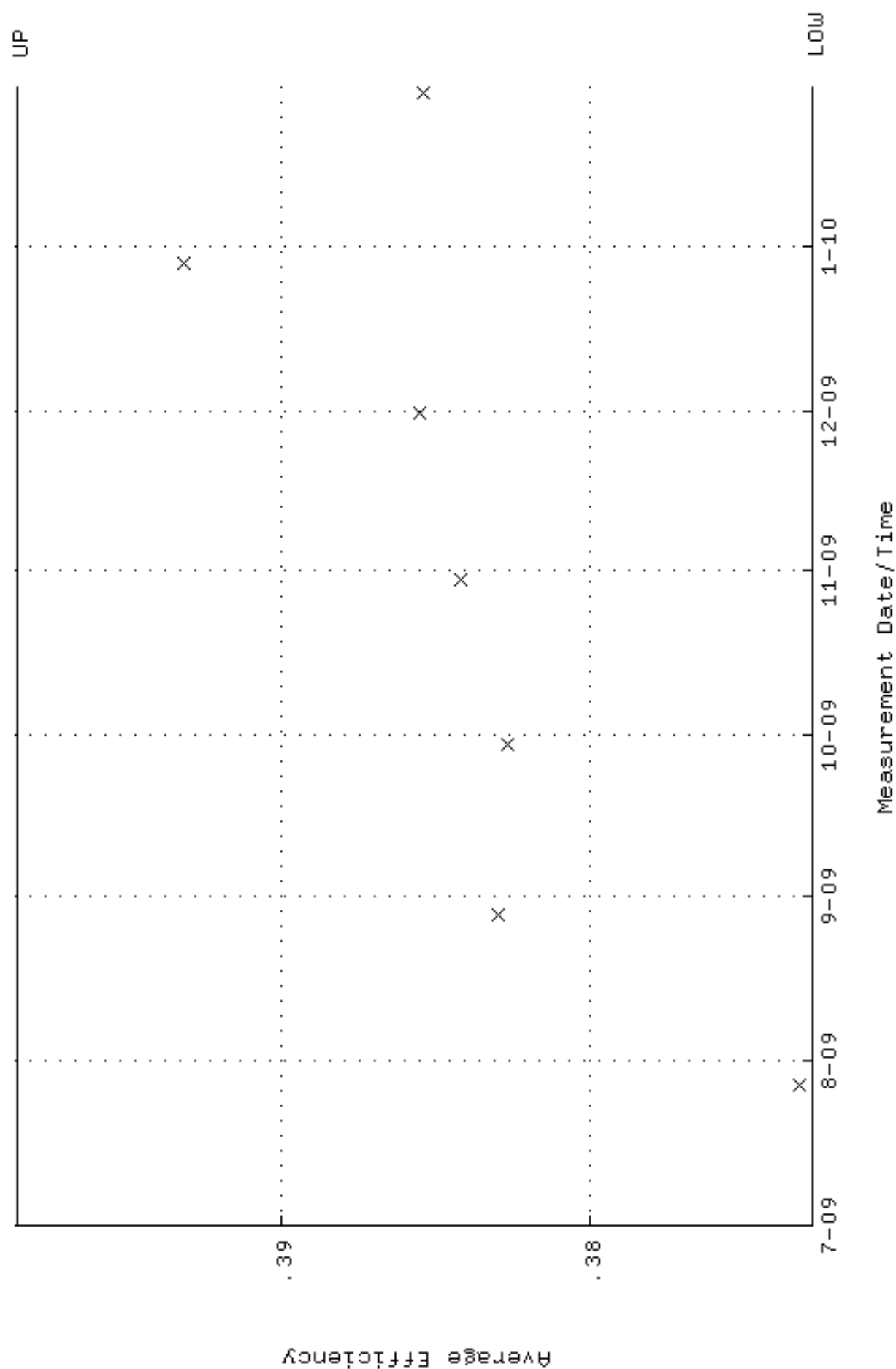
QA filename : DKA100:[ENV\_ALPHA.QA.W]W211.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 27-JUL-2009 11:47:25 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 84.1583 through 93.0171



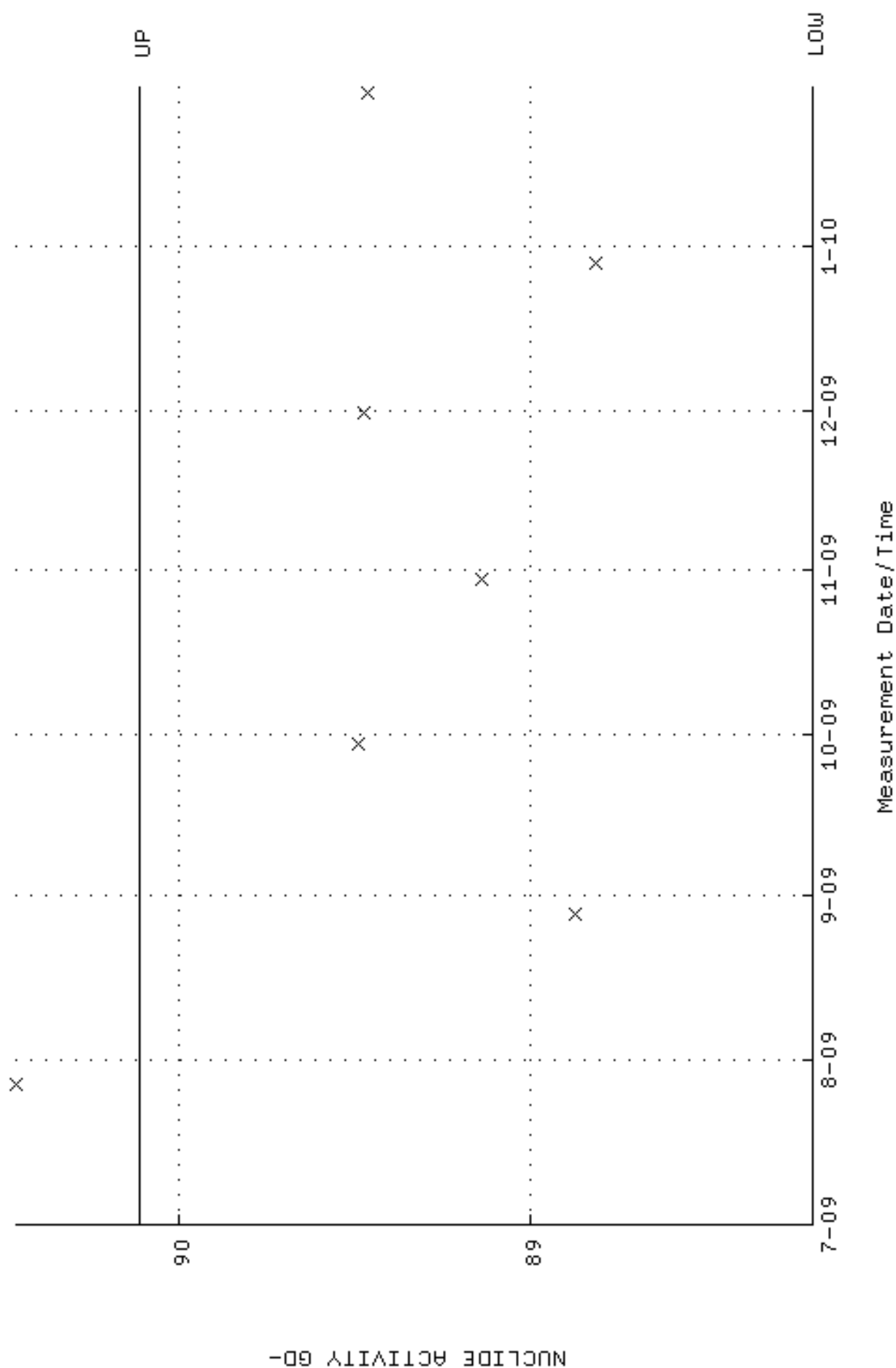
QA filename : DKA100:[ENV\_ALPHA.QA.B]B211.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:03:28 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV\_ALPHA.QA.W]W216.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 27-JUL-2009 11:47:57 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.372749 through 0.398591

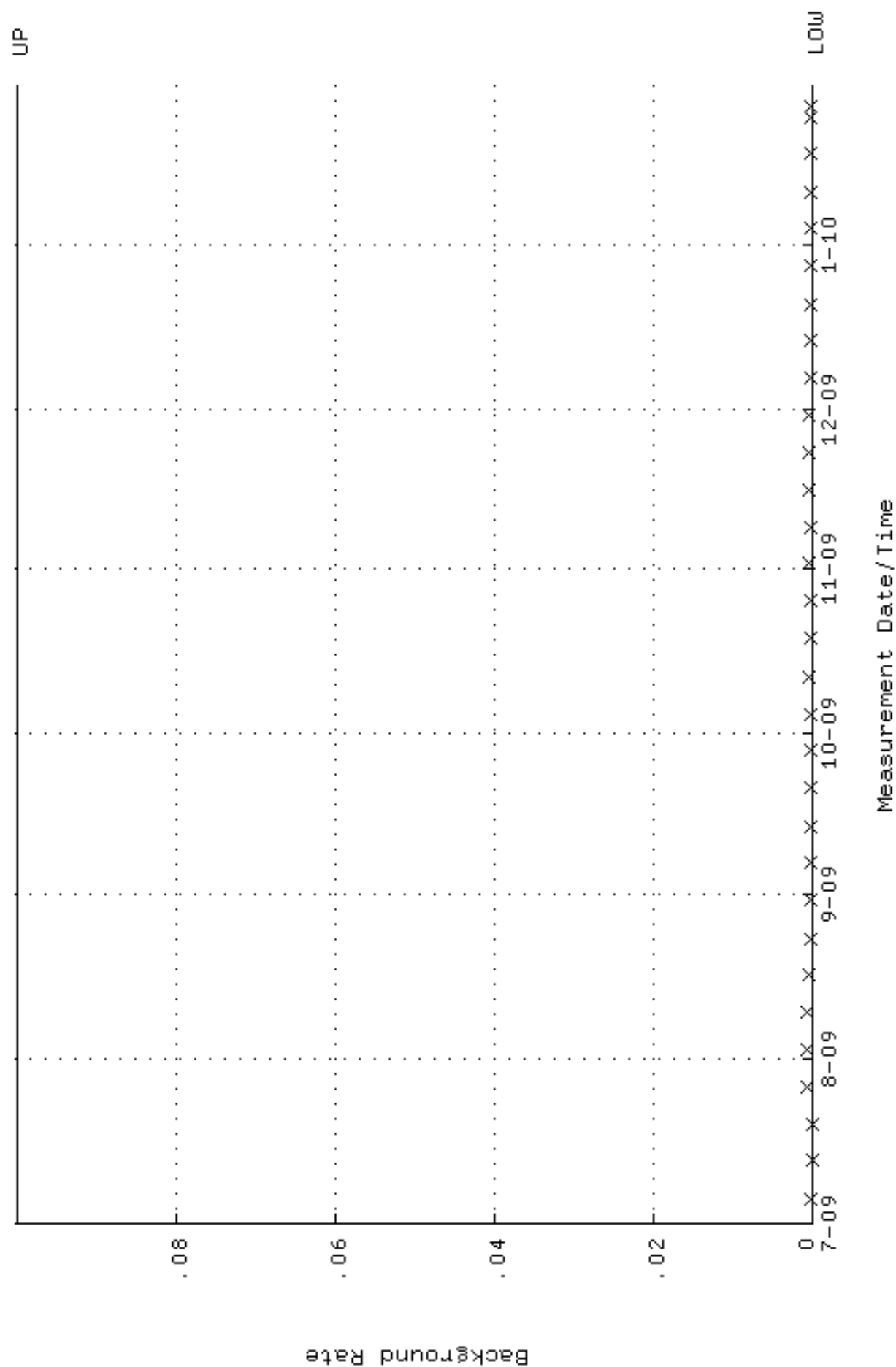


QA filename : DKA100:[ENV\_ALPHA.QA.W]W216.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 27-JUL-2009 11:47:57 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 88.1955 through 90.1147

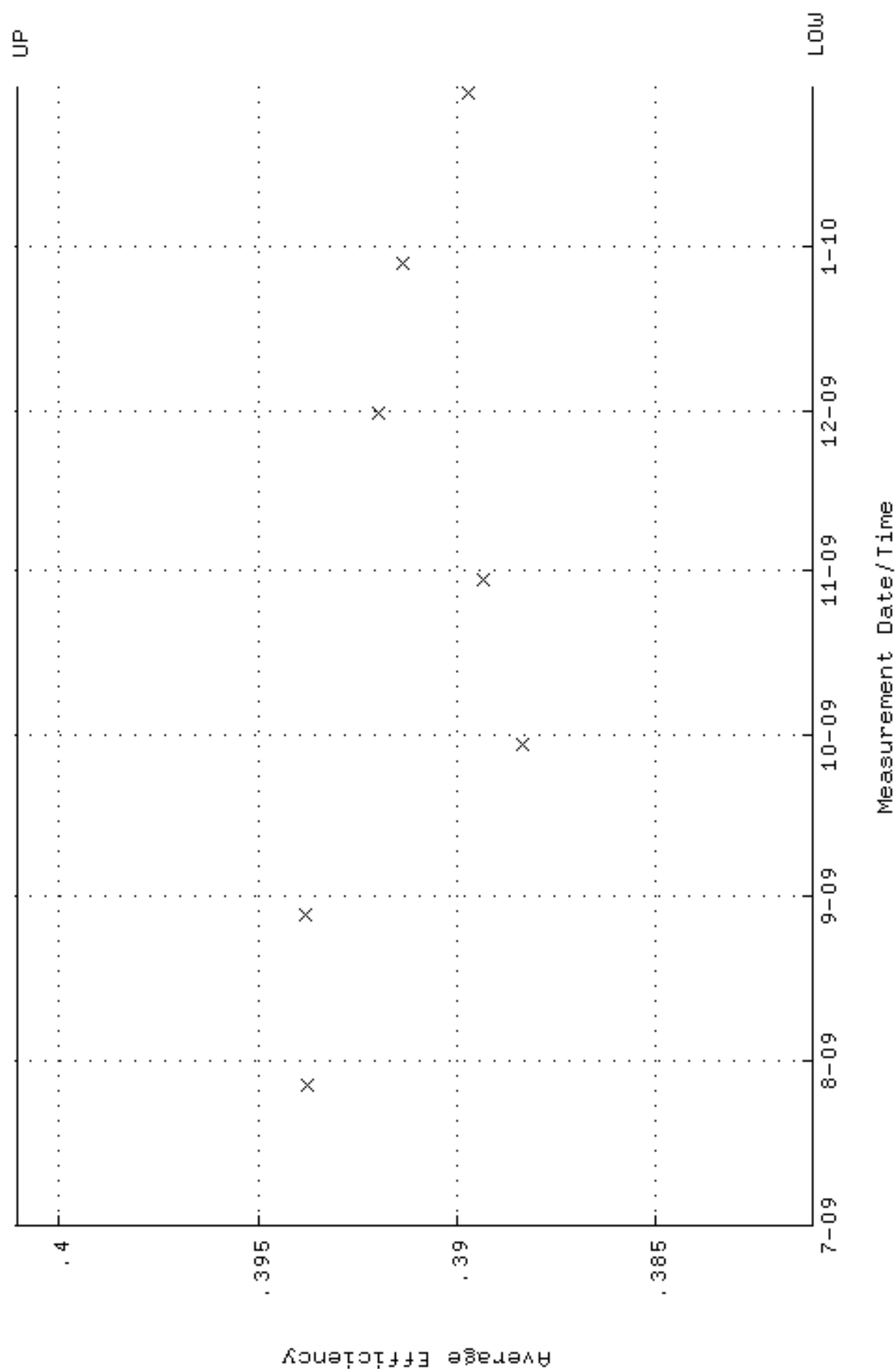




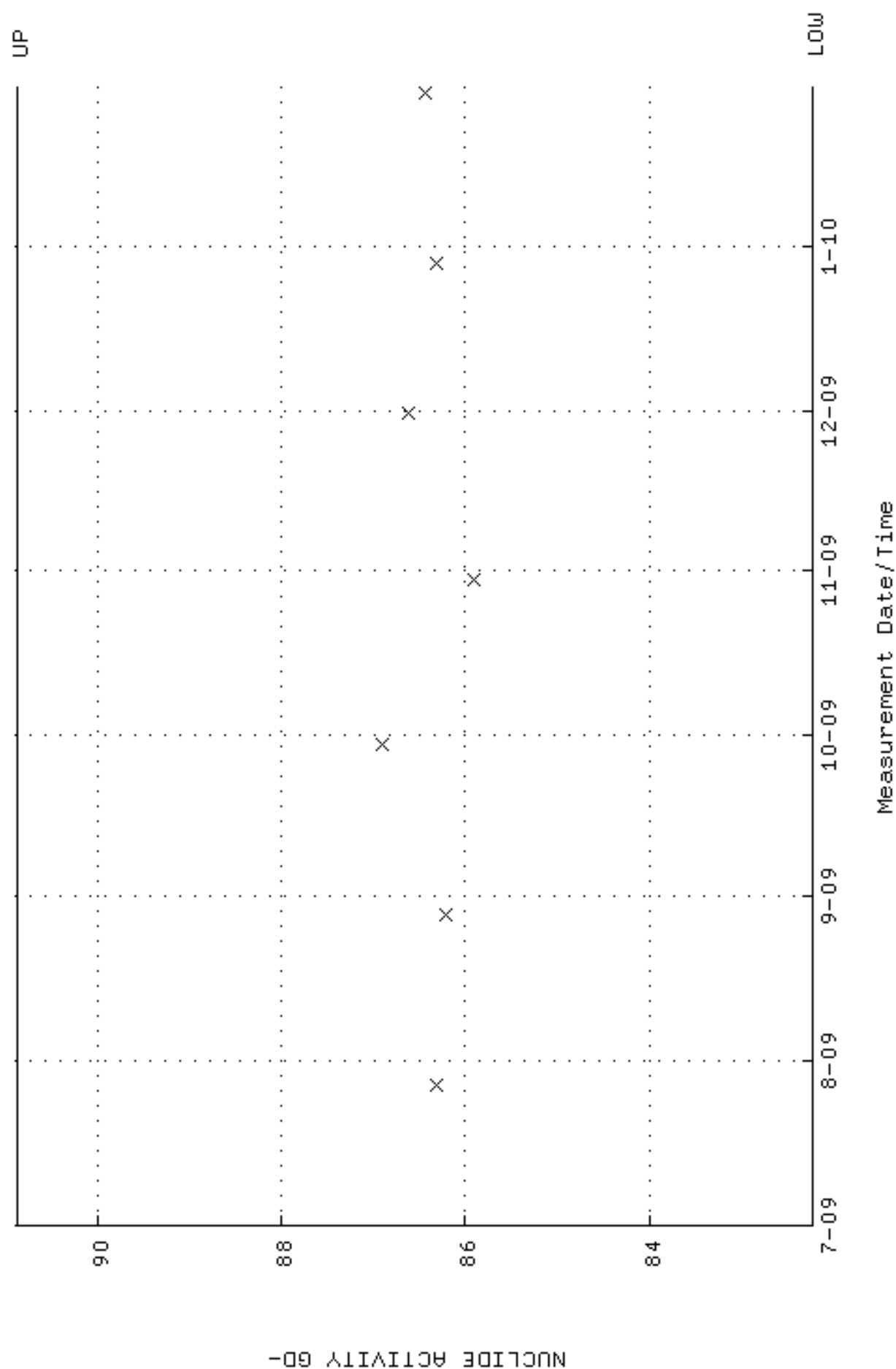
QA filename : DKA100:[ENV\_ALPHA.QA.B]B216.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:03:52 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



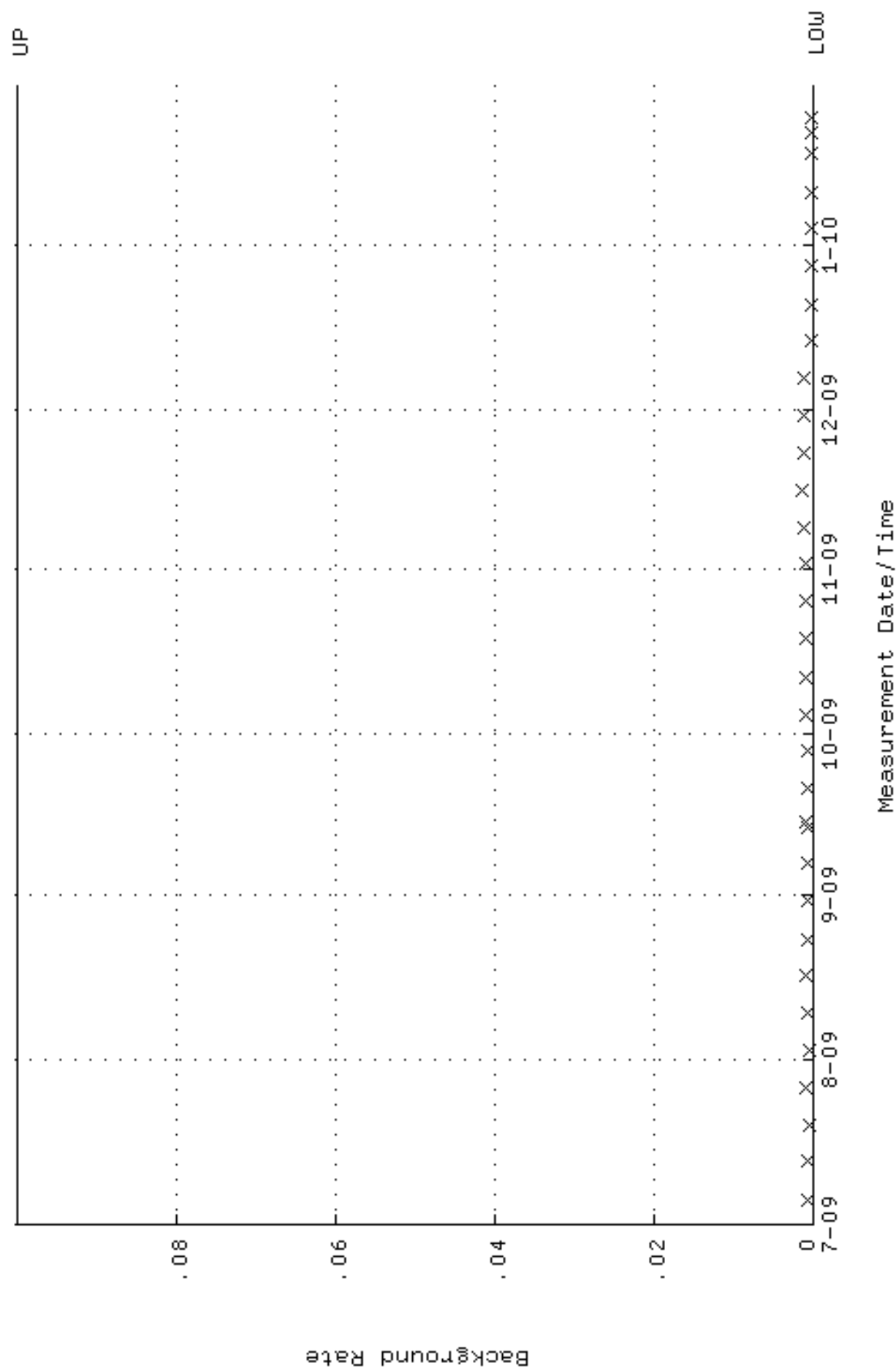
QA filename : DKA100:[ENV\_ALPHA.QA.W]W248.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 27-JUL-2009 11:51:19 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.381049 through 0.401049



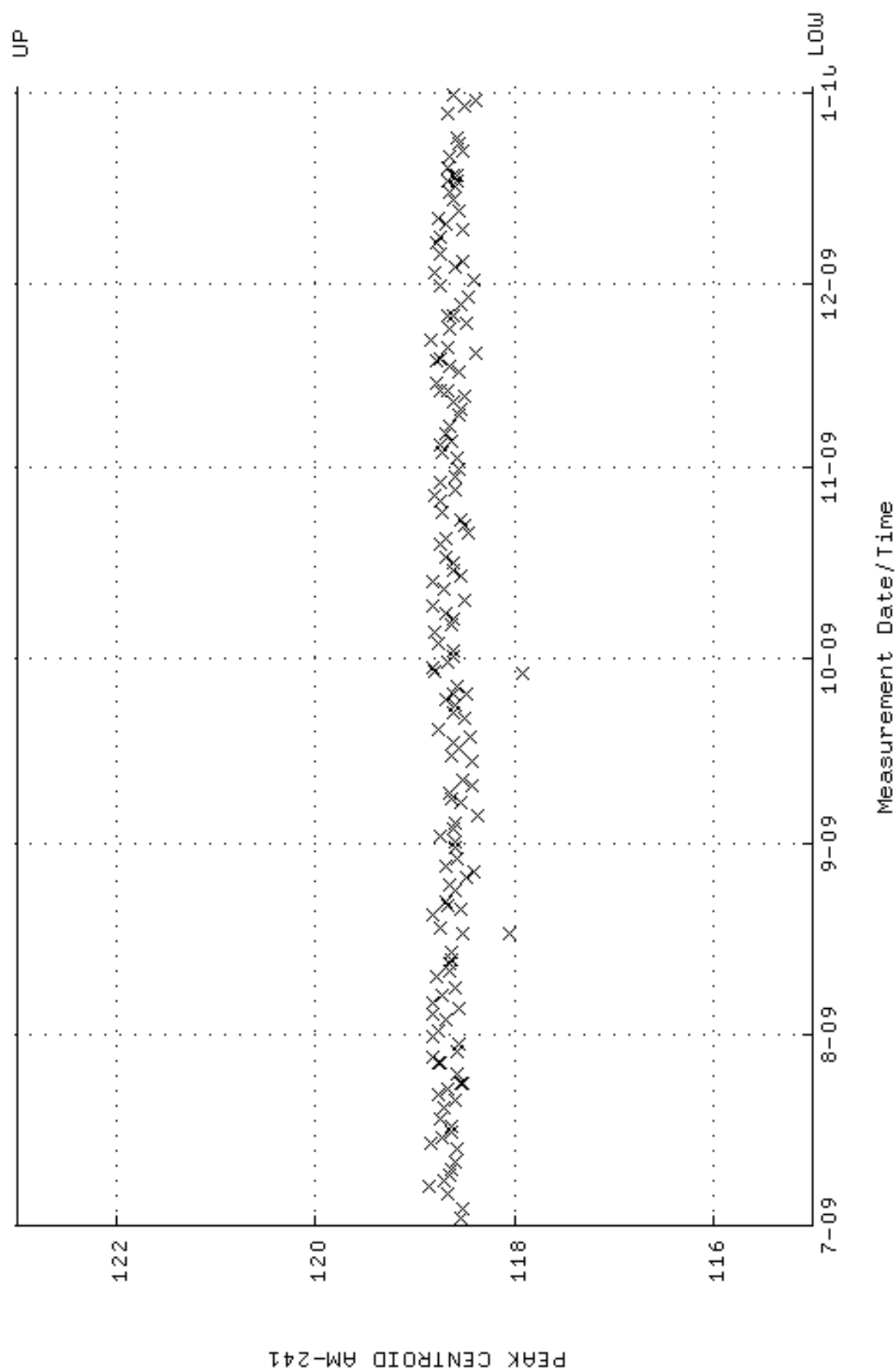
QA filename : DKA100:[ENV\_ALPHA.QA.W]W248.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 27-JUL-2009 11:51:19 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 82.2216 through 90.8766



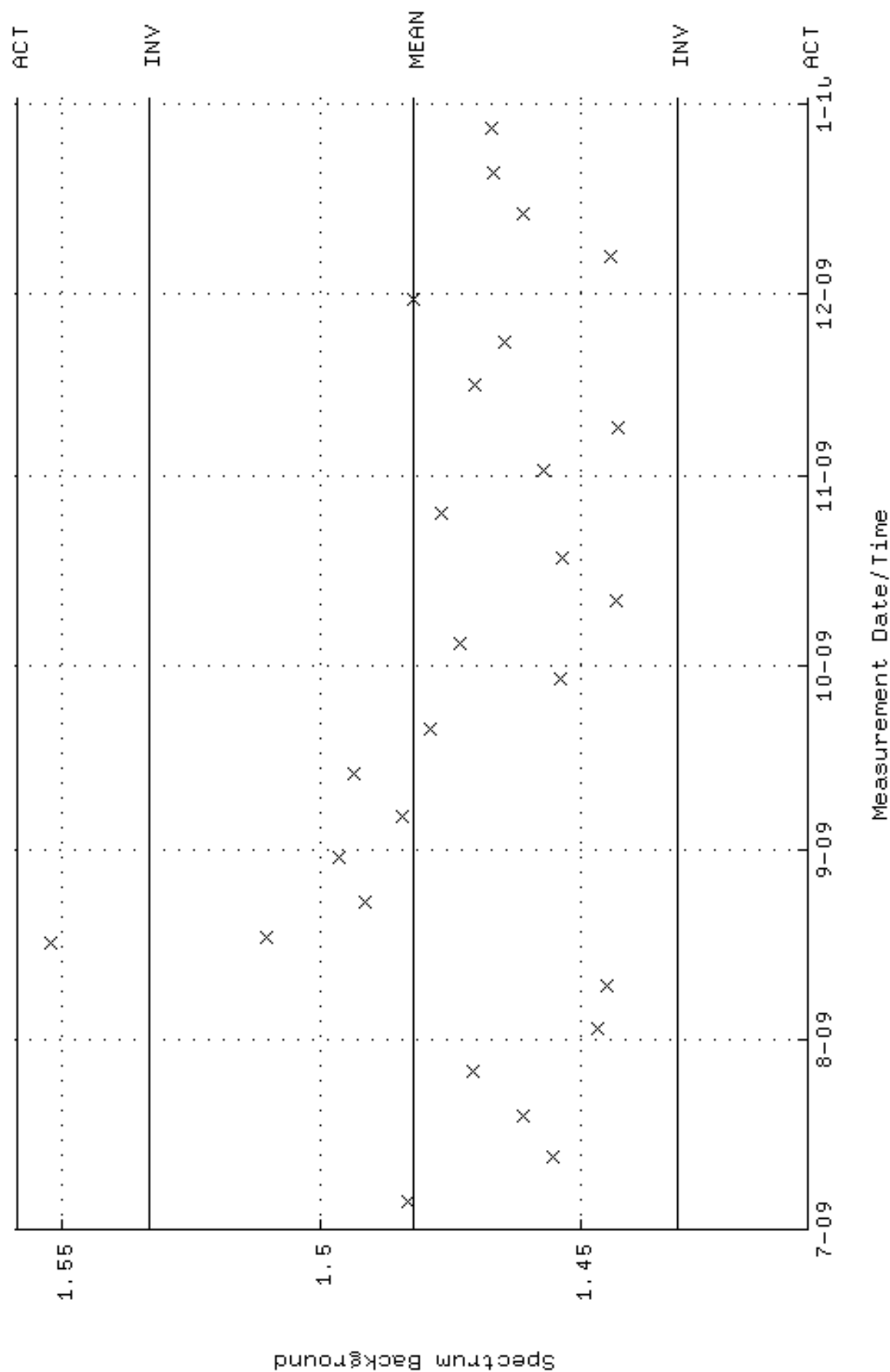
QA filename : DKA100:[ENV\_ALPHA.QA.B]B248.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:06:21 through 30-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



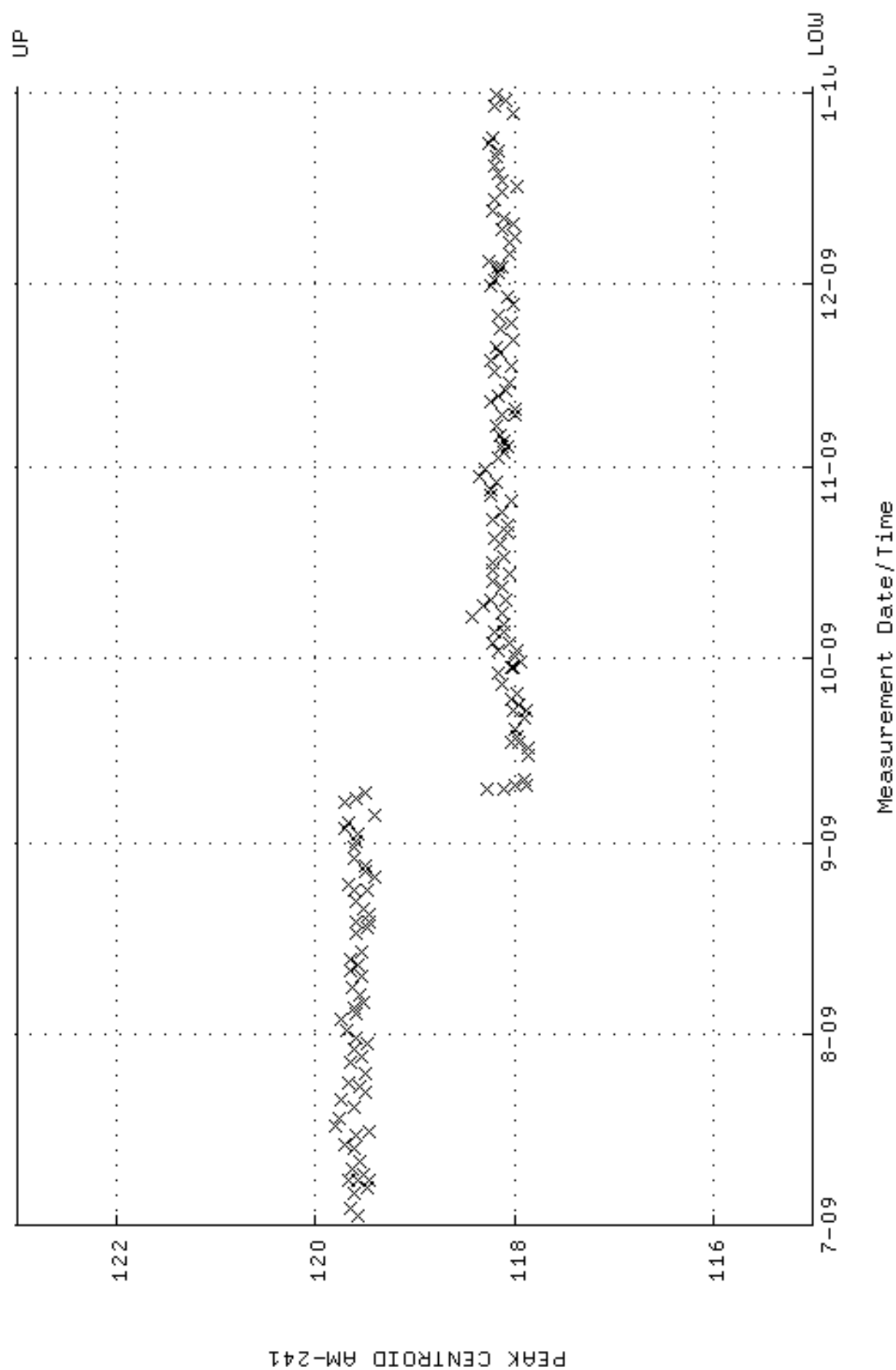
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM14\_2LMB.QAF;1  
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00  
Lower/Upper Lmts: 115.000 through 123.000



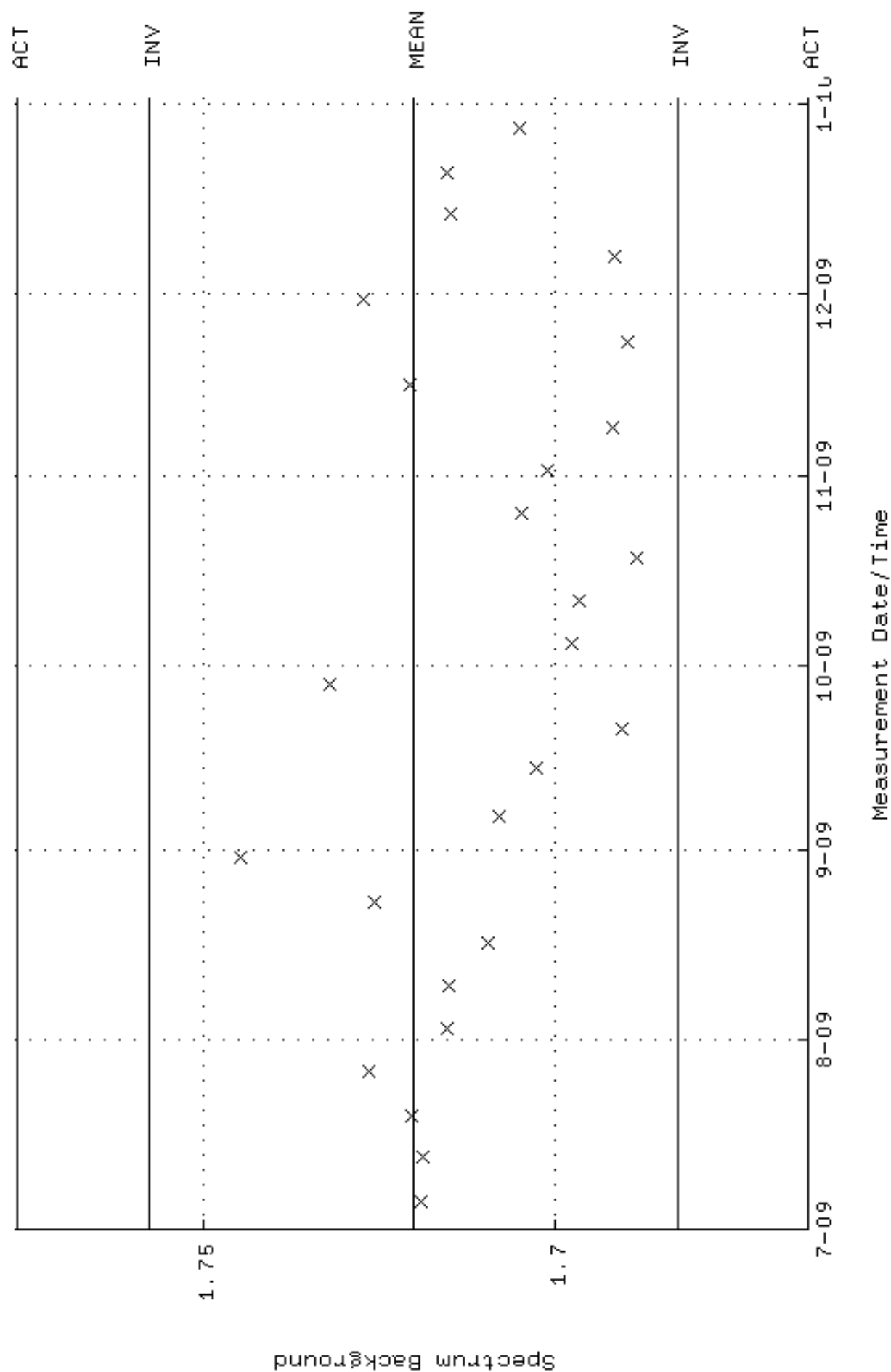
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM14.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:52:31 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM15\_CAN.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000

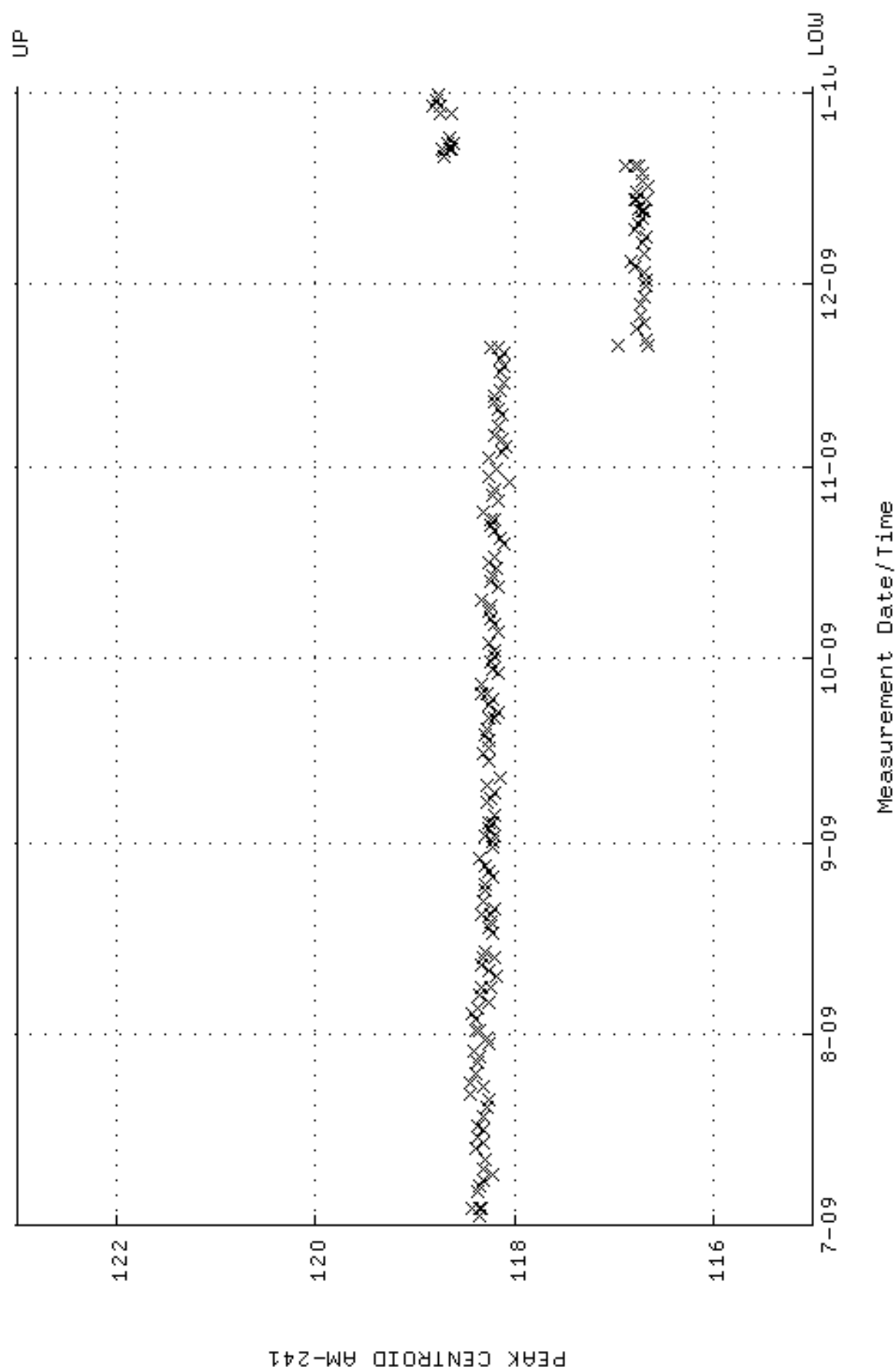


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM15.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)

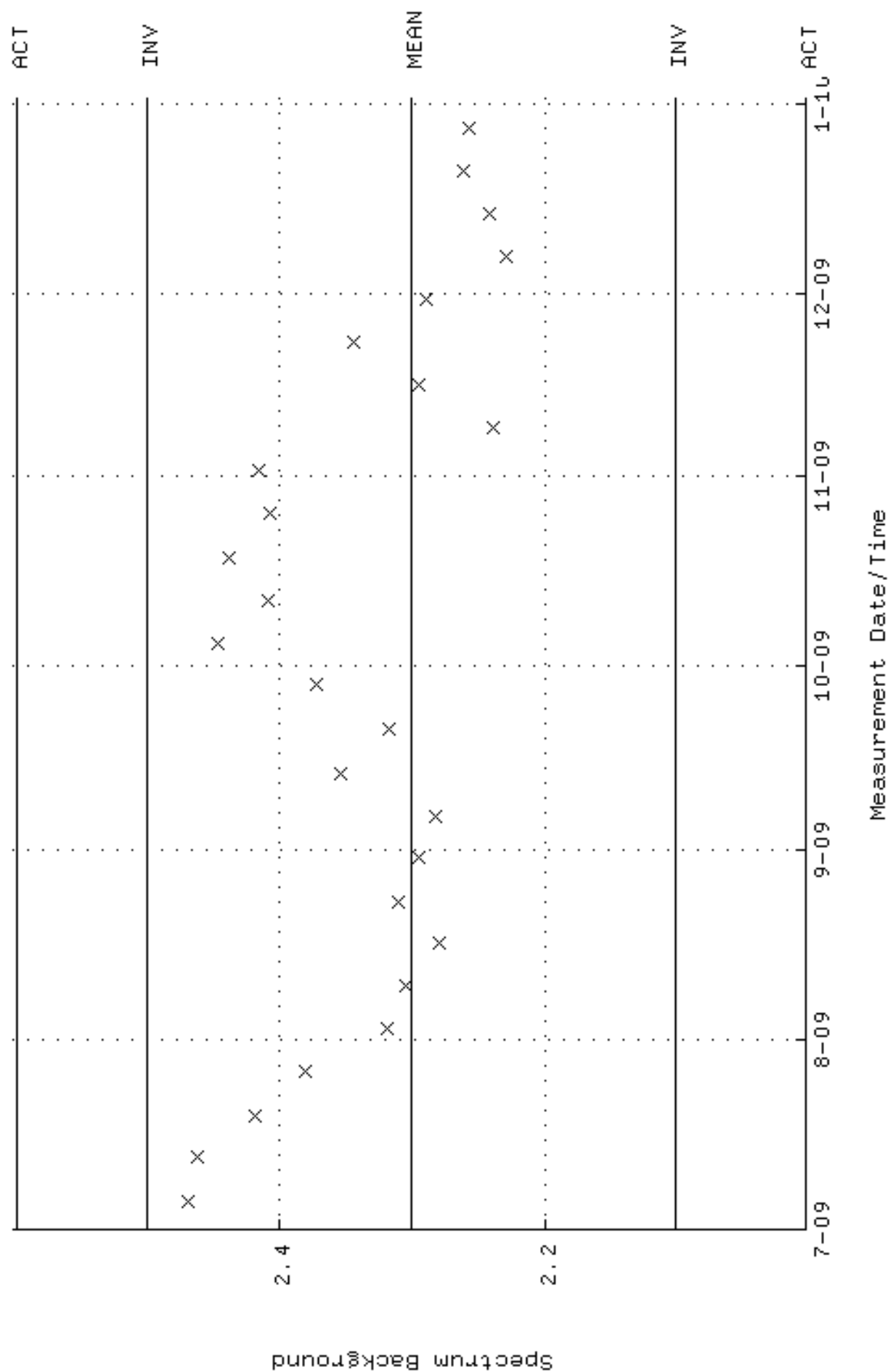




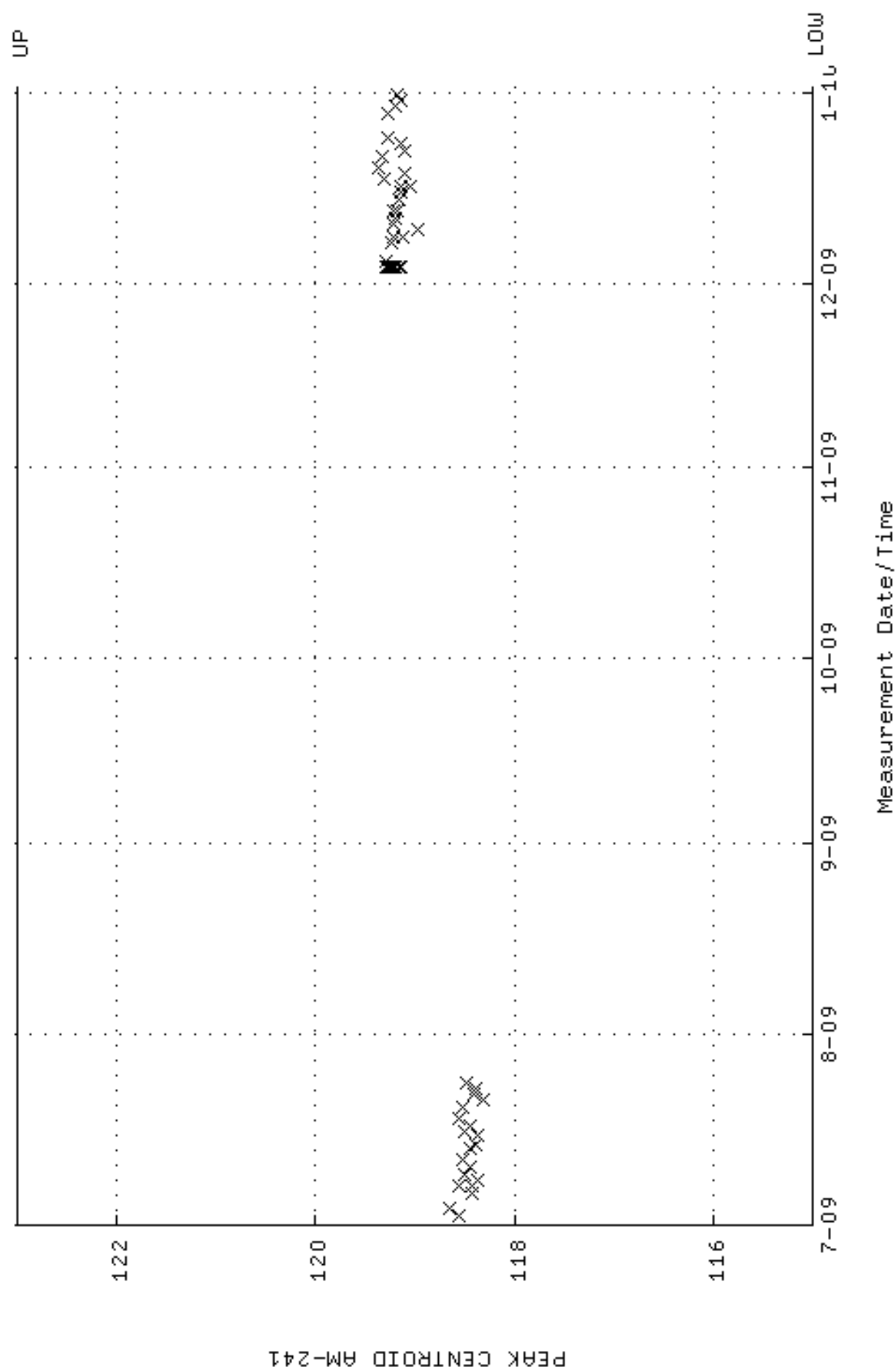
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM18\_CAN.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



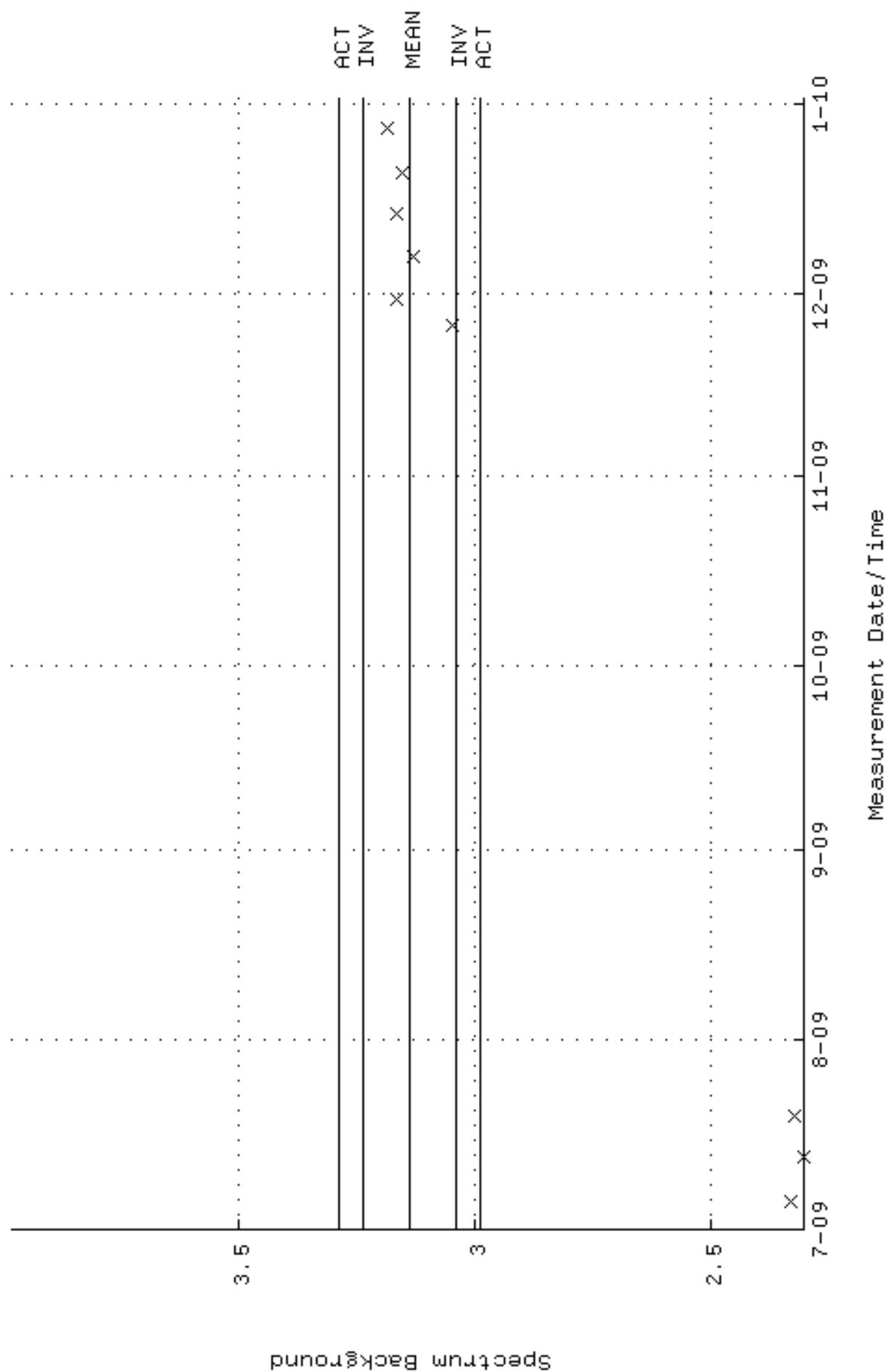
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM18.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



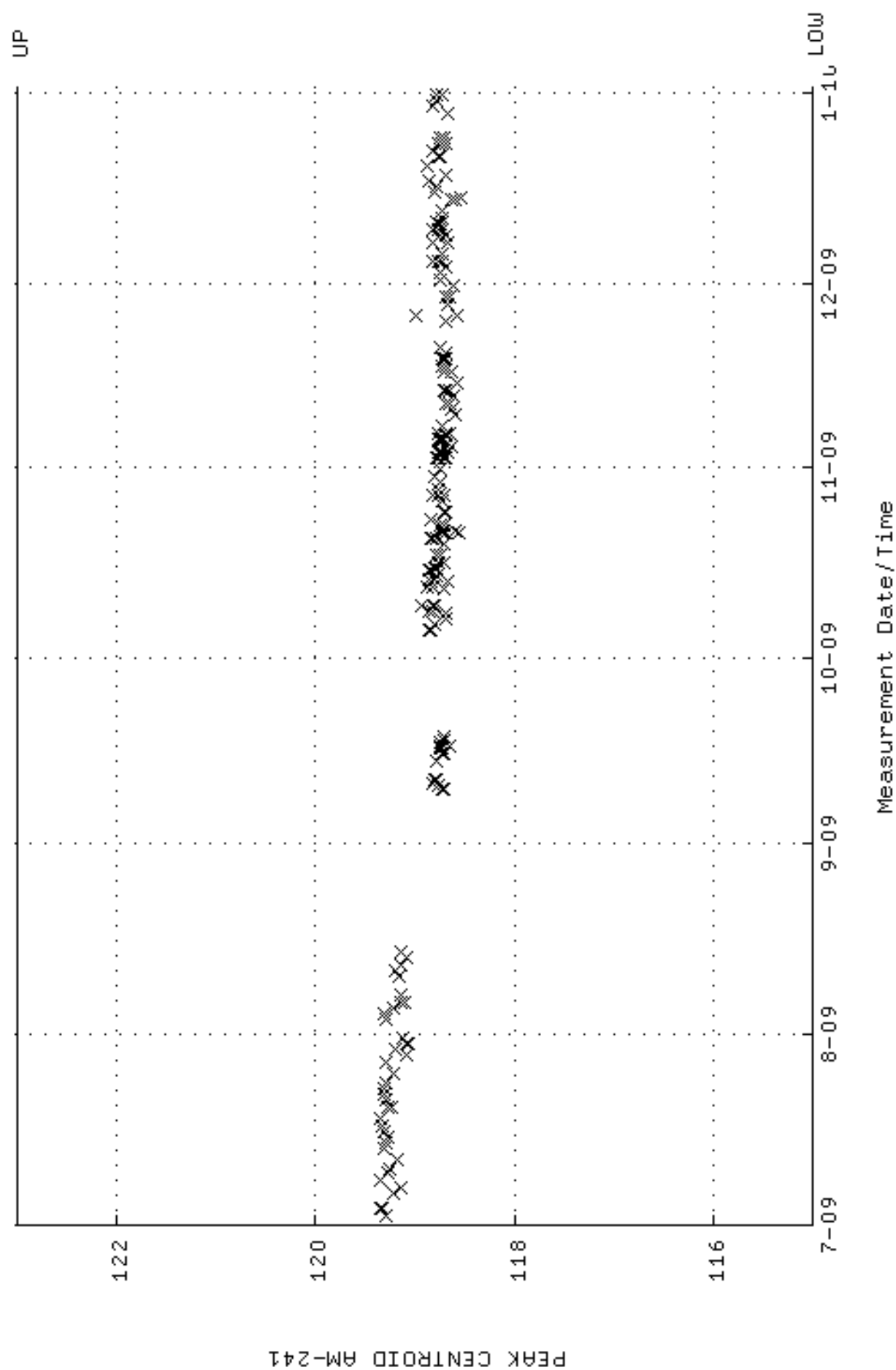
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM22\_CAN.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 10:47:50 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



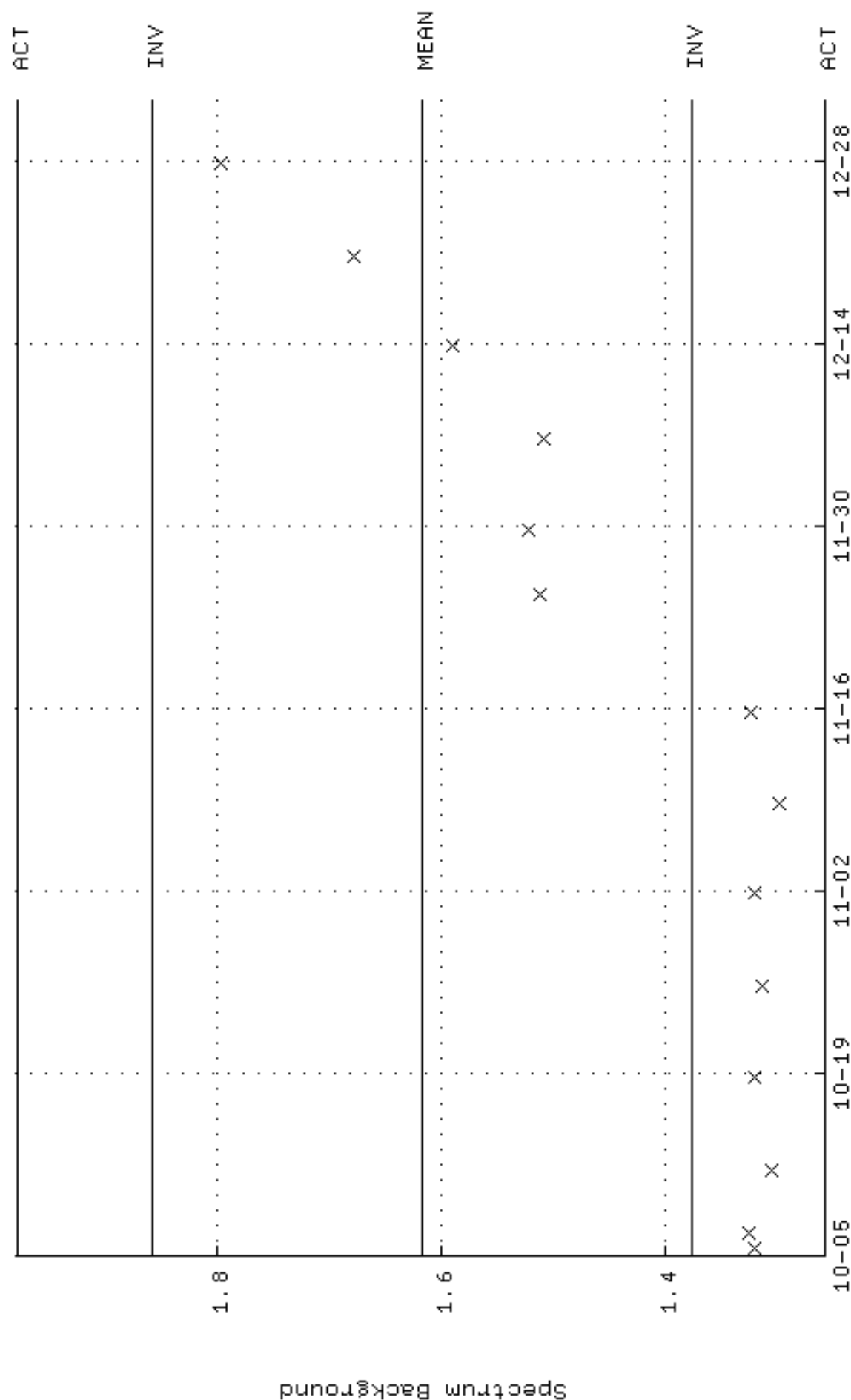
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM22.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:54:18 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



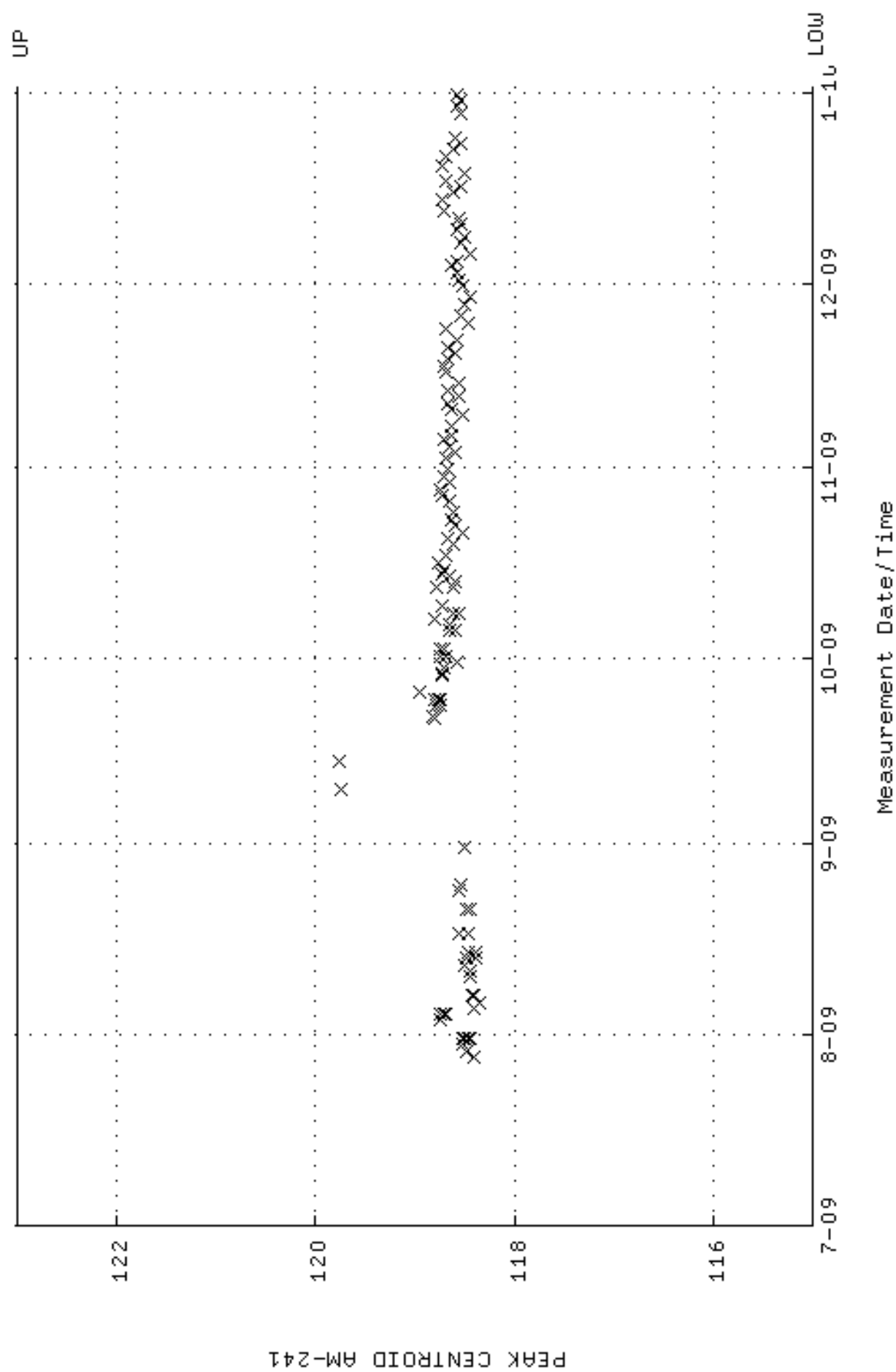
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM23\_CAN.QAF;1  
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00  
Lower/Upper Lmts: 115.000 through 123.000



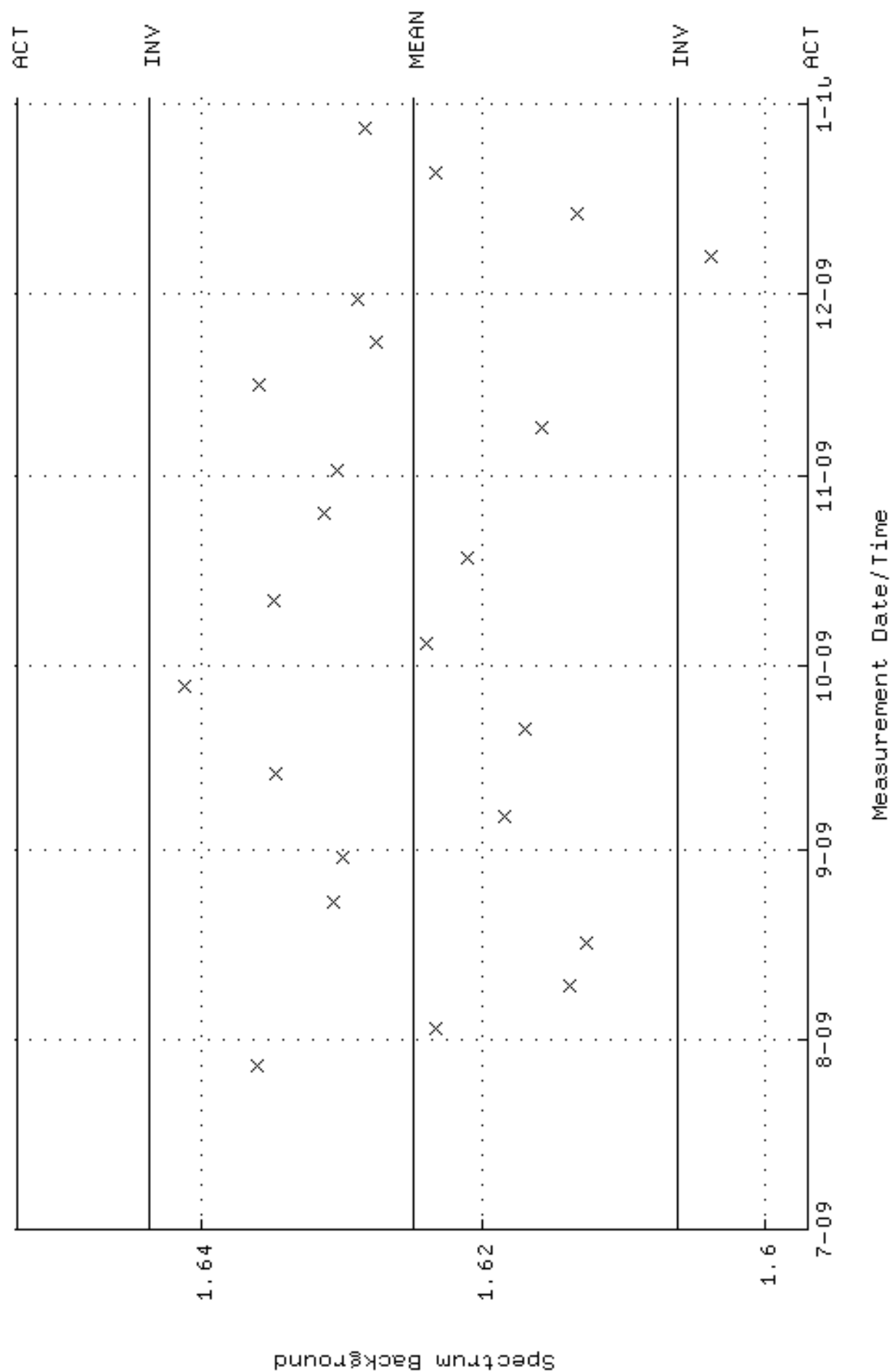
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM23.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM25\_2LMB.QAF;1  
Parameter Name : PSCENTRD-59 (PEAK CENTROID AM-241)  
Start/End Dates : 28-JUL-2009 10:32:53 through 1-JAN-2010 12:00:00  
Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM25.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 27-JUL-2009 17:25:45 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.62502 +- 9.370414E-03 (0.58 %)





# STANDARDS DATA

1032

## CERTIFICATE OF CALIBRATION

### Standard Radionuclide Source

74047-278

.5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytics maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE	GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432 y	3339	3.0
Cd-109	88	462.6 d	4815	3.3
Co-57	122	271.79 d	2409	3.0
Ce-139	166	137.6 d	3408	2.8
Hg-203	279	46.61 d	7522	2.7
Sn-113	392	115.1 d	4728	2.6
Cs-137	662	30.07 y	2973	3.0
Y-88	898	106.6 d	11600	2.6
Co-60	1173	5.2714 y	5780	2.7
Co-60	1332	5.2714 y	5783	2.6
Y-88	1836	106.6 d	12260	2.6

5.31725 grams 4M HCl solution.

P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova  
M. Dimitrova, Radiochemist

Q A APPROVED:

J.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06  
RC-S-045-073-0

1380 Seaboard Industrial Blvd.  
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.com

## ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS BATCH 127

### CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method <sup>1</sup>	Statistics <sup>2</sup>	Calibration <sup>2</sup>	Peak Fitting <sup>2</sup>	Geometry <sup>2</sup>	Impurities <sup>2</sup>	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertainty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

#### Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

<sup>1</sup>Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)

HPGe (High Purity Germanium Gamma Ray Spectrometer)

IC (Gamma Ray Ionization Chamber)

<sup>2</sup>As Percent (%) from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.



# Standard Traceability Log Rad

Source Material Info	
Parent Code:	1032
Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL
Reference Date:	10/01/2006
Ampoule Mass (g):	5.31725 g
Uncertainty:	+/- 2.81 %
LogBook No:	RC-S-045-073

A Solution Material Info	
Isotope:	Mixed Gamma
Prepared By:	Daniel Roy
Prep Date:	11/30/2006
Verification Date:	12/02/2009
Expiration Date:	12/02/2010
Primary Code:	1032-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.2579 g
Density(g/mL):	1.0611
Balance ID:	38080204

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

GEL Laboratories LLC

Version 1.0 9/18/2000

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Am-241

Isotope	Result	pCi/L - VER-TAR-1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67 Pass  
Stdev = 64.065 Rule 3 (Pass/Fail)

Certificate Value =  
Lower Limit =  
Upper Limit =  
Rule 1 (Pass/Fail)  
Two sigma =  
10 % of Mean =  
Rule 2 (Pass/Fail)

2485.68018 pCi/L  
2357.536524 pCi/L  
2613.796809 pCi/L  
Pass  
128.1301422  
248.56666667  
Pass

M. Stamps  
12/2/09  
independent  
12/2/09

## Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Cs-137

Isotope	Result	pCi/L - VER-TAR-1
Mixed Gamma N1	854.2	pCi/L - VER-TAR-3
Mixed Gamma N2	907.6	pCi/L - VER-TAR-2
Mixed Gamma N3	898.9	

Mean Value (Counting) = 886.90 Pass  
Stdev = 28.651 Rule 3 (Pass/Fail)

Certificate Value = 933.44144 pCi/L  
Lower Limit = 829.597644 pCi/L  
Upper Limit = 944.202356 pCi/L  
Rule 1 (Pass/Fail) Pass  
Two sigma = 57.30235597  
10 % of Mean = 88.69000000  
Rule 2 (Pass/Fail) Pass

## Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

*Handwritten:* 12/2/09  
*Signature:* M. Stamps  
*Signature:* [illegible]  
*Date:* 12/2/09

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - VER-TAE-5
Mixed Gamma N1	1572	pCi/L - VER-TAE-2
Mixed Gamma N2	1495	pCi/L - VER-TAE-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67  
Stdev = 42.829  
Rule 3 (Pass/Fail) Pass

Certificate Value = 1545.8378  
Lower Limit = 1437.008431  
Upper Limit = 1608.324902  
Rule 1 (Pass/Fail) Pass  
Two sigma = 85.65823564  
10 % of Mean = 152.26666667  
Rule 2 (Pass/Fail) Pass

*M. Stamps issued 12/2/09*

## Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

## 0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATE 4/11/2000 *lett c held 12/1/04*

*angela d. johnson 12/3/04*



TRM

Invoice:

5 boxes of TRM-1  
 10 " " TRM-2 and 3  
 5 " each of TRM-1 through 6  
 7 " baghouse dirt

Use 1/4 gm x 10 samples WITH Together  
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	425 ± 24	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

Attention Nancy Slater At GEL  
Not For Log In

9911627-01-200

SF 2001-COC (10-97)

Supersedes (5-97) Issue

Internal Lab  
Batch No.

SARAWR No. N/A

ANALYSIS REQUEST AND CHAIN OF CUSTODY

Press F1 for instructions for each field.

AR/COC-

602945

Page 1 of 1

Dept. No./Mail Stop: 7132 / 1042 Project/Task Manager: PAM PUISSANT Project Name: Record Center Code: N/A Logbook Ref. No.: N/A Service Order No.:		Date Samples Shipped: 11-16-99 SMO USE Carrier/Waybill No.: 726794 Lab Contact: EDIE KENT Lab Destination: G.E.L. SMO Contact/Phone: Doug Salimi / 844-3110 Send Report to SMO: Suzi Jensen/844-3184		Contract No.: AJ-2480A Case No.: 10204 13 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154						
Location Building N/A Tech Area VI Room N/A		Reference LOV (available at SMO)		LAB USE						
Sample No. - Fraction	ER Sample ID or Sample Location Detail	Deposition Tag	Site No.	Sample Matrix	Container Type Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA
050486 - 001	-NRM-2 NBH2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA
-										
-										
-										
-										
-										
-										
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No.		Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab		Sample Tracking (SMO USE) Date Entered (mm/dd/yy) Entered by:		Special Instructions/QC Requirements EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No These samples are with chemicalized and materials being sent to GEL on behalf of Mark Hinton. Please list as separate report.		Abnormal Conditions on Receipt Lab Use		
Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date		Signature [Signature]		Init Company/Organization/Phone Weston / 757 / 845-0867						
Sample Team Members		Name Douglas E. Perry								
1. Relinquished by [Signature]		Date 11-16-99		Time 0900		4. Relinquished by		Org.		Date
1. Received by		Org.		Time		4. Received by		Org.		Date
2. Relinquished by		Org.		Time		5. Relinquished by		Org.		Date
2. Received by		Org.		Time		5. Received by		Org.		Date
3. Relinquished by		Org.		Time		6. Relinquished by		Org.		Date
3. Received by		Org.		Time		6. Received by		Org.		Date

Original To Accompany Samples, Laboratory Copy (White) 1<sup>st</sup> Copy To Accompany Samples, Return to SMO (Blue) 2<sup>nd</sup> Copy SMO Suspense Copy (Yellow) 3<sup>rd</sup> Copy Field Copy (Pink)

# 0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Fehr 4/30/04  
 Lott & Staley 5/1/04

# PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

## INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

## SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

Attention Nancy Slater At GEL  
Not For Log In

9911627-01-200

SF 2001-COC (10-97)

Supersedes (5-97) Issue

Internal Lab  
Batch No.

SARAWR No. N/A

ANALYSIS REQUEST AND CHAIN OF CUSTODY

Press F1 for instructions for each field.

AR/COC-

602945

Page 1 of 1

Dept. No./Mail Stop: 7132 / 1042 Project/Task Manager: PAM PUISSANT Project Name: Record Center Code: N/A Logbook Ref. No.: N/A Service Order No.:		Date Samples Shipped: 11-16-99 SMO USE Carrier/Waybill No.: 726794 Lab Contact: EDIE KENT Lab Destination: G.E.L. SMO Contact/Phone: Doug Salimi / 844-3110 Send Report to SMO: Suzi Jensen/844-3184		Contract No.: AJ-2480A Case No.: 10204 13 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154						
Location Building N/A Tech Area VI Room N/A		Reference LOV (available at SMO)		LAB USE						
Sample No. - Fraction	ER Sample ID or Sample Location Detail	Deposition Tag	Site No.	Sample Matrix	Container Type Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA
050486 - 001	-NRM-2 NBH2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA
-										
-										
-										
-										
-										
-										
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No.		Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab		Sample Tracking (SMO USE) Date Entered (mm/dd/yy) Entered by:		Special Instructions/QC Requirements EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No These samples are with chemicalized and materials being sent to GEL for better of Mark Hinton		Abnormal Conditions on Receipt Lab Use		
Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date		Signature [Signature]		Init Company/Organization/Phone Weston / 757 / 845-0867		Please list as separate report.				
Sample Team Members		Name Douglas E. Perry		Date 11-16-99		Time 0900				
1. Relinquished by [Signature]		Org. [Signature]		Date		Time				
1. Received by		Org.		Date		Time				
2. Relinquished by		Org.		Date		Time				
2. Received by		Org.		Date		Time				
3. Relinquished by		Org.		Date		Time				
3. Received by		Org.		Date		Time				

Original To Accompany Samples, Laboratory Copy (White) 1<sup>st</sup> Copy To Accompany Samples, Return to SMO (Blue) 2<sup>nd</sup> Copy SMO Suspense Copy (Yellow) 3<sup>rd</sup> Copy Field Copy (Pink)

# CERTIFICATE OF CALIBRATION

## ALPHA STANDARD SOLUTION

Radionuclide Am-243  
Half Life: 7380  $\pm$  40 years  
Catalog No.: 7243  
Source No.: 445-96-2

Customer: GENERAL ENGINEERING LABS  
P.O.No.: 9290-RAD  
Reference Date: January 1 1994 12:00 PST.  
Contained Radioactivity: (Am-243) 101.2  $\mu$ Ci  
Contained Radioactivity: (Am-243) 3750 kBq

### Description of Solution

a. Mass of solution: 5.3739 g (in a 5 ml Flame Sealed Ampoule)  
b. Chemical form: Am(NO<sub>3</sub>)<sub>3</sub> in 2N HNO<sub>3</sub>  
c. Carrier content: None added  
d. Density: 1.0651 g/ml @ 20°C.

### Radioimpurities

None detected

### Radioactive Daughters

Np-239 (beta active) in equilibrium

### Radionuclide Concentration

(Am-243) 18.84  $\mu$ Ci/g

### Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under: 228, 278 keV.  
Branching ratio(s) used: 0.108, 0.1420 gamma rays per decay.

### Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:  $\pm 3.0\%$   
b. Random uncertainty in assay:  $\pm 0.4\%$   
c. Random uncertainty in weighing(s):  $\pm 0.0\%$   
d. Total uncertainty at the 99% confidence level:  $\pm 3.0\%$

### NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

### Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

### Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES  
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*Anna H. Kuen*  
QUALITY CONTROL

*Jan 3, 1994*  
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO  
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☒ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at  $50 \pm 10^\circ \text{C}$  for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at  $50 \pm 10^\circ \text{C}$  for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☒ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  alpha at the time of shipment.



# Standard Traceability Log Rad

Source Material Info	
Parent Code:	445-96-2
Prepared By:	Genie Bost
Carrier Conc:	2M HNO3
Reference Date:	01/01/1994
Ampoule Mass (g):	5.3739 g
Uncertainty:	+/- 3 %
LogBook No:	RC S 005 032

A Solution Material Info	
Isotope:	Americium-243
Prepared By:	Angela Johnson
Prep Date:	01/05/1994
Verification Date:	05/11/2009
Expiration Date:	05/11/2010
Primary Code:	445-96-2-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.3419 g
Density(g/mL):	1.0785
Balance ID:	38080204

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$



## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC  
Version 1.0 9/18/2000

## Verification for Am-243 Standard 445-96-2-SS

M. Aders 5/15/2009	Isotope	Value	Uncertainty
	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590
Mean Value (Counting) =	1.340	101.99	Pass
Stdev =	0.043588989		Rule 3 (Pass/Fail)
Target =	1.314		
Lower Limit =	1.252822021		
Upper Limit =	1.427177979		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.087177979		
10 % of Mean =	0.134		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-SS** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **Cm-244** standard **0533-O** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd (and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241 certified values.

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

Mary G. Aders 5/15/09  
Taheri  
07509



# National Institute of Standards & Technology Certificate

## Standard Reference Material 4334H Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

**Radiological Hazard:** The SRM ampoule contains plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process, X-rays and gamma rays with energies from 10 keV to 160 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]\*. The SRM should be used only by persons qualified to handle radioactive material.

**Chemical Hazard:** The SRM ampoule contains nitric acid ( $\text{HNO}_3$ ) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

**Storage and Handling:** The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

**Preparation:** This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterweger, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED  
12/14/04

Lisa R. Karam, Acting Chief  
Ionizing Radiation Division

Gaithersburg, Maryland 20899  
January 2005

Robert L. Watters, Jr., Chief  
Measurement Services Division

### Recommended Procedure for Opening the SRM Ampoule

- 1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.
  - 2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.
  - 3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.
  - 4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.
  - 5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.
  - 6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.
  - 7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.
  - 8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.
  - 9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.
- See also reference [4]\*.

# PROPERTIES OF SRM 4334H

## Certified values

Radionuclide	Plutonium-242
Reference time	1200 EST, 07 June 1994 [b]*
Massic activity of the solution [c]	26.31 Bq·g <sup>-1</sup>
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·mL <sup>-1</sup> at 20 °C [f]

## Uncertified values

Uncertified values			
Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter	(16.5 ± 0.5) mm	
	Wall thickness	(0.60 ± 0.04) mm	
	Barium content	Less than 2.5%	
	Lead-oxide content	Less than 0.02%	
	Other heavy elements	Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L <sup>-1</sup> )	Mass Fraction (g·g <sup>-1</sup> )
	H <sub>2</sub> O	50	0.81
	HNO <sub>3</sub>	3.2	0.19
	<sup>242</sup> Pu <sup>+6</sup>	8 × 10 <sup>-7</sup>	2 × 10 <sup>-7</sup>
Radiological Properties:			
Alpha-particle-emitting impurities	None detected [g] [h]. See table on page 5.		
Beta-particle-emitting impurities	Plutonium-241: (0.092 ± 0.018) Bq·g <sup>-1</sup> [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: (373 500 ± 1100) a [j] [5] Plutonium-241: (14.35 ± 0.10) a [j] [5] Americium-241: (432.2 ± 0.7) a [j] [5]		
Calibration method and measuring instrument(s)	Three 4π $\alpha$ liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]\*

Input Quantity $x_i$ , the source of uncertainty  (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$ , the standard uncertainty of $x_i$ (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$ , (%) [k]	Relative Sensitivity Factor, $ \partial y/\partial x_i  \cdot$ $(x_i/y)$ [m]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$ , (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid- scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha- particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha- particle-count-rate- versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$ , (%)				0.36
Coverage Factor, $k$				<u>x 2</u>
Relative Expanded Uncertainty of the Output Quantity, $U/y$ , (%)				0.72



RELATIVE ACTIVITIES OF RADIONUCLIDIC IMPURITIES AT THE REFERENCE TIME [b]

Radionuclide	Half Life (years) [j] [5]	Relative Activity As Determined By	
		LLNL	NIST
Plutonium-242	373 500 ± 1100	1.000 000	1.000 000
Plutonium-241	14.35 ± 0.10	--	0.0035 ± 0.0004 [t]
Plutonium-240	6 564 ± 11	<sup>239</sup> Pu + <sup>240</sup> Pu <0.000 001 [u]	<sup>239</sup> Pu + <sup>240</sup> Pu 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	<sup>238</sup> Pu + <sup>241</sup> Am <0.000 016 [u]	0.000 009 ± 0.000 016 [v]
Americium-241	432.2 ± 0.7		0.000 000 assumed [t]

NOTES

- [a] The Sievert is the SI unit for dose equivalent. See reference [1]. One  $\mu\text{Sv}$  is equal to 0.1 mrem.  
Distance from Ampoule (cm): 1 30 100  
Approximate Dose Rate ( $\mu\text{Sv/h}$ ): <0.1 - -
- [b] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994.
- [c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].
- [d] The reported value,  $y$ , of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as  $y = f(x_1, x_2, x_3, \dots, x_n)$ , where  $f$  is a mathematical function derived from the assumed model of the measurement process. The value,  $x_i$ , used for each input quantity  $i$  has a **standard uncertainty**,  $u(x_i)$ , that generates a corresponding uncertainty in  $y$ ,  $u_i(y) \equiv |\partial y / \partial x_i| \cdot u(x_i)$ , called a **component of combined standard uncertainty** of  $y$ . The **combined standard uncertainty** of  $y$ ,  $u_c(y)$ , is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of  $k=2$  to obtain  $U$ , the **expanded uncertainty** of  $y$ .

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation  $u_c(y)$ , the unknown value of the massic activity is believed to lie in the interval  $y \pm U$  with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

- [e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval  $U/2$  to  $2U$  (i.e., within a factor of 2 of the estimated value).
- [f] The stated uncertainty is two times the standard uncertainty.
- [g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:  
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies less than 3.1 MeV,  
 $0.03 \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies between 3.1 and 4.4 MeV, and  
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies greater than 5.0 MeV.
- [h] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994. Americium-241, the daughter of plutonium-241, was removed but has been growing in since that time.
- [i] Estimated limits of detection for photon-emitting impurities, expressed as massic photon emission rates (numbers of photons per second per gram), are:  
 $5 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies between 19 and 39 keV,  
 $7 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies between 49 and 92 keV,  
 $2 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies between 106 and 507 keV,  
 $1 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies between 515 and 1456 keV, and  
 $5 \times 10^{-6} \text{ s}^{-1}\cdot\text{g}^{-1}$  for energies between 1465 and 2750 keV,  
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.
- [j] The stated uncertainty is the standard uncertainty.
- [k] Relative standard uncertainty of the input quantity  $x_i$ .
- [m] The relative change in the output quantity  $y$  divided by the relative change in the input quantity  $x_i$ . If  $|\partial y / \partial x_i| \cdot (x_i / y) = 1.0$ , then a 1% change in  $x_i$  results in a 1% change in  $y$ . If  $|\partial y / \partial x_i| \cdot (x_i / y) = 0.05$ , then a 1% change in  $x_i$  results in a 0.05% change in  $y$ .
- [n] Relative component of combined standard uncertainty of output quantity  $y$ , rounded to two significant figures or less. The relative component of combined standard uncertainty of  $y$  is given by  $u_i(y)/y \equiv |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$ . The numerical values of  $u(x_i)/x_i$ ,  $|\partial y / \partial x_i| \cdot (x_i / y)$ , and  $u_i(y)/y$ , all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of  $\lambda \cdot t$  is determined by the relative standard uncertainty of  $\lambda$  (i.e., of the half life). The relative standard uncertainty of  $t$  is negligible.
- [q]  $|\partial y / \partial x_i| \cdot (x_i / y) = |\lambda \cdot t|$
- [r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.
- [s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e.  $u(x_i) / x_i = 100\%$ .  $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot \{(\text{Bq of impurity}) / (\text{Bq of Pu-242})\}$ . Thus  $u_i(y) / y$  is the relative change in  $y$  if the impurity were present with a massic activity equal to the estimated limit of detection.
- [t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.
- [u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.
- [v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

#### REFERENCES

- [1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [3] B.N. Taylor and C.E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.
- [4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.
- [5] Evaluated Nuclear Structure Data File (ENSDF), January 2005.



# Standard Traceability Log Rad

Source Material Info	
Parent Code:	1374
Prepared By:	Mary Aders
Carrier Conc:	0.5M HNO3
Reference Date:	06/07/1994
Ampoule Mass (g):	5.5 g
Uncertainty:	+/- .72 %
LogBook No:	RC-S-051-093

A Solution Material Info	
Isotope:	Plutonium-242
Prepared By:	Ashley Drochter
Prep Date:	12/02/2009
Verification Date:	12/08/2009
Expiration Date:	12/08/2010
Primary Code:	1374-A
Dilution(mL):	250 mL
Mass of Parent(g):	5.3616 g
Density(g/mL):	1.0136
Balance ID:	38080204

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8553 \text{ dpm/mL}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0136 \text{ g/mL}) / (250 \text{ mL}) = 33.4010 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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GEL Laboratories LLC  
Version 1.0 9/18/2000

## Verification for Pu-242 Standard 1374-A

A.Drochter 12/8/2009	Isotope 1374-A 1374-A 1374-A	Value 1.610 1.580 1.530	Uncertainty 0.2480 0.2510 0.2440
Mean Value (Counting) =	1.573	103.17	Pass
Stdev =	0.040414519	Rule 3 (Pass/Fail)	
Target =	1.52		
Lower Limit =	1.492504296		
Upper Limit =	1.654162371		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.080829038		
10 % of Mean =	0.157333333		
Rule 2 (Pass/Fail)	Pass		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 1374-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium(and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

*Handwritten notes:*  
 12/14/09  
 12/19/09  
 12/24/09



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.  
Atlanta, Georgia 30318  
Tel 404-352-8677  
Fax 404-352-2837  
www.analyticsinc.com

CERTIFICATE OF CALIBRATION  
Standard Radionuclide Source

1283

78747-278

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC  
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution.  
The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system.  
The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through  
Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.15%  
5.20453 grams 1M HNO<sub>3</sub> solution.

Source Prepared By: W. Mao  
W. Mao, Radiochemist

QA Approved: D. M. Montgomery  
D. M. Montgomery, QA Manager

Date: 12-11-08

RECEIVED  
12/15/08

2C-S-05

End of Certificate



# Standard Traceability Log Rad

Source Material Info	
Parent Code:	1283
Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3
Reference Date:	12/09/2008
Ampoule Mass (g):	5.20453 g
Uncertainty:	+/- 5 %
LogBook No:	RC-S-051-002

A Solution Material Info	
Isotope:	Uranium-232
Prepared By:	Daniel Roy
Prep Date:	12/16/2008
Verification Date:	12/30/2008
Expiration Date:	12/30/2009
Primary Code:	1283-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.0245 g
Density(g/mL):	1.0285
Balance ID:	

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$

$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$

$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/02/2009	12/02/2010
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/08/2010	12/02/2010
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

## Verification for Uranium-232 Standard 1283-H

<b>Analyst: A. Drochter</b>	<b>Serial #</b>	<b>Value</b>	<b>Uncertainty</b>					
<b>Date: 12/10/09</b>	1283-H N1	2.020	pCi/L	0.238	pCi/L			
	1283-H N2	2.000	pCi/L	0.234	pCi/L			
	1283-H N3	2.060	pCi/L	0.242	pCi/L			
<b>Mean Value (Counting) =</b>	2.027	pCi/L	<b>99.66904</b>	<b>Pass</b>				
<b>Stdev =</b>	0.030550505	pCi/L	<b>Rule 3 (Pass/Fail)</b>					
<b>Target =</b>	2.033	pCi/L						
<b>Lower Limit =</b>	1.965565657	pCi/L						
<b>Upper Limit =</b>	2.087767676	pCi/L						
<b>Rule 1 Pass/Fail</b>	<b>Pass</b>							
<b>Two sigma =</b>	0.061101009							
<b>10 % of Mean =</b>	0.202666667							
<b>Rule 2 (Pass/Fail)</b>	<b>Pass</b>							

**Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements**

**Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.**

**Rule 3 = The determined mean value shall be within 10% of the certificate value.**

The analyst prepared three standard verification sources for standard **1283-H** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **U-238** standard **1163-G** and was diluted to 10 mL with DI water. 50 micrograms of neodymium carrier and 1ml of Titanium Chloride were added. The solution was allowed to sit for 30 seconds. One mL of 49% HF was then added to precipitate neodymium (and uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

*A. Drochter* *Am*  
12/14/09



# RUNLOGS

# Instrument Run Log

**Instrument Type: GAMMA SPECTROMETER**

**Batch ID: 942717**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244835001	SAMPLE	MXR1	GAM17	27-JAN-10 11:17	DONE	CAN	06-JAN-10 00:00
244835002	SAMPLE	MXR1	GAM19	27-JAN-10 11:18	DONE	CAN	12-MAR-09 00:00
244835003	SAMPLE	MXR1	GAM20	27-JAN-10 11:18	DONE	CAN	26-AUG-09 00:00
244835004	SAMPLE	MXR1	GAM25	27-JAN-10 11:19	DONE	CAN	07-OCT-09 00:00
244835005	SAMPLE	MXR1	GAM18	27-JAN-10 11:26	DONE	CAN	23-APR-09 00:00
244835006	SAMPLE	MXR1	GAM15	27-JAN-10 11:37	DONE	CAN	16-FEB-09 00:00
244835007	SAMPLE	MXR1	GAM01	27-JAN-10 12:50	DONE	CAN	12-JAN-10 00:00
244835008	SAMPLE	MXR1	GAM04	27-JAN-10 12:51	DONE	CAN	05-MAY-09 00:00
244835009	SAMPLE	MXR1	GAM06	27-JAN-10 12:51	DONE	CAN	04-FEB-09 00:00
244835010	SAMPLE	MXR1	GAM07	27-JAN-10 12:56	DONE	CAN	20-JUL-09 00:00
244842001	SAMPLE	MXR1	GAM14	27-JAN-10 12:57	DONE	CAN	06-MAR-09 00:00
244842002	SAMPLE	MXR1	GAM22	27-JAN-10 12:59	DONE	CAN	02-DEC-09 00:00
244842003	SAMPLE	MXR1	GAM11	27-JAN-10 13:21	DONE	CAN	18-NOV-09 00:00
244842004	SAMPLE	MXR1	GAM17	27-JAN-10 13:21	DONE	CAN	06-JAN-10 00:00
244842005	SAMPLE	MXR1	GAM19	27-JAN-10 13:22	DONE	CAN	12-MAR-09 00:00
244842006	SAMPLE	MXR1	GAM20	27-JAN-10 13:24	DONE	CAN	26-AUG-09 00:00
244847001	SAMPLE	MXR1	GAM25	27-JAN-10 13:24	DONE	CAN	07-OCT-09 00:00
244847002	SAMPLE	MXR1	GAM18	27-JAN-10 13:30	DONE	CAN	23-APR-09 00:00
244847003	SAMPLE	MXR1	GAM15	27-JAN-10 13:46	DONE	CAN	16-FEB-09 00:00
244847004	SAMPLE	MXR1	GAM23	27-JAN-10 14:19	DONE	CAN	02-JUN-09 00:00
1202018259	MB	MXR1	GAM14	27-JAN-10 14:59	DONE	CAN	06-MAR-09 00:00
1202018261	LCS	MXR1	GAM22	27-JAN-10 15:00	DONE	CAN	02-DEC-09 00:00
1202018260	DUP	MXR1	GAM15	27-JAN-10 15:56	DONE	CAN	16-FEB-09 00:00

# Instrument Run Log

**Instrument Type: ALPHA SPECTROMETER**

**Batch ID: 942854**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202018630	MB	MXE1	1074	27-JAN-10 14:49	DONE		
1202018631	DUP	MXE1	1075	27-JAN-10 14:49	DONE		
1202018632	LCS	MXE1	1076	27-JAN-10 14:49	DONE		
244835001	SAMPLE	MXE1	1250	30-JAN-10 17:28	DONE		
244835002	SAMPLE	MXE1	1251	30-JAN-10 17:28	DONE		
244835003	SAMPLE	MXE1	1252	30-JAN-10 17:28	DONE		
244835004	SAMPLE	MXE1	1253	30-JAN-10 17:28	DONE		
244835005	SAMPLE	MXE1	1254	30-JAN-10 17:28	DONE		
244835006	SAMPLE	MXE1	1255	30-JAN-10 17:28	DONE		
244835007	SAMPLE	MXE1	1256	30-JAN-10 17:28	DONE		
244835008	SAMPLE	MXE1	1089	30-JAN-10 17:33	DONE		
244835009	SAMPLE	MXE1	1090	30-JAN-10 17:33	DONE		
244835010	SAMPLE	MXE1	1091	30-JAN-10 17:33	DONE		
244842001	SAMPLE	MXE1	1092	30-JAN-10 17:33	DONE		
244842002	SAMPLE	MXE1	1093	30-JAN-10 17:33	DONE		
244842003	SAMPLE	MXE1	1094	30-JAN-10 17:33	DONE		
244842004	SAMPLE	MXE1	1101	30-JAN-10 17:33	DONE		
244842005	SAMPLE	MXE1	1102	30-JAN-10 17:33	DONE		
244842006	SAMPLE	MXE1	1103	30-JAN-10 17:33	DONE		
244847001	SAMPLE	MXE1	1104	30-JAN-10 17:33	DONE		
244847002	SAMPLE	MXE1	1105	30-JAN-10 17:33	DONE		
244847003	SAMPLE	MXE1	1106	30-JAN-10 17:33	DONE		
244847004	SAMPLE	MXE1	1248	01-FEB-10 15:15	DONE		

# Instrument Run Log

**Instrument Type: ALPHA SPECTROMETER**

**Batch ID: 942855**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244847003	SAMPLE	MXE1	1025	26-JAN-10 14:17	DONE		
244847004	SAMPLE	MXE1	1026	26-JAN-10 14:17	DONE		
1202018633	MB	MXE1	1031	26-JAN-10 14:17	DONE		
1202018634	DUP	MXE1	1033	26-JAN-10 14:17	DONE		
1202018635	LCS	MXE1	1035	26-JAN-10 14:17	DONE		
244847001	SAMPLE	MXE1	1211	02-FEB-10 13:15	DONE		
244847002	SAMPLE	MXE1	1216	02-FEB-10 13:15	DONE		
244842006	SAMPLE	MXE1	1227	02-FEB-10 15:01	DONE		
244835001	SAMPLE	MXE1	1237	02-FEB-10 21:43	DONE		
244835002	SAMPLE	MXE1	1238	02-FEB-10 21:43	DUSE		
244835003	SAMPLE	MXE1	1239	02-FEB-10 21:43	DONE		
244835004	SAMPLE	MXE1	1240	02-FEB-10 21:43	DONE		
244835005	SAMPLE	MXE1	1241	02-FEB-10 21:43	DONE		
244835006	SAMPLE	MXE1	1242	02-FEB-10 21:43	DONE		
244835007	SAMPLE	MXE1	1243	02-FEB-10 21:43	DONE		
244835008	SAMPLE	MXE1	1244	02-FEB-10 21:43	DONE		
244835009	SAMPLE	MXE1	1245	02-FEB-10 21:43	DONE		
244835010	SAMPLE	MXE1	1246	02-FEB-10 21:43	DONE		
244842001	SAMPLE	MXE1	1247	02-FEB-10 21:43	DONE		
244842002	SAMPLE	MXE1	1248	02-FEB-10 21:43	DONE		
244842003	SAMPLE	MXE1	1249	02-FEB-10 21:43	DONE		
244842004	SAMPLE	MXE1	1250	02-FEB-10 21:43	DONE		
244842005	SAMPLE	MXE1	1251	02-FEB-10 21:43	DONE		
244835002	SAMPLE	MXE1	1249	03-FEB-10 21:53	DONE		

# Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 942856

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202018637	DUP	MXE1	1164	27-JAN-10 12:23	DUSE		
1202018638	LCS	MXE1	1165	27-JAN-10 12:23	DUSE		
244842006	SAMPLE	MXE1	1166	27-JAN-10 12:23	DUSE		
244847001	SAMPLE	MXE1	1167	27-JAN-10 12:23	DUSE		
244847002	SAMPLE	MXE1	1168	27-JAN-10 12:23	DUSE		
244847003	SAMPLE	MXE1	1169	27-JAN-10 12:24	DUSE		
244847004	SAMPLE	MXE1	1170	27-JAN-10 12:24	DUSE		
1202018636	MB	MXE1	1171	27-JAN-10 12:24	DUSE		
244835001	SAMPLE	MXE1	1123	27-JAN-10 20:58	DUSE		
244835002	SAMPLE	MXE1	1124	27-JAN-10 20:58	DUSE		
244835003	SAMPLE	MXE1	1125	27-JAN-10 20:58	DUSE		
244835004	SAMPLE	MXE1	1126	27-JAN-10 20:58	DUSE		
244835005	SAMPLE	MXE1	1127	27-JAN-10 20:58	DUSE		
244835006	SAMPLE	MXE1	1128	27-JAN-10 20:58	DUSE		
244835007	SAMPLE	MXE1	1129	27-JAN-10 20:58	DUSE		
244835008	SAMPLE	MXE1	1130	27-JAN-10 20:58	DUSE		
244835009	SAMPLE	MXE1	1131	27-JAN-10 20:58	DUSE		
244835010	SAMPLE	MXE1	1132	27-JAN-10 20:58	DUSE		
244842001	SAMPLE	MXE1	1133	27-JAN-10 20:58	DUSE		
244842002	SAMPLE	MXE1	1134	27-JAN-10 20:58	DUSE		
244842003	SAMPLE	MXE1	1137	27-JAN-10 20:58	DUSE		
244842004	SAMPLE	MXE1	1138	27-JAN-10 20:58	DUSE		
244842005	SAMPLE	MXE1	1139	27-JAN-10 20:58	DUSE		
244847003	SAMPLE	MXE1	1113	29-JAN-10 10:07	DONE		
244847004	SAMPLE	MXE1	1114	29-JAN-10 10:07	DONE		
1202018637	DUP	MXE1	1117	29-JAN-10 10:08	DONE		
1202018638	LCS	MXE1	1118	29-JAN-10 10:08	DONE		
1202018636	MB	MXE1	1172	29-JAN-10 10:13	DONE		
244835001	SAMPLE	MXE1	1142	29-JAN-10 16:52	DONE		
244835002	SAMPLE	MXE1	1143	29-JAN-10 16:52	DUSE		
244835003	SAMPLE	MXE1	1144	29-JAN-10 16:52	DONE		
244835004	SAMPLE	MXE1	1145	29-JAN-10 16:52	DONE		
244835005	SAMPLE	MXE1	1146	29-JAN-10 16:53	DONE		
244835006	SAMPLE	MXE1	1147	29-JAN-10 16:53	DONE		
244835007	SAMPLE	MXE1	1148	29-JAN-10 16:53	DONE		
244835008	SAMPLE	MXE1	1149	29-JAN-10 16:53	DONE		
244835009	SAMPLE	MXE1	1150	29-JAN-10 16:53	DONE		
244835010	SAMPLE	MXE1	1151	29-JAN-10 16:53	DUSE		
244842001	SAMPLE	MXE1	1152	29-JAN-10 16:53	DONE		
244842002	SAMPLE	MXE1	1153	29-JAN-10 16:53	DONE		
244842003	SAMPLE	MXE1	1154	29-JAN-10 16:53	DONE		
244842004	SAMPLE	MXE1	1155	29-JAN-10 16:53	DONE		
244842005	SAMPLE	MXE1	1156	29-JAN-10 16:53	DONE		
244842006	SAMPLE	MXE1	1159	29-JAN-10 16:53	DONE		

# Instrument Run Log

**Instrument Type: ALPHA SPECTROMETER**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244847001	SAMPLE	MXE1	1160	29-JAN-10 16:53	DONE		
244847002	SAMPLE	MXE1	1001	29-JAN-10 16:57	DONE		