Monday, February 08, 2010

REQUEST NUMBER: 10-1666

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

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

These Samples are on:
LANL Request Number:10-1666
Per Agreement Number:126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 2/8/2010
TURNAROUND/REPORT DUE: 3/10/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:300.0	1	RE15-10-8363	R	2/3/2010	
	EPA:901.1	1	RE15-10-8363	R	2/3/2010	
	EPA:906.0	1	RE15-10-8363	R	2/3/2010	
	HASL-300:AM-241	1	RE15-10-8363	R	2/3/2010	
	HASL-300:ISOPU	1	RE15-10-8363	R	2/3/2010	
	HASL-300:ISOU	1	RE15-10-8363	R	2/3/2010	
	SW-846:6010B	1	RE15-10-8363	R	2/3/2010	
	SW-846:6020	1	RE15-10-8363	R	2/3/2010	
	SW-846:6850	1	RE15-10-8363	R	2/3/2010	

Monday, February 08, 2010

REQUEST NUMBER: 10-1666

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:7471A	1	RE15-10-8363	R	2/3/2010	
	SW-846:8260B	1	RE15-10-8363	R	2/3/2010	
	SW-846:8270C	1	RE15-10-8363	R	2/3/2010	
	SW-846:8321A_MOD	1	RE15-10-8363	R	2/3/2010	
	SW-846:9012A	1	RE15-10-8363	R	2/3/2010	
	SW-846:9045C	1	RE15-10-8363	R	2/3/2010	

Final Page of REQUEST NUMBER 10-1666

Monday, February 08, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1666

REQUEST NUMBER: 10-1666

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 3/10/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-8363	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8363	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8363	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE15-10-8363	1	POLY	H3	Ice	R
RE15-10-8363	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8363	1	POLY	Perchlorate+CN+N03+pH	Ice	R

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		2/8/10	1400				
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			

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2507 **EVENT NAME:** 4th Qtr. FY09 - SWMU 15-009(c) - Threemile Canyon

SAMPLE ID: RE15-10-8363 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		02/03/2010	MEDIA:	QBT3	Alluv
TIME COLLECTED (HH:MM)		1157	SUB-MEDIA:	TUFF 1	NA
PRS ID:	15-009(c)	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	15-610851	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	1.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	2.0	SCREEN/PORT DESC:		NA
FIELD MATRIX:	R	S	EXCAVATED: YES / (NO) / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / (NO) / NA

BOREHOLE: YES / (NO) / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1	↓	8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1	↓	H3	500 ML POLY	Ice	Y	
1	↓	METALS+U-GEL	125 ML POLY	Ice	Y	
1	↓	Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Dark brown silty sand, some clay, roots, tuff fragments, pine needles

SAMPLE COMMENTS: NA

LOCATION DESC: 9c-13

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 11 **dpm**
Beta/Gamma ≤ 2090 **dpm**

PID Ambient 0.0 / Reading 9.0 **ppm**

COLLECTED BY (PRINT) TL McFarland **REVIEWED BY (PRINT)** R Saunders

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) Esteban Lujan	2/5/10	(Printed Name) Sherri Sherwood	2/5/10
(Signature) E. L.	7:12 AM	(Signature) Sherri Sherwood	0712
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

ARS AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00049	Request or PO Number:	
Client Sample ID:	RE15-10-8363	ARS Sample ID:	ARS2-10-00049-007
Sample Collection Date:	02/03/10 11:57	Date Received:	02/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	02/08/10 10:39

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	-0.24	9.83	29.97	9.83		pCi/g	EPA 900.0M	2/5/2010	NP	N/A
GROSS BETA	35.86	14.92	18.85	15.55		pCi/g	EPA 900.0M	2/5/2010	NP	N/A
NA-22	0.17	0.19	0.09	0.19		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
K-40	25.79	9.08	2.25	9.11		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
CO-60	0.00	9.38	0.09	9.38		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
CS-134	0.00	0.00	0.07	0.00		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
CS-137	-0.01	12.27	0.06	12.27		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
EU-152	0.00	9.75	0.11	9.75		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
PB-212	1.39	0.44	0.10	0.44		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
RA-228	0.90	0.56	0.25	0.56		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
U-235	0.98	0.62	0.15	0.62		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
U-238	1.60	2.51	1.40	2.53		pCi/g	EPA 901.1M	2/5/2010	NP	N/A
AM-241	0.26	0.25	0.10	0.25		pCi/g	EPA 901.1M	2/5/2010	NP	N/A

NOTES: % Moisture: 2.08

Quality Assurance Review

LELAP Certificate# 30658 NELAP Certificate # E87558

DATA VALIDATION COVER SHEET

5114-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1666 VALIDATION DATE: 3/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Allison Felix ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☒ OTHER (DESCRIBE): VOCs

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☒	☐	☐	8. QUANTITATION REPORTS
☒	☐	☐	4. SAMPLE CHROMATOGRAMS	☒	☐	☐	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☒	☐	☐	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: ETM Level: 1 Date: 3/23/10

VALIDATOR'S SIGNATURE: Allison Felix DATE: 3/22/10

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST

5114-2

Volatile Organic Compound (VOC) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, V9	J-, V9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, V9a	J-, V9a
☐	☐	☒	3. The instrument performance sample did not pass method acceptance criteria.	R, V16	R, V16
☐	☐	☒	4. Samples were analyzed outside specific method tune time criteria.	N/A	J, V16b
☐	☐	☒	5. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, V16c	R, V16c
☐	☒	☐	6. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ or R, V7	J, V7
☐	☒	☐	7. 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, V7a	J, V7a
☐	☒	☐	8. The affected analytes were analyzed with an RRF of <0.05 in the initial calibration and/or CCV.	R, V7b	J, V7b
☐	☒	☐	9. The Initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, V7c	J, V7c
☐	☒	☐	10. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, V7d	J, V7d
☐	☒	☐	11. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, V7f	R, V7f

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST

5114-2

Volatile Organic Compound (VOC) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1952

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	12. The sample result is ≤5X (10X for common organic laboratory contaminants) the concentration of the related analyte in the method blank.	U, V4	N/A
☐	☒	☐	13. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X (10X for common laboratory contaminants).	N/A	J, V4a
☐	☐	☒	14. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, V4d	N/A
☐	☒	☐	15. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V4e	R, V4e
☐	☒	☐	16. The IS retention time has shifted by more than 30 seconds.	UJ, V0	J, V0
☐	☐	☒	17. Analyte is positively confirmed but outside the IS retention time window; however, spectral matches must be provided.	N/A	J, V0a
☐	☒	☐	18. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V0b	R, V0b
☐	☐	☒	19. The quantitating IS are 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, V1a	J, V1a
☐	☐	☒	20. The IS area count for the quantitating IS is <50% but >10% for organics window relation to the previous continuing calibration. Follow the method-specific windows.	UJ, V1b	J, V1b

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST

5114-2

Volatile Organic Compound (VOC) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST 1952

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	21. The IS area count for the quantitating IS is >200% of the area count for the previous organic continuing calibration. Follow the method-specific windows.	UJ, V1c	J, V1c
☐	☐	☒	22. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V1d	R, V1d
☐	☒	☐	23. The surrogate is <10%R. Follow the external laboratory limits located within the associated data package.	R, V3	J-, V3
☐	☒	☐	24. The surrogate is < the Lower Acceptance Limit (LAL) but ≥10%R. Follow the external laboratory limits located within the associated data package.	UJ, V3a	J-, V3a
☐	☒	☐	25. The surrogate %R is > the Upper Acceptance Limit (UAL) Follow the external laboratory limits located within the associated data package.	N/A	J+, V3b
☐	☒	☐	26. At least one surrogate is > the UAL and one surrogate is < the LAL. Follow the external laboratory limits located within the associated data package.	UJ, V3c	J, V3c
☐	☒	☐	27. Required surrogate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V3d	R, V3d
☐	☒	☐	28. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, V12	J-, V12
☐	☒	☐	29. The LCS percent recovery was < the LAL but > 10%. Follow the external laboratory limits located within the associated data package.	UV, V12a	J-, V12a
☐	☒	☐	30. The LCS percent recover was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, V12b

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST

5114-2

Volatile Organic Compound (VOC) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	31. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V12c	R, V12c
☐	☒	☐	32. The affected analyte is considered not detected because mass spectrum did not meet specifications.	N/A	U, V8
☐	☒	☐	33. The mass spectrum column documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V8a	R, V8a
☐	☒	☐	34. Duplicate, dilution, or reanalysis.	UJ, V88	J, V88
☐	☐	☒	35. The affected analytes have elevated detection limits and may not meet project DQOs because the sample was diluted without any target analytees identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, V15	R, V15
☒	☐	☐	36. 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
☐	☒	☐	37. 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, V19	J, R, V19

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	10-1666	Date Collected:	02/03/2010 12:00	Matrix:	R
Lab Sample ID:	246557001	Date Received:	02/09/2010 10:00	%Moisture:	18.7
		Client:	LANL010	Project:	LANL01004
Client ID:	RE15-10-8363	Method:	SW846 8260B	SOP Ref:	GL-OA-E-038
Batch ID:	952860	Inst:	VOA4.I	Dilution:	1
Run Date:	02/14/2010 07:12	Analyst:	GRB2	Purge Vol:	5 mL
Prep Date:	02/13/2010 13:35	Aliquot:	5 g	Final Volume:	5 mL
Data File:	4x642.d	Column:	RTX-VOLATILES	Level:	LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.23	ug/kg	0.418	1.23
74-87-3	Chloromethane	U	1.23	ug/kg	0.369	1.23
75-01-4	Vinyl chloride	U	1.23	ug/kg	0.369	1.23
74-83-9	Bromomethane	U	1.23	ug/kg	0.369	1.23
75-00-3	Chloroethane	U	1.23	ug/kg	0.369	1.23
75-69-4	Trichlorofluoromethane	U	1.23	ug/kg	0.369	1.23
67-64-1	Acetone		7.23	ug/kg	2.04	6.15
75-35-4	1,1-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
74-88-4	Iodomethane	U	6.15	ug/kg	1.97	6.15
75-09-2	Methylene chloride	U	6.15	ug/kg	2.46	6.15
75-15-0	Carbon disulfide	U	6.15	ug/kg	1.54	6.15
156-60-5	trans-1,2-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
75-34-3	1,1-Dichloroethane	U	1.23	ug/kg	0.369	1.23
78-93-3	2-Butanone	U	6.15	ug/kg	1.85	6.15
156-59-2	cis-1,2-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
594-20-7	2,2-Dichloropropane	U	1.23	ug/kg	0.369	1.23
67-66-3	Chloroform	U	1.23	ug/kg	0.369	1.23
74-97-5	Bromochloromethane	U	1.23	ug/kg	0.406	1.23
71-55-6	1,1,1-Trichloroethane	U	1.23	ug/kg	0.369	1.23
563-58-6	1,1-Dichloropropene	U	1.23	ug/kg	0.369	1.23
56-23-5	Carbon tetrachloride	U	1.23	ug/kg	0.369	1.23
107-06-2	1,2-Dichloroethane	U	1.23	ug/kg	0.369	1.23
71-43-2	Benzene	U	1.23	ug/kg	0.369	1.23
79-01-6	Trichloroethylene	U	1.23	ug/kg	0.406	1.23
78-87-5	1,2-Dichloropropane	U	1.23	ug/kg	0.369	1.23
75-27-4	Bromodichloromethane	U	1.23	ug/kg	0.369	1.23
74-95-3	Dibromomethane	U	1.23	ug/kg	0.369	1.23
108-10-1	4-Methyl-2-pentanone	U	6.15	ug/kg	1.54	6.15
10061-01-5	cis-1,3-Dichloropropylene	U	1.23	ug/kg	0.369	1.23
108-88-3	Toluene		2.06	ug/kg	0.369	1.23
10061-02-6	trans-1,3-Dichloropropylene	U	1.23	ug/kg	0.369	1.23
79-00-5	1,1,2-Trichloroethane	U	1.23	ug/kg	0.369	1.23
591-78-6	2-Hexanone	U	6.15	ug/kg	1.85	6.15
142-28-9	1,3-Dichloropropane	U	1.23	ug/kg	0.369	1.23
127-18-4	Tetrachloroethylene	U	1.23	ug/kg	0.369	1.23
124-48-1	Dibromochloromethane	U	1.23	ug/kg	0.369	1.23
106-93-4	1,2-Dibromoethane	U	1.23	ug/kg	0.369	1.23
108-90-7	Chlorobenzene	U	1.23	ug/kg	0.369	1.23

AMF
3/22/10

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	10-1666	**Date Collected:**	02/03/2010 12:00	**Matrix:**	R
Lab Sample ID:	246557001	**Date Received:**	02/09/2010 10:00	**%Moisture:**	18.7
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE15-10-8363	**Method:**	SW846 8260B	**SOP Ref:**	GL-OA-E-038
Batch ID:	952860	**Inst:**	VOA4.I	**Dilution:**	1
Run Date:	02/14/2010 07:12	**Analyst:**	GRB2	**Purge Vol:**	5 mL
Prep Date:	02/13/2010 13:35	**Aliquot:**	5 g	**Final Volume:**	5 mL
Data File:	4x642.d	**Column:**	RTX-VOLATILES	**Level:**	LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.23	ug/kg	0.369	1.23
179601-23-1	m,p-Xylenes	U	2.46	ug/kg	0.369	2.46
95-47-6	o-Xylene	U	1.23	ug/kg	0.369	1.23
100-42-5	Styrene	U	1.23	ug/kg	0.369	1.23
75-25-2	Bromoform	U	1.23	ug/kg	0.369	1.23
79-34-5	1,1,2,2-Tetrachloroethane	U	1.23	ug/kg	0.369	1.23
96-18-4	1,2,3-Trichloropropane	U	1.23	ug/kg	0.369	1.23
108-86-1	Bromobenzene	U	1.23	ug/kg	0.369	1.23
103-65-1	n-Propylbenzene	U	1.23	ug/kg	0.369	1.23
95-49-8	2-Chlorotoluene	U	1.23	ug/kg	0.369	1.23
98-82-8	Isopropylbenzene	U	1.23	ug/kg	0.369	1.23
108-67-8	1,3,5-Trimethylbenzene	U	1.23	ug/kg	0.369	1.23
106-43-4	4-Chlorotoluene	U	1.23	ug/kg	0.369	1.23
98-06-6	tert-Butylbenzene	U	1.23	ug/kg	0.369	1.23
95-63-6	1,2,4-Trimethylbenzene	U	1.23	ug/kg	0.369	1.23
135-98-8	sec-Butylbenzene	U	1.23	ug/kg	0.369	1.23
99-87-6	4-Isopropyltoluene		1.28	ug/kg	0.369	1.23
541-73-1	1,3-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23
106-46-7	1,4-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23
104-51-8	n-Butylbenzene	U	1.23	ug/kg	0.369	1.23
96-12-8	1,2-Dibromo-3-chloropropane	U	1.23	ug/kg	0.369	1.23
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*	U	6.15	ug/kg	1.97	6.15
630-20-6	1,1,1,2-Tetrachloroethane	U	1.23	ug/kg	0.369	1.23
95-50-1	1,2-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Flt	Qual
	Unknown Alkene	14.79	28	ug/kg		J
	Unknown Alkene	15.8	9.21	ug/kg		J
	Unknown Siloxane	16.79	11.1	ug/kg		J

AMF
3/22/10

DATA VALIDATION COVER SHEET

5115-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1666 VALIDATION DATE: 3/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Allison Felix ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☒ OTHER (DESCRIBE): SVOCs

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☒	☐	☐	8. QUANTITATION REPORTS
☒	☐	☐	4. SAMPLE CHROMATOGRAMS	☒	☐	☐	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☒	☐	☐	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 ICV/CCV %Ds for benzyl alcohol; hexachlorocyclopentadiene; 3-nitroaniline; and 4-nitroaniline were >20%. The associated sample results were NDs and, thus, were qualified UJ,SV7c.

2. The MS/MSD %Rs for six target analytes and the MS/MSD RPDs for forty two target analytes were outside the laboratory acceptance limits. It should be noted that the MS/MSD analyses were performed on a LANL sample from another RN and that the raw data for the parent sample was not included in the data package. MS/MSD analyses are not required for SVOCs, thus, no sample results were qualified.

Reviewed by: ETM Level: 1 Date: 3/23/10

VALIDATOR'S SIGNATURE: Allison Felix DATE: 3/22/10

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST

5115-2

Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, SV9	J-, SV9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, SV9a	J-, SV9a
☐	☒	☐	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, SV9b	R, SV9b
☐	☐	☒	4. The instrument performance sample did not pass method acceptance criteria.	R, SV16	R, SV16
☐	☐	☒	5. Samples were analyzed outside specific method tune time criteria.	N/A	J, SV16b
☐	☐	☒	6. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, SV16c	R, SV16c
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	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
☒	☐	☐	10. The Initial Calibration Verification (ICV) and/or CCV were recovered outside the method-specific limits.	UJ, SV7c	J, SV7c
☐	☒	☐	11. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, SV7d	J, SV7d

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST

5115-2

Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	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
☐	☒	☐	13. The sample result is ≤5X (10X for common organic laboratory contaminates) the concentration of the related analyte in the method blank.	U, SV4	J, V4a
☐	☒	☐	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 contaminates).	N/A	J, SV4a
☐	☐	☒	15. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	UJ, SV4d	N/A
☐	☒	☐	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
☐	☒	☐	17. The IS retention time has shifted by more than 30 seconds.	UJ, SV0	J, SV0
☐	☐	☒	18. Analyte is positively confirmed but outside the IS retention time window; however, spectral matches must be provided.	N/A	J, SV0a
☐	☒	☐	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
☐	☐	☒	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

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST

5115-2

Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	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
☐	☐	☒	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
☐	☐	☒	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
☐	☒	☐	24. The surrogate is <10%R. Follow the external laboratory limits located within the associated data package.	R, SV3	J-, SV3
☐	☒	☐	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
☐	☒	☐	26. The surrogate %R value is > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, SV3b
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	29. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, SV12	J-, SV12

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST

5115-2 Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	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
☐	☒	☐	31. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, SV12b
☐	☒	☐	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
☐	☐	☒	33. The affected analyte is considered not detected because mass spectrum did not meet specifications.	N/A	U, SV8
☐	☐	☒	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
☐	☒	☐	35. Duplicate, dilution, or reanalysis.	UJ, SV88	J, SV88
☐	☐	☒	36. The affected analytes have elevated detection limits and may not meet project DQOs because the sample was diluted without any target analytees identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, SV15	R, SV15
☒	☐	☐	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
☐	☒	☐	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

SDG Number:	10-1666	Date Collected:	02/03/2010 12:00	Matrix:	R
Lab Sample ID:	246557001	Date Received:	02/09/2010 10:00	%Moisture:	18.7
		Client:	LANL010	Project:	LANL01004
Client ID:	RE15-10-8363	Method:	SW846 8270C	SOP Ref:	GL-OA-E-009
Batch ID:	952601	Inst:	MSD2.I	Dilution:	1
Run Date:	02/19/2010 21:25	Analyst:	AGS1	Inj. Vol:	.5 uL
Prep Date:	02/12/2010 20:27	Aliquot:	30.06 g	Final Volume:	1 mL
Data File:	s2b1918.d	Column:	J&W DB-5MS	Level:	LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	409	ug/kg	81.8	409
108-95-2	Phenol	U	409	ug/kg	81.8	409
95-57-8	2-Chlorophenol	U	409	ug/kg	81.8	409
106-46-7	1,4-Dichlorobenzene	U	409	ug/kg	81.8	409
621-64-7	N-Nitrosodipropylamine	U	409	ug/kg	81.8	409
59-50-7	4-Chloro-3-methylphenol	U	409	ug/kg	81.8	409
83-32-9	Acenaphthene	U	40.9	ug/kg	13.5	40.9
121-14-2	2,4-Dinitrotoluene	U	409	ug/kg	40.9	409
100-02-7	4-Nitrophenol	U	409	ug/kg	135	409
87-86-5	Pentachlorophenol	U	409	ug/kg	102	409
129-00-0	Pyrene	U	40.9	ug/kg	12.3	40.9
110-86-1	Pyridine	U	409	ug/kg	81.8	409
62-53-3	Aniline	U	409	ug/kg	123	409
111-44-4	bis(2-Chloroethyl) ether	U	409	ug/kg	81.8	409
541-73-1	1,3-Dichlorobenzene	U	409	ug/kg	81.8	409
100-51-6	Benzyl alcohol	U	409	ug/kg	123	409 UJ,SV7c
95-50-1	1,2-Dichlorobenzene	U	409	ug/kg	81.8	409
108-60-1	bis(2-Chloroisopropyl)ether	U	409	ug/kg	81.8	409
95-48-7	o-Cresol	U	409	ug/kg	81.8	409
65794-96-9	m,p-Cresols	U	409	ug/kg	123	409
67-72-1	Hexachloroethane	U	409	ug/kg	81.8	409
98-95-3	Nitrobenzene	U	409	ug/kg	81.8	409
78-59-1	Isophorone	U	409	ug/kg	81.8	409
88-75-5	2-Nitrophenol	U	409	ug/kg	81.8	409
105-67-9	2,4-Dimethylphenol	U	409	ug/kg	143	409
111-91-1	bis(2-Chloroethoxy)methane	U	409	ug/kg	81.8	409
120-83-2	2,4-Dichlorophenol	U	409	ug/kg	81.8	409
65-85-0	Benzoic acid	U	818	ug/kg	205	818
91-20-3	Naphthalene	U	40.9	ug/kg	12.3	40.9
106-47-8	4-Chloroaniline	U	409	ug/kg	81.8	409
87-68-3	Hexachlorobutadiene	U	409	ug/kg	81.8	409
91-57-6	2-Methylnaphthalene	U	40.9	ug/kg	8.18	40.9
77-47-4	Hexachlorocyclopentadiene	U	409	ug/kg	81.8	409 UJ,SV7c
88-06-2	2,4,6-Trichlorophenol	U	409	ug/kg	81.8	409
95-95-4	2,4,5-Trichlorophenol	U	409	ug/kg	81.8	409
91-58-7	2-Chloronaphthalene	U	40.9	ug/kg	13.5	40.9
88-74-4	2-Nitroaniline *o-Nitroaniline*	U	409	ug/kg	81.8	409
99-09-2	3-Nitroaniline	U	409	ug/kg	81.8	409 UJ,SV7c

AMF
3/22/10

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	10-1666	**Date Collected:**	02/03/2010 12:00	**Matrix:**	R
Lab Sample ID:	246557001	**Date Received:**	02/09/2010 10:00	**%Moisture:**	18.7
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE15-10-8363	**Method:**	SW846 8270C	**SOP Ref:**	GL-OA-E-009
Batch ID:	952601	**Inst:**	MSD2.I	**Dilution:**	1
Run Date:	02/19/2010 21:25	**Analyst:**	AGS1	**Inj. Vol:**	.5 uL
Prep Date:	02/12/2010 20:27	**Aliquot:**	30.06 g	**Final Volume:**	1 mL
Data File:	s2b1918.d	**Column:**	J&W DB-5MS	**Level:**	LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	m-Nitroaniline					
131-11-3	Dimethylphthalate	U	409	ug/kg	81.8	409
606-20-2	2,6-Dinitrotoluene	U	409	ug/kg	40.9	409
208-96-8	Acenaphthylene	U	40.9	ug/kg	12.3	40.9
51-28-5	2,4-Dinitrophenol	U	818	ug/kg	156	818
132-64-9	Dibenzofuran	U	409	ug/kg	81.8	409
84-66-2	Diethylphthalate	U	409	ug/kg	81.8	409
86-73-7	Fluorene	U	40.9	ug/kg	12.3	40.9
7005-72-3	4-Chlorophenylphenylether	U	409	ug/kg	81.8	409
534-52-1	2-Methyl-4,6-dinitrophenol	U	409	ug/kg	81.8	409
100-01-6	4-Nitroaniline	U	409	ug/kg	123	409 UJ,SV7c
	p-Nitroaniline					
122-39-4	Diphenylamine	U	409	ug/kg	81.8	409
122-66-7	Azobenzene	U	409	ug/kg	81.8	409
	1,2-Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	409	ug/kg	81.8	409
118-74-1	Hexachlorobenzene	U	409	ug/kg	81.8	409
85-01-8	Phenanthrene	U	40.9	ug/kg	12.3	40.9
120-12-7	Anthracene	U	40.9	ug/kg	8.18	40.9
84-74-2	Di-n-butylphthalate	U	409	ug/kg	81.8	409
206-44-0	Fluoranthene	U	40.9	ug/kg	12.3	40.9
85-68-7	Butylbenzylphthalate	U	409	ug/kg	81.8	409
56-55-3	Benzo(a)anthracene	U	40.9	ug/kg	12.3	40.9
91-94-1	3,3'-Dichlorobenzidine	U	409	ug/kg	123	409
218-01-9	Chrysene	U	40.9	ug/kg	12.3	40.9
117-81-7	bis(2-Ethylhexyl)phthalate	U	409	ug/kg	81.8	409
117-84-0	Di-n-octylphthalate	U	409	ug/kg	81.8	409
205-99-2	Benzo(b)fluoranthene	U	40.9	ug/kg	12.3	40.9
207-08-9	Benzo(k)fluoranthene	U	40.9	ug/kg	12.3	40.9
50-32-8	Benzo(a)pyrene	U	40.9	ug/kg	12.3	40.9
193-39-5	Indeno(1,2,3-cd)pyrene	U	40.9	ug/kg	12.3	40.9
53-70-3	Dibenzo(a,h)anthracene	U	40.9	ug/kg	12.3	40.9
191-24-2	Benzo(ghi)perylene	U	40.9	ug/kg	12.3	40.9
120-82-1	1,2,4-Trichlorobenzene	U	409	ug/kg	81.8	409

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	3.13	335	ug/kg		J
7785-70-8	1R-.alpha.-Pinene	3.88	388	ug/kg	98	NJ

AMF
3/22/10

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	10-1666	Date Collected:	02/03/2010 12:00	Matrix:	R
Lab Sample ID:	246557001	Date Received:	02/09/2010 10:00	%Moisture:	18.7
		Client:	LANL010	Project:	LANL01004
Client ID:	RE15-10-8363	Method:	SW846 8270C	SOP Ref:	GL-OA-E-009
Batch ID:	952601	Inst:	MSD2.I	Dilution:	1
Run Date:	02/19/2010 21:25	Analyst:	AGS1	Inj. Vol:	.5 uL
Prep Date:	02/12/2010 20:27	Aliquot:	30.06 g	Final Volume:	1 mL
Data File:	s2b1918.d	Column:	J&W DB-5MS	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
13466-78-9	3-Carene	4.44	215	ug/kg	96	NJ
25269-17-4	Thunbergol	10.35	603	ug/kg	95	NJ

AMF
3/22/10

DATA VALIDATION COVER SHEET

5121-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1666 VALIDATION DATE: 3/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Allison Felix ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☒ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☒	☐	☐	8. QUANTITATION REPORTS
☒	☐	☐	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	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. It should be noted that the MS/MSD analyses were performed on a LANL sample from another RN and that the raw data for the parent sample was not included in the data package. No sample results were qualified.

Reviewed by: ETM Level: 1 Date: 3/23/10

VALIDATOR'S SIGNATURE: Allison Felix DATE: 3/22/10

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST

5121-2

LC/MS/MS Perchlorate Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	1. The Internal Standard (IS) relativer retention time has shifted by more than 0.98 to 1.02 seconds.	R, PERC0	J, PERC0
☐	☒	☐	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
☐	☐	☒	3. The IS are count is <25% of the expected value.	UJ, PERC1a	J, PERC1a
☐	☐	☒	4. The IS area count is <70% but >25% of the average of that obtained from the calibration standards.	UJ, PERC1b	J, PERC1b
☐	☐	☒	5. The IS area count is >130% of the average of that obtained from the calibration standards.	UJ, PERC1c	J, PERC1c
☐	☐	☒	6. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PREC1d	R, PERC1d
☐	☒	☐	7. The sample result is ≤ 5X the concentration of the related analyte in the method blank.	U, PERC4	N/A
☐	☒	☐	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
☐	☐	☒	9. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, PERC4d	N/A
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	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	
5121-2 LC/MS/MS Perchlorate Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	13. The ICV and/or CCV were recovered outside the method limits.	UJ, R, PERC7c	J, PERC7c
☐	☒	☐	14. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, PERC7d	J, PERC7d
☐	☒	☐	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
☐	☐	☒	16. The affected analyte is considered not detected because ion abundance ratios did not meet specifications.	N/A	R, PERC8
☐	☒	☐	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
☐	☒	☐	18. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ PERC9	J-, PERC9
☐	☒	☐	19. The holding time was > 2 times the applicable holding time requirement.	R, PERC9a	J-, PERC9a
☐	☒	☐	20. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, PERC12	J-, PERC12
☐	☒	☐	21. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, PERC12a	J-, PERC12a
☐	☒	☐	22. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, PERC12b
☐	☒	☐	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
☐	☒	☐	24. The MS/MSD percent recovery was <10%	R, PERC12d	R, PERC12d
☐	☒	☐	25. The MS/MSD percent recovery was >10% but <75%	UJ, PERC12e	J, PERC12e
☐	☒	☐	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 Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	27. The MS/MSD relative percent difference was >20%.	UJ, PERC12g	J, PERC12g
☐	☐	☒	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
☐	☐	☒	29. The sample was diluted because target analytes were > the initial verification calibration.	UJ, PERC15a	J, PERC15a
☐	☐	☒	30. The Contract Required Detection Limit check standard (CRI) sample did not pass method-acceptance limits.	UJ, R, PERC16	J, PERC16
☐	☐	☒	31. The Interference Check Sample was not within ±20% of the known value.	UJ, PERC16a	J, PERC16a
☐	☐	☒	32. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, PERC16c	R, PERC16c
☐	☒	☐	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
☐	☒	☐	34. Duplicate, dilution, or reanalysis.	UJ, PERC88	J, PERC88

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 952831

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE15-10-8363

Date Received: 09-FEB-10

GEL Job No (SDG): 10-1666

GEL Sample ID: 246557001

Date Filtered: 25-FEB-10

Injection Volume (uL): 20

%Solids: 81

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.615	2.46	0.615	ug/kg	U	1	03-MAR-10 17:08	per0303021a
	Perchlorate Isotope Ratio						1	03-MAR-10 17:08	per0303021a
14797-73-0	Perchlorate-101	.615	2.46	0.615	ug/kg	U	1	03-MAR-10 17:08	per0303021a
	Perchlorate-O(18)			5.97	ug/kg		1	03-MAR-10 17:08	per0303021a

^ 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 =

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

AMF 3/22/10

DATA VALIDATION COVER SHEET

5122-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1666 VALIDATION DATE: 3/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Allison Felix ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☒ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☒	☐	☐	8. QUANTITATION REPORTS
☒	☐	☐	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	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 surrogate %R was > the laboratory UAL in the analysis of the MB for the secondary analytes. The infraction occurred in QC sample and, thus, no sample results were qualified.
2. The MSD %R for TATB was > the laboratory UAL. The associated sample result was an ND and, thus, was not qualified. The MS/MSD RPD for TATB was > the laboratory acceptance limit. The associated sample result was an ND and, thus, was qualified UJ,HE12g.
3. It should be noted that the MS/MSD analyses were performed on a LANL sample from another RN and that the raw data for the parent sample was not included in the data package. No sample results were qualified.

Reviewed by: ETM Level: 1 Date: 3/23/10

VALIDATOR'S SIGNATURE: Allison Felix DATE: 3/22/10

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST

5122-2

LC/MS/MS High Explosive Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The IS retention time has shifted by more than 30 seconds.	R, UJ, HE0	J, HE0
☐	☒	☐	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
☐	☐	☒	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
☐	☐	☒	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
☐	☐	☒	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
☐	☐	☒	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
☐	☒	☐	7. The surrogate is <10%R. Follow the external laboratory limits.	R, HE3	J-, HE3
☐	☒	☐	8. The surrogate is < the Lower Acceptance Limit but ≥10% recovery. Follow the external laboratory limits.	UJ, HE3a	J-, HE3a
☒	☐	☐	9. The surrogate %R value is > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE3b
☐	☐	☒	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 Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	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
☐	☒	☐	12. The sample result is ≤5 times the concentration of the related analyte in the method blank.	U, HE4	N/A
☐	☒	☐	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
☐	☐	☒	14. The sample result is ≤5 times the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, HE4d	N/A
☐	☒	☐	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
☐	☒	☐	16. The absence of sample carry-over must be determined and verified.	N/A	R, N, HE4f
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	19. The affected analytes were analyzed with a RRF of <0.05 in the initial calibration and/or CCV.	UJ, R, HE7b	J, HE7b
☐	☒	☐	20. The ICV and/or CCV were recovered outside the method limits.	UJ, R, HE7c	J, HE7c
☐	☒	☐	21. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, HE7d	J, HE7d
☐	☒	☐	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 Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	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
☐	☒	☐	24. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, HE9	J-, HE9
☐	☒	☐	25. The holding time was >2 times the applicable holding time requirement.	R, HE9a	J-, HE9a
☐	☒	☐	26. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, HE12	J-, HE12
☐	☒	☐	27. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, HE12a	J-, HE12a
☐	☒	☐	28. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE12b
☐	☒	☐	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
☐	☒	☐	30. The MS/MSD percent recovery was <10%.	R, HE12d	R, HE12d
☐	☒	☐	31. The MS/MSD percent recovery was >10% but <70%.	UJ, HE12e	J, HE12e
☒	☐	☐	32. The MS/MSD percent recover was >70%.	N/A	J+, HE12f
☒	☐	☐	33. The MS/MSD relative percent difference was >30%.	UJ, HE12g	J, HE12g
☐	☐	☒	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
☐	☐	☒	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 Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	36. The Contract Required Detection Limit Check Standard (CRI) sample did not pass method acceptance criteria.	UJ, R, HE16	J, HE16
☐	☐	☒	37. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, HE16c	R, HE16c
☐	☒	☐	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
☐	☒	☐	39. Duplicate, dilution, or reanalysis.	UJ, HE88	J, HE88

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8363

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 246557001

Sample Amount 2

Moisture: 18.7

Amount Units g

Date Received: 09-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0216055a

Date Analyzed: 17-FEB-10 19:49

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 =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

AMF
3/22/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8363

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 246557001

Sample Amount 2

Moisture: 18.7

Amount Units g

Date Received: 09-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS02160052.wiff

Date Analyzed: 17-FEB-10 01:35

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 =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

AMF
3/22/10

DATA VALIDATION COVER SHEET

5118-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1666 VALIDATION DATE: 3/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Allison Felix ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☒ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☐	☐	☒	8. QUANTITATION REPORTS
☐	☐	☒	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	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. Sb was detected in the ICB/CCBs. The associated sample result was an ND and, thus, was not qualified.
2. The MS %Rs for Ni and Se were < the laboratory LAL but ≥10%. The Se sample result was an ND and, thus, was qualified UJ,I6a. The Ni sample result was a detect and, thus, was qualified J-,I6a. The MS %Rs for Al, K, and Na were > the laboratory UAL. The associated sample results were detects and, thus, were qualified J+,I6b. The MS %R for Fe was <10%, however, the parent sample concentration was >4X the spike concentration. Based on professional judgment, the Fe sample result was not qualified.
3. It should be noted that the matrix QC analyses for ICP-AES and Hg were performed on LANL samples from other RNs and that the raw data for the ICP-AES parent sample was not included in the data package. No sample results were qualified.

Reviewed by: ETM Level: 1 Date: 3/23/10

VALIDATOR'S SIGNATURE: Allison Felix DATE: 3/22/10

METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

Metals Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, I9	J-, I9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
☐	☐	☒	3. The instrument performance sample did not pass method acceptance criteria.	R, I16	R, I16
☐	☐	☒	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
☐	☐	☒	5. Samples were analyzed outside specific method tune time criteria.	N/A	J, I16b
☐	☐	☒	6. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, I16c	R, I16c
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	9. The initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, I7c	J, I7c
☐	☒	☐	10. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, I7d	J, I7d
☐	☒	☐	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
☐	☒	☐	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

Los Alamos NATIONAL LABORATORY EST 1947

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	13. Metals interference check sample percent recovery value is ≥50% and <80%	UJ, I2a	J-, I2a
☐	☒	☐	14. Metals interference check sample percent recovery value is >120%.	N/A	J+, I2b
☐	☒	☐	15. Metals interference check sample was not analyzed with the samples.	R, I2c	R, I2c
☐	☒	☐	16. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, I4	N/A
☐	☒	☐	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
☒	☐	☐	18. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
☐	☒	☐	19. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
☐	☐	☒	20. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
☐	☒	☐	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
☒	☐	☐	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
☒	☐	☐	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
☒	☐	☐	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

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	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
☐	☒	☐	26. The sample and the duplicate sample results were ≥5X the RL and the duplicate RPD was >20% for water samples and >35% for soil samples.	UJ, I10a	J, I10a
☐	☒	☐	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
☐	☒	☐	28. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I12	R, I12
☐	☒	☐	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
☐	☒	☐	30. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, I12b
☐	☒	☐	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
☐	☐	☒	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 Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	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
☐	☐	☒	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
☐	☐	☒	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
☐	☐	☒	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
☐	☐	☒	37. Serial dilution sample was not analyzed with the samples.	UJ, I18a	J, I18
☐	☐	☒	38. The sample result was reported as detected between the IDL and the EDL.	N/A	J, I1
☐	☒	☐	39. Duplicate, dilution, or reanalysis.	UJ, I88	J, I88
☒	☐	☐	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
☐	☒	☐	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: 10-1666 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 246557001 **BASIS:** Dry Weight **DATE COLLECTED** 03-FEB-10

CLIENT ID: RE15-10-8363 **LEVEL:** Low **DATE RECEIVED** 09-FEB-10

MATRIX: SOIL **%SOLIDS:** 81

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum J+,I6b	3000000	ug/Kg		8070	23700	23700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-36-0	Antimony	1190	ug/Kg	U	392	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-38-2	Arsenic	1.05	mg/kg	J	0.235	1.17	1.17	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-39-3	Barium	36200	ug/Kg		119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-41-7	Beryllium	0.683	mg/kg		0.0235	0.117	0.117	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-43-9	Cadmium	297	ug/Kg	J	119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-70-2	Calcium	741000	ug/Kg		9500	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-47-3	Chromium	17300	ug/Kg		178	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-48-4	Cobalt	1220	ug/Kg		178	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-50-8	Copper	4390	ug/Kg		356	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-89-6	Iron	6820000	ug/Kg		9500	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-92-1	Lead	6810	ug/Kg		297	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-95-4	Magnesium	464000	ug/Kg		10100	35600	35600	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-96-5	Manganese	254000	ug/Kg		237	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-97-6	Mercury	5.11	ug/kg	J	4.39	12.9	12.9	1	AV	JXL1	02/26/10 10:24	022610S1-9	951632
7440-02-0	Nickel J-,I6a	5.77	mg/kg	*N	0.117	0.47	0.47	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-09-7	Potassium J+,I6b	472000	ug/Kg		7600	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7782-49-2	Selenium UJ,I6a	1.17	mg/kg	UN	0.587	1.17	1.17	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-22-4	Silver	208	ug/Kg	J	119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-23-5	Sodium J+,I6b	56300	ug/Kg		8310	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-28-0	Thallium	0.104	mg/kg	J	0.0704	0.235	0.235	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-61-1	Uranium	1.61	mg/kg		0.0155	0.047	0.047	2	MS	BAJ	03/07/10 09:28	100306-8	952645
7440-62-2	Vanadium	5500	ug/Kg		119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-66-6	Zinc	30700	ug/Kg		392	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
951632	951631	SW846 7471A Prep	0.572	g	30	mL	02/25/10	TXB3
951755	951754	SW846 3050B	0.518	g	50	mL	02/13/10	LYH1
952645	952644	SW846 3050B	0.524	g	50	mL	02/18/10	LYH1

AMF
3/22/10

DATA VALIDATION COVER SHEET

5120-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1666 VALIDATION DATE: 3/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Allison Felix ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☒ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☐	☐	☒	8. QUANTITATION REPORTS
☐	☐	☒	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	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. Total CN was detected in the ICB/CCBs. The associated sample result was a detect ≤5X the greatest blank concentration and, thus, was qualified U,I4b.
2. It should be noted that the matrix QC analyses for Total CN and pH were performed on LANL samples from other RNs. No sample results were qualified.

Reviewed by: ETM Level: 1 Date: 3/23/10

VALIDATOR'S SIGNATURE: Allison Felix DATE: 3/22/10

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

General Chemistry Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, I9	J-, I9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
☐	☐	☒	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, I9b	R, I9b
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	6. The ICV and/or CCV were recovered outside the method specific limits.	UJ, I7c	J, I7c
☐	☒	☐	7. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, I7d	J, I7d
☐	☒	☐	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
☐	☐	☒	9. The interference check sample percent recovery value is <50%.	R, I2	J-, I2
☐	☐	☒	10. The interference check sample percent recovery value is ≥50% and <80%.	UJ, I2a	J-, I2a
☐	☐	☒	11. The interference check sample percent recovery value is >120%.	N/A	J+, I2b
☐	☐	☒	12. The interference check sample was not analyzed with the samples.	R, I2c	R, I2c
☐	☒	☐	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

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	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
☒	☐	☐	15. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
☐	☒	☐	16. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
☐	☐	☒	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
☐	☒	☐	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
☐	☒	☐	19. The associate matrix spike recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	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 Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	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
☐	☒	☐	25. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I12	R, I12
☐	☒	☐	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
☐	☒	☐	27. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, I12b
☐	☒	☐	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
☐	☒	☐	29. Duplicate, dilution, or reanalysis	UJ, I88	J, I88
☐	☒	☐	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
☒	☐	☐	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 20, 2010

Client SDG: 10-1666

Client Sample ID:	RE15-10-8363	Project:	LANL01004
Sample ID:	246557001	Client ID:	LANL010
Matrix:	R		
Collect Date:	03-FEB-10 12:00		
Receive Date:	09-FEB-10		
Collector:	Client		
Moisture:	18.7%		

Parameter	Qualifier	Result		DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis											
SW9045C pH "As Received"											
pH at Temp 21.9C	H	6.50		0.010	0.100	SU	1	LXA1 02/10/10	1519	951417	1
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	J	118	U,I4b	71.6	263	ug/kg	1	AXC2 02/11/10	1436	951938	2
Ion Chromatography											
EPA 300.0 Nitrate in Soil "Dry Weight Corrected"											
Nitrate-N	U	ND		0.369	1.23	mg/kg	1	MAR1 02/16/10	1717	953765	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	MAR1	02/16/10	1030	953763
SW846 9010B Prep	SW846 9010B Prep	AXS5	02/11/10	1147	951935

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

AMF
3/22/10

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1666 VALIDATION DATE: 3/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Allison Felix ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☒ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☐	☐	☒	8. QUANTITATION REPORTS
☐	☐	☒	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	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. Sample results which were rejected by the laboratory due to interference, low abundance, no valid peak, or high peak width were qualified R,R5a. In the QC samples, several results were also rejected by the laboratory. No sample reuslts were qualified.
2. It should be noted that an MS analysis for tritium was not performed. An LCS anlaysis was performed and met QC accetpance limits. No sample results were qualified.
3. It should be noted that all matrix QC analyses <u>except</u> the duplicate for tritium were performed on LANL samples from other RNs. No sample data were qualified.

Reviewed by: ETM Level: 1 Date: 3/23/10

VALIDATOR'S SIGNATURE: Allison Felix DATE: 3/22/10

RAD ANALYTICAL DATA VALIDATION CHECKLIST

5119-2 Rad Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, R9	J-, R9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, R9a	J-, R9a
☐	☐	☒	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
☒	☐	☐	4. The analyte should be regarded as rejected because spectral interferences prevent positive identification of the analytes.	R, R5a	R, R5a
☐	☒	☐	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
☐	☐	☒	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
☐	☒	☐	7. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, R4	N/A
☐	☒	☐	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
☐	☐	☒	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
☐	☒	☐	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
☐	☒	☐	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

5119-2

Rad Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	12. The tracer is < the Lower Acceptance Level (LAL) but ≥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
☐	☒	☐	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
☐	☒	☐	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
☐	☒	☐	15. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, R12	R, R12
☐	☒	☐	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
☐	☒	☐	17. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, R12b
☐	☒	☐	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
☐	☒	☐	19. Associated duplicate sample has DER or RER > the analytical laboratory's acceptance limits.	R, R10	J, J10
☐	☒	☐	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 Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	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
☐	☐	☒	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
☐	☐	☒	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
☒	☐	☐	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
☐	☒	☐	25. Duplicate, dilution, or reanalysis.	UJ, R88	J, R88
☐	☒	☐	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
☒	☐	☐	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

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

Report Date: February 25, 2010

Client Sample ID: RE15-10-8363
Sample ID: 246557001
Matrix: R
Collect Date: 03-FEB-10
Receive Date: 09-FEB-10
Collector: Client
Moisture: 18.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00638		0.0217	+/-0.00297	0.050	pCi/g		JXD2	02/17/10	1623	951456	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	-0.000983		0.0202	+/-0.00164	0.050	pCi/g		JXD2	02/16/10	2116	951460	3
Plutonium-239/240	U	0.0013		0.0152	+/-0.00131	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.19		0.0883	+/-0.106	0.100	pCi/g		JXD2	02/17/10	1621	951463	4
Uranium-235/236	U	0.0389		0.0563	+/-0.0146	0.100	pCi/g						
Uranium-238		1.40		0.0603	+/-0.121	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	-0.0967		0.555	+/-0.184	0.200	pCi/g		MXR1	02/19/10	1307	951362	5
Bismuth-211	UI	4.95	R,R5a	0.435	+/-0.393		pCi/g						
Bismuth-214		1.36		0.129	+/-0.133	0.200	pCi/g						
Cadmium-109	U	1.27		2.17	+/-0.966		pCi/g						
Cerium-139	U	0.0156		0.0687	+/-0.0203	0.050	pCi/g						
Cesium-134	U	0.0507		0.113	+/-0.032	0.100	pCi/g						
Cesium-137	U	0.044		0.0898	+/-0.0251	0.100	pCi/g						
Cobalt-60	U	0.0478		0.0908	+/-0.0255	0.100	pCi/g						
Europium-152	U	0.0318		0.217	+/-0.092	0.200	pCi/g						
Lanthanum-140	U	-0.0657		0.175	+/-0.0577		pCi/g						
Lead-212		2.25		0.115	+/-0.153	0.100	pCi/g						
Lead-214		1.72		0.152	+/-0.144	0.100	pCi/g						
Mercury-203	U	0.0269		0.101	+/-0.029	0.100	pCi/g						
Potassium-40		34.6		0.688	+/-1.99	1.00	pCi/g						
Radium-223	U	-0.934		1.52	+/-0.478		pCi/g						
Radium-224	UI	5.79	R,R5a	1.31	+/-0.880		pCi/g						
Radium-226		1.36		0.129	+/-0.133		pCi/g						
Radium-228		2.00		0.289	+/-0.215	0.500	pCi/g						
Ruthenium-106	U	0.183		0.648	+/-0.191	0.800	pCi/g						

AMF
3/22/10

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

Report Date: February 25, 2010

Client Sample ID: RE15-10-8363
Sample ID: 246557001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Sodium-22	U	-0.0392		0.090	+/-0.0298	0.080	pCi/g						
Strontium-85	UI	0.143	R,R5a	0.0962	+/-0.0285		pCi/g						
Thallium-208		0.589		0.0813	+/-0.0628	0.080	pCi/g						
Thorium-227	U	-0.063		0.860	+/-0.251		pCi/g						
Thorium-231	U	-0.934		1.52	+/-0.478		pCi/g						
Thorium-234	U	0.997		4.46	+/-1.28	2.00	pCi/g						
Tin-113	U	-0.0509		0.0978	+/-0.0306	0.100	pCi/g						
Uranium-235	U	0.117		0.505	+/-0.151	0.500	pCi/g						
Yttrium-88	U	-0.00387		0.0648	+/-0.0202	0.100	pCi/g						
Rad Liquid Scintillation Analysis													
H3 "As Received"													
Tritium	U	102		181	+/-55.5	250	pCi/L		KXK2	02/22/10	2019	953111	6

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 HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	77.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	97.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.2	(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.

AMF
3/22/10

Monday, February 08, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1666

REQUEST NUMBER: 10-1666

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 3/10/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS: 246557 /

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-8363	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8363	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8363	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8363	1	POLY	H3	Ice	R
RE15-10-8363	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8363	1	POLY	Perchlorate+CN+N03+pH	Ice	R

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		2/5/10	1400	Patricia Dover-Dent	P. Dover-Dent	2/9/10	10:00
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

Monday, February 08, 2010

REQUEST NUMBER: 10-1666

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis
General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

These Samples are on:
LANL Request Number:10-1666
Per Agreement Number:126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 2/8/2010
TURNAROUND/REPORT DUE: 3/10/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:300.0	1	RE15-10-8363	R	2/3/2010	
	EPA:901.1	1	RE15-10-8363	R	2/3/2010	
	EPA:906.0	1	RE15-10-8363	R	2/3/2010	
	HASL-300:AM-241	1	RE15-10-8363	R	2/3/2010	
	HASL-300:ISOPU	1	RE15-10-8363	R	2/3/2010	
	HASL-300:ISOU	1	RE15-10-8363	R	2/3/2010	
	SW-846:6010B	1	RE15-10-8363	R	2/3/2010	
	SW-846:6020	1	RE15-10-8363	R	2/3/2010	
	SW-846:6850	1	RE15-10-8363	R	2/3/2010	

Monday, February 08, 2010

REQUEST NUMBER: 10-1666

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:7471A	1	RE15-10-8363	R	2/3/2010	
	SW-846:8260B	1	RE15-10-8363	R	2/3/2010	
	SW-846:8270C	1	RE15-10-8363	R	2/3/2010	
	SW-846:8321A_MOD	1	RE15-10-8363	R	2/3/2010	
	SW-846:9012A	1	RE15-10-8363	R	2/3/2010	
	SW-846:9045C	1	RE15-10-8363	R	2/3/2010	

Final Page of REQUEST NUMBER 10-1666

GEL Laboratories

a member of The GEL Group

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

February 15, 2010

Ms. Joylene Valdez
Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545

Re: LANL ER Project
Work Order: 246557
SDG: 10-1666

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on February 09, 2010, and analyzed for Explosives by LCMSMS, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

for

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1666
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 246557
SDG: 10-1666

TABLE OF CONTENTS

Case Narrative

Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 246557
SDG # : 10-1666

February 15, 2010

Laboratory Identification:

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

Summary

Sample receipt The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on February 09, 2010 for analysis. The sample was prepared/analyzed within the required holding time. Shipping container temperature was checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. Please see attached e-mail for discrepancies. 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 container for radiochemistry were received at 10/12C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following sample:

Laboratory ID	Client ID
246557001	RE15-10-8363

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/MS Semivolatile, GC/MS Volatile, 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.

for

Valerie Davis

Project Manager

List of current GEL Certifications as of 15 February 2010

State	Certification
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

Monday, February 08, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1666

REQUEST NUMBER: 10-1666

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 3/10/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS: 246557 /

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-8363	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8363	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8363	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8363	1	POLY	H3	Ice	R
RE15-10-8363	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8363	1	POLY	Perchlorate+CN+N03+pH	Ice	R

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	2/8/10	1400	Patricia Dover-Dent	P. Dover-Dent	2/9/10	10:00
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

Monday, February 08, 2010

REQUEST NUMBER: 10-1666

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis
General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

These Samples are on:
LANL Request Number:10-1666
Per Agreement Number:126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 2/8/2010
TURNAROUND/REPORT DUE: 3/10/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:300.0	1	RE15-10-8363	R	2/3/2010	
	EPA:901.1	1	RE15-10-8363	R	2/3/2010	
	EPA:906.0	1	RE15-10-8363	R	2/3/2010	
	HASL-300:AM-241	1	RE15-10-8363	R	2/3/2010	
	HASL-300:ISOPU	1	RE15-10-8363	R	2/3/2010	
	HASL-300:ISOU	1	RE15-10-8363	R	2/3/2010	
	SW-846:6010B	1	RE15-10-8363	R	2/3/2010	
	SW-846:6020	1	RE15-10-8363	R	2/3/2010	
	SW-846:6850	1	RE15-10-8363	R	2/3/2010	

Monday, February 08, 2010

REQUEST NUMBER: 10-1666

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:7471A	1	RE15-10-8363	R	2/3/2010	
	SW-846:8260B	1	RE15-10-8363	R	2/3/2010	
	SW-846:8270C	1	RE15-10-8363	R	2/3/2010	
	SW-846:8321A_MOD	1	RE15-10-8363	R	2/3/2010	
	SW-846:9012A	1	RE15-10-8363	R	2/3/2010	
	SW-846:9045C	1	RE15-10-8363	R	2/3/2010	

Final Page of REQUEST NUMBER 10-1666

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL	**SDG/ARCOC/Work Order: 10-1666**
Received By: Patricia Dover-Dent	**Date Received: February 9, 2009**

Suspected Hazard Information	**Yes**	**No**	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		X	Maximum Counts Observed*: **40 CPM**
Classified Radioactive II by RSO?		X	
COC/Samples marked containing PCBs?		X	
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
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 **0-6** **10,12C**
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	X			Sample ID's, containers affected and observed pH: If Preservation 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: **time written on containers, not on COC**
11	Number of containers received match number indicated on COC?			X	Sample ID's affected:**RE15-10-8363 for 8260B & Metals+U+GEL , containers not received in lab.**
12	COC form is properly signed in relinquished/received sections?	X			

Comments: FEDEX#S

7209 7849 9466 0C
7209 7849 9444 0C
7209 7849 9488 1C
7209 7849 9477 1C
7209 7849 9396 1C
7209 7849 9525 2C
7209 7849 9547 2C
7209 7849 9499 2C
7209 7849 9514 4C
7209 7849 9503 3C
7209 7849 9455 6C
7209 7849 9385 10C
7209 7849 9363 12C
7209 7849 9374 12C

PM (or PMA) review: Initials PF Date 2-10-10

Subject: Re: Sample Receipt for 2/9/10
From: Dionne Francis <Dionne.Francis@gel.com>
Date: Wed, 10 Feb 2010 13:19:58 -0500
To: "Keith R. Greene" <kgreene@lanl.gov>, Joylene Valdez <joylenev@lanl.gov>, Valerie Davis <vsd@gel.com>

The missing coolers were rec'd 2/10/10. The lab rec'd missing containers listed below.

Thanks,
Dionne

Dionne Francis wrote:

> Keith,
>
> The lab did not receive (2) coolers, both were in transit (Memphis TN). The following sample containers were not received:
> RN 10-1699: Metals for sample RE16-10-3722
> RN 10-1701: 8260B for samples RE16-10-1156 and 1157
> RN 10-1668: 8260B for sample WST16-10-12212
> RN 10-1666: 8260B and Metals for sample RE15-10-8363
> RN 10-1665: Perchlorate for sample RE15-10-8234
> RN10-1688: 8260Bfor sample RE16-10-3163 and 8270C for sample RE16-10-3162
> RN 10-1702: 8260B for samples RE16-10-1246, 1268, 1274 and TCN, NO3NO2, ClO4+Anions
> RN 10-1696: Metals, NH3+NO3NO2+PO4 for sample CASA-10-9490 and Gross A/B, CN for sample CASA-10-489
> RN 10-1687: AM241+ISOPU+ISOU for sample RE16-10-3866
> RN 10-1685: 8260B for sample RE16-10-3872, 3868, 3866, 3869
> RN 10-1686: ClO4+Anions for sample RE16-10-3873, 3872, 3868, 3866, Metals for 3869 and NO3NO2 for 3873
> RN 10-1672: did not receive any 8260B containers
> RN 10-1675: 8260B for samples WST15-10-1626, 11625, and 8081A+8151A, 8260B+THP-GRO, 8270C+8082+TPH-DRO, NMED Exp, Perchlorate+CN+NO3+pH, TCLP Met/ TAL Met for samples WST15-10-11621, 11620
> RN10-1694: TKN+TOC for sample CASA-10-9489 and 8260B for CASA-10-9491
>
> RN10-1685: the lab rec'd (1) 40ml vial 8260B container for sample GW52-10-11183 instead of (2) as indicated on the COC.
>
> RN10-1687: the lab rec'd a AM241+ISOPU+ISOU container for sample RE16-10-3864 not listed on the COC. Would you like us to add the analysis?
>
> RN10-1678: the lab rec'd (2) 1L amber glass HEXP containers for sample CASA-10-9452 instead of (3) as indicated on the COC.
>
> RN10-1702: the lab rec'd a 1L poly Metals container for sample RE16-10-1271 not listed on the COC. Would you like us to add the analysis?
>
> RN10-1694: the lab rec'd (1) 1L amber PEST container instead of (3), (1) 40ml vial 8260B instead of (2), (2) 1L amber HEXP instead of (3) for sample CASA-10-9489.
>
> RN10-1670: the Gross A/B container was preserved prior to analysis.
>
> Thanks,
> Dionne

--
Dionne Francis
Project Manager Assistant
GEL Laboratories, LLC

2040 Savage Road
Charleston, SC (USA) 29407
Direct: 843.769.7376 Ext. 4432
Main: 843.556.8171
Fax: 843.766.1178
E-mail: daf@gel.com
Web: www.gel.com

Let the Bible fill the memory, rule the heart, and guide the feet.

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: 08FEB10
ACTWGT: 51.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0532VA00

FedEx Express

1 of 2
TRK# 0201 7209 7849 9466
MASTER

TUE - 09FEB 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

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0532VA00

FedEx Express

1 of 2
TRK# 0201 7209 7849 9444
MASTER

TUE - 09FEB 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: 08FEB10
ACTWGT: 64.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0532VA00

1c

FedEx Express

TRK# 0201 7209 7849 9488

TUE - 09FEB 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: 08FEB10
ACTWGT: 54.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0532VA00

1c

FedEx Express

2 of 2
MPS# 0263 7209 7849 9477
Mstr# 7209 7849 9466 0201

TUE - 09FEB 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: 08FEB10
ACTWGT: 51.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR1A015AGWL0

1c

FedEx Express

2 of 2
MPS# 0203 7209 7849 9396
Mstr# 7209 7849 9385 0201

TUE - 09FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

Part # 156148-434 NRT V3 09-08

LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A05520E00

2°

FedEx Express

2 of 2
MPS# 0203 7209 7849 9525
Mstr# 7209 7849 9514 0201

TUE - 09FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

Part # 156148-434 NRT V3 09-08

JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

ACTWGT: 30.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AARDW01503500

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FedEx Express

1 of 2
TRK# 0201 7209 7849 9547
MASTER

TUE - 09FEB A
PRIORITY OVERNIGH

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CH

XX CHSA

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: 08FEB10
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR2A05158YD0

2c

FedEx Express

1 of 2
TRK# 0201 7209 7849 9499
MASTER

TUE - 09FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

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: 6B010AMR3A05520E00

4°

FedEx Express

1 of 2
TRK# 0201 7209 7849 9514
MASTER

TUE - 09FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

Part # 156148-434 NAIT V3 09-09

ORIGIN ID: SAFA (505) 665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 08FEB10
ACTWGT: 50.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR2A0515BYD0

3c

FedEx Express

2 of 2
MPS# 0263 7209 7849 9503
Mstr# 7209 7849 9498 0201

TUE - 09FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

Part # 156148-434 NAIT V3 09-09

ORIGIN ID: (505) 665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 08FEB10
ACTWGT: 50.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0532VA00

6°

FedEx Express

2 of 2
MPS# 0263 7209 7849 9455
Mstr# 7209 7849 9444 0201

TUE - 09FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

ORIGIN ID: SAFA (505) 665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

ACTWGT: 50.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR1A015AGWL0

10°

FedEx Express

1 of 2
TRK# 0201 7209 7849 9385
MASTER

TUE - 09FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

ACTWGT: 45.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR1A015AGWL0

12C

FedEx Express

2 of 3
MPS# 0263 7209 7849 9363
Matr# 7209 7849 9352 0201

TUE - 09FEB 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: 09FEB10
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: 6B010AMR1A015AGWL0

12C

FedEx Express

3 of 3
MPS# 0263 7209 7849 9374
Matr# 7209 7849 9352 0201

TUE - 09FEB A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

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 Volatile Analysis

GC/MS Volatile Organics
Los Alamos National Laboratory (LANL)
SDG 10-1666

Method/Analysis Information

Procedure:	Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer
Analytical Method:	SW846 8260B
Prep Method:	SW846 5030
Analytical Batch Number:	952860
Prep Batch Number:	952859

Sample Analysis

The following client and quality control samples were analyzed to complete this SDG using the methods referenced in the Analysis Information section:

Sample ID	Client ID
246557001	RE15-10-8363
1202042299	Method Blank (MB)
1202042302	Laboratory Control Sample (LCS)
1202042303	Laboratory Control Sample (LCS)
1202042300	246557001(RE15-10-8363) Post Spike (PS)
1202042301	246557001(RE15-10-8363) Post Spike Duplicate (PSD)

NOTE: For volatile organic analyses the matrix spike designations may be indicated as "PS" or "PSD". The "PS" designation (post spike) indicates that the matrix was fortified prior to analysis but after applying any prep factors, such as a dilution. The laboratory considers the MS/MSD and PS/PSD designations interchangeable.
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-038 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 19.1.2.

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.

The surrogate compounds were calibrated using a minimum five-point calibration curve. The surrogates were added by the auto sampler at a concentration of 50 ug/L. GEL Laboratories LLC will not have surrogate recoveries reported for Dibromofluoromethane. This is due to increased regulations for this analyte and an industry shortage.

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.

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 groups (SDG). A second source initial calibration verification (ICV) was included in the standard section directly behind the initial calibration.

Continuing Calibration Verification 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
Surrogate recoveries in all client and quality control samples were within the acceptance limits.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

QC Sample Designation
Sample 246557001 (RE15-10-8363) was designated for spike analysis in this SDG.

Matrix Spike (PS) Recovery Statement
The spike recoveries for this SDG were within the required acceptance limits.

Matrix Spike Duplicate (PSD) Recovery Statement
The spike duplicate recoveries for this SDG were within the required acceptance limits.

Relative Percent Difference (RPD) Statement
The RPD(s) between the matrix spike pair met the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses in all client and quality control samples met the required acceptance criteria.

Technical Information

Holding Time Specifications
GEL assigns holding times based on the associated methodology, which 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. All samples in this SDG met the specified holding time.

Sample Preservation and Integrity
All samples met the sample preservation and integrity requirements.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-analyses were not required for samples in this SDG.

Miscellaneous Information

Electronic Package 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. 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
A Data Exception Document was not required for this SDG.

Manual Integrations
Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment
The tentatively identified compounds included some silanols. These compounds were due to column or septum bleed and were not native to the affected samples.

Additional Comments
Additional comments were not required for this SDG.

Residual Chlorine
Residual Chlorine was not detected in any of the samples in this SDG.

System Configuration
The Volatile-GC/MS analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description	P & T Trap
VOA4.I	Gas Chromatograph/Mass Spectrometer	HP6890/HP5973	DB-624	J&W, 60m x 0.25mm x 1.4um	Trap 10

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.

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: 10-1666 GEL Work Order: 246557

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this case narrative:

Signature: Stacy Calloway **Name: Stacy Calloway**

Date: 05 MAR 2010 **Title: Data Validator**

Roadmap for LANL 10-1666 VOA

This roadmap was analyzed by gcl00735 on 02-15-2010, 03:27.
This roadmap was reviewed by sar00518 on 02-24-2010, 21:17.
This roadmap was packaged by lys00434 on 03-03-2010, 18:13.
This roadmap was reviewed by slg on 03-05-2010, 10:31.

Sample

exclude	manual	datafile	smpid	clientid	injdate	injtime	sublist	dilution	batchid	comment
☐	N	/chem/VOA4.i/021310v4/4x642.d	246557001	RE15-10-8363	14-FEB-2010	07:12	10-1666.sub	1	952860	

QC Sample

exclude	manual	datafile	smpid	clientid	sampletype	injdate	injtime	sublist	dilution	batchid	comment
☐	N	/chem/VOA4.i/021310v4/4x628SLLA.d	1202042302	LCS	lcs	14-FEB-2010	00:52	10-1666.sub	1	952860	
☐	N	/chem/VOA4.i/021310v4/4x630SSLA.d	1202042303	LCS	lcs	14-FEB-2010	01:45	10-1666.sub	1	952860	
☐	N	/chem/VOA4.i/021310v4/4x631SBLA.d	1202042299	BLANK	mb	14-FEB-2010	02:13	10-1666.sub	1	952860	
☐	N	/chem/VOA4.i/021310v4/4x643.d	1202042300	RE15-10-8363MS	ms	14-FEB-2010	07:39	10-1666.sub	1	952860	
☐	N	/chem/VOA4.i/021310v4/4x644.d	1202042301	RE15-10-8363MSD	msd	14-FEB-2010	08:06	10-1666.sub	1	952860	

Sample Data Summary

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 07:12**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 13:35**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x642.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.23	ug/kg	0.418	1.23
74-87-3	Chloromethane	U	1.23	ug/kg	0.369	1.23
75-01-4	Vinyl chloride	U	1.23	ug/kg	0.369	1.23
74-83-9	Bromomethane	U	1.23	ug/kg	0.369	1.23
75-00-3	Chloroethane	U	1.23	ug/kg	0.369	1.23
75-69-4	Trichlorofluoromethane	U	1.23	ug/kg	0.369	1.23
67-64-1	Acetone		7.23	ug/kg	2.04	6.15
75-35-4	1,1-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
74-88-4	Iodomethane	U	6.15	ug/kg	1.97	6.15
75-09-2	Methylene chloride	U	6.15	ug/kg	2.46	6.15
75-15-0	Carbon disulfide	U	6.15	ug/kg	1.54	6.15
156-60-5	trans-1,2-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
75-34-3	1,1-Dichloroethane	U	1.23	ug/kg	0.369	1.23
78-93-3	2-Butanone	U	6.15	ug/kg	1.85	6.15
156-59-2	cis-1,2-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
594-20-7	2,2-Dichloropropane	U	1.23	ug/kg	0.369	1.23
67-66-3	Chloroform	U	1.23	ug/kg	0.369	1.23
74-97-5	Bromochloromethane	U	1.23	ug/kg	0.406	1.23
71-55-6	1,1,1-Trichloroethane	U	1.23	ug/kg	0.369	1.23
563-58-6	1,1-Dichloropropene	U	1.23	ug/kg	0.369	1.23
56-23-5	Carbon tetrachloride	U	1.23	ug/kg	0.369	1.23
107-06-2	1,2-Dichloroethane	U	1.23	ug/kg	0.369	1.23
71-43-2	Benzene	U	1.23	ug/kg	0.369	1.23
79-01-6	Trichloroethylene	U	1.23	ug/kg	0.406	1.23
78-87-5	1,2-Dichloropropane	U	1.23	ug/kg	0.369	1.23
75-27-4	Bromodichloromethane	U	1.23	ug/kg	0.369	1.23
74-95-3	Dibromomethane	U	1.23	ug/kg	0.369	1.23
108-10-1	4-Methyl-2-pentanone	U	6.15	ug/kg	1.54	6.15
10061-01-5	cis-1,3-Dichloropropylene	U	1.23	ug/kg	0.369	1.23
108-88-3	Toluene		2.06	ug/kg	0.369	1.23
10061-02-6	trans-1,3-Dichloropropylene	U	1.23	ug/kg	0.369	1.23
79-00-5	1,1,2-Trichloroethane	U	1.23	ug/kg	0.369	1.23
591-78-6	2-Hexanone	U	6.15	ug/kg	1.85	6.15
142-28-9	1,3-Dichloropropane	U	1.23	ug/kg	0.369	1.23
127-18-4	Tetrachloroethylene	U	1.23	ug/kg	0.369	1.23
124-48-1	Dibromochloromethane	U	1.23	ug/kg	0.369	1.23
106-93-4	1,2-Dibromoethane	U	1.23	ug/kg	0.369	1.23
108-90-7	Chlorobenzene	U	1.23	ug/kg	0.369	1.23

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 07:12**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 13:35**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x642.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.23	ug/kg	0.369	1.23
179601-23-1	m,p-Xylenes	U	2.46	ug/kg	0.369	2.46
95-47-6	o-Xylene	U	1.23	ug/kg	0.369	1.23
100-42-5	Styrene	U	1.23	ug/kg	0.369	1.23
75-25-2	Bromoform	U	1.23	ug/kg	0.369	1.23
79-34-5	1,1,2,2-Tetrachloroethane	U	1.23	ug/kg	0.369	1.23
96-18-4	1,2,3-Trichloropropane	U	1.23	ug/kg	0.369	1.23
108-86-1	Bromobenzene	U	1.23	ug/kg	0.369	1.23
103-65-1	n-Propylbenzene	U	1.23	ug/kg	0.369	1.23
95-49-8	2-Chlorotoluene	U	1.23	ug/kg	0.369	1.23
98-82-8	Isopropylbenzene	U	1.23	ug/kg	0.369	1.23
108-67-8	1,3,5-Trimethylbenzene	U	1.23	ug/kg	0.369	1.23
106-43-4	4-Chlorotoluene	U	1.23	ug/kg	0.369	1.23
98-06-6	tert-Butylbenzene	U	1.23	ug/kg	0.369	1.23
95-63-6	1,2,4-Trimethylbenzene	U	1.23	ug/kg	0.369	1.23
135-98-8	sec-Butylbenzene	U	1.23	ug/kg	0.369	1.23
99-87-6	4-Isopropyltoluene		1.28	ug/kg	0.369	1.23
541-73-1	1,3-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23
106-46-7	1,4-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23
104-51-8	n-Butylbenzene	U	1.23	ug/kg	0.369	1.23
96-12-8	1,2-Dibromo-3-chloropropane	U	1.23	ug/kg	0.369	1.23
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*	U	6.15	ug/kg	1.97	6.15
630-20-6	1,1,1,2-Tetrachloroethane	U	1.23	ug/kg	0.369	1.23
95-50-1	1,2-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Alkene	14.79	28	ug/kg		J
	Unknown Alkene	15.8	9.21	ug/kg		J
	Unknown Siloxane	16.79	11.1	ug/kg		J

QC Summary

Volatile

Surrogate Recovery Report

SDG Number: 10-1666

Matrix Type: SOLID

CAP Column (1) : RTX-VOLATILES

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1202042302	LCS for batch 952859	90	83	104
1202042303	LCS for batch 952859	85	86	104
1202042299	MB for batch 952859	81	85	107
246557001	RE15-10-8363	86	89	122
1202042300	RE15-10-8363PS	93	87	110
1202042301	RE15-10-8363PSD	83	86	113

Surrogate		Acceptance Limits
DCED4	= 1,2-Dichloroethane-d4	(66%-134%)
TOL	= Toluene-d8	(71%-128%)
BFB	= Bromofluorobenzene	(65%-130%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: RE15-10-8363PS
Lab Sample ID: 1202042300
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Post Spike
Matrix: R
%Moisture: 18.7
Analysis Date: 02/14/2010 07:39
Prep Batch ID: 952859
Batch ID: 952860
Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
75-71-8	PS	Dichlorodifluoromethane	50.0	0.00	U	61.8	124	39-148
74-87-3	PS	Chloromethane	50.0	0.00	U	52.8	106	42-131
75-01-4	PS	Vinyl chloride	50.0	0.00	U	54.7	109	50-127
74-83-9	PS	Bromomethane	50.0	0.00	U	55.8	112	26-135
75-00-3	PS	Chloroethane	50.0	0.00	U	55.7	111	54-128
75-69-4	PS	Trichlorofluoromethane	50.0	0.00	U	60.8	122	55-138
67-64-1	PS	Acetone	250	5.88		222	86	20-144
75-35-4	PS	1,1-Dichloroethylene	50.0	0.00	U	53.9	108	55-128
74-88-4	PS	Iodomethane	250	0.00	U	257	103	47-132
75-09-2	PS	Methylene chloride	50.0	0.00	U	54.3	109	56-123
75-15-0	PS	Carbon disulfide	250	0.00	U	279	112	53-133
156-60-5	PS	trans-1,2-Dichloroethylene	50.0	0.00	U	53.2	106	57-119
75-34-3	PS	1,1-Dichloroethane	50.0	0.00	U	52.8	106	62-125
78-93-3	PS	2-Butanone	250	0.00	U	223	89	30-150
156-59-2	PS	cis-1,2-Dichloroethylene	50.0	0.00	U	53.7	107	60-124
594-20-7	PS	2,2-Dichloropropane	50.0	0.00	U	59.3	119	56-129
67-66-3	PS	Chloroform	50.0	0.00	U	55.2	110	62-120
74-97-5	PS	Bromochloromethane	50.0	0.00	U	53.9	108	51-135
71-55-6	PS	1,1,1-Trichloroethane	50.0	0.00	U	58.2	116	58-129
563-58-6	PS	1,1-Dichloropropene	50.0	0.00	U	55.1	110	59-126
56-23-5	PS	Carbon tetrachloride	50.0	0.00	U	59.7	119	55-132
107-06-2	PS	1,2-Dichloroethane	50.0	0.00	U	57.0	114	54-121

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number:	**10-1666**	**Sample Type:**	**Post Spike**
Client ID:	**RE15-10-8363PS**	**Matrix:**	**R**
Lab Sample ID:	**1202042300**	**%Moisture:**	**18.7**
Instrument:	**VOA4.I**	**Analysis Date:**	**02/14/2010 07:39**
Analyst:	**GRB2**	**Prep Batch ID:**	**952859**
Purge Vol:	**5 mL**	**Batch ID:**	**952860**

Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
71-43-2	PS	Benzene	50.0	0.00	U	49.9	100	58-120
79-01-6	PS	Trichloroethylene	50.0	0.00	U	52.5	105	54-130
78-87-5	PS	1,2-Dichloropropane	50.0	0.00	U	52.2	104	59-121
75-27-4	PS	Bromodichloromethane	50.0	0.00	U	57.4	115	57-130
74-95-3	PS	Dibromomethane	50.0	0.00	U	55.7	111	57-124
108-10-1	PS	4-Methyl-2-pentanone	250	0.00	U	231	92	40-137
10061-01-5	PS	cis-1,3-Dichloropropylene	50.0	0.00	U	55.3	111	50-131
108-88-3	PS	Toluene	50.0	1.68		49.7	96	54-119
10061-02-6	PS	trans-1,3-Dichloropropylene	50.0	0.00	U	54.9	110	47-133
79-00-5	PS	1,1,2-Trichloroethane	50.0	0.00	U	49.9	100	60-130
591-78-6	PS	2-Hexanone	250	0.00	U	198	79	30-139
142-28-9	PS	1,3-Dichloropropane	50.0	0.00	U	50.0	100	59-125
127-18-4	PS	Tetrachloroethylene	50.0	0.00	U	50.2	100	50-126
124-48-1	PS	Dibromochloromethane	50.0	0.00	U	55.6	111	54-131
106-93-4	PS	1,2-Dibromoethane	50.0	0.00	U	51.6	103	55-127
108-90-7	PS	Chlorobenzene	50.0	0.00	U	51.5	103	50-130
100-41-4	PS	Ethylbenzene	50.0	0.00	U	51.6	103	50-121
179601-23-1	PS	m,p-Xylenes	100	0.00	U	104	104	47-125
95-47-6	PS	o-Xylene	50.0	0.00	U	51.6	103	51-127
100-42-5	PS	Styrene	50.0	0.00	U	54.1	108	41-136
75-25-2	PS	Bromoform	50.0	0.00	U	57.0	114	48-143
79-34-5	PS	1,1,2,2-Tetrachloroethane	50.0	0.00	U	50.7	101	52-129

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: RE15-10-8363PS
Lab Sample ID: 1202042300
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Post Spike
Matrix: R
%Moisture: 18.7
Analysis Date: 02/14/2010 07:39
Prep Batch ID: 952859
Batch ID: 952860
Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
96-18-4	PS	1,2,3-Trichloropropane	50.0	0.00	U	51.1	102	56-139
108-86-1	PS	Bromobenzene	50.0	0.00	U	53.3	107	54-125
103-65-1	PS	n-Propylbenzene	50.0	0.00	U	53.5	107	46-127
95-49-8	PS	2-Chlorotoluene	50.0	0.00	U	52.3	105	47-130
98-82-8	PS	Isopropylbenzene	50.0	0.00	U	54.6	109	42-126
108-67-8	PS	1,3,5-Trimethylbenzene	50.0	0.00	U	54.0	108	44-132
106-43-4	PS	4-Chlorotoluene	50.0	0.00	U	54.2	108	46-127
98-06-6	PS	tert-Butylbenzene	50.0	0.00	U	54.8	110	48-136
95-63-6	PS	1,2,4-Trimethylbenzene	50.0	0.00	U	54.6	109	42-132
135-98-8	PS	sec-Butylbenzene	50.0	0.00	U	53.3	107	47-130
99-87-6	PS	4-Isopropyltoluene	50.0	1.04		53.2	104	36-142
541-73-1	PS	1,3-Dichlorobenzene	50.0	0.00	U	52.0	104	41-130
106-46-7	PS	1,4-Dichlorobenzene	50.0	0.00	U	51.5	103	41-126
104-51-8	PS	n-Butylbenzene	50.0	0.00	U	52.8	106	37-136
96-12-8	PS	1,2-Dibromo-3-chloropropane	50.0	0.00	U	47.7	95	42-143
630-20-6	PS	1,1,1,2-Tetrachloroethane	50.0	0.00	U	54.8	110	58-127
95-50-1	PS	1,2-Dichlorobenzene	50.0	0.00	U	50.6	101	42-128

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: RE15-10-8363PSD
Lab Sample ID: 1202042301
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Post Spike Duplicate
Matrix: R
%Moisture: 18.7
Analysis Date: 02/14/2010 08:06
Prep Batch ID: 952859
Batch ID: 952860
Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
75-71-8	PSD	Dichlorodifluoromethane	50.0	0.00	U	57.7	115	39-148	7	0-19
74-87-3	PSD	Chloromethane	50.0	0.00	U	50.2	100	42-131	5	0-23
75-01-4	PSD	Vinyl chloride	50.0	0.00	U	52.6	105	50-127	4	0-23
74-83-9	PSD	Bromomethane	50.0	0.00	U	53.3	107	26-135	5	0-22
75-00-3	PSD	Chloroethane	50.0	0.00	U	52.9	106	54-128	5	0-25
75-69-4	PSD	Trichlorofluoromethane	50.0	0.00	U	57.1	114	55-138	6	0-21
67-64-1	PSD	Acetone	250	5.88		186	72	20-144	17	0-22
75-35-4	PSD	1,1-Dichloroethylene	50.0	0.00	U	51.1	102	55-128	5	0-20
74-88-4	PSD	Iodomethane	250	0.00	U	254	101	47-132	1	0-20
75-09-2	PSD	Methylene chloride	50.0	0.00	U	52.5	105	56-123	3	0-20
75-15-0	PSD	Carbon disulfide	250	0.00	U	265	106	53-133	5	0-22
156-60-5	PSD	trans-1,2-Dichloroethylene	50.0	0.00	U	51.1	102	57-119	4	0-20
75-34-3	PSD	1,1-Dichloroethane	50.0	0.00	U	51.5	103	62-125	2	0-20
78-93-3	PSD	2-Butanone	250	0.00	U	198	79	30-150	12	0-21
156-59-2	PSD	cis-1,2-Dichloroethylene	50.0	0.00	U	51.8	104	60-124	4	0-20
594-20-7	PSD	2,2-Dichloropropane	50.0	0.00	U	56.3	113	56-129	5	0-20
67-66-3	PSD	Chloroform	50.0	0.00	U	52.5	105	62-120	5	0-25
74-97-5	PSD	Bromochloromethane	50.0	0.00	U	52.9	106	51-135	2	0-20
71-55-6	PSD	1,1,1-Trichloroethane	50.0	0.00	U	54.4	109	58-129	7	0-20
563-58-6	PSD	1,1-Dichloropropene	50.0	0.00	U	52.5	105	59-126	5	0-20
56-23-5	PSD	Carbon tetrachloride	50.0	0.00	U	56.4	113	55-132	6	0-20
107-06-2	PSD	1,2-Dichloroethane	50.0	0.00	U	55.2	110	54-121	3	0-20

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: RE15-10-8363PSD
Lab Sample ID: 1202042301
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Post Spike Duplicate
Matrix: R
%Moisture: 18.7
Analysis Date: 02/14/2010 08:06
Dilution: 1
Prep Batch ID: 952859
Batch ID: 952860

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
71-43-2	PSD	Benzene	50.0	0.00	U	47.9	96	58-120	4	0-20
79-01-6	PSD	Trichloroethylene	50.0	0.00	U	50.0	100	54-130	5	0-23
78-87-5	PSD	1,2-Dichloropropane	50.0	0.00	U	50.2	100	59-121	4	0-20
75-27-4	PSD	Bromodichloromethane	50.0	0.00	U	55.5	111	57-130	4	0-20
74-95-3	PSD	Dibromomethane	50.0	0.00	U	54.7	109	57-124	2	0-20
108-10-1	PSD	4-Methyl-2-pentanone	250	0.00	U	237	95	40-137	3	0-25
10061-01-5	PSD	cis-1,3-Dichloropropylene	50.0	0.00	U	52.8	106	50-131	5	0-20
108-88-3	PSD	Toluene	50.0	1.68		49.6	96	54-119	0	0-23
10061-02-6	PSD	trans-1,3-Dichloropropylene	50.0	0.00	U	53.5	107	47-133	3	0-24
79-00-5	PSD	1,1,2-Trichloroethane	50.0	0.00	U	49.1	98	60-130	2	0-20
591-78-6	PSD	2-Hexanone	250	0.00	U	173	69	30-139	14	0-21
142-28-9	PSD	1,3-Dichloropropane	50.0	0.00	U	48.7	97	59-125	3	0-20
127-18-4	PSD	Tetrachloroethylene	50.0	0.00	U	49.2	98	50-126	2	0-20
124-48-1	PSD	Dibromochloromethane	50.0	0.00	U	55.0	110	54-131	1	0-23
106-93-4	PSD	1,2-Dibromoethane	50.0	0.00	U	52.0	104	55-127	1	0-23
108-90-7	PSD	Chlorobenzene	50.0	0.00	U	49.8	100	50-130	3	0-24
100-41-4	PSD	Ethylbenzene	50.0	0.00	U	49.9	100	50-121	3	0-24
179601-23-1	PSD	m,p-Xylenes	100	0.00	U	100	100	47-125	4	0-25
95-47-6	PSD	o-Xylene	50.0	0.00	U	49.7	99	51-127	4	0-24
100-42-5	PSD	Styrene	50.0	0.00	U	52.3	105	41-136	4	0-24
75-25-2	PSD	Bromoform	50.0	0.00	U	60.8	122	48-143	6	0-20
79-34-5	PSD	1,1,2,2-Tetrachloroethane	50.0	0.00	U	52.1	104	52-129	3	0-20

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: RE15-10-8363PSD
Lab Sample ID: 1202042301
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Post Spike Duplicate
Matrix: R
%Moisture: 18.7
Analysis Date: 02/14/2010 08:06
Prep Batch ID: 952859
Batch ID: 952860
Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
96-18-4	PSD	1,2,3-Trichloropropane	50.0	0.00	U	52.4	105	56-139	2	0-34
108-86-1	PSD	Bromobenzene	50.0	0.00	U	54.7	109	54-125	2	0-22
103-65-1	PSD	n-Propylbenzene	50.0	0.00	U	54.4	109	46-127	2	0-25
95-49-8	PSD	2-Chlorotoluene	50.0	0.00	U	52.6	105	47-130	0	0-24
98-82-8	PSD	Isopropylbenzene	50.0	0.00	U	57.5	115	42-126	5	0-22
108-67-8	PSD	1,3,5-Trimethylbenzene	50.0	0.00	U	54.4	109	44-132	1	0-25
106-43-4	PSD	4-Chlorotoluene	50.0	0.00	U	54.5	109	46-127	0	0-26
98-06-6	PSD	tert-Butylbenzene	50.0	0.00	U	55.8	112	48-136	2	0-24
95-63-6	PSD	1,2,4-Trimethylbenzene	50.0	0.00	U	54.9	110	42-132	1	0-26
135-98-8	PSD	sec-Butylbenzene	50.0	0.00	U	52.5	105	47-130	2	0-27
99-87-6	PSD	4-Isopropyltoluene	50.0	1.04		53.9	106	36-142	1	0-27
541-73-1	PSD	1,3-Dichlorobenzene	50.0	0.00	U	51.2	102	41-130	2	0-25
106-46-7	PSD	1,4-Dichlorobenzene	50.0	0.00	U	50.1	100	41-126	3	0-25
104-51-8	PSD	n-Butylbenzene	50.0	0.00	U	51.1	102	37-136	3	0-29
96-12-8	PSD	1,2-Dibromo-3-chloropropane	50.0	0.00	U	46.2	92	42-143	3	0-21
630-20-6	PSD	1,1,1,2-Tetrachloroethane	50.0	0.00	U	54.3	109	58-127	1	0-20
95-50-1	PSD	1,2-Dichlorobenzene	50.0	0.00	U	49.1	98	42-128	3	0-24

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: LCS for batch 952859
Lab Sample ID: 1202042302
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Laboratory Control Sample
Matrix: SOIL
Analysis Date: 02/14/2010 00:52
Dilution: 1
Prep Batch ID: 952859
Batch ID: 952860

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
75-71-8	LCS	Dichlorodifluoromethane	50.0	0.0	60.8	122	52-151
74-87-3	LCS	Chloromethane	50.0	0.0	50.2	100	56-130
75-01-4	LCS	Vinyl chloride	50.0	0.0	53.6	107	66-130
74-83-9	LCS	Bromomethane	50.0	0.0	55.5	111	70-126
75-00-3	LCS	Chloroethane	50.0	0.0	54.9	110	67-129
75-69-4	LCS	Trichlorofluoromethane	50.0	0.0	59.8	120	73-143
67-64-1	LCS	Acetone	250	0.0	267	107	30-140
75-35-4	LCS	1,1-Dichloroethylene	50.0	0.0	53.3	107	71-129
74-88-4	LCS	Iodomethane	250	0.0	270	108	72-125
75-09-2	LCS	Methylene chloride	50.0	0.0	51.5	103	64-121
75-15-0	LCS	Carbon disulfide	250	0.0	273	109	70-133
156-60-5	LCS	trans-1,2-Dichloroethylene	50.0	0.0	52.5	105	73-120
75-34-3	LCS	1,1-Dichloroethane	50.0	0.0	50.9	102	73-120
78-93-3	LCS	2-Butanone	250	0.0	263	105	32-145
156-59-2	LCS	cis-1,2-Dichloroethylene	50.0	0.0	52.4	105	74-124
594-20-7	LCS	2,2-Dichloropropane	50.0	0.0	56.9	114	73-134
67-66-3	LCS	Chloroform	50.0	0.0	52.9	106	74-120
74-97-5	LCS	Bromochloromethane	50.0	0.0	54.1	108	73-122
71-55-6	LCS	1,1,1-Trichloroethane	50.0	0.0	56.8	114	74-132
563-58-6	LCS	1,1-Dichloropropene	50.0	0.0	54.9	110	79-128
56-23-5	LCS	Carbon tetrachloride	50.0	0.0	59.8	120	75-135
107-06-2	LCS	1,2-Dichloroethane	50.0	0.0	54.8	110	65-120

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: LCS for batch 952859
Lab Sample ID: 1202042302
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Laboratory Control Sample
Matrix: SOIL
Analysis Date: 02/14/2010 00:52
Dilution: 1
Prep Batch ID: 952859
Batch ID: 952860

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
71-43-2	LCS	Benzene	50.0	0.0	48.9	98	74-120
79-01-6	LCS	Trichloroethylene	50.0	0.0	52.1	104	77-124
78-87-5	LCS	1,2-Dichloropropane	50.0	0.0	51.4	103	73-120
75-27-4	LCS	Bromodichloromethane	50.0	0.0	55.3	111	75-128
74-95-3	LCS	Dibromomethane	50.0	0.0	53.7	107	75-120
108-10-1	LCS	4-Methyl-2-pentanone	250	0.0	237	95	63-133
10061-01-5	LCS	cis-1,3-Dichloropropylene	50.0	0.0	54.9	110	78-127
108-88-3	LCS	Toluene	50.0	0.0	46.8	94	74-120
10061-02-6	LCS	trans-1,3-Dichloropropylene	50.0	0.0	52.1	104	70-125
79-00-5	LCS	1,1,2-Trichloroethane	50.0	0.0	47.4	95	75-120
591-78-6	LCS	2-Hexanone	250	0.0	230	92	40-153
142-28-9	LCS	1,3-Dichloropropane	50.0	0.0	46.7	93	73-120
127-18-4	LCS	Tetrachloroethylene	50.0	0.0	50.3	101	72-126
124-48-1	LCS	Dibromochloromethane	50.0	0.0	54.6	109	74-126
106-93-4	LCS	1,2-Dibromoethane	50.0	0.0	50.5	101	79-120
108-90-7	LCS	Chlorobenzene	50.0	0.0	50.2	100	76-120
100-41-4	LCS	Ethylbenzene	50.0	0.0	49.3	99	74-120
179601-23-1	LCS	m,p-Xylenes	100	0.0	102	102	76-120
95-47-6	LCS	o-Xylene	50.0	0.0	50.1	100	76-122
100-42-5	LCS	Styrene	50.0	0.0	53.3	107	75-125
75-25-2	LCS	Bromoform	50.0	0.0	55.2	110	68-135
79-34-5	LCS	1,1,2,2-Tetrachloroethane	50.0	0.0	46.6	93	72-122

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: LCS for batch 952859
Lab Sample ID: 1202042302
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Laboratory Control Sample
Matrix: SOIL
Analysis Date: 02/14/2010 00:52
Dilution: 1
Prep Batch ID 952859
Batch ID: 952860

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
96-18-4	LCS	1,2,3-Trichloropropane	50.0	0.0	46.7	93	72-129
108-86-1	LCS	Bromobenzene	50.0	0.0	50.2	100	74-120
103-65-1	LCS	n-Propylbenzene	50.0	0.0	48.2	96	70-120
95-49-8	LCS	2-Chlorotoluene	50.0	0.0	47.4	95	70-120
98-82-8	LCS	Isopropylbenzene	50.0	0.0	49.2	98	60-121
108-67-8	LCS	1,3,5-Trimethylbenzene	50.0	0.0	49.9	100	71-121
106-43-4	LCS	4-Chlorotoluene	50.0	0.0	48.8	98	71-120
98-06-6	LCS	tert-Butylbenzene	50.0	0.0	51.1	102	75-123
95-63-6	LCS	1,2,4-Trimethylbenzene	50.0	0.0	49.9	100	73-120
135-98-8	LCS	sec-Butylbenzene	50.0	0.0	49.7	99	74-123
99-87-6	LCS	4-Isopropyltoluene	50.0	0.0	51.6	103	76-127
541-73-1	LCS	1,3-Dichlorobenzene	50.0	0.0	49.5	99	75-120
106-46-7	LCS	1,4-Dichlorobenzene	50.0	0.0	48.9	98	73-120
104-51-8	LCS	n-Butylbenzene	50.0	0.0	49.2	98	73-128
96-12-8	LCS	1,2-Dibromo-3-chloropropane	50.0	0.0	47.3	95	69-136
630-20-6	LCS	1,1,1,2-Tetrachloroethane	50.0	0.0	54.4	109	75-124
95-50-1	LCS	1,2-Dichlorobenzene	50.0	0.0	49.1	98	75-120

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: LCS for batch 952859
Lab Sample ID: 1202042303
Instrument: VOA4.I
Analyst: GRB2
Purge Vol: 5 mL

Sample Type: Laboratory Control Sample
Matrix: SOIL
Analysis Date: 02/14/2010 01:45
Dilution: 1
Prep Batch ID: 952859
Batch ID: 952860

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
76-13-1	LCS	1,1,2-Trichloro-1,2,2-Trifluor *Trichlorotrifluoroethane*	250	0.0	257	103	67-140

Method Blank Summary

SDG Number:	10-1666	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 952859	Instrument ID:	VOA4.I	Data File:	4x631SBLA.d
Lab Sample ID:	1202042299	Prep Date:	02/13/2010 23:00	Analyzed:	02/14/10 02:13
Column:	RTX-VOLATILES	Heated Purge:	Yes		

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 952859	1202042302	4x628SLLA.d	02/14/10	0052
02 LCS for batch 952859	1202042303	4x630SSLA.d	02/14/10	0145
03 RE15-10-8363	246557001	4x642.d	02/14/10	0712
04 RE15-10-8363PS	1202042300	4x643.d	02/14/10	0739
05 RE15-10-8363PSD	1202042301	4x644.d	02/14/10	0806

Instrument Performance Check

BFB

Lab Name GEL Laboratories LLC **Client SDG:** 10-1666

Instrument ID: VOA4.I **Injection Date/Time:** 03-FEB-10 01:04

Column Description: DB-624 **Lab File ID** /020210v4/4w228.d

m/e	Ion Abundance Criteria	% Relative Abundance
95	Base Peak, 100% Relative Abundance	100
50	15.0 - 40.0% of mass 95	18.6
75	30.0 - 60.0% of mass 95	45.7
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.5
174	50.0 - 100.0% of mass 95	90.9
175	5.0 -9.0% of mass 174	7
176	95.0 - 101.0% of mass 174	99.5
177	5.0 - 9.0% of mass 176	6.7

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
VSTD0005	W4VM100203-01	4w230.d	03-FEB-10 01:59
VSTD001	W4VM100203-02	4w231.d	03-FEB-10 02:27
VSTD002	W4VM100203-04	4w233.d	03-FEB-10 03:22
VSTD005	W4VM100203-05	4w234.d	03-FEB-10 03:50
VSTD010	W4VM100203-06	4w235.d	03-FEB-10 04:18
VSTD020	W4VM100203-07	4w236.d	03-FEB-10 04:46
VSTD050	W4VM100203-08	4w237.d	03-FEB-10 05:13
VSTD100	W4VM100203-09	4w238.d	03-FEB-10 05:41
VSTD005S	W4VM100203-10	4w240.d	03-FEB-10 06:36
VSTD010S	W4VM100203-11	4w241.d	03-FEB-10 07:04
VSTD025S	W4VM100203-12	4w242.d	03-FEB-10 07:32
VSTD100S	W4VM100203-14	4w244.d	03-FEB-10 08:26
VSTD250S	W4VM100203-15	4w245.d	03-FEB-10 08:54
VSTD500S	W4VM100203-16	4w246.d	03-FEB-10 09:21
SECOND SOURCE	W4VM100203-17	4w248.d	03-FEB-10 10:16
SHORT SECOND SOURCE	W4VM100203-18	4w249.d	03-FEB-10 10:44

Instrument Performance Check

BFB

Lab Name GEL Laboratories LLC **Client SDG:** 10-1666

Instrument ID: VOA4.I **Injection Date/Time:** 13-FEB-10 23:30

Column Description: DB-624 **Lab File ID** /021310v4/4x625.d

m/e	Ion Abundance Criteria	% Relative Abundance
95	Base Peak, 100% Relative Abundance	100
50	15.0 - 40.0% of mass 95	18.5
75	30.0 - 60.0% of mass 95	46.8
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.5
174	50.0 - 100.0% of mass 95	91.5
175	5.0 -9.0% of mass 174	7.3
176	95.0 - 101.0% of mass 174	100.2
177	5.0 - 9.0% of mass 176	6.4

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
VSTD050	W4VM100213-05	4x626.d	13-FEB-10 23:58
LCS	1202042302	4x628SLLA.d	14-FEB-10 00:52
VSTD250S	W4VM100213-08	4x629.d	14-FEB-10 01:19
LCS	1202042303	4x630SSLA.d	14-FEB-10 01:45
BLANK	1202042299	4x631SBLA.d	14-FEB-10 02:13
RE15-10-8363	246557001	4x642.d	14-FEB-10 07:12
RE15-10-8363MS	1202042300	4x643.d	14-FEB-10 07:39
RE15-10-8363MSD	1202042301	4x644.d	14-FEB-10 08:06

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Instrument: VOA4.I

GC Column: RTX-VOLATILES

Client SDG: 10-1666

STD Analysis Time: 13-FEB-10 23:58

Data File: 4x626.d

	Fluorobenzene			Chlorobenzene-d5			1,4-Dichlorobenzene-d4		
	Area	#	RT #	Area	#	RT #	Area	#	RT #
12 Hour STD	651575		10.6	555053		13.8	369488		16.2
Upper Limit	1303150		11.1	1110106		14.3	738976		16.7
Lower Limit	325788		10.1	277527		13.3	184744		15.7
Sample ID									
BLK01LCS	680689		10.6	584942		13.8	384588		16.2
BLK01SLCS	691397		10.6	591269		13.8	377861		16.2
BLK01	701366		10.6	571580		13.8	334657		16.2
RE15-10-8363	584351		10.6	455746		13.8	233982		16.2
RE15-10-8363MS	600305		10.6	499580		13.8	307321		16.2
RE15-10-8363MSD	653136		10.6	534272		13.8	307044		16.2

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

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 07:12**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 13:35**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x642.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.23	ug/kg	0.418	1.23
74-87-3	Chloromethane	U	1.23	ug/kg	0.369	1.23
75-01-4	Vinyl chloride	U	1.23	ug/kg	0.369	1.23
74-83-9	Bromomethane	U	1.23	ug/kg	0.369	1.23
75-00-3	Chloroethane	U	1.23	ug/kg	0.369	1.23
75-69-4	Trichlorofluoromethane	U	1.23	ug/kg	0.369	1.23
67-64-1	Acetone		7.23	ug/kg	2.04	6.15
75-35-4	1,1-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
74-88-4	Iodomethane	U	6.15	ug/kg	1.97	6.15
75-09-2	Methylene chloride	U	6.15	ug/kg	2.46	6.15
75-15-0	Carbon disulfide	U	6.15	ug/kg	1.54	6.15
156-60-5	trans-1,2-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
75-34-3	1,1-Dichloroethane	U	1.23	ug/kg	0.369	1.23
78-93-3	2-Butanone	U	6.15	ug/kg	1.85	6.15
156-59-2	cis-1,2-Dichloroethylene	U	1.23	ug/kg	0.369	1.23
594-20-7	2,2-Dichloropropane	U	1.23	ug/kg	0.369	1.23
67-66-3	Chloroform	U	1.23	ug/kg	0.369	1.23
74-97-5	Bromochloromethane	U	1.23	ug/kg	0.406	1.23
71-55-6	1,1,1-Trichloroethane	U	1.23	ug/kg	0.369	1.23
563-58-6	1,1-Dichloropropene	U	1.23	ug/kg	0.369	1.23
56-23-5	Carbon tetrachloride	U	1.23	ug/kg	0.369	1.23
107-06-2	1,2-Dichloroethane	U	1.23	ug/kg	0.369	1.23
71-43-2	Benzene	U	1.23	ug/kg	0.369	1.23
79-01-6	Trichloroethylene	U	1.23	ug/kg	0.406	1.23
78-87-5	1,2-Dichloropropane	U	1.23	ug/kg	0.369	1.23
75-27-4	Bromodichloromethane	U	1.23	ug/kg	0.369	1.23
74-95-3	Dibromomethane	U	1.23	ug/kg	0.369	1.23
108-10-1	4-Methyl-2-pentanone	U	6.15	ug/kg	1.54	6.15
10061-01-5	cis-1,3-Dichloropropylene	U	1.23	ug/kg	0.369	1.23
108-88-3	Toluene		2.06	ug/kg	0.369	1.23
10061-02-6	trans-1,3-Dichloropropylene	U	1.23	ug/kg	0.369	1.23
79-00-5	1,1,2-Trichloroethane	U	1.23	ug/kg	0.369	1.23
591-78-6	2-Hexanone	U	6.15	ug/kg	1.85	6.15
142-28-9	1,3-Dichloropropane	U	1.23	ug/kg	0.369	1.23
127-18-4	Tetrachloroethylene	U	1.23	ug/kg	0.369	1.23
124-48-1	Dibromochloromethane	U	1.23	ug/kg	0.369	1.23
106-93-4	1,2-Dibromoethane	U	1.23	ug/kg	0.369	1.23
108-90-7	Chlorobenzene	U	1.23	ug/kg	0.369	1.23

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 07:12**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 13:35**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x642.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.23	ug/kg	0.369	1.23
179601-23-1	m,p-Xylenes	U	2.46	ug/kg	0.369	2.46
95-47-6	o-Xylene	U	1.23	ug/kg	0.369	1.23
100-42-5	Styrene	U	1.23	ug/kg	0.369	1.23
75-25-2	Bromoform	U	1.23	ug/kg	0.369	1.23
79-34-5	1,1,2,2-Tetrachloroethane	U	1.23	ug/kg	0.369	1.23
96-18-4	1,2,3-Trichloropropane	U	1.23	ug/kg	0.369	1.23
108-86-1	Bromobenzene	U	1.23	ug/kg	0.369	1.23
103-65-1	n-Propylbenzene	U	1.23	ug/kg	0.369	1.23
95-49-8	2-Chlorotoluene	U	1.23	ug/kg	0.369	1.23
98-82-8	Isopropylbenzene	U	1.23	ug/kg	0.369	1.23
108-67-8	1,3,5-Trimethylbenzene	U	1.23	ug/kg	0.369	1.23
106-43-4	4-Chlorotoluene	U	1.23	ug/kg	0.369	1.23
98-06-6	tert-Butylbenzene	U	1.23	ug/kg	0.369	1.23
95-63-6	1,2,4-Trimethylbenzene	U	1.23	ug/kg	0.369	1.23
135-98-8	sec-Butylbenzene	U	1.23	ug/kg	0.369	1.23
99-87-6	4-Isopropyltoluene		1.28	ug/kg	0.369	1.23
541-73-1	1,3-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23
106-46-7	1,4-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23
104-51-8	n-Butylbenzene	U	1.23	ug/kg	0.369	1.23
96-12-8	1,2-Dibromo-3-chloropropane	U	1.23	ug/kg	0.369	1.23
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*	U	6.15	ug/kg	1.97	6.15
630-20-6	1,1,1,2-Tetrachloroethane	U	1.23	ug/kg	0.369	1.23
95-50-1	1,2-Dichlorobenzene	U	1.23	ug/kg	0.369	1.23

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Alkene	14.79	28	ug/kg		J
	Unknown Alkene	15.8	9.21	ug/kg		J
	Unknown Siloxane	16.79	11.1	ug/kg		J

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x642.d
Lab Smp Id: 246557001 Client Smp ID: RE15-10-8363
Inj Date : 14-FEB-2010 07:12
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |246557001|952860|1|VOAF|1|
Misc Info : LANL 5g N/A
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 42
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	18.70920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.614	10.614	(1.000)	584351	50.0000	
* 61 Chlorobenzene-d5	117	13.765	13.765	(1.000)	455746	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.173	16.173	(1.000)	233982	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.967)	129462	43.0780	53.0
$ 47 Toluene-d8	98	12.247	12.247	(0.890)	464675	44.5822	54.8
$ 71 Bromofluorobenzene	95	14.948	14.948	(0.924)	256926	60.9819	75.0
10 Acetone	43	7.370	7.352	(0.694)	16061	5.87875	7.2
50 Toluene	92	12.320	12.321	(0.895)	14873	1.67609	2.1
84 4-Isopropyltoluene	119	16.051	16.052	(0.992)	15562	1.04265	1.3(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

ION RATIO REPORT

VOA REPORT

Data file: 4x642.d
Report Date: 02/14/2010 12:53
Lab. ID: 246557001 SampleType: SAMPLE
Injection Date: 14-FEB-2010 07:12
Operator: GRB2 Instrument: VOA4.i
Sample Info: |246557001|952860|1|VOAF|1|
Miscellaneous Info: LANL 5g N/A
Comment:
Method used: /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Dilution Factor= 1.0
Integrator: HP RTE Compound Sublist: 10-1666
Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
10 Acetone		CAS#: 67-64-1				
43	16061	7.37	7.35	80-120	100	( )
58	4710	7.36	7.35	2- 62	29	( )
37 1,2-Dichloroethane			CAS#: 107-06-2			
62	8648	10.61	10.34	80-120	100	(T)
64	1342	10.61	10.34	2- 62	16	(T)
49 4-Methyl-2-pentanone			CAS#: 108-10-1			
58	4255	12.25	12.02	80-120	100	(T)
43	2508	12.25	12.02	224-284	59	(QT)
100	315958	12.25	12.02	3- 63	7426	(QT)
50 Toluene			CAS#: 108-88-3			
92	14873	12.32	12.32	80-120	100	( )
91	25979	12.32	12.32	138-198	175	( )
64 o-Xylene			CAS#: 95-47-6			
106	2979	14.78	14.40	80-120	100	(T)
91	46842	14.79	14.40	179-239	1572	(QT)
66 Bromoform			CAS#: 75-25-2			
173	953	14.95	14.66	80-120	100	(T)
175	15884	14.95	14.66	19- 79	1665	(QT)

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
67 Isopropylbenzene			CAS#: 98-82-8			
105	12176	14.79	14.75	80-120	100	( )
120	723	14.79	14.76	0- 57	6	( )
76 n-Propylbenzene			CAS#: 103-65-1			
91	8951	15.40	15.18	80-120	100	(T)
120	1637	15.41	15.18	0- 55	18	(T)
78 1,3,5-Trimethylbenzene			CAS#: 108-67-8			
105	4146	15.79	15.33	80-120	100	(T)
120	477	15.79	15.33	20- 80	12	(QT)
79 1,2,4-Trimethylbenzene			CAS#: 95-63-6			
105	5953	15.79	15.74	80-120	100	( )
120	545	15.79	15.74	18- 78	9	(Q)
81 tert-Butylbenzene			CAS#: 98-06-6			
119	5813	15.80	15.70	80-120	100	(T)
91	22396	15.80	15.70	39- 99	385	(QT)
134	1349	15.80	15.70	0- 52	23	(T)
83 sec-Butylbenzene			CAS#: 135-98-8			
105	5953	15.79	15.93	80-120	100	(T)
134	1349	15.80	15.93	0- 51	23	(T)
84 4-Isopropyltoluene			CAS#: 99-87-6			
119	15562	16.05	16.05	80-120	100	( )
134	4416	16.05	16.05	0- 57	28	( )
91	13453	16.02	16.05	0- 53	86	(Q)

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x642.d
Lab Smp Id: 246557001 Client Smp ID: RE15-10-8363
Inj Date : 14-FEB-2010 07:12
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |246557001|952860|1|VOAF|1|
Misc Info : LANL 5g N/A
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 42
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	18.70920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
* 61 Chlorobenzene-d5	13.765	1373247	50.000
* 86 1,4-Dichlorobenzene-d4	16.173	1383405	50.000

		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ug/l)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
Unknown Alkene					CAS #:		
14.790	625793	22.7851430	28.0	0		0	61

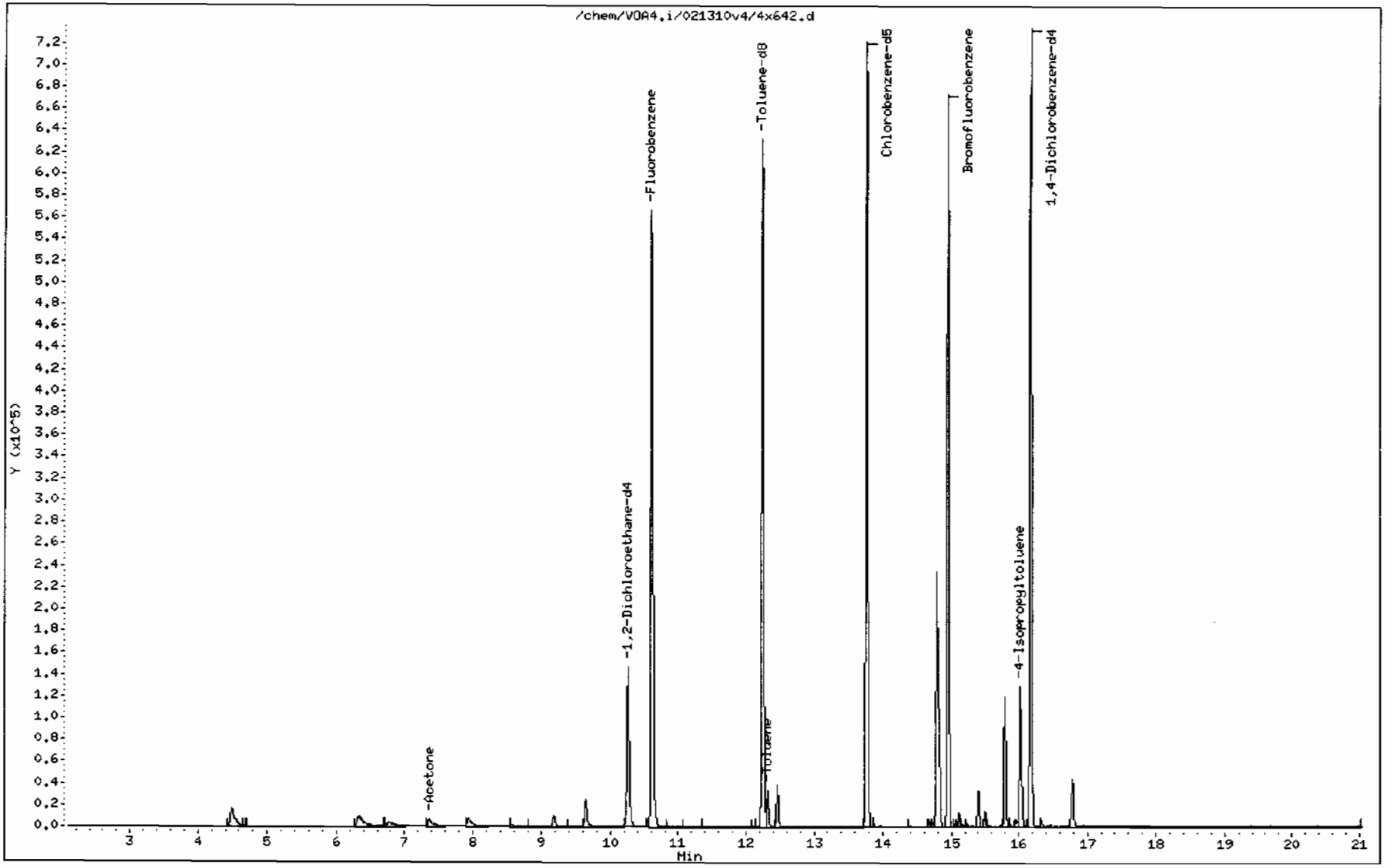
		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ug/l)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
====	====	==========	==========	====	=======	========	======
Unknown Alkene				CAS #:			
15.795	207122	7.48594581	9.2	0		0	86
Unknown Siloxane				CAS #:			
16.789	249721	9.02560291	11.1	0		0	86

Data File: /chem/VOA4.i/021310v4/4x642.d
Date : 14-FEB-2010 07:12
Client ID: RE15-10-8363
Sample Info: 1246557001195286011VOAF111

Column phase: RTX-VOLATILES

Instrument: VOA4.i

Operator: GRB2
Column diameter: 0.25



Data File: /chem/VOA4.i/021310v4/4x642.d

Date : 14-FEB-2010 07:12

Client ID: RE15-10-8363

Instrument: VOA4.i

Sample Info: |246557001|952860|1|VOAF|1|

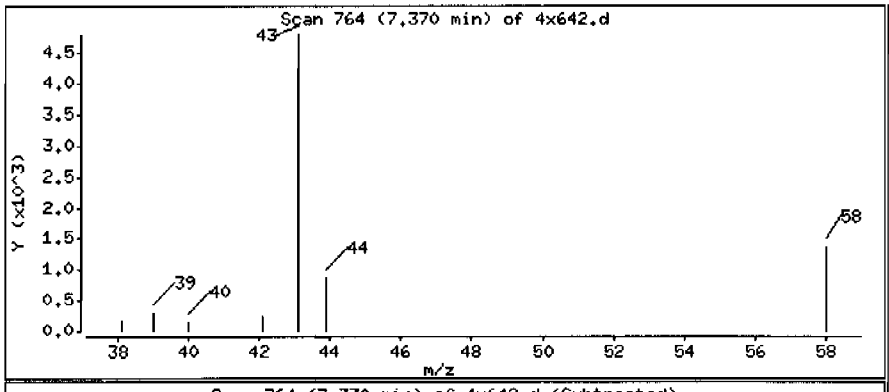
Operator: GRB2

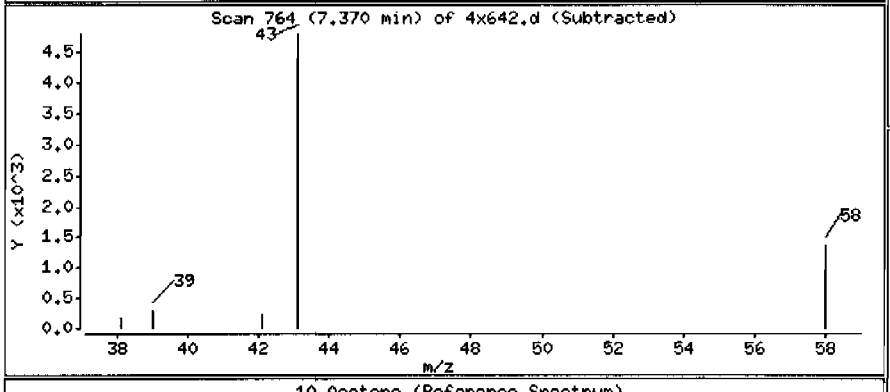
Column phase: RTX-VOLATILES

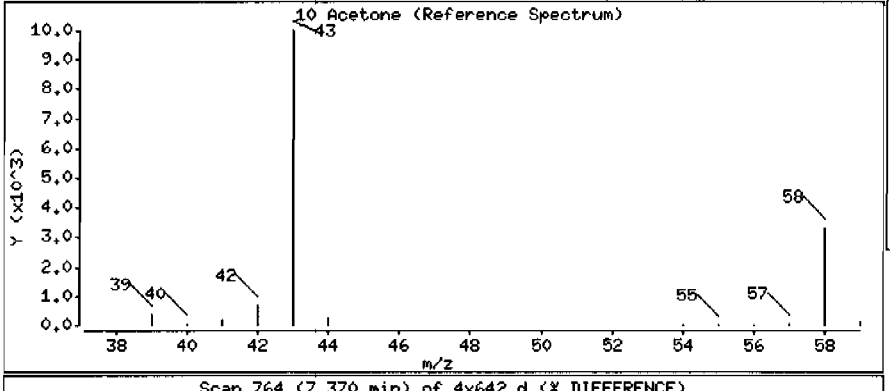
Column diameter: 0.25

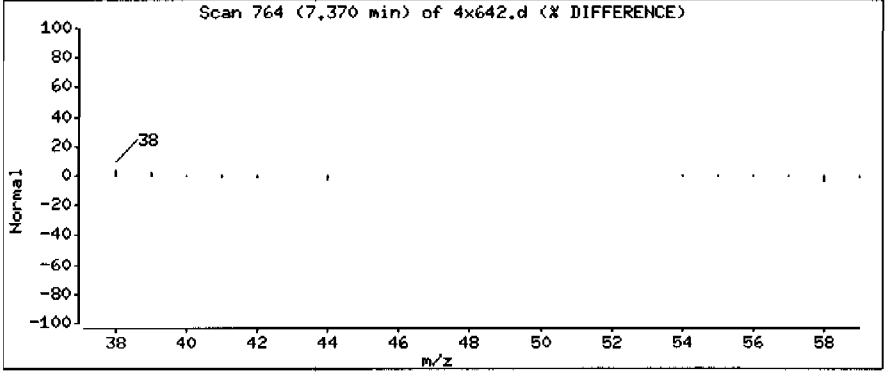
10 Acetone

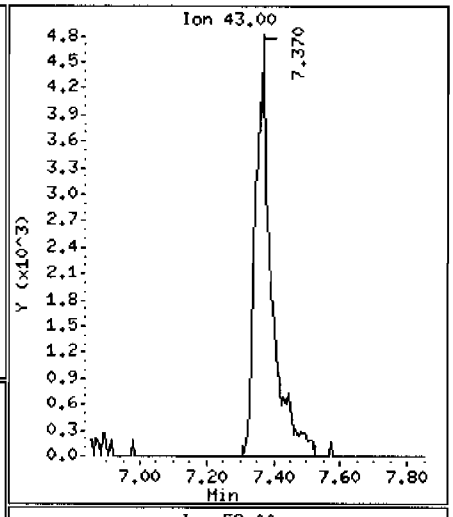
Concentration: 7.2 ug/Kg

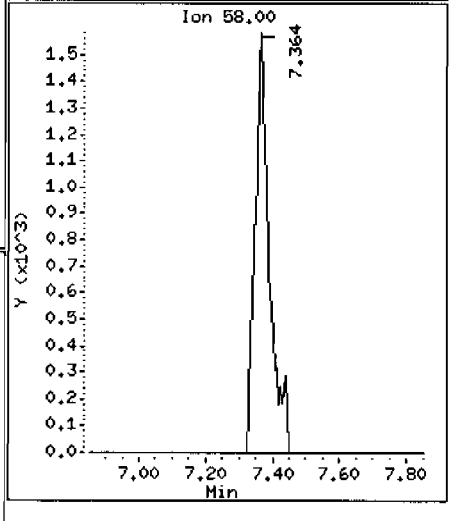












Data File: /chem/VOA4.i/021310v4/4x642.d

Date : 14-FEB-2010 07:12

Client ID: RE15-10-8363

Instrument: VOA4.i

Sample Info: |246557001|952860|1|VOAF|1|

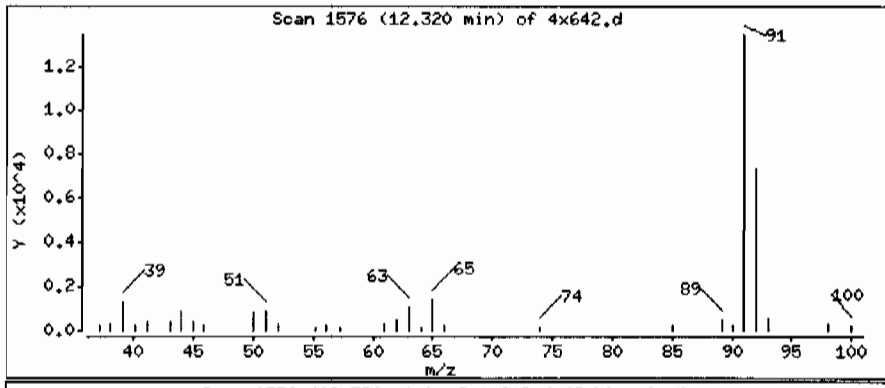
Operator: GRB2

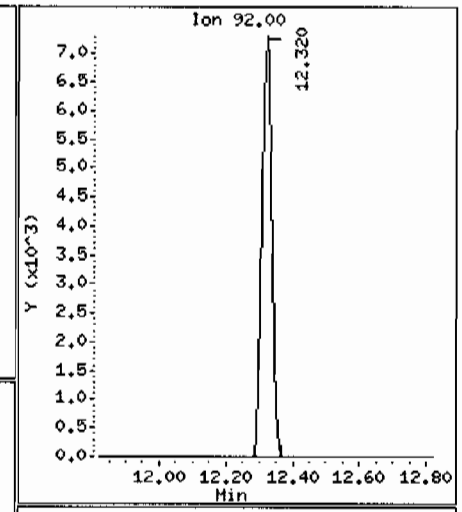
Column phase: RTX-VOLATILES

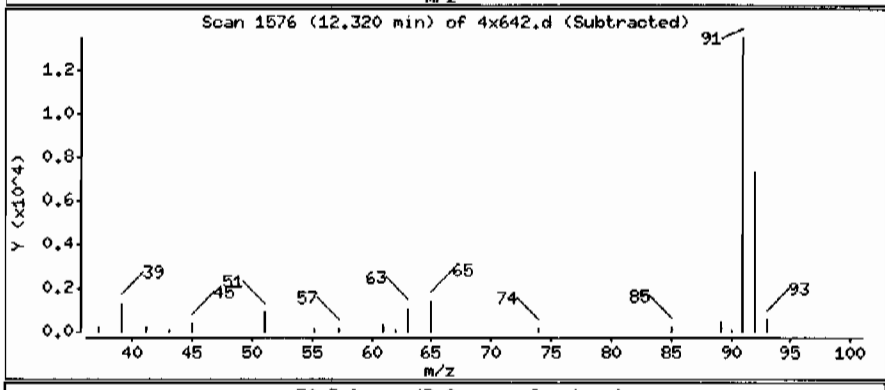
Column diameter: 0.25

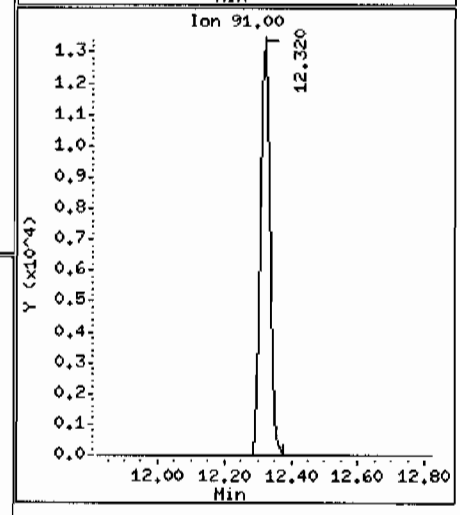
50 Toluene

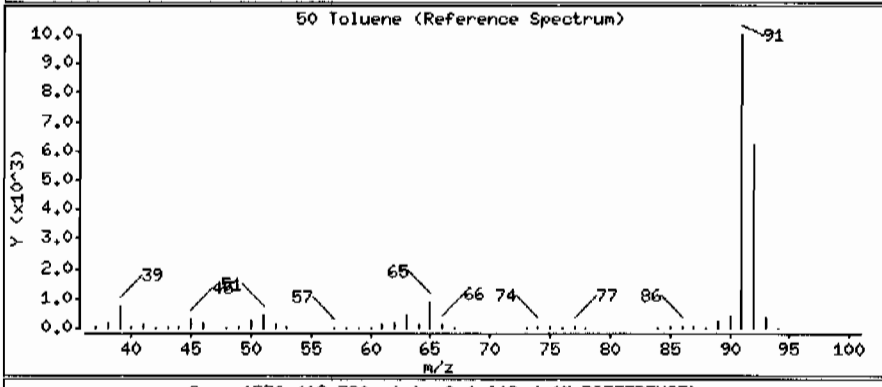
Concentration: 2.1 ug/Kg

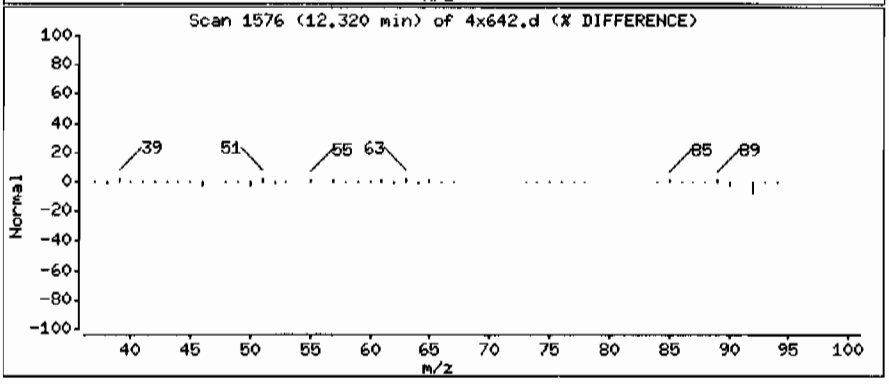












Data File: /chem/VOA4.i/021310v4/4x642.d

Date : 14-FEB-2010 07:12

Client ID: RE15-10-8363

Instrument: VOA4.i

Sample Info: |2465570011952860111VOAF111

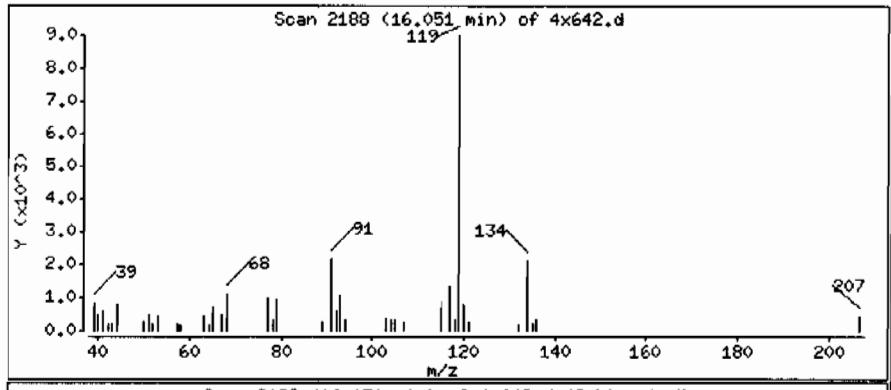
Operator: GRB2

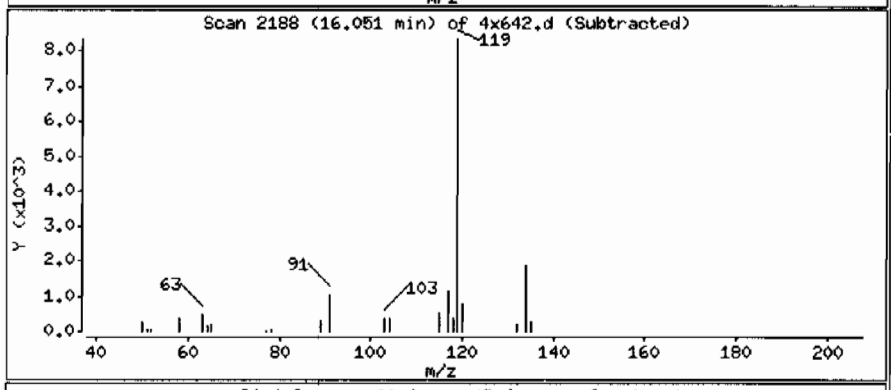
Column phase: RTX-VOLATILES

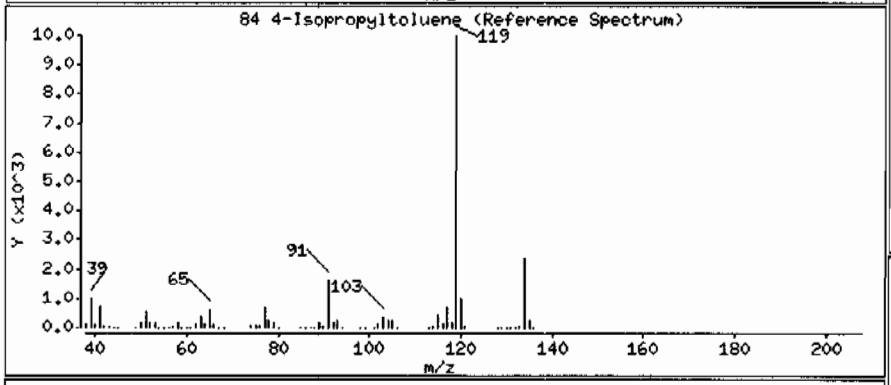
Column diameter: 0.25

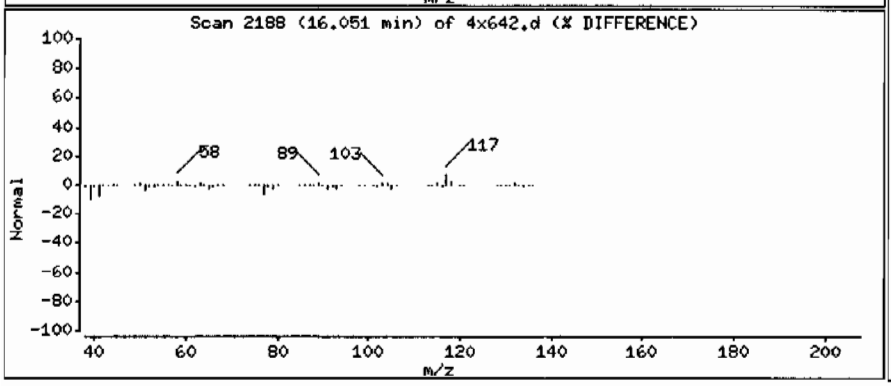
84 4-Isopropyltoluene

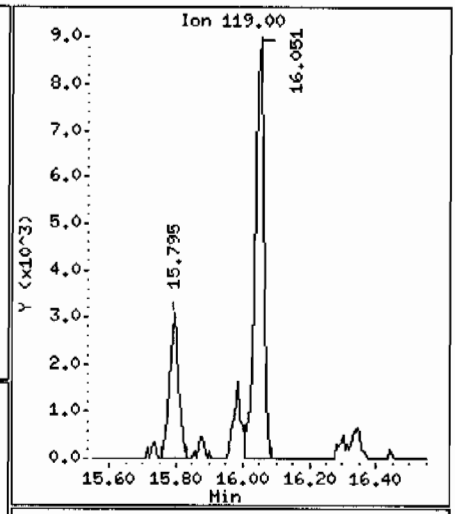
Concentration: 1.3 ug/Kg

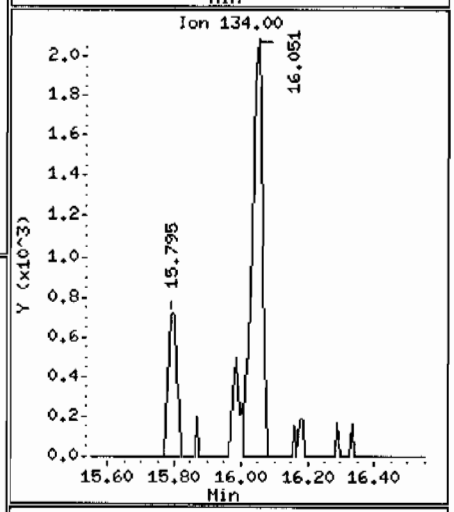


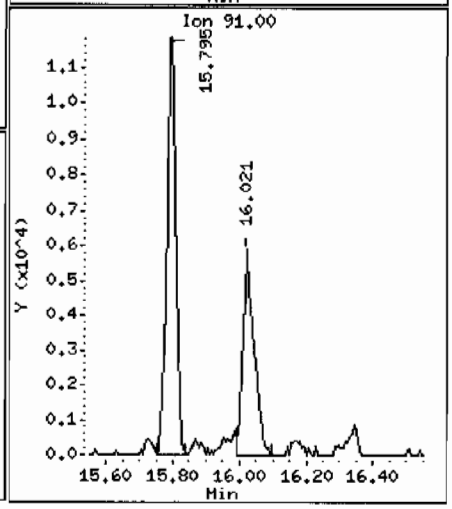












Data File: /chem/VOA4.i/021310v4/4x642.d

Date : 14-FEB-2010 07:12

Client ID: RE15-10-8363

Instrument: VOA4.i

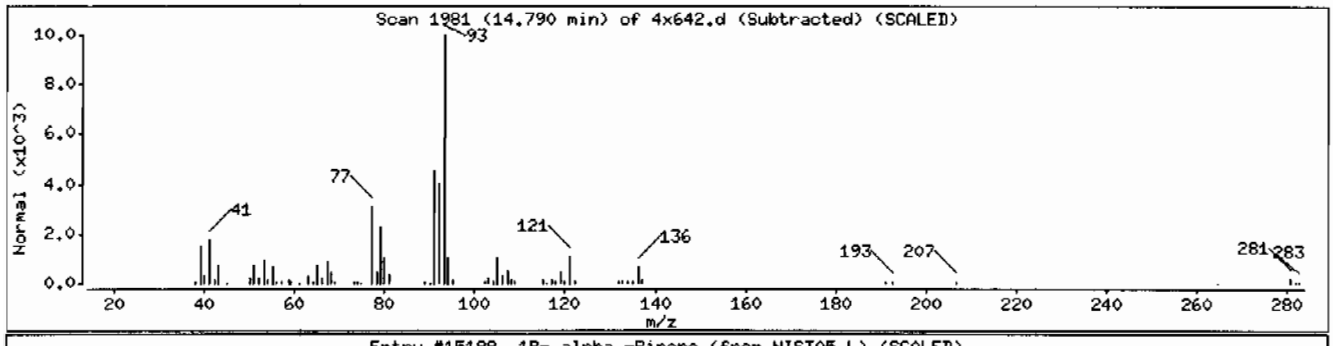
Sample Info: |246557001|952860|1|VOAF|1|

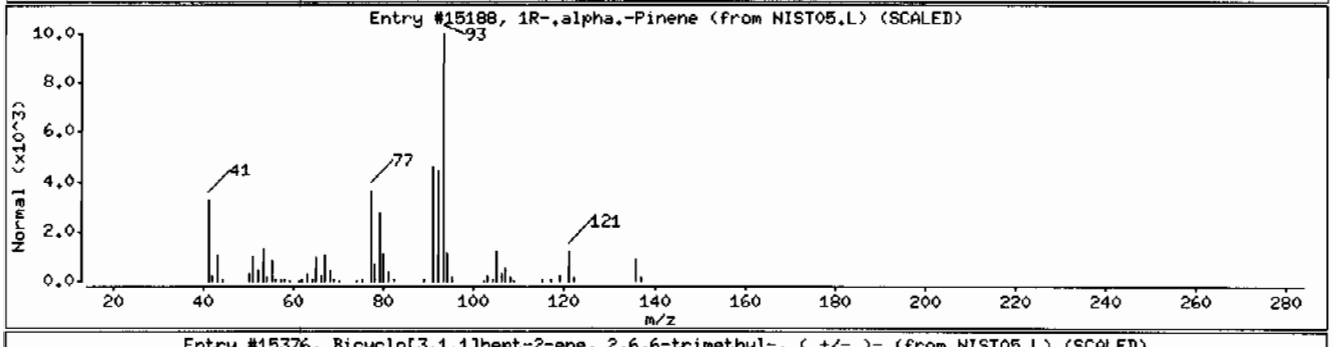
Operator: GRB2

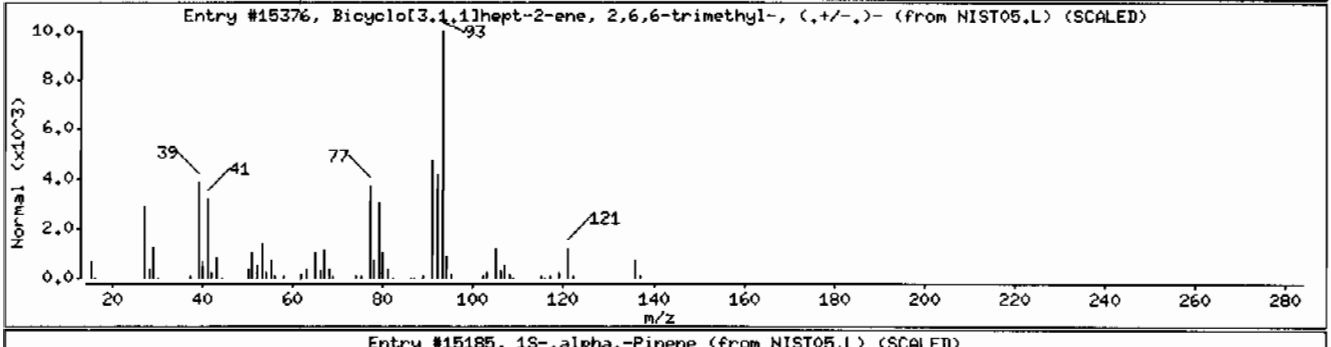
Column phase: RTX-VOLATILES

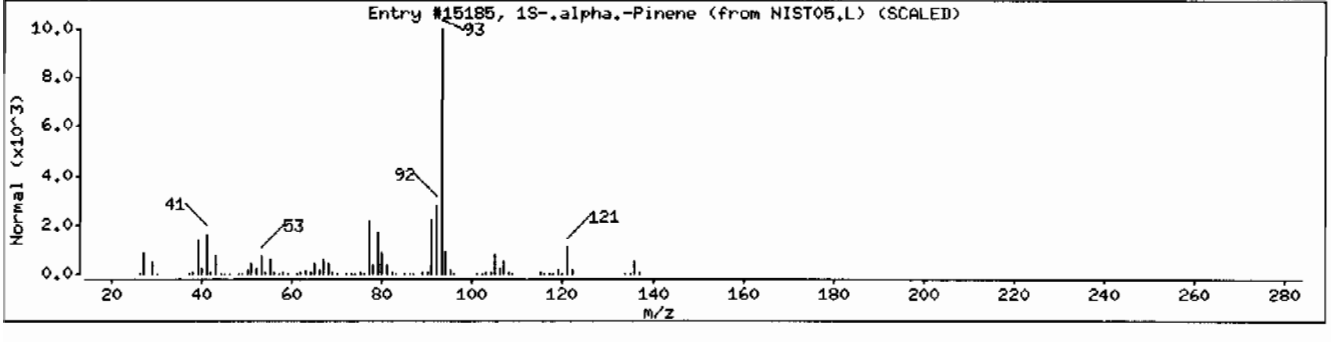
Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkene						
1R-.alpha.-Pinene	7785-70-8	NIST05.L	15188	97	C10H16	136
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethy	2437-95-8	NIST05.L	15376	95	C10H16	136
1S-.alpha.-Pinene	7785-26-4	NIST05.L	15185	94	C10H16	136









Data File: /chem/VOA4.i/021310v4/4x642.d

Date : 14-FEB-2010 07:12

Client ID: RE15-10-8363

Instrument: VOA4.i

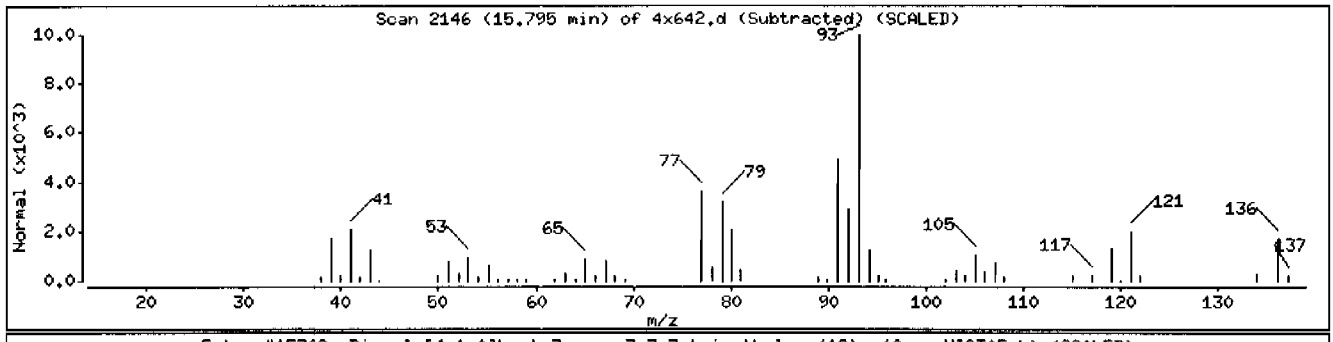
Sample Info: 1246557001|952860|1|VOAF|1|

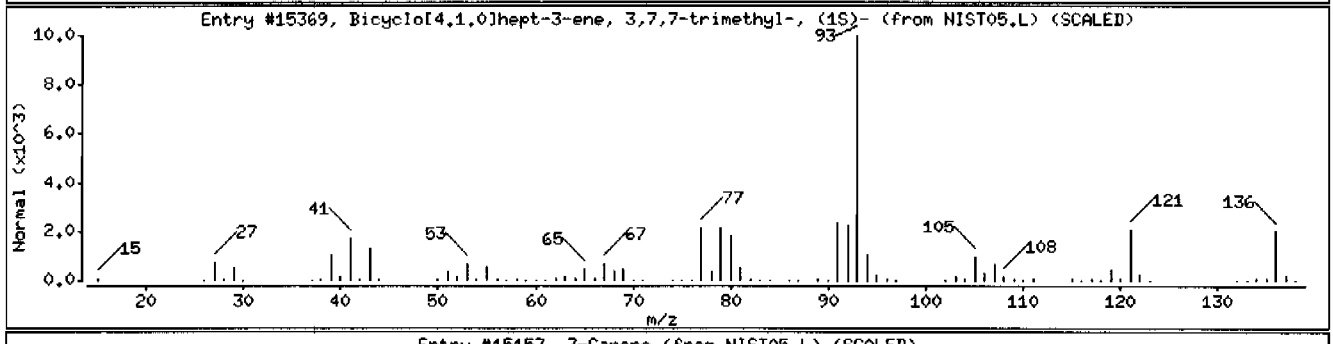
Operator: GRB2

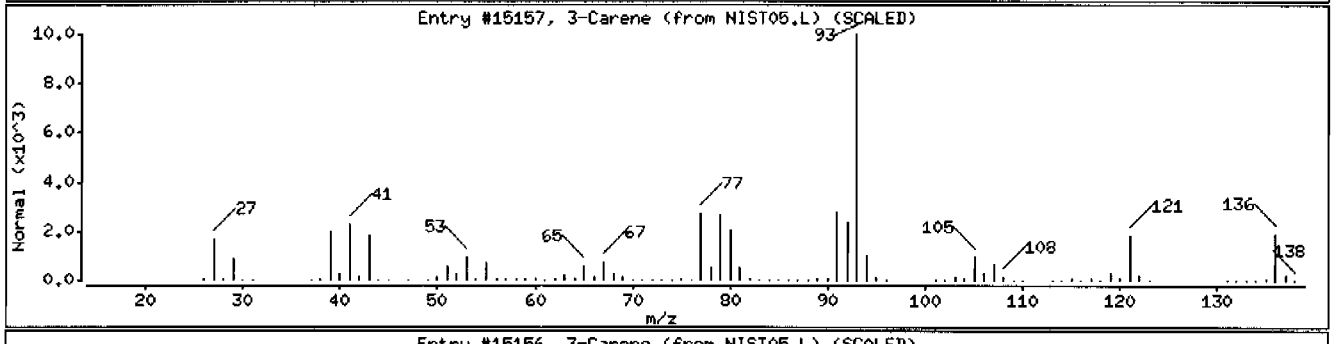
Column phase: RTX-VOLATILES

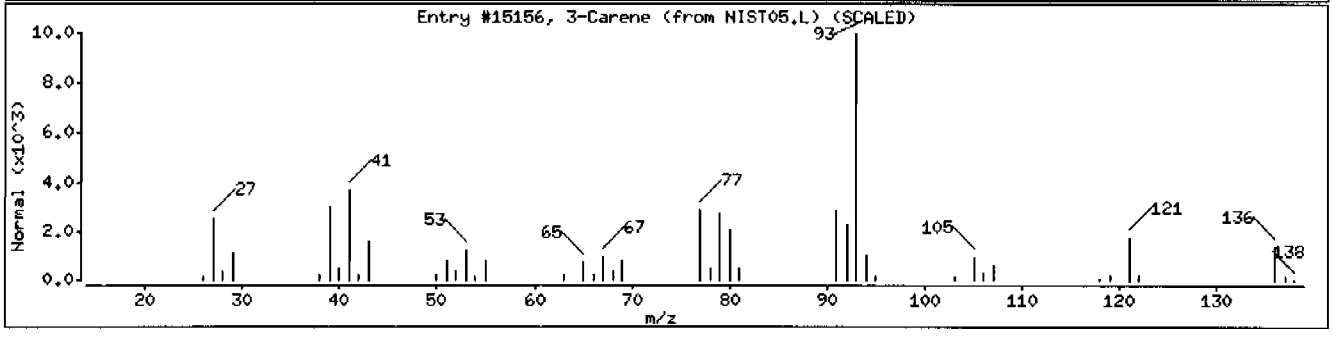
Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkene						
Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethy	498-15-7	NIST05.L	15369	96	C10H16	136
3-Carene	13466-78-9	NIST05.L	15157	95	C10H16	136
3-Carene	13466-78-9	NIST05.L	15156	95	C10H16	136









Data File: /chem/VOA4.i/021310v4/4x642.d

Date : 14-FEB-2010 07:12

Client ID: RE15-10-8363

Instrument: VOA4.i

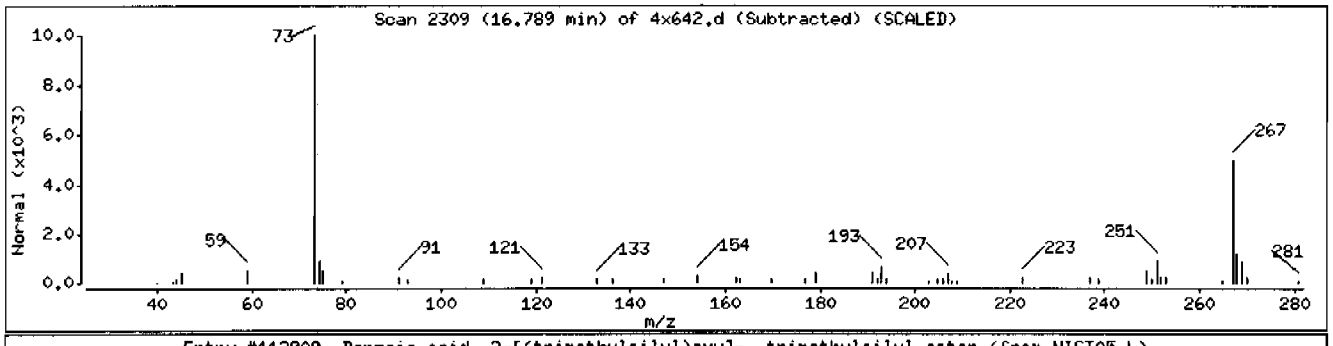
Sample Info: |246557001|952860|1|VOAF|1|

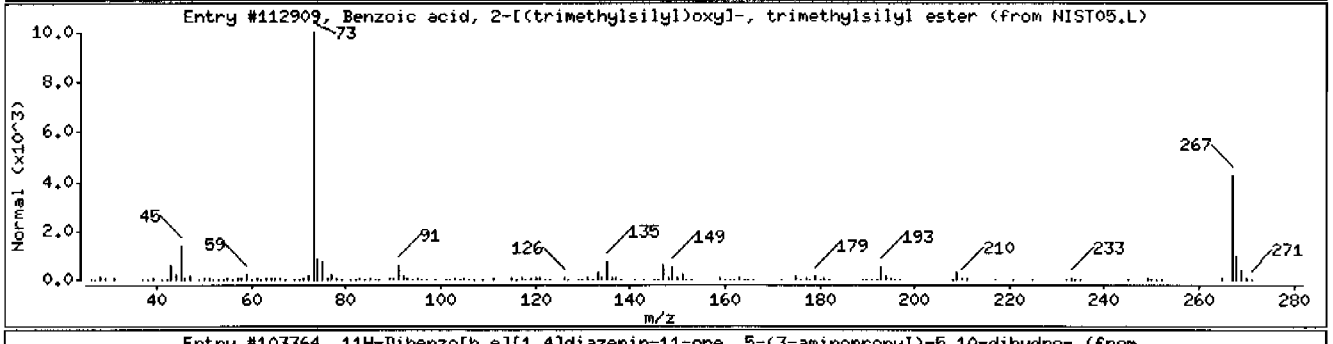
Operator: GRB2

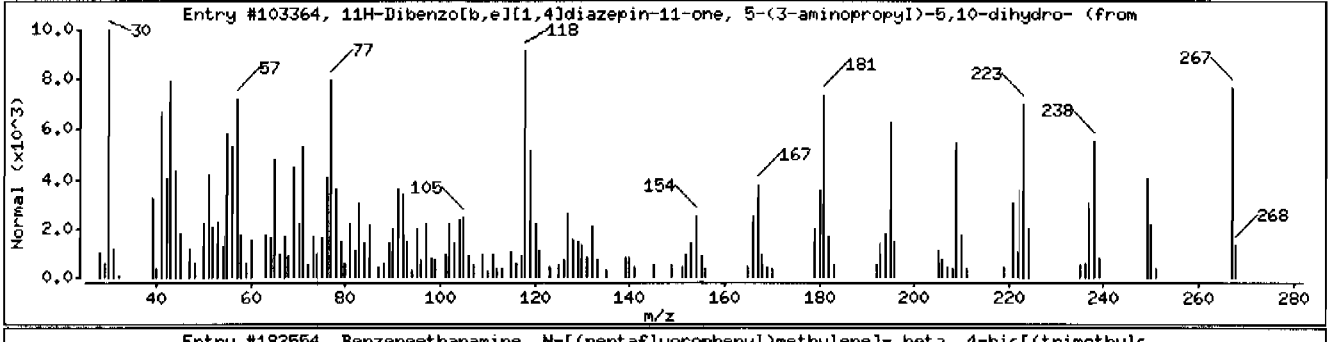
Column phase: RTX-VOLATILES

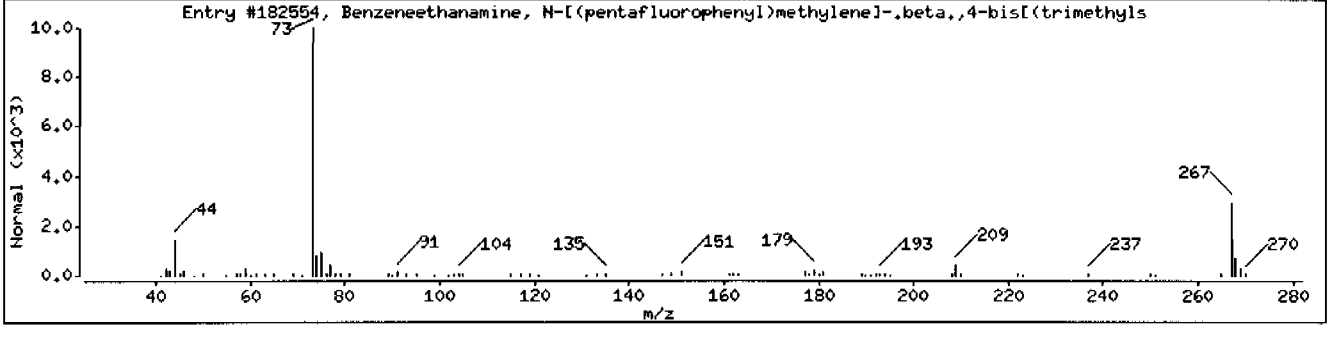
Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Siloxane						
Benzoic acid, 2-[(trimethylsilyl)oxy]-,	3789-85-3	NIST05.L	112909	45	C13H2203Si2	282
11H-Dibenzo[b,e][1,4]diazepin-11-one, 5-	13450-73-2	NIST05.L	103364	43	C16H17N3O	267
Benzeneethanamine, N-[(pentafluorophenyl	55429-85-1	NIST05.L	182554	37	C21H26F5N02S	475









Standard Data

EPA 524.2/Low level SW846 8260B and Regular level 8260B and EPA 624
Calibration Standard Concentration Levels

	Level 1	Level 1a	Level 2	Level 3	Level 4 #	Level 5	Level 6	Level 7 !	Level 7a
Fluorobenzene (IS)									
1,2-Dichloroethane-d4(surr)		0.5	1	2	5	10	20	50	100
Dichlorodifluoromethane		0.5	1	2	5	10	20	50	100
Chloromethane		0.5	1	2	5	10	20	50	100
Vinyl chloride		0.5	1	2	5	10	20	50	100
Bromomethane		0.5	1	2	5	10	20	50	100
Chloroethane		0.5	1	2	5	10	20	50	100
Trichlorofluoromethane		0.5	1	2	5	10	20	50	100
1,1-Dichloroethene		0.5	1	2	5	10	20	50	100
Acetone	1	2.5	5	10	25	50	100	250	500
Iodomethane	1	2.5	5	10	25	50	100	250	500
Carbon disulfide	1	2.5	5	10	25	50	100	250	500
Methylene chloride		0.5	1	2	5	10	20	50	100
trans-1,2-Dichloroethene		0.5	1	2	5	10	20	50	100
1,1-Dichloroethane		0.5	1	2	5	10	20	50	100
Ethyl ether		0.5	1	2	5	10	20	50	100
Vinyl acetate	1	2.5	5	10	25	50	100	250	500
cis-1,2-Dichloroethene		0.5	1	2	5	10	20	50	100
1,2-Dichloroethene (total)		1	2	4	10	20	40	100	200
Cyclohexene		0.5	1	2	5	10	20	50	100
2-Chloroethylvinyl ether			5	10	25	50	100	250	500
2,2-Dichloropropane		0.5	1	2	5	10	20	50	100
2-Butanone	1	2.5	5	10	25	50	100	250	500
Bromochloromethane		0.5	1	2	5	10	20	50	100
Chloroform		0.5	1	2	5	10	20	50	100
1,1,1-Trichloroethane		0.5	1	2	5	10	20	50	100
1,1-Dichloropropene		0.5	1	2	5	10	20	50	100
Carbon tetrachloride		0.5	1	2	5	10	20	50	100
Benzene		0.5	1	2	5	10	20	50	100
1,2-Dichloroethane		0.5	1	2	5	10	20	50	100
Trichloroethene		0.5	1	2	5	10	20	50	100
1,2-Dichloropropane		0.5	1	2	5	10	20	50	100
Dibromomethane		0.5	1	2	5	10	20	50	100
Bromodichloromethane		0.5	1	2	5	10	20	50	100
cis-1,3-Dichloropropene		0.5	1	2	5	10	20	50	100
tert-Butylmethylether		0.5	1	2	5	10	20	50	100
Ethyl Ether			1	2	5	10	20	50	100
Acetonitrile			25	50	125	250	500	1250	2500
Methyl acetate			5	10	25	50	100	250	500
Cyclohexane			1	2	5	10	20	50	100
Methylcyclohexane			1	2	5	10	20	50	100
n-Butyl alcohol			50	100	250	500	1000	2500	5000
2-Nitropropane			5	10	25	50	100	250	500
Ethyl acetate			5	10	25	50	100	250	500
Acrolein			5	10	25	50	100	250	500
Trichlorotrifluoroethane			5	10	25	50	100	250	500
Allyl chloride			5	10	25	50	100	250	500
Acrylonitrile			5	10	25	50	100	250	500
1,4-Dioxane			50	100	250	500	1000	2500	5000
Isobutyl alcohol			50	100	250	500	1000	2500	5000
Methacrylonitrile			5	10	25	50	100	250	500
Propionitrile			5	10	25	50	100	250	500
Methyl methacrylate			5	10	25	50	100	250	500
Chlorotrifluoroethylene			5	10	25	50	100	250	500
2-Chloro-1,1,1-trifluoroethane			5	10	25	50	100	250	500

tert-Butyl alcohol			50	100	250	500	1000	2500	5000
Isopropyl ether			1	2	5	10	20	50	100
Ethyl tert-butyl ether			1	2	5	10	20	50	100
Isopropyl alcohol			50	100	250	500	1000	2500	5000
Methyl tert-amyl ether			1	2	5	10	20	50	100
1-Chlorohexane			1	2	5	10	20	50	100
2-Chloro-1,3-butadiene(chloroprene)			1	2	5	10	20	50	100
Chlorobenzene-d5 (IS)									
Toluene-d8 (surr)		0.5	1	2	5	10	20	50	100
4-Methyl-2-pentanone	1	2.5	5	10	25	50	100	250	500
Toluene		0.5	1	2	5	10	20	50	100
trans-1,3-Dichloropropene		0.5	1	2	5	10	20	50	100
1,1,2-Trichloroethane		0.5	1	2	5	10	20	50	100
Tetrachloroethene		0.5	1	2	5	10	20	50	100
1,3-Dichloropropane		0.5	1	2	5	10	20	50	100
2-Hexanone	1	2.5	5	10	25	50	20	250	500
Dibromochloromethane		0.5	1	2	5	10	20	50	100
1,2-Dibromoethane		0.5	1	2	5	10	20	50	100
Chlorobenzene		0.5	1	2	5	10	20	50	100
1,1,1,2-Tetrachloroethane		0.5	1	2	5	10	20	50	100
Ethylbenzene		0.5	1	2	5	10	20	50	100
m,p-Xylene		1	2	4	10	20	20	100	200
o-Xylene		0.5	1	2	5	10	20	50	100
Xylenes (total)		1.5	3	6	15	30	60	150	300
Stryene		0.5	1	2	5	10	20	50	100
Cyclohexanone			50	100	250	500	1000	2500	5000
Ethyl methacrylate			5	10	25	50	100	250	500
1,4-Dichlorobenzene-d4 (IS)									
Bromofluorobenzene (surr)		0.5	1	2	5	10	20	50	100
Bromoform		0.5	1	2	5	10	20	50	100
Isopropylbenzene		0.5	1	2	5	10	20	50	100
1,1,2,2-Tetrachloroethane		0.5	1	2	5	10	20	50	100
Bromobenzene		0.5	1	2	5	10	20	50	100
1,2,3-Trichloropropane		0.5	1	2	5	10	20	50	100
n-Propylbenzene		0.5	1	2	5	10	20	50	100
2-Chlorotoluene		0.5	1	2	5	10	20	50	100
1,3,5-Trimethylbenzene		0.5	1	2	5	10	20	50	100
4-Chlorotoluene		0.5	1	2	5	10	20	50	100
1,2,4-Trimethylbenzene		0.5	1	2	5	10	20	50	100
sec-Butylbenzene		0.5	1	2	5	10	20	50	100
1,3-Dichlorobenzene		0.5	1	2	5	10	20	50	100
tert-Butylbenzene		0.5	1	2	5	10	20	50	100
Isopropyltoluene		0.5	1	2	5	10	20	50	100
1,4-Dichlorobenzene		0.5	1	2	5	10	20	50	100
n-Butylbenzene		0.5	1	2	5	10	20	50	100
1,2-Dichlorobenzene		0.5	1	2	5	10	20	50	100
1,2-Dibromo-3-chloropropa		0.5	1	2	5	10	20	50	100
1,2,4-Trichlorobenzene		0.5	1	2	5	10	20	50	100
Hexachlorobutadiene		0.5	1	2	5	10	20	50	100
Naphthalene		0.5	1	2	5	10	20	50	100
1,2,3-Trichlorobenzene		0.5	1	2	5	10	20	50	100
cis-1,4-Dichloro-2-butene			5	10	25	50	100	250	500
trans-1,4-Dichloro-2-butene			5	10	25	50	100	250	500
Tetrahydrofuran			5	10	25	50	100	250	500
Pentachloroethane			5	10	25	50	100	250	500
Benzyl chloride			5	10	25	50	100	250	500
bis(2-Chloro-isopropyl)ether			5	10	25	50	100	250	500

Report Date: 14-Feb-2010 12:42

Calibration History

Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Start Cal Date: 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 1.00000		
03-FEB-2010 06:36	ICALsubS	/chem/VOA4.i/020210v4/4w240.d
03-FEB-2010 02:27	CALsubL+	/chem/VOA4.i/020210v4/4w231.d
Cal Level: 2 , Cal Amount: 2.00000		
03-FEB-2010 07:04	ICALsubS	/chem/VOA4.i/020210v4/4w241.d
03-FEB-2010 03:22	CALsubL+	/chem/VOA4.i/020210v4/4w233.d
Cal Level: 3 , Cal Amount: 5.00000		
03-FEB-2010 07:32	ICALsubS	/chem/VOA4.i/020210v4/4w242.d
03-FEB-2010 03:50	CALsubL+	/chem/VOA4.i/020210v4/4w234.d
Cal Level: 4 , Cal Amount: 10.00000		
03-FEB-2010 07:59	ICALsubS	/chem/VOA4.i/020210v4/4w243.d
03-FEB-2010 04:18	CALsubL+	/chem/VOA4.i/020210v4/4w235.d
Cal Level: 5 , Cal Amount: 20.00000		
03-FEB-2010 08:26	ICALsubS	/chem/VOA4.i/020210v4/4w244.d
03-FEB-2010 04:46	CALsubL+	/chem/VOA4.i/020210v4/4w236.d
Cal Level: 6 , Cal Amount: 50.00000		
03-FEB-2010 08:54	ICALsubS	/chem/VOA4.i/020210v4/4w245.d
03-FEB-2010 05:13	CALsubL+	/chem/VOA4.i/020210v4/4w237.d
Cal Level: 7 , Cal Amount: 100.00000		
03-FEB-2010 09:21	ICALsubS	/chem/VOA4.i/020210v4/4w246.d
03-FEB-2010 05:41	CALsubL+	/chem/VOA4.i/020210v4/4w238.d
Cal Level: 8 , Cal Amount: 200.00000		
03-FEB-2010 01:59	BENZENE+	/chem/VOA4.i/020210v4/4w230.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 6

Ccal Level: 6 , Ccal Amount: 50.0
13-FEB-2010 23:58 | CALsubL+ | /chem/VOA4.i/021310v4/4x626.d
Ccal Level: 6 , Ccal Amount: 50.0
14-FEB-2010 01:19 | CALsubS+SS | /chem/VOA4.i/021310v4/4x629.d

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Calibration File Names:
Level 1: /chem/VOA4.i/020210v4/4w240.d
Level 2: /chem/VOA4.i/020210v4/4w241.d
Level 3: /chem/VOA4.i/020210v4/4w242.d
Level 4: /chem/VOA4.i/020210v4/4w243.d
Level 5: /chem/VOA4.i/020210v4/4w244.d
Level 6: /chem/VOA4.i/020210v4/4w245.d
Level 7: /chem/VOA4.i/020210v4/4w246.d
Level 8: /chem/VOA4.i/020210v4/4w230.d

Compound	1 Level 1 100 Level 7	2 Level 2 200 Level 8	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
M 1 Xylenes (total)	0.76017	0.76229	0.75200	0.73316	0.80732	0.71093					
	0.71511	++++					AVRG		0.74871		4.41624
M 2 1,2-Dichloroethylene (total)	0.48289	0.49761	0.48288	0.48977	0.48144	0.47258					
	0.47860	+++++					AVRG		0.48368		1.65940
M 135 1,3-Dichloropropylene	0.44817	0.44666	0.44553	0.45159	0.48594	0.46366					
	0.48113	+++++					AVRG		0.46038		3.68756
153 Chlorotrifluoroethylene	0.16151	0.19210	0.20098	++++	0.24659	0.20577					
	0.23315	+++++					AVRG		0.20825		13.41440
154 2-Chloro-1,1,1-trifluoroethan	0.38598	0.35420	0.33791	+++++	0.35782	0.35695					
	0.36313	+++++					AVRG		0.36057		4.05369

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
3 Dichlorodifluoromethane	0.21472	0.23581	0.27051	0.24885	0.24149	0.25371					
	0.23944	+++++					AVRG		0.24351		7.05454
4 Chloromethane	0.51267	0.52648	0.50916	0.50774	0.50591	0.55870					
	0.50377	+++++					AVRG		0.51777		3.77208
5 Vinyl chloride	0.39650	0.42685	0.41996	0.42024	0.41343	0.45023					
	0.40272	+++++					AVRG		0.41856		4.18441
6 Bromomethane	0.26723	0.29914	0.28826	0.29113	0.28844	0.30462					
	0.28129	+++++					AVRG		0.28859		4.20763
7 Chloroethane	0.24065	0.27291	0.26871	0.27651	0.27098	0.29084					
	0.26575	+++++					AVRG		0.26948		5.59823
8 Trichlorofluoromethane	0.42879	0.45491	0.42213	0.42355	0.43355	0.45062					
	0.42629	+++++					AVRG		0.43426		3.04581
134 Ethyl Ether	0.27564	0.28028	0.26927	0.26357	0.26979	0.28563					
	0.27098	+++++					AVRG		0.27359		2.72783
9 Acrolein	0.05432	0.05435	0.05682	+++++	0.05639	0.05719					
	0.05985	+++++					AVRG		0.05637		3.37531
12 Trichlorotrifluoroethane	11379	16310	44349	+++++	170575	409821					
	790878	+++++					LINR	-0.05231	0.08850		0.99979

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INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
10 Acetone	0.27161	0.24766	0.22866	0.22685	0.22443	0.21478					
	0.22238	+++++					AVRG		0.23377		8.33319
11 1,1-Dichloroethylene	0.46383	0.52271	0.51120	0.51403	0.50587	0.49765					
	0.52099	+++++					AVRG		0.50518		3.99090
147 Isopropyl Alcohol	0.02841	0.02778	0.02759	++++	0.03008	0.02823					
	0.03086	++++					AVRG		0.02882		4.61632
13 Iodomethane	0.55281	0.57732	0.57390	0.58225	0.56167	0.55603					
	0.58061	+++++					AVRG		0.56923		2.13609
15 Acetonitrile	0.05321	0.05663	0.05374	0.05231	0.05047	0.04978					
	0.04851	+++++					AVRG		0.05209		5.27994
128 Methyl acetate	0.27181	0.29131	0.27577	0.26121	0.24940	0.26113					
	0.25538	+++++					AVRG		0.26657		5.31039
14 Carbon disulfide	0.98263	1.04450	1.02833	1.03892	0.98577	0.95256					
	0.96614	+++++					AVRG		0.99983		3.69717
16 Allyl chloride	0.53448	0.47451	0.49769	+++++	0.48560	0.47840					
	0.45129	+++++					AVRG		0.48791		5.23250
148 tert-Butyl Alcohol	0.04514	0.04286	0.04182	+++++	0.04509	0.04258					
	0.04507	++++-					AVRG		0.04376		3.44757

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
17 Methylene chloride	+++++	25474	45073	77519	140005	322676					
	659396	+++++					LINR	-0.03777	0.35262		0.99971
18 Acrylonitrile	0.13271	0.12956	0.13201	+++++	0.12949	0.12769					
	0.12917	+++++					AVRG		0.13010		1.44886
20 tert-Butyl methyl ether	0.85893	0.96423	0.83159	0.91952	0.78578	0.79627					
	0.81310	+++++					AVRG		0.85277		7.81066
21 trans-1,2-Dichloroethylene	0.44663	0.47674	0.46042	0.46568	0.46399	0.45417					
	0.45927	+++++					AVRG		0.46099		2.04820
23 Vinyl acetate	0.59026	0.57738	0.58136	0.60389	0.62522	0.61813					
	0.51846	+++++					AVRG		0.58781		6.03213
149 Isopropyl ether	1.16442	1.11681	1.11749	+++++	1.15853	1.13491					
	1.17205	+++++					AVRG		1.14403		2.11935
22 1,1-Dichloroethane	0.59116	0.58995	0.58426	0.58901	0.57248	0.56333					
	0.56659	+++++					AVRG		0.57954		2.03647
24 2-Chloro-1,3-butadiene	0.41526	0.38278	0.41421	+++++	0.42386	0.43011					
	0.43069	+++++					AVRG		0.41615		4.27651
150 Ethyl tert-butyl ether	0.98144	0.94940	0.95478	1.00327	1.00673	0.99015					
	1.04705	+++++					AVRG		0.99040		3.36692

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1 100 Level 7	2 Level 2 200 Level 8	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
30 2-Butanone	0.29440	0.28995	0.26987	0.27348	0.29186	0.26489					
	0.28741	++++					AVRG		0.28169		4.23800
26 Ethyl acetate	0.40066	0.34455	0.34082	++++	0.33313	0.32021					
	0.31239	++++					AVRG		0.34196		9.13473
31 cis-1,2-Dichloroethylene	0.51914	0.51849	0.50534	0.51386	0.49890	0.49099					
	0.49794	++++					AVRG		0.50638		2.17927
25 2,2-Dichloropropane	0.30679	0.28444	0.27861	0.28189	0.27634	0.26908					
	0.27433	+++++					AVRG		0.28164		4.32226
28 Propionitrile	0.05535	0.05172	0.05248	+++++	0.05222	0.05039					
	0.05156	+++++					AVRG		0.05229		3.18327
27 Methacrylonitrile	0.20719	0.19388	0.20629	+++++	0.20040	0.19712					
	0.19125	++++					AVRG		0.19936		3.26059
29 Bromochloromethane	0.17094	0.16989	0.16353	0.16905	0.16803	0.16357					
	0.17073	+++++					AVRG		0.16796		1.88889
32 Chloroform	0.56017	0.52548	0.52464	0.52435	0.52885	0.50405					
	0.51287	+++++					AVRG		0.52577		3.32513
72 Tetrahydrofuran	0.23680	0.23330	0.24190	+++++	0.23159	0.21671					
	0.20305	++++					AVRG		0.22723		6.40135

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1 100 Level 7	2 Level 2 200 Level 8	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	mi	m2	%RSD or R^2
36 1,1,1-Trichloroethane	0.39601	0.40904	0.40058	0.40404	0.40149	0.39604					
	0.40280	+++++					AVRG		0.40143		1.14067
19 Isobutyl alcohol	0.01596	0.01523	0.01510	++-++	0.01538	0.01456					
	0.01464	+++++					AVRG		0.01514		3.40402
129 Cyclohexane	0.56054	0.54397	0.52523	0.52868	0.53826	0.52091					
	0.53446	+++++					AVRG		0.53601		2.49233
34 1,1-Dichloropropene	0.39273	0.40413	0.39471	0.39464	0.39293	0.38281					
	0.39139	+++++					AVRG		0.39334		1.59195
33 Carbon tetrachloride	0.38771	0.39783	0.38252	0.38814	0.39329	0.38968					
	0.40569	+++++					AVRG		0.39212		1.95225
37 1,2-Dichloroethane	0.41564	0.43915	0.42552	0.43447	0.41804	0.40900					
	0.41561	+++++					AVRG		0.42249		2.60433
38 Benzene	1.28594	1.29057	1.20818	1.20824	1.18476	1.15883					
	1.15970	1.43309					AVRG		1.24116		7.46228
151 Methyl tert-amyl ether	0.83989	0.84468	0.84647	+++++	0.88536	0.86088					
	0.90254	++++-					AVRG		0.86330		2.93490
139 Cyclohexene	0.59461	0.60356	0.58434	0.58473	0.59317	0.57739					
	0.58407	+++++					AVRG		0.58884		1.48655

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
131 n-Butyl alcohol	0.01246	0.01312	0.01278	0.01311	0.01306	0.01356					
	0.01405	0.01250					AVRG		0.01308		4.08555
39 Trichloroethylene	0.32329	0.32454	0.31462	0.31023	0.32212	0.30572					
	0.31545	+++++					AVRG		0.31657		2.24280
42 Methyl methacrylate	0.19987	0.18294	0.20326	+++++	0.20587	0.19946					
	0.19548	+++++					AVRG		0.19781		4.09503
130 Methylcyclohexane	0.50049	0.50048	0.48690	0.48675	0.49850	0.48321					
	0.47974	+++++					AVRG		0.49087		1.78036
41 1,2-Dichloropropane	0.33795	0.34572	0.34469	0.35861	0.35300	0.33853					
	0.34322	+++++					AVRG		0.34596		2.16912
97 1,4-Dioxane	0.00350	0.00353	0.00362	+++++	0.00369	0.00349					
	0.00387	+++++					AVRG		0.00362		4.05338
43 Dibromomethane	0.18103	0.18442	0.18754	0.19334	0.19605	0.19103					
	0.19529	+++++					AVRG		0.18981		2.99840
45 Bromodichloromethane	0.36998	0.38031	0.38388	0.38403	0.40403	0.38579					
	0.40150	+++++					AVRG		0.38707		3.08363
48 2-Nitropropane	0.07729	0.07335	0.07916	+++++	0.08435	0.08761					
	0.09122	+++++					AVRG		0.08216		8.20028

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
44 2-Chloroethylvinyl ether	0.15301	0.16321	0.16281	0.17304	0.17929	0.19072					
	0.17798	+++++					AVRG		0.17144		7.38075
46 cis-1,3-Dichloropropylene	0.46933	0.47317	0.47176	0.47764	0.50034	0.48276					
	0.49879	+++++					AVRG		0.48197		2.65359
49 4-Methyl-2-pentanone	0.17676	0.19267	0.18886	0.18490	0.21740	0.18045					
	0.18674	++++					AVRG		0.18968		7.01375
50 Toluene	1.09401	1.05744	0.96914	0.93741	0.97360	0.89261					
	0.89046	+++++					AVRG		0.97353		7.99272
51 Ethyl methacrylate	0.46747	0.44975	0.48506	+++++	0.49601	0.47532					
	0.43190	+++++					AVRG		0.46758		5.02930
53 trans-1,3-Dichloropropylene	0.54957	0.54436	0.54128	0.53142	0.59687	0.54550					
	0.55172	+++++					AVRG		0.55153		3.81519
54 1,1,2-Trichloroethane	0.31583	0.29958	0.29047	0.28946	0.32061	0.27746					
	0.27876	+++++					AVRG		0.29602		5.72867
55 2-Hexanone	0.46248	0.50826	0.48649	0.48075	0.58176	0.46726					
	0.49424	+++++					AVRG		0.49732		8.11329
52 1,3-Dichloropropane	0.62867	0.62963	0.61423	0.58570	0.63680	0.55245					
	0.53748	+++++					AVRG		0.59785		6.69001

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
56 Tetrachloroethylene	0.36751	0.37704	0.34796	0.33528	0.35432	0.32123					
	0.31875	+++++					AVRG		0.34601		6.43103
57 Dibromochloromethane	0.39041	0.39435	0.38308	0.38343	0.45415	0.41035					
	0.42756	+++++					AVRG		0.40619		6.52592
59 1,2-Dibromoethane	0.36807	0.37080	0.36073	0.36543	0.40079	0.36019					
	0.37069	+++++					AVRG		0.37096		3.73181
152 1-Chlorohexane	0.32638	0.30225	0.28220	+++++	0.31574	0.30705					
	0.32553	+++++					AVRG		0.30986		5.36880
62 Chlorobenzene	1.17893	1.18438	1.13445	1.08953	1.20711	1.05380					
	1.05975	+++++					AVRG		1.12971		5.56294
60 1,1,1,2-Tetrachloroethane	0.38715	0.40056	0.41214	0.40545	0.45802	0.40545					
	0.41871	+++++					AVRG		0.41250		5.41650
58 Ethylbenzene	2.00437	1.96139	1.88810	1.85557	1.98292	1.76494					
	1.72289	+++++					AVRG		1.88288		5.78591
63 m,p-Xylenes	0.75341	0.74998	0.75097	0.72192	0.79674	0.69975					
	0.70358	+++++					AVRG		0.73948		4.58261
64 o-Xylene	0.77367	0.78689	0.75408	0.75564	0.82847	0.73327					
	0.73816	+++++					AVRG		0.76717		4.28511

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
65 Styrene	1.04454	1.14692	1.17912	1.20766	1.42826	1.25134					
	1.26369	+++++					AVRG		1.21736		9.72909
66 Bromoform	0.46915	0.46677	0.45796	0.47926	0.60662	0.53970					
	0.57740	+++++					AVRG		0.51384		11.74373
67 Isopropylbenzene	3.41779	3.24645	3.22687	3.13198	3.60788	3.03561					
	2.99871	+++++					AVRG		3.23790		6.65731
68 cis-1,4-Dichloro-2-butene	0.23632	0.22916	0.24940	+++++	0.26306	0.25571					
	0.24977	+++++					AVRG		0.24724		5.05057
70 Cyclohexanone	0.06816	0.06280	0.06721	+++++	0.07421	0.06858					
	0.06518	+++++					AVRG		0.06769		5.68019
73 1,1,2,2-Tetrachloroethane	0.91985	0.89846	0.92687	0.89706	1.05063	0.85150					
	0.83809	+++++					AVRG		0.91178		7.62885
69 trans-1,4-Dichloro-2-butene	0.23387	0.23500	0.25062	+++++	0.24886	0.24225					
	0.24042	+++++					AVRG		0.24184		2.85755
74 1,2,3-Trichloropropane	0.27470	0.25182	0.24237	0.23101	0.27849	0.22672					
	0.22716	+++++					AVRG		0.24747		8.82768
75 Bromobenzene	0.99784	0.97862	0.93113	0.89948	1.06043	0.89034					
	0.91141	+++++					AVRG		0.95275		6.52745

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
76 n-Propylbenzene	4.22071	3.99954	3.94217	3.85275	4.40876	3.63310					
	3.51343	+++++					AVRG		3.93864		7.93350
78 1,3,5-Trimethylbenzene	2.96209	2.89811	2.94738	2.80908	3.26236	2.70564					
	2.67664	+++++					AVRG		2.89447		6.81005
77 2-Chlorotoluene	2.97864	2.84796	2.83370	2.72779	3.06787	2.51427					
	2.44416	+++++					AVRG		2.77349		8.27005
80 4-Chlorotoluene	2.66524	2.52467	2.50808	2.41565	2.80605	2.30005					
	2.29062	+++++					AVRG		2.50148		7.52440
81 tert-Butylbenzene	3.03377	2.95470	2.95061	2.79904	3.34831	2.80280					
	2.79127	+++++					AVRG		2.95436		6.70184
79 1,2,4-Trimethylbenzene	3.05283	3.03468	3.00146	2.92237	3.45687	2.83044					
	2.78876	+++++					AVRG		3.01249		7.31095
82 Pentachloroethane	0.27029	0.25275	0.21280	+++++	0.21871	0.20692					
	0.29512	+++++					AVRG		0.24277		14.69038
83 sec-Butylbenzene	4.03019	4.07414	4.01093	3.84788	4.55817	3.68381					
	3.60468	+++++					AVRG		3.97283		7.90856
84 4-Isopropyltoluene	3.15499	3.18779	3.16596	3.07393	3.72939	3.00269					
	3.01131	+++++					AVRG		3.18944		7.81990

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1	2 Level 2	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	200 Level 8									
85 1,3-Dichlorobenzene	1.86970	1.85977	1.81531	1.77867	2.08648	1.69658					
	1.70906	+++++					AVRG		1.83080		7.17451
87 1,4-Dichlorobenzene	1.99271	1.91223	1.82403	1.76341	2.10990	1.69061					
	1.71163	+++++					AVRG		1.85779		8.34132
88 Benzyl chloride	1.07403	1.05145	1.16384	+++++	1.22010	1.16680					
	1.07135	+++++					AVRG		1.12460		6.05491
89 n-Butylbenzene	2.90589	3.01938	2.99146	2.86711	3.56741	2.75057					
	2.73326	+++++					AVRG		2.97644		9.48684
90 1,2-Dichlorobenzene	1.88316	1.75687	1.76730	1.72834	2.06782	1.60608					
	1.64768	+++++					AVRG		1.77961		8.72342
91 bis(2-Chloroisopropyl)ether	0.41896	0.39918	0.42071	+++++	0.45874	0.44128					
	0.42582	+++++					AVRG		0.42745		4.78256
92 1,2-Dibromo-3-chloropropane	1138	2478	5778	13706	36889	78029					
	181140	+++++					LINR	0.01502	0.18350		0.99670
93 1,2,4-Trichlorobenzene	0.96510	0.94920	0.92517	0.94990	1.19513	0.90463					
	0.93926	+++++					AVRG		0.97548		10.12755
94 Hexachlorobutadiene	0.80458	0.75781	0.69139	0.65412	0.83082	0.61322					
	0.67332	+++++					AVRG		0.71789		11.31300

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

Compound	1 Level 1 100 Level 7	2 Level 2 200 Level 8	5 Level 3	10 Level 4	20 Level 5	50 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
95 Naphthalene	1.80719	1.72048	1.71438	1.84289	2.36571	1.81767					
	1.81852	+++++					AVRG		1.86955		12.00766
96 1,2,3-Trichlorobenzene	0.76160	0.74683	0.74001	0.77461	0.95990	0.73138					
	0.75173	+++++					AVRG		0.78086		10.27016
$ 138 1,2-Dichloroethane-d4	0.24518	0.24865	0.25273	0.25262	0.25035	0.26567					
	0.28484	+++++					AVRG		0.25715		5.36302
$ 47 Toluene-d8	1.14649	1.17014	1.17337	1.13757	1.13951	1.12784					
	1.10956	+++++					AVRG		1.14350		1.97470
$ 71 Bromofluorobenzene	0.91533	0.88951	0.91924	0.89072	0.89141	0.89810					
	0.89790	+++++					AVRG		0.90031		1.34734

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 03-FEB-2010 01:59
End Cal Date : 03-FEB-2010 09:21
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Cal Date : 14-Feb-2010 12:08 gel00735

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

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 03-FEB-2010 10:16
Lab File ID: 4w248.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100203-17 Quant Type: ISTD
Method: /chem/VOA4.i/020210v4/VOA4-8260-020310.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
M 1 Xylenes (total)	0.74871	0.68973	0.68973	0.050	-7.87692	30.00000	Averaged
M 2 1,2-Dichloroethylene (total	0.48368	0.46387	0.46387	0.050	-4.09560	30.00000	Averaged
M 135 1,3-Dichloropropylene	0.46038	0.45167	0.45167	0.050	-1.89183	30.00000	Averaged
3 Dichlorodifluoromethane	0.24351	0.23098	0.23098	0.050	-5.14296	30.00000	Averaged
4 Chloromethane	0.51777	0.48970	0.48970	0.100	-5.42286	30.00000	Averaged spec
5 Vinyl chloride	0.41856	0.41425	0.41425	0.050	-1.03131	20.00000	Averaged ccc
6 Bromomethane	0.28859	0.28025	0.28025	0.050	-2.88714	30.00000	Averaged
7 Chloroethane	0.26948	0.26822	0.26822	0.050	-0.46579	30.00000	Averaged
8 Trichlorofluoromethane	0.43426	0.42409	0.42409	0.050	-2.34305	30.00000	Averaged
134 Ethyl Ether	0.27359	0.26665	0.26665	0.001	-2.53653	30.00000	Averaged
10 Acetone	0.23377	0.19990	0.19990	0.050	-14.48780	40.00000	Averaged
15 Acetonitrile	0.05209	0.05216	0.05216	0.010	0.12902	30.00000	Averaged
11 1,1-Dichloroethylene	0.50518	0.48470	0.48470	0.050	-4.05446	20.00000	Averaged ccc
128 Methyl acetate	0.26657	0.26197	0.26197	0.010	-1.72677	40.00000	Averaged
13 Iodomethane	0.56923	0.53751	0.53751	0.050	-5.57231	30.00000	Averaged
17 Methylene chloride	50.45800	50.00000	0.36917	0.050	0.91600	30.00000	Linear
14 Carbon disulfide	0.99983	0.99556	0.99556	0.050	-0.42721	30.00000	Averaged
20 tert-Butyl methyl ether	0.85277	0.80548	0.80548	0.050	-5.54577	30.00000	Averaged
21 trans-1,2-Dichloroethylene	0.46099	0.43949	0.43949	0.050	-4.66381	30.00000	Averaged
23 Vinyl acetate	0.58781	0.52695	0.52695	0.010	-10.35492	40.00000	Averaged
22 1,1-Dichloroethane	0.57954	0.56245	0.56245	0.100	-2.94948	30.00000	Averaged spec
30 2-Butanone	0.28169	0.24857	0.24857	0.030	-11.75762	40.00000	Averaged
31 cis-1,2-Dichloroethylene	0.50638	0.48826	0.48826	0.050	-3.57825	30.00000	Averaged
25 2,2-Dichloropropane	0.28164	0.25417	0.25417	0.050	-9.75535	30.00000	Averaged
32 Chloroform	0.52577	0.50917	0.50917	0.010	-3.15780	20.00000	Averaged ccc
29 Bromochloromethane	0.16796	0.16393	0.16393	0.010	-2.39987	30.00000	Averaged
36 1,1,1-Trichloroethane	0.40143	0.38829	0.38829	0.010	-3.27417	30.00000	Averaged
129 Cyclohexane	0.53601	0.51924	0.51924	0.010	-3.12872	30.00000	Averaged
34 1,1-Dichloropropene	0.39334	0.38263	0.38263	0.010	-2.72092	30.00000	Averaged
131 n-Butyl alcohol	0.01308	0.01429	0.01429	0.001	9.27552	40.00000	Averaged
33 Carbon tetrachloride	0.39212	0.37484	0.37484	0.010	-4.40742	30.00000	Averaged
$ 138 1,2-Dichloroethane-d4	0.25715	0.26311	0.26311	0.001	2.31965	30.00000	Averaged
37 1,2-Dichloroethane	0.42249	0.41360	0.41360	0.010	-2.10414	30.00000	Averaged
38 Benzene	1.24116	1.14510	1.14510	0.010	-7.73998	30.00000	Averaged
139 Cyclohexene	0.58884	0.54769	0.54769	0.001	-6.98903	30.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 03-FEB-2010 10:16
Lab File ID: 4w248.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100203-17 Quant Type: ISTD
Method: /chem/VOA4.i/020210v4/VOA4-8260-020310.m

	COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
	39 Trichloroethylene	0.31657	0.30835	0.30835	0.010	-2.59555	30.00000	Averaged	
	41 1,2-Dichloropropane	0.34596	0.33772	0.33772	0.010	-2.38144	20.00000	Averaged	ccc
	130 Methylcyclohexane	0.49087	0.47163	0.47163	0.010	-3.91830	30.00000	Averaged	
	45 Bromodichloromethane	0.38707	0.38588	0.38588	0.010	-0.30762	30.00000	Averaged	
	43 Dibromomethane	0.18981	0.19066	0.19066	0.010	0.44658	30.00000	Averaged	
	44 2-Chloroethylvinyl ether	0.17144	0.16034	0.16034	0.005	-6.47393	30.00000	Averaged	
	49 4-Methyl-2-pentanone	0.18968	0.18429	0.18429	0.010	-2.84392	40.00000	Averaged	
	46 cis-1,3-Dichloropropylene	0.48197	0.46872	0.46872	0.010	-2.75006	30.00000	Averaged	
$	47 Toluene-d8	1.14350	1.12023	1.12023	0.010	-2.03475	30.00000	Averaged	
	50 Toluene	0.97353	0.88565	0.88565	0.010	-9.02625	20.00000	Averaged	ccc
	53 trans-1,3-Dichloropropylene	0.55153	0.53838	0.53838	0.010	-2.38386	30.00000	Averaged	
	54 1,1,2-Trichloroethane	0.29602	0.28352	0.28352	0.010	-4.22394	30.00000	Averaged	
	55 2-Hexanone	0.49732	0.41807	0.41807	0.010	-15.93622	40.00000	Averaged	
	52 1,3-Dichloropropane	0.59785	0.56366	0.56366	0.010	-5.71971	30.00000	Averaged	
	56 Tetrachloroethylene	0.34601	0.30940	0.30940	0.010	-10.58073	30.00000	Averaged	
	57 Dibromochloromethane	0.40619	0.40926	0.40926	0.010	0.75653	30.00000	Averaged	
	59 1,2-Dibromoethane	0.37096	0.36527	0.36527	0.010	-1.53293	30.00000	Averaged	
	62 Chlorobenzene	1.12971	1.04560	1.04560	0.300	-7.44557	30.00000	Averaged	spcc
	60 1,1,1,2-Tetrachloroethane	0.41250	0.40401	0.40401	0.010	-2.05672	30.00000	Averaged	
	58 Ethylbenzene	1.88288	1.71229	1.71229	0.010	-9.06015	20.00000	Averaged	ccc
	63 m,p-Xylenes	0.73948	0.67961	0.67961	0.010	-8.09596	30.00000	Averaged	
	64 o-Xylene	0.76717	0.70998	0.70998	0.010	-7.45464	30.00000	Averaged	
	65 Styrene	1.21736	1.22782	1.22782	0.010	0.85901	30.00000	Averaged	
	66 Bromoform	0.51384	0.53572	0.53572	0.100	4.25858	30.00000	Averaged	spcc
	67 Isopropylbenzene	3.23790	2.91422	2.91422	0.010	-9.99674	30.00000	Averaged	
	73 1,1,2,2-Tetrachloroethane	0.91178	0.84749	0.84749	0.300	-7.05114	30.00000	Averaged	spcc
$	71 Bromofluorobenzene	0.90031	0.90271	0.90271	0.010	0.26585	30.00000	Averaged	
	74 1,2,3-Trichloropropane	0.24747	0.22910	0.22910	0.010	-7.42311	30.00000	Averaged	
	75 Bromobenzene	0.95275	0.88097	0.88097	0.010	-7.53368	30.00000	Averaged	
	76 n-Propylbenzene	3.93864	3.49097	3.49097	0.010	-11.36597	30.00000	Averaged	
	77 2-Chlorotoluene	2.77349	2.46629	2.46629	0.010	-11.07622	30.00000	Averaged	
	78 1,3,5-Trimethylbenzene	2.89447	2.58687	2.58687	0.010	-10.62725	30.00000	Averaged	
	80 4-Chlorotoluene	2.50148	2.23708	2.23708	0.010	-10.56962	30.00000	Averaged	
	81 tert-Butylbenzene	2.95436	2.65160	2.65160	0.010	-10.24786	30.00000	Averaged	
	79 1,2,4-Trimethylbenzene	3.01249	2.69691	2.69691	0.010	-10.47559	30.00000	Averaged	
	83 sec-Butylbenzene	3.97283	3.47707	3.47707	0.010	-12.47883	30.00000	Averaged	

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 03-FEB-2010 10:16
Lab File ID: 4w248.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100203-17 Quant Type: ISTD
Method: /chem/VOA4.i/020210v4/VOA4-8260-020310.m

	COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
84	4-Isopropyltoluene	3.18944	2.80059	2.80059	0.010	-12.19161	30.00000	Averaged
85	1,3-Dichlorobenzene	1.83080	1.61554	1.61554	0.010	-11.75776	30.00000	Averaged
87	1,4-Dichlorobenzene	1.85779	1.62510	1.62510	0.010	-12.52487	30.00000	Averaged
89	n-Butylbenzene	2.97644	2.53565	2.53565	0.010	-14.80926	30.00000	Averaged
90	1,2-Dichlorobenzene	1.77961	1.59569	1.59569	0.010	-10.33489	30.00000	Averaged
92	1,2-Dibromo-3-chloropropane	47.45360	50.00000	0.17140	0.010	-5.09280	30.00000	Linear
93	1,2,4-Trichlorobenzene	0.97548	0.83957	0.83957	0.010	-13.93328	30.00000	Averaged
94	Hexachlorobutadiene	0.71789	0.54159	0.54159	0.010	-24.55875	30.00000	Averaged
95	Naphthalene	1.86955	1.76030	1.76030	0.010	-5.84361	30.00000	Averaged
96	1,2,3-Trichlorobenzene	0.78086	0.70561	0.70561	0.010	-9.63699	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 9.51349
Maximun Average %D/Drift = 20.00000
* Passed Average %D/Drift Test.

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/020210v4/4w248.d
Lab Smp Id: W4VM100203-17 Client Smp ID: SECOND SOURCE
Inj Date : 03-FEB-2010 10:16
Operator : ACJ Inst ID: VOA4.i
Smp Info : |W4VM100203-17|ICV|1|VOAF|1|
Misc Info : GEL 5ML N/A UVM100126-01A/IVM100202-01
Comment :
Method : /chem/VOA4.i/020210v4/VOA4-8260-020310.m
Meth Date : 03-Feb-2010 16:59 amj Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 48 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CALsubL+.sub
Target Version: 3.50

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	5.00000	ng unit correction factor
Vo	5.00000	sample purged

Cpnd Variable Local Compound Variable

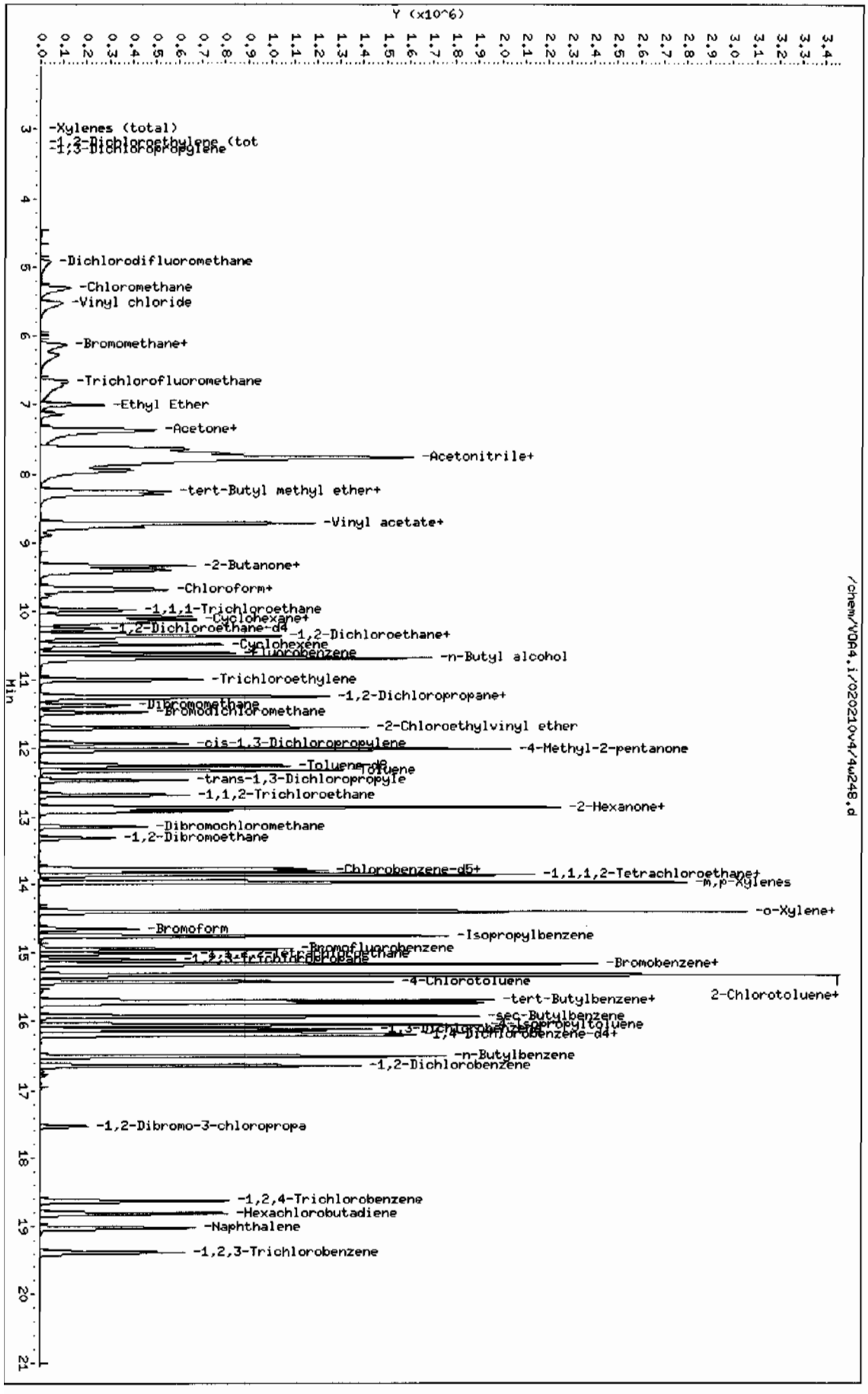
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
M 1 Xylenes (total)	106				1502877	150.000	138
M 2 1,2-Dichloroethylene (total)	96				834687	100.000	95.9
M 135 1,3-Dichloropropylene	75				812734	100.000	98.1
3 Dichlorodifluoromethane	85	4.912	4.912	(0.463)	207813	50.0000	47.4
4 Chloromethane	50	5.299	5.299	(0.499)	440577	50.0000	47.3
5 Vinyl chloride	62	5.521	5.521	(0.520)	372694	50.0000	49.5
6 Bromomethane	94	6.130	6.130	(0.577)	252143	50.0000	48.6
7 Chloroethane	64	6.288	6.288	(0.592)	241320	50.0000	49.8
8 Trichlorofluoromethane	101	6.668	6.668	(0.628)	381549	50.0000	48.8
134 Ethyl Ether	59	7.004	7.004	(0.660)	239907	50.0000	48.7
10 Acetone	43	7.357	7.357	(0.693)	899242	250.000	214
15 Acetonitrile	41	7.699	7.699	(0.725)	1173244	1250.00	1250
11 1,1-Dichloroethylene	61	7.394	7.394	(0.696)	436083	50.0000	48.0
128 Methyl acetate	43	7.753	7.753	(0.730)	1178466	250.000	246
13 Iodomethane	142	7.638	7.638	(0.719)	2417972	250.000	236
17 Methylene chloride	84	7.942	7.942	(0.748)	332142	50.0000	50.4

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
14 Carbon disulfide	76	7.778	7.778	(0.732)	4478504	250.000	249
20 tert-Butyl methyl ether	73	8.241	8.241	(0.776)	724687	50.0000	47.2
21 trans-1,2-Dichloroethylene	61	8.284	8.284	(0.780)	395403	50.0000	47.7
23 Vinyl acetate	43	8.711	8.711	(0.820)	2370451	250.000	224
22 1,1-Dichloroethane	63	8.759	8.759	(0.825)	506031	50.0000	48.5
30 2-Butanone	43	9.326	9.326	(0.878)	1118203	250.000	221
31 cis-1,2-Dichloroethylene	61	9.387	9.387	(0.884)	439284	50.0000	48.2
25 2,2-Dichloropropane	77	9.418	9.418	(0.887)	228672	50.0000	45.1
32 Chloroform	83	9.692	9.692	(0.913)	458098	50.0000	48.4
29 Bromochloromethane	128	9.662	9.662	(0.910)	147489	50.0000	48.8
36 1,1,1-Trichloroethane	97	9.979	9.979	(0.940)	349338	50.0000	48.4
129 Cyclohexane	56	10.082	10.082	(0.949)	467155	50.0000	48.4
34 1,1-Dichloropropene	75	10.137	10.137	(0.955)	344253	50.0000	48.6
131 n-Butyl alcohol	56	10.692	10.692	(1.007)	1285972	5000.00	5460
33 Carbon tetrachloride	117	10.174	10.174	(0.958)	337241	50.0000	47.8
$ 138 1,2-Dichloroethane-d4	65	10.265	10.265	(0.967)	236721	50.0000	51.2
37 1,2-Dichloroethane	62	10.344	10.344	(0.974)	372113	50.0000	48.9
38 Benzene	78	10.375	10.375	(0.977)	1030238	50.0000	46.1
139 Cyclohexene	67	10.497	10.497	(0.989)	492750	50.0000	46.5
* 40 Fluorobenzene	96	10.619	10.619	(1.000)	899694	50.0000	
39 Trichloroethylene	95	11.003	11.003	(1.036)	277422	50.0000	48.7
41 1,2-Dichloropropane	63	11.247	11.247	(1.059)	303846	50.0000	48.8
130 Methylcyclohexane	83	11.265	11.265	(1.061)	424326	50.0000	48.0
45 Bromodichloromethane	83	11.484	11.484	(1.082)	347177	50.0000	49.8
43 Dibromomethane	93	11.375	11.375	(1.071)	171536	50.0000	50.2
44 2-Chloroethylvinyl ether	63	11.698	11.698	(1.102)	721282	250.000	234
49 4-Methyl-2-pentanone	58	12.021	12.021	(0.873)	669254	250.000	243
46 cis-1,3-Dichloropropylene	75	11.929	11.929	(1.123)	421702	50.0000	48.6
$ 47 Toluene-d8	98	12.253	12.252	(0.890)	813630	50.0000	49.0
50 Toluene	92	12.326	12.326	(0.895)	643256	50.0000	45.5
53 trans-1,3-Dichloropropylene	75	12.460	12.460	(0.905)	391032	50.0000	48.8
54 1,1,2-Trichloroethane	83	12.685	12.685	(0.921)	205922	50.0000	47.9
55 2-Hexanone	43	12.856	12.856	(0.934)	1518225	250.000	210
52 1,3-Dichloropropane	76	12.880	12.880	(0.935)	409387	50.0000	47.1
56 Tetrachloroethylene	164	12.923	12.923	(0.938)	224722	50.0000	44.7
57 Dibromochloromethane	129	13.143	13.143	(0.954)	297250	50.0000	50.4
59 1,2-Dibromoethane	107	13.319	13.319	(0.967)	265298	50.0000	49.2
* 61 Chlorobenzene-d5	117	13.771	13.770	(1.000)	726307	50.0000	
62 Chlorobenzene	112	13.801	13.801	(1.002)	759423	50.0000	46.3
60 1,1,1,2-Tetrachloroethane	131	13.850	13.850	(1.006)	293438	50.0000	49.0
58 Ethylbenzene	91	13.862	13.862	(1.007)	1243648	50.0000	45.5
63 m,p-Xylenes	106	13.972	13.972	(1.015)	987214	100.000	91.9
64 o-Xylene	106	14.405	14.405	(1.046)	515663	50.0000	46.3
65 Styrene	104	14.405	14.405	(1.046)	891774	50.0000	50.4
66 Bromoform	173	14.661	14.661	(0.906)	246519	50.0000	52.1
67 Isopropylbenzene	105	14.758	14.758	(0.912)	1341014	50.0000	45.0
73 1,1,2,2-Tetrachloroethane	83	15.020	15.020	(0.928)	389983	50.0000	46.5

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
$ 71 Bromofluorobenzene	95	14.953	14.953	(0.924)	415393	50.0000	50.1
74 1,2,3-Trichloropropane	110	15.112	15.112	(0.934)	105422	50.0000	46.3
75 Bromobenzene	156	15.167	15.167	(0.937)	405391	50.0000	46.2
76 n-Propylbenzene	91	15.179	15.179	(0.938)	1606416	50.0000	44.3
77 2-Chlorotoluene	91	15.331	15.331	(0.948)	1134895	50.0000	44.5
78 1,3,5-Trimethylbenzene	105	15.331	15.331	(0.948)	1190381	50.0000	44.7
80 4-Chlorotoluene	91	15.429	15.429	(0.954)	1029422	50.0000	44.7
81 tert-Butylbenzene	119	15.703	15.703	(0.971)	1220168	50.0000	44.9
79 1,2,4-Trimethylbenzene	105	15.740	15.740	(0.973)	1241018	50.0000	44.8
83 sec-Butylbenzene	105	15.935	15.935	(0.985)	1600017	50.0000	43.8
84 4-Isopropyltoluene	119	16.051	16.051	(0.992)	1288729	50.0000	43.9
85 1,3-Dichlorobenzene	146	16.118	16.118	(0.996)	743410	50.0000	44.1
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.179	(1.000)	460163	50.0000	
87 1,4-Dichlorobenzene	146	16.209	16.209	(1.002)	747812	50.0000	43.7
89 n-Butylbenzene	91	16.502	16.502	(1.020)	1166813	50.0000	42.6
90 1,2-Dichlorobenzene	146	16.642	16.642	(1.029)	734276	50.0000	44.8
92 1,2-Dibromo-3-chloropropane	157	17.526	17.526	(1.083)	78871	50.0000	47.4
93 1,2,4-Trichlorobenzene	180	18.635	18.635	(1.152)	386338	50.0000	43.0
94 Hexachlorobutadiene	225	18.818	18.818	(1.163)	249219	50.0000	37.7
95 Naphthalene	128	19.032	19.032	(1.176)	810025	50.0000	47.1
96 1,2,3-Trichlorobenzene	180	19.385	19.385	(1.198)	324697	50.0000	45.2

Data File: /chem/VOA4.i/020210v4/4w248.d
Date : 03-FEB-2010 10:16
Client ID: SECOND SOURCE
Sample Info: IW4VM100203-17|ICV|1|VOAF|1|
Purge Volume: 5.0
Column phase: RTX-VOLATILES

Instrument: VOA4.i
Operator: ACJ
Column diameter: 0.25



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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 03-FEB-2010 10:44
Lab File ID: 4w249.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100203-18 Quant Type: ISTD
Method: /chem/VOA4.i/020210v4/VOA4-8260-020310.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
153 Chlorotrifluoroethylene	0.20825	0.17672	0.17672	0.010	-15.13796	30.00000	Averaged
154 2-Chloro-1,1,1-trifluoroeth	0.36057	0.35480	0.35480	0.010	-1.59893	30.00000	Averaged
9 Acrolein	0.05637	0.04817	0.04817	0.001	-14.55181	30.00000	Averaged
12 Trichlorotrifluoroethane	244	250	0.08746	0.050	-2.22295	30.00000	Linear
147 Isopropyl Alcohol	0.02882	0.03046	0.03046	0.010	5.67071	40.00000	Averaged
16 Allyl chloride	0.48791	0.42777	0.42777	0.010	-12.32487	30.00000	Averaged
148 tert-Butyl Alcohol	0.04376	0.04571	0.04571	0.010	4.45099	40.00000	Averaged
18 Acrylonitrile	0.13010	0.11946	0.11946	0.010	-8.17813	30.00000	Averaged
149 Isopropyl ether	1.14403	1.10927	1.10927	0.010	-3.03851	30.00000	Averaged
24 2-Chloro-1,3-butadiene	0.41615	0.38277	0.38277	0.010	-8.02077	30.00000	Averaged
150 Ethyl tert-butyl ether	0.99040	0.98428	0.98428	0.010	-0.61806	30.00000	Averaged
28 Propionitrile	0.05229	0.04702	0.04702	0.010	-10.06767	30.00000	Averaged
26 Ethyl acetate	0.34196	0.28788	0.28788	0.010	-15.81445	40.00000	Averaged
27 Methacrylonitrile	0.19936	0.18086	0.18086	0.010	-9.27762	30.00000	Averaged
72 Tetrahydrofuran	0.22723	0.20247	0.20247	0.010	-10.89541	30.00000	Averaged
19 Isobutyl alcohol	0.01514	0.01365	0.01365	0.005	-9.84955	40.00000	Averaged
151 Methyl tert-amyl ether	0.86330	0.85272	0.85272	0.010	-1.22626	30.00000	Averaged
42 Methyl methacrylate	0.19781	0.18418	0.18418	0.010	-6.89330	30.00000	Averaged
51 Ethyl methacrylate	0.46758	0.43001	0.43001	0.010	-8.03597	30.00000	Averaged
152 1-Chlorohexane	0.30986	0.29729	0.29729	0.010	-4.05582	30.00000	Averaged
97 1,4-Dioxane	0.00362	0.00329	0.00329	0.001	-8.88366	40.00000	Averaged
48 2-Nitropropane	0.08216	0.08322	0.08322	0.010	1.29293	30.00000	Averaged
68 cis-1,4-Dichloro-2-butene	0.24724	0.24327	0.24327	0.010	-1.60514	30.00000	Averaged
70 Cyclohexanone	0.06769	0.01720	0.01720	0.005	-74.58664	40.00000	Averaged <-
69 trans-1,4-Dichloro-2-butene	0.24184	0.23224	0.23224	0.010	-3.96713	30.00000	Averaged
82 Pentachloroethane	0.24277	0.17935	0.17935	0.010	-26.12360	30.00000	Averaged
88 Benzyl chloride	1.12460	0.92408	0.92408	0.010	-17.83008	30.00000	Averaged
91 bis(2-Chloroisopropyl)ether	0.42745	0.40924	0.40924	0.010	-4.25890	30.00000	Averaged
$ 138 1,2-Dichloroethane-d4	0.25715	0.24836	0.24836	0.001	-3.41713	30.00000	Averaged
$ 47 Toluene-d8	1.14350	1.13643	1.13643	0.010	-0.61782	30.00000	Averaged
$ 71 Bromofluorobenzene	0.90031	0.89666	0.89666	0.010	-0.40541	30.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 03-FEB-2010 10:44
Lab File ID: 4w249.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100203-18 Quant Type: ISTD
Method: /chem/VOA4.i/020210v4/VOA4-8260-020310.m

Average %D / Drift Results.
Calculated Average %D/Drift = 9.51349
Maximun Average %D/Drift = 20.00000
* Passed Average %D/Drift Test.

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VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/020210v4/4w249.d
Lab Smp Id: W4VM100203-18 Client Smp ID: SHORT SECOND SOURCE
Inj Date : 03-FEB-2010 10:44
Operator : ACJ Inst ID: VOA4.i
Smp Info : |W4VM100203-18|SHORTICV|1|VOAF|1|
Misc Info : GEL 5ML N/A UVM100118-08A/UVM100125-08A
Comment :
Method : /chem/VOA4.i/020210v4/VOA4-8260-020310.m
Meth Date : 03-Feb-2010 16:59 amj Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 49 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CALsubS+SS.sub
Target Version: 3.50

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	5.00000	ng unit correction factor
Vo	5.00000	sample purged

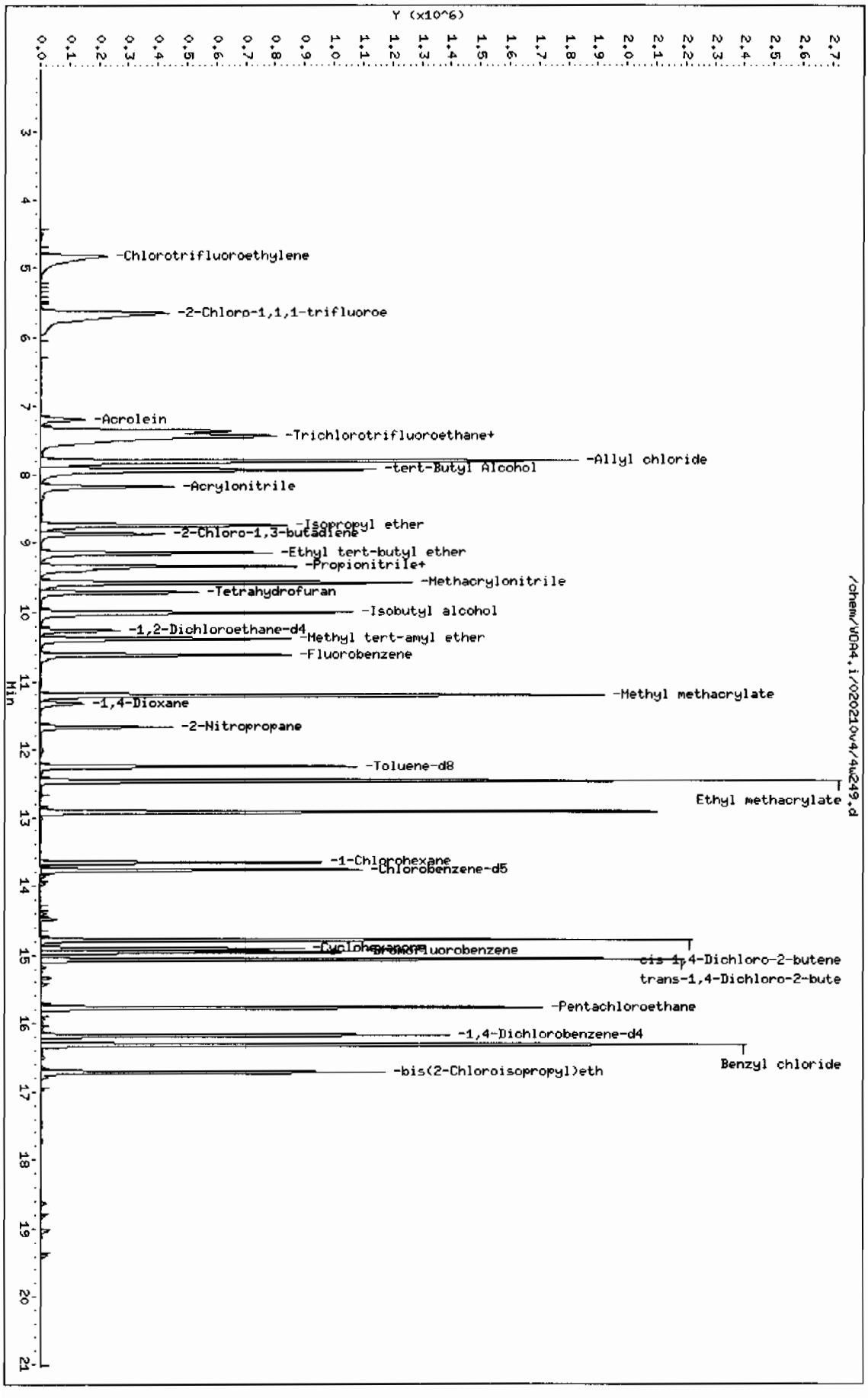
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
153 Chlorotrifluoroethylene	116	4.833	4.833	(0.455)	478587	150.000	127
154 2-Chloro-1,1,1-trifluoroethane	118	5.657	5.657	(0.533)	960849	150.000	148
9 Acrolein	56	7.180	7.180	(0.676)	217414	250.000	214
12 Trichlorotrifluoroethane	85	7.357	7.357	(0.693)	394757	250.000	244
147 Isopropyl Alcohol	45	7.436	7.436	(0.700)	1374758	2500.00	2640
16 Allyl chloride	41	7.802	7.802	(0.735)	1930771	250.000	219
148 tert-Butyl Alcohol	59	7.930	7.930	(0.747)	2062981	2500.00	2610
18 Acrylonitrile	53	8.180	8.180	(0.770)	539206	250.000	230
149 Isopropyl ether	45	8.741	8.741	(0.823)	1001352	50.0000	48.5
24 2-Chloro-1,3-butadiene	53	8.869	8.869	(0.835)	345534	50.0000	46.0
150 Ethyl tert-butyl ether	59	9.149	9.149	(0.862)	888521	50.0000	49.7
28 Propionitrile	54	9.393	9.393	(0.885)	212244	250.000	225
26 Ethyl acetate	43	9.338	9.338	(0.879)	1299369	250.000	210
27 Methacrylonitrile	41	9.576	9.576	(0.902)	816322	250.000	227
72 Tetrahydrofuran	42	9.716	9.716	(0.601)	461238	250.000	223
19 Isobutyl alcohol	41	10.009	10.009	(0.943)	616245	2500.00	2250

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
151 Methyl tert-amyl ether	73	10.387	10.387	(0.978)	769758	50.0000	49.4
42 Methyl methacrylate	69	11.210	11.210	(1.056)	831290	250.000	233
51 Ethyl methacrylate	69	12.466	12.466	(0.905)	1547049	250.000	230
152 1-Chlorohexane	55	13.667	13.667	(1.287)	268369	50.0000	48.0
97 1,4-Dioxane	88	11.326	11.326	(1.067)	148698	2500.00	2280
48 2-Nitropropane	43	11.673	11.673	(1.099)	375634	250.000	253
68 cis-1,4-Dichloro-2-butene	53	14.782	14.782	(0.914)	554185	250.000	246
70 Cyclohexanone	42	14.904	14.904	(1.082)	309442	1250.00	318
69 trans-1,4-Dichloro-2-butene	53	15.063	15.063	(0.931)	529066	250.000	240
82 Pentachloroethane	167	15.770	15.770	(0.975)	408565	250.000	185
88 Benzyl chloride	91	16.319	16.319	(1.009)	2105124	250.000	205
91 bis(2-Chloroisopropyl)ether	45	16.721	16.721	(1.034)	932288	250.000	239
* 40 Fluorobenzene	96	10.619	10.619	(1.000)	902711	50.0000	
* 61 Chlorobenzene-d5	117	13.770	13.770	(1.000)	719541	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.179	(1.000)	455615	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.265	10.265	(0.967)	224198	50.0000	48.3
$ 47 Toluene-d8	98	12.252	12.252	(0.890)	817709	50.0000	49.7
$ 71 Bromofluorobenzene	95	14.953	14.953	(0.924)	408534	50.0000	49.8

Data File: /chem/VOA4.i/020210v4/4w249.d
Date : 03-FEB-2010 10:44
Client ID: SHORT SECOND SOURCE
Sample Info: IW4VM100203-18!SHORTICV!1!VOAF!1!
Purge Volume: 5.0
Column phase: RTX-VOLATILES

Instrument: VOA4.i
Operator: ACJ
Column diameter: 0.25



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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 13-FEB-2010 23:58
Lab File ID: 4x626.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100213-05 Quant Type: ISTD
Method: /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
M 1 Xylenes (total)	0.74871	0.68353	0.68353	0.050	-8.70618	30.00000	Averaged
M 2 1,2-Dichloroethylene (total	0.48368	0.46687	0.46687	0.050	-3.47649	30.00000	Averaged
M 135 1,3-Dichloropropylene	0.46038	0.47545	0.47545	0.050	3.27214	30.00000	Averaged
3 Dichlorodifluoromethane	0.24351	0.23308	0.23308	0.050	-4.28202	30.00000	Averaged
4 Chloromethane	0.51777	0.49498	0.49498	0.100	-4.40172	30.00000	Averaged spcc
5 Vinyl chloride	0.41856	0.40351	0.40351	0.050	-3.59575	20.00000	Averaged ccc
6 Bromomethane	0.28859	0.30009	0.30009	0.050	3.98783	30.00000	Averaged
7 Chloroethane	0.26948	0.27952	0.27952	0.050	3.72566	30.00000	Averaged
8 Trichlorofluoromethane	0.43426	0.47213	0.47213	0.050	8.72098	30.00000	Averaged
134 Ethyl Ether	0.27359	0.27606	0.27606	0.001	0.90097	30.00000	Averaged
10 Acetone	0.23377	0.25850	0.25850	0.050	10.58011	40.00000	Averaged
15 Acetonitrile	0.05209	0.04909	0.04909	0.010	-5.76393	30.00000	Averaged
11 1,1-Dichloroethylene	0.50518	0.50447	0.50447	0.050	-0.14194	20.00000	Averaged ccc
128 Methyl acetate	0.26657	0.26747	0.26747	0.010	0.33609	40.00000	Averaged
13 Iodomethane	0.56923	0.56330	0.56330	0.050	-1.04084	30.00000	Averaged
17 Methylene chloride	47.35077	50.00000	0.34726	0.050	-5.29847	30.00000	Linear
14 Carbon disulfide	0.99983	0.97244	0.97244	0.050	-2.73951	30.00000	Averaged
20 tert-Butyl methyl ether	0.85277	0.81182	0.81182	0.050	-4.80262	30.00000	Averaged
21 trans-1,2-Dichloroethylene	0.46099	0.44770	0.44770	0.050	-2.88303	30.00000	Averaged
23 Vinyl acetate	0.58781	0.63471	0.63471	0.010	7.97852	40.00000	Averaged
22 1,1-Dichloroethane	0.57954	0.55112	0.55112	0.100	-4.90411	30.00000	Averaged spcc
30 2-Butanone	0.28169	0.30140	0.30140	0.030	6.99446	40.00000	Averaged
31 cis-1,2-Dichloroethylene	0.50638	0.48604	0.48604	0.050	-4.01668	30.00000	Averaged
25 2,2-Dichloropropane	0.28164	0.28763	0.28763	0.050	2.12653	30.00000	Averaged
32 Chloroform	0.52577	0.52053	0.52053	0.010	-0.99774	20.00000	Averaged ccc
29 Bromochloromethane	0.16796	0.16737	0.16737	0.010	-0.35059	30.00000	Averaged
36 1,1,1-Trichloroethane	0.40143	0.40898	0.40898	0.010	1.88103	30.00000	Averaged
129 Cyclohexane	0.53601	0.49163	0.49163	0.010	-8.27956	30.00000	Averaged
34 1,1-Dichloropropene	0.39334	0.38285	0.38285	0.010	-2.66527	30.00000	Averaged
131 n-Butyl alcohol	0.01308	0.01253	0.01253	0.001	-4.16804	40.00000	Averaged
33 Carbon tetrachloride	0.39212	0.41558	0.41558	0.010	5.98129	30.00000	Averaged
$ 138 1,2-Dichloroethane-d4	0.25715	0.23042	0.23042	0.001	-10.39511	30.00000	Averaged
37 1,2-Dichloroethane	0.42249	0.43646	0.43646	0.010	3.30770	30.00000	Averaged
38 Benzene	1.24116	1.11102	1.11102	0.010	-10.48563	30.00000	Averaged
139 Cyclohexene	0.58884	0.55678	0.55678	0.001	-5.44413	30.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 13-FEB-2010 23:58
Lab File ID: 4x626.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100213-05 Quant Type: ISTD
Method: /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m

	COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
	39 Trichloroethylene	0.31657	0.29803	0.29803	0.010	-5.85545	30.00000	Averaged	
	41 1,2-Dichloropropane	0.34596	0.32739	0.32739	0.010	-5.36783	20.00000	Averaged	ccc
	130 Methylcyclohexane	0.49087	0.45604	0.45604	0.010	-7.09515	30.00000	Averaged	
	45 Bromodichloromethane	0.38707	0.40334	0.40334	0.010	4.20255	30.00000	Averaged	
	43 Dibromomethane	0.18981	0.19847	0.19847	0.010	4.55847	30.00000	Averaged	
	44 2-Chloroethylvinyl ether	0.17144	0.16769	0.16769	0.005	-2.18454	30.00000	Averaged	
	49 4-Methyl-2-pentanone	0.18968	0.17471	0.17471	0.010	-7.89468	40.00000	Averaged	
	46 cis-1,3-Dichloropropylene	0.48197	0.49207	0.49207	0.010	2.09505	30.00000	Averaged	
$	47 Toluene-d8	1.14350	0.97136	0.97136	0.010	-15.05307	30.00000	Averaged	
	50 Toluene	0.97353	0.83916	0.83916	0.010	-13.80222	20.00000	Averaged	ccc
	53 trans-1,3-Dichloropropylene	0.55153	0.53861	0.53861	0.010	-2.34257	30.00000	Averaged	
	54 1,1,2-Trichloroethane	0.29602	0.26636	0.26636	0.010	-10.01925	30.00000	Averaged	
	55 2-Hexanone	0.49732	0.47657	0.47657	0.010	-4.17253	40.00000	Averaged	
	52 1,3-Dichloropropane	0.59785	0.52981	0.52981	0.010	-11.38021	30.00000	Averaged	
	56 Tetrachloroethylene	0.34601	0.30613	0.30613	0.010	-11.52754	30.00000	Averaged	
	57 Dibromochloromethane	0.40619	0.41424	0.41424	0.010	1.98106	30.00000	Averaged	
	59 1,2-Dibromoethane	0.37096	0.35203	0.35203	0.010	-5.10121	30.00000	Averaged	
	62 Chlorobenzene	1.12971	1.01653	1.01653	0.300	-10.01853	30.00000	Averaged	spec
	60 1,1,1,2-Tetrachloroethane	0.41250	0.40524	0.40524	0.010	-1.75886	30.00000	Averaged	
	58 Ethylbenzene	1.88288	1.67508	1.67508	0.010	-11.03647	20.00000	Averaged	ccc
	63 m,p-Xylenes	0.73948	0.67883	0.67883	0.010	-8.20114	30.00000	Averaged	
	64 o-Xylene	0.76717	0.69291	0.69291	0.010	-9.67981	30.00000	Averaged	
	65 Styrene	1.21736	1.18610	1.18610	0.010	-2.56810	30.00000	Averaged	
	66 Bromoform	0.51384	0.51852	0.51852	0.100	0.91106	30.00000	Averaged	spec
	67 Isopropylbenzene	3.23790	2.80127	2.80127	0.010	-13.48510	30.00000	Averaged	
	73 1,1,2,2-Tetrachloroethane	0.91178	0.79392	0.79392	0.300	-12.92601	30.00000	Averaged	spec
$	71 Bromofluorobenzene	0.90031	0.90678	0.90678	0.010	0.71769	30.00000	Averaged	
	74 1,2,3-Trichloropropane	0.24747	0.21484	0.21484	0.010	-13.18629	30.00000	Averaged	
	75 Bromobenzene	0.95275	0.84153	0.84153	0.010	-11.67305	30.00000	Averaged	
	76 n-Propylbenzene	3.93864	3.34961	3.34961	0.010	-14.95498	30.00000	Averaged	
	77 2-Chlorotoluene	2.77349	2.36212	2.36212	0.010	-14.83201	30.00000	Averaged	
	78 1,3,5-Trimethylbenzene	2.89447	2.55970	2.55970	0.010	-11.56582	30.00000	Averaged	
	80 4-Chlorotoluene	2.50148	2.16800	2.16800	0.010	-13.33112	30.00000	Averaged	
	81 tert-Butylbenzene	2.95436	2.63380	2.63380	0.010	-10.85039	30.00000	Averaged	
	79 1,2,4-Trimethylbenzene	3.01249	2.69658	2.69658	0.010	-10.48661	30.00000	Averaged	
	83 sec-Butylbenzene	3.97283	3.46035	3.46035	0.010	-12.89950	30.00000	Averaged	

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 13-FEB-2010 23:58
Lab File ID: 4x626.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100213-05 Quant Type: ISTD
Method: /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
84 4-Isopropyltoluene	3.18944	2.91561	2.91561	0.010	-8.58531	30.00000	Averaged
85 1,3-Dichlorobenzene	1.83080	1.64396	1.64396	0.010	-10.20545	30.00000	Averaged
87 1,4-Dichlorobenzene	1.85779	1.65253	1.65253	0.010	-11.04836	30.00000	Averaged
89 n-Butylbenzene	2.97644	2.65407	2.65407	0.010	-10.83082	30.00000	Averaged
90 1,2-Dichlorobenzene	1.77961	1.57940	1.57940	0.010	-11.25028	30.00000	Averaged
92 1,2-Dibromo-3-chloropropane	43.74386	50.00000	0.15778	0.010	-12.51227	30.00000	Linear
93 1,2,4-Trichlorobenzene	0.97548	0.91124	0.91124	0.010	-6.58600	30.00000	Averaged
94 Hexachlorobutadiene	0.71789	0.65513	0.65513	0.010	-8.74273	30.00000	Averaged
95 Naphthalene	1.86955	1.62532	1.62532	0.010	-13.06357	30.00000	Averaged
96 1,2,3-Trichlorobenzene	0.78086	0.72330	0.72330	0.010	-7.37251	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 6.89563
Maximun Average %D/Drift = 20.00000
* Passed Average %D/Drift Test.

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x626.d
Lab Smp Id: W4VM100213-05 Client Smp ID: VSTD050
Inj Date : 13-FEB-2010 23:58
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |W4VM100213-05|CCV|1|VOAF|1|
Misc Info : GEL 5ML N/A UVM100106-07C/UVM100202-07B
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CALsubL+.sub
Target Version: 3.50
Processing Host: kilroy

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	5.00000	ng unit correction factor
Vo	5.00000	sample purged

Cpnd Variable Local Compound Variable

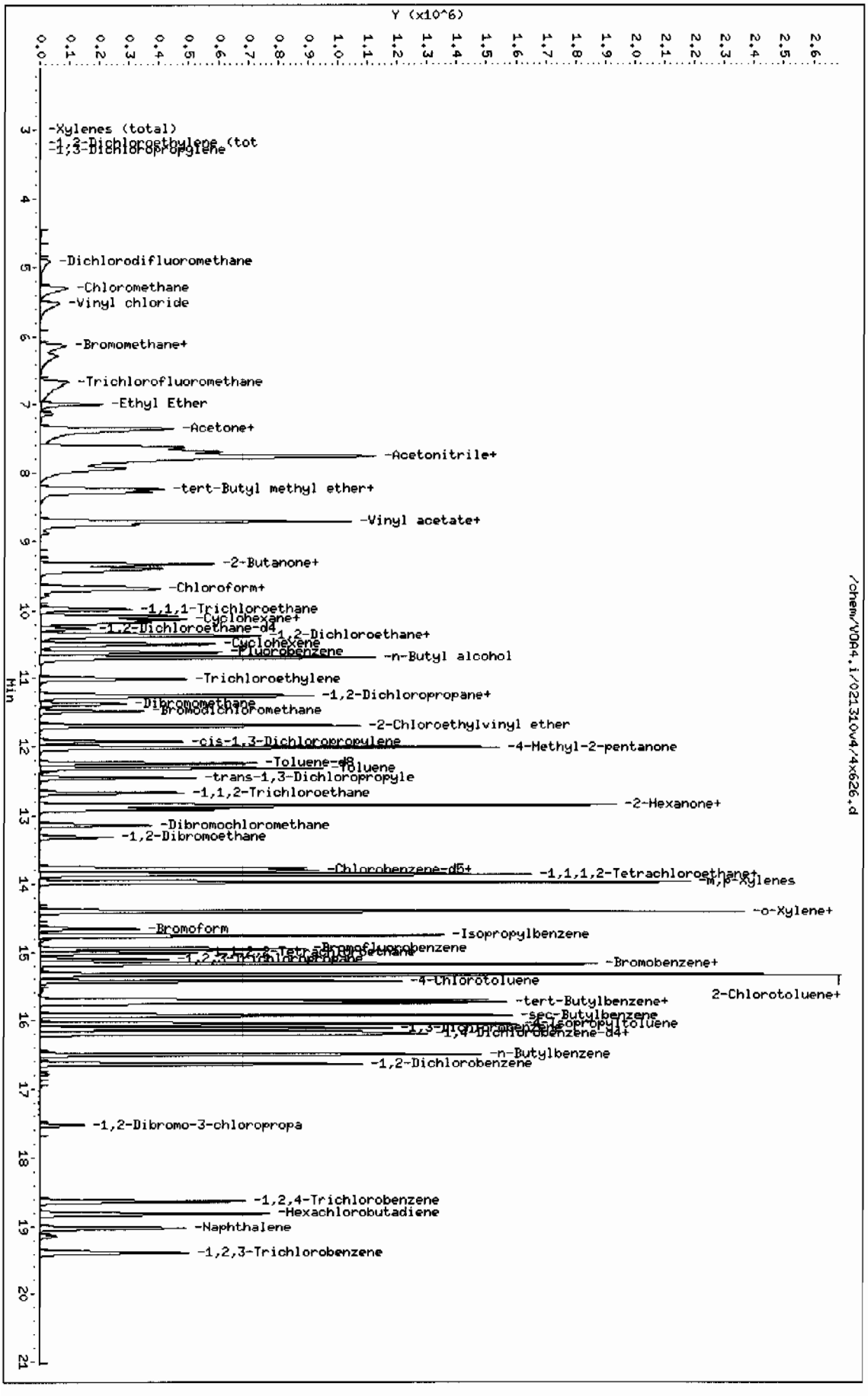
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
M 1 Xylenes (total)	106				1138179	150.000	137
M 2 1,2-Dichloroethylene (total)	96				608398	100.000	96.6
M 135 1,3-Dichloropropylene	75				619578	100.000	103
3 Dichlorodifluoromethane	85	4.904	4.904	(0.462)	151868	50.0000	47.8
4 Chloromethane	50	5.299	5.299	(0.499)	322519	50.0000	47.8
5 Vinyl chloride	62	5.521	5.521	(0.520)	262918	50.0000	48.2
6 Bromomethane	94	6.123	6.123	(0.577)	195534	50.0000	52.0
7 Chloroethane	64	6.281	6.281	(0.592)	182128	50.0000	51.9
8 Trichlorofluoromethane	101	6.669	6.669	(0.628)	307631	50.0000	54.4
134 Ethyl Ether	59	6.998	6.998	(0.659)	179873	50.0000	50.4
10 Acetone	43	7.352	7.352	(0.693)	842161	250.000	276
15 Acetonitrile	41	7.699	7.699	(0.725)	799678	1250.00	1180
11 1,1-Dichloroethylene	61	7.382	7.382	(0.696)	328698	50.0000	49.9
128 Methyl acetate	43	7.748	7.748	(0.730)	871382	250.000	251
13 Iodomethane	142	7.632	7.632	(0.719)	1835175	250.000	247

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
17 Methylene chloride	84	7.943	7.943	(0.748)	226265	50.0000	47.4
14 Carbon disulfide	76	7.773	7.773	(0.732)	3168096	250.000	243
20 tert-Butyl methyl ether	73	8.236	8.236	(0.776)	528961	50.0000	47.6
21 trans-1,2-Dichloroethylene	61	8.285	8.285	(0.781)	291707	50.0000	48.6
23 Vinyl acetate	43	8.705	8.705	(0.820)	2067814	250.000	270
22 1,1-Dichloroethane	63	8.754	8.754	(0.825)	359096	50.0000	47.5
30 2-Butanone	43	9.321	9.321	(0.878)	981916	250.000	267
31 cis-1,2-Dichloroethylene	61	9.382	9.382	(0.884)	316691	50.0000	48.0
25 2,2-Dichloropropane	77	9.419	9.419	(0.887)	187413	50.0000	51.1
32 Chloroform	83	9.687	9.687	(0.913)	339163	50.0000	49.5
29 Bromochloromethane	128	9.656	9.656	(0.910)	109057	50.0000	49.8
36 1,1,1-Trichloroethane	97	9.980	9.980	(0.940)	266481	50.0000	50.9
129 Cyclohexane	56	10.083	10.083	(0.950)	320333	50.0000	45.9
34 1,1-Dichloropropene	75	10.132	10.132	(0.955)	249457	50.0000	48.7
131 n-Butyl alcohol	56	10.687	10.687	(1.007)	816749	5000.00	4790
33 Carbon tetrachloride	117	10.168	10.168	(0.958)	270779	50.0000	53.0
$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.967)	150134	50.0000	44.8
37 1,2-Dichloroethane	62	10.339	10.339	(0.974)	284389	50.0000	51.6
38 Benzene	78	10.370	10.370	(0.977)	723913	50.0000	44.8
139 Cyclohexene	67	10.492	10.492	(0.988)	362786	50.0000	47.3
* 40 Fluorobenzene	96	10.614	10.614	(1.000)	651575	50.0000	
39 Trichloroethylene	95	11.004	11.004	(1.037)	194190	50.0000	47.1
41 1,2-Dichloropropane	63	11.241	11.241	(1.059)	213319	50.0000	47.3
130 Methylcyclohexane	83	11.260	11.260	(1.061)	297144	50.0000	46.4
45 Bromodichloromethane	83	11.479	11.479	(1.082)	262807	50.0000	52.1
43 Dibromomethane	93	11.369	11.369	(1.071)	129315	50.0000	52.3
44 2-Chloroethylvinyl ether	63	11.693	11.693	(1.102)	546323	250.000	244
49 4-Methyl-2-pentanone	58	12.016	12.016	(0.873)	484864	250.000	230
46 cis-1,3-Dichloropropylene	75	11.930	11.930	(1.124)	320620	50.0000	51.0
$ 47 Toluene-d8	98	12.247	12.247	(0.890)	539159	50.0000	42.5
50 Toluene	92	12.321	12.321	(0.895)	465777	50.0000	43.1
53 trans-1,3-Dichloropropylene	75	12.461	12.461	(0.905)	298958	50.0000	48.8
54 1,1,2-Trichloroethane	83	12.680	12.680	(0.921)	147846	50.0000	45.0
55 2-Hexanone	43	12.857	12.857	(0.934)	1322609	250.000	240
52 1,3-Dichloropropane	76	12.875	12.875	(0.935)	294075	50.0000	44.3
56 Tetrachloroethylene	164	12.918	12.918	(0.938)	169917	50.0000	44.2
57 Dibromochloromethane	129	13.144	13.144	(0.955)	229923	50.0000	51.0
59 1,2-Dibromoethane	107	13.314	13.314	(0.967)	195397	50.0000	47.4
* 61 Chlorobenzene-d5	117	13.765	13.765	(1.000)	555053	50.0000	
62 Chlorobenzene	112	13.802	13.802	(1.003)	564227	50.0000	45.0
60 1,1,1,2-Tetrachloroethane	131	13.851	13.851	(1.006)	224931	50.0000	49.1
58 Ethylbenzene	91	13.863	13.863	(1.007)	929757	50.0000	44.5
63 m,p-Xylenes	106	13.967	13.967	(1.015)	753578	100.000	91.8
64 o-Xylene	106	14.399	14.399	(1.046)	384601	50.0000	45.2
65 Styrene	104	14.399	14.399	(1.046)	658348	50.0000	48.7
66 Bromoform	173	14.655	14.655	(0.906)	191587	50.0000	50.4
67 Isopropylbenzene	105	14.753	14.753	(0.912)	1035034	50.0000	43.2

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
73 1,1,2,2-Tetrachloroethane	83	15.015	15.015	(0.928)	293345	50.0000	43.5
$ 71 Bromofluorobenzene	95	14.948	14.948	(0.924)	335043	50.0000	50.4
74 1,2,3-Trichloropropane	110	15.107	15.107	(0.934)	79379	50.0000	43.4
75 Bromobenzene	156	15.161	15.161	(0.937)	310937	50.0000	44.2
76 n-Propylbenzene	91	15.180	15.180	(0.939)	1237642	50.0000	42.5
77 2-Chlorotoluene	91	15.326	15.326	(0.948)	872776	50.0000	42.6
78 1,3,5-Trimethylbenzene	105	15.326	15.326	(0.948)	945779	50.0000	44.2
80 4-Chlorotoluene	91	15.430	15.430	(0.954)	801051	50.0000	43.3
81 tert-Butylbenzene	119	15.704	15.704	(0.971)	973157	50.0000	44.6
79 1,2,4-Trimethylbenzene	105	15.741	15.741	(0.973)	996353	50.0000	44.8
83 sec-Butylbenzene	105	15.930	15.930	(0.985)	1278559	50.0000	43.6
84 4-Isopropyltoluene	119	16.052	16.052	(0.992)	1077284	50.0000	45.7
85 1,3-Dichlorobenzene	146	16.119	16.119	(0.997)	607422	50.0000	44.9
* 86 1,4-Dichlorobenzene-d4	152	16.173	16.173	(1.000)	369488	50.0000	
87 1,4-Dichlorobenzene	146	16.204	16.204	(1.002)	610591	50.0000	44.5
89 n-Butylbenzene	91	16.503	16.503	(1.020)	980646	50.0000	44.6
90 1,2-Dichlorobenzene	146	16.643	16.643	(1.029)	583568	50.0000	44.4
92 1,2-Dibromo-3-chloropropane	157	17.527	17.527	(1.084)	58299	50.0000	43.7
93 1,2,4-Trichlorobenzene	180	18.630	18.630	(1.152)	336692	50.0000	46.7
94 Hexachlorobutadiene	225	18.813	18.813	(1.163)	242063	50.0000	45.6
95 Naphthalene	128	19.027	19.027	(1.176)	600536	50.0000	43.5
96 1,2,3-Trichlorobenzene	180	19.386	19.386	(1.199)	267249	50.0000	46.3

Data File: /chem/VOA4.i/021310v4/4x626.d
Date : 13-FEB-2010 23:58
Client ID: VSTD050
Sample Info: IW4VM100213-05|CCV|1|VOAF|1|
Purge Volume: 5.0
Column phase: RTX-VOLATILES

Instrument: VOA4.i
Operator: GRB2
Column diameter: 0.25



Page 1

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 14-FEB-2010 01:19
Lab File ID: 4x629.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100213-08 Quant Type: ISTD
Method: /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
153 Chlorotrifluoroethylene	0.20825	0.01112	0.01112	0.010	-94.66139	30.00000	Averaged	<-
154 2-Chloro-1,1,1-trifluoroeth	0.36057	0.24073	0.24073	0.010	-33.23443	30.00000	Averaged	<-
9 Acrolein	0.05637	0.05787	0.05787	0.001	2.65056	30.00000	Averaged	
12 Trichlorotrifluoroethane	256	250	0.09155	0.050	2.40101	30.00000	Linear	
147 Isopropyl Alcohol	0.02882	0.03281	0.03281	0.010	13.81969	40.00000	Averaged	
16 Allyl chloride	0.48791	0.44175	0.44175	0.010	-9.46086	30.00000	Averaged	
148 tert-Butyl Alcohol	0.04376	0.05094	0.05094	0.010	16.41468	40.00000	Averaged	
18 Acrylonitrile	0.13010	0.12243	0.12243	0.010	-5.89617	30.00000	Averaged	
149 Isopropyl ether	1.14403	0.97099	0.97099	0.010	-15.12600	30.00000	Averaged	
24 2-Chloro-1,3-butadiene	0.41615	0.42219	0.42219	0.010	1.45063	30.00000	Averaged	
150 Ethyl tert-butyl ether	0.99040	0.88577	0.88577	0.010	-10.56469	30.00000	Averaged	
28 Propionitrile	0.05229	0.04805	0.04805	0.010	-8.10667	30.00000	Averaged	
26 Ethyl acetate	0.34196	0.29410	0.29410	0.010	-13.99706	40.00000	Averaged	
27 Methacrylonitrile	0.19936	0.18524	0.18524	0.010	-7.08179	30.00000	Averaged	
72 Tetrahydrofuran	0.22723	0.18286	0.18286	0.010	-19.52379	30.00000	Averaged	
19 Isobutyl alcohol	0.01514	0.01315	0.01315	0.005	-13.15548	40.00000	Averaged	
151 Methyl tert-amyl ether	0.86330	0.79981	0.79981	0.010	-7.35442	30.00000	Averaged	
42 Methyl methacrylate	0.19781	0.18633	0.18633	0.010	-5.80453	30.00000	Averaged	
51 Ethyl methacrylate	0.46758	0.41357	0.41357	0.010	-11.55267	30.00000	Averaged	
152 1-Chlorohexane	0.30986	0.31823	0.31823	0.010	2.69978	30.00000	Averaged	
97 1,4-Dioxane	0.00362	0.00333	0.00333	0.001	-7.87613	40.00000	Averaged	
48 2-Nitropropane	0.08216	0.08895	0.08895	0.010	8.25911	30.00000	Averaged	
68 cis-1,4-Dichloro-2-butene	0.24724	0.25946	0.25946	0.010	4.94320	30.00000	Averaged	
70 Cyclohexanone	0.06769	0.01678	0.01678	0.005	-75.20362	40.00000	Averaged	<-
69 trans-1,4-Dichloro-2-butene	0.24184	0.24533	0.24533	0.010	1.44292	30.00000	Averaged	
82 Pentachloroethane	0.24277	0.53982	0.53982	0.010	122	30.00000	Averaged	<-
88 Benzyl chloride	1.12460	1.32574	1.32574	0.010	17.88542	30.00000	Averaged	
91 bis(2-Chloroisopropyl)ether	0.42745	0.37065	0.37065	0.010	-13.28751	30.00000	Averaged	
$ 138 1,2-Dichloroethane-d4	0.25715	0.21305	0.21305	0.001	-17.14922	30.00000	Averaged	
$ 47 Toluene-d8	1.14350	0.98466	0.98466	0.010	-13.89014	30.00000	Averaged	
$ 71 Bromofluorobenzene	0.90031	0.93014	0.93014	0.010	3.31304	30.00000	Averaged	

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 14-FEB-2010 01:19
Lab File ID: 4x629.d Init. Cal. Date(s): 03-FEB-2010 03-FEB-2010
Analysis Type: WATER Init. Cal. Times: 01:59 09:21
Lab Sample ID: W4VM100213-08 Quant Type: ISTD
Method: /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	18.72798
Maximun Average %D/Drift =	20.00000
* Passed Average %D/Drift Test.	

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VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x629.d
Lab Smp Id: W4VM100213-08 Client Smp ID: VSTD250S
Inj Date : 14-FEB-2010 01:19
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |W4VM100213-08|SHORT|1|VOAF|1|
Misc Info : GEL 5ML N/A UVM100118-08B/UVM100125-08B
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:06 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 29 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CALsubS+SS.sub
Target Version: 3.50

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	5.00000	ng unit correction factor
Vo	5.00000	sample purged

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
153 Chlorotrifluoroethylene	116	4.833	4.833	(0.455)	23227	150.000	8.0(a)
154 2-Chloro-1,1,1-trifluoroethane	118	5.657	5.657	(0.533)	502971	150.000	100
9 Acrolein	56	7.180	7.180	(0.677)	201502	250.000	257
12 Trichlorotrifluoroethane	85	7.351	7.351	(0.693)	318804	250.000	256
147 Isopropyl Alcohol	45	7.430	7.430	(0.700)	1142416	2500.00	2840
16 Allyl chloride	41	7.796	7.796	(0.735)	1538246	250.000	226
148 tert-Butyl Alcohol	59	7.924	7.924	(0.747)	1773886	2500.00	2910
18 Acrylonitrile	53	8.174	8.174	(0.770)	426335	250.000	235
149 Isopropyl ether	45	8.741	8.741	(0.824)	676234	50.0000	42.4
24 2-Chloro-1,3-butadiene	53	8.869	8.869	(0.836)	294029	50.0000	50.7
150 Ethyl tert-butyl ether	59	9.143	9.143	(0.862)	616885	50.0000	44.7
28 Propionitrile	54	9.387	9.387	(0.885)	167316	250.000	230
26 Ethyl acetate	43	9.338	9.338	(0.880)	1024102	250.000	215
27 Methacrylonitrile	41	9.570	9.570	(0.902)	645034	250.000	232
72 Tetrahydrofuran	42	9.710	9.710	(0.600)	351644	250.000	201
19 Isobutyl alcohol	41	10.003	10.003	(0.943)	457997	2500.00	2170

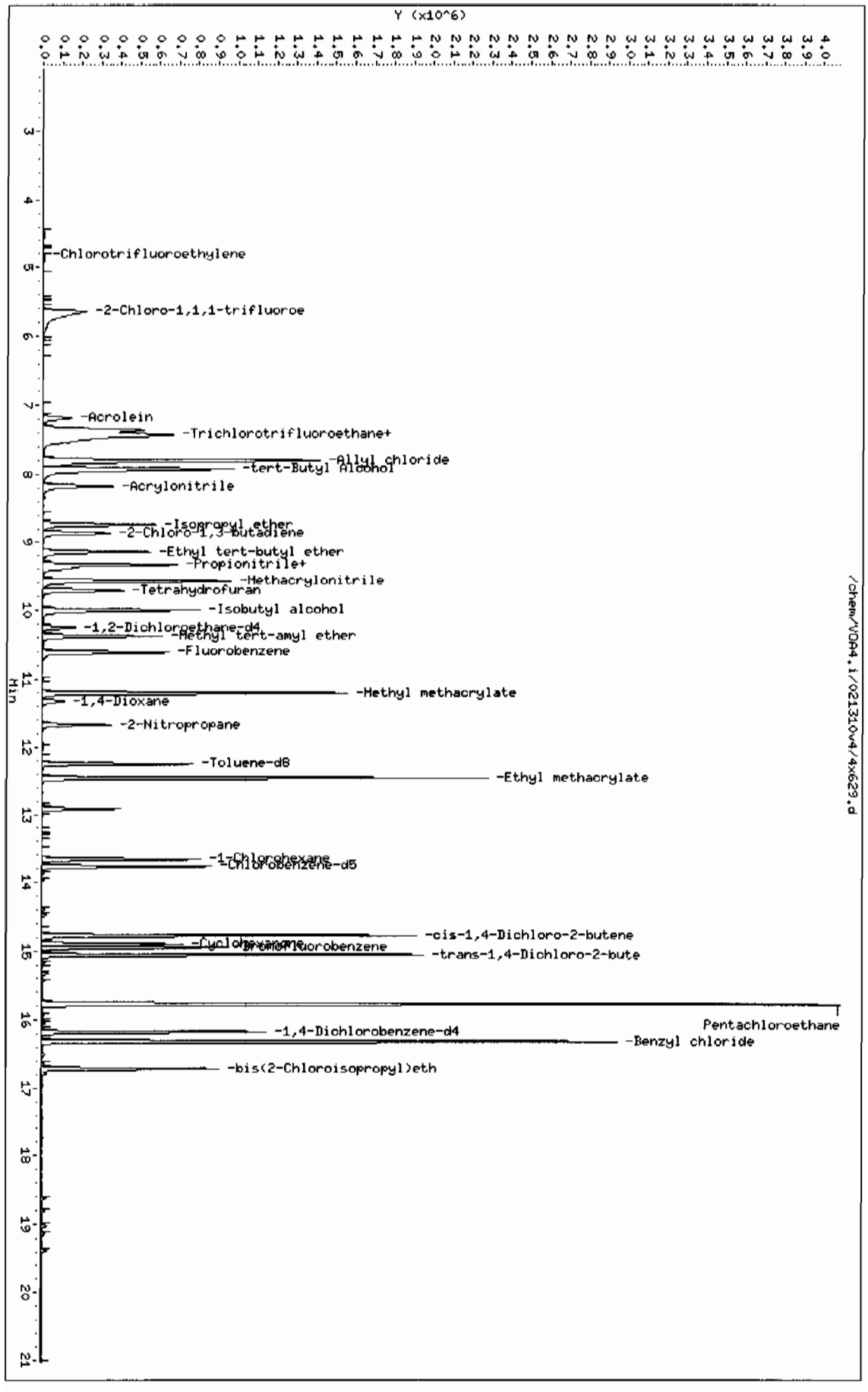
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
151 Methyl tert-amyl ether	73	10.381	10.381	(0.978)	557022	50.0000	46.3
42 Methyl methacrylate	69	11.204	11.204	(1.056)	648838	250.000	235
51 Ethyl methacrylate	69	12.460	12.460	(0.905)	1223459	250.000	221
152 1-Chlorohexane	55	13.661	13.661	(1.287)	221624	50.0000	51.3
97 1,4-Dioxane	88	11.326	11.326	(1.067)	115988	2500.00	2300
48 2-Nitropropane	43	11.667	11.667	(1.099)	309731	250.000	271
68 cis-1,4-Dichloro-2-butene	53	14.783	14.783	(0.914)	498939	250.000	262
70 Cyclohexanone	42	14.904	14.904	(1.083)	248270	1250.00	310
69 trans-1,4-Dichloro-2-butene	53	15.063	15.063	(0.931)	471761	250.000	254
82 Pentachloroethane	167	15.770	15.770	(0.975)	1038065	250.000	556(A)
88 Benzyl chloride	91	16.313	16.313	(1.009)	2549388	250.000	295
91 bis(2-Chloroisopropyl)ether	45	16.715	16.715	(1.034)	712762	250.000	217
* 40 Fluorobenzene	96	10.613	10.613	(1.000)	696440	50.0000	
* 61 Chlorobenzene-d5	117	13.764	13.764	(1.000)	591663	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.172	16.172	(1.000)	384599	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.259	10.259	(0.967)	148375	50.0000	41.4
$ 47 Toluene-d8	98	12.246	12.246	(0.890)	582588	50.0000	43.0
$ 71 Bromofluorobenzene	95	14.947	14.947	(0.924)	357732	50.0000	51.6

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: /chem/VOA4.i/021310v4/4x629.d
Date : 14-FEB-2010 01:19
Client ID: VSTD250S
Sample Info: !W4VM100213-08!SHORT14!VOAF14!
Purge Volume: 5.0
Column phase: RTX-VOLATILES

Instrument: VOA4.i
Operator: CRB2
Column diameter: 0.25



Page 1

QC Data

Data File: /chem/VOA4.i/020210v4/4w228.d

Page 1

Date : 03-FEB-2010 01:04

Client ID: BFB01

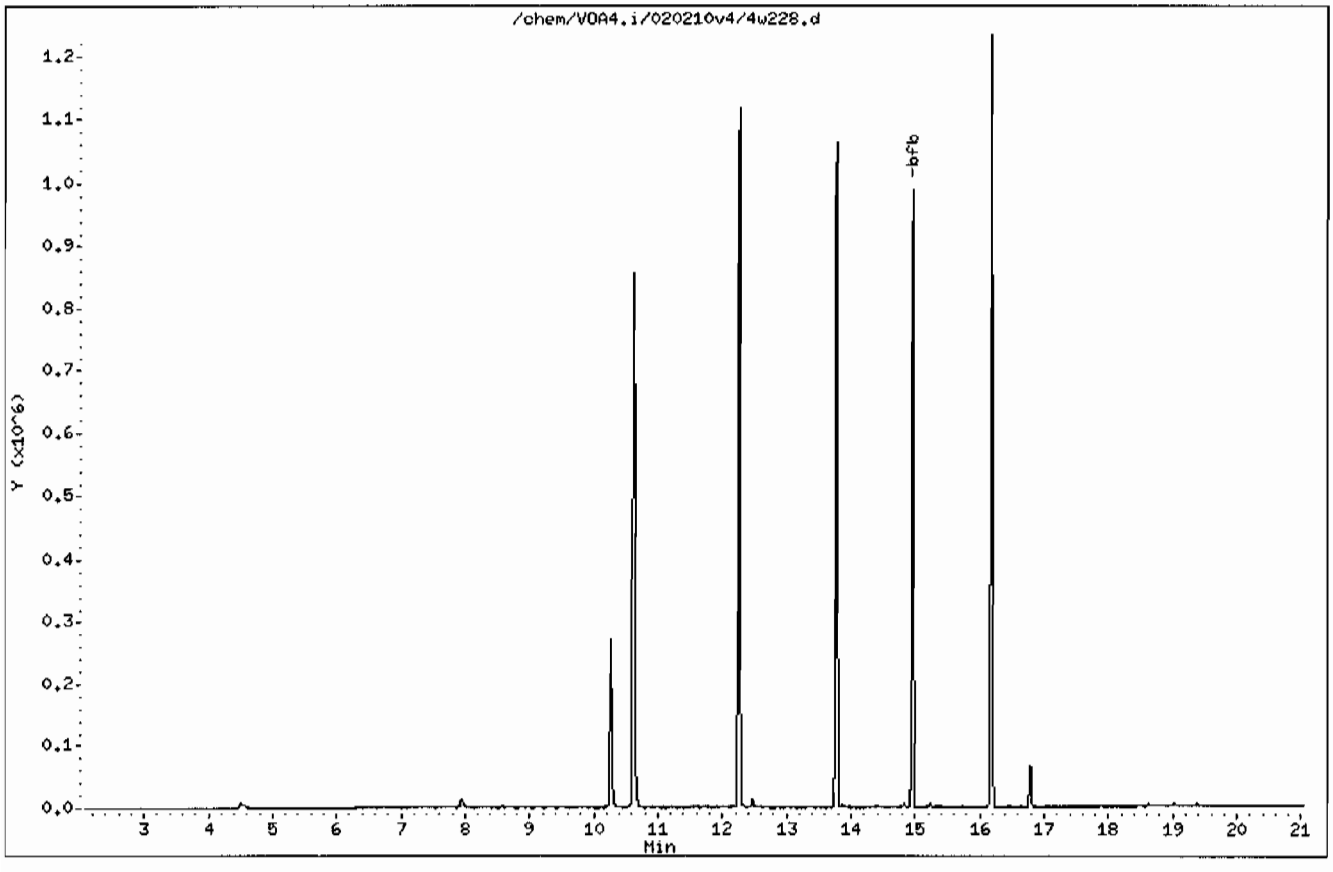
Instrument: VOA4.i

Sample Info: |UVM091216-10|BFB|1|VOAF|1|

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25



Data File: /chem/VOA4.i/020210v4/4w228.d

Date : 03-FEB-2010 01:04

Client ID: BFB01

Instrument: VOA4.i

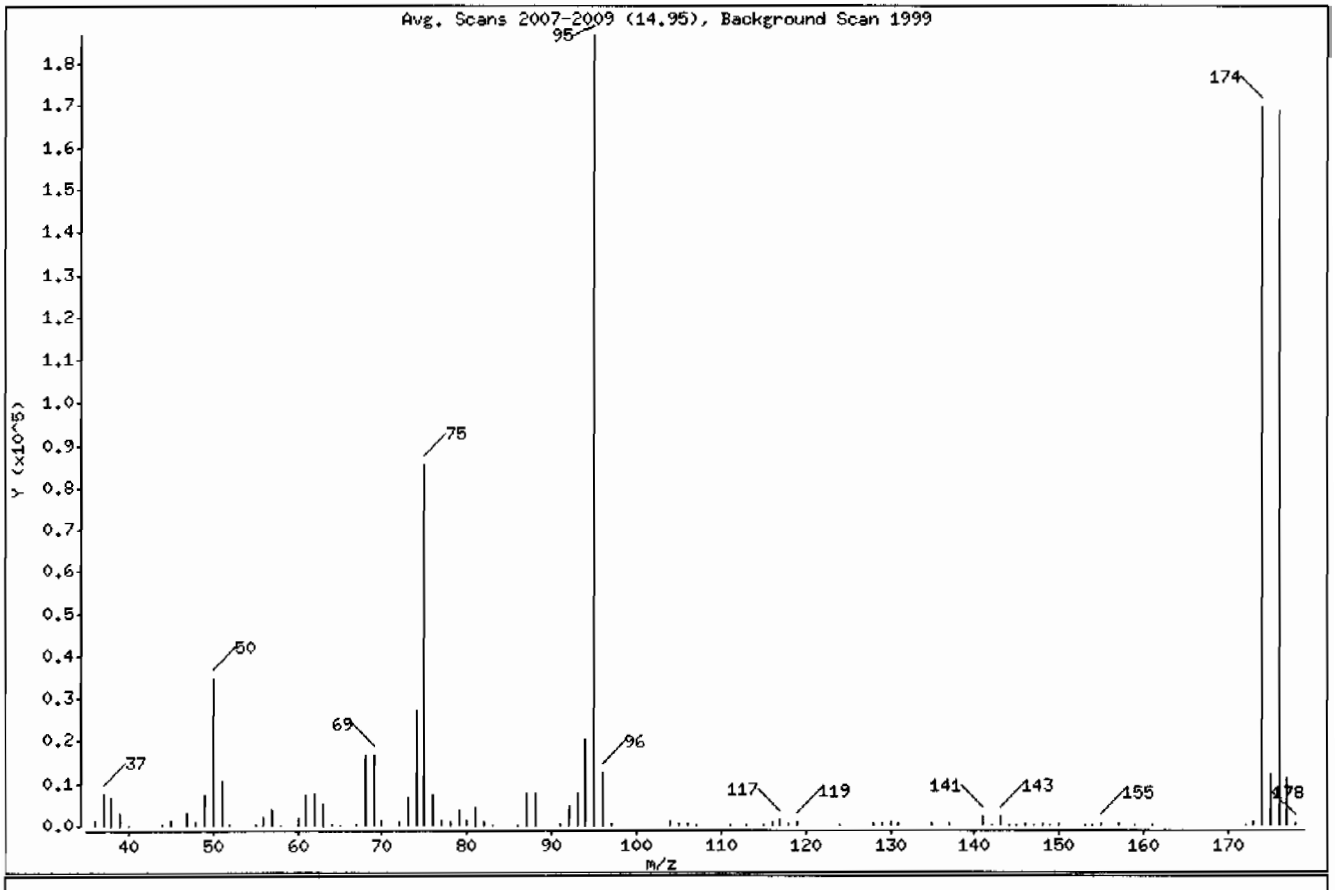
Sample Info: |UVM091216-10|BFB|1|VOAF|1|

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.61
75	30.00 - 60.00% of mass 95	45.68
96	5.00 - 9.00% of mass 95	6.67
173	Less than 2.00% of mass 174	0.45 (0.49)
174	50.00 - 100.00% of mass 95	90.86
175	5.00 - 9.00% of mass 174	6.36 (7.00)
176	95.00 - 101.00% of mass 174	90.38 (99.47)
177	5.00 - 9.00% of mass 176	6.04 (6.68)

Data File: /chem/VOA4.i/020210v4/4w228.d

Date : 03-FEB-2010 01:04

Client ID: BFB01 Instrument: VOA4.i

Sample Info: |UVM091216-10|BFB|1|VOAF|1|

Operator: ACJ

Column phase: DB-624 Column diameter: 0.25

Data File: 4w228.d

Spectrum: Avg. Scans 2007-2009 (14.95), Background Scan 1999

Location of Maximum: 95.00

Number of points: 90

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1483	67.00	415	95.00	186944	143.00	1973
37.00	7891	68.00	16664	96.00	12460	144.00	57
38.00	6811	69.00	16760	97.00	346	145.00	150
39.00	2875	70.00	1451	104.00	714	146.00	326
40.00	51	72.00	889	105.00	270	147.00	194
44.00	547	73.00	6771	106.00	632	148.00	503
45.00	1481	74.00	27008	107.00	115	149.00	55
47.00	2809	75.00	85392	111.00	150	150.00	235
48.00	975	76.00	7252	113.00	123	153.00	62
49.00	7102	77.00	1075	115.00	193	154.00	50
50.00	34784	78.00	806	116.00	713	155.00	463
51.00	10539	79.00	3850	117.00	1116	157.00	342
52.00	449	80.00	1154	118.00	642	159.00	178
55.00	499	81.00	4207	119.00	917	161.00	181
56.00	2326	82.00	810	124.00	50	172.00	133
57.00	3865	83.00	56	128.00	623	173.00	837
58.00	155	86.00	131	129.00	425	174.00	169856
60.00	1524	87.00	7607	130.00	819	175.00	11894
61.00	7247	88.00	7613	131.00	321	176.00	168960
62.00	7544	91.00	552	135.00	403	177.00	11284
63.00	5336	92.00	4640	137.00	352	178.00	305
64.00	471	93.00	7569	141.00	2008		
65.00	56	94.00	20176	142.00	205		

Data File: /chem/VOA4.i/021310v4/4x625.d

Date : 13-FEB-2010 23:30

Client ID: BFB01

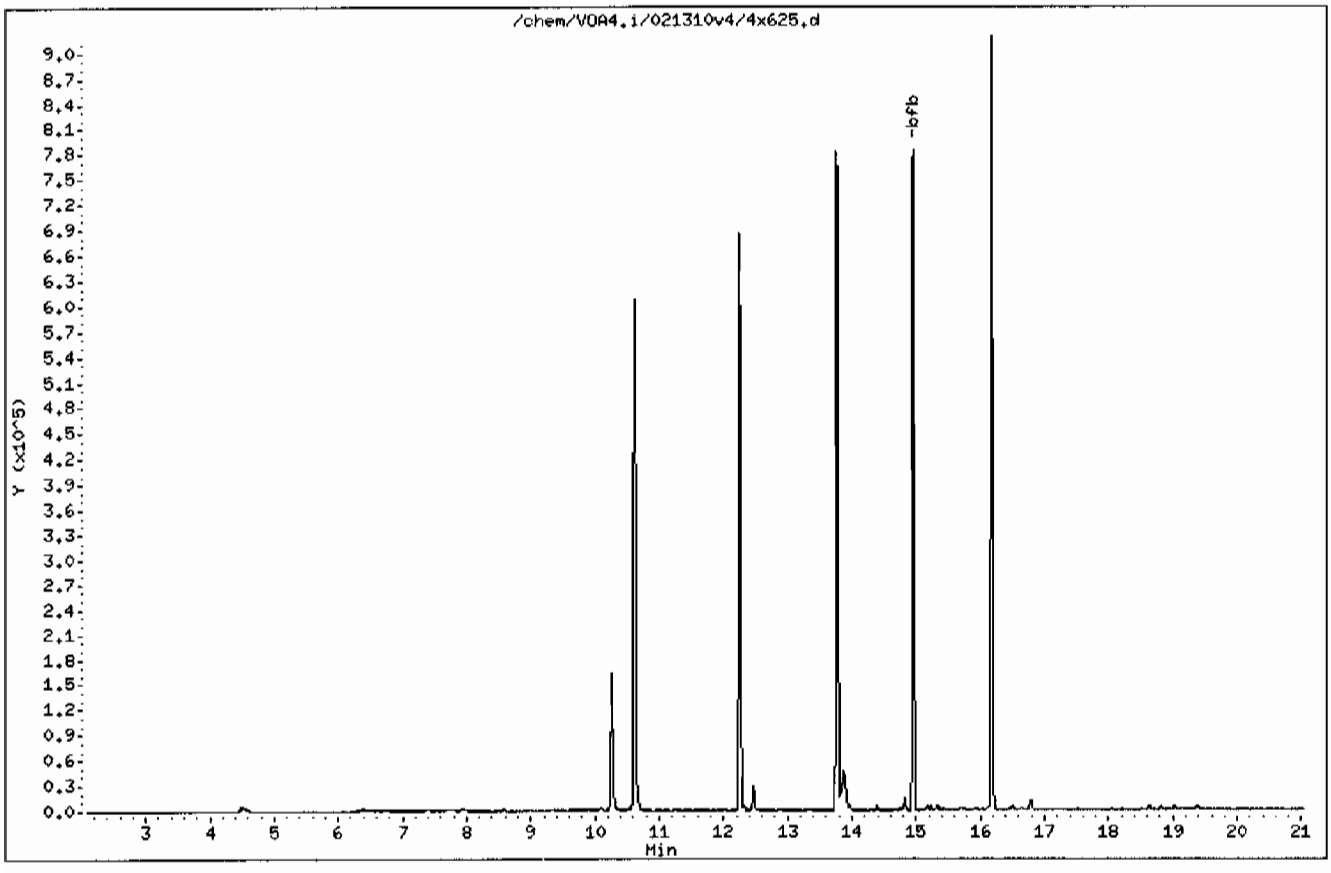
Instrument: VOA4.i

Sample Info: |UVM091216-10|BFB2|1|VOAF|1|

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25



Data File: /chem/VOA4.i/021310v4/4x625.d

Date : 13-FEB-2010 23:30

Client ID: BFB01

Instrument: VOA4.i

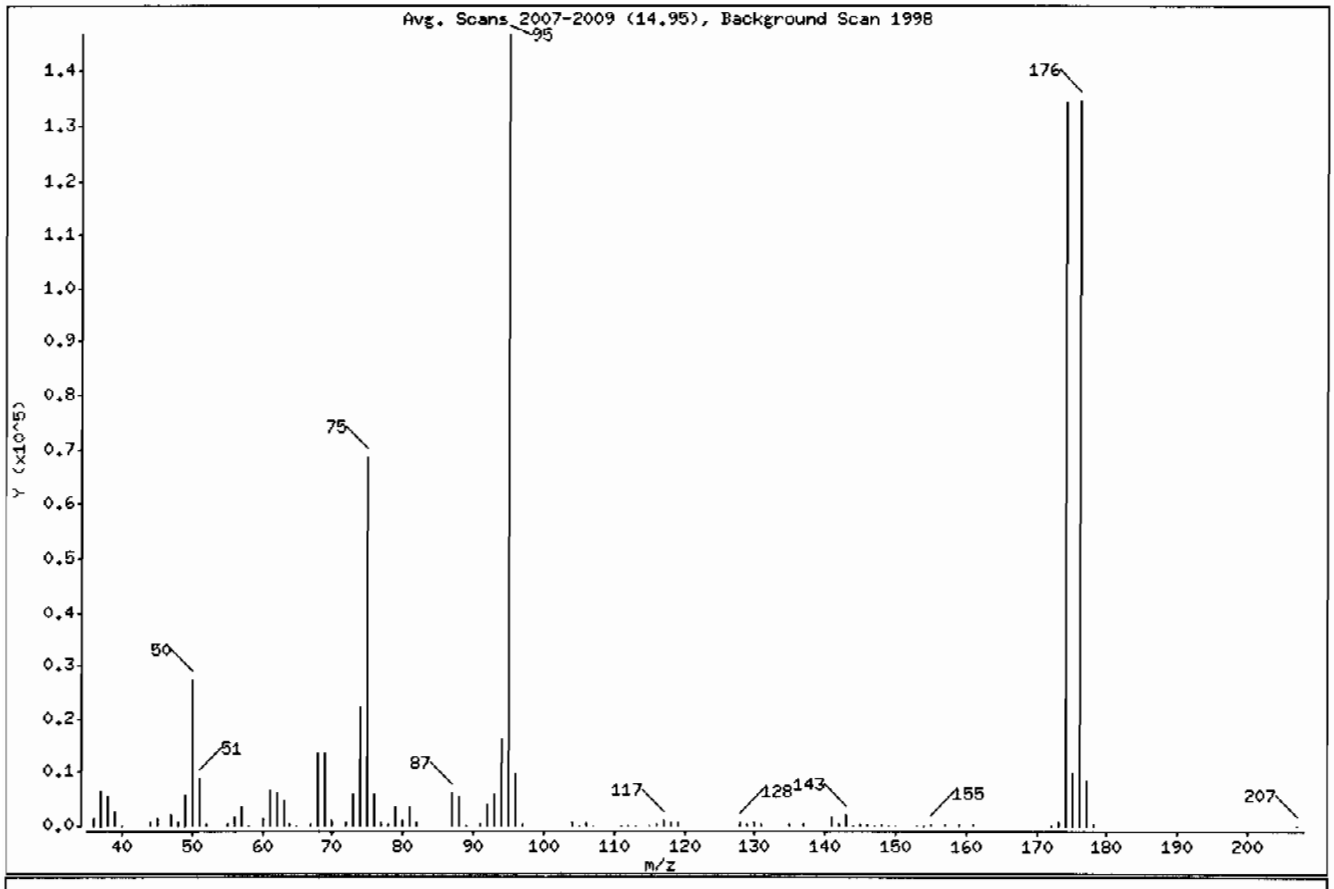
Sample Info: |UVM091216-10|BFB2|1|VOAF|1|

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.51
75	30.00 - 60.00% of mass 95	46.78
96	5.00 - 9.00% of mass 95	6.76
173	Less than 2.00% of mass 174	0.48 (0.53)
174	50.00 - 100.00% of mass 95	91.46
175	5.00 - 9.00% of mass 174	6.67 (7.30)
176	95.00 - 101.00% of mass 174	91.68 (100.24)
177	5.00 - 9.00% of mass 176	5.85 (6.38)

Data File: /chem/VOA4.i/021310v4/4x625.d

Date : 13-FEB-2010 23:30

Client ID: BFB01 Instrument: VOA4.i

Sample Info: |UVM091216-10|BFB2|1|VOAF|1|

Operator: ACJ

Column phase: DB-624 Column diameter: 0.25

Data File: 4x625.d
Spectrum: Avg. Scans 2007-2009 (14.95), Background Scan 1998
Location of Maximum: 95.00
Number of points: 90

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1222	67.00	344	96.00	9936	144.00	50
37.00	6383	68.00	13358	97.00	351	145.00	247
38.00	5270	69.00	13398	104.00	550	146.00	222
39.00	2546	70.00	934	105.00	150	147.00	65
40.00	150	72.00	667	106.00	602	148.00	333
44.00	820	73.00	5703	107.00	130	149.00	52
45.00	1269	74.00	22176	111.00	127	150.00	66
47.00	2042	75.00	68712	112.00	53	153.00	50
48.00	705	76.00	5905	113.00	137	154.00	69
49.00	5747	77.00	737	115.00	56	155.00	346
50.00	27192	78.00	504	116.00	443	157.00	255
51.00	8658	79.00	3361	117.00	884	159.00	191
52.00	358	80.00	978	118.00	678	161.00	182
55.00	376	81.00	3531	119.00	638	172.00	78
56.00	1764	82.00	716	128.00	585	173.00	706
57.00	3528	87.00	5923	129.00	342	174.00	134336
58.00	58	88.00	5424	130.00	571	175.00	9800
60.00	1183	89.00	59	131.00	229	176.00	134656
61.00	6354	91.00	448	135.00	314	177.00	8593
62.00	6140	92.00	4149	137.00	348	178.00	265
63.00	4832	93.00	5759	141.00	1824	207.00	109
64.00	405	94.00	16249	142.00	227		
65.00	65	95.00	146880	143.00	1902		

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202042299**				
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**MB for batch 952859**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 02:13**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 23:00**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x631SB1A.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.00	ug/kg	0.340	1.00
74-87-3	Chloromethane	U	1.00	ug/kg	0.300	1.00
75-01-4	Vinyl chloride	U	1.00	ug/kg	0.300	1.00
74-83-9	Bromomethane	U	1.00	ug/kg	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/kg	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/kg	0.300	1.00
67-64-1	Acetone	U	5.00	ug/kg	1.66	5.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/kg	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/kg	1.60	5.00
75-09-2	Methylene chloride	U	5.00	ug/kg	2.00	5.00
75-15-0	Carbon disulfide	U	5.00	ug/kg	1.25	5.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/kg	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/kg	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/kg	1.50	5.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/kg	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/kg	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/kg	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/kg	0.330	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/kg	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/kg	0.300	1.00
56-23-5	Carbon tetrachloride	U	1.00	ug/kg	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/kg	0.300	1.00
71-43-2	Benzene	U	1.00	ug/kg	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/kg	0.330	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/kg	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/kg	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/kg	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/kg	1.25	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/kg	0.300	1.00
108-88-3	Toluene	U	1.00	ug/kg	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/kg	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/kg	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/kg	1.50	5.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/kg	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/kg	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/kg	0.300	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/kg	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/kg	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202042299**				
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**MB for batch 952859**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 02:13**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 23:00**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x631SBLA.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.00	ug/kg	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/kg	0.300	2.00
95-47-6	o-Xylene	U	1.00	ug/kg	0.300	1.00
100-42-5	Styrene	U	1.00	ug/kg	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/kg	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/kg	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/kg	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/kg	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/kg	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/kg	0.300	1.00
98-82-8	Isopropylbenzene	U	1.00	ug/kg	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/kg	0.300	1.00
106-43-4	4-Chlorotoluene	U	1.00	ug/kg	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/kg	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/kg	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/kg	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/kg	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00
104-51-8	n-Butylbenzene	U	1.00	ug/kg	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/kg	0.300	1.00
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*	U	5.00	ug/kg	1.60	5.00
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/kg	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Siloxane	16.8	5.17	ug/kg		J

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x631SBLA.d
Lab Smp Id: 1202042299 Client Smp ID: BLANK
Inj Date : 14-FEB-2010 02:13
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |1202042299|952860|1|VOAF|1|
Misc Info : GEL 5G N/A
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 31 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	0.00000	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.614	10.614	(1.000)	701366	50.0000	
* 61 Chlorobenzene-d5	117	13.765	13.765	(1.000)	571980	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.173	16.173	(1.000)	334657	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.967)	145844	40.4325	40.4
$ 47 Toluene-d8	98	12.247	12.247	(0.890)	557275	42.6312	42.6
$ 71 Bromofluorobenzene	95	14.948	14.948	(0.924)	322555	53.5278	53.5

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x631SBLA.d
Lab Smp Id: 1202042299 Client Smp ID: BLANK
Inj Date : 14-FEB-2010 02:13
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |1202042299|952860|1|VOAF|1|
Misc Info : GEL 5G N/A
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 31 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	0.00000	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
* 86 1,4-Dichlorobenzene-d4	16.173	1894214	50.000

		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ug/l)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
Unknown Siloxane					CAS #:		
16.795	196028	5.17438649	5.2	0		0	86

Data File: /chem/VOA4.i/021310v4/4x631SBLA.d

Date : 14-FEB-2010 02:13

Client ID: BLANK

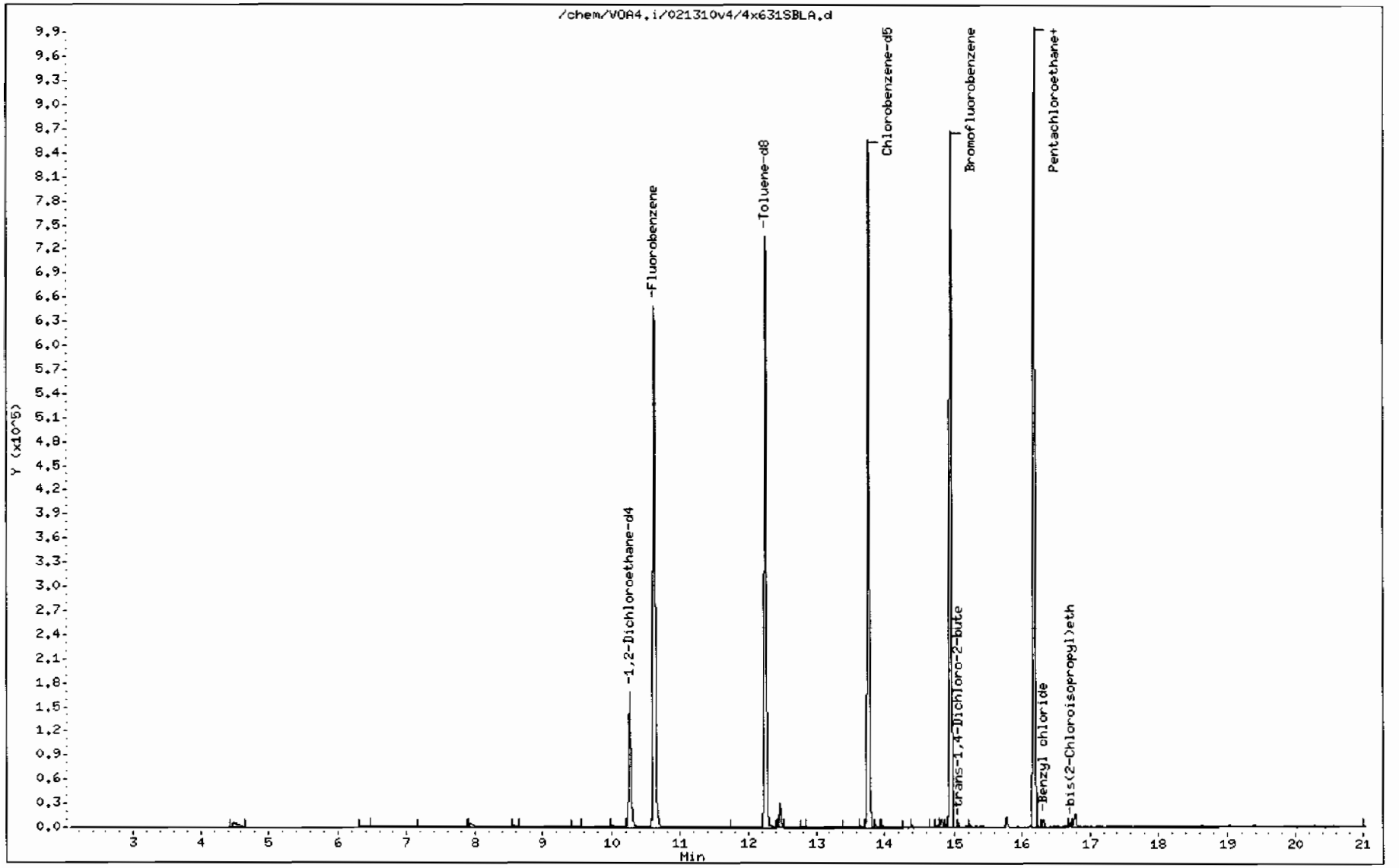
Sample Info: |120204229919528601|VOAF|1|

Column phase: RTX-VOLATILES

Instrument: VOA4.i

Operator: GRB2

Column diameter: 0.25



Data File: /chem/VOA4.i/021310v4/4x631SBLA.d

Page 1

Date : 14-FEB-2010 02:13

Client ID: BLANK

Instrument: VOA4.i

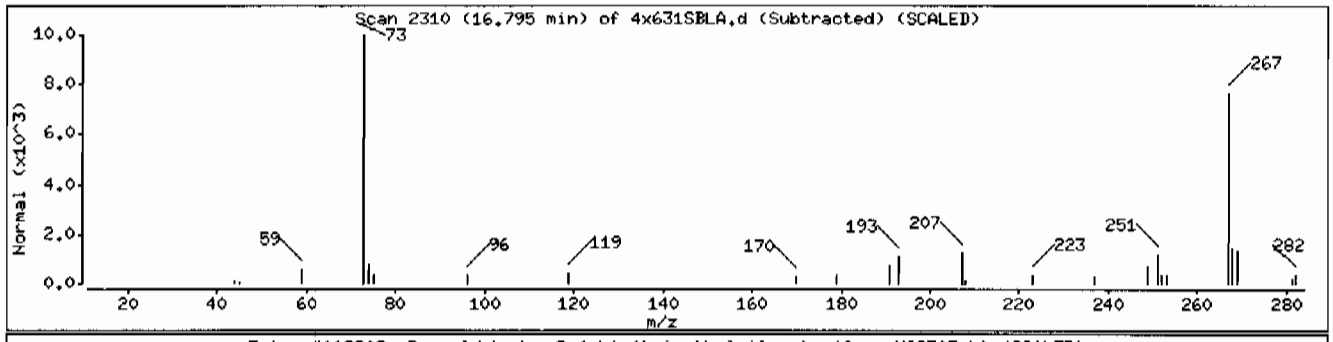
Sample Info: |120204229919528601|1|VOAF|1|

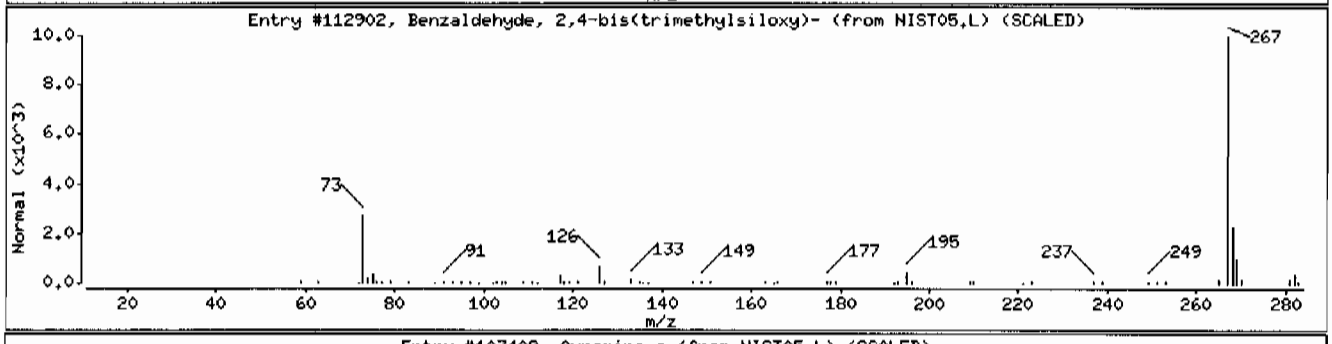
Operator: GRB2

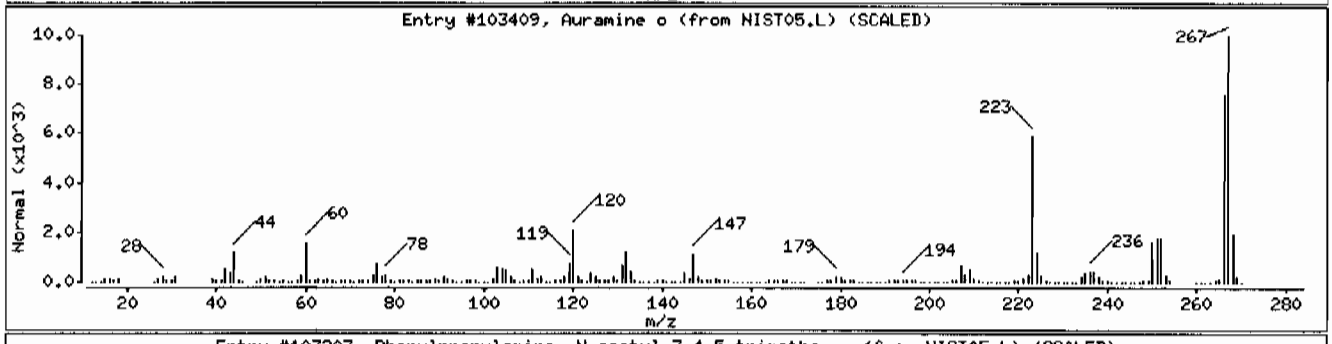
Column phase: RTX-VOLATILES

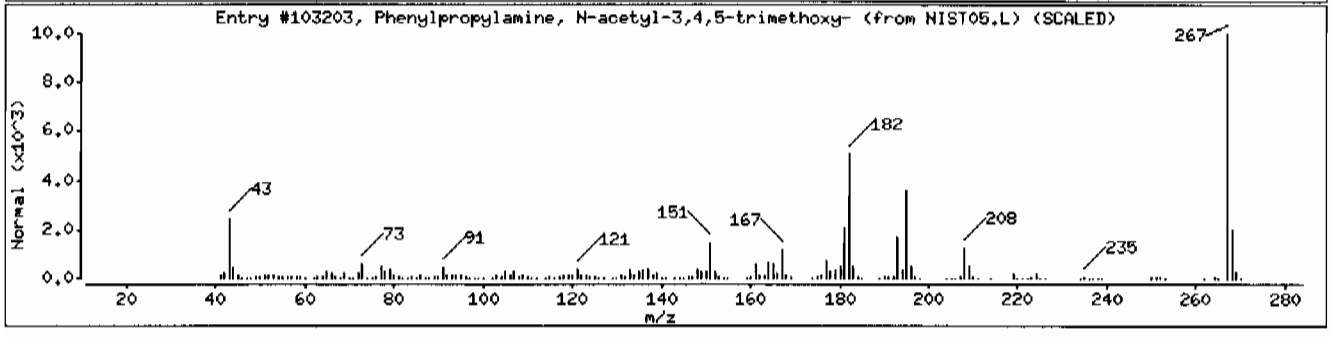
Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Siloxane						
Benzaldehyde, 2,4-bis(trimethylsiloxy)-	33617-38-8	NIST05.L	112902	50	C13H2203Si2	282
Auramine o	2465-27-2	NIST05.L	103409	47	C17H21N3	267
Phenylpropylamine, N-acetyl-3,4,5-trimet	112369-97-8	NIST05.L	103203	47	C14H21NO4	267









Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202042302**				
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**LCS for batch 952859**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 00:52**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 23:02**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x628SLLA.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane		60.8	ug/kg	0.340	1.00
74-87-3	Chloromethane		50.2	ug/kg	0.300	1.00
75-01-4	Vinyl chloride		53.6	ug/kg	0.300	1.00
74-83-9	Bromomethane		55.5	ug/kg	0.300	1.00
75-00-3	Chloroethane		54.9	ug/kg	0.300	1.00
75-69-4	Trichlorofluoromethane		59.8	ug/kg	0.300	1.00
67-64-1	Acetone		267	ug/kg	1.66	5.00
75-35-4	1,1-Dichloroethylene		53.3	ug/kg	0.300	1.00
74-88-4	Iodomethane		270	ug/kg	1.60	5.00
75-09-2	Methylene chloride		51.5	ug/kg	2.00	5.00
75-15-0	Carbon disulfide		273	ug/kg	1.25	5.00
156-60-5	trans-1,2-Dichloroethylene		52.5	ug/kg	0.300	1.00
75-34-3	1,1-Dichloroethane		50.9	ug/kg	0.300	1.00
78-93-3	2-Butanone		263	ug/kg	1.50	5.00
156-59-2	cis-1,2-Dichloroethylene		52.4	ug/kg	0.300	1.00
594-20-7	2,2-Dichloropropane		56.9	ug/kg	0.300	1.00
67-66-3	Chloroform		52.9	ug/kg	0.300	1.00
74-97-5	Bromochloromethane		54.1	ug/kg	0.330	1.00
71-55-6	1,1,1-Trichloroethane		56.8	ug/kg	0.300	1.00
563-58-6	1,1-Dichloropropene		54.9	ug/kg	0.300	1.00
56-23-5	Carbon tetrachloride		59.8	ug/kg	0.300	1.00
107-06-2	1,2-Dichloroethane		54.8	ug/kg	0.300	1.00
71-43-2	Benzene		48.9	ug/kg	0.300	1.00
79-01-6	Trichloroethylene		52.1	ug/kg	0.330	1.00
78-87-5	1,2-Dichloropropane		51.4	ug/kg	0.300	1.00
75-27-4	Bromodichloromethane		55.3	ug/kg	0.300	1.00
74-95-3	Dibromomethane		53.7	ug/kg	0.300	1.00
108-10-1	4-Methyl-2-pentanone		237	ug/kg	1.25	5.00
10061-01-5	cis-1,3-Dichloropropylene		54.9	ug/kg	0.300	1.00
108-88-3	Toluene		46.8	ug/kg	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene		52.1	ug/kg	0.300	1.00
79-00-5	1,1,2-Trichloroethane		47.4	ug/kg	0.300	1.00
591-78-6	2-Hexanone		230	ug/kg	1.50	5.00
142-28-9	1,3-Dichloropropane		46.7	ug/kg	0.300	1.00
127-18-4	Tetrachloroethylene		50.3	ug/kg	0.300	1.00
124-48-1	Dibromochloromethane		54.6	ug/kg	0.300	1.00
106-93-4	1,2-Dibromoethane		50.5	ug/kg	0.300	1.00
108-90-7	Chlorobenzene		50.2	ug/kg	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202042302**				
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**LCS for batch 952859**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 00:52**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 23:02**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x628SLLA.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene		49.3	ug/kg	0.300	1.00
179601-23-1	m,p-Xylenes		102	ug/kg	0.300	2.00
95-47-6	o-Xylene		50.1	ug/kg	0.300	1.00
100-42-5	Styrene		53.3	ug/kg	0.300	1.00
75-25-2	Bromoform		55.2	ug/kg	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		46.6	ug/kg	0.300	1.00
96-18-4	1,2,3-Trichloropropane		46.7	ug/kg	0.300	1.00
108-86-1	Bromobenzene		50.2	ug/kg	0.300	1.00
103-65-1	n-Propylbenzene		48.2	ug/kg	0.300	1.00
95-49-8	2-Chlorotoluene		47.4	ug/kg	0.300	1.00
98-82-8	Isopropylbenzene		49.2	ug/kg	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene		49.9	ug/kg	0.300	1.00
106-43-4	4-Chlorotoluene		48.8	ug/kg	0.300	1.00
98-06-6	tert-Butylbenzene		51.1	ug/kg	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene		49.9	ug/kg	0.300	1.00
135-98-8	sec-Butylbenzene		49.7	ug/kg	0.300	1.00
99-87-6	4-Isopropyltoluene		51.6	ug/kg	0.300	1.00
541-73-1	1,3-Dichlorobenzene		49.5	ug/kg	0.300	1.00
106-46-7	1,4-Dichlorobenzene		48.9	ug/kg	0.300	1.00
104-51-8	n-Butylbenzene		49.2	ug/kg	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane		47.3	ug/kg	0.300	1.00
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*	U	5.00	ug/kg	1.60	5.00
630-20-6	1,1,1,2-Tetrachloroethane		54.4	ug/kg	0.300	1.00
95-50-1	1,2-Dichlorobenzene		49.1	ug/kg	0.300	1.00

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x628SLLA.d
Lab Smp Id: 1202042302 Client Smp ID: LCS
Inj Date : 14-FEB-2010 00:52
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |1202042302|952860|1|VOAF|1|
Misc Info : GEL 5G N/A UVM100126-01D/IVM100210-01
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 28 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	0.00000	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

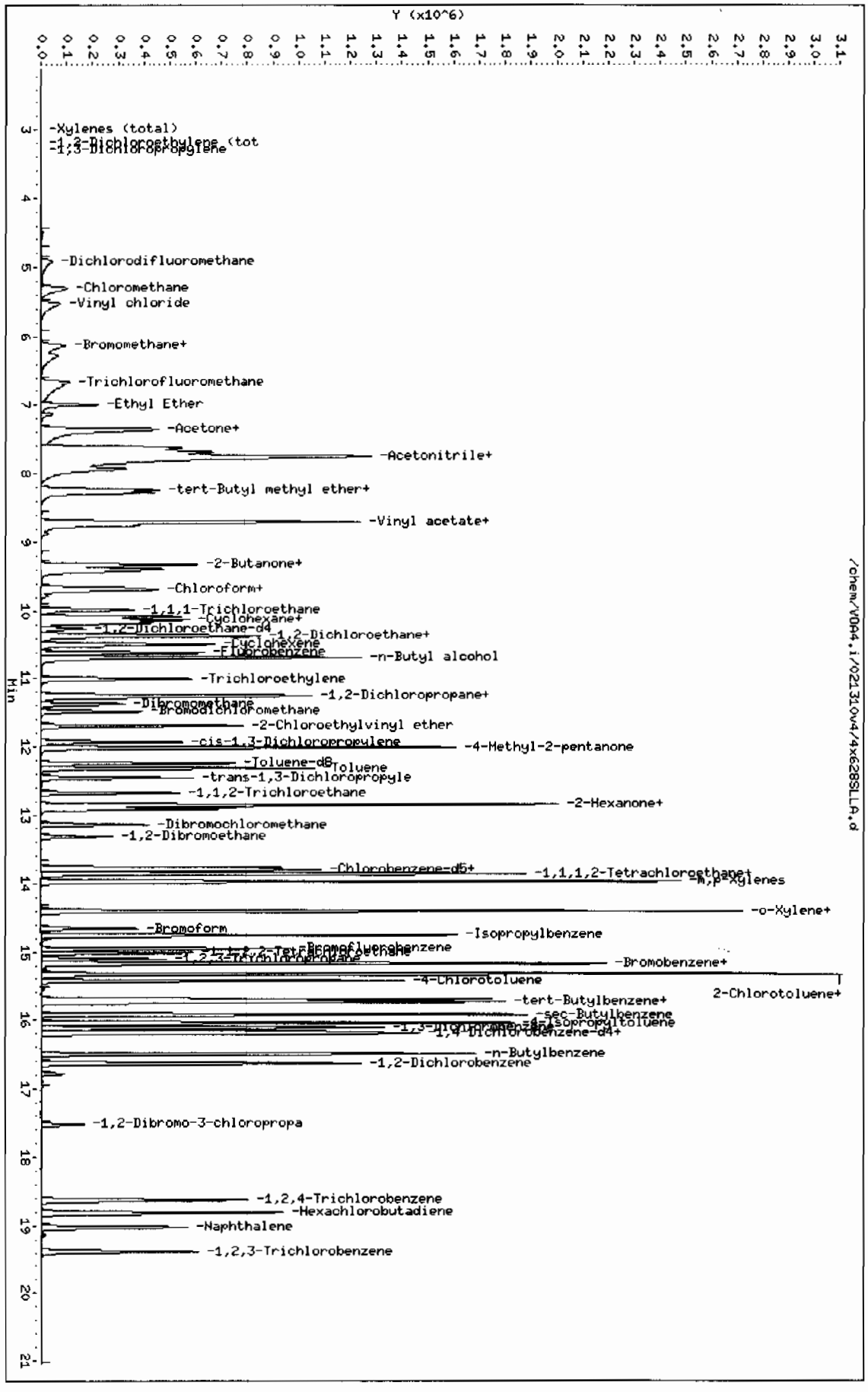
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.614	10.614	(1.000)	680689	50.0000	
* 61 Chlorobenzene-d5	117	13.765	13.765	(1.000)	584942	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.173	16.173	(1.000)	384588	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.967)	157777	45.0694	45.1
$ 47 Toluene-d8	98	12.247	12.247	(0.890)	557699	41.6891	41.7
$ 71 Bromofluorobenzene	95	14.948	14.948	(0.924)	358430	51.7588	51.8
3 Dichlorodifluoromethane	85	4.904	4.904	(0.462)	201652	60.8297	60.8
4 Chloromethane	50	5.299	5.299	(0.499)	353661	50.1727	50.2
5 Vinyl chloride	62	5.521	5.521	(0.520)	305526	53.6179	53.6
6 Bromomethane	94	6.130	6.123	(0.578)	217966	55.4798	55.5
7 Chloroethane	64	6.281	6.281	(0.592)	201404	54.8989	54.9
8 Trichlorofluoromethane	101	6.663	6.669	(0.628)	353460	59.7873	59.8

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
10 Acetone	43	7.352	7.352	(0.693)	848696	266.680	267
11 1,1-Dichloroethylene	61	7.389	7.382	(0.696)	366260	53.2551	53.2
87 1,4-Dichlorobenzene	146	16.204	16.204	(1.002)	699038	48.9192	48.9
13 Iodomethane	142	7.626	7.632	(0.719)	2089859	269.682	270
17 Methylene chloride	84	7.943	7.943	(0.748)	256301	51.5015	51.5
14 Carbon disulfide	76	7.773	7.773	(0.732)	3714057	272.862	273
21 trans-1,2-Dichloroethylene	61	8.285	8.285	(0.781)	329620	52.5228	52.5
22 1,1-Dichloroethane	63	8.754	8.754	(0.825)	401598	50.9012	50.9
30 2-Butanone	43	9.321	9.321	(0.878)	1007377	262.685	263
31 cis-1,2-Dichloroethylene	61	9.382	9.382	(0.884)	360945	52.3584	52.4
85 1,3-Dichlorobenzene	146	16.119	16.119	(0.997)	696885	49.4875	49.5
25 2,2-Dichloropropane	77	9.419	9.419	(0.887)	218115	56.8866	56.9
32 Chloroform	83	9.687	9.687	(0.913)	378547	52.8862	52.9
90 1,2-Dichlorobenzene	146	16.643	16.643	(1.029)	672045	49.0963	49.1
29 Bromochloromethane	128	9.656	9.656	(0.910)	123712	54.1027	54.1
36 1,1,1-Trichloroethane	97	9.973	9.980	(0.940)	310300	56.7799	56.8
34 1,1-Dichloropropene	75	10.132	10.132	(0.955)	293865	54.8789	54.9
33 Carbon tetrachloride	117	10.169	10.168	(0.958)	319237	59.8016	59.8
37 1,2-Dichloroethane	62	10.339	10.339	(0.974)	315174	54.7969	54.8
38 Benzene	78	10.370	10.370	(0.977)	826315	48.9032	48.9
39 Trichloroethylene	95	11.004	11.004	(1.037)	224669	52.1311	52.1
41 1,2-Dichloropropane	63	11.242	11.241	(1.059)	241923	51.3656	51.4
45 Bromodichloromethane	83	11.479	11.479	(1.082)	291450	55.3084	55.3
43 Dibromomethane	93	11.370	11.369	(1.071)	138813	53.7188	53.7
49 4-Methyl-2-pentanone	58	12.016	12.016	(0.873)	526104	237.082	237
46 cis-1,3-Dichloropropylene	75	11.930	11.930	(1.124)	360083	54.8785	54.9
50 Toluene	92	12.321	12.321	(0.895)	532703	46.7730	46.8
53 trans-1,3-Dichloropropylene	75	12.461	12.461	(0.905)	336029	52.0791	52.1
54 1,1,2-Trichloroethane	83	12.680	12.680	(0.921)	164188	47.4103	47.4
55 2-Hexanone	43	12.857	12.857	(0.934)	1338229	230.012	230
52 1,3-Dichloropropane	76	12.875	12.875	(0.935)	326596	46.6955	46.7
56 Tetrachloroethylene	164	12.918	12.918	(0.938)	203508	50.2741	50.3
57 Dibromochloromethane	129	13.144	13.144	(0.955)	259682	54.6475	54.6
59 1,2-Dibromoethane	107	13.314	13.314	(0.967)	219082	50.4825	50.5
62 Chlorobenzene	112	13.796	13.802	(1.002)	663531	50.2056	50.2
60 1,1,1,2-Tetrachloroethane	131	13.845	13.851	(1.006)	262616	54.4198	54.4
58 Ethylbenzene	91	13.863	13.863	(1.007)	1085977	49.3009	49.3
63 m,p-Xylenes	106	13.967	13.967	(1.015)	879498	101.664	102
64 o-Xylene	106	14.399	14.399	(1.046)	449674	50.1030	50.1
65 Styrene	104	14.399	14.399	(1.046)	759184	53.3070	53.3
66 Bromoform	173	14.655	14.655	(0.906)	218142	55.1933	55.2
73 1,1,2,2-Tetrachloroethane	83	15.015	15.015	(0.928)	326531	46.5595	46.6
74 1,2,3-Trichloropropane	110	15.107	15.107	(0.934)	88947	46.7292	46.7
75 Bromobenzene	156	15.161	15.161	(0.937)	367999	50.2160	50.2
76 n-Propylbenzene	91	15.180	15.180	(0.939)	1460841	48.2205	48.2
77 2-Chlorotoluene	91	15.332	15.326	(0.948)	1010991	47.3910	47.4
67 Isopropylbenzene	105	14.753	14.753	(0.912)	1225153	49.1928	49.2

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
78 1,3,5-Trimethylbenzene	105	15.326	15.326	(0.948)	1110802	49.8932	49.9
80 4-Chlorotoluene	91	15.430	15.430	(0.954)	939130	48.8094	48.8
81 tert-Butylbenzene	119	15.704	15.704	(0.971)	1161893	51.1302	51.1
79 1,2,4-Trimethylbenzene	105	15.741	15.741	(0.973)	1156986	49.9318	49.9
83 sec-Butylbenzene	105	15.930	15.930	(0.985)	1519962	49.7402	49.7
84 4-Isopropyltoluene	119	16.052	16.052	(0.992)	1266648	51.6317	51.6
89 n-Butylbenzene	91	16.503	16.503	(1.020)	1126544	49.2068	49.2
92 1,2-Dibromo-3-chloropropane	157	17.527	17.527	(1.084)	65710	47.3065	47.3

Data File: /chem/VOA4.i/021310v4/4x628SLLA.d
Date : 14-FEB-2010 00:52
Client ID: LCS
Sample Info: 1202042302|952860|1|VOAF11
Column phase: RTX-VOLATILES

Instrument: VOA4.i
Operator: GRB2
Column diameter: 0.25



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Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202042303**				
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**LCS for batch 952859**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 01:45**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 23:04**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x630SSLA.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.00	ug/kg	0.340	1.00
74-87-3	Chloromethane	U	1.00	ug/kg	0.300	1.00
75-01-4	Vinyl chloride	U	1.00	ug/kg	0.300	1.00
74-83-9	Bromomethane	U	1.00	ug/kg	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/kg	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/kg	0.300	1.00
67-64-1	Acetone	U	5.00	ug/kg	1.66	5.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/kg	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/kg	1.60	5.00
75-09-2	Methylene chloride	U	5.00	ug/kg	2.00	5.00
75-15-0	Carbon disulfide	U	5.00	ug/kg	1.25	5.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/kg	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/kg	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/kg	1.50	5.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/kg	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/kg	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/kg	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/kg	0.330	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/kg	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/kg	0.300	1.00
56-23-5	Carbon tetrachloride	U	1.00	ug/kg	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/kg	0.300	1.00
71-43-2	Benzene	U	1.00	ug/kg	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/kg	0.330	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/kg	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/kg	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/kg	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/kg	1.25	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/kg	0.300	1.00
108-88-3	Toluene	U	1.00	ug/kg	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/kg	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/kg	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/kg	1.50	5.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/kg	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/kg	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/kg	0.300	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/kg	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/kg	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202042303**				
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**LCS for batch 952859**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 01:45**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 23:04**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x630SSLA.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.00	ug/kg	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/kg	0.300	2.00
95-47-6	o-Xylene	U	1.00	ug/kg	0.300	1.00
100-42-5	Styrene	U	1.00	ug/kg	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/kg	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/kg	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/kg	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/kg	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/kg	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/kg	0.300	1.00
98-82-8	Isopropylbenzene	U	1.00	ug/kg	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/kg	0.300	1.00
106-43-4	4-Chlorotoluene	U	1.00	ug/kg	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/kg	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/kg	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/kg	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/kg	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00
104-51-8	n-Butylbenzene	U	1.00	ug/kg	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/kg	0.300	1.00
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*		257	ug/kg	1.60	5.00
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/kg	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00

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VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x630SSLA.d
Lab Smp Id: 1202042303 Client Smp ID: LCS
Inj Date : 14-FEB-2010 01:45
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |1202042303|952860|1|VOAF|1|
Misc Info : GEL 5G N/A UVM100118-08B/UVM100125-08B
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 30 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: prdsvr07

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

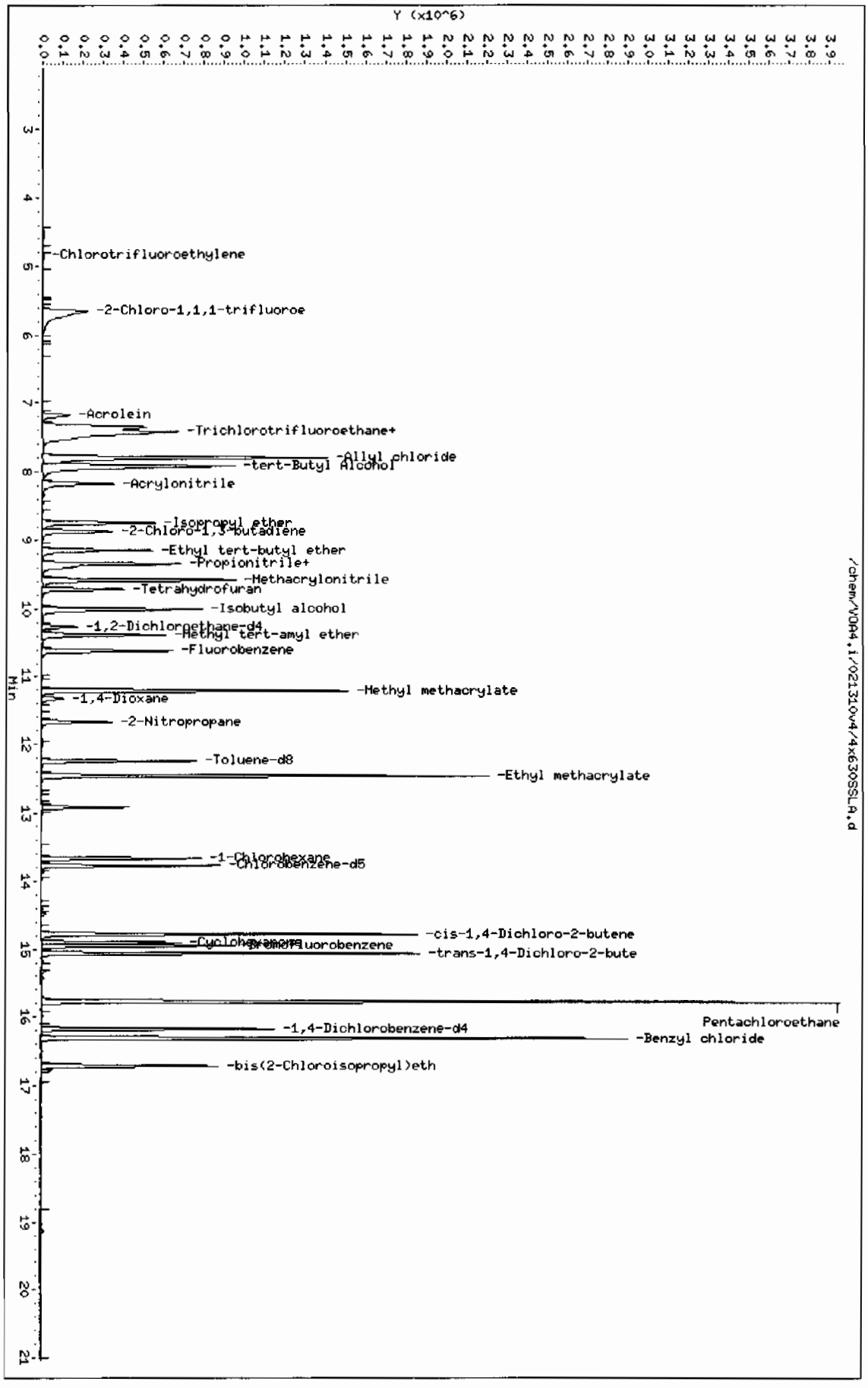
Name	Value	Description
DF	1.00000	Dilution Factor
M	0.00000	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.614	10.614	(1.000)	691397	50.0000	
* 61 Chlorobenzene-d5	117	13.765	13.765	(1.000)	591269	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.173	16.173	(1.000)	377861	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.967)	151129	42.5018	42.5
$ 47 Toluene-d8	98	12.247	12.247	(0.890)	578631	42.7909	42.8
$ 71 Bromofluorobenzene	95	14.948	14.948	(0.924)	354663	52.1266	52.1
12 Trichlorotrifluoroethane	85	7.352	7.351	(0.693)	318299	257.476	257

Data File: /chem/VOA4.i/021310v4/4x630SSLA.d
Date : 14-FEB-2010 01:45
Client ID: LCS
Sample Info: 1120204230319628601 1|VOAFI1|
Column phase: RTX-VOLATILES

Instrument: VOA4.i
Operator: GRB2
Column diameter: 0.25



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Volatile
Certificate of Analysis
Sample Summary

SDG Number:	10-1666	**Date Collected:**	02/03/2010 12:00	**Matrix:**	R
Lab Sample ID:	1202042300	**Date Received:**	02/09/2010 10:00	**%Moisture:**	18.7
Client Sample:	QC for batch 952859	**Client:**	LANL010	**Project:**	QC
Client ID:	RE15-10-8363PS	**Method:**	SW846 8260B	**SOP Ref:**	GL-OA-E-038
Batch ID:	952860	**Inst:**	VOA4.I	**Dilution:**	1
Run Date:	02/14/2010 07:39	**Analyst:**	GRB2	**Purge Vol:**	5 mL
Prep Date:	02/13/2010 13:37	**Aliquot:**	5 g	**Final Volume:**	5 mL
Data File:	4x643.d	**Column:**	RTX-VOLATILES	**Level:**	LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane		76.0	ug/kg	0.418	1.23
74-87-3	Chloromethane		65.0	ug/kg	0.369	1.23
75-01-4	Vinyl chloride		67.3	ug/kg	0.369	1.23
74-83-9	Bromomethane		68.6	ug/kg	0.369	1.23
75-00-3	Chloroethane		68.5	ug/kg	0.369	1.23
75-69-4	Trichlorofluoromethane		74.8	ug/kg	0.369	1.23
67-64-1	Acetone		273	ug/kg	2.04	6.15
75-35-4	1,1-Dichloroethylene		66.3	ug/kg	0.369	1.23
74-88-4	Iodomethane		316	ug/kg	1.97	6.15
75-09-2	Methylene chloride		66.8	ug/kg	2.46	6.15
75-15-0	Carbon disulfide		343	ug/kg	1.54	6.15
156-60-5	trans-1,2-Dichloroethylene		65.5	ug/kg	0.369	1.23
75-34-3	1,1-Dichloroethane		65.0	ug/kg	0.369	1.23
78-93-3	2-Butanone		274	ug/kg	1.85	6.15
156-59-2	cis-1,2-Dichloroethylene		66.1	ug/kg	0.369	1.23
594-20-7	2,2-Dichloropropane		72.9	ug/kg	0.369	1.23
67-66-3	Chloroform		68.0	ug/kg	0.369	1.23
74-97-5	Bromochloromethane		66.3	ug/kg	0.406	1.23
71-55-6	1,1,1-Trichloroethane		71.6	ug/kg	0.369	1.23
563-58-6	1,1-Dichloropropene		67.7	ug/kg	0.369	1.23
56-23-5	Carbon tetrachloride		73.4	ug/kg	0.369	1.23
107-06-2	1,2-Dichloroethane		70.1	ug/kg	0.369	1.23
71-43-2	Benzene		61.4	ug/kg	0.369	1.23
79-01-6	Trichloroethylene		64.5	ug/kg	0.406	1.23
78-87-5	1,2-Dichloropropane		64.2	ug/kg	0.369	1.23
75-27-4	Bromodichloromethane		70.7	ug/kg	0.369	1.23
74-95-3	Dibromomethane		68.5	ug/kg	0.369	1.23
108-10-1	4-Methyl-2-pentanone		284	ug/kg	1.54	6.15
10061-01-5	cis-1,3-Dichloropropylene		68.0	ug/kg	0.369	1.23
108-88-3	Toluene		61.1	ug/kg	0.369	1.23
10061-02-6	trans-1,3-Dichloropropylene		67.5	ug/kg	0.369	1.23
79-00-5	1,1,2-Trichloroethane		61.4	ug/kg	0.369	1.23
591-78-6	2-Hexanone		243	ug/kg	1.85	6.15
142-28-9	1,3-Dichloropropane		61.5	ug/kg	0.369	1.23
127-18-4	Tetrachloroethylene		61.8	ug/kg	0.369	1.23
124-48-1	Dibromochloromethane		68.4	ug/kg	0.369	1.23
106-93-4	1,2-Dibromoethane		63.5	ug/kg	0.369	1.23
108-90-7	Chlorobenzene		63.3	ug/kg	0.369	1.23

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**1202042300**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**RE15-10-8363PS**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 07:39**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 13:37**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x643.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene		63.5	ug/kg	0.369	1.23
179601-23-1	m,p-Xylenes		128	ug/kg	0.369	2.46
95-47-6	o-Xylene		63.5	ug/kg	0.369	1.23
100-42-5	Styrene		66.6	ug/kg	0.369	1.23
75-25-2	Bromoform		70.2	ug/kg	0.369	1.23
79-34-5	1,1,2,2-Tetrachloroethane		62.4	ug/kg	0.369	1.23
96-18-4	1,2,3-Trichloropropane		62.9	ug/kg	0.369	1.23
108-86-1	Bromobenzene		65.6	ug/kg	0.369	1.23
103-65-1	n-Propylbenzene		65.8	ug/kg	0.369	1.23
95-49-8	2-Chlorotoluene		64.4	ug/kg	0.369	1.23
98-82-8	Isopropylbenzene		67.2	ug/kg	0.369	1.23
108-67-8	1,3,5-Trimethylbenzene		66.5	ug/kg	0.369	1.23
106-43-4	4-Chlorotoluene		66.7	ug/kg	0.369	1.23
98-06-6	tert-Butylbenzene		67.4	ug/kg	0.369	1.23
95-63-6	1,2,4-Trimethylbenzene		67.1	ug/kg	0.369	1.23
135-98-8	sec-Butylbenzene		65.6	ug/kg	0.369	1.23
99-87-6	4-Isopropyltoluene		65.4	ug/kg	0.369	1.23
541-73-1	1,3-Dichlorobenzene		63.9	ug/kg	0.369	1.23
106-46-7	1,4-Dichlorobenzene		63.4	ug/kg	0.369	1.23
104-51-8	n-Butylbenzene		65.0	ug/kg	0.369	1.23
96-12-8	1,2-Dibromo-3-chloropropane		58.6	ug/kg	0.369	1.23
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*	U	6.15	ug/kg	1.97	6.15
630-20-6	1,1,1,2-Tetrachloroethane		67.5	ug/kg	0.369	1.23
95-50-1	1,2-Dichlorobenzene		62.2	ug/kg	0.369	1.23

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x643.d
Lab Smp Id: 1202042300 Client Smp ID: RE15-10-8363MS
Inj Date : 14-FEB-2010 07:39
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |1202042300|952860|1|VOAF|1|
Misc Info : LANL 5g N/A MS 246557001
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 43 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-I666.sub
Target Version: 3.50
Processing Host: kilroy

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	18.70920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.613	10.614	(1.000)	600305	50.0000	
* 61 Chlorobenzene-d5	117	13.764	13.765	(1.000)	499580	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.173	(1.000)	307321	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.259	10.260	(0.967)	143548	46.4956	57.2
$ 47 Toluene-d8	98	12.246	12.247	(0.890)	496172	43.4273	53.4
$ 71 Bromofluorobenzene	95	14.947	14.948	(0.924)	304981	55.1133	67.8
3 Dichlorodifluoromethane	85	4.904	4.904	(0.462)	180671	61.7985	76.0
4 Chloromethane	50	5.299	5.299	(0.499)	328356	52.8205	65.0
5 Vinyl chloride	62	5.521	5.521	(0.520)	274877	54.6987	67.3
6 Bromomethane	94	6.130	6.123	(0.578)	193222	55.7673	68.6
7 Chloroethane	64	6.281	6.281	(0.592)	180220	55.7025	68.5
8 Trichlorofluoromethane	101	6.662	6.669	(0.628)	317147	60.8284	74.8

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
10 Acetone	43	7.351	7.352	(0.693)	621955	221.602	273
11 1,1-Dichloroethylene	61	7.388	7.382	(0.696)	327040	53.9199	66.3
87 1,4-Dichlorobenzene	146	16.203	16.204	(1.002)	588045	51.4982	63.4
13 Iodomethane	142	7.632	7.632	(0.719)	1757753	257.199	316
17 Methylene chloride	84	7.936	7.943	(0.748)	238036	54.3365	66.8
14 Carbon disulfide	76	7.772	7.773	(0.732)	3348840	278.975	343
21 trans-1,2-Dichloroethylene	61	8.284	8.285	(0.781)	294580	53.2248	65.5
22 1,1-Dichloroethane	63	8.759	8.754	(0.825)	367535	52.8217	65.0
30 2-Butanone	43	9.326	9.321	(0.879)	753927	222.920	274
31 cis-1,2-Dichloroethylene	61	9.381	9.382	(0.884)	326439	53.6939	66.0
85 1,3-Dichlorobenzene	146	16.118	16.119	(0.996)	584631	51.9540	63.9
25 2,2-Dichloropropane	77	9.418	9.419	(0.887)	200422	59.2716	72.9
32 Chloroform	83	9.686	9.687	(0.913)	348694	55.2387	68.0
90 1,2-Dichlorobenzene	146	16.642	16.643	(1.029)	553391	50.5925	62.2
29 Bromochloromethane	128	9.656	9.656	(0.910)	108721	53.9134	66.3
36 1,1,1-Trichloroethane	97	9.973	9.980	(0.940)	280507	58.2014	71.6
34 1,1-Dichloropropene	75	10.131	10.132	(0.955)	259972	55.0505	67.7
33 Carbon tetrachloride	117	10.174	10.168	(0.959)	281059	59.7000	73.4
37 1,2-Dichloroethane	62	10.338	10.339	(0.974)	288902	56.9551	70.1
38 Benzene	78	10.369	10.370	(0.977)	743325	49.8824	61.4
39 Trichloroethylene	95	11.003	11.004	(1.037)	199366	52.4544	64.5
41 1,2-Dichloropropane	63	11.241	11.241	(1.059)	216815	52.1989	64.2
45 Bromodichloromethane	83	11.478	11.479	(1.082)	266916	57.4352	70.6
43 Dibromomethane	93	11.369	11.369	(1.071)	126845	55.6604	68.5
49 4-Methyl-2-pentanone	58	12.015	12.016	(0.873)	437059	230.608	284
46 cis-1,3-Dichloropropylene	75	11.929	11.930	(1.124)	319890	55.2812	68.0
50 Toluene	92	12.320	12.321	(0.895)	483001	49.6553	61.1
53 trans-1,3-Dichloropropylene	75	12.460	12.461	(0.905)	302588	54.9093	67.5
54 1,1,2-Trichloroethane	83	12.679	12.680	(0.921)	147735	49.9485	61.4
55 2-Hexanone	43	12.856	12.857	(0.934)	982937	197.812	243
52 1,3-Dichloropropane	76	12.874	12.875	(0.935)	298720	50.0076	61.5
56 Tetrachloroethylene	164	12.917	12.918	(0.938)	173720	50.2482	61.8
57 Dibromochloromethane	129	13.143	13.144	(0.955)	225822	55.6420	68.4
59 1,2-Dibromoethane	107	13.313	13.314	(0.967)	191332	51.6214	63.5
62 Chlorobenzene	112	13.801	13.802	(1.003)	581196	51.4898	63.3
60 1,1,1,2-Tetrachloroethane	131	13.850	13.851	(1.006)	226016	54.8381	67.4
58 Ethylbenzene	91	13.862	13.863	(1.007)	970424	51.5826	63.4
63 m,p-Xylenes	106	13.966	13.967	(1.015)	766240	103.706	128
64 o-Xylene	106	14.398	14.399	(1.046)	395897	51.6483	63.5
65 Styrene	104	14.398	14.399	(1.046)	658619	54.1476	66.6
66 Bromoform	173	14.655	14.655	(0.906)	180140	57.0376	70.2
73 1,1,2,2-Tetrachloroethane	83	15.014	15.015	(0.928)	284247	50.7205	62.4
74 1,2,3-Trichloropropane	110	15.106	15.107	(0.934)	77740	51.1099	62.9
75 Bromobenzene	156	15.167	15.161	(0.937)	312253	53.3219	65.6
76 n-Propylbenzene	91	15.179	15.180	(0.938)	1293969	53.4510	65.8
77 2-Chlorotoluene	91	15.331	15.326	(0.948)	892359	52.3469	64.4
67 Isopropylbenzene	105	14.758	14.753	(0.912)	1087030	54.6205	67.2

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
78 1,3,5-Trimethylbenzene	105	15.331	15.326	(0.948)	961168	54.0266	66.5
80 4-Chlorotoluene	91	15.429	15.430	(0.954)	833568	54.2153	66.7
81 tert-Butylbenzene	119	15.703	15.704	(0.971)	995023	54.7959	67.4
79 1,2,4-Trimethylbenzene	105	15.740	15.741	(0.973)	1010204	54.5584	67.1
83 sec-Butylbenzene	105	15.929	15.930	(0.985)	1301941	53.3174	65.6
84 4-Isopropyltoluene	119	16.051	16.052	(0.992)	1042789	53.1937	65.4
89 n-Butylbenzene	91	16.502	16.503	(1.020)	966820	52.8477	65.0
92 1,2-Dibromo-3-chloropropane	157	17.526	17.527	(1.083)	52906	47.6591	58.6

Data File: /chem/VOA4.i/021310v4/4x643.d

Date : 14-FEB-2010 07:39

Client ID: RE15-10-8363MS

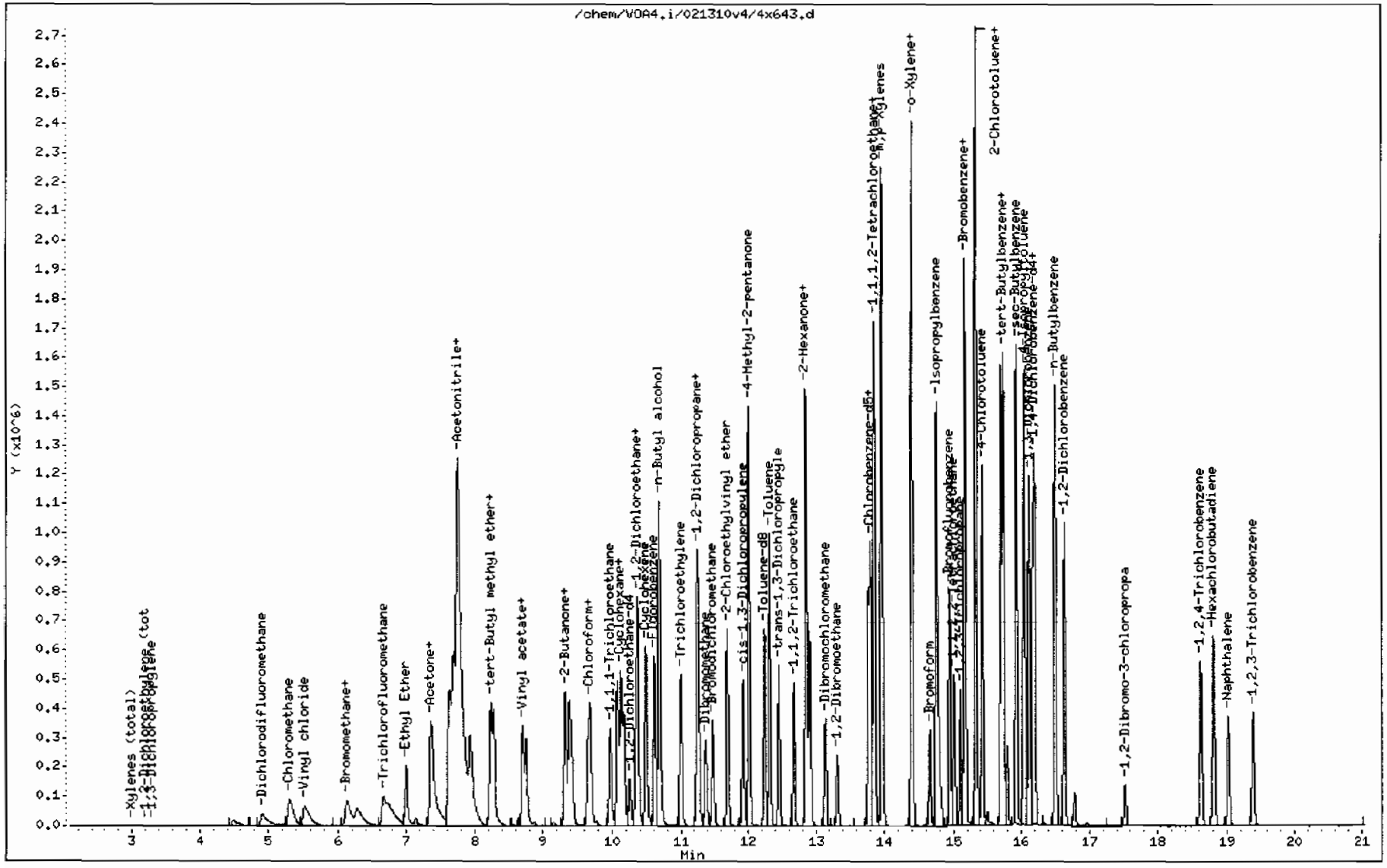
Sample Info: |1202042300|952860|1|VOAF|1|

Column phase: RTX-VOLATILES

Instrument: VOA4.i

Operator: GRB2

Column diameter: 0.25



Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**1202042301**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**RE15-10-8363PSD**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 08:06**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 13:39**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x644.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane		70.9	ug/kg	0.418	1.23
74-87-3	Chloromethane		61.7	ug/kg	0.369	1.23
75-01-4	Vinyl chloride		64.7	ug/kg	0.369	1.23
74-83-9	Bromomethane		65.6	ug/kg	0.369	1.23
75-00-3	Chloroethane		65.1	ug/kg	0.369	1.23
75-69-4	Trichlorofluoromethane		70.3	ug/kg	0.369	1.23
67-64-1	Acetone		229	ug/kg	2.04	6.15
75-35-4	1,1-Dichloroethylene		62.8	ug/kg	0.369	1.23
74-88-4	Iodomethane		312	ug/kg	1.97	6.15
75-09-2	Methylene chloride		64.6	ug/kg	2.46	6.15
75-15-0	Carbon disulfide		325	ug/kg	1.54	6.15
156-60-5	trans-1,2-Dichloroethylene		62.9	ug/kg	0.369	1.23
75-34-3	1,1-Dichloroethane		63.4	ug/kg	0.369	1.23
78-93-3	2-Butanone		243	ug/kg	1.85	6.15
156-59-2	cis-1,2-Dichloroethylene		63.7	ug/kg	0.369	1.23
594-20-7	2,2-Dichloropropane		69.3	ug/kg	0.369	1.23
67-66-3	Chloroform		64.6	ug/kg	0.369	1.23
74-97-5	Bromochloromethane		65.0	ug/kg	0.406	1.23
71-55-6	1,1,1-Trichloroethane		67.0	ug/kg	0.369	1.23
563-58-6	1,1-Dichloropropene		64.6	ug/kg	0.369	1.23
56-23-5	Carbon tetrachloride		69.3	ug/kg	0.369	1.23
107-06-2	1,2-Dichloroethane		67.9	ug/kg	0.369	1.23
71-43-2	Benzene		58.9	ug/kg	0.369	1.23
79-01-6	Trichloroethylene		61.5	ug/kg	0.406	1.23
78-87-5	1,2-Dichloropropane		61.7	ug/kg	0.369	1.23
75-27-4	Bromodichloromethane		68.2	ug/kg	0.369	1.23
74-95-3	Dibromomethane		67.2	ug/kg	0.369	1.23
108-10-1	4-Methyl-2-pentanone		291	ug/kg	1.54	6.15
10061-01-5	cis-1,3-Dichloropropylene		64.9	ug/kg	0.369	1.23
108-88-3	Toluene		61.1	ug/kg	0.369	1.23
10061-02-6	trans-1,3-Dichloropropylene		65.8	ug/kg	0.369	1.23
79-00-5	1,1,2-Trichloroethane		60.4	ug/kg	0.369	1.23
591-78-6	2-Hexanone		213	ug/kg	1.85	6.15
142-28-9	1,3-Dichloropropane		59.9	ug/kg	0.369	1.23
127-18-4	Tetrachloroethylene		60.5	ug/kg	0.369	1.23
124-48-1	Dibromochloromethane		67.6	ug/kg	0.369	1.23
106-93-4	1,2-Dibromoethane		63.9	ug/kg	0.369	1.23
108-90-7	Chlorobenzene		61.2	ug/kg	0.369	1.23

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**1202042301**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
Client Sample:	**QC for batch 952859**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**RE15-10-8363PSD**	**Method:**	**SW846 8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**952860**	**Inst:**	**VOA4.I**	**Dilution:**	**1**
Run Date:	**02/14/2010 08:06**	**Analyst:**	**GRB2**	**Purge Vol:**	**5 mL**
Prep Date:	**02/13/2010 13:39**	**Aliquot:**	**5 g**	**Final Volume:**	**5 mL**
Data File:	**4x644.d**	**Column:**	**RTX-VOLATILES**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene		61.4	ug/kg	0.369	1.23
179601-23-1	m,p-Xylenes		123	ug/kg	0.369	2.46
95-47-6	o-Xylene		61.1	ug/kg	0.369	1.23
100-42-5	Styrene		64.3	ug/kg	0.369	1.23
75-25-2	Bromoform		74.8	ug/kg	0.369	1.23
79-34-5	1,1,2,2-Tetrachloroethane		64.1	ug/kg	0.369	1.23
96-18-4	1,2,3-Trichloropropane		64.4	ug/kg	0.369	1.23
108-86-1	Bromobenzene		67.2	ug/kg	0.369	1.23
103-65-1	n-Propylbenzene		67.0	ug/kg	0.369	1.23
95-49-8	2-Chlorotoluene		64.7	ug/kg	0.369	1.23
98-82-8	Isopropylbenzene		70.7	ug/kg	0.369	1.23
108-67-8	1,3,5-Trimethylbenzene		66.9	ug/kg	0.369	1.23
106-43-4	4-Chlorotoluene		67.0	ug/kg	0.369	1.23
98-06-6	tert-Butylbenzene		68.6	ug/kg	0.369	1.23
95-63-6	1,2,4-Trimethylbenzene		67.5	ug/kg	0.369	1.23
135-98-8	sec-Butylbenzene		64.6	ug/kg	0.369	1.23
99-87-6	4-Isopropyltoluene		66.3	ug/kg	0.369	1.23
541-73-1	1,3-Dichlorobenzene		62.9	ug/kg	0.369	1.23
106-46-7	1,4-Dichlorobenzene		61.7	ug/kg	0.369	1.23
104-51-8	n-Butylbenzene		62.9	ug/kg	0.369	1.23
96-12-8	1,2-Dibromo-3-chloropropane		56.9	ug/kg	0.369	1.23
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroetha *Trichlorotrifluoroethane*	U	6.15	ug/kg	1.97	6.15
630-20-6	1,1,1,2-Tetrachloroethane		66.7	ug/kg	0.369	1.23
95-50-1	1,2-Dichlorobenzene		60.4	ug/kg	0.369	1.23

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026

Data file : /chem/VOA4.i/021310v4/4x644.d
Lab Smp Id: 1202042301 Client Smp ID: RE15-10-8363MSD
Inj Date : 14-FEB-2010 08:06
Operator : GRB2 Inst ID: VOA4.i
Smp Info : |1202042301|952860|1|VOAF|1|
Misc Info : LANL 5g N/A MSD 246557001
Comment :
Method : /chem/VOA4.i/021310v4/VOA4-8260-020310pm.m
Meth Date : 14-Feb-2010 12:08 gel00735 Quant Type: ISTD
Cal Date : 03-FEB-2010 08:54 Cal File: 4w245.d
Als bottle: 44 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: kilroy

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	18.70920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

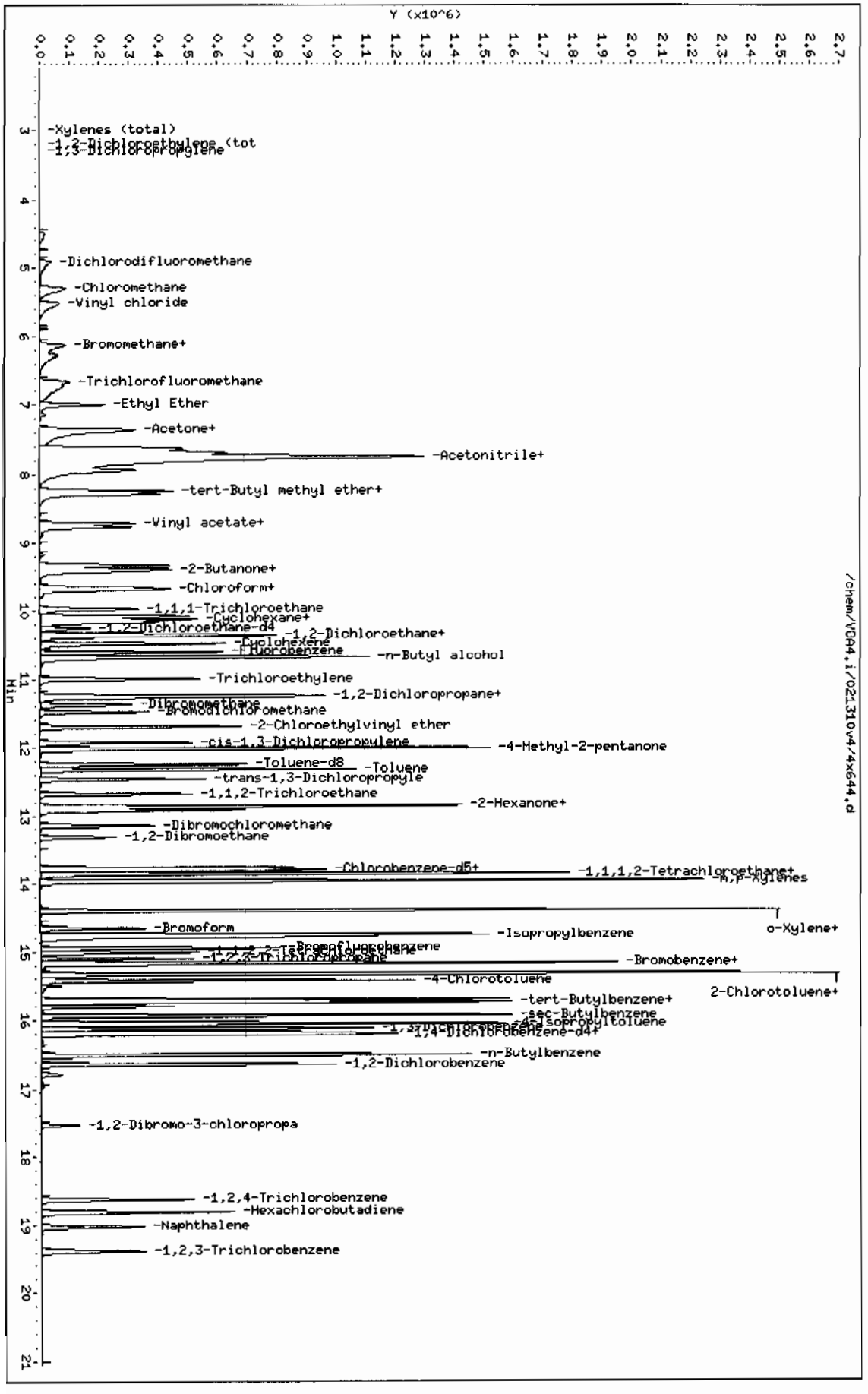
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.613	10.614	(1.000)	653136	50.0000	
* 61 Chlorobenzene-d5	117	13.764	13.765	(1.000)	534272	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.173	16.173	(1.000)	307044	50.0000	
$ 138 1,2-Dichloroethane-d4	65	10.259	10.260	(0.967)	139112	41.4141	50.9
$ 47 Toluene-d8	98	12.246	12.247	(0.890)	523481	42.8424	52.7
$ 71 Bromofluorobenzene	95	14.953	14.948	(0.925)	311012	56.2538	69.2
3 Dichlorodifluoromethane	85	4.904	4.904	(0.462)	183425	57.6656	70.9
4 Chloromethane	50	5.299	5.299	(0.499)	339377	50.1774	61.7
5 Vinyl chloride	62	5.521	5.521	(0.520)	287737	52.6262	64.7
6 Bromomethane	94	6.130	6.123	(0.578)	200982	53.3148	65.6
7 Chloroethane	64	6.281	6.281	(0.592)	186215	52.8999	65.1
8 Trichlorofluoromethane	101	6.662	6.669	(0.628)	324004	57.1169	70.3

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
10 Acetone	43	7.357	7.352	(0.693)	568127	186.049	229
11 1,1-Dichloroethylene	61	7.388	7.382	(0.696)	337003	51.0682	62.8
87 1,4-Dichlorobenzene	146	16.203	16.204	(1.002)	571811	50.1217	61.6
13 Iodomethane	142	7.632	7.632	(0.719)	1885862	253.623	312
17 Methylene chloride	84	7.942	7.943	(0.748)	250461	52.4860	64.6
14 Carbon disulfide	76	7.772	7.773	(0.732)	3454697	264.514	325
21 trans-1,2-Dichloroethylene	61	8.278	8.285	(0.780)	307754	51.1073	62.9
22 1,1-Dichloroethane	63	8.753	8.754	(0.825)	390107	51.5307	63.4
30 2-Butanone	43	9.326	9.321	(0.879)	727661	197.750	243
31 cis-1,2-Dichloroethylene	61	9.387	9.382	(0.885)	342531	51.7834	63.7
85 1,3-Dichlorobenzene	146	16.118	16.119	(0.997)	575200	51.1621	62.9
25 2,2-Dichloropropane	77	9.418	9.419	(0.887)	207214	56.3234	69.3
32 Chloroform	83	9.686	9.687	(0.913)	360829	52.5374	64.6
90 1,2-Dichlorobenzene	146	16.642	16.643	(1.029)	536849	49.1244	60.4
29 Bromochloromethane	128	9.656	9.656	(0.910)	115972	52.8573	65.0
36 1,1,1-Trichloroethane	97	9.979	9.980	(0.940)	285456	54.4374	67.0
34 1,1-Dichloropropene	75	10.131	10.132	(0.955)	269914	52.5325	64.6
33 Carbon tetrachloride	117	10.174	10.168	(0.959)	288690	56.3607	69.3
37 1,2-Dichloroethane	62	10.338	10.339	(0.974)	304630	55.1980	67.9
38 Benzene	78	10.369	10.370	(0.977)	775803	47.8507	58.9
39 Trichloroethylene	95	11.003	11.004	(1.037)	206853	50.0220	61.5
41 1,2-Dichloropropane	63	11.241	11.241	(1.059)	226693	50.1624	61.7
45 Bromodichloromethane	83	11.478	11.479	(1.082)	280395	55.4552	68.2
43 Dibromomethane	93	11.369	11.369	(1.071)	135526	54.6593	67.2
49 4-Methyl-2-pentanone	58	12.015	12.016	(0.873)	479854	236.748	291
46 cis-1,3-Dichloropropylene	75	11.929	11.930	(1.124)	332409	52.7980	64.9
50 Toluene	92	12.320	12.321	(0.895)	516398	49.6415	61.1
53 trans-1,3-Dichloropropylene	75	12.460	12.461	(0.905)	315350	53.5094	65.8
54 1,1,2-Trichloroethane	83	12.679	12.680	(0.921)	155390	49.1253	60.4
55 2-Hexanone	43	12.856	12.857	(0.934)	918031	172.754	212
52 1,3-Dichloropropane	76	12.874	12.875	(0.935)	310918	48.6699	59.9
56 Tetrachloroethylene	164	12.917	12.918	(0.938)	181929	49.2057	60.5
57 Dibromochloromethane	129	13.143	13.144	(0.955)	238600	54.9730	67.6
59 1,2-Dibromoethane	107	13.313	13.314	(0.967)	206036	51.9790	63.9
62 Chlorobenzene	112	13.801	13.802	(1.003)	600613	49.7549	61.2
60 1,1,1,2-Tetrachloroethane	131	13.850	13.851	(1.006)	239130	54.2526	66.7
58 Ethylbenzene	91	13.862	13.863	(1.007)	1004318	49.9178	61.4
63 m,p-Xylenes	106	13.966	13.967	(1.015)	790080	99.9890	123
64 o-Xylene	106	14.399	14.399	(1.046)	407334	49.6898	61.1
65 Styrene	104	14.399	14.399	(1.046)	680146	52.2865	64.3
66 Bromoform	173	14.655	14.655	(0.906)	191844	60.7982	74.8
73 1,1,2,2-Tetrachloroethane	83	15.014	15.015	(0.928)	291722	52.1013	64.1
74 1,2,3-Trichloropropane	110	15.106	15.107	(0.934)	79570	52.3603	64.4
75 Bromobenzene	156	15.167	15.161	(0.938)	319831	54.6652	67.2
76 n-Propylbenzene	91	15.179	15.180	(0.939)	1316411	54.4271	67.0
77 2-Chlorotoluene	91	15.331	15.326	(0.948)	895731	52.5922	64.7
67 Isopropylbenzene	105	14.758	14.753	(0.913)	1142809	57.4751	70.7

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/Kg)
78 1,3,5-Trimethylbenzene	105	15.331	15.326	(0.948)	966083	54.3519	66.9
80 4-Chlorotoluene	91	15.429	15.430	(0.954)	836511	54.4558	67.0
81 tert-Butylbenzene	119	15.703	15.704	(0.971)	1011688	55.7639	68.6
79 1,2,4-Trimethylbenzene	105	15.740	15.741	(0.973)	1014922	54.8627	67.5
83 sec-Butylbenzene	105	15.929	15.930	(0.985)	1281358	52.5219	64.6
84 4-Isopropyltoluene	119	16.051	16.052	(0.992)	1054808	53.8554	66.2
89 n-Butylbenzene	91	16.502	16.503	(1.020)	934476	51.1258	62.9
92 1,2-Dibromo-3-chloropropane	157	17.526	17.527	(1.084)	51266	46.2461	56.9

Data File: /chem/VOA4.i/021310v4/4x644.d
Date : 14-FEB-2010 08:06
Client ID: RE15-10-8363MSD
Sample Info: 1120204230419528601|1|VOAF|1|
Column phase: RTX-VOLATILES

Instrument: VOA4.i
Operator: CRB2
Column diameter: 0.25



Page 1

Miscellaneous Data

Prep Logbook

Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Batch ID: **952859** Verified by: _____

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units

Analyst: Gelester Baskett
Method: SW846 5030
Lab SOP: GL-OA-E-038 REV# 14
Instrument: Sartorius Balance B-001

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
246557001	13-FEB-2010 13:35:00	Soil	5	5	1	
1202042300 PS (246557001)	13-FEB-2010 13:37:00	Soil	5	5	1	
1202042301 PSD (246557001)	13-FEB-2010 13:39:00	Soil	5	5	1	
1202042299 MB	13-FEB-2010 23:00:00	Soil	5	5	1	
1202042302 LCS	13-FEB-2010 23:02:00	Soil	5	5	1	
1202042303 LCS	13-FEB-2010 23:04:00	Soil	5	5	1	

Reagent/Solvent Lot ID	Description	Amount

Comments:

GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA4

Date: 2/2/2010 Method 8260B/624 Operator: ACJ

REVIEWED BY: _____
DATE: _____

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 1576

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 2/3/2010

(See pg. 30 for ICAL Std. Sci. Ids)

NaHSO4 lot # N/A

Cl test lot # _____

Sequence Number: 020310v4

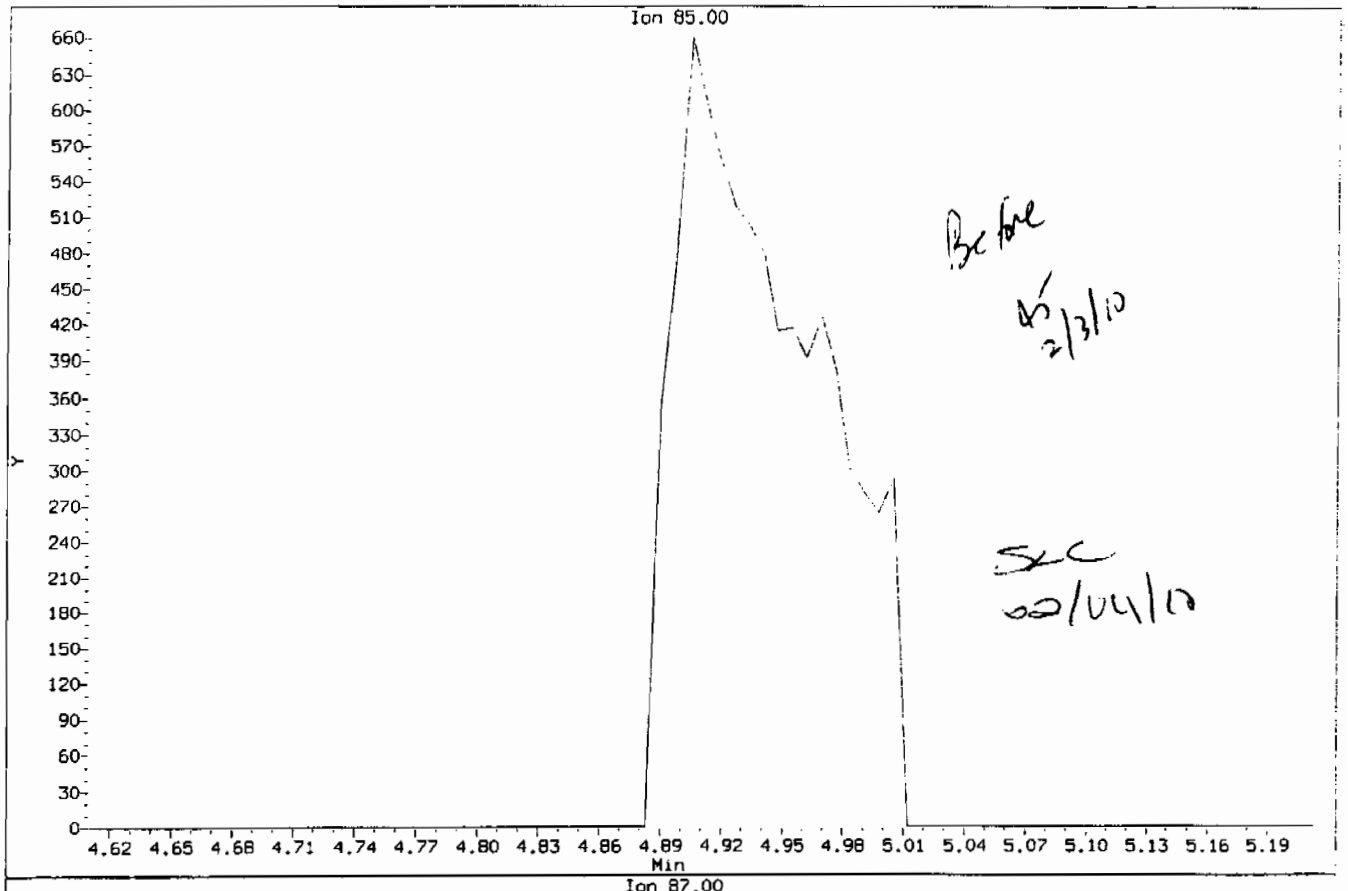
Daily Standard Solution ID#		Volume Added for Purge (ul) Blk/ Smpl	CCV	MS/ LCS	BFB
CCV					
IS	UVM100114-01	1	1	1	
SS	UVM091216-10	1	1	1	
LCS/MS					
BFB	UVM091216-10				1
SHORT					
DHEC					

Purge Amount	
5	Water Purge Vol:
	Soil Purge Wt.
	Mid level ext. MeOH Vol:
	ul
	Methanol Lot #
x	Heated Purge

Analysis Date Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable (O/X)	Comments
3 Feb 2010 01:04	4W228.D	UVM091216-10	GEL	BFB	5ML	1	N/A	28	W	ACJ	N/A	O	
3 Feb 2010 01:31	4W229.D	12020----	GEL	BLANK	5ML	1	N/A	29	w	ACJ	N/A	X	
3 Feb 2010 01:59	4W230.D	W4VM100203-01	GEL	VSTD0005	5ML	1	N/A	30	w	ACJ	N/A	O	UVM100106-01B/UVM100202-01A
3 Feb 2010 02:27	4W231.D	W4VM100203-02	GEL	VSTD001	5ML	1	N/A	31	w	ACJ	N/A	O	UVM100106-02B/UVM100202-02A
3 Feb 2010 02:54	4W232.D	W4VM100203-03	GEL	VSTD001	5ML	1	N/A	32	w	ACJ	N/A	O	UVM100106-02B/UVM100202-02A
3 Feb 2010 03:22	4W233.D	W4VM100203-04	GEL	VSTD002	5ML	1	N/A	33	w	ACJ	N/A	O	UVM100106-03B/UVM100202-03A
3 Feb 2010 03:50	4W234.D	W4VM100203-05	GEL	VSTD005	5ML	1	N/A	34	w	ACJ	N/A	O	UVM100106-04B/UVM100202-04A
3 Feb 2010 04:18	4W235.D	W4VM100203-06	GEL	VSTD010	5ML	1	N/A	35	w	ACJ	N/A	O	UVM100106-05B/UVM100202-05A
3 Feb 2010 04:46	4W236.D	W4VM100203-07	GEL	VSTD020	5ML	1	N/A	36	w	ACJ	N/A	O	UVM100106-06B/UVM100202-06A
3 Feb 2010 05:13	4W237.D	W4VM100203-08	GEL	VSTD050	5ML	1	N/A	37	w	ACJ	N/A	O	UVM100106-07B/UVM100202-07A
3 Feb 2010 05:41	4W238.D	W4VM100203-09	GEL	VSTD100	5ML	1	N/A	38	w	ACJ	N/A	O	UVM100106-08B/UVM100202-08A
3 Feb 2010 06:09	4W239.D	12020----	GEL	BLANK	5ML	1	N/A	39	w	ACJ	N/A	X	
3 Feb 2010 06:36	4W240.D	W4VM100203-10	GEL	VSTD005S	5ML	1	N/A	40	w	ACJ	N/A	O	UVM100118-01/UVM100125-01B
3 Feb 2010 07:04	4W241.D	W4VM100203-11	GEL	VSTD010S	5ML	1	N/A	41	w	ACJ	N/A	O	UVM100118-02/UVM100125-02B
3 Feb 2010 07:32	4W242.D	W4VM100203-12	GEL	VSTD025S	5ML	1	N/A	42	w	ACJ	N/A	O	UVM100118-03/UVM100125-03B
3 Feb 2010 07:59	4W243.D	W4VM100203-13	GEL	VSTD050S	5ML	1	N/A	43	w	ACJ	N/A	X	UVM100118-04/UVM100125-04B; PENTACHLOROETHANE
3 Feb 2010 08:26	4W244.D	W4VM100203-14	GEL	VSTD100S	5ML	1	N/A	44	w	ACJ	N/A	O	UVM100118-05/UVM100125-05B
3 Feb 2010 08:54	4W245.D	W4VM100203-15	GEL	VSTD250S	5ML	1	N/A	45	w	ACJ	N/A	O	UVM100118-06/UVM100125-06B
3 Feb 2010 09:21	4W246.D	W4VM100203-16	GEL	VSTD500S	5ML	1	N/A	46	w	ACJ	N/A	O	UVM100118-07/UVM100125-07B
3 Feb 2010 09:49	4W247.D	12020----	GEL	BLANK	5ML	1	N/A	47	w	ACJ	N/A	X	
3 Feb 2010 10:16	4W248.D	W4VM100203-17	GEL	ICV	5ML	1	N/A	48	w	ACJ	N/A	O	UVM100126-01A/IVM100202-01
3 Feb 2010 10:44	4W249.D	W4VM100203-18	GEL	SHORTICV	5ML	1	N/A	49	w	ACJ	N/A	O	UVM100118-08A/UVM100125-08A

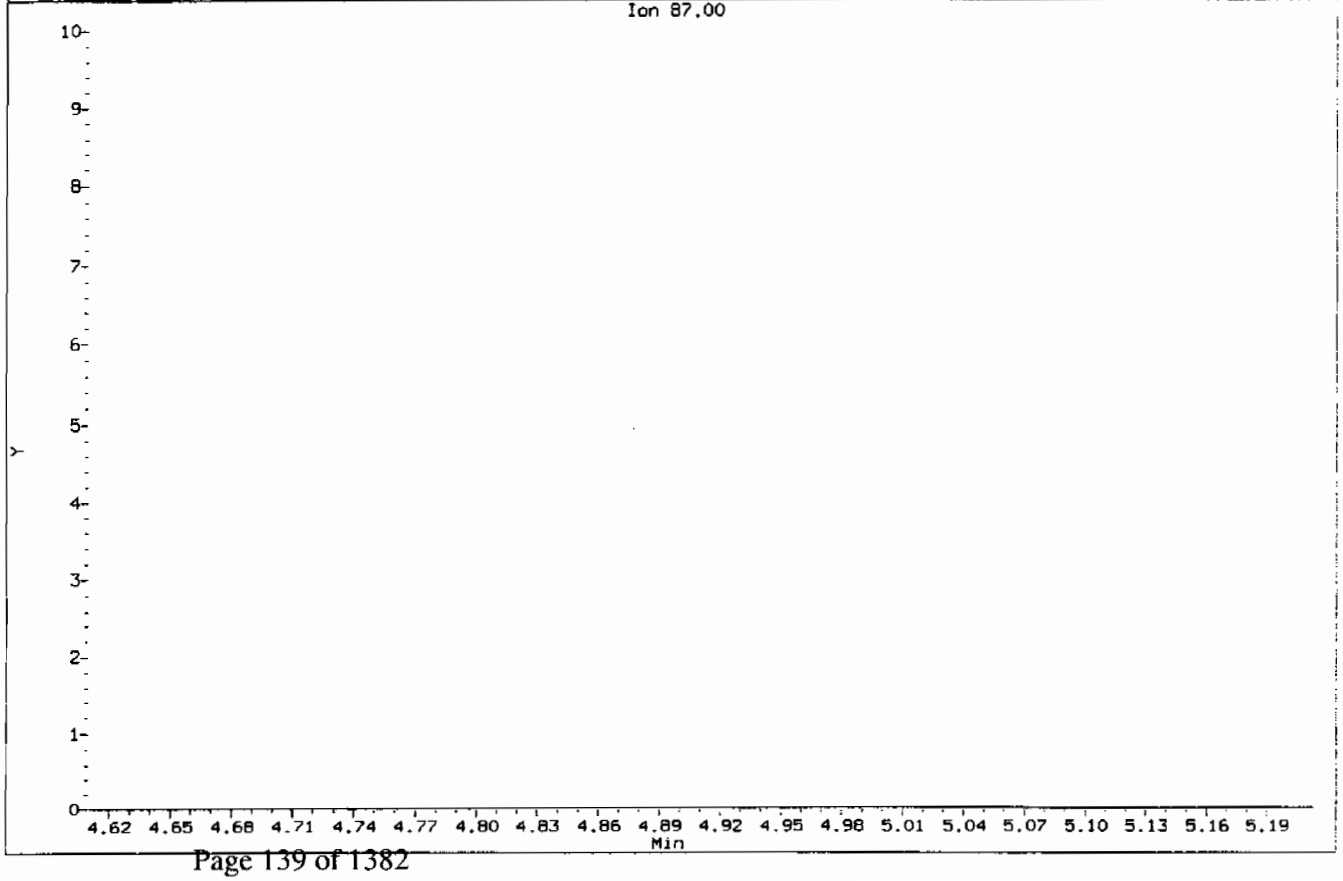
Data File: /chem/VOA4.i/020210v4/4w231.d
Injection Date: 03-FEB-2010 02:27
Instrument: VOA4.i
Client Sample ID: VSTD001

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8



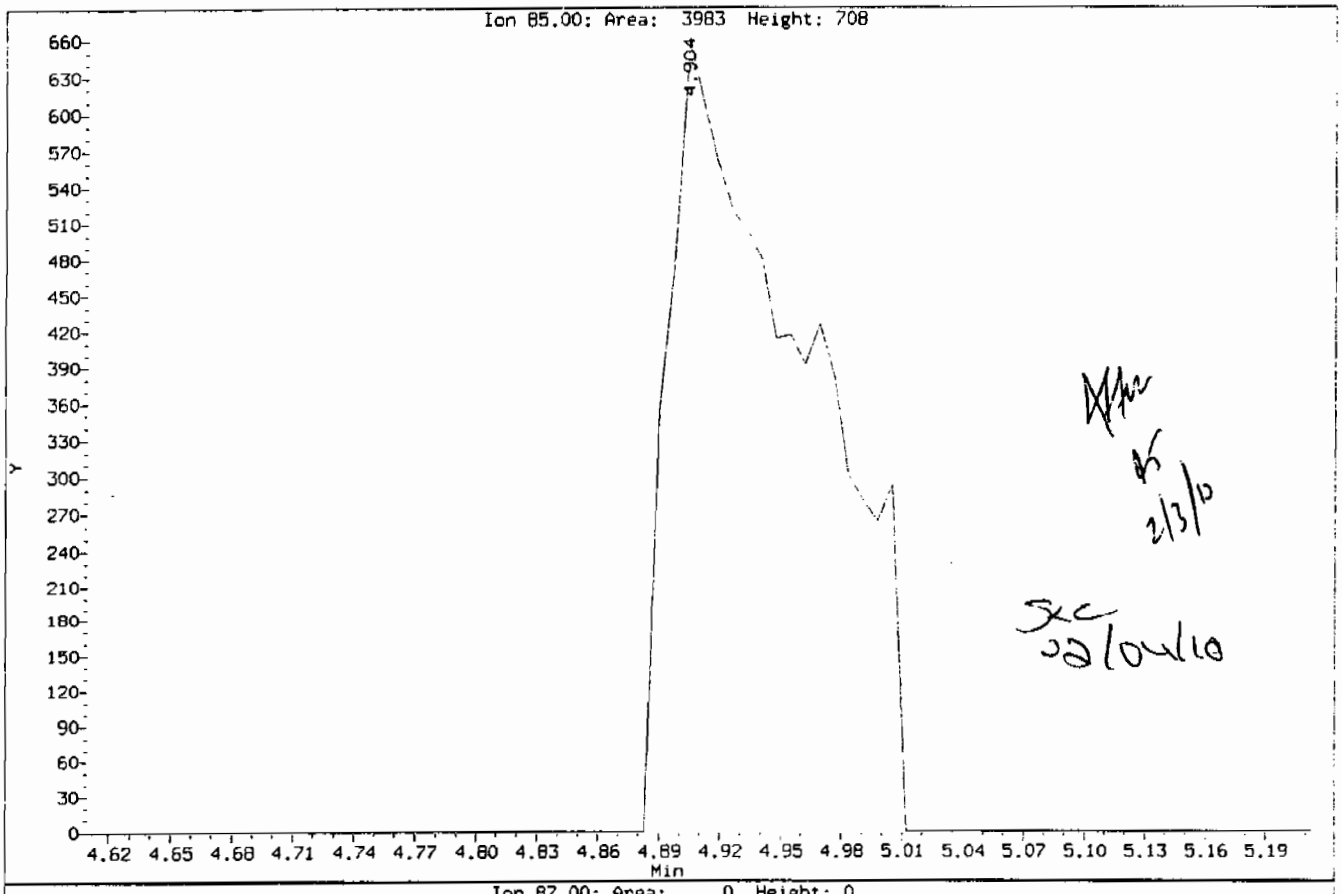
Before
2/3/10

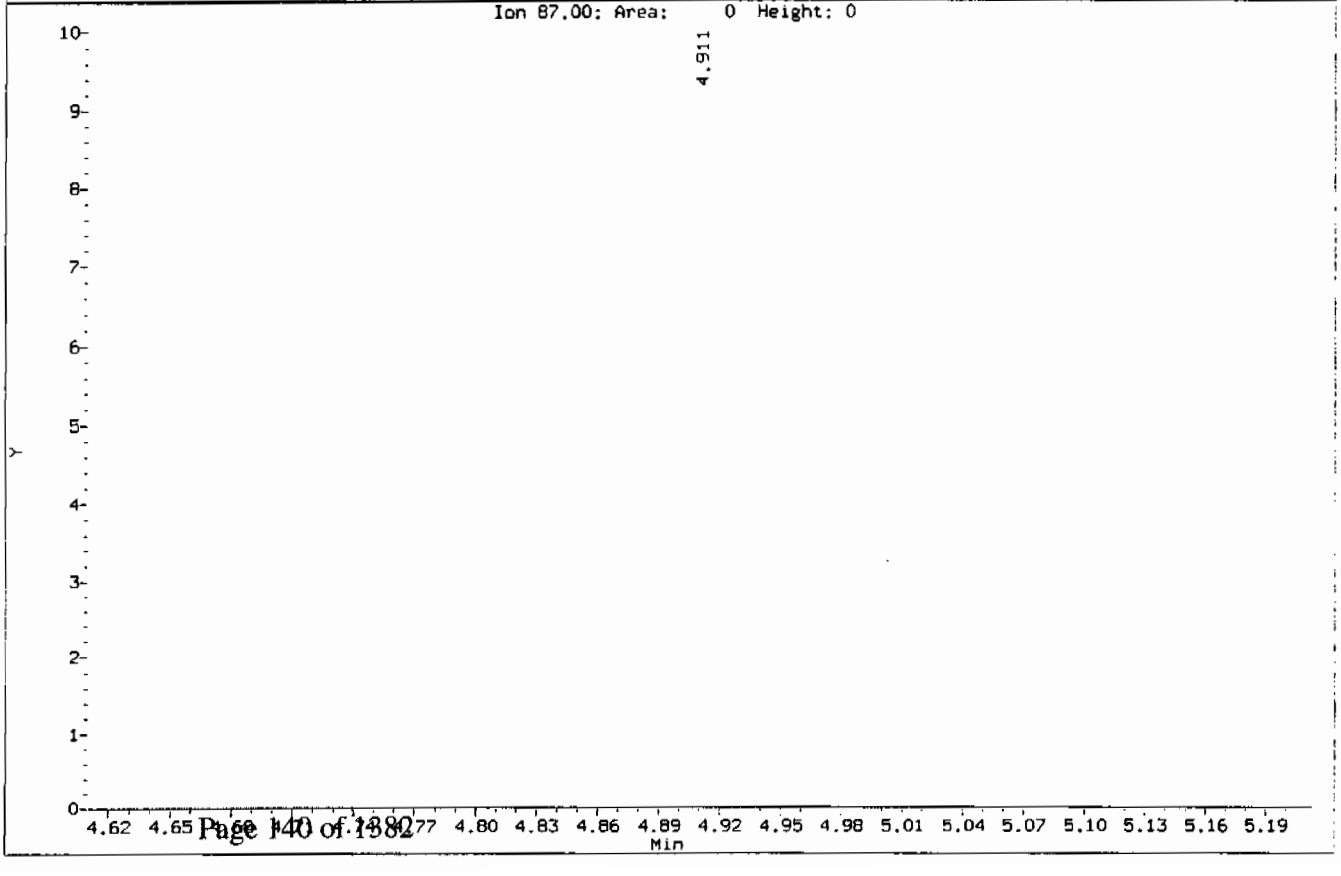
SLC
02/04/10



Data File: /chem/VOA4.i/020210v4/4w231.d
Injection Date: 03-FEB-2010 02:27
Instrument: VOA4.i
Client Sample ID: VSTD001

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA4

Date: 2/13/2010 Method 8260B/624 Operator: GRB

REVIEWED BY: _____
DATE: _____

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 1576

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 2/3/2010

(See pg. 30 for ICAL Std. Sci. Ids)

NaHSO4 lot # N/A

CI test lot # 81710

Sequence Number: 021310V4PM

Daily Standard — Volume Added for Purge (ul)

	Solution ID#	Blk/ Smpl	CCV	MS/ LCS	BFB
CCV	W4VM100213-05		5+5		
IS	UVM100114-01	1	1	1	
SS	UVM091216-10	1	1	1	
LCS/MS	W4VM100213-06/07			5+5	
BFB	UVM091216-10				1
SHORT	W4VM100213-08/09		5+5	5+5	
DHEC	N/A				

Purge Amount

5	Water Purge Vol:
5	Soil Purge Wt.
N/A	Mid level ext. MeOH Vol:
N/A	ul
N/A	Methanol Lot #
x	Heated Purge

Analysis Date Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	CI test (Y/N)	Acceptable (O/X)	Comments
2/13/2010 23:30	4X625.D	UVM091216-10	GEL	BFB2	5ml	1	N/A	25	w/s	GRB	N/A	O	
2/13/2010 23:58	4X626.D	W4VM100213-05	GEL	CCV	5ml	1	N/A	26	w	GRB	N/A	O	UVM100106-07C/UVM100202-07B
2/14/2010 0:25	4X627.D	W4VM100213-06	GEL	LCS	5ml	1	N/A	27	w	GRB	N/A	O	UVM100126-01D/IVM100210-01
2/14/2010 0:52	4X628.D	W4VM100213-07	GEL	LCS	5g	1	N/A	28	s	GRB	N/A	O	UVM100126-01D/IVM100210-01
2/14/2010 1:19	4X629.D	W4VM100213-08	GEL	SHORT	5ml	1	N/A	29	w	GRB	N/A	O	UVM100118-08B/UVM100125-08B
2/14/2010 1:45	4X630.D	W4VM100213-09	GEL	SHORT	5g	1	N/A	30	s	GRB	N/A	O	UVM100118-08B/UVM100125-08B
2/14/2010 2:13	4X631.D	12020----	GEL	BLANK	5g	1	N/A	31	s	GRB	N/A	O	
2/14/2010 2:40	4X632.D	12020----	GEL	BLANK	5ml	1	N/A	32	w	GRB	N/A	O	
2/14/2010 3:07	4X633.D	246345001	LANL	952856	5ml	1	ph2	33	w	GRB	N	O	
2/14/2010 3:34	4X634.D	246345002	LANL	952856	5ml	1	ph2	34	w	GRB	N	O	
2/14/2010 4:01	4X635.D	246345003	LANL	952856	5ml	1	ph2	35	w	GRB	N	O	
2/14/2010 4:28	4X636.D	246345007	LANL	952856	5ml	1	ph2	36	w	GRB	N	O	
2/14/2010 4:55	4X637.D	246345008	LANL	952856	5ml	1	ph2	37	w	GRB	N	O	
2/14/2010 5:23	4X638.D	246357001	LANL	952856	5ml	1	ph2	38	w	GRB	N	O	
2/14/2010 5:50	4X639.D	246357002	LANL	952856	5ml	1	ph2	39	w	GRB	N	O	
2/14/2010 6:17	4X640.D	246357003	LANL	952856	5ml	1	ph2	40	w	GRB	N	O	
2/14/2010 6:45	4X641.D	246357004	LANL	952856	5ml	1	ph2	41	w	GRB	N	O	
2/14/2010 7:12	4X642.D	246557001	LANL	952860	5g	1	N/A	42	s	GRB	N/A	O	
2/14/2010 7:39	4X643.D	1202042300	LANL	952860	5g	1	N/A	43	s	GRB	N/A	O	MS 246557001
2/14/2010 8:06	4X644.D	1202042301	LANL	952860	5g	1	N/A	44	s	GRB	N/A	O	MSD 246557001
2/14/2010 8:33	4X645.D	1202042291	LANL	952856	5ml	1	ph2	45	w	GRB	N	O	MS 246345001
2/14/2010 9:01	4X646.D	1202042292	LANL	952856	5ml	1	ph2	46	w	GRB	N	O	MSD 246345001
2/14/2010 9:28	4X647.D	12020----	GEL	BLANK	5ml	1	N/A	47	w	GRB	N/A	X	Instrument Blank
2/14/2010 9:55	4X648.D	246787001	MATL	952863	5ml	1	ph2	48	w	GRB	N	O	624; SURR HI; SEE 4X654
2/14/2010 10:22	4X649.D	246923002	COMM	952863	5ml	1	ph2	49	w	GRB	N	O	624
2/14/2010 10:49	4X650.D	246924002	COMM	952863	5ml	1	ph2	50	w	GRB	N	O	624
2/14/2010 11:17	4X651.D	1202042313	COMM	952863	5ml	1	ph2	51	w	GRB	N	O	624 DUP 246923002
2/14/2010 11:44	4X652.D	1202042314	COMM	952863	5ml	1	ph2	1	w	GRB	N	O	624 MS 246923002

GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA4

Date: 2/13/2010 Method 8260B/624 Operator: GRB

REVIEWED BY: _____
DATE: _____

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 1576

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 2/3/2010

(See pg. 30 for ICAL Std. Sci. Ids)

NaHSO4 lot # N/A

Cl test lot # 81710

Sequence Number: 021310V4PM

Daily Standard Solution ID#		Volume Added for Purge (ul) Blk/ Smpl	CCV	MS/ LCS	BFB
CCV	W4VM100213-05		5+5		
IS	UVM100114-01	1	1	1	
SS	UVM091216-10	1	1	1	
LCS/MS	W4VM100213-06/07			5+5	
BFB	UVM091216-10				1
SHORT	W4VM100213-08/09		5+5	5+5	
DHEC	N/A				

Purge Amount	
5	Water Purge Vol:
5	Soil Purge Wt.
N/A	Mid level ext. MeOH Vol:
N/A	ul
N/A	Methanol Lot #
x	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable (O/X)	Comments
2/14/2010	13:40	4X653.D	12020----	GEL	BLANK	5ml	1	N/A	2	w	GRB	N/A	X	Instrument Blank
2/14/2010	14:08	4X654.D	246787001	MATL	952863	5ml	1	ph2	3	w	GRB	N	X	624; CONFIRMATION; SEE 4X648
2/14/2010	14:36	4X655.D	12020----	GEL	BLANK	5ml	1	N/A	4	w	GRB	N/A	X	Instrument Blank

GC/MS Semivolatile Analysis

Semi-Volatile Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1666

Method/Analysis Information

Procedure:	**Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry**
Analytical Method:	SW846 8270C
Prep Method:	SW846 3550B
Analytical Batch Number:	952601
Prep Batch Number:	952595

Sample Analysis

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

Sample ID	Client ID
246557001	RE15-10-8363
1202041732	Method Blank (MB)
1202041733	Laboratory Control Sample (LCS)
1202041734	246721001(WST16-10-12253) Matrix Spike (MS)
1202041735	246721001(WST16-10-12253) 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.

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
Surrogate recoveries in this SDG met the acceptance limits.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

QC Sample Designation
Sample 246721001 (WST16-10-12253) was selected for analysis as the matrix spike and matrix spike duplicate.

Matrix Spike (MS) Recovery Statement
The MS(1202041734) recovered multiple spikes below their established control limits. Please see QC report for specific failures. All other spike and surrogate analytes in the MSD, LCS and parent sample recovered within their established acceptance limits (with the exception of 4-Nitrophenol; see MSD recovery statement below). Therefore, it was determined the low recoveries were limited to the MS sample only. Since a re-extraction would have been out of holding and no target analytes were detected in the parent sample, the data from this extraction were reported.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD passed all spike recoveries with the exception of 4-Nitrophenol which displayed 0% recovery in the MS and MSD indicating matrix interference. All other spike and surrogate analytes in the MSD, LCS and parent sample recovered within their established acceptance limits. Therefore, it was determined the low recoveries were limited to the MS sample only. Since a re-extraction would have been out of holding and no target analytes were detected in the parent sample, the data from this extraction were reported.

MS/MSD Relative Percent Difference (RPD) Statement
The MS/MSD RPD values of multiple analytes are outside RPD limits. Please see QC report for specific

failures. RPD failures are due to the significantly low recoveries in the MS compared to recoveries in the MSD. No target analytes were detected in the parent sample.

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.

Miscellaneous Information

Data Exception (DER) Documentation
Data exception report (DER ID 794903) was generated for this SDG.

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.

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:

The Semi-Volatile-GC/MS analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
MSD2.I	Agilent 5975 Mass Spectrometer	HP7890A/HP5975C	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.

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: 10-1666 GEL Work Order: 246557

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a surrogate compound

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this case narrative:

Signature: Pat Steele **Name:** **Patricia Steele**

Date: **04 MAR 2010** **Title:** **Group Leader**
Laboratory Manager

Roadmap for LANL 10-1666 SVOA

This roadmap was analyzed by ANN00964 on 02-23-2010, 13:52.
This roadmap was reviewed by jcb on 02-24-2010, 14:51.

Sample

exclude	manual	datafile	smpid	injdate	injtime	sublist	clientid	dilution	batchid	comment
☐	N	/chem/MSD2.i/s021910.b/s2b1918.d	246557001	19-FEB-2010	21:25	10-1666.sub	RE15-10-8363	1	952601	

QC Sample

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	batchid	comment
☐	Y	/chem/MSD2.i/s021910.b/s2b1908.d	1202041732	mb	19-FEB-2010	17:18	10-1666.sub	SBLK01	1.00000	952601	
☐	Y	/chem/MSD2.i/s021910.b/s2b1909.d	1202041733	lcs	19-FEB-2010	17:43	10-1666.sub	SBLK01LCS	1.00000	952601	

Sample Data Summary

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 21:25**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30.06 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1918.d**	**Column:**	**J&W DB-5MS**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	409	ug/kg	81.8	409
108-95-2	Phenol	U	409	ug/kg	81.8	409
95-57-8	2-Chlorophenol	U	409	ug/kg	81.8	409
106-46-7	1,4-Dichlorobenzene	U	409	ug/kg	81.8	409
621-64-7	N-Nitrosodipropylamine	U	409	ug/kg	81.8	409
59-50-7	4-Chloro-3-methylphenol	U	409	ug/kg	81.8	409
83-32-9	Acenaphthene	U	40.9	ug/kg	13.5	40.9
121-14-2	2,4-Dinitrotoluene	U	409	ug/kg	40.9	409
100-02-7	4-Nitrophenol	U	409	ug/kg	135	409
87-86-5	Pentachlorophenol	U	409	ug/kg	102	409
129-00-0	Pyrene	U	40.9	ug/kg	12.3	40.9
110-86-1	Pyridine	U	409	ug/kg	81.8	409
62-53-3	Aniline	U	409	ug/kg	123	409
111-44-4	bis(2-Chloroethyl) ether	U	409	ug/kg	81.8	409
541-73-1	1,3-Dichlorobenzene	U	409	ug/kg	81.8	409
100-51-6	Benzyl alcohol	U	409	ug/kg	123	409
95-50-1	1,2-Dichlorobenzene	U	409	ug/kg	81.8	409
108-60-1	bis(2-Chloroisopropyl)ether	U	409	ug/kg	81.8	409
95-48-7	o-Cresol	U	409	ug/kg	81.8	409
65794-96-9	m,p-Cresols	U	409	ug/kg	123	409
67-72-1	Hexachloroethane	U	409	ug/kg	81.8	409
98-95-3	Nitrobenzene	U	409	ug/kg	81.8	409
78-59-1	Isophorone	U	409	ug/kg	81.8	409
88-75-5	2-Nitrophenol	U	409	ug/kg	81.8	409
105-67-9	2,4-Dimethylphenol	U	409	ug/kg	143	409
111-91-1	bis(2-Chloroethoxy)methane	U	409	ug/kg	81.8	409
120-83-2	2,4-Dichlorophenol	U	409	ug/kg	81.8	409
65-85-0	Benzoic acid	U	818	ug/kg	205	818
91-20-3	Naphthalene	U	40.9	ug/kg	12.3	40.9
106-47-8	4-Chloroaniline	U	409	ug/kg	81.8	409
87-68-3	Hexachlorobutadiene	U	409	ug/kg	81.8	409
91-57-6	2-Methylnaphthalene	U	40.9	ug/kg	8.18	40.9
77-47-4	Hexachlorocyclopentadiene	U	409	ug/kg	81.8	409
88-06-2	2,4,6-Trichlorophenol	U	409	ug/kg	81.8	409
95-95-4	2,4,5-Trichlorophenol	U	409	ug/kg	81.8	409
91-58-7	2-Chloronaphthalene	U	40.9	ug/kg	13.5	40.9
88-74-4	2-Nitroaniline *o-Nitroaniline*	U	409	ug/kg	81.8	409
99-09-2	3-Nitroaniline	U	409	ug/kg	81.8	409

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	10-1666	**Date Collected:**	02/03/2010 12:00	**Matrix:**	R
Lab Sample ID:	246557001	**Date Received:**	02/09/2010 10:00	**%Moisture:**	18.7
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE15-10-8363	**Method:**	SW846 8270C	**SOP Ref:**	GL-OA-E-009
Batch ID:	952601	**Inst:**	MSD2.I	**Dilution:**	1
Run Date:	02/19/2010 21:25	**Analyst:**	AGS1	**Inj. Vol:**	.5 uL
Prep Date:	02/12/2010 20:27	**Aliquot:**	30.06 g	**Final Volume:**	1 mL
Data File:	s2b1918.d	**Column:**	J&W DB-5MS	**Level:**	LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	m-Nitroaniline					
131-11-3	Dimethylphthalate	U	409	ug/kg	81.8	409
606-20-2	2,6-Dinitrotoluene	U	409	ug/kg	40.9	409
208-96-8	Acenaphthylene	U	40.9	ug/kg	12.3	40.9
51-28-5	2,4-Dinitrophenol	U	818	ug/kg	156	818
132-64-9	Dibenzofuran	U	409	ug/kg	81.8	409
84-66-2	Diethylphthalate	U	409	ug/kg	81.8	409
86-73-7	Fluorene	U	40.9	ug/kg	12.3	40.9
7005-72-3	4-Chlorophenylphenylether	U	409	ug/kg	81.8	409
534-52-1	2-Methyl-4,6-dinitrophenol	U	409	ug/kg	81.8	409
100-01-6	4-Nitroaniline	U	409	ug/kg	123	409
	p-Nitroaniline					
122-39-4	Diphenylamine	U	409	ug/kg	81.8	409
122-66-7	Azobenzene	U	409	ug/kg	81.8	409
	1,2-Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	409	ug/kg	81.8	409
118-74-1	Hexachlorobenzene	U	409	ug/kg	81.8	409
85-01-8	Phenanthrene	U	40.9	ug/kg	12.3	40.9
120-12-7	Anthracene	U	40.9	ug/kg	8.18	40.9
84-74-2	Di-n-butylphthalate	U	409	ug/kg	81.8	409
206-44-0	Fluoranthene	U	40.9	ug/kg	12.3	40.9
85-68-7	Butylbenzylphthalate	U	409	ug/kg	81.8	409
56-55-3	Benzo(a)anthracene	U	40.9	ug/kg	12.3	40.9
91-94-1	3,3'-Dichlorobenzidine	U	409	ug/kg	123	409
218-01-9	Chrysene	U	40.9	ug/kg	12.3	40.9
117-81-7	bis(2-Ethylhexyl)phthalate	U	409	ug/kg	81.8	409
117-84-0	Di-n-octylphthalate	U	409	ug/kg	81.8	409
205-99-2	Benzo(b)fluoranthene	U	40.9	ug/kg	12.3	40.9
207-08-9	Benzo(k)fluoranthene	U	40.9	ug/kg	12.3	40.9
50-32-8	Benzo(a)pyrene	U	40.9	ug/kg	12.3	40.9
193-39-5	Indeno(1,2,3-cd)pyrene	U	40.9	ug/kg	12.3	40.9
53-70-3	Dibenzo(a,h)anthracene	U	40.9	ug/kg	12.3	40.9
191-24-2	Benzo(ghi)perylene	U	40.9	ug/kg	12.3	40.9
120-82-1	1,2,4-Trichlorobenzene	U	409	ug/kg	81.8	409

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	3.13	335	ug/kg		J
7785-70-8	1R-.alpha.-Pinene	3.88	388	ug/kg	98	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	10-1666	**Date Collected:**	02/03/2010 12:00	**Matrix:**	R
Lab Sample ID:	246557001	**Date Received:**	02/09/2010 10:00	**%Moisture:**	18.7
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE15-10-8363	**Method:**	SW846 8270C	**SOP Ref:**	GL-OA-E-009
Batch ID:	952601	**Inst:**	MSD2.I	**Dilution:**	1
Run Date:	02/19/2010 21:25	**Analyst:**	AGS1	**Inj. Vol:**	.5 uL
Prep Date:	02/12/2010 20:27	**Aliquot:**	30.06 g	**Final Volume:**	1 mL
Data File:	s2b1918.d	**Column:**	J&W DB-5MS	**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
13466-78-9	3-Carene	4.44	215	ug/kg	96	NJ
25269-17-4	Thunbergol	10.35	603	ug/kg	95	NJ

QC Summary

Semi-Volatile

Surrogate Recovery Report

SDG Number: 10-1666

Matrix Type: SOLID

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

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1202041732	MB for batch 952595	74	69	81	70	68	92
1202041733	LCS for batch 952595	76	72	82	71	72	85
246557001	RE15-10-8363	74	70	82	69	69	84

Surrogate		Acceptance Limits
2FP	= 2-Fluorophenol	(29%-99%)
PHL	= Phenol-d5	(33%-98%)
NBZ	= Nitrobenzene-d5	(31%-105%)
FBP	= 2-Fluorobiphenyl	(25%-109%)
TBP	= 2,4,6-Tribromophenol	(37%-106%)
TPH	= p-Terphenyl-d14	(13%-150%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 952595 **Matrix:** SOIL

Lab Sample ID: 1202041733

Instrument: MSD2.I **Analysis Date:** 02/19/2010 17:43 **Dilution:** 1

Analyst: AGS1 **Prep Batch ID:** 952595

Inj. Vol: .5 uL **Batch ID:** 952601

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	1150	69	22-114
108-95-2	LCS	Phenol	1670	0.0	1270	76	39-104
95-57-8	LCS	2-Chlorophenol	1670	0.0	1250	75	40-107
106-46-7	LCS	1,4-Dichlorobenzene	1670	0.0	1270	76	33-108
621-64-7	LCS	N-Nitrosodipropylamine	1670	0.0	1250	75	34-113
59-50-7	LCS	4-Chloro-3-methylphenol	1670	0.0	1450	87	42-114
83-32-9	LCS	Acenaphthene	1670	0.0	1180	71	40-105
121-14-2	LCS	2,4-Dinitrotoluene	1670	0.0	1320	79	49-112
100-02-7	LCS	4-Nitrophenol	1670	0.0	476	29	24-113
87-86-5	LCS	Pentachlorophenol	1670	0.0	1020	61	27-116
129-00-0	LCS	Pyrene	1670	0.0	1370	82	42-113
110-86-1	LCS	Pyridine	1670	0.0	1340	80	8-125
62-53-3	LCS	Aniline	1670	0.0	1050	63	18-126
111-44-4	LCS	bis(2-Chloroethyl) ether	1670	0.0	1130	68	32-103
541-73-1	LCS	1,3-Dichlorobenzene	1670	0.0	1280	77	32-108
100-51-6	LCS	Benzyl alcohol	1670	0.0	605	36	27-108
95-50-1	LCS	1,2-Dichlorobenzene	1670	0.0	1290	77	35-111
108-60-1	LCS	bis(2-Chloroisopropyl)ether	1670	0.0	1020	61	28-117
95-48-7	LCS	o-Cresol	1670	0.0	1290	77	39-111
65794-96-9	LCS	m,p-Cresols	1670	0.0	1470	88	45-121
67-72-1	LCS	Hexachloroethane	1670	0.0	1230	74	30-109
98-95-3	LCS	Nitrobenzene	1670	0.0	1450	87	33-116

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 952595 **Matrix:** SOIL

Lab Sample ID: 1202041733

Instrument: MSD2.I **Analysis Date:** 02/19/2010 17:43 **Dilution:** 1

Analyst: AGS1 **Prep Batch ID** 952595

Inj. Vol: .5 uL **Batch ID:** 952601

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	1420	85	35-113
88-75-5	LCS	2-Nitrophenol	1670	0.0	1440	86	31-117
105-67-9	LCS	2,4-Dimethylphenol	1670	0.0	1200	72	32-112
111-91-1	LCS	bis(2-Chloroethoxy)methane	1670	0.0	1350	81	34-110
120-83-2	LCS	2,4-Dichlorophenol	1670	0.0	1450	87	34-116
65-85-0	LCS	Benzoic acid	3330	0.0	2280	68	22-138
91-20-3	LCS	Naphthalene	1670	0.0	1380	83	35-103
106-47-8	LCS	4-Chloroaniline	1670	0.0	1070	64	20-118
87-68-3	LCS	Hexachlorobutadiene	1670	0.0	1580	95	31-117
91-57-6	LCS	2-Methylnaphthalene	1670	0.0	1420	85	38-115
77-47-4	LCS	Hexachlorocyclopentadiene	1670	0.0	818	49	22-140
88-06-2	LCS	2,4,6-Trichlorophenol	1670	0.0	1240	74	40-110
95-95-4	LCS	2,4,5-Trichlorophenol	1670	0.0	1340	81	43-113
91-58-7	LCS	2-Chloronaphthalene	1670	0.0	1350	81	37-111
88-74-4	LCS	2-Nitroaniline *o-Nitroaniline*	1670	0.0	1280	77	41-113
99-09-2	LCS	3-Nitroaniline *m-Nitroaniline*	1670	0.0	1400	84	34-125
131-11-3	LCS	Dimethylphthalate	1670	0.0	1330	80	48-122
606-20-2	LCS	2,6-Dinitrotoluene	1670	0.0	1300	78	47-107
208-96-8	LCS	Acenaphthylene	1670	0.0	1260	76	44-110
51-28-5	LCS	2,4-Dinitrophenol	1670	0.0	1180	71	18-127
132-64-9	LCS	Dibenzofuran	1670	0.0	1250	75	49-115
84-66-2	LCS	Diethylphthalate	1670	0.0	1320	79	51-126

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666 **Sample Type:** Laboratory Control Sample
Client ID: LCS for batch 952595 **Matrix:** SOIL
Lab Sample ID: 1202041733
Instrument: MSD2.I **Analysis Date:** 02/19/2010 17:43 **Dilution:** 1
Analyst: AGS1 **Prep Batch ID:** 952595
Inj. Vol: .5 uL **Batch ID:** 952601

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	76	43-109
7005-72-3	LCS	4-Chlorophenylphenylether	1670	0.0	1300	78	45-115
534-52-1	LCS	2-Methyl-4,6-dinitrophenol	1670	0.0	1110	66	32-117
100-01-6	LCS	4-Nitroaniline *p-Nitroaniline*	1670	0.0	1410	85	33-148
122-39-4	LCS	Diphenylamine	1670	0.0	1420	85	46-114
122-66-7	LCS	Azobenzene *1,2-Diphenylhydrazine*	1670	0.0	1300	78	38-123
101-55-3	LCS	4-Bromophenylphenylether	1670	0.0	1290	77	40-119
118-74-1	LCS	Hexachlorobenzene	1670	0.0	1470	88	43-111
85-01-8	LCS	Phenanthrene	1670	0.0	1320	79	46-107
120-12-7	LCS	Anthracene	1670	0.0	1350	81	46-110
84-74-2	LCS	Di-n-butylphthalate	1670	0.0	1400	84	52-132
206-44-0	LCS	Fluoranthene	1670	0.0	1430	86	51-115
85-68-7	LCS	Butylbenzylphthalate	1670	0.0	1400	84	47-137
56-55-3	LCS	Benzo(a)anthracene	1670	0.0	1330	80	50-108
91-94-1	LCS	3,3'-Dichlorobenzidine	1670	0.0	1300	78	36-103
218-01-9	LCS	Chrysene	1670	0.0	1380	83	48-111
117-81-7	LCS	bis(2-Ethylhexyl)phthalate	1670	0.0	1410	85	48-139
117-84-0	LCS	Di-n-octylphthalate	1670	0.0	1280	77	42-141
205-99-2	LCS	Benzo(b)fluoranthene	1670	0.0	1320	79	49-114
207-08-9	LCS	Benzo(k)fluoranthene	1670	0.0	1390	83	50-116
50-32-8	LCS	Benzo(a)pyrene	1670	0.0	1390	83	54-114
193-39-5	LCS	Indeno(1,2,3-cd)pyrene	1670	0.0	1430	86	53-120

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: LCS for batch 952595
Lab Sample ID: 1202041733
Instrument: MSD2.I
Analyst: AGS1
Inj. Vol: .5 uL

Sample Type: Laboratory Control Sample
Matrix: SOIL
Analysis Date: 02/19/2010 17:43
Dilution: 1
Prep Batch ID 952595
Batch ID: 952601

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	1430	86	53-121
191-24-2	LCS	Benzo(ghi)perylene	1670	0.0	1410	84	50-121
120-82-1	LCS	1,2,4-Trichlorobenzene	1670	0.0	1540	92	32-114

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: WST16-10-12253MS
Lab Sample ID: 1202041734
Instrument: MSD2.I
Analyst: AGS1
Inj. Vol: .5 uL

Sample Type: Matrix Spike
Matrix: S
%Moisture: 10.2
Analysis Date: 02/19/2010 20:09
Prep Batch ID: 952595
Batch ID: 952601

Dilution: 1

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	1850	0.00	U	568	31	27-98
108-95-2	MS	Phenol	1850	0.00	U	578	31 *	33-94
95-57-8	MS	2-Chlorophenol	1850	0.00	U	572	31	29-96
106-46-7	MS	1,4-Dichlorobenzene	1850	0.00	U	599	32	27-96
621-64-7	MS	N-Nitrosodipropylamine	1850	0.00	U	613	33	29-102
59-50-7	MS	4-Chloro-3-methylphenol	1850	0.00	U	919	50	29-110
83-32-9	MS	Acenaphthene	1850	0.00	U	680	37	17-109
121-14-2	MS	2,4-Dinitrotoluene	1850	0.00	U	1060	57	33-107
100-02-7	MS	4-Nitrophenol	1850	0.00	U	0.00	0 *	15-110
87-86-5	MS	Pentachlorophenol	1850	0.00	U	937	51	23-110
129-00-0	MS	Pyrene	1850	0.00	U	1150	62	24-118
110-86-1	MS	Pyridine	1850	0.00	U	651	35	25-102
62-53-3	MS	Aniline	1850	0.00	U	640	35	18-109
111-44-4	MS	bis(2-Chloroethyl) ether	1850	0.00	U	520	28 *	29-96
541-73-1	MS	1,3-Dichlorobenzene	1850	0.00	U	599	32	26-97
100-51-6	MS	Benzyl alcohol	1850	0.00	U	0.00	0 *	19-112
95-50-1	MS	1,2-Dichlorobenzene	1850	0.00	U	601	32	30-97
108-60-1	MS	bis(2-Chloroisopropyl)ether	1850	0.00	U	488	26 *	28-103
95-48-7	MS	o-Cresol	1850	0.00	U	589	32	32-107
65794-96-9	MS	m,p-Cresols	1850	0.00	U	672	36	33-115
67-72-1	MS	Hexachloroethane	1850	0.00	U	546	29	25-100
98-95-3	MS	Nitrobenzene	1850	0.00	U	704	38	27-106

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: WST16-10-12253MS
Lab Sample ID: 1202041734
Instrument: MSD2.I
Analyst: AGS1
Inj. Vol: .5 uL

Sample Type: Matrix Spike
Matrix: S
%Moisture: 10.2
Analysis Date: 02/19/2010 20:09
Prep Batch ID: 952595
Batch ID: 952601
Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
78-59-1	MS	Isophorone	1850	0.00	U	713	38	29-104
88-75-5	MS	2-Nitrophenol	1850	0.00	U	682	37	26-102
105-67-9	MS	2,4-Dimethylphenol	1850	0.00	U	567	31	22-104
111-91-1	MS	bis(2-Chloroethoxy)methane	1850	0.00	U	643	35	27-101
120-83-2	MS	2,4-Dichlorophenol	1850	0.00	U	727	39	26-103
65-85-0	MS	Benzoic acid	3710	0.00	U	1970	53	13-131
91-20-3	MS	Naphthalene	1850	0.00	U	678	37	23-103
106-47-8	MS	4-Chloroaniline	1850	0.00	U	679	37	26-103
87-68-3	MS	Hexachlorobutadiene	1850	0.00	U	703	38	28-101
91-57-6	MS	2-Methylnaphthalene	1850	0.00	U	727	39	27-106
77-47-4	MS	Hexachlorocyclopentadiene	1850	0.00	U	201	11 *	24-117
88-06-2	MS	2,4,6-Trichlorophenol	1850	0.00	U	700	38	26-105
95-95-4	MS	2,4,5-Trichlorophenol	1850	0.00	U	892	48	30-110
91-58-7	MS	2-Chloronaphthalene	1850	0.00	U	711	38	28-102
88-74-4	MS	2-Nitroaniline *o-Nitroaniline*	1850	0.00	U	848	46	33-106
99-09-2	MS	3-Nitroaniline *m-Nitroaniline*	1850	0.00	U	1210	65	33-116
131-11-3	MS	Dimethylphthalate	1850	0.00	U	907	49	38-113
606-20-2	MS	2,6-Dinitrotoluene	1850	0.00	U	898	48	29-107
208-96-8	MS	Acenaphthylene	1850	0.00	U	716	39	25-108
51-28-5	MS	2,4-Dinitrophenol	1850	0.00	U	1010	54	14-102
132-64-9	MS	Dibenzofuran	1850	0.00	U	756	41	35-112
84-66-2	MS	Diethylphthalate	1850	0.00	U	1010	55	36-122

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number:	**10-1666**	**Sample Type:**	**Matrix Spike**
Client ID:	**WST16-10-12253MS**	**Matrix:**	**S**
Lab Sample ID:	**1202041734**	**%Moisture:**	**10.2**
Instrument:	**MSD2.I**	**Analysis Date:**	**02/19/2010 20:09**
Analyst:	**AGS1**	**Prep Batch ID**	**952595**
Inj. Vol:	**.5 uL**	**Batch ID:**	**952601**

Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
86-73-7	MS	Fluorene	1850	0.00	U	834	45	33-105
7005-72-3	MS	4-Chlorophenylphenylether	1850	0.00	U	831	45	30-110
534-52-1	MS	2-Methyl-4,6-dinitrophenol	1850	0.00	U	870	47	26-97
100-01-6	MS	4-Nitroaniline *p-Nitroaniline*	1850	0.00	U	1370	74	28-135
122-39-4	MS	Diphenylamine	1850	0.00	U	1060	57	33-109
122-66-7	MS	Azobenzene *1,2-Diphenylhydrazine*	1850	0.00	U	881	48	31-113
101-55-3	MS	4-Bromophenylphenylether	1850	0.00	U	915	49	31-109
118-74-1	MS	Hexachlorobenzene	1850	0.00	U	1090	59	37-99
85-01-8	MS	Phenanthrene	1850	0.00	U	1040	56	29-109
120-12-7	MS	Anthracene	1850	0.00	U	1070	58	19-118
84-74-2	MS	Di-n-butylphthalate	1850	0.00	U	1190	64	39-123
206-44-0	MS	Fluoranthene	1850	0.00	U	1230	67	33-114
85-68-7	MS	Butylbenzylphthalate	1850	0.00	U	1180	64	35-131
56-55-3	MS	Benzo(a)anthracene	1850	0.00	U	1160	63	30-111
91-94-1	MS	3,3'-Dichlorobenzidine	1850	0.00	U	1270	68	30-124
218-01-9	MS	Chrysene	1850	0.00	U	1210	65	32-108
117-81-7	MS	bis(2-Ethylhexyl)phthalate	1850	0.00	U	1200	65	37-129
117-84-0	MS	Di-n-octylphthalate	1850	0.00	U	1050	56	31-143
205-99-2	MS	Benzo(b)fluoranthene	1850	0.00	U	1140	61	29-118
207-08-9	MS	Benzo(k)fluoranthene	1850	0.00	U	1190	64	32-118
50-32-8	MS	Benzo(a)pyrene	1850	0.00	U	1210	65	33-115
193-39-5	MS	Indeno(1,2,3-cd)pyrene	1850	0.00	U	1290	70	29-114

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: WST16-10-12253MS
Lab Sample ID: 1202041734
Instrument: MSD2.I
Analyst: AGS1
Inj. Vol: .5 uL

Sample Type: Matrix Spike
Matrix: S
%Moisture: 10.2
Analysis Date: 02/19/2010 20:09
Dilution: 1
Prep Batch ID: 952595
Batch ID: 952601

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	1850	0.00	U	1300	70	27-119
191-24-2	MS	Benzo(ghi)perylene	1850	0.00	U	1270	68	28-112
120-82-1	MS	1,2,4-Trichlorobenzene	1850	0.00	U	729	39	28-99

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: WST16-10-12253MSD
Lab Sample ID: 1202041735
Instrument: MSD2.1
Analyst: AGS1
Inj. Vol: .5 uL

Sample Type: Matrix Spike Duplicate
Matrix: S
%Moisture: 10.2
Analysis Date: 02/19/2010 20:34
Prep Batch ID: 952595
Batch ID: 952601
Dilution: 1

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	1850	0.00	U	1220	66	27-98	73 *	0-30
108-95-2	MSD Phenol	1850	0.00	U	1340	72	33-94	80 *	0-30
95-57-8	MSD 2-Chlorophenol	1850	0.00	U	1350	73	29-96	81 *	0-30
106-46-7	MSD 1,4-Dichlorobenzene	1850	0.00	U	1350	73	27-96	77 *	0-30
621-64-7	MSD N-Nitrosodipropylamine	1850	0.00	U	1350	73	29-102	75 *	0-30
59-50-7	MSD 4-Chloro-3-methylphenol	1850	0.00	U	1570	85	29-110	53 *	0-30
83-32-9	MSD Acenaphthene	1850	0.00	U	1240	67	17-109	59 *	0-30
121-14-2	MSD 2,4-Dinitrotoluene	1850	0.00	U	1360	74	33-107	25	0-30
100-02-7	MSD 4-Nitrophenol	1850	0.00	U	0.00	0 *	15-110	0	0-30
87-86-5	MSD Pentachlorophenol	1850	0.00	U	1040	56	23-110	10	0-30
129-00-0	MSD Pyrene	1850	0.00	U	1300	70	24-118	12	0-30
110-86-1	MSD Pyridine	1850	0.00	U	1350	73	25-102	70 *	0-30
62-53-3	MSD Aniline	1850	0.00	U	1500	81	18-109	80 *	0-30
111-44-4	MSD bis(2-Chloroethyl) ether	1850	0.00	U	1200	65	29-96	79 *	0-30
541-73-1	MSD 1,3-Dichlorobenzene	1850	0.00	U	1350	73	26-97	77 *	0-30
100-51-6	MSD Benzyl alcohol	1850	0.00	U	433	23	19-112	200 *	0-30
95-50-1	MSD 1,2-Dichlorobenzene	1850	0.00	U	1380	74	30-97	78 *	0-30
108-60-1	MSD bis(2-Chloroisopropyl)ether	1850	0.00	U	1090	59	28-103	76 *	0-30
95-48-7	MSD o-Cresol	1850	0.00	U	1420	77	32-107	83 *	0-30
65794-96-9	MSD m,p-Cresols	1850	0.00	U	1590	86	33-115	81 *	0-30
67-72-1	MSD Hexachloroethane	1850	0.00	U	1300	70	25-100	82 *	0-30
98-95-3	MSD Nitrobenzene	1850	0.00	U	1560	84	27-106	76 *	0-30

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1666
Client ID: WST16-10-12253MSD
Lab Sample ID: 1202041735
Instrument: MSD2.I
Analyst: AGS1
Inj. Vol: .5 uL

Sample Type: Matrix Spike Duplicate
Matrix: S
%Moisture: 10.2
Analysis Date: 02/19/2010 20:34
Dilution: 1
Prep Batch ID: 952595
Batch ID: 952601

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	1850	0.00	U	1510	82	29-104	72 *	0-30
88-75-5	MSD 2-Nitrophenol	1850	0.00	U	1560	84	26-102	78 *	0-30
105-67-9	MSD 2,4-Dimethylphenol	1850	0.00	U	1300	70	22-104	79 *	0-30
111-91-1	MSD bis(2-Chloroethoxy)methane	1850	0.00	U	1470	79	27-101	78 *	0-30
120-83-2	MSD 2,4-Dichlorophenol	1850	0.00	U	1580	85	26-103	74 *	0-30
65-85-0	MSD Benzoic acid	3710	0.00	U	2580	70	13-131	27	0-30
91-20-3	MSD Naphthalene	1850	0.00	U	1470	79	23-103	74 *	0-30
106-47-8	MSD 4-Chloroaniline	1850	0.00	U	1370	74	26-103	68 *	0-30
87-68-3	MSD Hexachlorobutadiene	1850	0.00	U	1650	89	28-101	80 *	0-30
91-57-6	MSD 2-Methylnaphthalene	1850	0.00	U	1530	83	27-106	71 *	0-30
77-47-4	MSD Hexachlorocyclopentadiene	1850	0.00	U	919	50	24-117	128 *	0-30
88-06-2	MSD 2,4,6-Trichlorophenol	1850	0.00	U	1280	69	26-105	59 *	0-30
95-95-4	MSD 2,4,5-Trichlorophenol	1850	0.00	U	1420	76	30-110	46 *	0-30
91-58-7	MSD 2-Chloronaphthalene	1850	0.00	U	1430	77	28-102	67 *	0-30
88-74-4	MSD 2-Nitroaniline *o-Nitroaniline*	1850	0.00	U	1340	72	33-106	45 *	0-30
99-09-2	MSD 3-Nitroaniline *m-Nitroaniline*	1850	0.00	U	1540	83	33-116	24	0-30
131-11-3	MSD Dimethylphthalate	1850	0.00	U	1360	74	38-113	40 *	0-30
606-20-2	MSD 2,6-Dinitrotoluene	1850	0.00	U	1340	72	29-107	40 *	0-30
208-96-8	MSD Acenaphthylene	1850	0.00	U	1340	72	25-108	61 *	0-30
51-28-5	MSD 2,4-Dinitrophenol	1850	0.00	U	1260	68	14-102	23	0-30
132-64-9	MSD Dibenzofuran	1850	0.00	U	1320	71	35-112	55 *	0-30
84-66-2	MSD Diethylphthalate	1850	0.00	U	1340	72	36-122	28	0-30

Semi-Volatile
Quality Control Summary
Spike Recovery Report

SDG Number:	**10-1666**	**Sample Type:**	**Matrix Spike Duplicate**
Client ID:	**WST16-10-12253MSD**	**Matrix:**	**S**
Lab Sample ID:	**1202041735**	**%Moisture:**	**10.2**
Instrument:	**MSD2.I**	**Analysis Date:**	**02/19/2010 20:34**
Analyst:	**AGS1**	**Prep Batch ID**	**952595**
Inj. Vol:	**.5 uL**	**Batch ID:**	**952601**

Dilution: 1

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	1850	0.00	U	1320	71	33-105	45 *	0-30
7005-72-3	MSD	4-Chlorophenylphenylether	1850	0.00	U	1360	73	30-110	48 *	0-30
534-52-1	MSD	2-Methyl-4,6-dinitrophenol	1850	0.00	U	1140	61	26-97	27	0-30
100-01-6	MSD	4-Nitroaniline *p-Nitroaniline*	1850	0.00	U	1620	87	28-135	17	0-30
122-39-4	MSD	Diphenylamine	1850	0.00	U	1450	78	33-109	31 *	0-30
122-66-7	MSD	Azobenzene *1,2-Diphenylhydrazine*	1850	0.00	U	1330	72	31-113	40 *	0-30
101-55-3	MSD	4-Bromophenylphenylether	1850	0.00	U	1310	70	31-109	35 *	0-30
118-74-1	MSD	Hexachlorobenzene	1850	0.00	U	1460	79	37-99	29	0-30
85-01-8	MSD	Phenanthrene	1850	0.00	U	1320	71	29-109	24	0-30
120-12-7	MSD	Anthracene	1850	0.00	U	1360	74	19-118	24	0-30
84-74-2	MSD	Di-n-butylphthalate	1850	0.00	U	1380	74	39-123	15	0-30
206-44-0	MSD	Fluoranthene	1850	0.00	U	1430	77	33-114	15	0-30
85-68-7	MSD	Butylbenzylphthalate	1850	0.00	U	1350	73	35-131	13	0-30
56-55-3	MSD	Benzo(a)anthracene	1850	0.00	U	1310	71	30-111	12	0-30
91-94-1	MSD	3,3'-Dichlorobenzidine	1850	0.00	U	1320	71	30-124	4	0-30
218-01-9	MSD	Chrysene	1850	0.00	U	1360	73	32-108	12	0-30
117-81-7	MSD	bis(2-Ethylhexyl)phthalate	1850	0.00	U	1360	73	37-129	12	0-30
117-84-0	MSD	Di-n-octylphthalate	1850	0.00	U	1220	66	31-143	16	0-30
205-99-2	MSD	Benzo(b)fluoranthene	1850	0.00	U	1320	71	29-118	15	0-30
207-08-9	MSD	Benzo(k)fluoranthene	1850	0.00	U	1360	73	32-118	14	0-30
50-32-8	MSD	Benzo(a)pyrene	1850	0.00	U	1400	75	33-115	14	0-30
193-39-5	MSD	Indeno(1,2,3-cd)pyrene	1850	0.00	U	1460	79	29-114	12	0-30

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number:	**10-1666**	**Sample Type:**	**Matrix Spike Duplicate**
Client ID:	**WST16-10-12253MSD**	**Matrix:**	**S**
Lab Sample ID:	**1202041735**	**%Moisture:**	**10.2**
Instrument:	**MSD2.I**	**Analysis Date:**	**02/19/2010 20:34**
Analyst:	**AGS1**	**Prep Batch ID:**	**952595**
Inj. Vol:	**.5 uL**	**Batch ID:**	**952601**

Dilution: 1

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	1850	0.00	U	1480	80	27-119	13	0-30
191-24-2	MSD Benzo(ghi)perylene	1850	0.00	U	1420	77	28-112	12	0-30
120-82-1	MSD 1,2,4-Trichlorobenzene	1850	0.00	U	1650	89	28-99	77 *	0-30

Method Blank Summary

SDG Number:	10-1666	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 952595	Instrument ID:	MSD2.I	Data File:	s2b1908-1.d
Lab Sample ID:	1202041732	Prep Date:	02/12/2010 20:27	Analyzed:	02/19/10 17:18
Column:	J&W DB-5MS	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 952595	1202041733	s2b1909-1.d	02/19/10	1743
04 RE15-10-8363	246557001	s2b1918.d	02/19/10	2125

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 10-1666

Instrument ID: MSD2.I **Injection Date/Time:** 08-JAN-10 21:18

Column Description: J&W DB-5MS **Lab File ID** /chem/MSD2.i/s010810a.b/s2a0808.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	49.3
68	Less than 2% of mass 69	1.7
69	Mass 69 Relative Abundance	39
70	Less than 2% of mass 69	0.5
127	40 - 60% of mass 198	42.6
197	0 - 1% of mass 198	0
199	5 - 9% of mass 198	6.8
275	10 - 30% of mass 198	27.5
365	Greater than 1% of mass 198	3.8
441	Present, but less than mass 443	80.8
442	Greater than 40% of mass 198	91.9
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
MEGA001	WBN091225-09	s2a0810.d	08-JAN-10 22:16
MEGA010	WBN091225-10	s2a0811.d	08-JAN-10 22:44
MEGA020	WBN091225-11	s2a0812.d	08-JAN-10 23:13
MEGA040	WBN091225-12.4	s2a0813.d	08-JAN-10 23:41
MEGA050	WBN091225-13	s2a0814.d	09-JAN-10 00:10
MEGA080	WBN091225-14	s2a0815.d	09-JAN-10 00:38
MEGA100	WBN091225-15	s2a0816.d	09-JAN-10 01:07
MEGA120	WBN091225-16	s2a0817.d	09-JAN-10 01:35
MEGAICV	WBN091223-17.2	s2a0820.d	09-JAN-10 02:58

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 10-1666

Instrument ID: MSD2.1 **Injection Date/Time:** 11-JAN-10 14:49

Column Description: J&W DB-5MS **Lab File ID** /chem/MSD2.i/s010810a.b/s2a0846.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	59.2
68	Less than 2% of mass 69	1.7
69	Mass 69 Relative Abundance	42
70	Less than 2% of mass 69	0.4
127	40 - 60% of mass 198	44.5
197	0 - 1% of mass 198	0
199	5 - 9% of mass 198	6.8
275	10 - 30% of mass 198	27.3
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	86.5
442	Greater than 40% of mass 198	75.4
443	17 - 23% of mass 442	18.7

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
AP010	WBN100103-01	s2a0848.d	11-JAN-10 15:27
AP020	WBN100103-02	s2a0849.d	11-JAN-10 15:52
AP050	WBN100103-04	s2a0851.d	11-JAN-10 16:43
AP100	WBN100103-06	s2a0853.d	11-JAN-10 17:33
AP120	WBN100103-07	s2a0854.d	11-JAN-10 17:58
AP040	WBN100103-03.1	s2a0856.d	11-JAN-10 18:50
AP080	WBN100103-05	s2a0857.d	11-JAN-10 19:45
APICV	WBN100103-08.1	s2a0864.d	11-JAN-10 22:49

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 10-1666

Instrument ID: MSD2.I **Injection Date/Time:** 19-FEB-10 14:33

Column Description: J&W DB-5MS **Lab File ID** /chem/MSD2.i/s021910.b/s2b1901.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	49.4
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	42.2
70	Less than 2% of mass 69	0.5
127	40 - 60% of mass 198	43.6
197	0 - 1% of mass 198	0.5
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.6
365	Greater than 1% of mass 198	2.9
441	Present, but less than mass 443	71.8
442	Greater than 40% of mass 198	70
443	17 - 23% of mass 442	21.7

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
MEGACVS	WBN100121-13.2	s2b1902.d	19-FEB-10 14:47
APCVS	WBN100120-03.2	s2b1903.d	19-FEB-10 15:15
SBLK01	1202041732	s2b1908-1.d	19-FEB-10 17:18
SBLK01LCS	1202041733	s2b1909-1.d	19-FEB-10 17:43
RE15-10-8363	246557001	s2b1918.d	19-FEB-10 21:25

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Instrument: MSD2.I

GC Column: J&W DB-5MS

Client SDG: 10-1666

STD Analysis Time: 19-FEB-10 14:47

Data File: s2b1902.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	275812		4.49	1046451		5.76	598204		7.62	1038331		9.22	988044		12.1	780606		14.3
Upper Limit	551624		4.99	2092902		6.26	1196408		8.12	2076662		9.72	1976088		12.6	1561212		14.8
Lower Limit	137906		3.99	523226		5.26	299102		7.12	519166		8.72	494022		11.6	390303		13.8
Sample ID																		
BLK01	268596		4.49	904838		5.75	564085		7.61	962822		9.21	836368		12.1	616268		14.3
BLK01LCS	257297		4.5	876692		5.76	547683		7.61	965326		9.22	891750		12.1	687843		14.3
RE15-10-8363	281474		4.49	952407		5.75	605486		7.61	1073553		9.22	942944		12.1	720844		14.3

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

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 21:25**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30.06 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1918.d**	**Column:**	**J&W DB-5MS**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	409	ug/kg	81.8	409
108-95-2	Phenol	U	409	ug/kg	81.8	409
95-57-8	2-Chlorophenol	U	409	ug/kg	81.8	409
106-46-7	1,4-Dichlorobenzene	U	409	ug/kg	81.8	409
621-64-7	N-Nitrosodipropylamine	U	409	ug/kg	81.8	409
59-50-7	4-Chloro-3-methylphenol	U	409	ug/kg	81.8	409
83-32-9	Acenaphthene	U	40.9	ug/kg	13.5	40.9
121-14-2	2,4-Dinitrotoluene	U	409	ug/kg	40.9	409
100-02-7	4-Nitrophenol	U	409	ug/kg	135	409
87-86-5	Pentachlorophenol	U	409	ug/kg	102	409
129-00-0	Pyrene	U	40.9	ug/kg	12.3	40.9
110-86-1	Pyridine	U	409	ug/kg	81.8	409
62-53-3	Aniline	U	409	ug/kg	123	409
111-44-4	bis(2-Chloroethyl) ether	U	409	ug/kg	81.8	409
541-73-1	1,3-Dichlorobenzene	U	409	ug/kg	81.8	409
100-51-6	Benzyl alcohol	U	409	ug/kg	123	409
95-50-1	1,2-Dichlorobenzene	U	409	ug/kg	81.8	409
108-60-1	bis(2-Chloroisopropyl)ether	U	409	ug/kg	81.8	409
95-48-7	o-Cresol	U	409	ug/kg	81.8	409
65794-96-9	m,p-Cresols	U	409	ug/kg	123	409
67-72-1	Hexachloroethane	U	409	ug/kg	81.8	409
98-95-3	Nitrobenzene	U	409	ug/kg	81.8	409
78-59-1	Isophorone	U	409	ug/kg	81.8	409
88-75-5	2-Nitrophenol	U	409	ug/kg	81.8	409
105-67-9	2,4-Dimethylphenol	U	409	ug/kg	143	409
111-91-1	bis(2-Chloroethoxy)methane	U	409	ug/kg	81.8	409
120-83-2	2,4-Dichlorophenol	U	409	ug/kg	81.8	409
65-85-0	Benzoic acid	U	818	ug/kg	205	818
91-20-3	Naphthalene	U	40.9	ug/kg	12.3	40.9
106-47-8	4-Chloroaniline	U	409	ug/kg	81.8	409
87-68-3	Hexachlorobutadiene	U	409	ug/kg	81.8	409
91-57-6	2-Methylnaphthalene	U	40.9	ug/kg	8.18	40.9
77-47-4	Hexachlorocyclopentadiene	U	409	ug/kg	81.8	409
88-06-2	2,4,6-Trichlorophenol	U	409	ug/kg	81.8	409
95-95-4	2,4,5-Trichlorophenol	U	409	ug/kg	81.8	409
91-58-7	2-Chloronaphthalene	U	40.9	ug/kg	13.5	40.9
88-74-4	2-Nitroaniline	U	409	ug/kg	81.8	409
	o-Nitroaniline					
99-09-2	3-Nitroaniline	U	409	ug/kg	81.8	409

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 21:25**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30.06 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1918.d**	**Column:**	**J&W DB-5MS**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	m-Nitroaniline					
131-11-3	Dimethylphthalate	U	409	ug/kg	81.8	409
606-20-2	2,6-Dinitrotoluene	U	409	ug/kg	40.9	409
208-96-8	Acenaphthylene	U	40.9	ug/kg	12.3	40.9
51-28-5	2,4-Dinitrophenol	U	818	ug/kg	156	818
132-64-9	Dibenzofuran	U	409	ug/kg	81.8	409
84-66-2	Diethylphthalate	U	409	ug/kg	81.8	409
86-73-7	Fluorene	U	40.9	ug/kg	12.3	40.9
7005-72-3	4-Chlorophenylphenylether	U	409	ug/kg	81.8	409
534-52-1	2-Methyl-4,6-dinitrophenol	U	409	ug/kg	81.8	409
100-01-6	4-Nitroaniline	U	409	ug/kg	123	409
	p-Nitroaniline					
122-39-4	Diphenylamine	U	409	ug/kg	81.8	409
122-66-7	Azobenzene	U	409	ug/kg	81.8	409
	1,2-Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	409	ug/kg	81.8	409
118-74-1	Hexachlorobenzene	U	409	ug/kg	81.8	409
85-01-8	Phenanthrene	U	40.9	ug/kg	12.3	40.9
120-12-7	Anthracene	U	40.9	ug/kg	8.18	40.9
84-74-2	Di-n-butylphthalate	U	409	ug/kg	81.8	409
206-44-0	Fluoranthene	U	40.9	ug/kg	12.3	40.9
85-68-7	Butylbenzylphthalate	U	409	ug/kg	81.8	409
56-55-3	Benzo(a)anthracene	U	40.9	ug/kg	12.3	40.9
91-94-1	3,3'-Dichlorobenzidine	U	409	ug/kg	123	409
218-01-9	Chrysene	U	40.9	ug/kg	12.3	40.9
117-81-7	bis(2-Ethylhexyl)phthalate	U	409	ug/kg	81.8	409
117-84-0	Di-n-octylphthalate	U	409	ug/kg	81.8	409
205-99-2	Benzo(b)fluoranthene	U	40.9	ug/kg	12.3	40.9
207-08-9	Benzo(k)fluoranthene	U	40.9	ug/kg	12.3	40.9
50-32-8	Benzo(a)pyrene	U	40.9	ug/kg	12.3	40.9
193-39-5	Indeno(1,2,3-cd)pyrene	U	40.9	ug/kg	12.3	40.9
53-70-3	Dibenzo(a,h)anthracene	U	40.9	ug/kg	12.3	40.9
191-24-2	Benzo(ghi)perylene	U	40.9	ug/kg	12.3	40.9
120-82-1	1,2,4-Trichlorobenzene	U	409	ug/kg	81.8	409

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	3.13	335	ug/kg		J
7785-70-8	1R-.alpha.-Pinene	3.88	388	ug/kg	98	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**	**Date Collected:**	**02/03/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**246557001**	**Date Received:**	**02/09/2010 10:00**	**%Moisture:**	**18.7**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE15-10-8363**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 21:25**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30.06 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1918.d**	**Column:**	**J&W DB-5MS**	**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
13466-78-9	3-Carene	4.44	215	ug/kg	96	NJ
25269-17-4	Thunbergol	10.35	603	ug/kg	95	NJ

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Data file : /chem/MSD2.i/s021910.b/s2b1918.d
Lab Smp Id: 246557001 Client Smp ID: RE15-10-8363
Inj Date : 19-FEB-2010 21:25
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |246557001|952601|1|SVM|1|LANL
Misc Info : |MSD8270_S|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 20-Feb-2010 14:26 jos00786 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.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	30.06000	weight of sample
M	18.70920	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	4.492	4.494	(1.000)	281474	40.0000	
* 29 Naphthalene-d8	136	5.753	5.759	(1.000)	952407	40.0000	
* 46 Acenaphthene-d10	164	7.613	7.618	(1.000)	605486	40.0000	
* 67 Phenanthrene-d10	188	9.216	9.219	(1.000)	1073553	40.0000	
* 91 Chrysene-d12	240	12.136	12.142	(1.000)	942944	40.0000	
* 98 Perylene-d12	264	14.282	14.286	(1.000)	720844	40.0000	
$ 3 2-Fluorophenol	112	3.366	3.354	(0.749)	508300	74.4196	3040
$ 5 Phenol-d5	99	4.131	4.134	(0.920)	639359	69.9490	2860
$ 20 Nitrobenzene-d5	82	5.023	5.032	(0.873)	307785	40.7869	1670
$ 39 2-Fluorobiphenyl	172	6.879	6.884	(0.904)	648762	34.6312	1420
$ 60 2,4,6-Tribromophenol	329	8.461	8.464	(1.111)	181681	69.3753	2840
$ 81 p-Terphenyl-d14	244	10.926	10.925	(0.900)	763799	42.1728	1720

ION RATIO REPORT

SV REPORT

Data file: s2b1918.d
Report Date: 02/20/2010 14:31
Lab. ID: 246557001 SampleType: SAMPLE
Injection Date: 19-FEB-2010 21:25
Operator: AGS1 Instrument: MSD2.i
Sample Info: |246557001|952601|1|SVM|1|LANL
Miscellaneous Info: |MSD8270_S|WBN100205-01|
Comment:
Method used: /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Dilution Factor= 1.0
Integrator: HP RTE Compound Sublist: 10-1666
Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
4 Aniline		CAS#: 62-53-3				
66	38000	4.13	4.19	80-120	100	( )
93	3477	4.17	4.19	173-233	9	(Q)
17 N-Nitrosodipropylamine				CAS#: 621-64-7		
70	44508	5.02	4.87	80-120	100	(T)
42	32636	5.02	4.87	57-117	73	(T)
27 Benzoic acid			CAS#: 65-85-0			
105	416	5.51	5.53	80-120	100	( )
122	267	5.48	5.53	47-107	64	( )
77	488	5.48	5.53	51-111	117	(Q)
40 2-Chloronaphthalene				CAS#: 91-58-7		
162	8182	7.21	7.02	80-120	100	(T)
164	451	7.21	7.02	3- 63	6	(T)
127	607	7.21	7.02	5- 65	7	(T)
42 o-Nitroaniline				CAS#: 88-74-4		
65	12119	7.21	7.13	80-120	100	(T)
92	12034	7.21	7.13	26- 86	99	(QT)
138	831	7.21	7.13	54-114	7	(QT)
44 2,6-Dinitrotoluene				CAS#: 606-20-2		
165	78299	7.61	7.39	80-120	100	(T)
63	1092	7.61	7.39	45-105	1	(QT)

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
50 2,4-Dinitrotoluene				CAS#: 121-14-2		
165	78299	7.61	7.83	80-120	100	(T)
89	970	7.61	7.83	51-111	1	(QT)
63	1092	7.61	7.83	54-114	1	(QT)
90 3,3'-Dichlorobenzidine				CAS#: 91-94-1		
252	111	12.09	12.08	80-120	100	( )
254	2493	12.15	12.08	34- 94	2237	(QT)
126	122	12.08	12.08	0- 41	110	(Q)

Q qualifier indicates ion failed ratio requirement

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Data file : /chem/MSD2.i/s021910.b/s2b1918.d
Lab Smp Id: 246557001 Client Smp ID: RE15-10-8363
Inj Date : 19-FEB-2010 21:25
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |246557001|952601|1|SVM|1|LANL
Misc Info : |MSD8270_S|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 20-Feb-2010 14:26 jos00786 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.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	30.06000	weight of sample
M	18.70920	% moisture

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
* 10 1,4-Dichlorobenzene-d4	4.492	1804927	40.000
* 67 Phenanthrene-d10	9.216	2651791	40.000

		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
Unknown Aldol Condensate					CAS #:		
3.126	369151	8.18096841	335	0		0	10

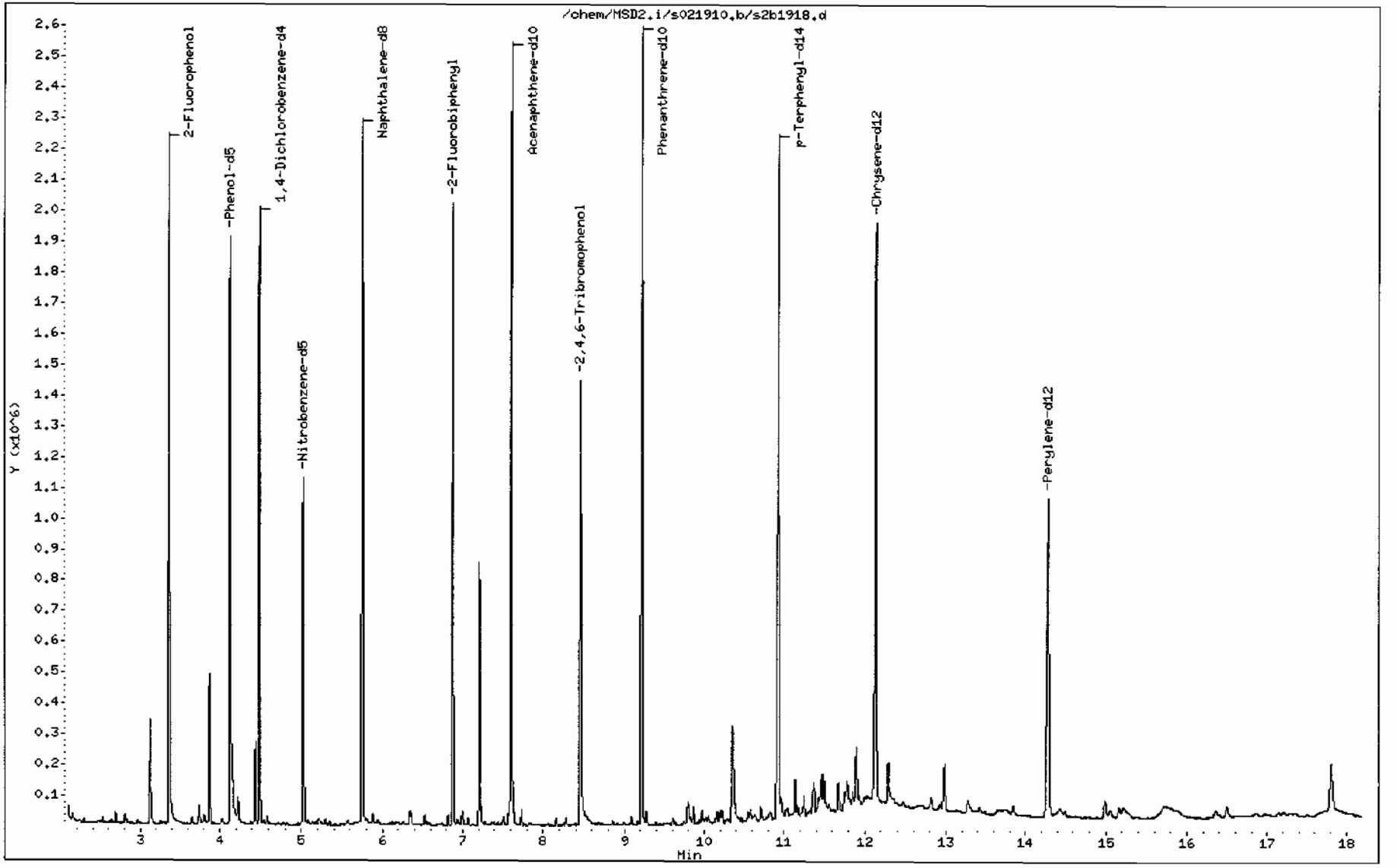
RT	AREA	CONCENTRATIONS ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	QUANT LIBRARY	LIB ENTRY	CPND #
1R-.alpha.-Pinene					CAS #: 7785-70-8		
3.876	427455	9.47305982	388	98	NIST05.L	15188	10
3-Carene					CAS #: 13466-78-9		
4.439	236820	5.24828852	215	96	NIST05.L	15156	10
Thunbergol					CAS #: 25269-17-4		
10.350	977004	14.7372676	603	95	NIST05.L	118732	67

Data File: /chem/MSD2.i/s021910.b/s2b1918.d
Date : 19-FEB-2010 21:25
Client ID: RE15-10-8363
Sample Info: 1246557001|952601:1|SVMI1|LANL
Volume Injected (uL): 0.5
Column phase: J&W DB-5MS

Page 1

Instrument: MSD2.i

Operator: ACS1
Column diameter: 0.20



Data File: /chem/MSD2.i/s021910.b/s2b1918.d

Date : 19-FEB-2010 21:25

Client ID: RE15-10-8363

Instrument: MSD2.i

Sample Info: |246557001|952601|1|SVM|1|LANL

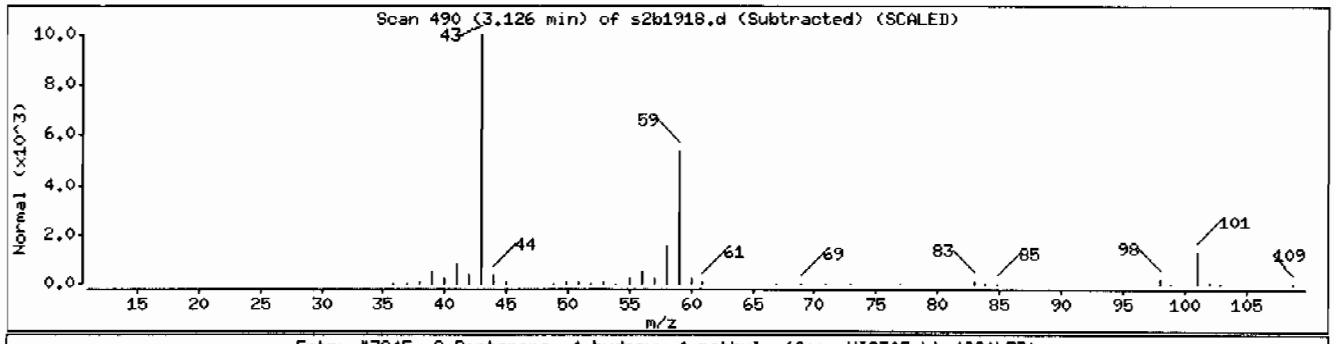
Volume Injected (uL): 0.5

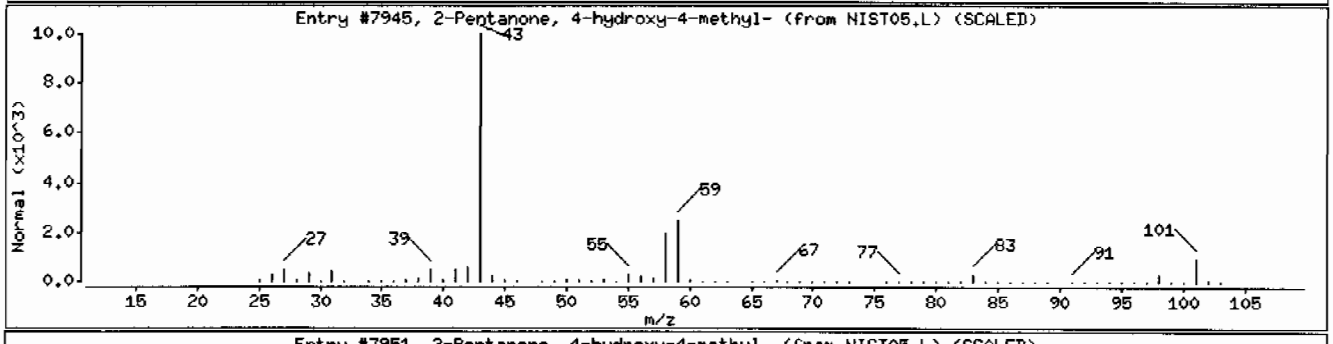
Operator: ACS1

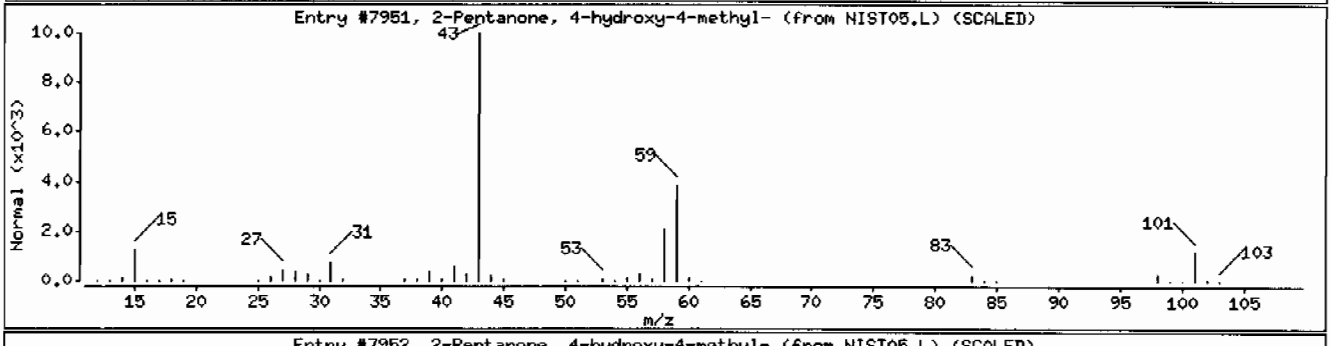
Column phase: J&W DB-5MS

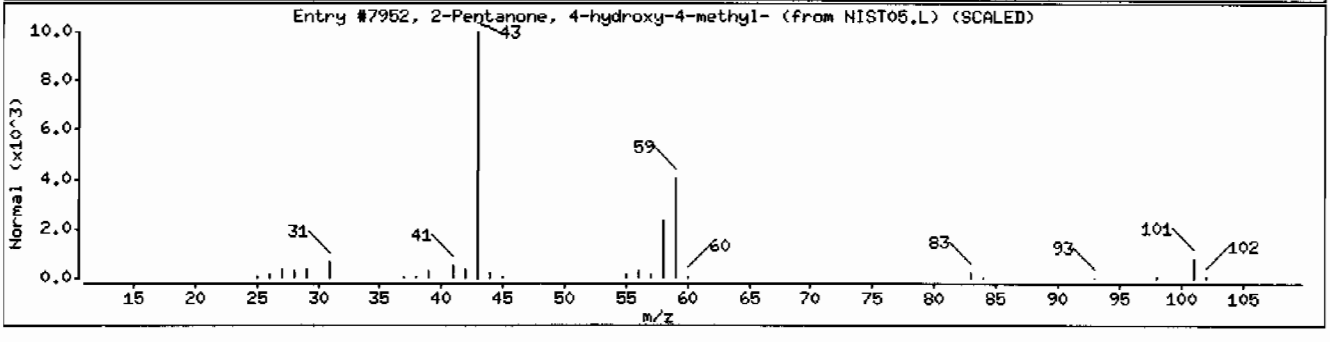
Column diameter: 0.20

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	7945	64	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	56	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116









Data File: /chem/MSD2.i/s021910.b/s2b1918.d

Date : 19-FEB-2010 21:25

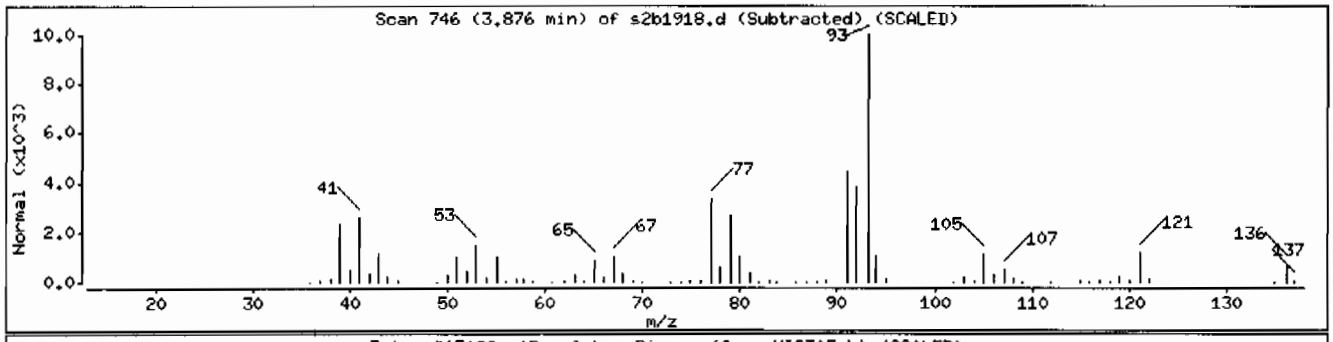
Client ID: RE15-10-8363 Instrument: MSD2.i

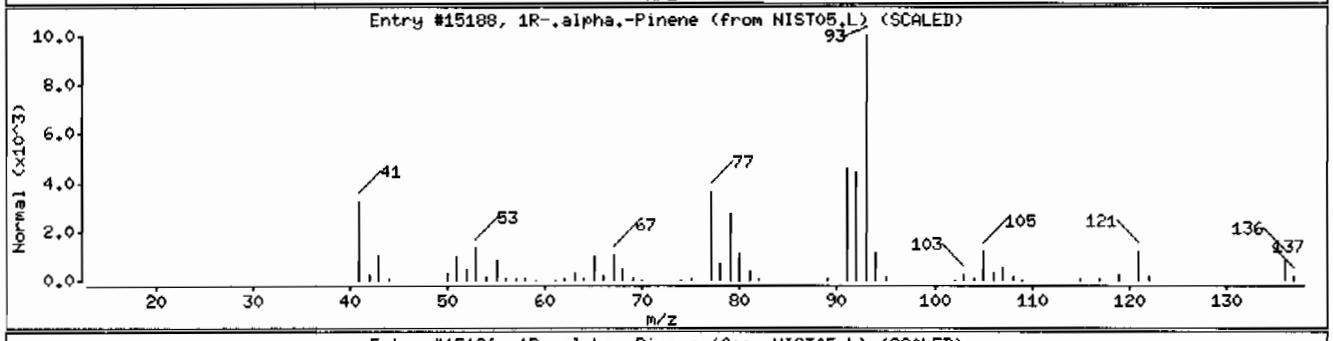
Sample Info: |246557001|952601|1|SVM|1|LANL

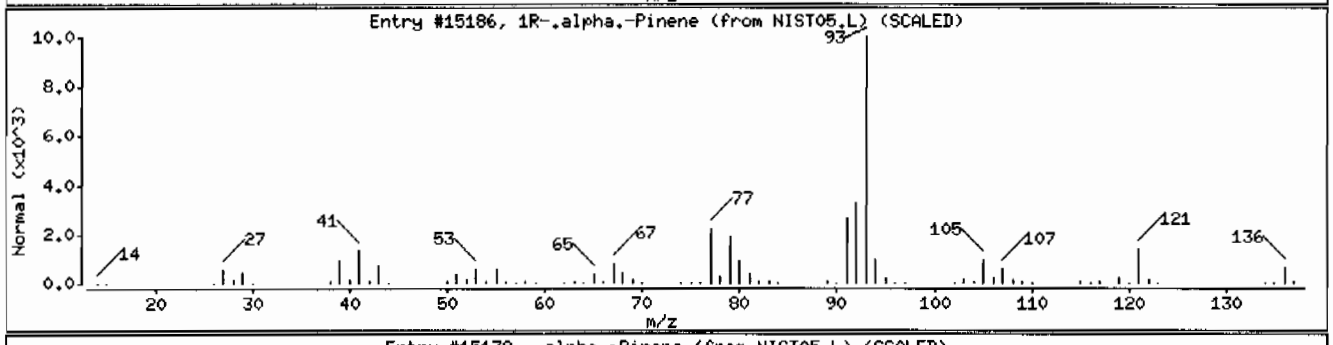
Volume Injected (uL): 0.5 Operator: ACS1

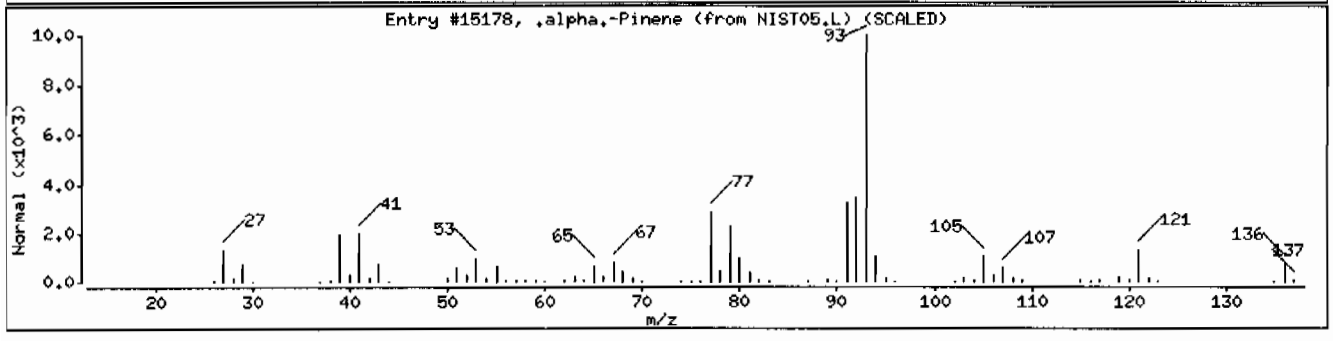
Column phase: J&W DB-5MS Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R-.alpha.-Pinene	7785-70-8	NIST05.L	15188	98	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









Data File: /chem/MSD2.i/s021910.b/s2b1918.d

Date : 19-FEB-2010 21:25

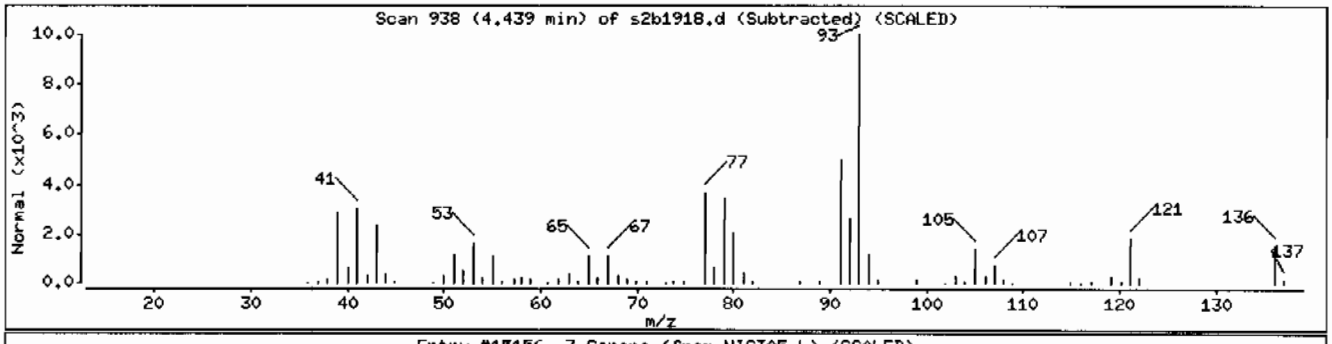
Client ID: RE15-10-8363 Instrument: MSD2.i

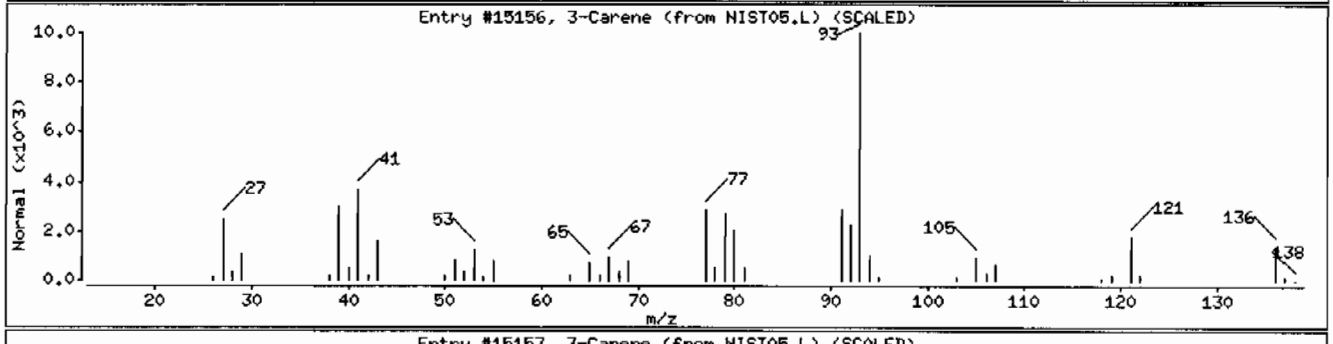
Sample Info: |246557001|952601|1|SVM|1|LANL

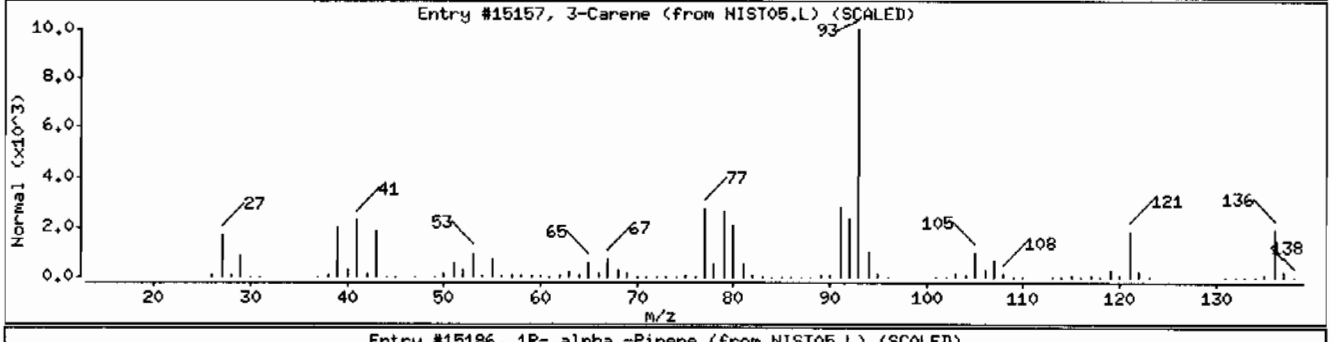
Volume Injected (uL): 0.5 Operator: AGS1

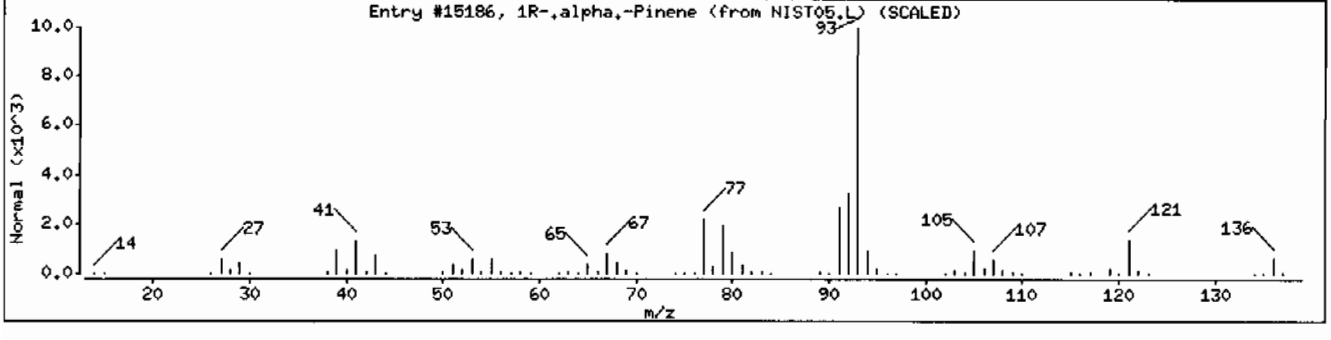
Column phase: J&W DB-5MS Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Carene	13466-78-9	NIST05.L	15156	96	C10H16	136
3-Carene	13466-78-9	NIST05.L	15157	95	C10H16	136
1R-.alpha.-Pinene	7785-70-8	NIST05.L	15186	94	C10H16	136









Data File: /chem/MSD2.i/s021910.b/s2b1918.d

Date : 19-FEB-2010 21:25

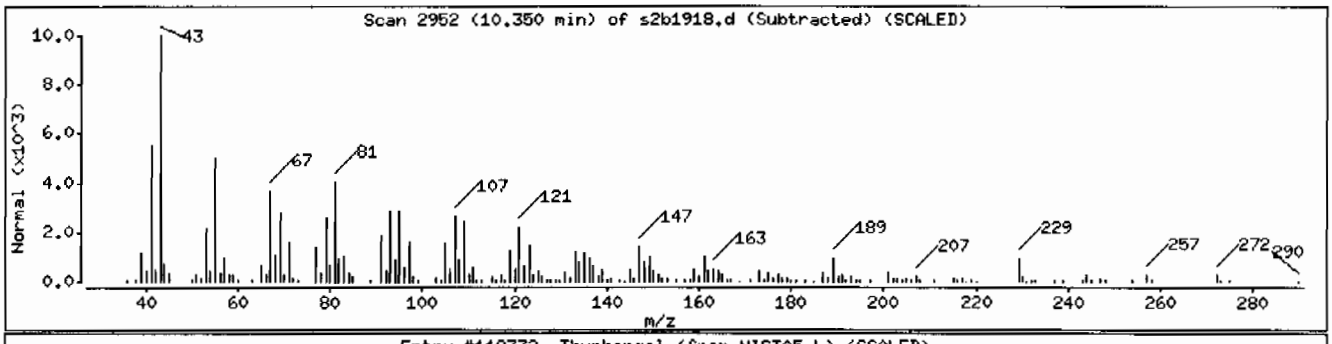
Client ID: RE15-10-8363 Instrument: MSD2.i

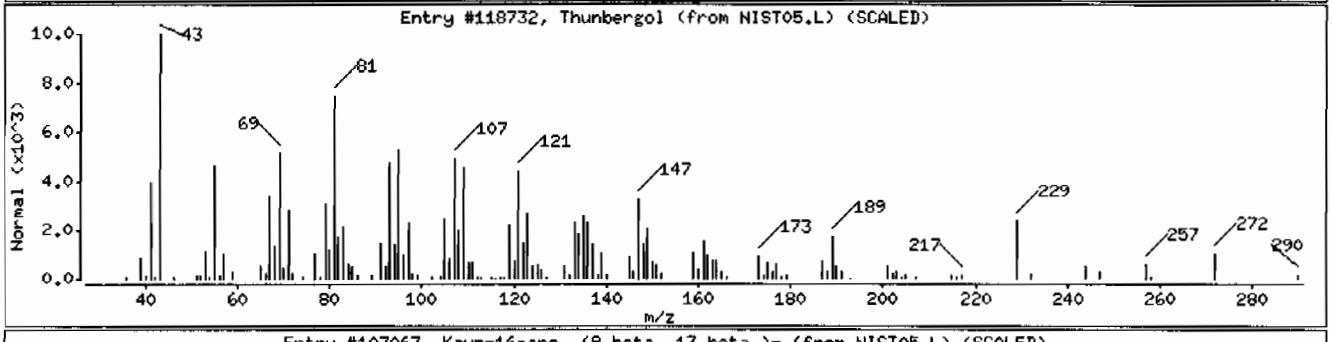
Sample Info: |246557001|952601|1|SVM|1|LANL

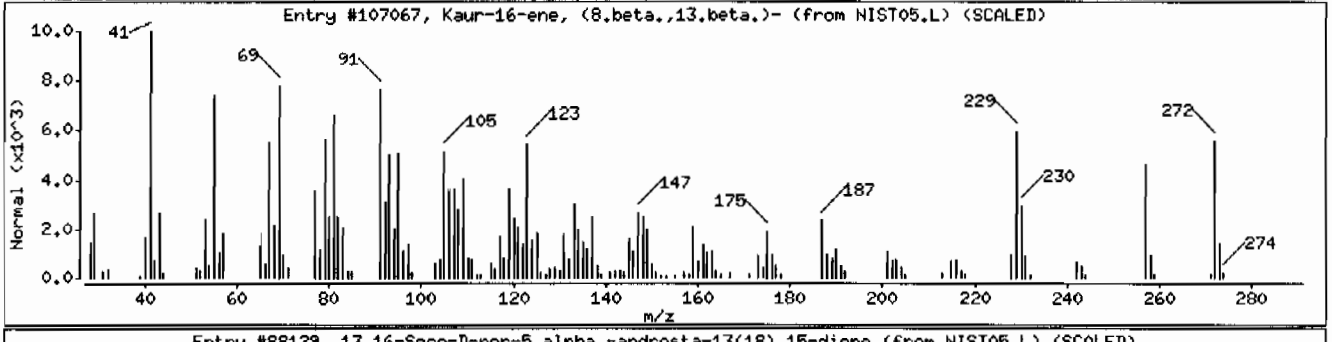
Volume Injected (uL): 0.5 Operator: AGS1

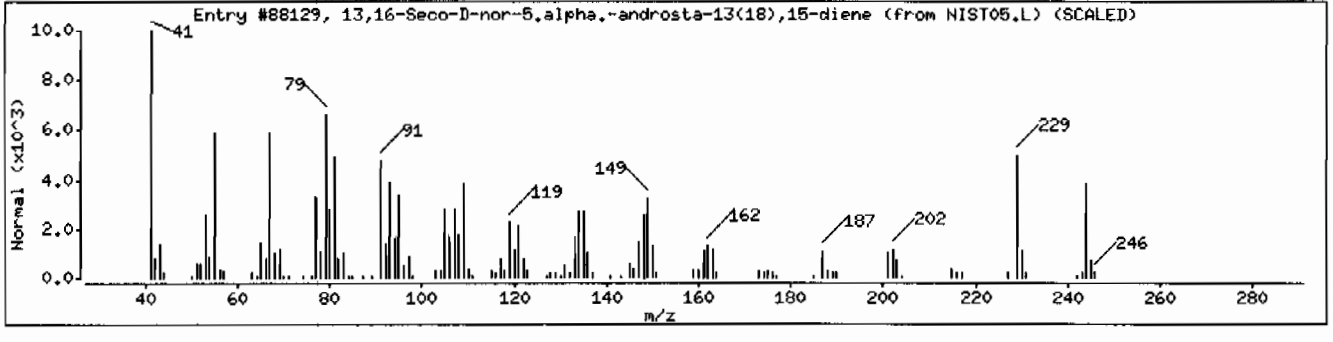
Column phase: J&W DB-5MS Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Thunbergol	25269-17-4	NIST05.L	118732	95	C20H340	290
Kaur-16-ene, (8.beta.,13.beta.)-	20070-61-5	NIST05.L	107067	53	C20H32	272
13,16-Seco-D-nor-5.alpha.-androsta-13(18	31239-26-6	NIST05.L	88129	46	C18H28	244









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 phenyether		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'-Dichlorobenzidene		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-Dimethhylphenethylamine		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

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,j)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: 19-Feb-2010 16:08

Calibration History

Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Start Cal Date: 08-JAN-2010 22:16
End Cal Date : 11-JAN-2010 22:24

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 1.00000		
08-JAN-2010 22:16	MEGAII	/chem/MSD2.i/s010810a.b/s2a0810.d

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 10.00000		
11-JAN-2010 18:23	NEV	/chem/MSD2.i/s010810a.b/s2a0855.d
10-JAN-2010 23:03	HEX	/chem/MSD2.i/s010810a.b/s2a0837.d
10-JAN-2010 20:06	PEST	/chem/MSD2.i/s010810a.b/s2a0830.d
11-JAN-2010 15:27	AP12	/chem/MSD2.i/s010810a.b/s2a0848.d
08-JAN-2010 22:44	MEGAII	/chem/MSD2.i/s010810a.b/s2a0811.d

Injection Date	Sublist	Calibration File
Cal Level: 3 , Cal Amount: 20.00000		
11-JAN-2010 20:18	NEV	/chem/MSD2.i/s010810a.b/s2a0858.d
10-JAN-2010 23:28	HEX	/chem/MSD2.i/s010810a.b/s2a0838.d
10-JAN-2010 20:31	PEST	/chem/MSD2.i/s010810a.b/s2a0831.d
11-JAN-2010 15:52	AP12	/chem/MSD2.i/s010810a.b/s2a0849.d
08-JAN-2010 23:13	MEGAII	/chem/MSD2.i/s010810a.b/s2a0812.d

Injection Date	Sublist	Calibration File
Cal Level: 4 , Cal Amount: 40.00000		
11-JAN-2010 20:43	NEV	/chem/MSD2.i/s010810a.b/s2a0859.d
10-JAN-2010 23:53	HEX	/chem/MSD2.i/s010810a.b/s2a0839.d
10-JAN-2010 20:57	PEST	/chem/MSD2.i/s010810a.b/s2a0832.d
11-JAN-2010 18:50	AP12	/chem/MSD2.i/s010810a.b/s2a0856.d
08-JAN-2010 23:41	MEGAII	/chem/MSD2.i/s010810a.b/s2a0813.d

Injection Date	Sublist	Calibration File
Cal Level: 5 , Cal Amount: 50.00000		
11-JAN-2010 21:08	NEV	/chem/MSD2.i/s010810a.b/s2a0860.d
11-JAN-2010 00:18	HEX	/chem/MSD2.i/s010810a.b/s2a0840.d
10-JAN-2010 21:22	PEST	/chem/MSD2.i/s010810a.b/s2a0833.d
11-JAN-2010 16:43	AP12	/chem/MSD2.i/s010810a.b/s2a0851.d
09-JAN-2010 00:10	MEGAII	/chem/MSD2.i/s010810a.b/s2a0814.d

Injection Date	Sublist	Calibration File
Cal Level: 6 , Cal Amount: 80.00000		
11-JAN-2010 21:33	NEV	/chem/MSD2.i/s010810a.b/s2a0861.d
11-JAN-2010 00:44	HEX	/chem/MSD2.i/s010810a.b/s2a0841.d
10-JAN-2010 21:47	PEST	/chem/MSD2.i/s010810a.b/s2a0834.d
11-JAN-2010 19:45	AP12	/chem/MSD2.i/s010810a.b/s2a0857.d
09-JAN-2010 00:38	MEGAII	/chem/MSD2.i/s010810a.b/s2a0815.d

Injection Date	Sublist	Calibration File
Cal Level: 7 , Cal Amount: 100.00000		

11-JAN-2010 21:58	NEV	/chem/MSD2.i/s010810a.b/s2a0862.d
11-JAN-2010 01:09	HEX	/chem/MSD2.i/s010810a.b/s2a0842.d
10-JAN-2010 22:12	PEST	/chem/MSD2.i/s010810a.b/s2a0835.d
11-JAN-2010 17:33	AP12	/chem/MSD2.i/s010810a.b/s2a0853.d
09-JAN-2010 01:07	MEGAII	/chem/MSD2.i/s010810a.b/s2a0816.d

Cal Level: 8 , Cal Amount: 120.00000		
11-JAN-2010 22:24	NEV	/chem/MSD2.i/s010810a.b/s2a0863.d
10-JAN-2010 22:37	PEST	/chem/MSD2.i/s010810a.b/s2a0836.d
11-JAN-2010 17:58	AP12	/chem/MSD2.i/s010810a.b/s2a0854.d
09-JAN-2010 01:35	MEGAII	/chem/MSD2.i/s010810a.b/s2a0817.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 40.0		
19-FEB-2010 15:41	PEST	/chem/MSD2.i/s021910.b/s2b1904.d

Ccal Level: 4 , Ccal Amount: 40.0		
19-FEB-2010 15:15	AP12	/chem/MSD2.i/s021910.b/s2b1903.d

Ccal Level: 4 , Ccal Amount: 40.0		
19-FEB-2010 14:47	MEGAII	/chem/MSD2.i/s021910.b/s2b1902.d

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 08-JAN-2010 22:16
End Cal Date : 11-JAN-2010 22:24
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Calibration File Names:
Level 1: /chem/MSD2.i/s010810a.b/s2a0810.d
Level 2: /chem/MSD2.i/s010810a.b/s2a0855.d
Level 3: /chem/MSD2.i/s010810a.b/s2a0858.d
Level 4: /chem/MSD2.i/s010810a.b/s2a0859.d
Level 5: /chem/MSD2.i/s010810a.b/s2a0860.d
Level 6: /chem/MSD2.i/s010810a.b/s2a0861.d
Level 7: /chem/MSD2.i/s010810a.b/s2a0862.d
Level 8: /chem/MSD2.i/s010810a.b/s2a0863.d

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
1 N-Methyl-N-nitrosomethylamine	+++++	0.63761	0.64632	0.64526	0.62385	+++++					
	0.59745	0.60573					AVRG		0.62604		3.31164
2 Pyridine	+++++	0.72709	0.72999	0.73846	0.75349	+++++					
	0.76525	0.74110					AVRG		0.74256		1.95182
4 Aniline	+++++	0.59912	0.59830	0.59346	0.59956	+++++					
	0.59741	0.61902					AVRG		0.60115		1.50143
209 Benzaldehyde	+++++	0.87025	0.92113	0.87338	0.82804	0.78634					
	0.78914	0.75957					AVRG		0.83255		6.98655
6 Phenol	+++++	1.33105	1.32361	1.33305	1.32476	+++++					
	1.29936	1.34281					AVRG		1.32577		1.10557

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INITIAL CALIBRATION DATA

Start Cal Date : 08-JAN-2010 22:16
End Cal Date : 11-JAN-2010 22:24
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
7 bis(2-Chloroethyl) ether	1.29526	1.20902	1.20257	1.21026	1.19166	+++++					
	1.13636	1.17464					AVRG		1.20282		4.01246
8 2-Chlorophenol	+++++	1.11883	1.10895	1.10873	1.09288	++++-					
	1.06793	1.09433					AVRG		1.09861		1.63365
203 n-Decane	+++++	2.72389	2.57086	2.41450	2.38312	+++-+					
	1.82052	+++++					AVRG		2.38258		14.36978
9 1,3-Dichlorobenzene	+++++	1.33095	1.30515	1.30437	1.27460	+++++					
	1.23474	1.25820					AVRG		1.28467		2.75096
11 1,4-Dichlorobenzene	+++++	1.36878	1.34649	1.33434	1.31483	+++++					
	1.26111	1.29644					AVRG		1.32033		2.90120
12 Benzyl alcohol	+++++	0.62843	0.65475	0.67958	0.67338	+++++					
	0.66712	0.68651					AVRG		0.66496		3.14877
13 1,2-Dichlorobenzene	-++++	1.28260	1.24569	1.23787	1.22001	++-++					
	1.17260	1.19909					AVRG		1.22631		3.12486
14 bis(2-Chloroisopropyl)ether	+-+++-	3.65170	3.50650	3.44826	3.40400	+++++-					
	3.05104	3.05356					AVRG		3.35251		7.37073
15 o-Cresol	+++++	0.87727	0.87099	0.87014	0.85547	+++++					
	0.84346	0.86276					AVRG		0.86335		1.42473

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
16 Acetophenone	+++++	1.11623	1.20062	1.16649	1.10593	1.06848					
	1.09325	1.07929					AVRG		1.11861		4.30077
17 N-Nitrosodipropylamine	0.82213	0.88397	0.89023	0.89319	0.87698	+++++					
	0.85968	0.82349					AVRG		0.86424		3.50979
18 m,p-Cresols	+++++	1.09720	1.09271	1.11076	1.10067	+++++					
	1.07163	1.10848					AVRG		1.09691		1.28710
19 Hexachloroethane	+++++	0.54642	0.53706	0.53643	0.52927	+++++					
	0.50470	0.51472					AVRG		0.52810		2.94925
21 Nitrobenzene	+++++	0.36833	0.35581	0.34060	0.32558	+++++					
	0.28712	0.27886					AVRG		0.32605		11.16626
22 Isophorone	+++++	0.67509	0.65709	0.62511	0.60103	+++++					
	0.53305	0.52297					AVRG		0.60239		10.47554
23 2-Nitrophenol	+++++	0.16213	0.15447	0.15102	0.14264	+++++					
	0.12859	0.12687					AVRG		0.14429		9.89820
24 2,4-Dimethylphenol	+++++	0.28413	0.27957	0.26483	0.25521	+++++					
	0.22716	0.22367					AVRG		0.25576		10.04849
25 bis(2-Chloroethoxy)methane	+++++	0.39351	0.37872	0.36031	0.34403	+++++					
	0.30811	0.30216					AVRG		0.34780		10.66159

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
26 2,4-Dichlorophenol	+++++	0.25264	0.25626	0.24953	0.23947	+++++					
	0.21737	0.21619					AVRG		0.23858		7.45653
27 Benzoic acid	+++++	+++++	69252	186460	189551	+++++					
	582522	666475					LINR	0.20770	0.16849		0.99827
28 1,2,4-Trichlorobenzene	+++++	0.34835	0.33647	0.31658	0.30126	+++++					
	0.26730	0.26295					AVRG		0.30548		11.53249
30 Naphthalene	1.01599	0.93024	0.90095	0.84770	0.81638	+++++					
	0.71552	0.69944					AVRG		0.84660		13.50199
204 alpha-Terpineol	+++++	0.43388	0.42129	0.39918	0.38403	+++++					
	0.31466	0.30147					AVRG		0.37575		14.73143
31 4-Chloroaniline	+++++	0.25746	0.26476	0.27498	0.26576	+++++					
	0.24416	0.24278					AVRG		0.25832		4.94888
189 Caprolactam	+++++	0.07011	0.08353	0.08541	0.08234	0.07978					
	0.08392	0.08387					AVRG		0.08128		6.42987
32 Hexachlorobutadiene	+++++	0.21613	0.20909	0.19876	0.19016	+++++					
	0.16972	0.16810					AVRG		0.19199		10.39280
33 4-Chloro-3-methylphenol	+++++	0.25577	0.25838	0.25359	0.24346	+++++					
	0.22077	0.21768					AVRG		0.24161		7.48603

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
34 2-Methylnaphthalene	0.68742	0.63799	0.61758	0.59523	0.56618	+++++					
	0.50503	0.49794					AVRG		0.58677		11.80134
35 1-Methylnaphthalene	0.68721	0.63795	0.60977	0.58293	0.56006	+++++					
	0.49366	0.48697					AVRG		0.57979		12.64563
36 Hexachlorocyclopentadiene	+++++	0.14834	0.19351	0.22438	0.20401	+++++					
	0.22752	0.22187					AVRG		0.20327		14.74777
208 1,1'-Biphenyl	+++++	1.15748	1.22014	1.16849	1.14034	1.09072					
	1.10444	1.08426					AVRG		1.13798		4.29177
205 2,3-Dichloroaniline	+++++	0.55201	0.55323	0.55927	0.55334	+++++					
	0.55515	0.56191					AVRG		0.55582		0.70507
37 2,4,6-Trichlorophenol	+++++	0.32074	0.33052	0.34751	0.33801	+++++					
	0.34031	0.34898					AVRG		0.33768		3.16026
38 2,4,5-Trichlorophenol	+++++	0.31372	0.34016	0.34931	0.35235	+++++					
	0.37091	0.37117					AVRG		0.34960		6.13895
40 2-Chloronaphthalene	1.11140	1.03920	1.02461	1.03089	1.01947	+++++					
	1.00306	1.01988					AVRG		1.03550		3.40679
42 o-Nitroaniline	+++++	0.34924	0.35751	0.37154	0.36584	+++++					
	0.37726	0.38556					AVRG		0.36783		3.59192

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
41 m-Nitroaniline	++-++	25863	61359	138272	145870	+++++					
	386731	427590					LINR	0.14739	0.21907		0.99848
43 Dimethylphthalate	+++++	1.24597	1.21156	1.20575	1.19101	++++-					
	1.17233	1.13900					AVRG		1.19427		3.05378
44 2,6-Dinitrotoluene	+++++	0.28498	0.28306	0.28241	0.28145	+++++					
	0.27264	0.27172					AVRG		0.27938		2.04088
45 Acenaphthylene	1.68429	1.65369	1.63467	1.63281	1.60990	+++++					
	1.60029	1.62052					AVRG		1.63374		1.73439
47 Acenaphthene	1.09095	1.02778	1.02484	1.03364	1.03036	+++++					
	0.98622	0.99703					AVRG		1.02726		3.25549
48 2,4-Dinitrophenol	+++++	+++++	32952	80865	77979	+++++					
	254554	301020					LINR	0.35590	0.16274		0.99385
49 Dibenzofuran	+++++	1.43069	1.40517	1.41259	1.39167	+++++					
	1.39282	1.41896					AVRG		1.40865		1.08070
50 2,4-Dinitrotoluene	+++++	0.34597	0.34978	0.35871	0.35340	+++++					
	0.35843	0.36681					AVRG		0.35552		2.08511
51 Diethylphthalate	+++++	1.27139	1.19174	1.18125	1.17456	+++++					
	1.12436	1.11680					AVRG		1.17668		4.73878

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
52 4-Nitrophenol	+++++	17553	51952	103251	103185	++++++					
	274946	318562					LINR	0.14069	0.15956		0.99848
53 Fluorene	1.25778	1.23313	1.21822	1.21859	1.21117	+++++					
	1.20306	1.21651					AVRG		1.22221		1.51553
54 4-Chlorophenylphenylether	+++++	0.64571	0.63486	0.63779	0.63480	+++++					
	0.63002	0.64028					AVRG		0.63724		0.84510
55 2-Methyl-4,6-dinitrophenol	+++++	0.07848	0.09933	0.11179	0.10655	+++++					
	0.11895	0.12072					AVRG		0.10597		14.73901
56 p-Nitroaniline	+++++	26604	47743	122085	121088	+++++					
	364178	427452					LINR	0.23126	0.21955		0.99282
133 Diphenylamine	+++++	0.53271	0.51078	0.47784	0.50828	+++++					
	0.53090	0.54197					AVRG		0.51708		4.50352
58 1,2-Diphenylhydrazine	+++++	0.70493	0.70105	0.70243	0.69712	+++++					
	0.66648	0.66450					AVRG		0.68942		2.71481
59 Tributylphosphate	+++++	1.24862	1.19004	1.24636	1.25074	1.22436					
	1.25557	1.20492					AVRG		1.23152		2.08073
61 4-Bromophenylphenylether	+++++	0.20678	0.21104	0.21499	0.21328	++++++					
	0.21646	0.22036					AVRG		0.21382		2.17997

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	mi	m2	%RSD or R^2
	100 Level 7	120 Level 8									
63 Hexachlorobenzene	+++++	0.22177	0.22237	0.22770	0.22499	+++++-					
	0.22682	0.23115					AVRG		0.22580		1.55833
207 Atrazine	+++-+	0.04195	0.04517	0.04228	0.03997	0.03794					
	0.03735	0.03556					AVRG		0.04003		8.32518
65 Pentachlorophenol	+++++	25001	69688	140228	142436	+-+++					
	388787	456367					LINR	0.15328	0.12576		0.99822
206 n-Octadecane	+++++-	0.78939	0.78166	0.76760	0.75958	+++++					
	0.66657	0.65046					AVRG		0.73588		8.29433
68 Phenanthrene	1.05740	0.95057	0.94773	0.95068	0.94730	+++++					
	0.93823	0.94984					AVRG		0.96311		4.34028
69 Anthracene	0.95911	0.93816	0.94986	0.95188	0.93165	+++++					
	0.92759	0.93972					AVRG		0.94257		1.21344
72 Di-n-butylphthalate	+++++	1.09506	1.11859	1.10016	1.09503	+++++					
	1.03560	1.03874					AVRG		1.08053		3.21132
76 Fluoranthene	1.01009	1.01601	1.03558	1.05383	1.02447	+++++					
	1.04686	1.05418					AVRG		1.03443		1.74417
77 Benzidine	+++++	0.15240	0.13245	0.13675	0.15671	0.18680					
	+++++	+++++					AVRG		0.15302		14.02699

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
79 Pyrene	1.22091	1.18391	1.19988	1.22328	1.24428	+++++					
	1.17153	1.19858					AVRG		1.20605		2.07419
85 Butylbenzylphthalate	+++++	0.47282	0.49511	0.50444	0.51836	+++++					
	0.47396	0.47804					AVRG		0.49046		3.79616
89 Benzo(a)anthracene	1.12866	0.99758	0.99444	1.00803	0.99958	++++-					
	1.01027	1.01938					AVRG		1.02256		4.65102
90 3,3'-Dichlorobenzidine	+++++	45935	140385	273432	320339	535869					
	775922	1076355					LINR	0.10334	0.26981		0.99828
92 Chrysene	1.00912	0.92899	0.93491	0.94602	0.93267	++++-					
	0.93410	0.94559					AVRG		0.94734		2.95510
93 bis(2-Ethylhexyl)phthalate	0.62454	0.72345	0.72042	0.72009	0.73948	+++++					
	0.66220	0.66808					AVRG		0.69261		5.98758
94 Di-n-octylphthalate	+++++	1.32159	1.44131	1.54182	1.56209	-++++					
	1.48687	1.50063					AVRG		1.47572		5.86949
95 Benzo(b)fluoranthene	1.00639	1.02065	1.05649	1.10460	1.10606	+-+++-					
	1.17630	1.18495					AVRG		1.09363		6.44030
96 Benzo(k)fluoranthene	1.00014	1.06621	1.07635	1.10277	1.09046	+++++					
	1.10776	1.14132					AVRG		1.08357		4.06676

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	100 Level 7	120 Level 8									
97 Benzo(a)pyrene	0.81432	0.89123	0.91998	0.94378	0.94362	+++++					
	0.97856	0.99992					AVRG		0.92735		6.61212
99 Indeno(1,2,3-cd)pyrene	0.72484	0.79688	0.81373	0.80167	0.81219	+++++					
	0.83619	0.82791					AVRG		0.80192		4.57102
100 Dibenzo(a,h)anthracene	0.56136	0.63315	0.63537	0.63773	0.64494	+++++					
	0.68015	0.68362					AVRG		0.63947		6.31858
101 Benzo(ghi)perylene	0.65204	0.69699	0.68787	0.68101	0.68414	++++					
	0.68158	0.65805					AVRG		0.67738		2.40109
102 1,4-Dioxane	+++++	0.32143	0.32624	0.27301	0.29830	0.28435					
	0.28747	0.28934					AVRG		0.29716		6.64399
103 Methyl methacrylate	+++++	0.16851	0.17916	0.15254	0.14957	0.16049					
	0.14334	0.16512					AVRG		0.15982		7.69531
104 Ethyl methacrylate	+++++	0.74916	0.78704	0.75124	0.73161	0.69625					
	0.70379	0.70541					AVRG		0.73207		4.48747
105 2-Picoline	+++++	1.10397	1.17182	1.11176	1.08004	1.04858					
	1.06254	1.07118					AVRG		1.09284		3.77825
106 N-Nitrosomethylethylamine	+++++	0.42686	0.46510	0.44380	0.42655	0.41062					
	0.41926	0.42388					AVRG		0.43087		4.20253

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	100 Level 7	120 Level 8									
107 Methyl methanesulfonate	+++++	0.53396	0.56607	0.53925	0.50732	0.48843					
	0.49424	0.48518					AVRG		0.51635		5.93127
108 N-Nitrosodiethylamine	+++++	0.44669	0.48537	0.47042	0.44360	0.42871					
	0.43875	0.44360					AVRG		0.45102		4.37240
109 Ethyl Methanesulfonate	+++++	0.61754	0.66207	0.64474	0.61104	0.58806					
	0.60547	0.59721					AVRG		0.61802		4.27651
110 Pentachloroethane	+++++	0.33344	0.34652	0.32562	0.31963	0.30660					
	0.31130	0.31064					AVRG		0.32196		4.45052
111 N-Nitrosopyrrolidine	++++-	0.40737	0.46609	0.47958	0.45167	0.44121					
	0.46347	0.46856					AVRG		0.45399		5.27841
113 N-Nitrosomorpholine	+++++	0.97320	1.06334	1.01984	0.97575	0.92743					
	0.95586	0.92395					AVRG		0.97705		5.12153
114 o-Toluidine	+++-+	1.54564	1.66423	1.61932	1.53197	1.48471					
	1.53015	1.51300					AVRG		1.55557		4.06618
115 N-Nitrosopiperidine	+++++	0.13419	0.14247	0.13995	0.13345	0.12805					
	0.13154	0.13151					AVRG		0.13445		3.76537
116 a,a-Dimethylphenethylamine	+++++	0.89379	1.15381	1.20543	1.19755	1.17674					
	1.24315	1.23148					AVRG		1.15742		10.38220

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	100 Level 7	120 Level 8									
117 Triethylphosphorothioate	+++++	0.15919	0.15258	0.16177	0.16424	0.15866					
	0.16398	0.16055					AVRG		0.16014		2.47892
118 2,6-Dichlorophenol	+++++	0.21072	0.23421	0.22908	0.22592	0.21578					
	0.22920	0.22906					AVRG		0.22485		3.74425
119 Hexachloropropene	+++++	0.12239	0.14252	0.12942	0.13490	0.12372					
	0.13098	0.13533					AVRG		0.13132		5.34487
120 p-Phenylenediamine	+++++	29624	90488	240898	273192	397904					
	+++++	+++++					LINR	0.07383	0.19901		0.98176
121 N-Nitrosodi-n-butylamine	+++++	0.24309	0.26539	0.24246	0.22267	0.20476					
	0.20617	0.20292					AVRG		0.22678		10.64805
122 Safrole	+++++	0.20561	0.21482	0.21249	0.20332	0.19669					
	0.20287	0.20052					AVRG		0.20519		3.14015
123 1,2,4,5-Tetrachlorobenzene	+++++	0.47684	0.50356	0.48388	0.47824	0.45810					
	0.47366	0.46935					AVRG		0.47766		2.93364
124 Isosafrole	+++++	0.30995	0.33693	0.32389	0.31806	0.30715					
	0.31322	0.31374					AVRG		0.31756		3.18883
125 1,4-Naphthoquinone	+++++	0.32592	0.35472	0.33891	0.32200	0.27132					
	0.25255	+++++					AVRG		0.31090		12.88558

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 08-JAN-2010 22:16
End Cal Date : 11-JAN-2010 22:24
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
126 m-Dinitrobenzene	+++++	0.19180	0.19463	0.19852	0.19438	+++++					
	0.18982	0.19593					AVRG		0.19418		1.57572
127 Pentachlorobenzene	+++++	0.42628	0.44754	0.43910	0.43323	0.42112					
	0.43611	0.43421					AVRG		0.43394		1.97299
128 1-Naphthylamine	+++++	0.73004	0.78479	0.81511	0.81571	0.77995					
	0.81161	0.79779					AVRG		0.79071		3.84239
129 2-Naphthylamine	+++++	0.79039	0.80447	0.88775	0.86253	0.84175					
	0.88032	0.86441					AVRG		0.84738		4.40382
130 2,3,4,6-Tetrachlorophenol	+++++	0.29384	0.30293	0.32429	0.31700	+++++					
	0.34139	0.34149					AVRG		0.32016		6.12428
131 5-Nitro-o-toluidine	+++++	0.20259	0.25119	0.25622	0.25427	0.24775					
	0.26225	0.26292					AVRG		0.24817		8.39559
132 Thionazin	+++++	0.15088	0.15561	0.16174	0.16209	0.15947					
	0.16309	0.15779					AVRG		0.15867		2.72498
134 Sulfotepp	+++++	0.10122	0.10209	0.10778	0.10785	0.11026					
	0.11483	0.11355					AVRG		0.10823		4.81653
135 Phorate	+++++	0.34095	0.34418	0.35895	0.36152	0.35059					
	0.35719	0.34847					AVRG		0.35169		2.21160

GEL Laboratories LLC

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Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 Level 7	120 Level 8									
136 1,3,5-Trinitrobenzene	+++++	0.08318	0.11374	0.10171	0.11623	0.09836					
	0.11134	0.10645					AVRG		0.10443		10.87101
137 Phenacetin	+++++	0.18928	0.23057	0.23299	0.23009	0.22889					
	0.23907	0.23833					AVRG		0.22703		7.54037
138 Diallate	+++++	0.23800	0.24856	0.23613	0.23134	0.22111					
	0.22282	0.21945					AVRG		0.23106		4.61473
139 Dimethoate	+++++	0.17778	0.19266	0.20336	0.21098	0.21540					
	0.22283	0.21559					AVRG		0.20551		7.61092
140 4-Aminobiphenyl	+++++	0.45801	0.49676	0.48635	0.46753	0.51878					
	+++++	+++++					AVRG		0.48549		4.95405
141 Pentachloronitrobenzene	+++++	0.07791	0.08333	0.07829	0.07757	0.07465					
	0.07467	0.07205					AVRG		0.07692		4.69721
142 Pronamide	+++++	0.26163	0.28043	0.27445	0.26582	0.25620					
	0.26100	+++++					AVRG		0.26659		3.42860
143 Dinoseb	+++++	40629	117068	235547	239669	+++++					
	638825	733814					LINR	0.12953	0.20251		0.99928
144 Disulfoton	+++++	0.30043	0.30038	0.31066	0.31457	0.30871					
	0.31269	0.30526					AVRG		0.30753		1.84974

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Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100 Level 7	120 Level 8										
145 Methyl parathion	++++++	0.12516	0.14971	0.16336	0.17094	0.17377						
	0.18093	0.17444					AVRG		0.16261		11.87945	
146 4-Nitroquinoline-1-oxide	++++++	0.00707	0.01581	0.00917	0.01112	0.00789						
	0.00984	0.00908					AVRG		0.01000		28.76060	<-
147 Methapyrilene	++++++	0.38533	0.48161	0.48205	0.45427	0.42981						
	0.42853	0.38843					AVRG		0.43572		9.11222	
148 Isodrin	+++++	0.10718	0.09865	0.10554	0.10369	0.09915						
	0.10066	0.09703					AVRG		0.10170		3.75258	
149 Aramite	+++++	0.03793	0.04543	0.04576	0.04442	0.04392						
	0.04469	0.04261					AVRG		0.04354		6.15709	
150 Kepone	+++++	0.08171	0.08765	0.08379	0.07999	0.07667						
	0.07823	0.07766					AVRG		0.08081		4.81353	
151 p-(Dimethylamino)azobenzene	+++++	0.24822	0.26986	0.27383	0.26584	0.25591						
	0.25363	0.24919					AVRG		0.25950		3.96083	
152 Chlorobenzilate	+++++	0.25638	0.28440	0.30071	0.30028	0.29621						
	0.29794	0.29579					AVRG		0.29024		5.47857	
153 3,3'-Dimethylbenzidine	+++++	0.37715	0.40175	0.36994	0.37585	0.39540						
	0.41845	0.43914					AVRG		0.39681		6.37088	

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Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1 100 Level 7	10 Level 2 120 Level 8	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
154 Famphur	+++++	0.31027	0.32380	0.36714	0.37181	0.35978					
	0.37041	0.37503					AVRG		0.35403		7.34715
155 2-Acetylaminofluorene	+++++	33933	127212	258889	294131	523343					
	771364	1062704					LINR	0.16084	0.27228		0.99705
157 7,12Dimethylbenz(a)anthracene	+++++	0.47054	0.50738	0.51798	0.53452	0.50064					
	0.51605	0.50354					AVRG		0.50724		3.89414
158 3-Methylcholanthrene	+++++	0.29893	0.36801	0.36620	0.36312	0.36621					
	0.37956	0.37996					AVRG		0.36028		7.73571
26 Phthalic anhydride	+++++	0.08886	0.09847	0.11107	0.11559	+++++					
	0.11207	+++++					AVRG		0.10521		10.64298
173 Carbazole	0.78252	0.63611	0.52107	0.62825	0.57068	+-+++					
	0.72226	0.73615					AVRG		0.65672		14.37452
174 Hexachlorophene	+++++	121425	1431309	2267332	2843485	3664649					
	4115015	+++++					LINR	10.57801	0.09520		0.99426
179 Dibenzo(a,e)pyrene	+-+++	0.34803	0.34566	0.33495	0.33825	+++-+					
	0.33137	0.29010					AVRG		0.33140		6.39501
185 (2,3-Dibromopropyl)phosphate	+++++	+++++	++-++	-+++-+	+++++	+++++					
	+++++	+++++					AVRG		0.000e+00		0.000e+00 <-

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End Cal Date : 11-JAN-2010 22:24
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Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100 Level 7	120 Level 8										
184 p-Benzoquinone	+++++	0.05369	0.09247	0.18592	0.14740	+++++						
	0.15623	0.16677					AVRG		0.13375		37.55790	<-
191 Parathion	+++++	0.05709	0.06689	0.07486	0.07781	0.07971						
	0.08372	0.08285					AVRG		0.07470		12.85868	
192 Methoxychlor	+++++	0.59434	0.64741	0.65487	0.66562	+++++						
	0.63006	0.63209					AVRG		0.63740		3.93042	
210 m-Toluidine	+++++	1.15735	1.10412	1.30602	1.29864	+++++						
	1.41555	1.44380					AVRG		1.28758		10.52715	
211 p-Toluidine	+++++	0.87585	0.86231	0.80086	0.86700	+++++						
	0.79581	0.85277					AVRG		0.84243		4.15429	
212 Cis Diallate	+++++	0.23424	0.24290	0.23542	0.22810	0.21465						
	0.21897	0.21342					AVRG		0.22681		5.02336	
213 Trans Diallate	+++++	0.28000	0.29243	0.27779	0.27217	0.26013						
	0.26214	0.25817					AVRG		0.27183		4.61473	
214 1,4-Dinitrobenzene	+++++	0.18366	0.19226	0.20016	0.19606	+++++						
	0.20910	0.21480					AVRG		0.19934		5.68290	
215 2-Ethoxyethanol	+++++	0.85866	0.87332	0.89964	0.89199	+++++						
	0.85411	0.86573					AVRG		0.87391		2.09786	

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Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1 100 Level 7	10 Level 2 120 Level 8	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
216 Methylenebis(2-chloroaniline)	+-+++	28312	60511	148973	127008	+++++					
	445652	509185					LINR	0.22177	0.15485		0.99204
226 2,2'-Dichlorobenzil	++++++	0.52161	0.53870	0.56892	0.58722	0.59226					
	0.59041	0.55699					AVRG		0.56516		4.86533
227 4-Chlorothioanisole	+++++	0.23191	0.24121	0.24822	0.25038	0.25573					
	0.25990	0.26145					AVRG		0.24983		4.22868
228 4-Chlorothiophenol	+++++	26748	87390	176797	198893	447331					
	505877	805045					LINR	0.21573	0.21185		0.99563
229 bis(p-Chlorophenyl)sulfone	+++++	0.34179	0.32852	0.33634	0.34306	0.34040					
	0.33779	0.32169					AVRG		0.33565		2.32701
230 bis(p-Chlorophenyl)disulfide	+++++	0.09814	0.11109	0.11150	0.12476	0.11867					
	0.11928	0.11564					AVRG		0.11416		7.45252
231 Diphenyl disulfide	+++++	0.18968	0.19778	0.19198	0.19468	0.19235					
	0.19092	0.18725					AVRG		0.19209		1.77566
232 Diphenyl sulfide	+++++	0.75129	0.74810	0.74411	0.75143	0.74831					
	0.74668	0.74095					AVRG		0.74727		0.50561
233 Phenyl sulfone	+++++	0.37656	0.37482	0.36982	0.37025	0.36285					
	0.36141	0.35636					AVRG		0.36744		2.02232

GEL Laboratories LLC

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Integrator : HP RTE
Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100 Level 7	120 Level 8										
234 Hydroxymethyl phthalimide	+++++	0.13617	0.12694	0.14582	0.14181	0.13202						
	0.12727	0.12345					AVRG		0.13335		6.22052	
235 Phthalic acid	+++++	12065	45184	101099	123990	234309						
	306948	465365					LINR	0.24147	0.12427		0.99322	
236 Thiophenol	+++++	46935	135083	264715	336344	624372						
	715121	1104311					LINR	0.14719	1.02141		0.99896	
237 bis(Chloromethyl)ether	+++++	0.81871	0.79897	0.78615	0.79654	0.76346						
	0.77919	0.73553					AVRG		0.78265		3.44949	
238 Octachlorostyrene	+++++	0.07696	0.07606	0.07666	0.07661	0.07698						
	0.07826	0.07769					AVRG		0.07703		0.94895	
M 222 Trichlorophenols	+++++	0.31723	0.33534	0.34841	0.34518	+++++						
	0.35561	0.36007					AVRG		0.34364		4.51688	
M 223 Tetrachlorophenols	+++++	0.29384	0.30293	0.32429	0.31700	+++++						
	0.34139	0.34149					AVRG		0.32016		6.12428	
M 224 Benzo(b,k)fluoranthene	1.00326	1.04343	1.06642	1.10368	1.09826	+++++						
	1.14203	1.16314					AVRG		1.08860		5.10717	
M 225 TTO Sum Semivolatiles	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100 Level 7	120 Level 8										
$ 3 2-Fluorophenol	+++++	0.97853	0.97289	0.98262	0.97150	+++++						
	0.94528	0.97298					AVRG		0.97063		1.35137	
$ 5 Phenol-d5	+++++	1.28372	1.29769	1.30966	1.30030	+++++						
	1.28148	1.32071					AVRG		1.29893		1.15675	
$ 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	+++++	0.34989	0.34516	0.33216	0.31694	+++++						
	0.28133	0.27611					AVRG		0.31693		10.02588	
$ 39 2-Fluorobiphenyl	+++++	1.25352	1.24435	1.24725	1.23057	+++++						
	1.21523	1.23459					AVRG		1.23758		1.11429	
$ 60 2,4,6-Tribromophenol	+++++	0.15570	0.16134	0.17540	0.16872	+++++						
	0.18427	0.19261					AVRG		0.17301		8.05527	
$ 81 p-Terphenyl-d14	+++++	0.74414	0.75809	0.78310	0.78931	+++++						
	0.75859	0.77646					AVRG		0.76828		2.26115	

GEL Laboratories LLC

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Method file : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Cal Date : 19-Feb-2010 16:07 ann00964

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

Data File: /chem/MSD2.i/s010810a.b/s2a0820.d
Report Date: 12-Jan-2010 16:39

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i
Lab File ID: s2a0820.d
Analysis Type:
Lab Sample ID: WBN091223-17.2 Quant Type: ISTD
Method: /chem/MSD2.i/s010810a.b/MSD2-M8270PAQA-010810a.m

Injection Date: 09-JAN-2010 02:58
Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Init. Cal. Times: 22:16 22:24

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 3 2-Fluorophenol	0.97063	0.98122	0.98122	0.000	1.09072	60.00000	Averaged
$ 5 Phenol-d5	1.29893	1.26464	1.26464	0.000	-2.63983	60.00000	Averaged
$ 20 Nitrobenzene-d5	0.31693	0.32982	0.32982	0.000	4.06639	60.00000	Averaged
$ 39 2-Fluorobiphenyl	1.23758	1.25137	1.25137	0.000	1.11439	60.00000	Averaged
$ 60 2,4,6-Tribromophenol	0.17301	0.16641	0.16641	0.000	-3.81005	60.00000	Averaged
$ 81 p-Terphenyl-d14	0.76828	0.82709	0.82709	0.000	7.65454	60.00000	Averaged
1 N-Methyl-N-nitrosomethylami	0.62604	0.59403	0.59403	0.000	-5.11288	60.00000	Averaged
2 Pyridine	0.74256	0.75813	0.75813	0.000	2.09592	60.00000	Averaged
4 Aniline	0.60115	0.61335	0.61335	0.000	2.02988	60.00000	Averaged
6 Phenol	1.32577	1.28164	1.28164	0.001	-3.32861	20.00000	Averaged ccc
7 bis(2-Chloroethyl) ether	1.20282	1.12876	1.12876	0.000	-6.15781	60.00000	Averaged
8 2-Chlorophenol	1.09861	1.07015	1.07015	0.000	-2.59022	60.00000	Averaged
203 n-Decane	2.38258	2.45882	2.45882	0.000	3.19991	60.00000	Averaged
9 1,3-Dichlorobenzene	1.28467	1.26134	1.26134	0.000	-1.81585	60.00000	Averaged
11 1,4-Dichlorobenzene	1.32033	1.28105	1.28105	0.001	-2.97538	20.00000	Averaged ccc
13 1,2-Dichlorobenzene	1.22631	1.20644	1.20644	0.000	-1.62045	60.00000	Averaged
14 bis(2-Chloroisopropyl)ether	3.35251	3.39906	3.39906	0.000	1.38848	60.00000	Averaged
12 Benzyl alcohol	0.66496	0.66268	0.66268	0.000	-0.34359	60.00000	Averaged
15 o-Cresol	0.86335	0.83811	0.83811	0.000	-2.92349	60.00000	Averaged
18 m,p-Cresols	1.09691	1.10391	1.10391	0.000	0.63881	60.00000	Averaged
17 N-Nitrosodipropylamine	0.86424	0.85244	0.85244	0.050	-1.36492	60.00000	Averaged spcc
19 Hexachloroethane	0.52810	0.51112	0.51112	0.000	-3.21547	60.00000	Averaged
21 Nitrobenzene	0.32605	0.33748	0.33748	0.000	3.50588	60.00000	Averaged
22 Isophorone	0.60239	0.59773	0.59773	0.000	-0.77401	60.00000	Averaged
23 2-Nitrophenol	0.14429	0.14396	0.14396	0.001	-0.22447	20.00000	Averaged ccc
24 2,4-Dimethylphenol	0.25576	0.25458	0.25458	0.000	-0.46205	60.00000	Averaged
25 bis(2-Chloroethoxy)methane	0.34780	0.34154	0.34154	0.000	-1.80066	60.00000	Averaged
26 2,4-Dichlorophenol	0.23858	0.23965	0.23965	0.001	0.44897	20.00000	Averaged ccc
27 Benzoic acid	39.88125	40.00000	0.13300	0.000	-0.29688	60.00000	Linear
28 1,2,4-Trichlorobenzene	0.30548	0.29620	0.29620	0.000	-3.03997	60.00000	Averaged
30 Naphthalene	0.84660	0.89781	0.89781	0.000	6.04832	60.00000	Averaged
204 alpha-Terpineol	0.37575	0.36177	0.36177	0.000	-3.72106	60.00000	Averaged
31 4-Chloroaniline	0.25832	0.28081	0.28081	0.000	8.70665	60.00000	Averaged
32 Hexachlorobutadiene	0.19199	0.19491	0.19491	0.001	1.51996	20.00000	Averaged ccc
33 4-Chloro-3-methylphenol	0.24161	0.23863	0.23863	0.001	-1.23084	20.00000	Averaged ccc
34 2-Methylnaphthalene	0.58677	0.65139	0.65139	0.000	11.01307	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 09-JAN-2010 02:58
Lab File ID: s2a0820.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN091223-17.2 Quant Type: ISTD
Method: /chem/MSD2.i/s010810a.b/MSD2-M8270PAQA-010810a.m

	COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
35	1-Methylnaphthalene	0.57979	0.61491	0.61491	0.000	6.05656	60.00000	Averaged
36	Hexachlorocyclopentadiene	0.20327	0.15904	0.15904	0.050	-21.76015	60.00000	Averaged spcc
205	2,3-Dichloroaniline	0.55582	0.55124	0.55124	0.000	-0.82273	60.00000	Averaged
37	2,4,6-Trichlorophenol	0.33768	0.32240	0.32240	0.001	-4.52315	20.00000	Averaged ccc
38	2,4,5-Trichlorophenol	0.34960	0.35503	0.35503	0.000	1.55224	60.00000	Averaged
40	2-Chloronaphthalene	1.03550	0.99755	0.99755	0.000	-3.66544	60.00000	Averaged
42	o-Nitroaniline	0.36783	0.36190	0.36190	0.000	-1.60998	60.00000	Averaged
41	m-Nitroaniline	40.37953	40.00000	0.18886	0.000	0.94883	60.00000	Linear
43	Dimethylphthalate	1.19427	1.21262	1.21262	0.000	1.53605	60.00000	Averaged
44	2,6-Dinitrotoluene	0.27938	0.27506	0.27506	0.000	-1.54523	60.00000	Averaged
50	2,4-Dinitrotoluene	0.35552	0.35875	0.35875	0.000	0.91107	60.00000	Averaged
45	Acenaphthylene	1.63374	1.76412	1.76412	0.000	7.98060	60.00000	Averaged
47	Acenaphthene	1.02726	1.07391	1.07391	0.001	4.54122	20.00000	Averaged ccc
48	2,4-Dinitrophenol	36.28328	40.00000	0.08970	0.050	-9.29180	60.00000	Linear spcc
49	Dibenzofuran	1.40865	1.38546	1.38546	0.000	-1.64616	60.00000	Averaged
51	Diethylphthalate	1.17668	1.18152	1.18152	0.000	0.41069	60.00000	Averaged
52	4-Nitrophenol	38.23138	40.00000	0.13006	0.050	-4.42155	60.00000	Linear spcc
53	Fluorene	1.22221	1.29971	1.29971	0.000	6.34143	60.00000	Averaged
54	4-Chlorophenylphenylether	0.63724	0.62544	0.62544	0.000	-1.85157	60.00000	Averaged
55	2-Methyl-4,6-dinitrophenol	0.10597	0.12744	0.12744	0.000	20.25633	60.00000	Averaged
56	p-Nitroaniline	35.48424	40.00000	0.14399	0.000	-11.28940	60.00000	Linear
133	Diphenylamine	0.51708	0.50396	0.50396	0.001	-2.53811	20.00000	Averaged ccc
58	1,2-Diphenylhydrazine	0.68942	0.69088	0.69088	0.000	0.21240	60.00000	Averaged
61	4-Bromophenylphenylether	0.21382	0.20589	0.20589	0.000	-3.70912	60.00000	Averaged
63	Hexachlorobenzene	0.22580	0.21389	0.21389	0.000	-5.27535	60.00000	Averaged
65	Pentachlorophenol	35.56322	40.00000	0.09254	0.001	-11.09195	20.00000	Linear ccc
206	n-Octadecane	0.73588	0.74305	0.74305	0.000	0.97516	60.00000	Averaged
68	Phenanthrene	0.96311	1.00354	1.00354	0.000	4.19794	60.00000	Averaged
69	Anthracene	0.94257	1.02862	1.02862	0.000	9.12944	60.00000	Averaged
72	Di-n-butylphthalate	1.08053	1.11260	1.11260	0.000	2.96805	60.00000	Averaged
76	Fluoranthene	1.03443	1.14983	1.14983	0.001	11.15585	20.00000	Averaged ccc
79	Pyrene	1.20605	1.27865	1.27865	0.000	6.01942	60.00000	Averaged
85	Butylbenzylphthalate	0.49046	0.50254	0.50254	0.000	2.46384	60.00000	Averaged
89	Benzo(a)anthracene	1.02256	1.06764	1.06764	0.000	4.40842	60.00000	Averaged
92	Chrysene	0.94734	1.01121	1.01121	0.000	6.74165	60.00000	Averaged
93	bis(2-Ethylhexyl)phthalate	0.69261	0.71391	0.71391	0.000	3.07503	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 09-JAN-2010 02:58
Lab File ID: s2a0820.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN091223-17.2 Quant Type: ISTD
Method: /chem/MSD2.i/s010810a.b/MSD2-M8270PAQA-010810a.m

	COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
	94 Di-n-octylphthalate	1.47572	1.52929	1.52929	0.001	3.62979	20.00000	Averaged	ccc
	95 Benzo(b)fluoranthene	1.09363	1.17797	1.17797	0.000	7.71197	60.00000	Averaged	
	96 Benzo(k)fluoranthene	1.08357	1.21032	1.21032	0.000	11.69724	60.00000	Averaged	
	97 Benzo(a)pyrene	0.92735	1.02972	1.02972	0.001	11.03945	20.00000	Averaged	ccc
	99 Indeno(1,2,3-cd)pyrene	0.80192	0.88836	0.88836	0.000	10.77950	60.00000	Averaged	
	100 Dibenzo(a,h)anthracene	0.63947	0.70615	0.70615	0.000	10.42717	60.00000	Averaged	
	101 Benzo(ghi)perylene	0.67738	0.74484	0.74484	0.000	9.95777	60.00000	Averaged	
	126 m-Dinitrobenzene	0.19418	0.19157	0.19157	0.000	-1.34257	60.00000	Averaged	
	130 2,3,4,6-Tetrachlorophenol	0.32016	0.29167	0.29167	0.000	-8.89900	60.00000	Averaged	
	143 Dinoseb	36.73574	40.00000	0.15975	0.000	-8.16065	60.00000	Linear	
	173 Carbazole	0.65672	0.59711	0.59711	0.000	-9.07758	60.00000	Averaged	
	184 p-Benzoquinone	0.13375	0.11208	0.11208	0.000	-16.19783	60.00000	Averaged	
	192 Methoxychlor	0.63740	0.61003	0.61003	0.000	-4.29433	60.00000	Averaged	
	211 p-Toluidine	0.84243	0.89202	0.89202	0.000	5.88664	60.00000	Averaged	
	210 m-Toluidine	1.28758	1.37542	1.37542	0.000	6.82241	60.00000	Averaged	
	214 1,4-Dinitrobenzene	0.19934	0.19794	0.19794	0.000	-0.70323	60.00000	Averaged	
	215 2-Ethoxyethanol	0.87391	0.91649	0.91649	0.000	4.87264	60.00000	Averaged	
	216 Methylenebis(2-chloroanilin	37.22363	40.00000	0.10976	0.000	-6.94093	60.00000	Linear	
	179 Dibenzo(a,e)pyrene	0.33140	0.23834	0.23834	0.000	-28.07870	60.00000	Averaged	
	26 Phthalic anhydride	0.10521	0.17800	0.17800	0.000	69.18545	60.00000	Averaged	<-
M	222 Trichlorophenols	0.34364	0.33872	0.33872	0.000	-1.43274	60.00000	Averaged	
M	223 Tetrachlorophenols	0.32016	0.29167	0.29167	0.000	-8.89900	60.00000	Averaged	
M	224 Benzo(b,k)fluoranthene	1.08860	1.19415	1.19415	0.000	9.69540	60.00000	Averaged	

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Data file : /chem/MSD2.i/s010810a.b/s2a0820.d
Lab Smp Id: WBN091223-17.2 Client Smp ID: MEGAICV
Inj Date : 09-JAN-2010 02:58
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |WBN091223-17.2|40 PPM|1|SVMF|1|MEGAICV
Misc Info : |MSD8270|WBN091128-02|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s010810a.b/MSD2-M8270PAQA-010810a.m
Meth Date : 12-Jan-2010 16:39 ann00964 Quant Type: ISTD
Cal Date : 11-JAN-2010 22:24 Cal File: s2a0863.d
Als bottle: 20 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEGAII.sub
Target Version: 3.50
Processing Host: hpclpl

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
* 10 1,4-Dichlorobenzene-d4	152	4.726	4.726	(1.000)	293321	40.0000	
* 29 Naphthalene-d8	136	6.000	6.000	(1.000)	1135161	40.0000	
* 46 Acenaphthene-d10	164	7.868	7.868	(1.000)	640817	40.0000	
* 67 Phenanthrene-d10	188	9.474	9.474	(1.000)	1136949	40.0000	
* 91 Chrysene-d12	240	12.459	12.459	(1.000)	1052993	40.0000	
* 98 Perylene-d12	264	14.730	14.730	(1.000)	746718	40.0000	
$ 3 2-Fluorophenol	112	3.556	3.556	(0.752)	287812	40.0000	40.4
$ 5 Phenol-d5	99	4.333	4.333	(0.917)	370945	40.0000	38.9
$ 20 Nitrobenzene-d5	82	5.260	5.260	(0.877)	374397	40.0000	41.6
$ 39 2-Fluorobiphenyl	172	7.125	7.125	(0.906)	801902	40.0000	40.4
$ 60 2,4,6-Tribromophenol	329	8.714	8.714	(1.108)	106641	40.0000	38.5
$ 81 p-Terphenyl-d14	244	11.182	11.182	(0.897)	870921	40.0000	43.1
1 N-Methyl-N-nitrosomethylamine	74	2.586	2.586	(0.547)	174241	40.0000	38.0
2 Pyridine	79	2.621	2.621	(0.555)	222374	40.0000	40.8
4 Aniline	66	4.415	4.415	(0.934)	179908	40.0000	40.8
6 Phenol	94	4.348	4.348	(0.920)	375933	40.0000	38.7(Q)
7 bis(2-Chloroethyl) ether	63	4.453	4.453	(0.942)	331088	40.0000	37.5
8 2-Chlorophenol	128	4.527	4.527	(0.958)	313898	40.0000	39.0
203 n-Decane	43	4.535	4.535	(0.960)	721223	40.0000	41.3
9 1,3-Dichlorobenzene	146	4.673	4.673	(0.989)	369978	40.0000	39.3
11 1,4-Dichlorobenzene	146	4.741	4.741	(1.003)	375758	40.0000	38.8
13 1,2-Dichlorobenzene	146	4.891	4.891	(1.035)	353874	40.0000	39.4
14 bis(2-Chloroisopropyl)ether	45	4.961	4.961	(1.050)	997015	40.0000	40.6
12 Benzyl alcohol	108	4.838	4.838	(1.024)	194377	40.0000	39.9
15 o-Cresol	107	4.923	4.923	(1.042)	245835	40.0000	38.8
18 m,p-Cresols	107	5.078	5.078	(1.075)	323801	40.0000	40.2

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	ON-COL (ng/ul)
17 N-Nitrosodipropylamine	70	5.102	5.102	(1.079)	250039	40.0000	39.4
19 Hexachloroethane	117	5.222	5.222	(1.105)	149922	40.0000	38.7
21 Nitrobenzene	77	5.281	5.281	(0.860)	383094	40.0000	41.4
22 Isophorone	82	5.516	5.516	(0.919)	678518	40.0000	39.7
23 2-Nitrophenol	139	5.598	5.598	(0.933)	163420	40.0000	39.9
24 2,4-Dimethylphenol	122	5.612	5.612	(0.935)	288989	40.0000	39.8
25 bis(2-Chloroethoxy)methane	93	5.715	5.715	(0.953)	387705	40.0000	39.3
26 2,4-Dichlorophenol	162	5.838	5.838	(0.973)	272037	40.0000	40.2
27 Benzoic acid	105	5.727	5.727	(0.954)	150971	40.0000	39.9(H)
28 1,2,4-Trichlorobenzene	180	5.932	5.932	(0.989)	336232	40.0000	38.8
30 Naphthalene	128	6.024	6.024	(1.004)	1019157	40.0000	42.4
204 alpha-Terpineol	59	6.012	6.012	(1.002)	410665	40.0000	38.5
31 4-Chloroaniline	127	6.062	6.062	(1.010)	318764	40.0000	43.5
32 Hexachlorobutadiene	225	6.135	6.135	(1.023)	221256	40.0000	40.6
33 4-Chloro-3-methylphenol	107	6.546	6.546	(1.091)	270889	40.0000	39.5
34 2-Methylnaphthalene	142	6.746	6.746	(1.124)	739432	40.0000	44.4
35 1-Methylnaphthalene	142	6.851	6.851	(1.142)	698022	40.0000	42.4
36 Hexachlorocyclopentadiene	237	6.904	6.904	(0.878)	101916	40.0000	31.3
205 2,3-Dichloroaniline	161	7.039	7.039	(0.895)	353246	40.0000	39.7
37 2,4,6-Trichlorophenol	196	7.034	7.034	(0.894)	206601	40.0000	38.2
38 2,4,5-Trichlorophenol	196	7.072	7.072	(0.899)	227510	40.0000	40.6
40 2-Chloronaphthalene	162	7.269	7.269	(0.924)	639244	40.0000	38.5
42 o-Nitroaniline	65	7.365	7.365	(0.936)	231914	40.0000	39.4
41 m-Nitroaniline	138	7.809	7.809	(0.993)	121024	40.0000	40.4
43 Dimethylphthalate	163	7.556	7.556	(0.960)	777065	40.0000	40.6
44 2,6-Dinitrotoluene	165	7.627	7.627	(0.969)	176262	40.0000	39.4
50 2,4-Dinitrotoluene	165	8.058	8.058	(1.024)	229896	40.0000	40.4
45 Acenaphthylene	152	7.718	7.718	(0.981)	1130478	40.0000	43.2
47 Acenaphthene	154	7.903	7.903	(1.004)	688180	40.0000	41.8
48 2,4-Dinitrophenol	184	7.920	7.920	(1.007)	57481	40.0000	36.3
49 Dibenzofuran	168	8.085	8.085	(1.028)	887827	40.0000	39.3
51 Diethylphthalate	149	8.308	8.308	(1.056)	757135	40.0000	40.2
52 4-Nitrophenol	139	7.967	7.967	(1.013)	83343	40.0000	38.2
53 Fluorene	166	8.458	8.458	(1.075)	832878	40.0000	42.5
54 4-Chlorophenylphenylether	204	8.443	8.443	(1.073)	400795	40.0000	39.2
55 2-Methyl-4,6-dinitrophenol	198	8.499	8.499	(0.897)	144888	40.0000	48.1
56 p-Nitroaniline	138	8.467	8.467	(1.076)	92271	40.0000	35.5
133 Diphenylamine	169	8.570	8.570	(0.905)	572974	40.0000	39.0
58 1,2-Diphenylhydrazine	77	8.617	8.617	(0.909)	785499	40.0000	40.1
61 4-Bromophenylphenylether	248	8.975	8.975	(0.947)	234084	40.0000	38.5
63 Hexachlorobenzene	284	9.051	9.051	(0.955)	243182	40.0000	37.9
65 Pentachlorophenol	266	9.257	9.257	(0.977)	105210	40.0000	35.6
206 n-Octadecane	57	9.312	9.312	(0.983)	844812	40.0000	40.4
68 Phenanthrene	178	9.504	9.504	(1.003)	1140973	40.0000	41.7
69 Anthracene	178	9.557	9.557	(1.009)	1169487	40.0000	43.6
72 Di-n-butylphthalate	149	10.070	10.070	(1.063)	1264973	40.0000	41.2
76 Fluoranthene	202	10.788	10.788	(1.139)	1307300	40.0000	44.5

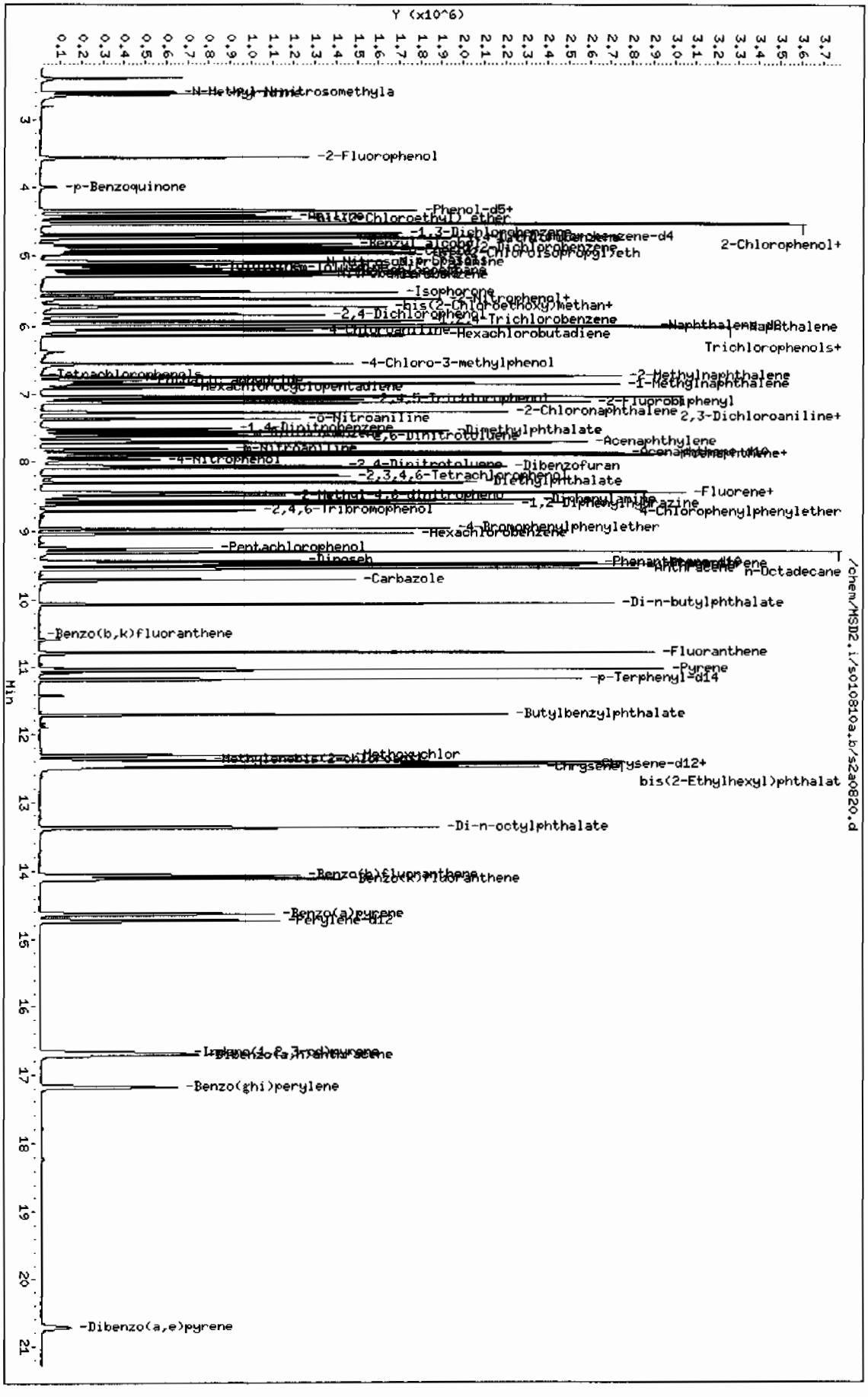
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
79 Pyrene	202	11.041	11.041	(0.886)	1346412	40.0000	42.4
85 Butylbenzylphthalate	149	11.710	11.710	(0.940)	529171	40.0000	41.0
89 Benzo(a)anthracene	228	12.441	12.441	(0.999)	1124218	40.0000	41.8
92 Chrysene	228	12.494	12.494	(1.003)	1064797	40.0000	42.7
93 bis(2-Ethylhexyl)phthalate	149	12.417	12.417	(0.997)	751740	40.0000	41.2
94 Di-n-octylphthalate	149	13.377	13.377	(0.908)	1141945	40.0000	41.4
95 Benzo(b)fluoranthene	252	14.070	14.070	(0.955)	879615	40.0000	43.1(H)
96 Benzo(k)fluoranthene	252	14.117	14.117	(0.958)	903769	40.0000	44.7
97 Benzo(a)pyrene	252	14.633	14.633	(0.993)	768910	40.0000	44.4
99 Indeno(1,2,3-cd)pyrene	276	16.683	16.683	(1.133)	663353	40.0000	44.3
100 Dibenzo(a,h)anthracene	278	16.716	16.716	(1.135)	527297	40.0000	44.2
101 Benzo(ghi)perylene	276	17.189	17.189	(1.167)	556182	40.0000	44.0
126 m-Dinitrobenzene	168	7.597	7.597	(0.966)	122763	40.0000	39.5
130 2,3,4,6-Tetrachlorophenol	232	8.208	8.208	(1.043)	186904	40.0000	36.4
143 Dinoseb	211	9.442	9.442	(0.997)	181629	40.0000	36.7
173 Carbazole	167	9.718	9.718	(1.026)	678879	40.0000	36.4
184 p-Benzoquinone	54	3.987	3.987	(0.844)	32876	40.0000	33.5
192 Methoxychlor	227	12.317	12.317	(0.989)	642354	40.0000	38.3
211 p-Toluidine	106	5.143	5.143	(1.088)	261649	40.0000	42.4
210 m-Toluidine	106	5.178	5.178	(1.096)	403441	40.0000	42.7
214 1,4-Dinitrobenzene	75	7.512	7.512	(0.955)	126844	40.0000	39.7
215 2-Ethoxyethanol	59	2.378	2.378	(0.503)	268826	40.0000	41.9
216 Methylenebis(2-chloroaniline)	231	12.385	12.385	(0.994)	115578	40.0000	37.2(Q)
179 Dibenzo(a,e)pyrene	302	20.723	20.723	(1.407)	177976	40.0000	28.8
26 Phthalic anhydride	104	6.801	6.801	(1.134)	202061	40.0000	67.7
M 222 Trichlorophenols	196				434111	80.0000	78.8
M 223 Tetrachlorophenols	232				186904	40.0000	36.4
M 224 Benzo(b,k)fluoranthene	252				1783384	80.0000	87.8

QC Flag Legend

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

Data File: /chem/MSD2.i/s010810a.b/s2a0820.d
Date : 09-JAN-2010 02:58
Client ID: MEGAICV
Sample Info: IWBN091223-17,2|40 PPM|1|SVMF|1|MEGAICV
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: ACS1
Column diameter: 0.20



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GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 11-JAN-2010 22:49
Lab File ID: s2a0864.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN100103-08.1 Quant Type: ISTD
Method: /chem/MSD2.i/s010810a.b/MSD2-M8270PAQA-010810a.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
209 Benzaldehyde	0.83255	0.74802	0.74802	0.000	-10.15375	60.00000	Averaged
16 Acetophenone	1.11861	1.08804	1.08804	0.000	-2.73333	60.00000	Averaged
189 Caprolactam	0.08128	0.08273	0.08273	0.000	1.78130	60.00000	Averaged
208 1,1'-Biphenyl	1.13798	1.14350	1.14350	0.000	0.48523	60.00000	Averaged
207 Atrazine	0.04003	0.04098	0.04098	0.000	2.36989	60.00000	Averaged
77 Benzidine	0.15302	0.16749	0.16749	0.000	9.45475	60.00000	Averaged
90 3,3'-Dichlorobenzidine	39.13340	40.00000	0.23608	0.000	-2.16649	60.00000	Linear
102 1,4-Dioxane	0.29716	0.32167	0.32167	0.000	8.24855	60.00000	Averaged
103 Methyl methacrylate	0.15982	0.18404	0.18404	0.000	15.15408	60.00000	Averaged
104 Ethyl methacrylate	0.73207	0.79002	0.79002	0.000	7.91564	60.00000	Averaged
105 2-Picoline	1.09284	1.04378	1.04378	0.000	-4.48952	60.00000	Averaged
106 N-Nitrosomethylethylamine	0.43087	0.42341	0.42341	0.000	-1.73145	60.00000	Averaged
107 Methyl methanesulfonate	0.51635	0.52171	0.52171	0.000	1.03722	60.00000	Averaged
108 N-Nitrosodiethylamine	0.45102	0.44108	0.44108	0.000	-2.20401	60.00000	Averaged
109 Ethyl Methanesulfonate	0.61802	0.67148	0.67148	0.000	8.65002	60.00000	Averaged
110 Pentachloroethane	0.32196	0.37451	0.37451	0.000	16.31929	60.00000	Averaged
111 N-Nitrosopyrrolidine	0.45399	0.44312	0.44312	0.000	-2.39525	60.00000	Averaged
113 N-Nitrosomorpholine	0.97705	0.93380	0.93380	0.000	-4.42733	60.00000	Averaged
114 o-Toluidine	1.55557	1.49475	1.49475	0.000	-3.90982	60.00000	Averaged
115 N-Nitrosopiperidine	0.13445	0.12927	0.12927	0.000	-3.85755	60.00000	Averaged
116 a,a-Dimethylphenethylamine	1.15742	1.08648	1.08648	0.000	-6.12957	60.00000	Averaged
118 2,6-Dichlorophenol	0.22485	0.20883	0.20883	0.000	-7.12412	60.00000	Averaged
119 Hexachloropropene	0.13132	0.16112	0.16112	0.000	22.69185	60.00000	Averaged
120 p-Phenylenediamine	41.64983	40.00000	0.19252	0.000	4.12457	60.00000	Linear
121 N-Nitrosodi-n-butylamine	0.22678	0.22740	0.22740	0.000	0.27277	60.00000	Averaged
122 Safrole	0.20519	0.21699	0.21699	0.000	5.74956	60.00000	Averaged
123 1,2,4,5-Tetrachlorobenzene	0.47766	0.49247	0.49247	0.000	3.10059	60.00000	Averaged
124 Isosafrole	0.31756	0.36586	0.36586	0.000	15.20763	60.00000	Averaged
125 1,4-Naphthoquinone	0.31090	0.31208	0.31208	0.000	0.37918	60.00000	Averaged
127 Pentachlorobenzene	0.43394	0.44194	0.44194	0.000	1.84301	60.00000	Averaged
128 1-Naphthylamine	0.79071	0.81437	0.81437	0.000	2.99211	60.00000	Averaged
129 2-Naphthylamine	0.84738	0.88415	0.88415	0.000	4.34022	60.00000	Averaged
131 5-Nitro-o-toluidine	0.24817	0.25016	0.25016	0.000	0.80330	60.00000	Averaged
136 1,3,5-Trinitrobenzene	0.10443	0.12531	0.12531	0.000	19.99427	60.00000	Averaged
137 Phenacetin	0.22703	0.23521	0.23521	0.000	3.60380	60.00000	Averaged
138 Diallate	0.23106	0.21505	0.21505	0.000	-6.92809	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 11-JAN-2010 22:49
Lab File ID: s2a0864.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN100103-08.1 Quant Type: ISTD
Method: /chem/MSD2.i/s010810a.b/MSD2-M8270PAQA-010810a.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
212 Cis Diallate	0.22681	0.24816	0.24816	0.000	9.41289	60.00000	Averaged
213 Trans Diallate	0.27183	0.25300	0.25300	0.000	-6.92809	60.00000	Averaged
140 4-Aminobiphenyl	0.48549	0.49489	0.49489	0.000	1.93767	60.00000	Averaged
141 Pentachloronitrobenzene	0.07692	0.07716	0.07716	0.000	0.30599	60.00000	Averaged
142 Pronamide	0.26659	0.26516	0.26516	0.000	-0.53710	60.00000	Averaged
146 4-Nitroquinoline-1-oxide	0.01000	0.01062	0.01062	0.000	6.27369	60.00000	Averaged
147 Methapyrilene	0.43572	0.46399	0.46399	0.000	6.48847	60.00000	Averaged
148 Isodrin	0.10170	0.09653	0.09653	0.000	-5.08039	60.00000	Averaged
149 Aramite	0.04354	0.04213	0.04213	0.000	-3.22360	60.00000	Averaged
150 Kepone	0.08081	0.07712	0.07712	0.000	-4.56746	60.00000	Averaged
151 p-(Dimethylamino)azobenzene	0.25950	0.24129	0.24129	0.000	-7.01479	60.00000	Averaged
152 Chlorobenzilate	0.29024	0.21775	0.21775	0.000	-24.97798	60.00000	Averaged
153 3,3'-Dimethylbenzidine	0.39681	0.37826	0.37826	0.000	-4.67495	60.00000	Averaged
155 2-Acetylaminofluorene	39.58165	40.00000	0.22564	0.000	-1.04587	60.00000	Linear
157 7,12Dimethylbenz(a)anthrace	0.50724	0.47565	0.47565	0.000	-6.22661	60.00000	Averaged
158 3-Methylcholanthrene	0.36028	0.36915	0.36915	0.000	2.46062	60.00000	Averaged

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Data file : /chem/MSD2.i/s010810a.b/s2a0864.d
Lab Smp Id: WBN100103-08.1 Client Smp ID: APICV
Inj Date : 11-JAN-2010 22:49
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |WBN100103-08.1|40 PPM|1|SVMF|1|APICV
Misc Info : |MSD8270|WBN091128-02|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s010810a.b/MSD2-M8270PAQA-010810a.m
Meth Date : 12-Jan-2010 16:42 ann00964 Quant Type: ISTD
Cal Date : 11-JAN-2010 21:33 Cal File: s2a0861.d
Als bottle: 17 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AP12.sub
Target Version: 3.50
Processing Host: hpclp1

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
* 10 1,4-Dichlorobenzene-d4	152	4.723	4.723	(1.000)	384349	40.0000	
* 29 Naphthalene-d8	136	5.998	5.998	(1.000)	1356992	40.0000	
* 46 Acenaphthene-d10	164	7.865	7.865	(1.000)	840785	40.0000	
* 67 Phenanthrene-d10	188	9.477	9.477	(1.000)	1532830	40.0000	
* 91 Chrysene-d12	240	12.451	12.451	(1.000)	1422013	40.0000	
* 98 Perylene-d12	264	14.727	14.727	(1.000)	1015949	40.0000	
209 Benzaldehyde	77	4.322	4.322	(0.915)	287499	40.0000	35.9
16 Acetophenone	105	5.101	5.101	(1.080)	418186	40.0000	38.9
189 Caprolactam	113	6.424	6.424	(1.071)	112261	40.0000	40.7
208 1,1'-Biphenyl	154	7.237	7.237	(0.920)	961440	40.0000	40.2
207 Atrazine	173	9.139	9.139	(0.964)	62818	40.0000	40.9
77 Benzidine	184	10.915	10.915	(0.877)	238169	40.0000	43.8
90 3,3'-Dichlorobenzidine	252	12.381	12.381	(0.994)	335712	40.0000	39.1
102 1,4-Dioxane	88	2.381	2.381	(0.504)	123635	40.0000	43.3
103 Methyl methacrylate	100	2.378	2.378	(0.504)	70735	40.0000	46.1
104 Ethyl methacrylate	69	2.885	2.885	(0.611)	303643	40.0000	43.2
105 2-Picoline	93	3.137	3.137	(0.664)	401175	40.0000	38.2
106 N-Nitrosomethylethylamine	88	3.208	3.208	(0.679)	162736	40.0000	39.3
107 Methyl methanesulfonate	80	3.433	3.433	(0.727)	200517	40.0000	40.4
108 N-Nitrosodiethylamine	102	3.762	3.762	(0.796)	169528	40.0000	39.1
109 Ethyl Methanesulfonate	79	3.996	3.996	(0.846)	258081	40.0000	43.5
110 Pentachloroethane	167	4.465	4.465	(0.945)	143941	40.0000	46.5
111 N-Nitrosopyrrolidine	100	5.087	5.087	(1.077)	170312	40.0000	39.0(Q)
113 N-Nitrosomorpholine	56	5.119	5.119	(1.084)	358904	40.0000	38.2
114 o-Toluidine	106	5.139	5.139	(1.088)	574507	40.0000	38.4
115 N-Nitrosopiperidine	114	5.427	5.427	(0.905)	175413	40.0000	38.4

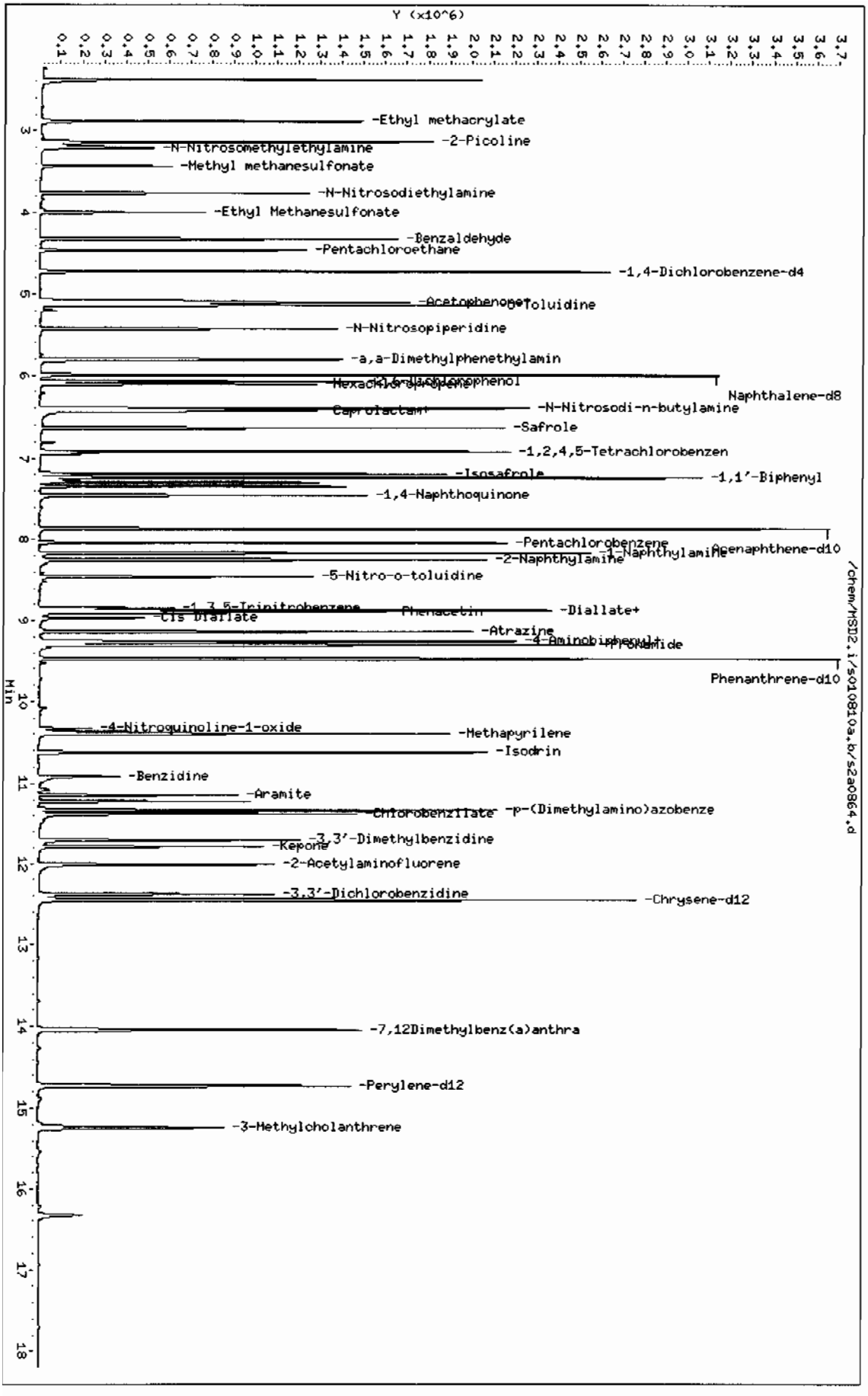
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
116 a,a-Dimethylphenethylamine	58	5.808	5.808	(0.968)	1474342	40.0000	37.5
118 2,6-Dichlorophenol	162	6.072	6.072	(1.012)	283387	40.0000	37.2
119 Hexachloropropene	213	6.104	6.104	(1.018)	218641	40.0000	49.1
120 p-Phenylenediamine	108	6.433	6.433	(1.072)	261253	40.0000	41.6
121 N-Nitrosodi-n-butylamine	84	6.403	6.403	(1.067)	308581	40.0000	40.1
122 Safrole	162	6.635	6.635	(1.106)	294449	40.0000	42.3
123 1,2,4,5-Tetrachlorobenzene	216	6.920	6.920	(0.880)	414063	40.0000	41.2
124 Isosafrole	162	7.190	7.190	(0.914)	307607	40.0000	46.1
125 1,4-Naphthoquinone	158	7.451	7.451	(0.947)	262394	40.0000	40.2
127 Pentachlorobenzene	250	8.038	8.038	(1.022)	371577	40.0000	40.7
128 1-Naphthylamine	143	8.167	8.167	(1.038)	684713	40.0000	41.2
129 2-Naphthylamine	143	8.249	8.249	(1.049)	743383	40.0000	41.7
131 5-Nitro-o-toluidine	152	8.458	8.458	(1.075)	210334	40.0000	40.3
136 1,3,5-Trinitrobenzene	75	8.842	8.842	(0.933)	192080	40.0000	48.0
137 Phenacetin	108	8.898	8.898	(0.939)	360542	40.0000	41.4(Q)
138 Diallate	86	8.871	8.871	(0.936)	329635	40.0000	37.2
212 Cis Diallate	86	8.968	8.968	(0.946)	57059	6.00000	6.6
213 Trans Diallate	86	8.871	8.871	(0.936)	329635	34.0000	31.6
140 4-Aminobiphenyl	169	9.259	9.259	(0.977)	758586	40.0000	40.8
141 Pentachloronitrobenzene	237	9.271	9.271	(0.978)	118273	40.0000	40.1
142 Pronamide	173	9.303	9.303	(0.982)	406438	40.0000	39.8
146 4-Nitroquinoline-1-oxide	101	10.325	10.325	(1.089)	16286	40.0000	42.5
147 Methapyrilene	58	10.392	10.392	(1.097)	711220	40.0000	42.6
148 Isodrin	193	10.621	10.621	(1.121)	147967	40.0000	38.0
149 Aramite	185	11.141	11.141	(1.176)	64583	40.0000	38.7
150 Kepone	272	11.787	11.787	(1.244)	118216	40.0000	38.2
151 p-(Dimethylamino)azobenzene	120	11.332	11.332	(0.910)	343121	40.0000	37.2
152 Chlorobenzilate	251	11.376	11.376	(0.914)	309640	40.0000	30.0
153 3,3'-Dimethylbenzidine	212	11.705	11.705	(0.940)	537892	40.0000	38.1
155 2-Acetylaminofluorene	181	12.014	12.014	(0.965)	320865	40.0000	39.6
157 7,12Dimethylbenz(a)anthracene	256	14.044	14.044	(0.954)	483238	40.0000	37.5
158 3-Methylcholanthrene	268	15.243	15.243	(1.035)	375037	40.0000	41.0(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/MSD2.i/s010810a.b/s2a0864.d
Date : 11-JAN-2010 22:49
Client ID: APICV
Sample Info: IWBN100103-08,1|40 PPM|1|SVHF|1|APICV
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: ACS1
Column diameter: 0.20



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GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 19-FEB-2010 14:47
Lab File ID: s2b1902.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN100121-13.2 Quant Type: ISTD
Method: /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 3 2-Fluorophenol	0.97063	0.94111	0.94111	0.000	-3.04165	60.00000	Averaged
$ 5 Phenol-d5	1.29893	1.27097	1.27097	0.000	-2.15259	60.00000	Averaged
$ 20 Nitrobenzene-d5	0.31693	0.32505	0.32505	0.000	2.56216	60.00000	Averaged
$ 39 2-Fluorobiphenyl	1.23758	1.20862	1.20862	0.000	-2.34019	60.00000	Averaged
$ 60 2,4,6-Tribromophenol	0.17301	0.15826	0.15826	0.000	-8.52207	60.00000	Averaged
$ 81 p-Terphenyl-d14	0.76828	0.72059	0.72059	0.000	-6.20802	60.00000	Averaged
1 N-Methyl-N-nitrosomethylami	0.62604	0.64057	0.64057	0.000	2.32151	60.00000	Averaged
2 Pyridine	0.74256	0.82913	0.82913	0.000	11.65808	60.00000	Averaged
4 Aniline	0.60115	0.61488	0.61488	0.000	2.28507	60.00000	Averaged
6 Phenol	1.32577	1.27749	1.27749	0.001	-3.64166	20.00000	Averaged ccc
7 bis(2-Chloroethyl) ether	1.20282	1.13145	1.13145	0.000	-5.93373	60.00000	Averaged
8 2-Chlorophenol	1.09861	1.06371	1.06371	0.000	-3.17624	60.00000	Averaged
203 n-Decane	2.38258	1.73462	1.73462	0.000	-27.19566	60.00000	Averaged
9 1,3-Dichlorobenzene	1.28467	1.25832	1.25832	0.000	-2.05071	60.00000	Averaged
11 1,4-Dichlorobenzene	1.32033	1.30912	1.30912	0.001	-0.84945	20.00000	Averaged ccc
13 1,2-Dichlorobenzene	1.22631	1.21362	1.21362	0.000	-1.03519	60.00000	Averaged
14 bis(2-Chloroisopropyl)ether	3.35251	2.71064	2.71064	0.000	-19.14604	60.00000	Averaged
12 Benzyl alcohol	0.66496	0.42331	0.42331	0.000	-36.34012	60.00000	Averaged
15 o-Cresol	0.86335	0.90473	0.90473	0.000	4.79333	60.00000	Averaged
18 m,p-Cresols	1.09691	1.02585	1.02585	0.000	-6.47747	60.00000	Averaged
17 N-Nitrosodipropylamine	0.86424	0.83540	0.83540	0.050	-3.33734	60.00000	Averaged spcc
19 Hexachloroethane	0.52810	0.50935	0.50935	0.000	-3.54969	60.00000	Averaged
21 Nitrobenzene	0.32605	0.34512	0.34512	0.000	5.84995	60.00000	Averaged
22 Isophorone	0.60239	0.63054	0.63054	0.000	4.67284	60.00000	Averaged
23 2-Nitrophenol	0.14429	0.14206	0.14206	0.001	-1.54122	20.00000	Averaged ccc
24 2,4-Dimethylphenol	0.25576	0.23704	0.23704	0.000	-7.31906	60.00000	Averaged
25 bis(2-Chloroethoxy)methane	0.34780	0.35192	0.35192	0.000	1.18213	60.00000	Averaged
26 2,4-Dichlorophenol	0.23858	0.24309	0.24309	0.001	1.89256	20.00000	Averaged ccc
27 Benzoic acid	41.70002	40.00000	0.14066	0.000	4.25005	60.00000	Linear
28 1,2,4-Trichlorobenzene	0.30548	0.32228	0.32228	0.000	5.49956	60.00000	Averaged
30 Naphthalene	0.84660	0.84821	0.84821	0.000	0.19002	60.00000	Averaged
204 alpha-Terpineol	0.37575	0.35475	0.35475	0.000	-5.58970	60.00000	Averaged
31 4-Chloroaniline	0.25832	0.26108	0.26108	0.000	1.06920	60.00000	Averaged
32 Hexachlorobutadiene	0.19199	0.20160	0.20160	0.001	5.00537	20.00000	Averaged ccc
33 4-Chloro-3-methylphenol	0.24161	0.24211	0.24211	0.001	0.20897	20.00000	Averaged ccc
34 2-Methylnaphthalene	0.58677	0.57612	0.57612	0.000	-1.81513	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 19-FEB-2010 14:47
Lab File ID: s2b1902.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN100121-13.2 Quant Type: ISTD
Method: /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m

	COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
35	1-Methylnaphthalene	0.57979	0.57203	0.57203	0.000	-1.33859	60.00000	Averaged	
36	Hexachlorocyclopentadiene	0.20327	0.11986	0.11986	0.050	-41.03400	60.00000	Averaged	spcc
205	2,3-Dichloroaniline	0.55582	0.54650	0.54650	0.000	-1.67625	60.00000	Averaged	
37	2,4,6-Trichlorophenol	0.33768	0.33016	0.33016	0.001	-2.22634	20.00000	Averaged	ccc
38	2,4,5-Trichlorophenol	0.34960	0.35345	0.35345	0.000	1.10083	60.00000	Averaged	
40	2-Chloronaphthalene	1.03550	0.99937	0.99937	0.000	-3.48893	60.00000	Averaged	
42	o-Nitroaniline	0.36783	0.34239	0.34239	0.000	-6.91423	60.00000	Averaged	
41	m-Nitroaniline	26.95231	40.00000	0.11532	0.000	-32.61922	60.00000	Linear	
43	Dimethylphthalate	1.19427	1.18887	1.18887	0.000	-0.45225	60.00000	Averaged	
44	2,6-Dinitrotoluene	0.27938	0.27892	0.27892	0.000	-0.16178	60.00000	Averaged	
50	2,4-Dinitrotoluene	0.35552	0.34654	0.34654	0.000	-2.52588	60.00000	Averaged	
45	Acenaphthylene	1.63374	1.55014	1.55014	0.000	-5.11717	60.00000	Averaged	
47	Acenaphthene	1.02726	0.96330	0.96330	0.001	-6.22660	20.00000	Averaged	ccc
48	2,4-Dinitrophenol	43.33903	40.00000	0.11841	0.050	8.34758	60.00000	Linear	spcc
49	Dibenzofuran	1.40865	1.34087	1.34087	0.000	-4.81154	60.00000	Averaged	
51	Diethylphthalate	1.17668	1.14794	1.14794	0.000	-2.44287	60.00000	Averaged	
52	4-Nitrophenol	33.68916	40.00000	0.11194	0.050	-15.77711	60.00000	Linear	spcc
53	Fluorene	1.22221	1.17767	1.17767	0.000	-3.64440	60.00000	Averaged	
54	4-Chlorophenylphenylether	0.63724	0.63093	0.63093	0.000	-0.99086	60.00000	Averaged	
55	2-Methyl-4,6-dinitrophenol	0.10597	0.10633	0.10633	0.000	0.34165	60.00000	Averaged	
56	p-Nitroaniline	29.58200	40.00000	0.11159	0.000	-26.04500	60.00000	Linear	
133	Diphenylamine	0.51708	0.45973	0.45973	0.001	-11.09232	20.00000	Averaged	ccc
58	1,2-Diphenylhydrazine	0.68942	0.64975	0.64975	0.000	-5.75349	60.00000	Averaged	
61	4-Bromophenylphenylether	0.21382	0.21286	0.21286	0.000	-0.44976	60.00000	Averaged	
63	Hexachlorobenzene	0.22580	0.23455	0.23455	0.000	3.87447	60.00000	Averaged	
65	Pentachlorophenol	35.36621	40.00000	0.09192	0.001	-11.58448	20.00000	Linear	ccc
206	n-Octadecane	0.73588	0.64850	0.64850	0.000	-11.87367	60.00000	Averaged	
68	Phenanthrene	0.96311	0.93582	0.93582	0.000	-2.83288	60.00000	Averaged	
69	Anthracene	0.94257	0.93861	0.93861	0.000	-0.41985	60.00000	Averaged	
72	Di-n-butylphthalate	1.08053	1.10580	1.10580	0.000	2.33841	60.00000	Averaged	
76	Fluoranthene	1.03443	1.07181	1.07181	0.001	3.61305	20.00000	Averaged	ccc
79	Pyrene	1.20605	1.19582	1.19582	0.000	-0.84852	60.00000	Averaged	
85	Butylbenzylphthalate	0.49046	0.48269	0.48269	0.000	-1.58380	60.00000	Averaged	
89	Benzo(a)anthracene	1.02256	0.99428	0.99428	0.000	-2.76621	60.00000	Averaged	
92	Chrysene	0.94734	0.93559	0.93559	0.000	-1.24047	60.00000	Averaged	
93	bis(2-Ethylhexyl)phthalate	0.69261	0.69465	0.69465	0.000	0.29414	60.00000	Averaged	

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 19-FEB-2010 14:47
Lab File ID: s2b1902.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN100121-13.2 Quant Type: ISTD
Method: /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m

	COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
	94 Di-n-octylphthalate	1.47572	1.38639	1.38639	0.001	-6.05312	20.00000	Averaged	ccc
	95 Benzo(b)fluoranthene	1.09363	1.06682	1.06682	0.000	-2.45196	60.00000	Averaged	
	96 Benzo(k)fluoranthene	1.08357	1.08847	1.08847	0.000	0.45233	60.00000	Averaged	
	97 Benzo(a)pyrene	0.92735	0.94883	0.94883	0.001	2.31713	20.00000	Averaged	ccc
	99 Indeno(1,2,3-cd)pyrene	0.80192	0.85984	0.85984	0.000	7.22337	60.00000	Averaged	
	100 Dibenzo(a,h)anthracene	0.63947	0.68771	0.68771	0.000	7.54380	60.00000	Averaged	
	101 Benzo(ghi)perylene	0.67738	0.70407	0.70407	0.000	3.93927	60.00000	Averaged	
	126 m-Dinitrobenzene	0.19418	0.18942	0.18942	0.000	-2.45270	60.00000	Averaged	
	130 2,3,4,6-Tetrachlorophenol	0.32016	0.31447	0.31447	0.000	-1.77450	60.00000	Averaged	
	143 Dinoseb	37.01849	40.00000	0.16118	0.000	-7.45377	60.00000	Linear	
	173 Carbazole	0.65672	0.29464	0.29464	0.000	-55.13387	60.00000	Averaged	
	184 p-Benzoquinone	0.13375	0.19035	0.19035	0.000	42.32259	60.00000	Averaged	
	192 Methoxychlor	0.63740	0.59636	0.59636	0.000	-6.43880	60.00000	Averaged	
	211 p-Toluidine	0.84243	0.83096	0.83096	0.000	-1.36206	60.00000	Averaged	
	210 m-Toluidine	1.28758	1.07710	1.07710	0.000	-16.34731	60.00000	Averaged	
	214 1,4-Dinitrobenzene	0.19934	0.18793	0.18793	0.000	-5.72566	60.00000	Averaged	
	215 2-Ethoxyethanol	0.87391	0.78711	0.78711	0.000	-9.93196	60.00000	Averaged	
	216 Methylenebis(2-chloroanilin	31.51119	40.00000	0.08765	0.000	-21.22202	60.00000	Linear	
	179 Dibenzo(a,e)pyrene	0.33140	0.34718	0.34718	0.000	4.76180	60.00000	Averaged	
	26 Phthalic anhydride	0.10521	0.06895	0.06895	0.000	-34.46497	60.00000	Averaged	
M	222 Trichlorophenols	0.34364	0.34181	0.34181	0.000	-0.53389	60.00000	Averaged	
M	223 Tetrachlorophenols	0.32016	0.31447	0.31447	0.000	-1.77450	60.00000	Averaged	
M	224 Benzo(b,k)fluoranthene	1.08860	1.07765	1.07765	0.000	-1.00652	60.00000	Averaged	

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Data file : /chem/MSD2.i/s021910.b/s2b1902.d
Lab Smp Id: WBN100121-13.2 Client Smp ID: MEGACVS
Inj Date : 19-FEB-2010 14:47
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |WBN100121-13.2|40 PPM|1|SVMF|1|MEGACVS
Misc Info : |MSD8270|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 19-Feb-2010 16:57 ann00964 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEGAII.sub
Target Version: 3.50
Processing Host: hpclp1

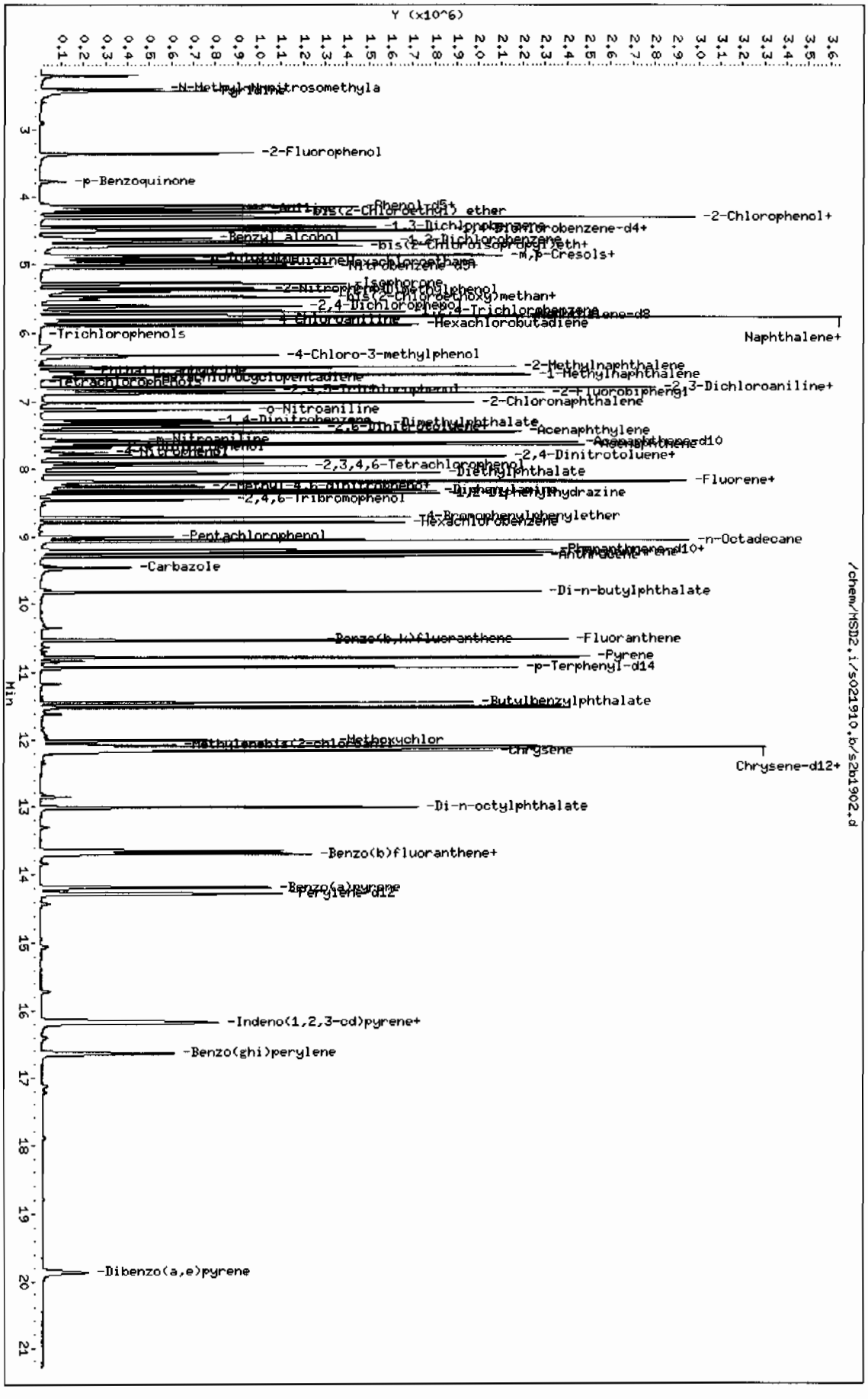
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
* 10 1,4-Dichlorobenzene-d4	152	4.494	4.494	(1.000)	275812	40.0000	
* 29 Naphthalene-d8	136	5.759	5.759	(1.000)	1046451	40.0000	
* 46 Acenaphthene-d10	164	7.618	7.618	(1.000)	598204	40.0000	
* 67 Phenanthrene-d10	188	9.219	9.219	(1.000)	1038331	40.0000	
* 91 Chrysene-d12	240	12.142	12.142	(1.000)	988044	40.0000	
* 98 Perylene-d12	264	14.286	14.286	(1.000)	780606	40.0000	
$ 3 2-Fluorophenol	112	3.354	3.354	(0.746)	259569	40.0000	38.8
$ 5 Phenol-d5	99	4.134	4.134	(0.920)	350548	40.0000	39.1
$ 20 Nitrobenzene-d5	82	5.032	5.032	(0.874)	340150	40.0000	41.0
$ 39 2-Fluorobiphenyl	172	6.884	6.884	(0.904)	723002	40.0000	39.1
$ 60 2,4,6-Tribromophenol	329	8.464	8.464	(1.111)	94673	40.0000	36.6
$ 81 p-Terphenyl-d14	244	10.925	10.925	(0.900)	711972	40.0000	37.5
1 N-Methyl-N-nitrosomethylamine	74	2.396	2.396	(0.533)	176677	40.0000	40.9
2 Pyridine	79	2.425	2.425	(0.540)	228684	40.0000	44.7
4 Aniline	66	4.189	4.189	(0.932)	169592	40.0000	40.9
6 Phenol	94	4.148	4.148	(0.923)	352348	40.0000	38.5
7 bis(2-Chloroethyl) ether	63	4.233	4.233	(0.942)	312068	40.0000	37.6
8 2-Chlorophenol	128	4.304	4.304	(0.958)	293385	40.0000	38.7
203 n-Decane	43	4.310	4.310	(0.959)	478429	40.0000	29.1
9 1,3-Dichlorobenzene	146	4.442	4.442	(0.988)	347061	40.0000	39.2
11 1,4-Dichlorobenzene	146	4.512	4.512	(1.004)	361070	40.0000	39.7
13 1,2-Dichlorobenzene	146	4.656	4.656	(1.036)	334730	40.0000	39.6
14 bis(2-Chloroisopropyl)ether	45	4.735	4.735	(1.054)	747626	40.0000	32.3
12 Benzyl alcohol	108	4.618	4.618	(1.027)	116755	40.0000	25.5
15 o-Cresol	107	4.712	4.712	(1.048)	249536	40.0000	41.9
18 m,p-Cresols	107	4.867	4.867	(1.083)	282943	40.0000	37.4

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
17 N-Nitrosodipropylamine	70	4.873	4.873	(1.084)	230412	40.0000	38.7
19 Hexachloroethane	117	4.982	4.982	(1.108)	140486	40.0000	38.6
21 Nitrobenzene	77	5.052	5.052	(0.877)	361154	40.0000	42.3
22 Isophorone	82	5.287	5.287	(0.918)	659829	40.0000	41.9
23 2-Nitrophenol	139	5.363	5.363	(0.931)	148661	40.0000	39.4
24 2,4-Dimethylphenol	122	5.395	5.395	(0.937)	248053	40.0000	37.1
25 bis(2-Chloroethoxy)methane	93	5.486	5.486	(0.953)	368263	40.0000	40.5
26 2,4-Dichlorophenol	162	5.615	5.615	(0.975)	254382	40.0000	40.8
27 Benzoic acid	105	5.527	5.527	(0.960)	147190	40.0000	41.7
28 1,2,4-Trichlorobenzene	180	5.695	5.695	(0.989)	337255	40.0000	42.2
30 Naphthalene	128	5.783	5.783	(1.004)	887612	40.0000	40.1
204 alpha-Terpineol	59	5.780	5.780	(1.004)	371225	40.0000	37.8
31 4-Chloroaniline	127	5.830	5.830	(1.012)	273208	40.0000	40.4
32 Hexachlorobutadiene	225	5.892	5.892	(1.023)	210968	40.0000	42.0
33 4-Chloro-3-methylphenol	107	6.332	6.332	(1.099)	253360	40.0000	40.1
34 2-Methylnaphthalene	142	6.499	6.499	(1.128)	602879	40.0000	39.3
35 1-Methylnaphthalene	142	6.608	6.608	(1.147)	598605	40.0000	39.5
36 Hexachlorocyclopentadiene	237	6.658	6.658	(0.874)	71702	40.0000	23.6
205 2,3-Dichloroaniline	161	6.798	6.798	(0.892)	326918	40.0000	39.3
37 2,4,6-Trichlorophenol	196	6.798	6.798	(0.892)	197502	40.0000	39.1
38 2,4,5-Trichlorophenol	196	6.843	6.843	(0.898)	211437	40.0000	40.4
40 2-Chloronaphthalene	162	7.022	7.022	(0.922)	597829	40.0000	38.6
42 o-Nitroaniline	65	7.130	7.130	(0.936)	204821	40.0000	37.2
41 m-Nitroaniline	138	7.574	7.574	(0.994)	68986	40.0000	27.0
43 Dimethylphthalate	163	7.324	7.324	(0.961)	711187	40.0000	39.8
44 2,6-Dinitrotoluene	165	7.392	7.392	(0.970)	166853	40.0000	39.9
50 2,4-Dinitrotoluene	165	7.826	7.826	(1.027)	207299	40.0000	39.0
45 Acenaphthylene	152	7.468	7.468	(0.980)	927298	40.0000	38.0
47 Acenaphthene	154	7.653	7.653	(1.005)	576248	40.0000	37.5
48 2,4-Dinitrophenol	184	7.691	7.691	(1.010)	70831	40.0000	43.3
49 Dibenzofuran	168	7.835	7.835	(1.029)	802115	40.0000	38.1
51 Diethylphthalate	149	8.070	8.070	(1.059)	686701	40.0000	39.0
52 4-Nitrophenol	139	7.768	7.768	(1.020)	66962	40.0000	33.7
53 Fluorene	166	8.206	8.206	(1.077)	704484	40.0000	38.5
54 4-Chlorophenylphenylether	204	8.197	8.197	(1.076)	377424	40.0000	39.6
55 2-Methyl-4,6-dinitrophenol	198	8.264	8.264	(0.896)	110408	40.0000	40.1
56 p-Nitroaniline	138	8.235	8.235	(1.081)	66756	40.0000	29.6
133 Diphenylamine	169	8.326	8.326	(0.903)	477347	40.0000	35.6
58 1,2-Diphenylhydrazine	77	8.370	8.370	(0.908)	674659	40.0000	37.7
61 4-Bromophenylphenylether	248	8.723	8.723	(0.946)	221016	40.0000	39.8
63 Hexachlorobenzene	284	8.799	8.799	(0.954)	243541	40.0000	41.5
65 Pentachlorophenol	266	9.013	9.013	(0.978)	95441	40.0000	35.4
206 n-Octadecane	57	9.069	9.069	(0.984)	673358	40.0000	35.2
68 Phenanthrene	178	9.246	9.246	(1.003)	971696	40.0000	38.9
69 Anthracene	178	9.302	9.302	(1.009)	974588	40.0000	39.8
72 Di-n-butylphthalate	149	9.824	9.824	(1.066)	1148186	40.0000	40.9
76 Fluoranthene	202	10.529	10.529	(1.142)	1112890	40.0000	41.4

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
79 Pyrene	202	10.775	10.775	(0.887)	1181524	40.0000	39.7
85 Butylbenzylphthalate	149	11.445	11.445	(0.943)	476917	40.0000	39.4
89 Benzo(a)anthracene	228	12.125	12.125	(0.999)	982388	40.0000	38.9
92 Chrysene	228	12.175	12.175	(1.003)	924406	40.0000	39.5
93 bis(2-Ethylhexyl)phthalate	149	12.113	12.113	(0.998)	686342	40.0000	40.1
94 Di-n-octylphthalate	149	13.009	13.009	(0.911)	1082227	40.0000	37.6
95 Benzo(b)fluoranthene	252	13.661	13.661	(0.956)	832765	40.0000	39.0
96 Benzo(k)fluoranthene	252	13.705	13.705	(0.959)	849670	40.0000	40.2
97 Benzo(a)pyrene	252	14.192	14.192	(0.993)	740665	40.0000	40.9
99 Indeno(1,2,3-cd)pyrene	276	16.162	16.162	(1.131)	671197	40.0000	42.9
100 Dibenzo(a,h)anthracene	278	16.189	16.189	(1.133)	536834	40.0000	43.0
101 Benzo(ghi)perylene	276	16.647	16.647	(1.165)	549599	40.0000	41.6
126 m-Dinitrobenzene	168	7.368	7.368	(0.967)	113310	40.0000	39.0
130 2,3,4,6-Tetrachlorophenol	232	7.967	7.967	(1.046)	188120	40.0000	39.3
143 Dinoseb	211	9.198	9.198	(0.998)	167361	40.0000	37.0
173 Carbazole	167	9.469	9.469	(1.027)	305939	40.0000	17.9
184 p-Benzoquinone	54	3.770	3.770	(0.839)	52501	40.0000	56.9
192 Methoxychlor	227	12.012	12.012	(0.989)	589228	40.0000	37.4
211 p-Toluidine	106	4.917	4.917	(1.094)	229188	40.0000	39.4
210 m-Toluidine	106	4.952	4.952	(1.102)	297076	40.0000	33.5
214 1,4-Dinitrobenzene	75	7.283	7.283	(0.956)	112420	40.0000	37.7
215 2-Ethoxyethanol	59	2.191	2.191	(0.487)	217095	40.0000	36.0
216 Methylenebis(2-chloroaniline)	231	12.077	12.077	(0.995)	86599	40.0000	31.5
179 Dibenzo(a,e)pyrene	302	19.867	19.867	(1.391)	271008	40.0000	41.9
26 Phthalic anhydride	104	6.569	6.569	(1.141)	72153	40.0000	26.2
M 222 Trichlorophenols	196				408939	80.0000	79.6
M 223 Tetrachlorophenols	232				188120	40.0000	39.3
M 224 Benzo(b,k)fluoranthene	252				1682435	80.0000	79.2

Data File: /chem/MSD2.i/s021910.b/s2b1902.d
Date : 19-FEB-2010 14:47
Client ID: MEGACVS
Sample Info: IWBN100121-13,2|40 PPM|1|SVMF|1|MEGACVS
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: ACS1
Column diameter: 0.20



Page 1

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 19-FEB-2010 15:15
Lab File ID: s2b1903.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN100120-03.2 Quant Type: ISTD
Method: /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
209 Benzaldehyde	0.83255	0.72248	0.72248	0.000	-13.22091	60.00000	Averaged
16 Acetophenone	1.11861	1.16333	1.16333	0.000	3.99758	60.00000	Averaged
189 Caprolactam	0.08128	0.09157	0.09157	0.000	12.66368	60.00000	Averaged
208 1,1'-Biphenyl	1.13798	1.17875	1.17875	0.000	3.58290	60.00000	Averaged
207 Atrazine	0.04003	0.04441	0.04441	0.000	10.94148	60.00000	Averaged
77 Benzidine	0.15302	0.08022	0.08022	0.000	-47.57520	60.00000	Averaged
90 3,3'-Dichlorobenzidine	42.81331	40.00000	0.26090	0.000	7.03328	60.00000	Linear
102 1,4-Dioxane	0.29716	0.32187	0.32187	0.000	8.31533	60.00000	Averaged
103 Methyl methacrylate	0.15982	0.16119	0.16119	0.000	0.85927	60.00000	Averaged
104 Ethyl methacrylate	0.73207	0.75689	0.75689	0.000	3.39088	60.00000	Averaged
105 2-Picoline	1.09284	1.15013	1.15013	0.000	5.24188	60.00000	Averaged
106 N-Nitrosomethylethylamine	0.43087	0.46915	0.46915	0.000	8.88487	60.00000	Averaged
107 Methyl methanesulfonate	0.51635	0.47264	0.47264	0.000	-8.46514	60.00000	Averaged
108 N-Nitrosodiethylamine	0.45102	0.48125	0.48125	0.000	6.70276	60.00000	Averaged
109 Ethyl Methanesulfonate	0.61802	0.61398	0.61398	0.000	-0.65404	60.00000	Averaged
110 Pentachloroethane	0.32196	0.34043	0.34043	0.000	5.73473	60.00000	Averaged
111 N-Nitrosopyrrolidine	0.45399	0.49471	0.49471	0.000	8.96863	60.00000	Averaged
113 N-Nitrosomorpholine	0.97705	0.98174	0.98174	0.000	0.47907	60.00000	Averaged
114 o-Toluidine	1.55557	1.56933	1.56933	0.000	0.88430	60.00000	Averaged
115 N-Nitrosopiperidine	0.13445	0.14519	0.14519	0.000	7.98903	60.00000	Averaged
116 a,a-Dimethylphenethylamine	1.15742	1.17625	1.17625	0.000	1.62663	60.00000	Averaged
118 2,6-Dichlorophenol	0.22485	0.23770	0.23770	0.000	5.71540	60.00000	Averaged
119 Hexachloropropene	0.13132	0.12578	0.12578	0.000	-4.22415	60.00000	Averaged
120 p-Phenylenediamine	36.97791	40.00000	0.16928	0.000	-7.55523	60.00000	Linear
121 N-Nitrosodi-n-butylamine	0.22678	0.24321	0.24321	0.000	7.24395	60.00000	Averaged
122 Safrole	0.20519	0.22031	0.22031	0.000	7.37099	60.00000	Averaged
123 1,2,4,5-Tetrachlorobenzene	0.47766	0.52689	0.52689	0.000	10.30591	60.00000	Averaged
124 Isosafrole	0.31756	0.33391	0.33391	0.000	5.14862	60.00000	Averaged
125 1,4-Naphthoquinone	0.31090	0.28615	0.28615	0.000	-7.96257	60.00000	Averaged
127 Pentachlorobenzene	0.43394	0.47318	0.47318	0.000	9.04117	60.00000	Averaged
128 1-Naphthylamine	0.79071	0.82063	0.82063	0.000	3.78283	60.00000	Averaged
129 2-Naphthylamine	0.84738	0.82338	0.82338	0.000	-2.83130	60.00000	Averaged
131 5-Nitro-o-toluidine	0.24817	0.27145	0.27145	0.000	9.38009	60.00000	Averaged
136 1,3,5-Trinitrobenzene	0.10443	0.12399	0.12399	0.000	18.72993	60.00000	Averaged
137 Phenacetin	0.22703	0.24967	0.24967	0.000	9.97165	60.00000	Averaged
138 Diallate	0.23106	0.24852	0.24852	0.000	7.55540	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD2.i Injection Date: 19-FEB-2010 15:15
Lab File ID: s2b1903.d Init. Cal. Date(s): 08-JAN-2010 11-JAN-2010
Analysis Type: Init. Cal. Times: 22:16 22:24
Lab Sample ID: WBN100120-03.2 Quant Type: ISTD
Method: /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
212 Cis Diallate	0.22681	0.24270	0.24270	0.000	7.00471	60.00000	Averaged
213 Trans Diallate	0.27183	0.29237	0.29237	0.000	7.55540	60.00000	Averaged
140 4-Aminobiphenyl	0.48549	0.49284	0.49284	0.000	1.51578	60.00000	Averaged
141 Pentachloronitrobenzene	0.07692	0.08402	0.08402	0.000	9.22911	60.00000	Averaged
142 Pronamide	0.26659	0.28553	0.28553	0.000	7.10713	60.00000	Averaged
146 4-Nitroquinoline-1-oxide	0.01000	0.00745	0.00745	0.000	-25.47440	60.00000	Averaged
147 Methapyrilene	0.43572	0.36915	0.36915	0.000	-15.27739	60.00000	Averaged
148 Isodrin	0.10170	0.11751	0.11751	0.000	15.54301	60.00000	Averaged
149 Aramite	0.04354	0.05409	0.05409	0.000	24.24582	60.00000	Averaged
150 Kepone	0.08081	0.09328	0.09328	0.000	15.42723	60.00000	Averaged
151 p-(Dimethylamino)azobenzene	0.25950	0.26443	0.26443	0.000	1.90251	60.00000	Averaged
152 Chlorobenzilate	0.29024	0.32969	0.32969	0.000	13.59168	60.00000	Averaged
153 3,3'-Dimethylbenzidine	0.39681	0.29800	0.29800	0.000	-24.90253	60.00000	Averaged
155 2-Acetylaminofluorene	50.16543	40.00000	0.29769	0.000	25.41358	60.00000	Linear
157 7,12Dimethylbenz(a)anthrace	0.50724	0.52084	0.52084	0.000	2.68202	60.00000	Averaged
158 3-Methylcholanthrene	0.36028	0.40013	0.40013	0.000	11.05836	60.00000	Averaged

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GEL Laboratories, LLC

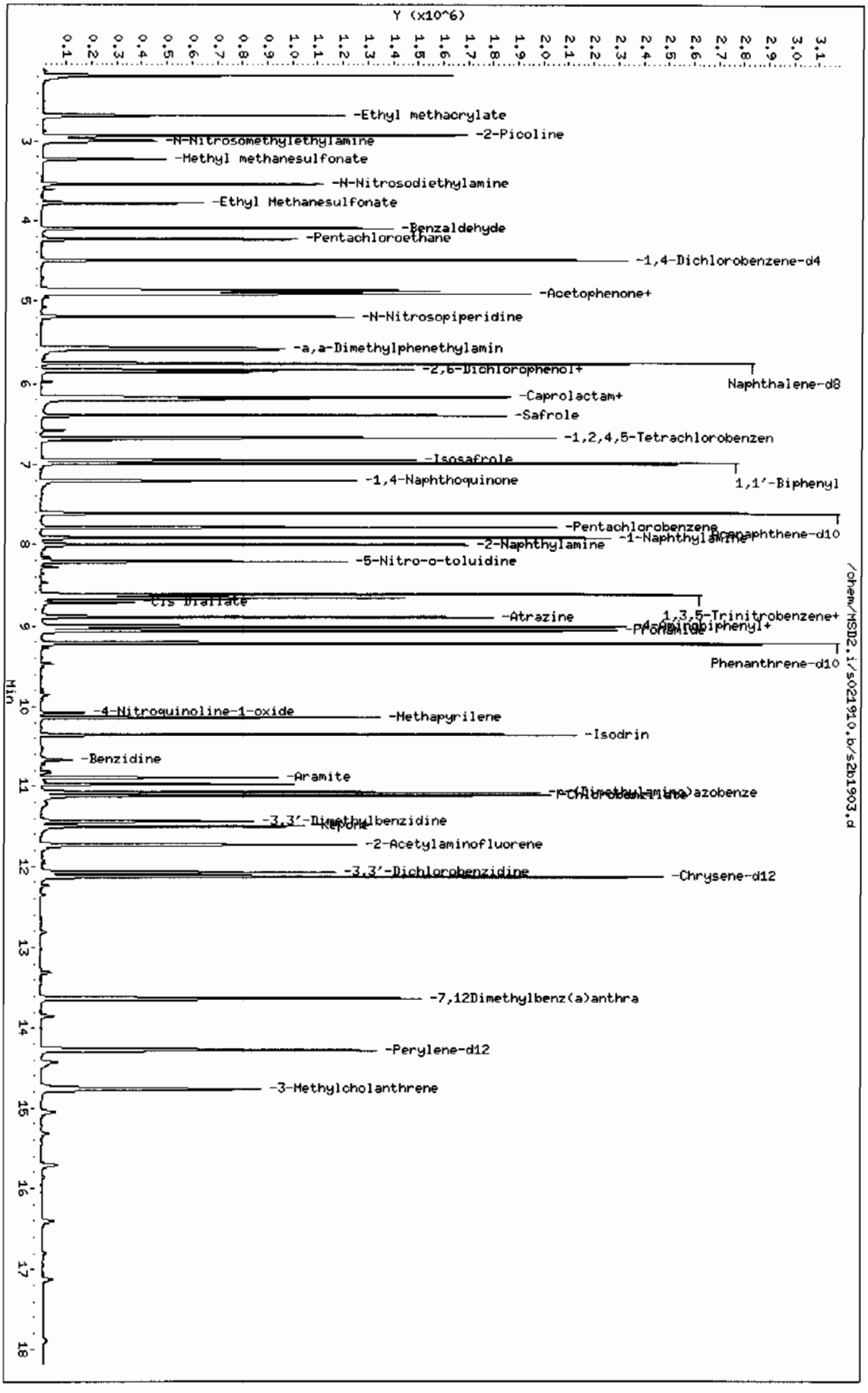
Data file : /chem/MSD2.i/s021910.b/s2b1903.d
Lab Smp Id: WBN100120-03.2 Client Smp ID: APCVS
Inj Date : 19-FEB-2010 15:15
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |WBN100120-03.2|40 PPM|1|SVMF|1|APCVS
Misc Info : |MSD8270|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 19-Feb-2010 16:07 ann00964 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AP12.sub
Target Version: 3.50
Processing Host: hpclp1

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	ON-COL (ng/ul)
* 10 1,4-Dichlorobenzene-d4	152	4.492	4.492	(1.000)	350897	40.0000	
* 29 Naphthalene-d8	136	5.755	5.755	(1.000)	1200834	40.0000	
* 46 Acenaphthene-d10	164	7.615	7.615	(1.000)	763956	40.0000	
* 67 Phenanthrene-d10	188	9.221	9.221	(1.000)	1369526	40.0000	
* 91 Chrysene-d12	240	12.135	12.135	(1.000)	1289301	40.0000	
* 98 Perylene-d12	264	14.281	14.281	(1.000)	982771	40.0000	
209 Benzaldehyde	77	4.099	4.099	(0.913)	253516	40.0000	34.7
16 Acetophenone	105	4.876	4.876	(1.085)	408209	40.0000	41.6
189 Caprolactam	113	6.195	6.195	(1.076)	109964	40.0000	45.1
208 1,1'-Biphenyl	154	6.993	6.993	(0.918)	900516	40.0000	41.4
207 Atrazine	173	8.901	8.901	(0.965)	60825	40.0000	44.4
77 Benzidine	184	10.668	10.668	(0.879)	103428	40.0000	21.0
90 3,3'-Dichlorobenzidine	252	12.076	12.076	(0.995)	336384	40.0000	42.8
102 1,4-Dioxane	88	2.188	2.188	(0.487)	112944	40.0000	43.3
103 Methyl methacrylate	100	2.188	2.188	(0.487)	56562	40.0000	40.3
104 Ethyl methacrylate	69	2.683	2.683	(0.597)	265592	40.0000	41.4
105 2-Picoline	93	2.929	2.929	(0.652)	403576	40.0000	42.1
106 N-Nitrosomethylethylamine	88	3.006	3.006	(0.669)	164623	40.0000	43.6
107 Methyl methanesulfonate	80	3.228	3.228	(0.719)	165848	40.0000	36.6
108 N-Nitrosodiethylamine	102	3.548	3.548	(0.790)	168869	40.0000	42.7
109 Ethyl Methanesulfonate	79	3.785	3.785	(0.843)	215442	40.0000	39.7
110 Pentachloroethane	167	4.234	4.234	(0.943)	119455	40.0000	42.3
111 N-Nitrosopyrrolidine	100	4.861	4.861	(1.082)	173592	40.0000	43.6
113 N-Nitrosomorpholine	56	4.893	4.893	(1.089)	344488	40.0000	40.2
114 o-Toluidine	106	4.911	4.911	(1.093)	550673	40.0000	40.4
115 N-Nitrosopiperidine	114	5.195	5.195	(0.903)	174354	40.0000	43.2

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/ul)	AMOUNTS ON-COL (ng/ul)
116 a,a-Dimethylphenethylamine	58	5.582	5.582	(0.970)	1412481	40.0000	40.6
118 2,6-Dichlorophenol	162	5.837	5.837	(1.014)	285444	40.0000	42.3
119 Hexachloropropene	213	5.861	5.861	(1.018)	151035	40.0000	38.3
120 p-Phenylenediamine	108	6.207	6.207	(1.079)	203277	40.0000	37.0
121 N-Nitrosodi-n-butylamine	84	6.169	6.169	(1.072)	292055	40.0000	42.9
122 Safrole	162	6.398	6.398	(1.112)	264560	40.0000	42.9
123 1,2,4,5-Tetrachlorobenzene	216	6.676	6.676	(0.877)	402520	40.0000	44.1
124 Isosafrole	162	6.949	6.949	(0.913)	255095	40.0000	42.0
125 1,4-Naphthoquinone	158	7.210	7.210	(0.947)	218604	40.0000	36.8
127 Pentachlorobenzene	250	7.788	7.788	(1.023)	361486	40.0000	43.6
128 1-Naphthylamine	143	7.920	7.920	(1.040)	626922	40.0000	41.5
129 2-Naphthylamine	143	8.005	8.005	(1.051)	629029	40.0000	38.9
131 5-Nitro-o-toluidine	152	8.217	8.217	(1.079)	207375	40.0000	43.8
136 1,3,5-Trinitrobenzene	75	8.627	8.627	(0.936)	169808	40.0000	47.5
137 Phenacetin	108	8.666	8.666	(0.940)	341930	40.0000	44.0
138 Diallate	86	8.624	8.624	(0.935)	340348	40.0000	43.0
212 Cis Diallate	86	8.722	8.722	(0.946)	49858	6.00000	6.4
213 Trans Diallate	86	8.624	8.624	(0.935)	340348	34.0000	36.6
140 4-Aminobiphenyl	169	9.012	9.012	(0.977)	674963	40.0000	40.6
141 Pentachloronitrobenzene	237	9.021	9.021	(0.978)	115073	40.0000	43.7
142 Pronamide	173	9.066	9.066	(0.983)	391046	40.0000	42.8
146 4-Nitroquinoline-1-oxide	101	10.078	10.078	(1.093)	10204	40.0000	29.8
147 Methapyrilene	58	10.140	10.140	(1.100)	505565	40.0000	33.9
148 Isodrin	193	10.357	10.357	(1.123)	160927	40.0000	46.2
149 Aramite	185	10.894	10.894	(1.181)	74081	40.0000	49.7
150 Kepone	272	11.500	11.500	(1.247)	127751	40.0000	46.2
151 p-(Dimethylamino)azobenzene	120	11.080	11.080	(0.913)	340933	40.0000	40.8
152 Chlorobenzilate	251	11.121	11.121	(0.916)	425075	40.0000	45.4
153 3,3'-Dimethylbenzidine	212	11.438	11.438	(0.943)	384206	40.0000	30.0
155 2-Acetylaminofluorene	181	11.735	11.735	(0.967)	383807	40.0000	50.2
157 7,12Dimethylbenz(a)anthracene	256	13.632	13.632	(0.955)	511866	40.0000	41.1
158 3-Methylcholanthrene	268	14.772	14.772	(1.034)	393232	40.0000	44.4

Data File: /chem/MSD2.i/s021910.b/s2b1903.d
Date : 19-FEB-2010 15:15
Client ID: APCVS
Sample Info: WBN100120-03,2140 PPM11SVMF11APCVS
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: AGS1
Column diameter: 0.20



Page 1

QC Data

Data File: /chem/MSD2.i/s010810a.b/s2a0808.d

Date : 08-JAN-2010 21:18

Client ID: DFTPP

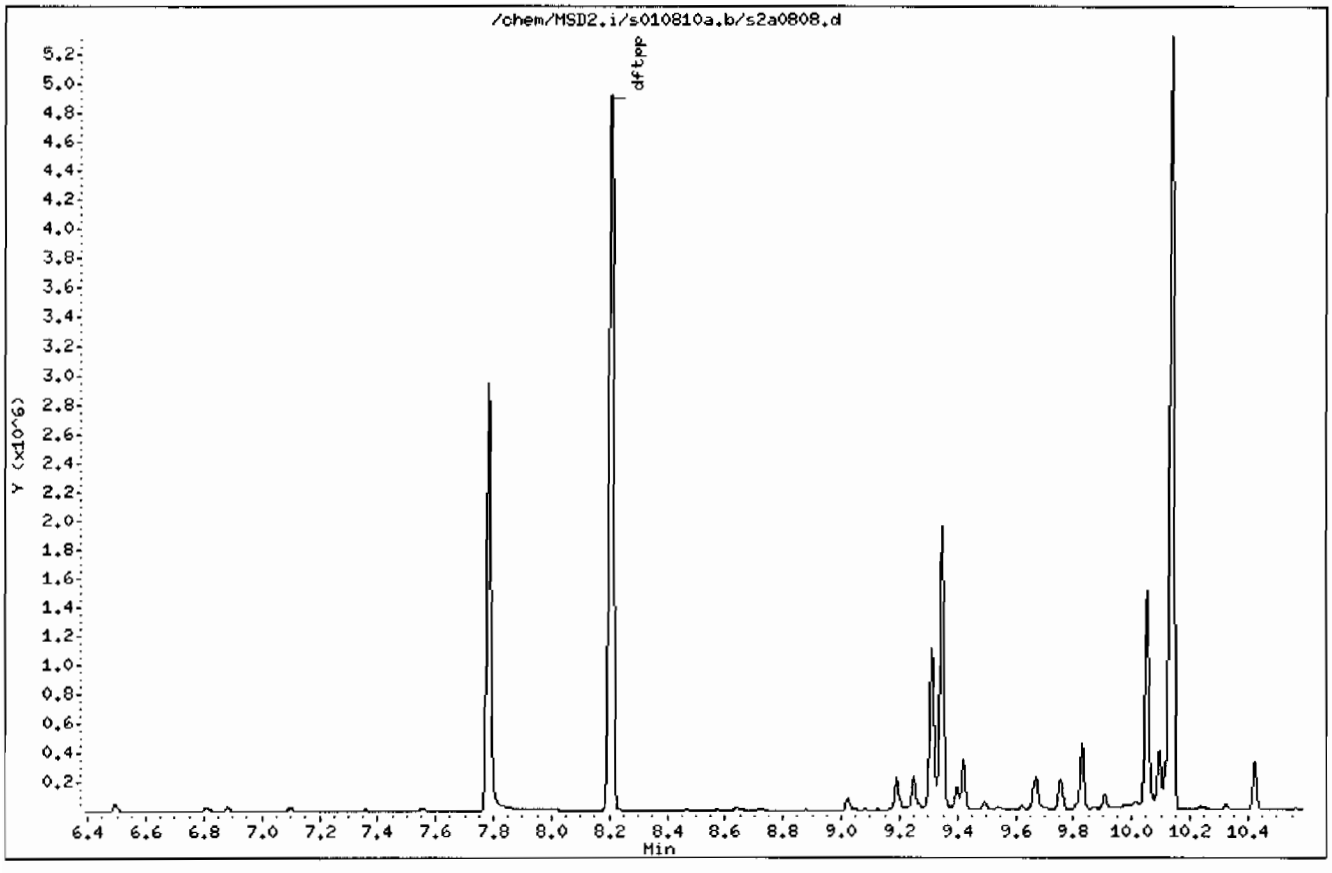
Instrument: MSD2.i

Sample Info: IWBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: ACS1

Column phase: J&W DB-5MS

Column diameter: 0.20



Data File: /chem/MSD2.i/s010810a.b/s2a0808.d

Date : 08-JAN-2010 21:18

Client ID: DFTPP

Instrument: MSD2.i

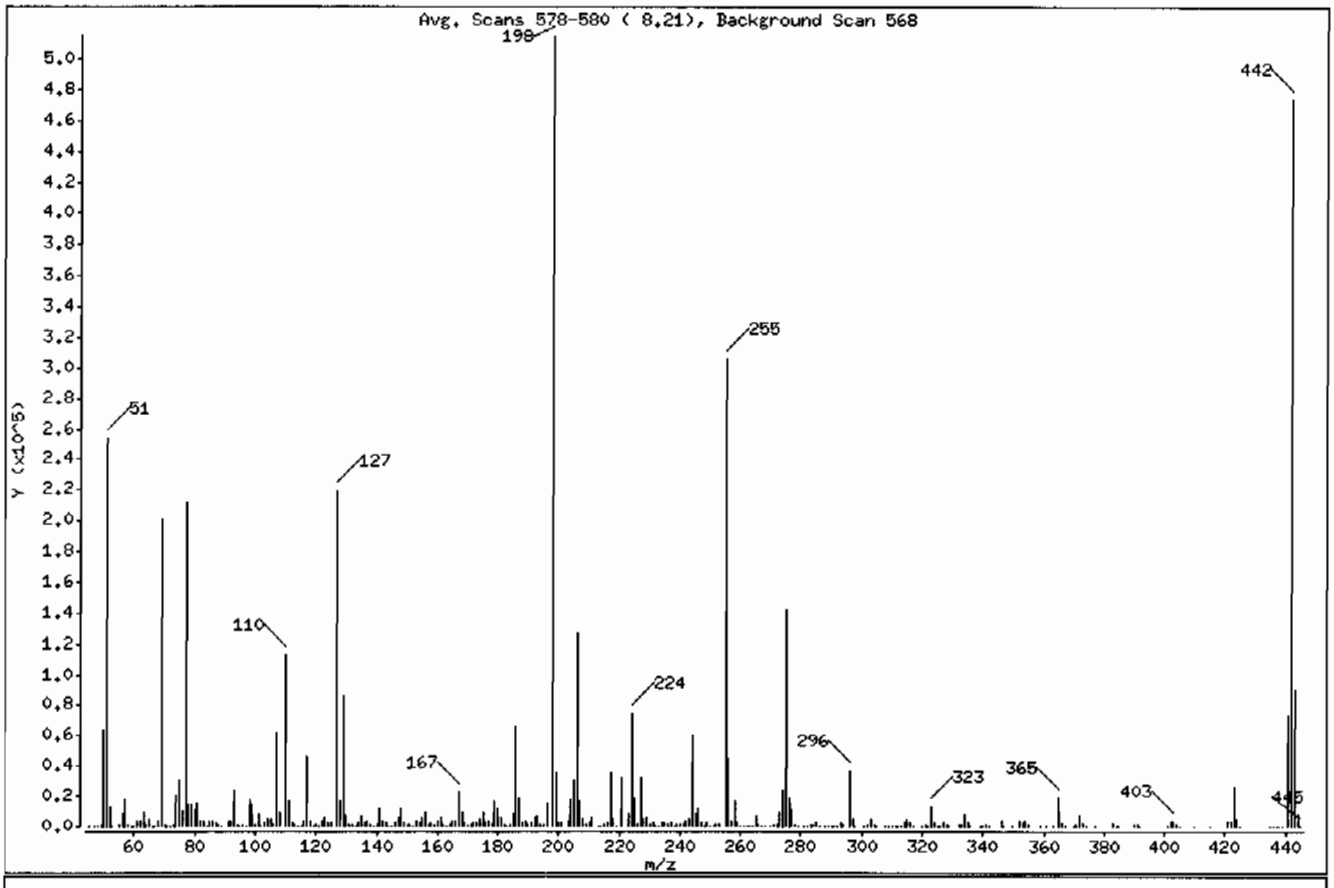
Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-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	49.27
68	Less than 2.00% of mass 69	0.66 (1.69)
69	Mass 69 relative abundance	38.98
70	Less than 2.00% of mass 69	0.19 (0.48)
127	40.00 - 60.00% of mass 198	42.59
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.80
275	10.00 - 30.00% of mass 198	27.54
365	Greater than 1.00% of mass 198	3.76
441	Present, but less than mass 443	14.20
442	Greater than 40.00% of mass 198	91.86
443	17.00 - 23.00% of mass 442	17.57 (19.13)

Data File: /chem/MSD2.i/s010810a.b/s2a0808.d

Date : 08-JAN-2010 21:18

Client ID: DFTPP

Instrument: MSD2.i

Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s2a0808.d
Spectrum: Avg. Scans 578-580 (8.21), Background Scan 568
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
45.00	467	131.00	1465	215.00	1579	305.00	138
47.00	110	132.00	778	216.00	2960	308.00	543
48.00	146	133.00	343	217.00	35712	309.00	397
49.00	1579	134.00	2379	218.00	4591	310.00	526
50.00	63816	135.00	6625	219.00	430	311.00	70
51.00	253952	136.00	2636	221.00	31760	312.00	118
52.00	12818	137.00	3249	223.00	8542	313.00	445
53.00	547	138.00	728	224.00	74968	314.00	1934
55.00	1215	139.00	377	225.00	19528	315.00	4291
56.00	7733	140.00	1108	226.00	1307	316.00	2457
57.00	17840	141.00	11261	227.00	31568	317.00	348
58.00	761	142.00	3573	228.00	4451	320.00	204
59.00	219	143.00	2466	229.00	6401	321.00	1210
60.00	225	144.00	573	230.00	1022	322.00	527
61.00	2993	145.00	581	231.00	2694	323.00	13410
62.00	3302	146.00	1800	232.00	515	324.00	2293
63.00	9584	147.00	5568	233.00	486	325.00	260
64.00	1295	148.00	11861	234.00	1963	326.00	334
65.00	4265	149.00	2420	235.00	2399	327.00	2441
66.00	358	150.00	694	236.00	1468	328.00	1369
67.00	264	151.00	1417	237.00	2300	329.00	203
68.00	3392	152.00	504	238.00	303	332.00	988
69.00	200896	153.00	3369	239.00	1310	333.00	1323
70.00	956	154.00	2701	240.00	952	334.00	8317
71.00	163	155.00	6326	241.00	1740	335.00	2116
72.00	128	156.00	9013	242.00	3819	336.00	227
73.00	1409	157.00	1772	243.00	4517	339.00	195
74.00	19824	158.00	2056	244.00	60672	340.00	169
75.00	31392	159.00	1452	245.00	7887	341.00	1701
76.00	10489	160.00	3502	246.00	11478	342.00	382
77.00	212608	161.00	5499	247.00	2199	346.00	3026
78.00	14550	162.00	1511	248.00	587	347.00	466
79.00	13932	163.00	437	249.00	2297	350.00	142
80.00	10828	164.00	618	250.00	352	352.00	4023
81.00	15372	165.00	4004	251.00	474	353.00	2776

Date : 08-JAN-2010 21:18

Client ID: DFTPP Instrument: MSD2.i

Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS Column diameter: 0.20

Data File: s2a0808.d
Spectrum: Avg. Scans 578-580 (8.21), Background Scan 568
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
82.00	3790	166.00	3506	252.00	643	354.00	4015
83.00	3750	167.00	22536	253.00	1336	355.00	774
84.00	319	168.00	9329	255.00	305728	359.00	251
85.00	3663	169.00	1906	256.00	45264	361.00	78
86.00	3918	170.00	782	257.00	3419	363.00	84
87.00	1956	171.00	910	258.00	16832	365.00	19384
88.00	777	172.00	2048	259.00	2582	366.00	2749
89.00	349	173.00	2809	260.00	467	367.00	150
91.00	3587	174.00	4729	261.00	543	370.00	405
92.00	3799	175.00	8961	262.00	73	371.00	1087
93.00	23560	176.00	2851	263.00	179	372.00	7563
94.00	1518	177.00	3925	264.00	571	373.00	1860
95.00	300	178.00	1422	265.00	6920	374.00	192
96.00	1133	179.00	17064	266.00	1043	377.00	209
97.00	494	180.00	11823	267.00	105	383.00	2053
98.00	17912	181.00	6007	268.00	136	384.00	510
99.00	13948	182.00	912	270.00	474	385.00	153
100.00	1131	183.00	541	271.00	623	390.00	904
101.00	7980	184.00	1517	272.00	933	391.00	668
102.00	474	185.00	8531	273.00	9609	392.00	450
103.00	2615	186.00	66344	274.00	23968	401.00	412
104.00	5000	187.00	18624	275.00	141952	402.00	3005
105.00	4839	188.00	1845	276.00	19216	403.00	4030
106.00	1714	189.00	3978	277.00	11123	404.00	1384
107.00	61184	190.00	697	278.00	1675	405.00	219
108.00	9542	191.00	1936	279.00	364	410.00	72
110.00	112160	192.00	5806	281.00	107	415.00	171
111.00	16960	193.00	6610	282.00	352	421.00	3564
112.00	1940	194.00	1428	283.00	1210	422.00	3734
113.00	627	195.00	970	284.00	842	423.00	26512
114.00	110	196.00	15546	285.00	2113	424.00	5149
115.00	282	198.00	515456	286.00	312	425.00	490
116.00	3476	199.00	35064	288.00	158	435.00	45
117.00	46536	200.00	2791	289.00	432	436.00	65
118.00	3387	201.00	2675	290.00	400	437.00	127

Date : 08-JAN-2010 21:18

Client ID: DFTPP Instrument: MSD2.i

Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS Column diameter: 0.20

Data File: s2a0808.d
Spectrum: Avg. Scans 578-580 (8.21), Background Scan 568
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
119.00	440	203.00	3515	291.00	245	438.00	206
120.00	760	204.00	18128	292.00	567	439.00	152
121.00	303	205.00	30744	293.00	2591	441.00	73176
122.00	4114	206.00	127040	294.00	673	442.00	473536
123.00	6340	207.00	16440	296.00	37320	443.00	90568
124.00	2801	208.00	4173	297.00	5217	444.00	8263
125.00	2674	209.00	1408	298.00	322	445.00	416
127.00	219520	210.00	2187	301.00	508		
128.00	16648	211.00	5413	302.00	734		
129.00	85984	213.00	387	303.00	4384		
130.00	7151	214.00	168	304.00	1243		

Data File: /chem/MSD2.i/s010810a.b/s2a0846.d

Date : 11-JAN-2010 14:49

Client ID: DFTPP

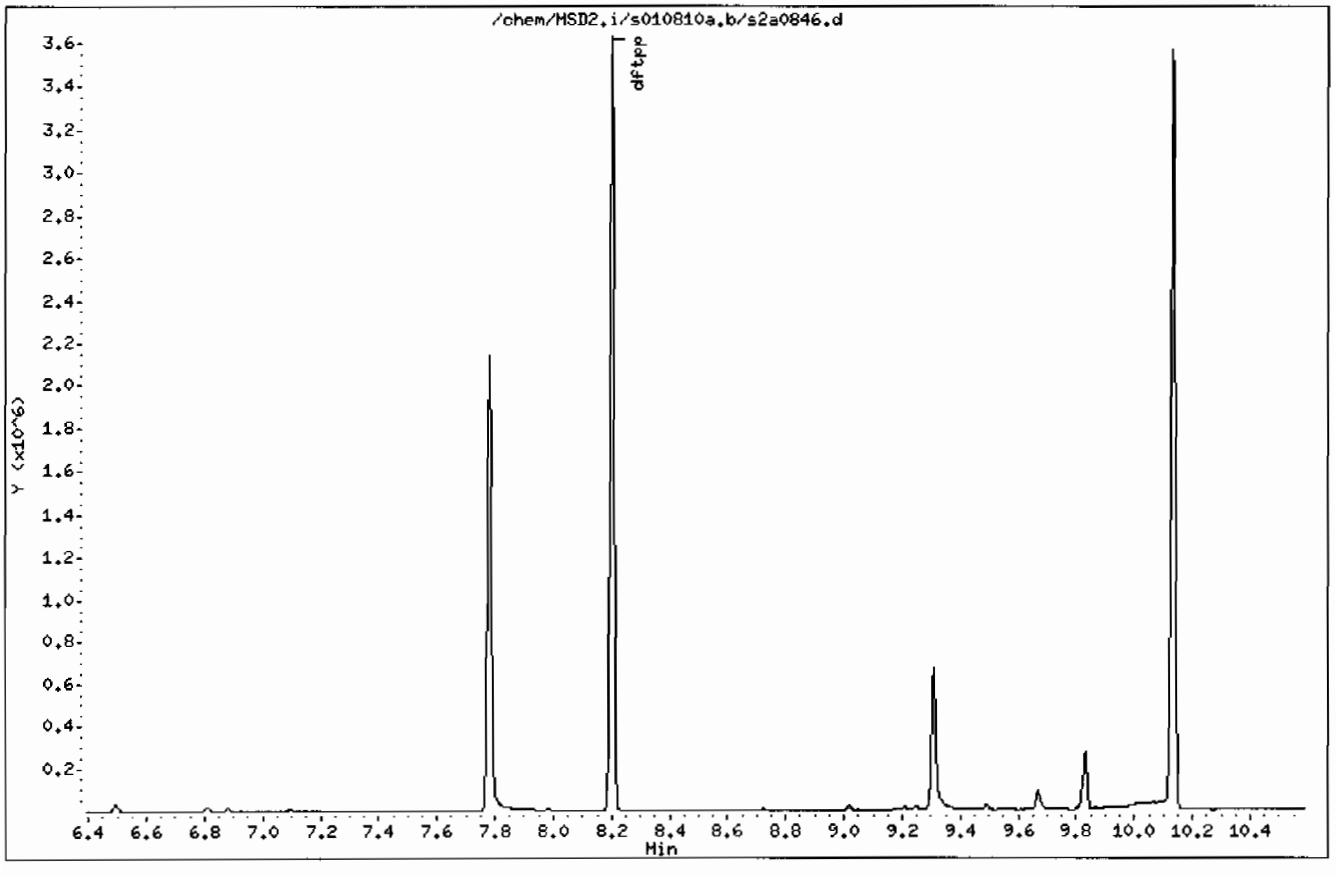
Instrument: MSD2.i

Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: ACS1

Column phase: J&W DB-5MS

Column diameter: 0.20



Data File: /chem/MSD2.i/s010810a.b/s2a0846.d

Date : 11-JAN-2010 14:49

Client ID: DFTPP

Instrument: MSD2.i

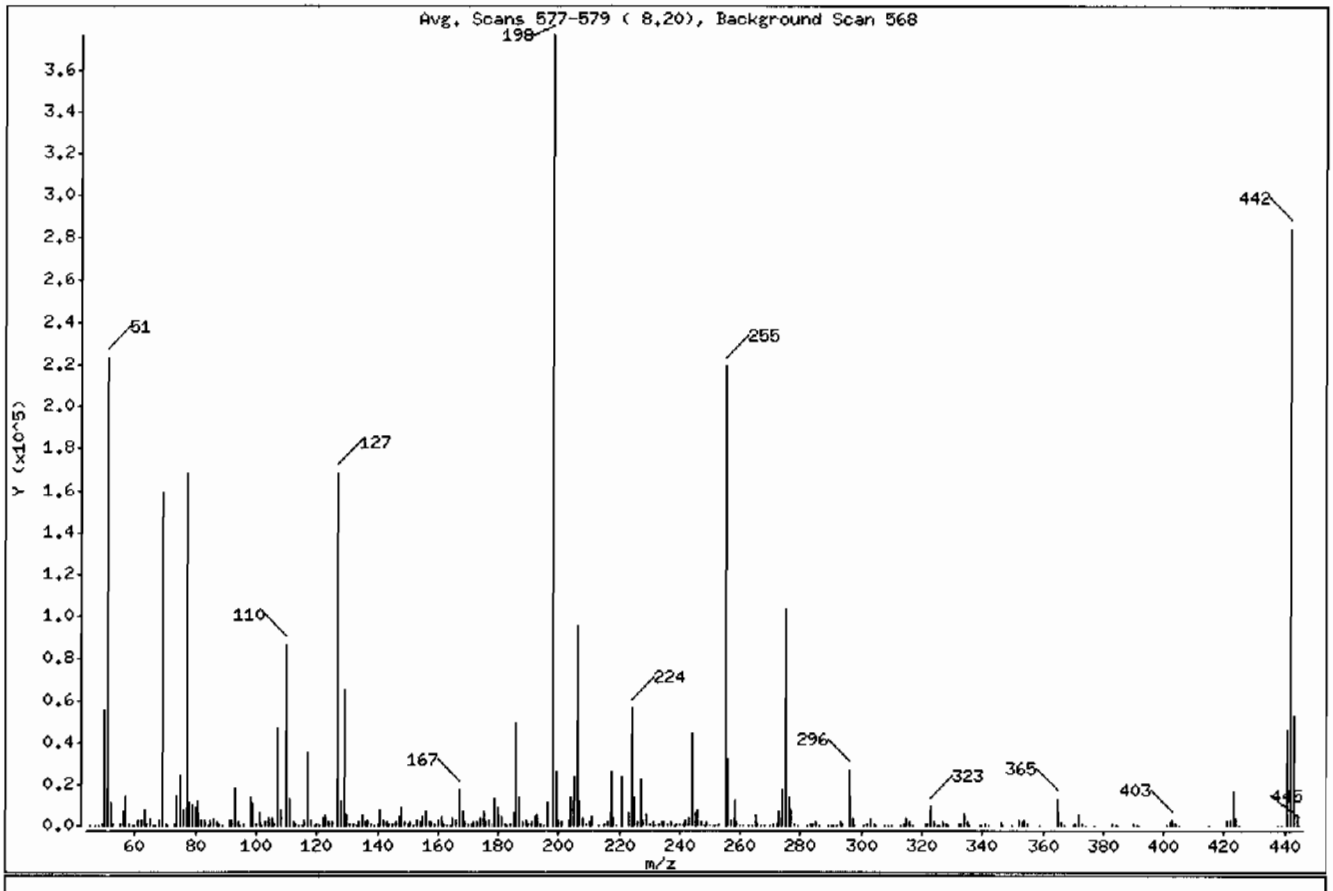
Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-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	59.23
68	Less than 2.00% of mass 69	0.70 (1.66)
69	Mass 69 relative abundance	42.00
70	Less than 2.00% of mass 69	0.18 (0.44)
127	40.00 - 60.00% of mass 198	44.53
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.83
275	10.00 - 30.00% of mass 198	27.35
365	Greater than 1.00% of mass 198	3.43
441	Present, but less than mass 443	12.21
442	Greater than 40.00% of mass 198	75.37
443	17.00 - 23.00% of mass 442	14.10 (18.71)

Data File: /chem/MSD2.i/s010810a.b/s2a0846.d

Date : 11-JAN-2010 14:49

Client ID: DFTPP

Instrument: MSD2.i

Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s2a0846.d

Spectrum: Avg. Scans 577-579 (8.20), Background Scan 568

Location of Maximum: 198.00

Number of points: 305

m/z	Y	m/z	Y	m/z	Y	m/z	Y
45.00	211	129.00	65112	208.00	3080	297.00	3660
47.00	121	130.00	5253	209.00	1041	298.00	252
48.00	121	131.00	928	210.00	1705	301.00	340
49.00	1277	132.00	559	211.00	4264	302.00	534
50.00	55408	133.00	230	213.00	281	303.00	3302
51.00	223424	134.00	1833	215.00	1096	304.00	861
52.00	11414	135.00	5204	216.00	2103	305.00	33
53.00	456	136.00	2094	217.00	26160	308.00	314
55.00	952	137.00	2588	218.00	3343	309.00	253
56.00	6630	138.00	539	219.00	359	310.00	306
57.00	14960	139.00	288	221.00	23152	313.00	302
58.00	632	140.00	797	223.00	6068	314.00	1261
59.00	198	141.00	8237	224.00	56056	315.00	3111
60.00	146	142.00	2771	225.00	13865	316.00	1655
61.00	2401	143.00	1919	226.00	1478	317.00	244
62.00	2677	144.00	528	227.00	22816	321.00	911
63.00	7656	145.00	489	228.00	3029	322.00	512
64.00	997	146.00	1450	229.00	4833	323.00	9271
65.00	3632	147.00	4330	230.00	754	324.00	1826
66.00	257	148.00	8996	231.00	2105	325.00	139
67.00	151	149.00	1852	232.00	356	326.00	240
68.00	2623	150.00	531	233.00	446	327.00	1758
69.00	158464	151.00	1645	234.00	1530	328.00	941
70.00	690	152.00	259	235.00	1645	329.00	157
71.00	37	153.00	2575	236.00	1091	332.00	694
73.00	1176	154.00	2071	237.00	1802	333.00	904
74.00	14891	155.00	4658	238.00	232	334.00	5715
75.00	24352	156.00	7027	239.00	909	335.00	1438
76.00	8062	157.00	1380	240.00	648	336.00	160
77.00	168448	158.00	1486	241.00	1223	339.00	158
78.00	11284	159.00	1081	242.00	2988	340.00	130
79.00	10789	160.00	2592	243.00	3203	341.00	967
80.00	8345	161.00	4000	244.00	44416	342.00	257
81.00	11922	162.00	1194	245.00	5940	346.00	1972
82.00	2880	163.00	282	246.00	8216	347.00	329

Data File: /chem/MSD2.i/s010810a.b/s2a0846.d

Date : 11-JAN-2010 14:49

Client ID: DFTPP

Instrument: MSD2.i

Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s2a0846.d

Spectrum: Avg. Scans 577-579 (8.20), Background Scan 568

Location of Maximum: 198.00

Number of points: 305

m/z	Y	m/z	Y	m/z	Y	m/z	Y
83.00	2833	164.00	421	247.00	1714	350.00	68
84.00	288	165.00	3044	248.00	332	352.00	2779
85.00	2737	166.00	2615	249.00	1707	353.00	2014
86.00	3336	167.00	17176	250.00	269	354.00	2750
87.00	1599	168.00	7143	251.00	362	355.00	514
88.00	607	169.00	1401	252.00	373	359.00	215
89.00	276	170.00	620	253.00	893	365.00	12955
91.00	2637	171.00	813	255.00	219008	366.00	1804
92.00	2957	172.00	1595	256.00	31896	367.00	73
93.00	18640	173.00	2115	257.00	2483	370.00	275
94.00	1316	174.00	3577	258.00	12384	371.00	723
95.00	254	175.00	6716	259.00	1897	372.00	4883
96.00	872	176.00	1945	260.00	362	373.00	1115
98.00	13689	177.00	2936	261.00	361	374.00	148
99.00	10555	178.00	1062	263.00	126	377.00	116
100.00	907	179.00	12953	264.00	287	383.00	1287
101.00	6149	180.00	8771	265.00	5085	384.00	363
102.00	338	181.00	4281	266.00	745	385.00	70
103.00	1998	182.00	741	267.00	82	390.00	645
104.00	3880	183.00	350	268.00	125	391.00	400
105.00	3695	184.00	1109	270.00	260	392.00	327
106.00	1203	185.00	6499	271.00	486	401.00	311
107.00	47016	186.00	49256	272.00	597	402.00	1779
108.00	7531	187.00	13907	273.00	7170	403.00	2685
110.00	85752	188.00	1500	274.00	17624	404.00	962
111.00	13033	189.00	2942	275.00	103168	405.00	79
112.00	1500	190.00	476	276.00	13551	415.00	71
113.00	515	191.00	1502	277.00	8084	421.00	2382
114.00	73	192.00	4105	278.00	1256	422.00	2472
115.00	172	193.00	5134	279.00	294	423.00	16337
116.00	2563	194.00	961	282.00	173	424.00	3247
117.00	35928	195.00	405	283.00	949	425.00	260
118.00	2589	196.00	11463	284.00	583	438.00	144
119.00	368	198.00	377280	285.00	1572	439.00	219
120.00	563	199.00	25768	286.00	252	441.00	46048

Data File: /chem/MSD2.i/s010810a.b/s2a0846.d

Date : 11-JAN-2010 14:49

Client ID: DFTPP

Instrument: MSD2.i

Sample Info: |WBN091213-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s2a0846.d
Spectrum: Avg. Scans 577-579 (8.20), Background Scan 568
Location of Maximum: 198.00
Number of points: 305

m/z	Y	m/z	Y	m/z	Y	m/z	Y
121.00	233	200.00	2169	289.00	292	442.00	284352
122.00	3063	201.00	1845	290.00	295	443.00	53208
123.00	4995	203.00	2688	291.00	172	444.00	5014
124.00	2083	204.00	14107	292.00	382	445.00	282
125.00	2066	205.00	23000	293.00	1788		
127.00	168000	206.00	95368	294.00	469		
128.00	12508	207.00	12191	296.00	27008		

Data File: /chem/MSD2.i/s021910.b/s2b1901.d

Page 1

Date : 19-FEB-2010 14:33

Client ID: DFTPP

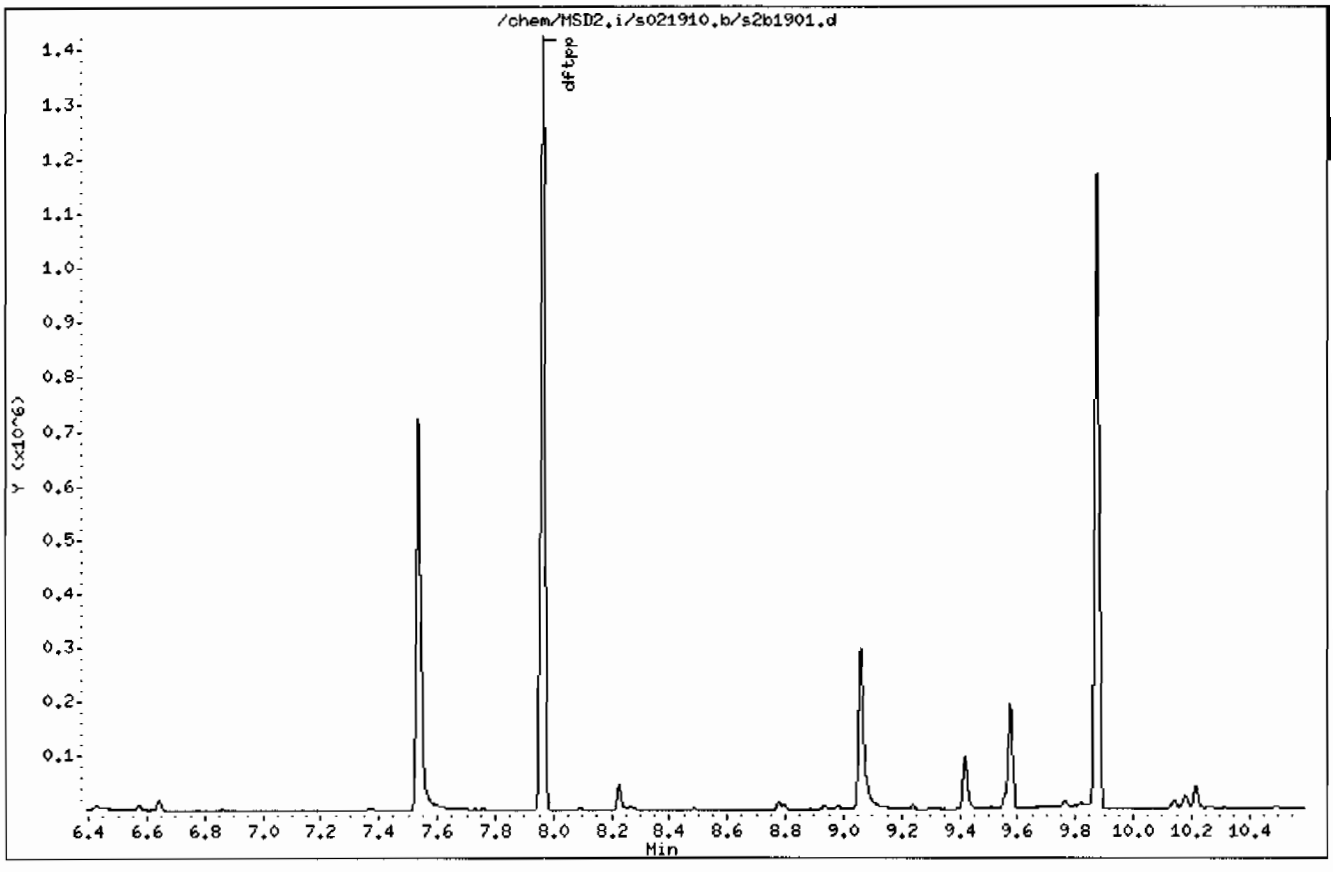
Instrument: MSD2.i

Sample Info: |WBN100107-01|50PPM|1|SVMF|1|DFTPP|

Operator: ACS1

Column phase: J&W DB-5MS

Column diameter: 0.20



Data File: /chem/MSD2.i/s021910.b/s2b1901.d

Date : 19-FEB-2010 14:33

Client ID: DFTPP

Instrument: MSD2.i

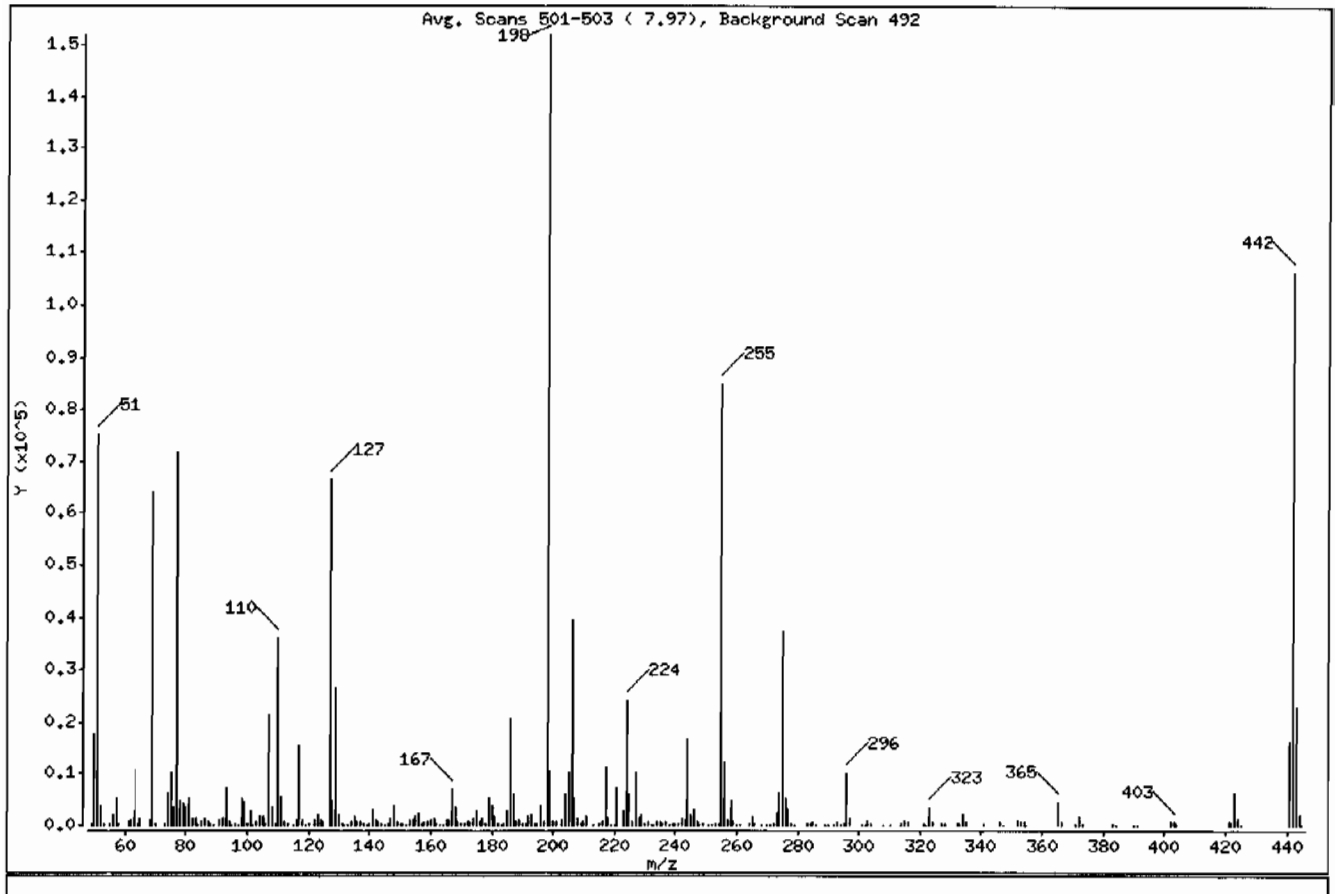
Sample Info: |WBN100107-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-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	49.36
68	Less than 2.00% of mass 69	0.61 (1.46)
69	Mass 69 relative abundance	42.17
70	Less than 2.00% of mass 69	0.20 (0.47)
127	40.00 - 60.00% of mass 198	43.63
197	Less than 1.00% of mass 198	0.48
199	5.00 - 9.00% of mass 198	6.95
275	10.00 - 30.00% of mass 198	24.60
365	Greater than 1.00% of mass 198	2.95
441	Present, but less than mass 443	10.89
442	Greater than 40.00% of mass 198	69.97
443	17.00 - 23.00% of mass 442	15.16 (21.66)

Data File: /chem/MSD2.i/s021910.b/s2b1901.d

Date : 19-FEB-2010 14:33

Client ID: DFTPP

Instrument: MSD2.i

Sample Info: |WBN100107-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s2b1901.d
Spectrum: Avg, Scans 501-503 (7.97), Background Scan 492
Location of Maximum: 198.00
Number of points: 271

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	347	128.00	4799	196.00	3811	273.00	2534
50.00	17872	129.00	26520	197.00	736	274.00	6456
51.00	75056	130.00	2102	198.00	152064	275.00	37408
52.00	3823	131.00	376	199.00	10565	276.00	5115
53.00	197	132.00	172	200.00	812	277.00	3178
55.00	264	133.00	78	201.00	625	278.00	452
56.00	2132	134.00	615	203.00	1108	279.00	108
57.00	5216	135.00	1880	204.00	5852	283.00	377
58.00	214	136.00	764	205.00	9967	284.00	231
61.00	837	137.00	860	206.00	39344	285.00	577
62.00	959	138.00	177	207.00	5155	286.00	69
63.00	2644	139.00	78	208.00	1330	289.00	96
64.00	310	140.00	261	209.00	397	290.00	68
65.00	1268	141.00	3059	210.00	604	292.00	131
68.00	934	142.00	935	211.00	1628	293.00	633
69.00	64120	143.00	686	213.00	37	294.00	144
70.00	303	144.00	192	215.00	407	295.00	204
73.00	413	145.00	166	216.00	808	296.00	9973
74.00	6159	146.00	488	217.00	11217	297.00	1266
75.00	10123	147.00	1496	218.00	1467	301.00	151
76.00	3418	148.00	3740	219.00	134	302.00	170
77.00	71576	149.00	766	220.00	39	303.00	1081
78.00	4768	150.00	187	221.00	7343	304.00	299
79.00	4234	151.00	469	223.00	2640	308.00	127
80.00	3436	152.00	74	224.00	24112	310.00	79
81.00	5128	153.00	947	225.00	6044	314.00	470
82.00	1321	154.00	895	226.00	572	315.00	1045
83.00	1274	155.00	1878	227.00	10126	316.00	598
84.00	83	156.00	2531	228.00	1352	321.00	327
85.00	872	157.00	467	229.00	2092	322.00	151
86.00	1300	158.00	633	230.00	259	323.00	3559
87.00	614	159.00	531	231.00	810	324.00	577
88.00	225	160.00	1103	232.00	162	327.00	513
89.00	110	161.00	1446	233.00	152	328.00	308
91.00	1019	162.00	388	234.00	548	332.00	238

Data File: /chem/MSD2.i/s021910.b/s2b1901.d

Date : 19-FEB-2010 14:33

Client ID: DFTPP

Instrument: MSD2.i

Sample Info: |WBN100107-01|50PPM|1|SVMF|1|DFTPP|

Operator: AGS1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s2b1901.d
Spectrum: Avg. Scans 501-503 (7.97), Background Scan 492
Location of Maximum: 198.00
Number of points: 271

m/z	Y	m/z	Y	m/z	Y	m/z	Y
92.00	1228	163.00	124	235.00	631	333.00	295
93.00	7417	164.00	161	236.00	465	334.00	2196
94.00	536	165.00	1190	237.00	696	335.00	549
95.00	140	166.00	1049	238.00	72	341.00	369
96.00	391	167.00	6982	239.00	375	346.00	664
97.00	122	168.00	3435	240.00	255	347.00	122
98.00	5356	169.00	600	241.00	495	352.00	947
99.00	4514	170.00	209	242.00	1227	353.00	620
100.00	364	171.00	261	243.00	1089	354.00	833
101.00	2772	172.00	580	244.00	16608	355.00	150
102.00	106	173.00	822	245.00	2246	365.00	4481
103.00	821	174.00	1427	246.00	3266	366.00	661
104.00	1642	175.00	2808	247.00	744	371.00	255
105.00	1659	176.00	748	248.00	120	372.00	1673
106.00	472	177.00	1239	249.00	491	373.00	383
107.00	21456	178.00	410	251.00	143	383.00	397
108.00	3390	179.00	5381	252.00	101	384.00	124
109.00	522	180.00	3681	253.00	333	390.00	148
110.00	36064	181.00	1694	254.00	413	391.00	73
111.00	5448	182.00	229	255.00	85112	402.00	583
112.00	593	183.00	92	256.00	12309	403.00	812
113.00	196	184.00	397	257.00	898	404.00	270
115.00	34	185.00	2755	258.00	4902	421.00	836
116.00	1037	186.00	20456	259.00	705	422.00	686
117.00	15307	187.00	5896	260.00	127	423.00	6353
118.00	990	188.00	593	261.00	84	424.00	1272
119.00	141	189.00	1169	264.00	221	425.00	69
120.00	283	190.00	187	265.00	1895	441.00	16552
122.00	1193	191.00	463	266.00	364	442.00	106400
123.00	1994	192.00	1654	268.00	122	443.00	23048
124.00	888	193.00	2181	270.00	130	444.00	2212
125.00	821	194.00	426	271.00	150	445.00	80
127.00	66336	195.00	223	272.00	224		

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202041732**				
Client Sample:	**QC for batch 952595**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**MB for batch 952595**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 17:18**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1908-1.d**	**Column:**	**J&W DB-5MS**	**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
	o-Nitroaniline					
99-09-2	3-Nitroaniline	U	333	ug/kg	66.7	333

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202041732**				
Client Sample:	**QC for batch 952595**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**MB for batch 952595**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 17:18**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1908-1.d**	**Column:**	**J&W DB-5MS**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	m-Nitroaniline					
131-11-3	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
	p-Nitroaniline					
122-39-4	Diphenylamine	U	333	ug/kg	66.7	333
122-66-7	Azobenzene	U	333	ug/kg	66.7	333
	1,2-Diphenylhydrazine					
101-55-3	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
78-95-5	2-Propanone, 1-chloro-	2.09	188	ug/kg	83	NJ
	Unknown Aldol Condensate	3.12	207	ug/kg		JA

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Data file : /chem/MSD2.i/s021910.b/s2b1908.d
Lab Smp Id: 1202041732 Client Smp ID: SBLK01
Inj Date : 19-FEB-2010 17:18
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |1202041732|952601|1|SVM|1|MB
Misc Info : |MSD8270_S|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 19-Feb-2010 18:31 ann00964 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 8 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: hpclp1

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	4.491	4.494	(1.000)	268596	40.0000	
* 29 Naphthalene-d8	136	5.751	5.759	(1.000)	904838	40.0000	
* 46 Acenaphthene-d10	164	7.612	7.618	(1.000)	564085	40.0000	
* 67 Phenanthrene-d10	188	9.214	9.219	(1.000)	962822	40.0000	
* 91 Chrysene-d12	240	12.130	12.142	(1.000)	836368	40.0000	
* 98 Perylene-d12	264	14.276	14.286	(1.000)	616268	40.0000	
$ 3 2-Fluorophenol	112	3.369	3.354	(0.750)	479717	73.6023	2450
$ 5 Phenol-d5	99	4.131	4.134	(0.920)	600817	68.8839	2300
$ 20 Nitrobenzene-d5	82	5.022	5.032	(0.873)	289305	40.3535	1340
$ 39 2-Fluorobiphenyl	172	6.879	6.884	(0.904)	610764	34.9957	1170
$ 60 2,4,6-Tribromophenol	329	8.461	8.464	(1.112)	166187	68.1164	2270
$ 81 p-Terphenyl-d14	244	10.925	10.925	(0.901)	735774	45.8022	1530

GEL Laboratories LLC

GEL Laboratories, LLC

Data file : /chem/MSD2.i/s021910.b/s2b1908.d
Lab Smp Id: 1202041732 Client Smp ID: SBLK01
Inj Date : 19-FEB-2010 17:18
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |1202041732|952601|1|SVM|1|MB
Misc Info : |MSD8270_S|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 19-Feb-2010 18:31 ann00964 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 8 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: hpclp1

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

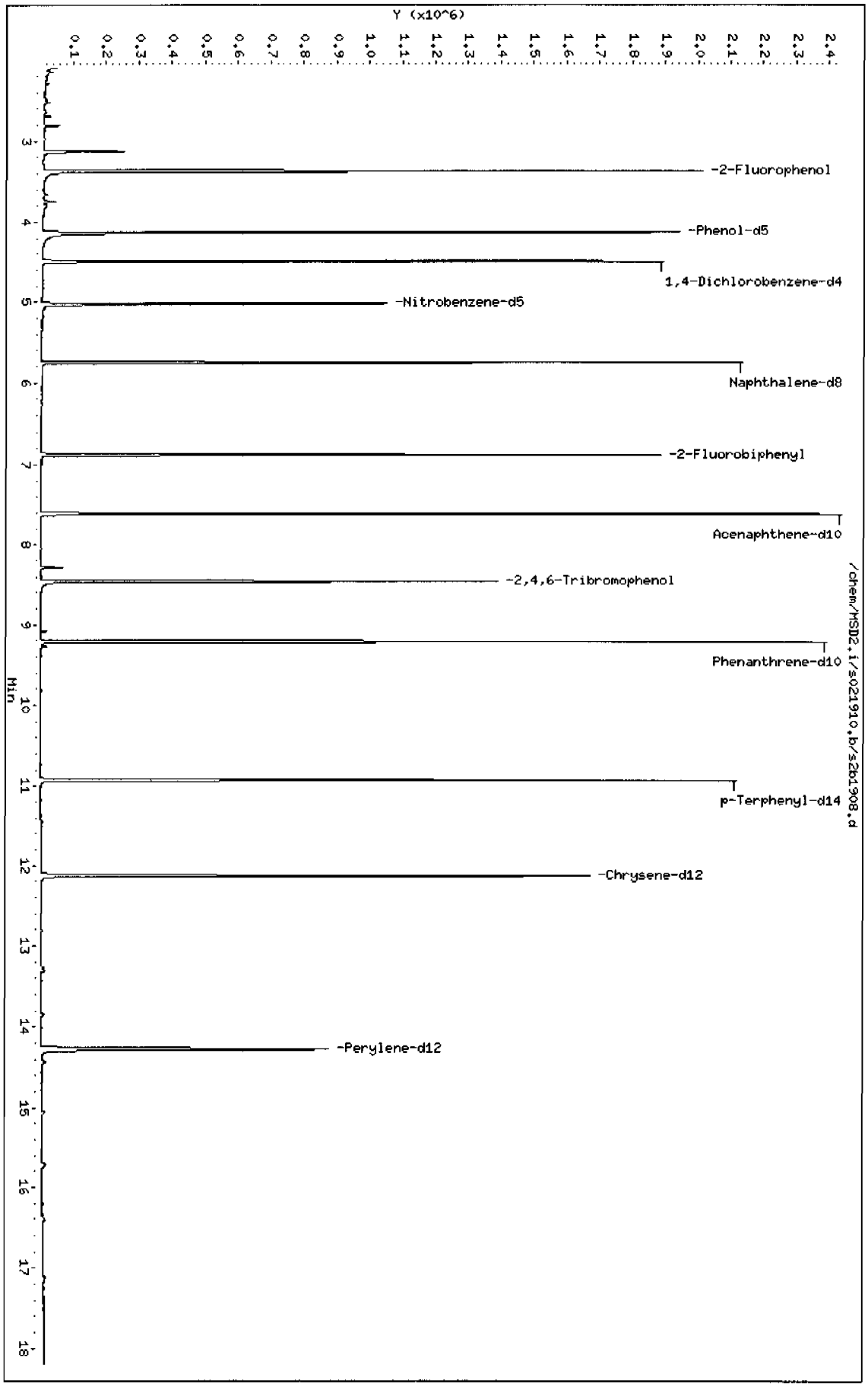
Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
* 10 1,4-Dichlorobenzene-d4	4.491	1719758	40.000

		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ng/ul)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
2-Propanone, 1-chloro-				CAS #: 78-95-5			
2.088	242083	5.63062456	188	83	NIST05.L	2355	10
Unknown Aldol Condensate				CAS #:			
3.122	266697	6.20313159	207	0		0	10

Data File: /chem/MSD2.i/s021910.b/s2b1908.d
Date : 19-FEB-2010 17:18
Client ID: SBLK01
Sample Info: 1120204173219526011!1!SWM1!1!MB
Volume Injected (uL): 0.5
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: ACS1
Column diameter: 0.20



Page 1

Data File: /chem/MSD2.i/s021910.b/s2b1908.d

Date : 19-FEB-2010 17:18

Client ID: SBLK01

Instrument: MSD2.i

Sample Info: |1202041732|952601|1|SVM|1|MB

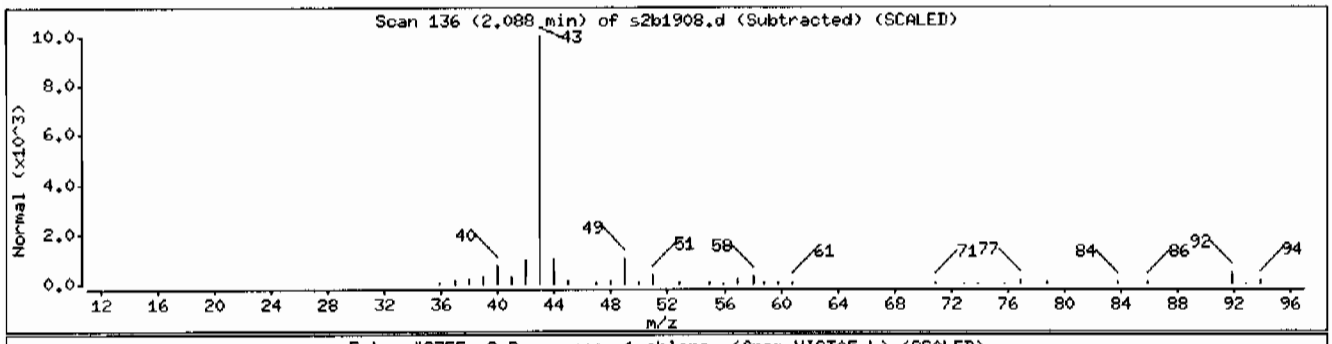
Volume Injected (uL): 0.5

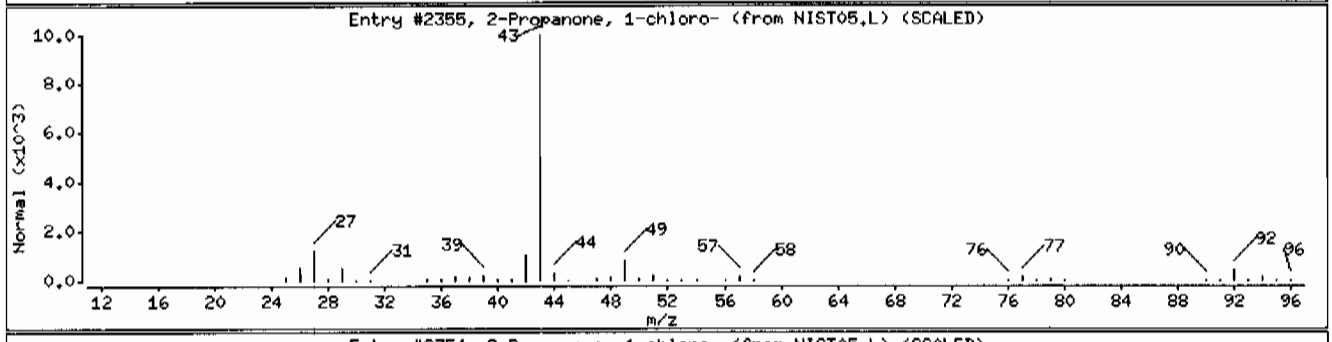
Operator: ACS1

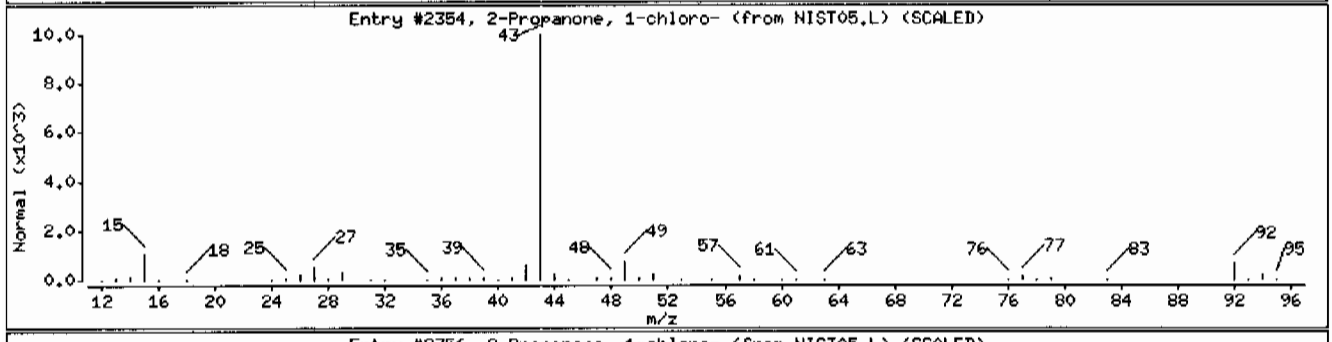
Column phase: J&W DB-5MS

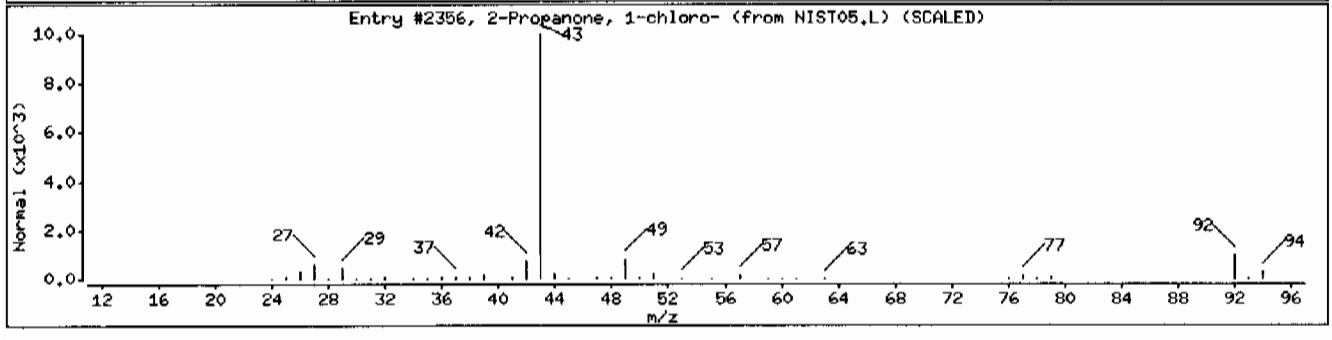
Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Propanone, 1-chloro-	78-95-5	NIST05.L	2355	83	C3H5ClO	92
2-Propanone, 1-chloro-	78-95-5	NIST05.L	2354	53	C3H5ClO	92
2-Propanone, 1-chloro-	78-95-5	NIST05.L	2356	49	C3H5ClO	92









Data File: /chem/MSD2.i/s021910.b/s2b1908.d

Date : 19-FEB-2010 17:18

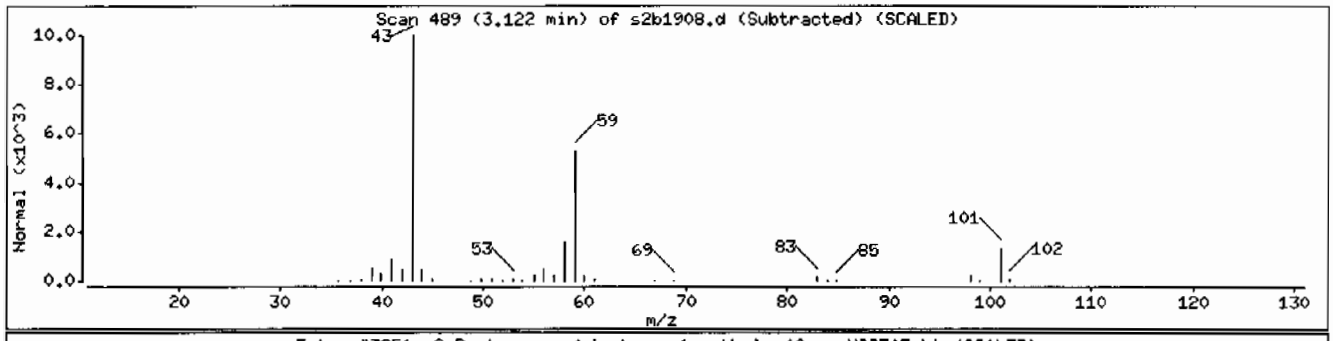
Client ID: SBLK01 Instrument: MSD2.i

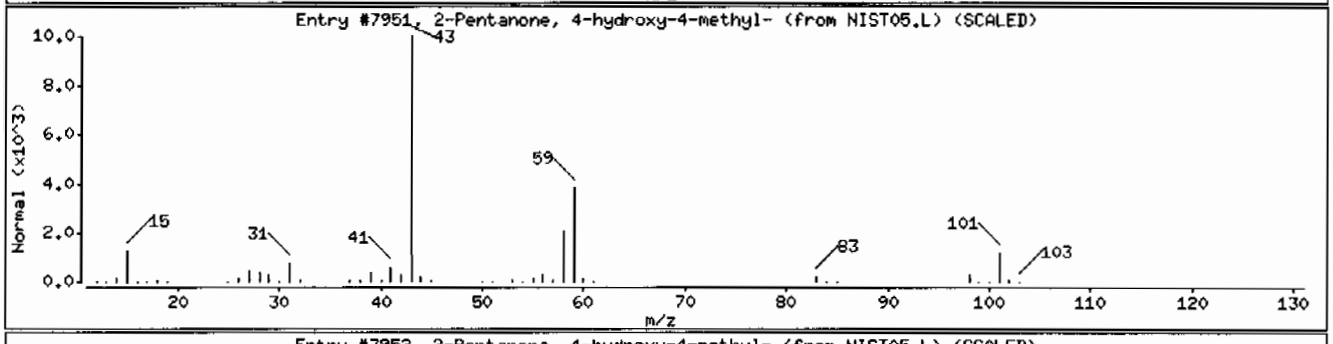
Sample Info: |1202041732|952601|1|SVM|1|MB

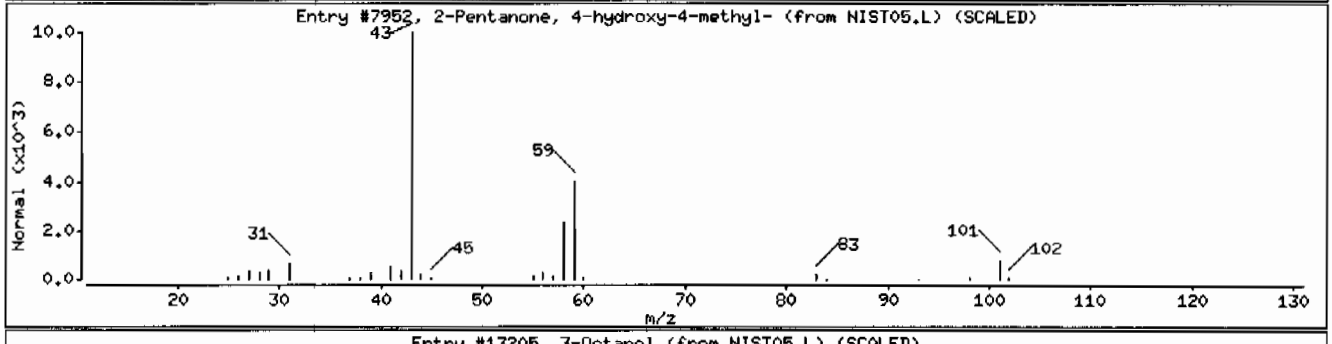
Volume Injected (uL): 0.5 Operator: AGS1

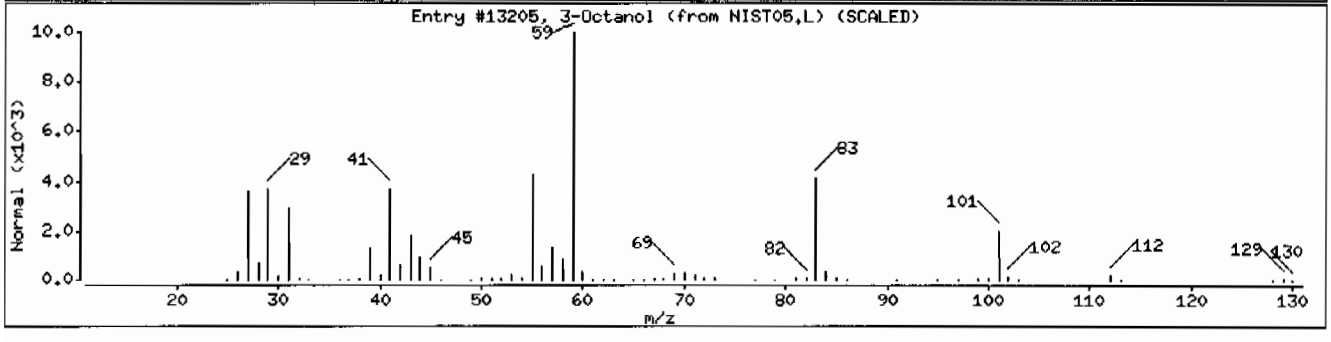
Column phase: J&W DB-5MS Column diameter: 0.20

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	56	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116
3-Octanol	589-98-0	NIST05.L	13205	33	C8H18O	130









Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202041733**				
Client Sample:	**QC for batch 952595**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**LCS for batch 952595**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 17:43**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1909-1.d**	**Column:**	**J&W DB-5MS**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine		1150	ug/kg	66.7	333
108-95-2	Phenol		1270	ug/kg	66.7	333
95-57-8	2-Chlorophenol		1250	ug/kg	66.7	333
106-46-7	1,4-Dichlorobenzene		1270	ug/kg	66.7	333
621-64-7	N-Nitrosodipropylamine		1250	ug/kg	66.7	333
59-50-7	4-Chloro-3-methylphenol		1450	ug/kg	66.7	333
83-32-9	Acenaphthene		1180	ug/kg	11.0	33.3
121-14-2	2,4-Dinitrotoluene		1320	ug/kg	33.3	333
100-02-7	4-Nitrophenol		476	ug/kg	110	333
87-86-5	Pentachlorophenol		1020	ug/kg	83.3	333
129-00-0	Pyrene		1370	ug/kg	10.0	33.3
110-86-1	Pyridine		1340	ug/kg	66.7	333
62-53-3	Aniline		1050	ug/kg	100	333
111-44-4	bis(2-Chloroethyl) ether		1130	ug/kg	66.7	333
541-73-1	1,3-Dichlorobenzene		1280	ug/kg	66.7	333
100-51-6	Benzyl alcohol		605	ug/kg	100	333
95-50-1	1,2-Dichlorobenzene		1290	ug/kg	66.7	333
108-60-1	bis(2-Chloroisopropyl)ether		1020	ug/kg	66.7	333
95-48-7	o-Cresol		1290	ug/kg	66.7	333
65794-96-9	m,p-Cresols		1470	ug/kg	100	333
67-72-1	Hexachloroethane		1230	ug/kg	66.7	333
98-95-3	Nitrobenzene		1450	ug/kg	66.7	333
78-59-1	Isophorone		1420	ug/kg	66.7	333
88-75-5	2-Nitrophenol		1440	ug/kg	66.7	333
105-67-9	2,4-Dimethylphenol		1200	ug/kg	117	333
111-91-1	bis(2-Chloroethoxy)methane		1350	ug/kg	66.7	333
120-83-2	2,4-Dichlorophenol		1450	ug/kg	66.7	333
65-85-0	Benzoic acid		2280	ug/kg	167	667
91-20-3	Naphthalene		1380	ug/kg	10.0	33.3
106-47-8	4-Chloroaniline		1070	ug/kg	66.7	333
87-68-3	Hexachlorobutadiene		1580	ug/kg	66.7	333
91-57-6	2-Methylnaphthalene		1420	ug/kg	6.67	33.3
77-47-4	Hexachlorocyclopentadiene		818	ug/kg	66.7	333
88-06-2	2,4,6-Trichlorophenol		1240	ug/kg	66.7	333
95-95-4	2,4,5-Trichlorophenol		1340	ug/kg	66.7	333
91-58-7	2-Chloronaphthalene		1350	ug/kg	11.0	33.3
88-74-4	2-Nitroaniline		1280	ug/kg	66.7	333
	o-Nitroaniline					
99-09-2	3-Nitroaniline		1400	ug/kg	66.7	333

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**10-1666**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202041733**				
Client Sample:	**QC for batch 952595**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**LCS for batch 952595**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**952601**	**Inst:**	**MSD2.I**	**Dilution:**	**1**
Run Date:	**02/19/2010 17:43**	**Analyst:**	**AGS1**	**Inj. Vol:**	**.5 uL**
Prep Date:	**02/12/2010 20:27**	**Aliquot:**	**30 g**	**Final Volume:**	**1 mL**
Data File:	**s2b1909-1.d**	**Column:**	**J&W DB-5MS**	**Level:**	**LOW**

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	m-Nitroaniline					
131-11-3	Dimethylphthalate		1330	ug/kg	66.7	333
606-20-2	2,6-Dinitrotoluene		1300	ug/kg	33.3	333
208-96-8	Acenaphthylene		1260	ug/kg	10.0	33.3
51-28-5	2,4-Dinitrophenol		1180	ug/kg	127	667
132-64-9	Dibenzofuran		1250	ug/kg	66.7	333
84-66-2	Diethylphthalate		1320	ug/kg	66.7	333
86-73-7	Fluorene		1260	ug/kg	10.0	33.3
7005-72-3	4-Chlorophenylphenylether		1300	ug/kg	66.7	333
534-52-1	2-Methyl-4,6-dinitrophenol		1110	ug/kg	66.7	333
100-01-6	4-Nitroaniline		1410	ug/kg	100	333
	p-Nitroaniline					
122-39-4	Diphenylamine		1420	ug/kg	66.7	333
122-66-7	Azobenzene		1300	ug/kg	66.7	333
	1,2-Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether		1290	ug/kg	66.7	333
118-74-1	Hexachlorobenzene		1470	ug/kg	66.7	333
85-01-8	Phenanthrene		1320	ug/kg	10.0	33.3
120-12-7	Anthracene		1350	ug/kg	6.67	33.3
84-74-2	Di-n-butylphthalate		1400	ug/kg	66.7	333
206-44-0	Fluoranthene		1430	ug/kg	10.0	33.3
85-68-7	Butylbenzylphthalate		1400	ug/kg	66.7	333
56-55-3	Benzo(a)anthracene		1330	ug/kg	10.0	33.3
91-94-1	3,3'-Dichlorobenzidine		1300	ug/kg	100	333
218-01-9	Chrysene		1380	ug/kg	10.0	33.3
117-81-7	bis(2-Ethylhexyl)phthalate		1410	ug/kg	66.7	333
117-84-0	Di-n-octylphthalate		1280	ug/kg	66.7	333
205-99-2	Benzo(b)fluoranthene		1320	ug/kg	10.0	33.3
207-08-9	Benzo(k)fluoranthene		1390	ug/kg	10.0	33.3
50-32-8	Benzo(a)pyrene		1390	ug/kg	10.0	33.3
193-39-5	Indeno(1,2,3-cd)pyrene		1430	ug/kg	10.0	33.3
53-70-3	Dibenzo(a,h)anthracene		1430	ug/kg	10.0	33.3
191-24-2	Benzo(ghi)perylene		1410	ug/kg	10.0	33.3
120-82-1	1,2,4-Trichlorobenzene		1540	ug/kg	66.7	333

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Data file : /chem/MSD2.i/s021910.b/s2b1909.d
Lab Smp Id: 1202041733 Client Smp ID: SBLK01LCS
Inj Date : 19-FEB-2010 17:43
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |1202041733|952601|1|SVM|1|LCS
Misc Info : |MSD8270_S|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 19-Feb-2010 18:31 ann00964 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1666.sub
Target Version: 3.50
Processing Host: hpclpl

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	4.495	4.494	(1.000)	257297	40.0000	
* 29 Naphthalene-d8	136	5.757	5.759	(1.000)	876692	40.0000	
* 46 Acenaphthene-d10	164	7.613	7.618	(1.000)	547683	40.0000	
* 67 Phenanthrene-d10	188	9.218	9.219	(1.000)	965326	40.0000	
* 91 Chrysene-d12	240	12.138	12.142	(1.000)	891750	40.0000	
* 98 Perylene-d12	264	14.281	14.286	(1.000)	687843	40.0000	
$ 3 2-Fluorophenol	112	3.369	3.354	(0.749)	472975	75.7546	2520
$ 5 Phenol-d5	99	4.137	4.134	(0.920)	601790	72.0253	2400
$ 20 Nitrobenzene-d5	82	5.029	5.032	(0.874)	285912	41.1605	1370
$ 39 2-Fluorobiphenyl	172	6.882	6.884	(0.904)	599450	35.3761	1180
$ 60 2,4,6-Tribromophenol	329	8.468	8.464	(1.112)	170812	72.1089	2400
$ 81 p-Terphenyl-d14	244	10.926	10.925	(0.900)	724938	42.3250	1410

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
6 Phenol	94	4.149	4.148	(0.923)	325554	38.1750	1270
8 2-Chlorophenol	128	4.304	4.304	(0.958)	264417	37.4172	1250
11 1,4-Dichlorobenzene	146	4.513	4.512	(1.004)	323327	38.0701	1270
17 N-Nitrosodipropylamine	70	4.868	4.873	(1.083)	209088	37.6115	1250(Q)
28 1,2,4-Trichlorobenzene	180	5.693	5.695	(0.989)	308856	46.1296	1540
33 4-Chloro-3-methylphenol	107	6.345	6.332	(1.102)	231041	43.6304	1450
47 Acenaphthene	154	7.649	7.653	(1.005)	499154	35.4883	1180
50 2,4-Dinitrotoluene	165	7.819	7.826	(1.027)	192358	39.5169	1320
52 4-Nitrophenol	139	7.807	7.768	(1.025)	18876	14.2675	476(M)
65 Pentachlorophenol	266	9.018	9.013	(0.978)	74392	30.6419	1020
79 Pyrene	202	10.776	10.775	(0.888)	1104930	41.0946	1370
2 Pyridine	79	2.460	2.425	(0.547)	191689	40.1319	1340
4 Aniline	66	4.190	4.189	(0.932)	122008	31.5525	1050
7 bis(2-Chloroethyl) ether	63	4.231	4.233	(0.941)	261655	33.8183	1130
9 1,3-Dichlorobenzene	146	4.445	4.442	(0.989)	317618	38.4361	1280
12 Benzyl alcohol	108	4.621	4.618	(1.028)	77689	18.1630	605(Q)
13 1,2-Dichlorobenzene	146	4.657	4.656	(1.036)	305190	38.6897	1290
14 bis(2-Chloroisopropyl)ether	45	4.730	4.735	(1.052)	661830	30.6903	1020
15 o-Cresol	107	4.715	4.712	(1.049)	214746	38.6691	1290
18 m,p-Cresols	107	4.862	4.867	(1.082)	311640	44.1681	1470(Q)
19 Hexachloroethane	117	4.982	4.982	(1.108)	125035	36.8079	1230
21 Nitrobenzene	77	5.047	5.052	(0.877)	311533	43.5947	1450
22 Isophorone	82	5.279	5.287	(0.917)	561913	42.5602	1420
23 2-Nitrophenol	139	5.361	5.363	(0.931)	136373	43.1239	1440
24 2,4-Dimethylphenol	122	5.393	5.395	(0.937)	201636	35.9704	1200
25 bis(2-Chloroethoxy)methane	93	5.484	5.486	(0.953)	308998	40.5353	1350
26 2,4-Dichlorophenol	162	5.616	5.615	(0.976)	227542	43.5161	1450
27 Benzoic acid	105	5.528	5.527	(0.960)	222058	68.4397	2280
30 Naphthalene	128	5.778	5.783	(1.004)	766639	41.3165	1380
31 4-Chloroaniline	127	5.831	5.830	(1.013)	182294	32.1981	1070
32 Hexachlorobutadiene	225	5.893	5.892	(1.023)	199087	47.3118	1580
34 2-Methylnaphthalene	142	6.500	6.499	(1.129)	546646	42.5062	1420
36 Hexachlorocyclopentadiene	237	6.659	6.658	(0.875)	68342	24.5549	818
37 2,4,6-Trichlorophenol	196	6.800	6.798	(0.893)	171303	37.0506	1240
38 2,4,5-Trichlorophenol	196	6.853	6.843	(0.900)	192814	40.2803	1340
40 2-Chloronaphthalene	162	7.020	7.022	(0.922)	573685	40.4626	1350
42 o-Nitroaniline	65	7.129	7.130	(0.936)	193463	38.4138	1280
41 m-Nitroaniline	138	7.572	7.574	(0.995)	108143	41.9492	1400
43 Dimethylphthalate	163	7.314	7.324	(0.961)	651927	39.8682	1330
44 2,6-Dinitrotoluene	165	7.387	7.392	(0.970)	149064	38.9687	1300
45 Acenaphthylene	152	7.464	7.468	(0.980)	846550	37.8443	1260
48 2,4-Dinitrophenol	184	7.690	7.691	(1.010)	47293	35.4603	1180
49 Dibenzofuran	168	7.834	7.835	(1.029)	724765	37.5772	1250
51 Diethylphthalate	149	8.069	8.070	(1.060)	638992	39.6613	1320
53 Fluorene	166	8.204	8.206	(1.078)	631973	37.7646	1260
54 4-Chlorophenylphenylether	204	8.195	8.197	(1.076)	339270	38.8840	1300
55 2-Methyl-4,6-dinitrophenol	198	8.262	8.264	(0.896)	85010	33.2409	1110

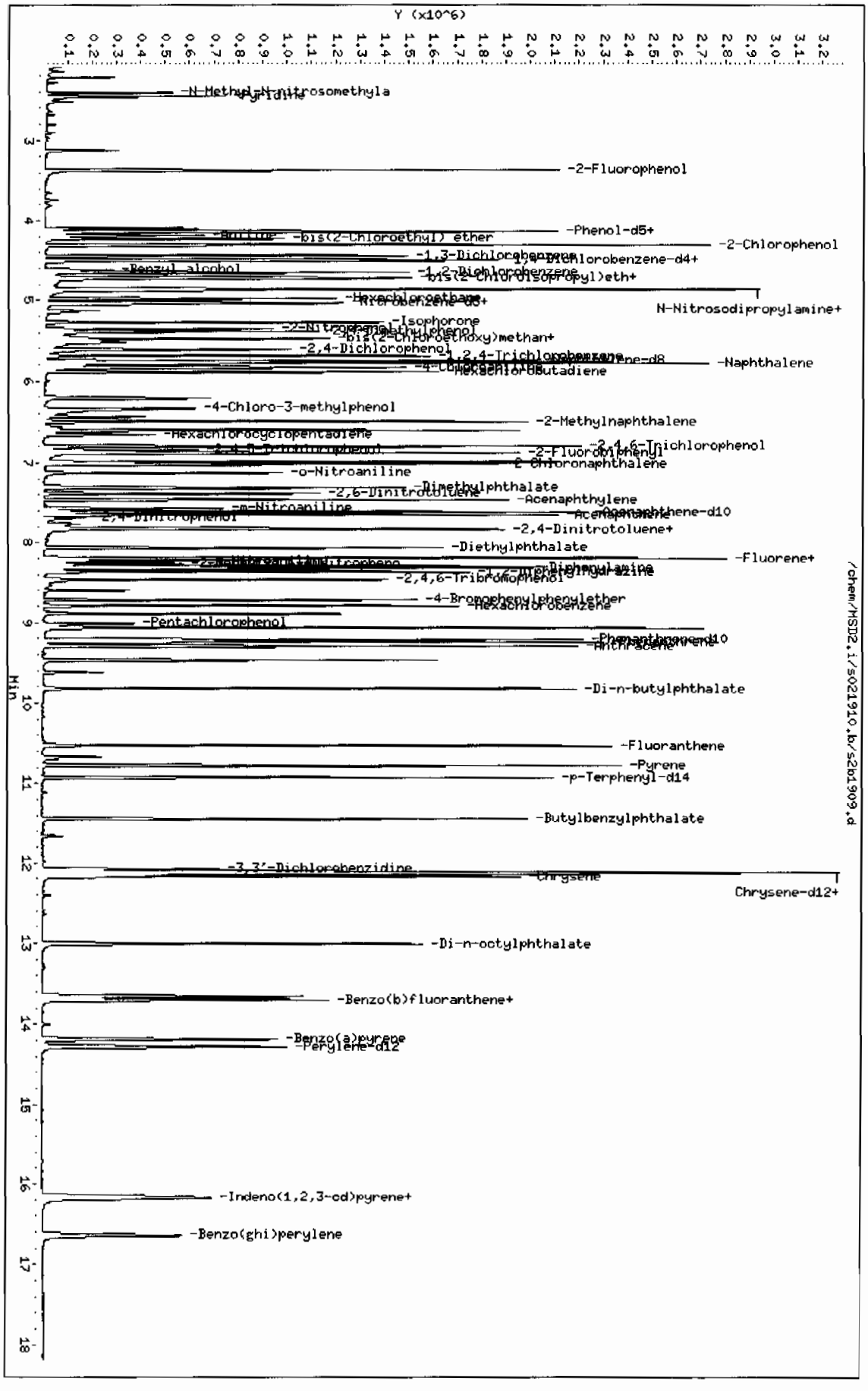
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
56 p-Nitroaniline	138	8.233	8.235	(1.081)	99766	42.4386	1410
133 Diphenylamine	169	8.324	8.326	(0.903)	532932	42.7070	1420
58 1,2-Diphenylhydrazine	77	8.368	8.370	(0.908)	647614	38.9241	1300
61 4-Bromophenylphenylether	248	8.724	8.723	(0.946)	199331	38.6292	1290
63 Hexachlorobenzene	284	8.797	8.799	(0.954)	239956	44.0342	1470
68 Phenanthrene	178	9.244	9.246	(1.003)	921599	39.6509	1320
69 Anthracene	178	9.300	9.302	(1.009)	919776	40.4348	1350
72 Di-n-butylphthalate	149	9.822	9.824	(1.066)	1094300	41.9647	1400
76 Fluoranthene	202	10.529	10.529	(1.142)	1072913	42.9782	1430
85 Butylbenzylphthalate	149	11.445	11.445	(0.943)	458074	41.8941	1400
89 Benzo(a)anthracene	228	12.123	12.125	(0.999)	908574	39.8554	1330
90 3,3'-Dichlorobenzidine	252	12.076	12.076	(0.995)	210493	39.1279	1300
92 Chrysene	228	12.170	12.175	(1.003)	875957	41.4756	1380
93 bis(2-Ethylhexyl)phthalate	149	12.111	12.113	(0.998)	653964	42.3528	1410
94 Di-n-octylphthalate	149	13.010	13.009	(0.911)	972360	38.3172	1280
95 Benzo(b)fluoranthene	252	13.655	13.661	(0.956)	746130	39.6747	1320
96 Benzo(k)fluoranthene	252	13.700	13.705	(0.959)	776892	41.6939	1390
97 Benzo(a)pyrene	252	14.190	14.192	(0.994)	665008	41.7019	1390
99 Indeno(1,2,3-cd)pyrene	276	16.156	16.162	(1.131)	592569	42.9715	1430
100 Dibenzo(a,h)anthracene	278	16.185	16.189	(1.133)	472704	42.9870	1430
101 Benzo(ghi)perylene	276	16.640	16.647	(1.165)	491536	42.1980	1410
1 N-Methyl-N-nitrosomethylamine	74	2.419	2.396	(0.538)	138345	34.3549	1140

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: /chem/MSD2.i/s021910.b/s2b1909.d
Date : 19-FEB-2010 17:43
Client ID: SBLK01LCS
Sample Info: 1420204173319526014|SVM|1|LCS
Volume Injected (uL): 0.5
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: ACS1
Column diameter: 0.20



Page 1

Miscellaneous Data

Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 952595 **Verified by:** _____

Analyst: Alberto Velasco

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)
1202041732 MB	12-FEB-2010 20:27:00	30	1	0.03333
1202041733 LCS	12-FEB-2010 20:27:00	30	1	0.03333
246557001	12-FEB-2010 20:27:00	30.06	1	0.03327
246562001	12-FEB-2010 20:27:00	30.03	1	0.0333
246582002	12-FEB-2010 20:27:00	30.03	1	0.0333
246582003	12-FEB-2010 20:27:00	30.19	1	0.03312
246582004	12-FEB-2010 20:27:00	30.02	1	0.03331
246582005	12-FEB-2010 20:27:00	30.03	1	0.0333
246582006	12-FEB-2010 20:27:00	30.02	1	0.03331
246582007	12-FEB-2010 20:27:00	30.02	1	0.03331
246582008	12-FEB-2010 20:27:00	30.14	1	0.03318
246610001	12-FEB-2010 20:27:00	30.23	1	0.03308
246610002	12-FEB-2010 20:27:00	30.02	1	0.03331
246610003	12-FEB-2010 20:27:00	30.02	1	0.03331
246611001	12-FEB-2010 20:27:00	30.19	1	0.03312
246611002	12-FEB-2010 20:27:00	30.24	1	0.03307
246611003	12-FEB-2010 20:27:00	30.02	1	0.03331
246721001	12-FEB-2010 20:27:00	30.22	1	0.03309
1202041734 MS (246721001)	12-FEB-2010 20:27:00	30.03	1	0.0333
1202041735 MSD (246721001)	12-FEB-2010 20:27:00	30.01	1	0.03332
246721002	12-FEB-2010 20:27:00	30.09	1	0.03323

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202041733	BNA LCS w/o Benzidine 50ppm	UE100204-12	1	mL	Verified By: AJS
LCS	1202041733	BENZIDINE LCS	UE100212-22	1	mL	Final Solvent: CH2Cl2
MS	1202041734	BNA LCS w/o Benzidine 50ppm	UE100204-12	1	mL	
MS	1202041734	BENZIDINE LCS	UE100212-22	1	mL	
MSD	1202041735	BNA LCS w/o Benzidine 50ppm	UE100204-12	1	mL	
MSD	1202041735	BENZIDINE LCS	UE100212-22	1	mL	
SURR	All	BNA for all Surrogate	UE100203-10	1	mL	
REGNT	All	Acetone	100211-B1	150	mL	
REGNT	All	Methylene Chloride	1269262-D	150	mL	
SOURC	All	SODIUM SULFATE	1269268	30	g	

GEL ORGANIC RUN LOG INSTRUMENT ID: MSD2

DATE: 01/08/2010 METHOD:8270C MSD2-DFTPP.m OPERATOR:AGS1 REVIEWED BY:_____
DATE:_____

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT:1239699-D
Multiplier Voltage: 1106 Emv Extr. Injection Volume: 0.5, 1.0 ul
DFTPP Solution ID: WBN091213-01 Internal Std ID: WBN100107-02
CALIBRATION & 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/MSD2.i/s010810a.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
s2a0808.d	WBN091213-01	AGS1	08-JAN-2010 21:18	50PPM	s010810a	1.0	DFTPP	passes 8270C (MEGA)
s2a0808D.d	WBN091213-01	AGS1	08-JAN-2010 21:18	50PPM	s010810a	1.0	DFTPP	passes 8270D (MEGA)
s2a0809.d	INSTBLK	AGS1	08-JAN-2010 21:51	40 PPM	s010810a	1.0	INSTBLK	
s2a0810.d	WBN091225-09	AGS1	08-JAN-2010 22:16	1 PPM	s010810a	1.0	MEGA001	LEV.1
s2a0811.d	WBN091225-10	AGS1	08-JAN-2010 22:44	10 PPM	s010810a	1.0	MEGA010	LEV.2
s2a0811D.d	WBN091225-10	AGS1	08-JAN-2010 22:44	10 PPM	s010810a	1.0	MEGA010	8270D requant as spl for C56 / C216 failed 70%-130% criteria
s2a0812.d	WBN091225-11	AGS1	08-JAN-2010 23:13	20 PPM	s010810a	1.0	MEGA020	LEV.3
s2a0812D.d	WBN091225-11	AGS1	08-JAN-2010 23:13	20 PPM	s010810a	1.0	MEGA020	8270D requant as spl for C48 passes 70%-130% criteria
s2a0813.d	WBN091225-12.4	AGS1	08-JAN-2010 23:41	40 PPM	s010810a	1.0	MEGA040	LEV.4
s2a0814.d	WBN091225-13	AGS1	09-JAN-2010 00:10	50 PPM	s010810a	1.0	MEGA050	LEV.5
s2a0815.d	WBN091225-14	AGS1	09-JAN-2010 00:38	80 PPM	s010810a	1.0	MEGA080	LEV.6
s2a0816.d	WBN091225-15	AGS1	09-JAN-2010 01:07	100 PPM	s010810a	1.0	MEGA100	LEV.7
s2a0817.d	WBN091225-16	AGS1	09-JAN-2010 01:35	120 PPM	s010810a	1.0	MEGA120	LEV.8
s2a0818.d	INSTBLK	AGS1	09-JAN-2010 02:04	40 PPM	s010810a	1.0	INSTBLK	
s2a0819.d	WBN091223-17.1	AGS1	09-JAN-2010 02:29	40 PPM	s010810a	1.0	MEGAICV	DUSE see s2a0820.d
s2a0820.d	WBN091223-17.2	AGS1	09-JAN-2010 02:58	40 PPM	s010810a	1.0	MEGAICV	PASSES 8270C 293321
s2a0820-625.d	WBN091223-17.2	AGS1	09-JAN-2010 02:58	40 PPM	ICV	1.0	MEGAICV	625 ICV 293321
s2a0820D.d	WBN091223-17.2	AGS1	09-JAN-2010 02:58	40 PPM	ICV	1.0	MEGAICV	8270D ICV 293321
s2a0821.d	WBN091213-01	AGS1	10-JAN-2010 16:32	50PPM	s010810a	1.0	DFTPP	passes 8270C (PEST-HEX)

s2a0821D.d	WBN091213-01	AGS1	10-JAN-2010 16:32	50PPM	s010810a	1.0	DFTPP	passes 8270D (PEST-HEX)
s2a0822.d	INSTBLK	AGS1	10-JAN-2010 16:44	40 PPM	s010810a	1.0	INSTBLK	
s2a0823.d	WBN100103-01	AGS1	10-JAN-2010 17:09	10 PPM	cal	1.0	AP010	DUSE ICAL failed
s2a0824.d	WBN100103-02	AGS1	10-JAN-2010 17:34	20 PPM	cal	1.0	AP020	DUSE
s2a0825.d	WBN100103-03.1	AGS1	10-JAN-2010 17:59	40 PPM	cal	1.0	AP040	DUSE
s2a0826.d	WBN100103-04	AGS1	10-JAN-2010 18:25	50 PPM	cal	1.0	AP050	DUSE
s2a0827.d	WBN100103-05	AGS1	10-JAN-2010 18:50	80 PPM	cal	1.0	AP080	DUSE
s2a0828.d	WBN100103-06	AGS1	10-JAN-2010 19:15	100 PPM	cal	1.0	AP100	DUSE
s2a0829.d	WBN100103-07	AGS1	10-JAN-2010 19:40	120 PPM	cal	1.0	AP120	DUSE
s2a0830.d	WBN100103-25	AGS1	10-JAN-2010 20:06	10 PPM	CAL	1.0	PEST010	LEV.2
s2a0831.d	WBN100103-24	AGS1	10-JAN-2010 20:31	20 PPM	CAL	1.0	PEST020	LEV.3
s2a0832.d	WBN100103-23.1	AGS1	10-JAN-2010 20:57	40 PPM	CAL	1.0	PEST040	LEV.4
s2a0833.d	WBN100103-22	AGS1	10-JAN-2010 21:22	50 PPM	CAL	1.0	PEST050	LEV.5
s2a0834.d	WBN100103-21	AGS1	10-JAN-2010 21:47	80 PPM	CAL	1.0	PEST080	LEV.6
s2a0835.d	WBN100103-20	AGS1	10-JAN-2010 22:12	100 PPM	CAL	1.0	PEST100	LEV.7
s2a0836.d	WBN100103-19	AGS1	10-JAN-2010 22:37	120 PPM	CAL	1.0	PEST120	LEV.8
s2a0837.d	WBN091202-16	AGS1	10-JAN-2010 23:03	500 PPM	CAL	1.0	HEX0500	LEV.2
s2a0837D.d	WBN091202-16	AGS1	10-JAN-2010 23:03	500 PPM	CAL	1.0	HEX0500	8270D requant as spl for C174 passes 70%-130% criteria
s2a0838.d	WBN091202-15	AGS1	10-JAN-2010 23:28	1000 PPM	CAL	1.0	HEX1000	LEV.3
s2a0839.d	WBN091202-14	AGS1	10-JAN-2010 23:53	1250 PPM	CAL	1.0	HEX1250	LEV.4
s2a0840.d	WBN091202-13	AGS1	11-JAN-2010 00:18	1500 PPM	CAL	1.0	HEX1500	LEV.5
s2a0841.d	WBN091202-12	AGS1	11-JAN-2010 00:44	1750 PPM	CAL	1.0	HEX1750	LEV.6
s2a0842.d	WBN090826-02.6	AGS1	11-JAN-2010 01:09	2000 PPM	CAL	1.0	HEX2000	LEV.7
s2a0843.d	WBN100103-08.1	AGS1	11-JAN-2010 01:35	40 PPM	DUSE	1.0	APICV	DUSE
s2a0844.d	WBN100103-26.1	AGS1	11-JAN-2010 02:00	40 PPM	DUSE	1.0	PESTICV	DUSE CAP loose concentrated
s2a0845.d	WBN100103-10.4	AGS1	11-JAN-2010 02:25	1250 PPM	ICV	1.0	HEXICV	passes 8270C
s2a0845D.d	WBN100103-10.4	AGS1	11-JAN-2010 02:25	1250 PPM	ICV	1.0	HEXICV	8270D ICV

s2a0846.d	WBN091213-01	AGS1	11-JAN-2010 14:49	50PPM	DFTPP		1.0	DFTPP	passes 8270C (AP-NEV)
s2a0846D.d	WBN091213-01	AGS1	11-JAN-2010 14:49	50PPM	s010810a		1.0	DFTPP	passes 8270D (AP-NEV)

Instrument Batch: /chem/MSD2.i/s010810a.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
s2a0848.d	WBN100103-01	AGS1	11-JAN-2010 15:27	10 PPM	CAL	1.0	AP010	LEV.2
s2a0849.d	WBN100103-02	AGS1	11-JAN-2010 15:52	20 PPM	CAL	1.0	AP020	LEV.3
s2a0850.d	WBN100103-03.1	AGS1	11-JAN-2010 16:17	40 PPM	DUSE	1.0	AP040	DUSE see s2a0856.d
s2a0851.d	WBN100103-04	AGS1	11-JAN-2010 16:43	50 PPM	CAL	1.0	AP050	LEV.5
s2a0852.d	WBN100103-05	AGS1	11-JAN-2010 17:08	80 PPM	DUSE	1.0	AP080	DUSE see s2a0857.d
s2a0853.d	WBN100103-06	AGS1	11-JAN-2010 17:33	100 PPM	CAL	1.0	AP100	LEV.7
s2a0854.d	WBN100103-07	AGS1	11-JAN-2010 17:58	120 PPM	CAL	1.0	AP120	LEV.8
s2a0855.d	UBN091117-01	AGS1	11-JAN-2010 18:23	10 PPM	CAL	1.0	NEV010	LEV.2
s2a0855D.d	UBN091117-01	AGS1	11-JAN-2010 18:23	10 PPM	CAL	1.0	NEV010	8270D requant as spl for C228/235 failed 70%-130% criteria
s2a0856.d	WBN100103-03.1	AGS1	11-JAN-2010 18:50	40 PPM	CAL	1.0	AP040	LEV.4
s2a0857.d	WBN100103-05	AGS1	11-JAN-2010 19:45	80 PPM	CAL	1.0	AP080	LEV.6
s2a0858.d	UBN091117-02	AGS1	11-JAN-2010 20:18	20 PPM	CAL	1.0	NEV020	LEV.3
s2a0859.d	UBN091117-03	JLD1	11-JAN-2010 20:43	40 PPM	CAL	1.0	NEV040	LEV.4
s2a0860.d	UBN091117-04	AGS1	11-JAN-2010 21:08	50 PPM	CAL	1.0	NEV050	LEV.5
s2a0861.d	UBN091117-05	AGS1	11-JAN-2010 21:33	80 PPM	CAL	1.0	NEV080	LEV.6
s2a0862.d	UBN091117-06	AGS1	11-JAN-2010 21:58	100 PPM	CAL	1.0	NEV100	LEV.7
s2a0863.d	UBN091117-07	AGS1	11-JAN-2010 22:24	120 PPM	CAL	1.0	NEV120	LEV.8
s2a0864.d	WBN100103-08.1	AGS1	11-JAN-2010 22:49	40 PPM	ICV	1.0	APICV	passes 8270C
s2a0864-625.d	WBN100103-08.1	AGS1	11-JAN-2010 22:49	40 PPM	ICV	1.0	APICV	625 ICV
s2a0864D.d	WBN100103-08.1	AGS1	11-JAN-2010 22:49	40 PPM	ICV	1.0	APICV	8270D ICV
s2a0865.d	WBN100103-26.3	AGS1	11-JAN-2010 23:14	40 PPM	ICV	1.0	PESTICV	passes 8270C
s2a0865D.d	WBN100103-26.3	AGS1	11-JAN-2010 23:14	40 PPM	ICV	1.0	PESTICV	8270D ICV

GEL ORGANIC RUN LOG INSTRUMENT ID: MSD2

DATE: 02/19/2010 METHOD:8270C MSD2-DFTPP.m OPERATOR:AGS1 REVIEWED BY:_____
DATE:_____

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT:1266705-D
Multiplier Voltage: 1106 Emv Extr. Injection Volume: 0.5, 1.0 ul
DFTPP Solution ID: WBN100107-01 Internal Std ID: WBN100205-01
CALIBRATION & 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/MSD2.i/s021910.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
s2b1901.d	WBN100107-01	AGS1	19-FEB-2010 14:33	50PPM	DFTPP	1.0	DFTPP	8270C TUNE
s2b1902.d	WBN100121-13.2	AGS1	19-FEB-2010 14:47	40 PPM	CVS	1.0	MEGACVS	8270C (IS1: 275812)
s2b1903.d	WBN100120-03.2	AGS1	19-FEB-2010 15:15	40 PPM	CVS	1.0	APCVS	8270C
s2b1904.d	WBN100103-23.5	AGS1	19-FEB-2010 15:41	40 PPM	CVS	1.0	PESTCVS	8270C
s2b1905-1.d	1202044925	AGS1	19-FEB-2010 16:08	954842	10-1668-1	1.0	TB	
s2b1905.d	1202044925	AGS1	19-FEB-2010 16:08	954842	10-1647-1	1.0	TB	
s2b1906-1.d	1202047016	AGS1	19-FEB-2010 16:31	954842	10-1668-1	1.0	MB	
s2b1906.d	1202047016	AGS1	19-FEB-2010 16:31	954842	10-1647-1	1.0	MB	
s2b1907-1.d	1202047017	AGS1	19-FEB-2010 16:55	954842	10-1668-1	1.0	LCS	
s2b1907.d	1202047017	AGS1	19-FEB-2010 16:55	954842	10-1647-1	1.0	LCS	
s2b1908-1.d	1202041732	AGS1	19-FEB-2010 17:18	952601	10-1668	1.0	MB	
s2b1908-2.d	1202041732	AGS1	19-FEB-2010 17:18	952601	10-1685	1.0	MB	
s2b1908-3.d	1202041732	AGS1	19-FEB-2010 17:18	952601	10-1701	1.0	MB	
s2b1908-4.d	1202041732	AGS1	19-FEB-2010 17:18	952601	10-1702	1.0	MB	
s2b1908-5.d	1202041732	AGS1	19-FEB-2010 17:18	952601	10-1709	1.0	MB	
s2b1908.d	1202041732	AGS1	19-FEB-2010 17:18	952601	10-1666	1.0	MB	
s2b1909-1.d	1202041733	AGS1	19-FEB-2010 17:43	952601	10-1668	1.0	LCS	
s2b1909-2.d	1202041733	AGS1	19-FEB-2010 17:43	952601	10-1685	1.0	LCS	
s2b1909-3.d	1202041733	AGS1	19-FEB-2010 17:43	952601	10-1701	1.0	LCS	

s2b1909-4.d	1202041733	AGS1	19-FEB-2010 17:43	952601	10-1702	1.0	LCS	
s2b1909-5.d	1202041733	AGS1	19-FEB-2010 17:43	952601	10-1709	1.0	LCS	
s2b1909.d	1202041733	AGS1	19-FEB-2010 17:43	952601	10-1666	1.0	LCS	
s2b1910.d	246478001	AGS1	19-FEB-2010 18:09	954842	10-1647-1	1.0	LANL	
s2b1911.d	246563001	AGS1	19-FEB-2010 18:33	954842	10-1668-1	1.0	LANL	
s2b1912.d	1202047018	AGS1	19-FEB-2010 18:56	954842	10-1668-1	1.0	MS	
s2b1913.d	1202047019	AGS1	19-FEB-2010 19:20	954842	10-1668-1	1.0	MSD	
s2b1914.d	246721001	AGS1	19-FEB-2010 19:43	952601	10-1709	1.0	LANL	USE no hit ; failures isolated in MS
s2b1915.d	1202041734	AGS1	19-FEB-2010 20:09	952601	10-1709	1.0	MS	USE **MS/MSD mult.RPD failures - NCR; MS poor recoveries
s2b1916.d	1202041735	AGS1	19-FEB-2010 20:34	952601	10-1709	1.0	MSD	USE **MS/MSD mult.RPD failures - 2 spks low; similar to LCS
s2b1917.d	246721002	AGS1	19-FEB-2010 20:59	952601	10-1709	1.0	LANL	
s2b1918.d	246557001	AGS1	19-FEB-2010 21:25	952601	10-1666	1.0	LANL	
s2b1919.d	246562001	AGS1	19-FEB-2010 21:50	952601	10-1668	1.0	LANL	
s2b1920.d	246582002	AGS1	19-FEB-2010 22:16	952601	10-1685	1.0	LANL	
s2b1921.d	246582003	AGS1	19-FEB-2010 22:41	952601	10-1685	1.0	LANL	
s2b1922.d	246582004	AGS1	19-FEB-2010 23:07	952601	10-1685	1.0	LANL	
s2b1923.d	246582005	AGS1	19-FEB-2010 23:32	952601	10-1685	1.0	LANL	
s2b1924.d	246582006	AGS1	19-FEB-2010 23:57	952601	10-1685	1.0	LANL	
s2b1925.d	246582007	AGS1	20-FEB-2010 00:23	952601	10-1685	1.0	LANL	
s2b1926.d	246582008	AGS1	20-FEB-2010 00:48	952601	10-1685	1.0	LANL	
s2b1927.d	246610001	AGS1	20-FEB-2010 01:13	952601	10-1701	1.0	LANL	
s2b1928.d	246610002	AGS1	20-FEB-2010 01:38	952601	10-1701	1.0	LANL	
s2b1929.d	246610003	AGS1	20-FEB-2010 02:03	952601	10-1701	1.0	LANL	
s2b1930.d	246611001	AGS1	20-FEB-2010 02:29	952601	10-1702	1.0	LANL	
s2b1931.d	246611002	AGS1	20-FEB-2010 02:54	952601	10-1702	1.0	LANL	DUSE: outside tune - rerun s2b2207
s2b1932.d	246611003	AGS1	20-FEB-2010 03:19	952601	10-1702	1.0	LANL	DUSE: outside tune - rerun s2b2208

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
23-FEB-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
SEMIVOA GC/MS	SW846 8270C	Solid	LANL
Batch ID:	**Sample Numbers:**		
952601	See Below		

Potentially affected work order(s)(SDG): 246557(10-1666),246562(10-1668),246582(10-1685),246610(10-1701),246611(10-1702),246721(10-1709)

Application Issues:

Failed Recovery for MS/PS

Failed RPD for MS/MSD, or PS/PSD

Failed Yield for Surrogates

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. The MS(1202041734) recovered multiple spikes and surrogate outside control limits. Please see QC report for specific failures. 2. The MSD(1202041735) did not recover 4-Nitrophenol (limits: 15.00%-110.00%).	1., 2. The MS associated with LANL SDG 10-1709 displayed several biased low or failing spike recoveries. The associated MSD passed all spike recoveries with the exception of 4-Nitrophenol (which displayed 0% recovery in the MS indicating matrix interference). All other spike and surrogate analytes in the MSD, LCS and parent sample recovered within their established acceptance limits. Therefore, it was determined the low recoveries were limited to the MS sample only. Since a re-extraction would have been out of holding and no target analytes were detected in the parent sample, the data from this extraction were reported.
3. The MS/MSD RPD values for multiple analytes were outside RPD limits. Please see QC report for specific failures.	3. RPD failures were due to the significantly low recoveries in the MS compared to recoveries in the MSD. No target analytes were detected in the parent sample.

Originator's Name:

Anne Salter 23-FEB-10

Data Validator/Group Leader:

Cameron Bearden 24-FEB-10

GEL Laboratories LLC

GEL Laboratories, LLC

Data file : /chem/MSD2.i/s021910.b/s2b1915.d
Lab Smp Id: 1202041734 Client Smp ID: WST16-10-12253MS
Inj Date : 19-FEB-2010 20:09
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |1202041734|952601|1|SVM|1|MS
Misc Info : |MSD8270_S|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 20-Feb-2010 14:26 jos00786 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 15 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1709.sub
Target Version: 3.50
Processing Host: hpclp1

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	10.16000	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	4.495	4.494	(1.000)	255947	40.0000	
* 29 Naphthalene-d8	136	5.754	5.759	(1.000)	869856	40.0000	
* 46 Acenaphthene-d10	164	7.615	7.618	(1.000)	552964	40.0000	
* 67 Phenanthrene-d10	188	9.215	9.219	(1.000)	989615	40.0000	
* 91 Chrysene-d12	240	12.137	12.142	(1.000)	951240	40.0000	
* 98 Perylene-d12	264	14.282	14.286	(1.000)	780074	40.0000	
$ 3 2-Fluorophenol	112	3.366	3.354	(0.749)	187556	30.1986	1120
$ 5 Phenol-d5	99	4.134	4.134	(0.920)	251605	30.2722	1120(R)
$ 20 Nitrobenzene-d5	82	5.023	5.032	(0.873)	120940	17.5476	650
$ 39 2-Fluorobiphenyl	172	6.881	6.884	(0.904)	268666	15.7037	582
$ 60 2,4,6-Tribromophenol	329	8.463	8.464	(1.111)	110200	46.0770	1710
$ 81 p-Terphenyl-d14	244	10.924	10.925	(0.900)	566956	31.0312	1150

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
6 Phenol	94	4.146	4.148	(0.922)	132230	15.5873	578(R)
8 2-Chlorophenol	128	4.304	4.304	(0.958)	108444	15.4267	572
11 1,4-Dichlorobenzene	146	4.509	4.512	(1.003)	136549	16.1628	599
17 N-Nitrosodipropylamine	70	4.858	4.873	(1.081)	91502	16.5465	613(Q)
28 1,2,4-Trichlorobenzene	180	5.692	5.695	(0.989)	130630	19.6638	729
33 4-Chloro-3-methylphenol	107	6.343	6.332	(1.103)	130262	24.7924	919
47 Acenaphthene	154	7.647	7.653	(1.004)	260599	18.3508	680
50 2,4-Dinitrotoluene	165	7.817	7.826	(1.027)	141062	28.7022	1060
65 Pentachlorophenol	266	9.016	9.013	(0.978)	59546	25.2689	937
79 Pyrene	202	10.774	10.775	(0.888)	888275	30.9706	1150
2 Pyridine	79	2.454	2.425	(0.546)	83433	17.5596	651
4 Aniline	66	4.187	4.189	(0.931)	66438	17.2722	640
7 bis(2-Chloroethyl) ether	63	4.228	4.233	(0.941)	107989	14.0310	520(R)
9 1,3-Dichlorobenzene	146	4.442	4.442	(0.988)	132887	16.1659	599
13 1,2-Dichlorobenzene	146	4.653	4.656	(1.035)	127306	16.2240	601
14 bis(2-Chloroisopropyl)ether	45	4.729	4.735	(1.052)	282586	13.1732	488(R)
15 o-Cresol	107	4.712	4.712	(1.048)	87752	15.8848	589(QR)
18 m,p-Cresols	107	4.856	4.867	(1.080)	127323	18.1404	672(Q)
19 Hexachloroethane	117	4.979	4.982	(1.108)	49730	14.7168	545
21 Nitrobenzene	77	5.043	5.052	(0.877)	134684	18.9953	704
22 Isophorone	82	5.275	5.287	(0.917)	251905	19.2296	713
23 2-Nitrophenol	139	5.360	5.363	(0.932)	57693	18.3870	682
24 2,4-Dimethylphenol	122	5.390	5.395	(0.937)	85149	15.3094	567
25 bis(2-Chloroethoxy)methane	93	5.481	5.486	(0.953)	131141	17.3387	643
26 2,4-Dichlorophenol	162	5.616	5.615	(0.976)	101705	19.6033	727
27 Benzoic acid	105	5.507	5.527	(0.957)	164495	53.2021	1970
30 Naphthalene	128	5.777	5.783	(1.004)	336974	18.3033	678
31 4-Chloroaniline	127	5.827	5.830	(1.013)	102950	18.3267	679
32 Hexachlorobutadiene	225	5.892	5.892	(1.024)	79223	18.9748	703
34 2-Methylnaphthalene	142	6.496	6.499	(1.129)	250126	19.6022	726
36 Hexachlorocyclopentadiene	237	6.658	6.658	(0.874)	15211	5.41303	201(aR)
37 2,4,6-Trichlorophenol	196	6.798	6.798	(0.893)	88103	18.8735	700
38 2,4,5-Trichlorophenol	196	6.848	6.843	(0.899)	116295	24.0629	892
40 2-Chloronaphthalene	162	7.019	7.022	(0.922)	274468	19.1736	711
42 o-Nitroaniline	65	7.125	7.130	(0.936)	116347	22.8811	848
41 m-Nitroaniline	138	7.568	7.574	(0.994)	80970	32.6322	1210
43 Dimethylphthalate	163	7.309	7.324	(0.960)	404148	24.4794	907
44 2,6-Dinitrotoluene	165	7.383	7.392	(0.970)	93565	24.2264	898
45 Acenaphthylene	152	7.462	7.468	(0.980)	436436	19.3242	716
48 2,4-Dinitrophenol	184	7.688	7.691	(1.010)	29049	27.1482	1010
49 Dibenzofuran	168	7.832	7.835	(1.029)	397375	20.4061	756
51 Diethylphthalate	149	8.064	8.070	(1.059)	444333	27.3157	1010
53 Fluorene	166	8.202	8.206	(1.077)	380013	22.4914	834
54 4-Chlorophenylphenylether	204	8.193	8.197	(1.076)	197403	22.4085	830
55 2-Methyl-4,6-dinitrophenol	198	8.261	8.264	(0.896)	61558	23.4798	870
56 p-Nitroaniline	138	8.228	8.235	(1.081)	83885	36.8891	1370
133 Diphenylamine	169	8.322	8.326	(0.903)	366229	28.6278	1060

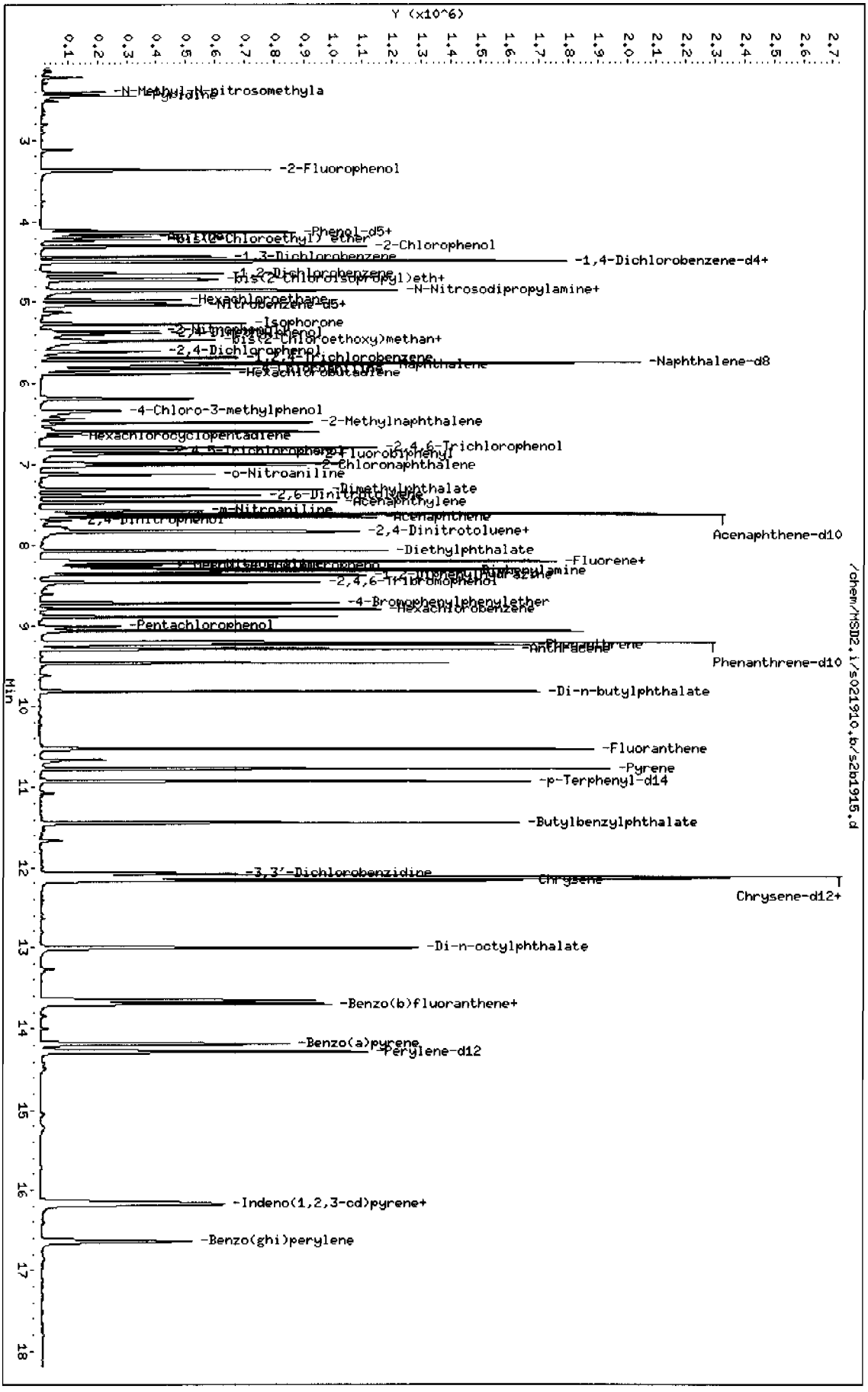
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
58 1,2-Diphenylhydrazine	77	8.366	8.370	(0.908)	405580	23.7786	881
61 4-Bromophenylphenylether	248	8.719	8.723	(0.946)	130519	24.6730	914
63 Hexachlorobenzene	284	8.795	8.799	(0.954)	163564	29.2788	1080
68 Phenanthrene	178	9.242	9.246	(1.003)	669037	28.0782	1040
69 Anthracene	178	9.298	9.302	(1.009)	675333	28.9600	1070
72 Di-n-butylphthalate	149	9.823	9.824	(1.066)	857667	32.0830	1190
76 Fluoranthene	202	10.524	10.529	(1.142)	852471	33.3098	1230
85 Butylbenzylphthalate	149	11.441	11.445	(0.943)	371402	31.8430	1180
89 Benzo(a)anthracene	228	12.120	12.125	(0.999)	764098	31.4217	1160
90 3,3'-Dichlorobenzidine	252	12.075	12.076	(0.995)	192759	34.1755	1270
92 Chrysene	228	12.170	12.175	(1.003)	735653	32.6539	1210
93 bis(2-Ethylhexyl)phthalate	149	12.108	12.113	(0.998)	533096	32.3658	1200
94 Di-n-octylphthalate	149	13.007	13.009	(0.911)	812873	28.2451	1050
95 Benzo(b)fluoranthene	252	13.653	13.661	(0.956)	654839	30.7034	1140
96 Benzo(k)fluoranthene	252	13.697	13.705	(0.959)	675975	31.9887	1180
97 Benzo(a)pyrene	252	14.185	14.192	(0.993)	591030	32.6808	1210
99 Indeno(1,2,3-cd)pyrene	276	16.155	16.162	(1.131)	545712	34.8947	1290
100 Dibenzo(a,h)anthracene	278	16.182	16.189	(1.133)	437781	35.1041	1300
101 Benzo(ghi)perylene	276	16.637	16.647	(1.165)	451461	34.1751	1270
1 N-Methyl-N-nitrosomethylamine	74	2.413	2.396	(0.537)	61361	15.3180	568

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/MSD2.i/s021910.b/s2b1915.d
Date : 19-FEB-2010 20:09
Client ID: WST16-10-12253MS
Sample Info: 1120204173419526011|SVM11MS
Volume Injected (uL): 0.5
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: ACS1
Column diameter: 0.20



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Data file : /chem/MSD2.i/s021910.b/s2b1916.d
Lab Smp Id: 1202041735 Client Smp ID: WST16-10-12253MSD
Inj Date : 19-FEB-2010 20:34
Operator : AGS1 Inst ID: MSD2.i
Smp Info : |1202041735|95260]|]|SVM|1|MSD
Misc Info : |MSD8270_S|WBN100205-01|
Comment : Column: J & W Scientific DB-5MS 25m x 0.2mm x 0.33um
Method : /chem/MSD2.i/s021910.b/MSD2-M8270PAQA-010810a.m
Meth Date : 20-Feb-2010 14:26 jos00786 Quant Type: ISTD
Cal Date : 11-JAN-2010 20:43 Cal File: s2a0859.d
Als bottle: 16 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1709.sub
Target Version: 3.50
Processing Host: hpclp1

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	30.01000	weight of sample
M	10.16000	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	4.495	4.494	(1.000)	278684	40.0000	
* 29 Naphthalene-d8	136	5.758	5.759	(1.000)	951822	40.0000	
* 46 Acenaphthene-d10	164	7.614	7.618	(1.000)	605234	40.0000	
* 67 Phenanthrene-d10	188	9.219	9.219	(1.000)	1086298	40.0000	
* 91 Chrysene-d12	240	12.140	12.142	(1.000)	1060839	40.0000	
* 98 Perylene-d12	264	14.282	14.286	(1.000)	837141	40.0000	
$ 3 2-Fluorophenol	112	3.366	3.354	(0.749)	478625	70.7765	2620
$ 5 Phenol-d5	99	4.137	4.134	(0.920)	616587	68.1330	2530
$ 20 Nitrobenzene-d5	82	5.027	5.032	(0.873)	292220	38.7480	1440
$ 39 2-Fluorobiphenyl	172	6.883	6.884	(0.904)	607385	32.4359	1200
$ 60 2,4,6-Tribromophenol	329	8.466	8.464	(1.112)	180245	68.8556	2550
$ 81 p-Terphenyl-d14	244	10.926	10.925	(0.900)	710425	34.8665	1290

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
6 Phenol	94	4.149	4.148	(0.923)	333648	36.1216	1340
8 2-Chlorophenol	128	4.305	4.304	(0.958)	279542	36.5218	1350
11 1,4-Dichlorobenzene	146	4.510	4.512	(1.003)	334469	36.3597	1350
17 N-Nitrosodipropylamine	70	4.868	4.873	(1.083)	219757	36.4970	1350(Q)
28 1,2,4-Trichlorobenzene	180	5.693	5.695	(0.989)	322551	44.3725	1640
33 4-Chloro-3-methylphenol	107	6.345	6.332	(1.102)	243958	42.4333	1570
47 Acenaphthene	154	7.650	7.653	(1.005)	521269	33.5365	1240
50 2,4-Dinitrotoluene	165	7.820	7.826	(1.027)	197949	36.7986	1360
65 Pentachlorophenol	266	9.019	9.013	(0.978)	74581	27.9677	1040
79 Pyrene	202	10.776	10.775	(0.888)	1119279	34.9931	1300
2 Pyridine	79	2.457	2.425	(0.547)	187892	36.3182	1350
4 Aniline	66	4.190	4.189	(0.932)	169217	40.4029	1500
7 bis(2-Chloroethyl) ether	63	4.231	4.233	(0.941)	271743	32.4268	1200
9 1,3-Dichlorobenzene	146	4.443	4.442	(0.988)	326469	36.4753	1350
12 Benzyl alcohol	108	4.622	4.618	(1.028)	54075	11.6721	433(Q)
13 1,2-Dichlorobenzene	146	4.654	4.656	(1.035)	316802	37.0796	1380
14 bis(2-Chloroisopropyl)ether	45	4.730	4.735	(1.052)	687825	29.4480	1090
15 o-Cresol	107	4.716	4.712	(1.049)	230090	38.2525	1420
18 m,p-Cresols	107	4.862	4.867	(1.082)	327236	42.8193	1590(Q)
19 Hexachloroethane	117	4.983	4.982	(1.108)	129148	35.1010	1300
21 Nitrobenzene	77	5.047	5.052	(0.877)	326590	42.0944	1560
22 Isophorone	82	5.279	5.287	(0.917)	584892	40.8039	1510
23 2-Nitrophenol	139	5.361	5.363	(0.931)	144410	42.0608	1560
24 2,4-Dimethylphenol	122	5.394	5.395	(0.937)	213934	35.1519	1300
25 bis(2-Chloroethoxy)methane	93	5.485	5.486	(0.953)	328460	39.6873	1470
26 2,4-Dichlorophenol	162	5.617	5.615	(0.976)	241183	42.4841	1580
27 Benzoic acid	105	5.535	5.527	(0.961)	245343	69.5010	2580
30 Naphthalene	128	5.778	5.783	(1.004)	799985	39.7106	1470
31 4-Chloroaniline	127	5.831	5.830	(1.013)	227621	37.0306	1370
32 Hexachlorobutadiene	225	5.893	5.892	(1.023)	203101	44.4560	1650
34 2-Methylnaphthalene	142	6.501	6.499	(1.129)	576616	41.2975	1530
36 Hexachlorocyclopentadiene	237	6.660	6.658	(0.875)	76165	24.7635	918
37 2,4,6-Trichlorophenol	196	6.800	6.798	(0.893)	176319	34.5092	1280
38 2,4,5-Trichlorophenol	196	6.853	6.843	(0.900)	202106	38.2066	1420
40 2-Chloronaphthalene	162	7.021	7.022	(0.922)	604442	38.5781	1430
42 o-Nitroaniline	65	7.130	7.130	(0.936)	200788	36.0772	1340
41 m-Nitroaniline	138	7.570	7.574	(0.994)	118492	41.6430	1540
43 Dimethylphthalate	163	7.312	7.324	(0.960)	664481	36.7719	1360
44 2,6-Dinitrotoluene	165	7.388	7.392	(0.970)	152868	36.1631	1340
45 Acenaphthylene	152	7.465	7.468	(0.980)	895824	36.2391	1340
48 2,4-Dinitrophenol	184	7.691	7.691	(1.010)	48861	34.0788	1260
49 Dibenzofuran	168	7.835	7.835	(1.029)	760072	35.6606	1320
51 Diethylphthalate	149	8.067	8.070	(1.059)	642395	36.0811	1340
53 Fluorene	166	8.205	8.206	(1.078)	659195	35.6456	1320
54 4-Chlorophenylphenylether	204	8.193	8.197	(1.076)	353248	36.6363	1360
55 2-Methyl-4,6-dinitrophenol	198	8.264	8.264	(0.896)	88456	30.7365	1140
56 p-Nitroaniline	138	8.234	8.235	(1.081)	114163	43.6167	1620

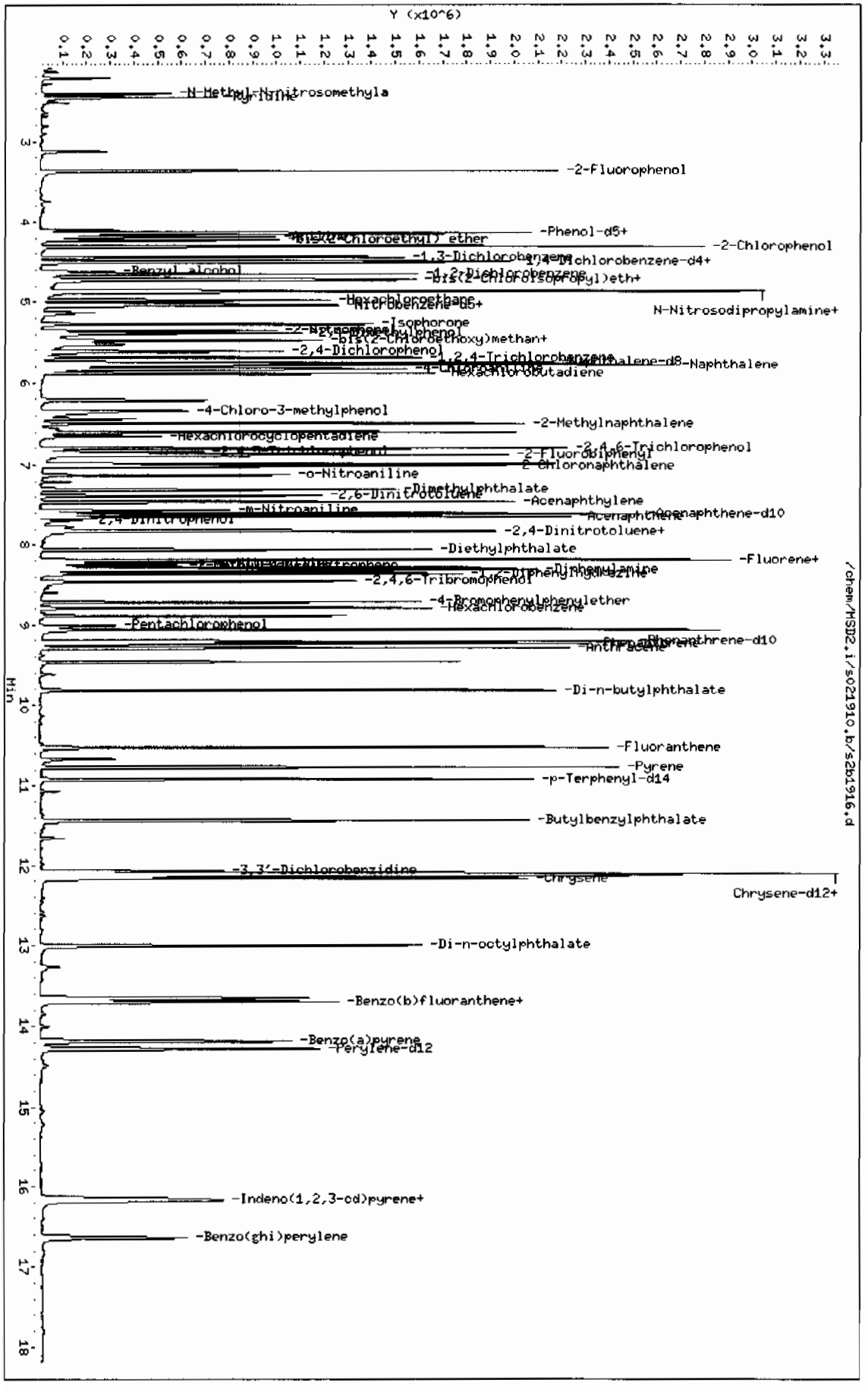
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/ul)	FINAL (ug/Kg)
133 Diphenylamine	169	8.325	8.326	(0.903)	547716	39.0038	1450
58 1,2-Diphenylhydrazine	77	8.367	8.370	(0.908)	669639	35.7658	1330
61 4-Bromophenylphenylether	248	8.722	8.723	(0.946)	204552	35.2265	1310
63 Hexachlorobenzene	284	8.796	8.799	(0.954)	241110	39.3187	1460
68 Phenanthrene	178	9.246	9.246	(1.003)	933973	35.7084	1320
69 Anthracene	178	9.299	9.302	(1.009)	941101	36.7650	1360
72 Di-n-butylphthalate	149	9.824	9.824	(1.066)	1089928	37.1425	1380
76 Fluoranthene	202	10.529	10.529	(1.142)	1084938	38.6202	1430
85 Butylbenzylphthalate	149	11.443	11.445	(0.943)	472592	36.3326	1350
89 Benzo(a)anthracene	228	12.122	12.125	(0.999)	958894	35.3583	1310
90 3,3'-Dichlorobenzidine	252	12.078	12.076	(0.995)	225538	35.6526	1320
92 Chrysene	228	12.172	12.175	(1.003)	920543	36.6393	1360
93 bis(2-Ethylhexyl)phthalate	149	12.110	12.113	(0.998)	671799	36.5730	1360
94 Di-n-octylphthalate	149	13.010	13.009	(0.911)	1018277	32.9703	1220
95 Benzo(b)fluoranthene	252	13.656	13.661	(0.956)	815223	35.6177	1320
96 Benzo(k)fluoranthene	252	13.700	13.705	(0.959)	832101	36.6926	1360
97 Benzo(a)pyrene	252	14.188	14.192	(0.993)	731660	37.6989	1400
99 Indeno(1,2,3-cd)pyrene	276	16.156	16.162	(1.131)	662557	39.4781	1460
100 Dibenzo(a,h)anthracene	278	16.186	16.189	(1.133)	533283	39.8471	1480
101 Benzo(ghi)perylene	276	16.642	16.647	(1.165)	544231	38.3893	1420
1 N-Methyl-N-nitrosomethylamine	74	2.416	2.396	(0.538)	143151	32.8203	1220

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/MSD2.i/s021910.b/s2b1916.d
Date : 19-FEB-2010 20:34
Client ID: WST16-10-12253MSD
Sample Info: !120204173519526014!1!SVM!1!MSD
Volume Injected (uL): 0.5
Column phase: J&W DB-5MS

Instrument: MSD2.i
Operator: ACS1
Column diameter: 0.20



Page 1

LC/MS/MS PERCHLORATE ANALYSIS

Perchlorate by LC/MSMS
Los Alamos National Laboratory (LANL)
SDG 10-1666

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:	952832
Prep Batch Number:	952831

Sample Analysis

Sample ID	Client ID
246557001	RE15-10-8363
1202042250	Interference Check Sample (ICS)
1202042246	Method Blank (MB)
1202042247	Laboratory Control Sample (LCS)
1202042248	246566002(RE46-10-11495) Matrix Spike (MS)
1202042249	246566002(RE46-10-11495) 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.

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 246566002 (RE46-10-11495) from SDG 10-1673 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.

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 Maier **Date:** 03/04/10

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: 952831

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE15-10-8363

Date Received: 09-FEB-10

GEL Job No (SDG): 10-1666

GEL Sample ID: 246557001

Date Filtered: 25-FEB-10

Injection Volume (uL): 20

%Solids: 81

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.615	2.46	0.615	ug/kg	U	1	03-MAR-10 17:08	per0303021a
	Perchlorate Isotope Ratio						1	03-MAR-10 17:08	per0303021a
14797-73-0	Perchlorate-101	.615	2.46	0.615	ug/kg	U	1	03-MAR-10 17:08	per0303021a
	Perchlorate-O(18)			5.97	ug/kg		1	03-MAR-10 17:08	per0303021a

^ 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 =

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

QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10–1666

Extract Batch Code: 952831

Date Filtered: 25–FEB–10

Matrix: SOIL

Sample ID: 1202042247

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.32	ug/kg	116		70 – 130
Perchlorate Isotope Ratio		3.15				–
Perchlorate–101	2.00	2.33	ug/kg	117		70 – 130
Perchlorate–O(18)		5.04	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): 10–1666

Extract Batch Code: 952831

Date Filtered: 25–FEB–10

Matrix: SOIL

Sample ID: 1202042250

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.2	ug/kg	110		70 – 130
Perchlorate Isotope Ratio		3.05				
Perchlorate–101	2.00	2.28	ug/kg	114		70 – 130
Perchlorate–O(18)		4.99	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\per030310a.qld

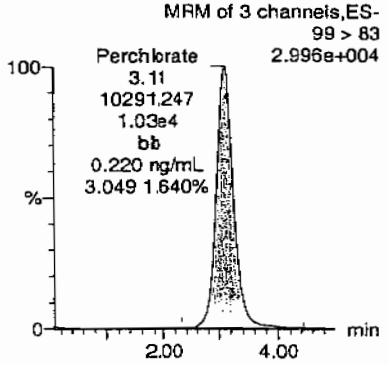
Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303014a
Date: 03-Mar-2010
Time: 16:12:09
ID: 1202042250
Vial: 1:3,C

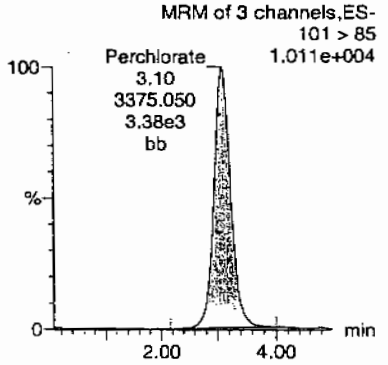
|LANL|952832|.5012D|IC5|1|

GW 03-04-10

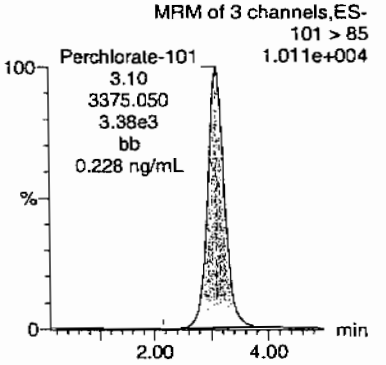
Perchlorate



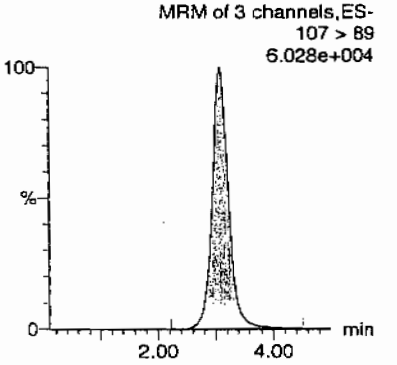
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202042250	Perchlorate	99 > 83	3.11	10291.247	10291.247	bb			0.2198	109.92	9.92	635.589	3.05
1202042250	Perchlorate-101	101 > 85	3.10	3375.050	3375.050	bb			0.2278	113.91	13.91	654.455	
1202042250	Perchlorate-O(18)	107 > 89	3.09	20254.064	20254.064	bb			0.4991	99.83	-0.17	964.231	

MAP 3/4/10

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10–1666

Extract Batch Code: 952831

Date Extracted: 25–FEB–10

GEL MS/PS ID: 1202042248

Client ID: RE46–10–11495

GEL MSD/PSD ID: 1202042249

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Recovery Limit
Perchlorate	2.10	0.127	ug/kg	2.36	106	2.32	104	1.69	30	75 – 125
Perchlorate Isotope Ratio	0	0.00		3.11		3.16		0		–
Perchlorate–101	2.10	0.125	ug/kg	2.40	108	2.31	104	3.58	30	75 – 125
Perchlorate–O(18)	0	5.13	ug/kg	5.16		5.04		2.39		–

^ 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): 10–1666

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	03–MAR–10	per0303001a	IPB001
Perchlorate–101	0.00	0	NA	03–MAR–10	per0303001a	IPB001
Perchlorate	0.00	0	NA	03–MAR–10	per0303002a	IPB001
Perchlorate–101	0.00	0	NA	03–MAR–10	per0303002a	IPB001

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

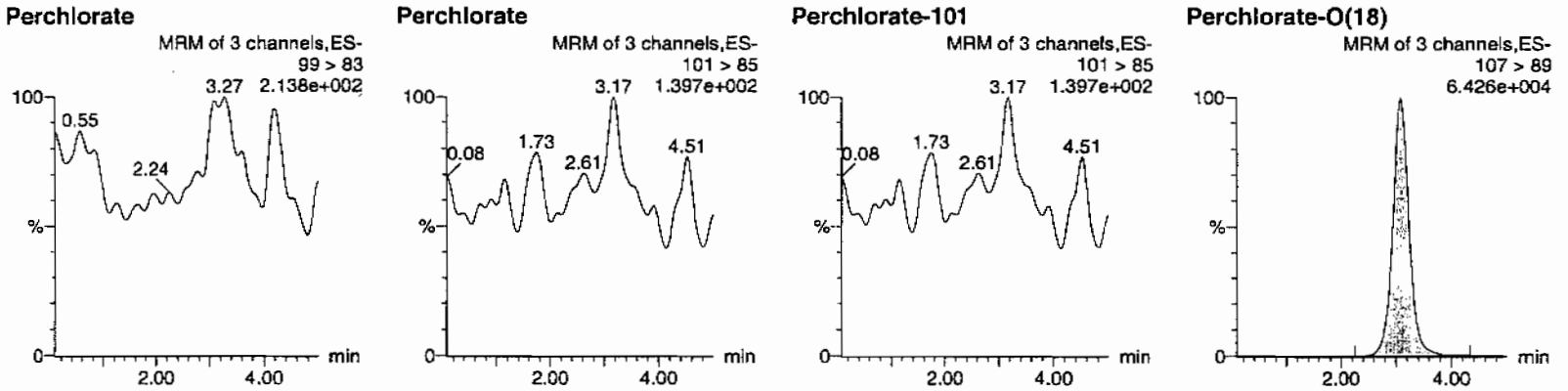
Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per030310a.mdb 04 Mar 2010 07:52:42
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per030310a.cdb 04 Mar 2010 07:53:00

Name: per0303001a
Date: 03-Mar-2010
Time: 14:27:09
ID: IPB001
Vial: 1:1,A

CWW
03-04-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	3.09	22060.434	22060.434	bb			0.5437	108.73 ✓	8.73	4121.5...	

MAT
3/4/10

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

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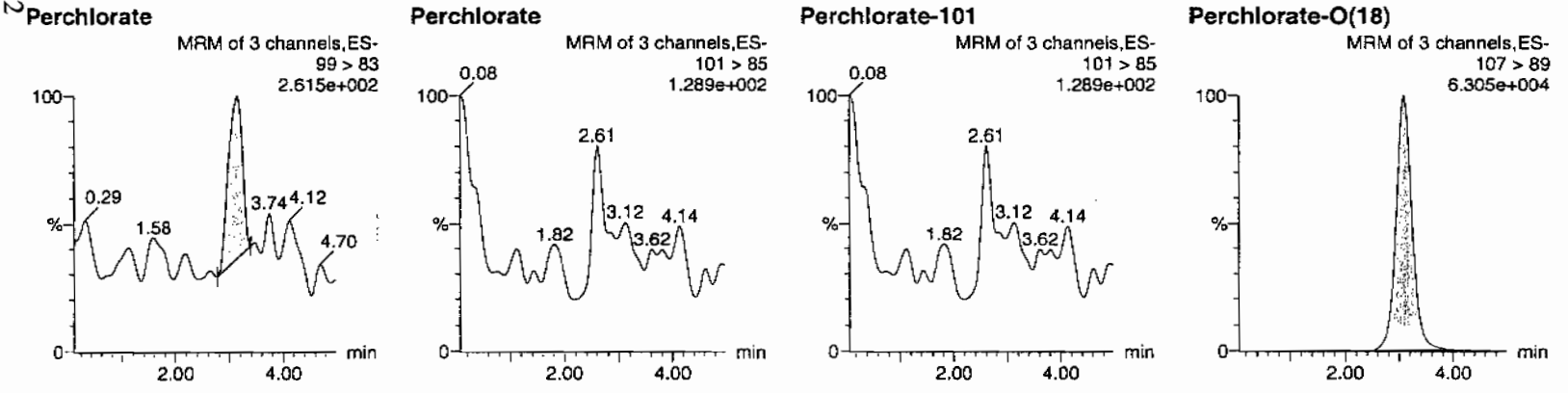
Date: 03-Mar-2010
Time: 14:35:29
ID: IPB001
Vial: 1:1,A

CWW 03-04-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83	3.15	51.984	51.984	bb			0.0011			6.075	0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	3.09	21720.617	21720.617	bb			0.5353	107.06	7.06	9006.0...	

MAP 3/4/10

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10-1666

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	03-MAR-10	per0303008a	IPB002
Perchlorate-101	0.00	0	NA	03-MAR-10	per0303008a	IPB002
Perchlorate	0.00	0	NA	03-MAR-10	per0303010a	IPB003
Perchlorate-101	0.00	0	NA	03-MAR-10	per0303010a	IPB003
Perchlorate	0.00	0	NA	03-MAR-10	per0303023a	IPB004
Perchlorate-101	0.00	0	NA	03-MAR-10	per0303023a	IPB004

Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

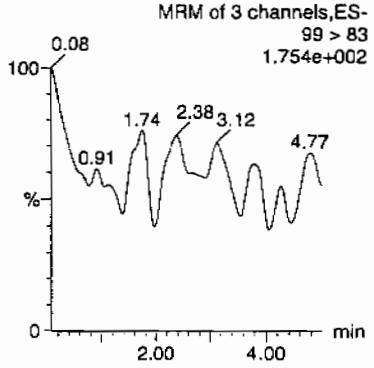
Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

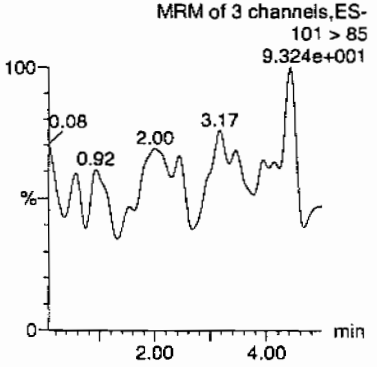
Name: per0303008a
Date: 03-Mar-2010
Time: 15:23:53
ID: IPB002
Vial: 1:1,A

CWW 03-04-10

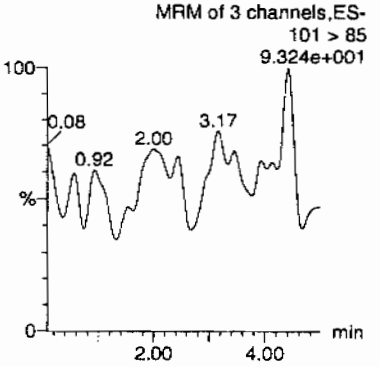
Perchlorate



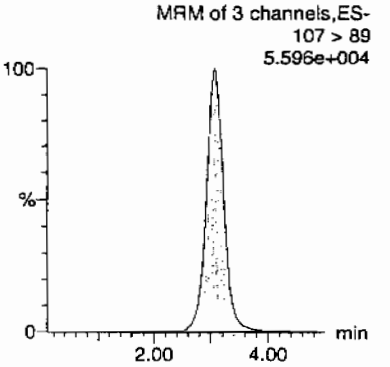
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83											0.00
IPB002	Perchlorate-101	101 > 85											
IPB002	Perchlorate-O(18)	107 > 89	3.07	19629.613	19629.613	bb			0.4837	96.75	-3.25	3318.1...	

MATT 3/4/10

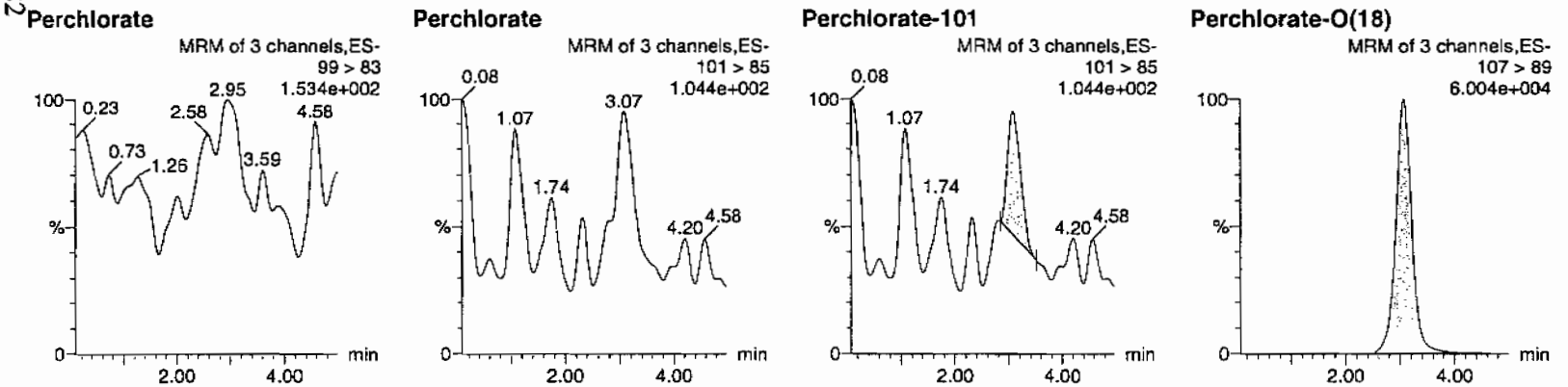
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303010a
Date: 03-Mar-2010
Time: 15:39:57
ID: IPB003
Vial: 1:1,A

Cmw
03-04-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83											0.00
IPB003	Perchlorate-101	101 > 85	3.07	14.466	14.466	bb			0.0010			5.030	
IPB003	Perchlorate-O(18)	107 > 89	3.07	20478.729	20478.729	bb			0.5047	100.93	0.93	3765.8...	

MJT
3/4/10

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

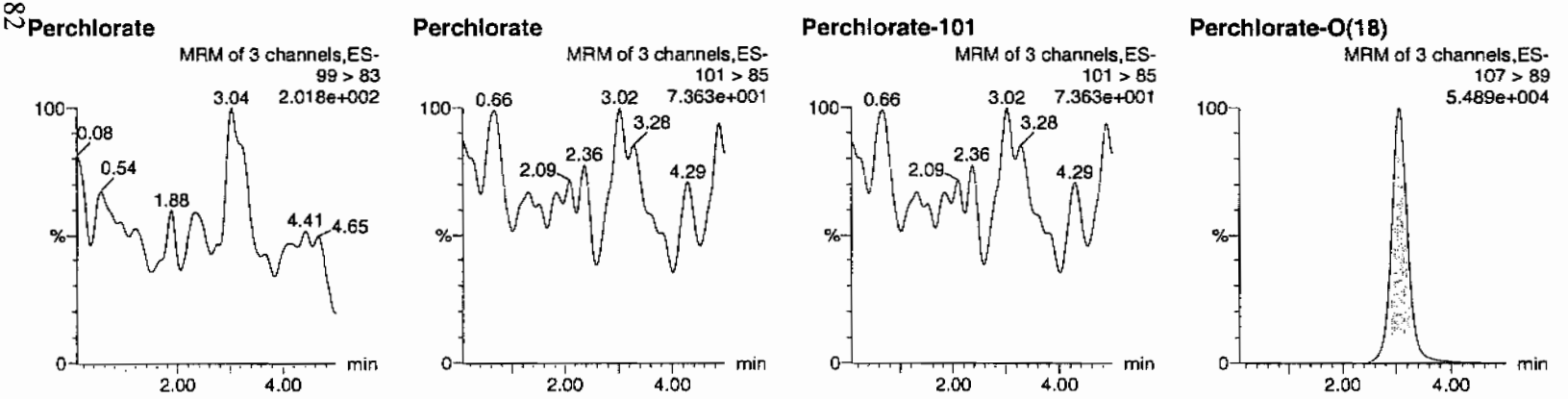
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303023a
Date: 03-Mar-2010
Time: 17:24:30
ID: IPB004
Vial: 1:1,A

CWJ 03-04-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB004	Perchlorate	99 > 83											0.00
IPB004	Perchlorate-101	101 > 85											
IPB004	Perchlorate-O(18)	107 > 89	3.06	19073.689	19073.689	bb			0.4700	94.01	-5.99	2220.5...	

MAT 3/4/10

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Nairb.ref

;Positive ion monoisotopic and average masses from solution
;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H2O.
;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

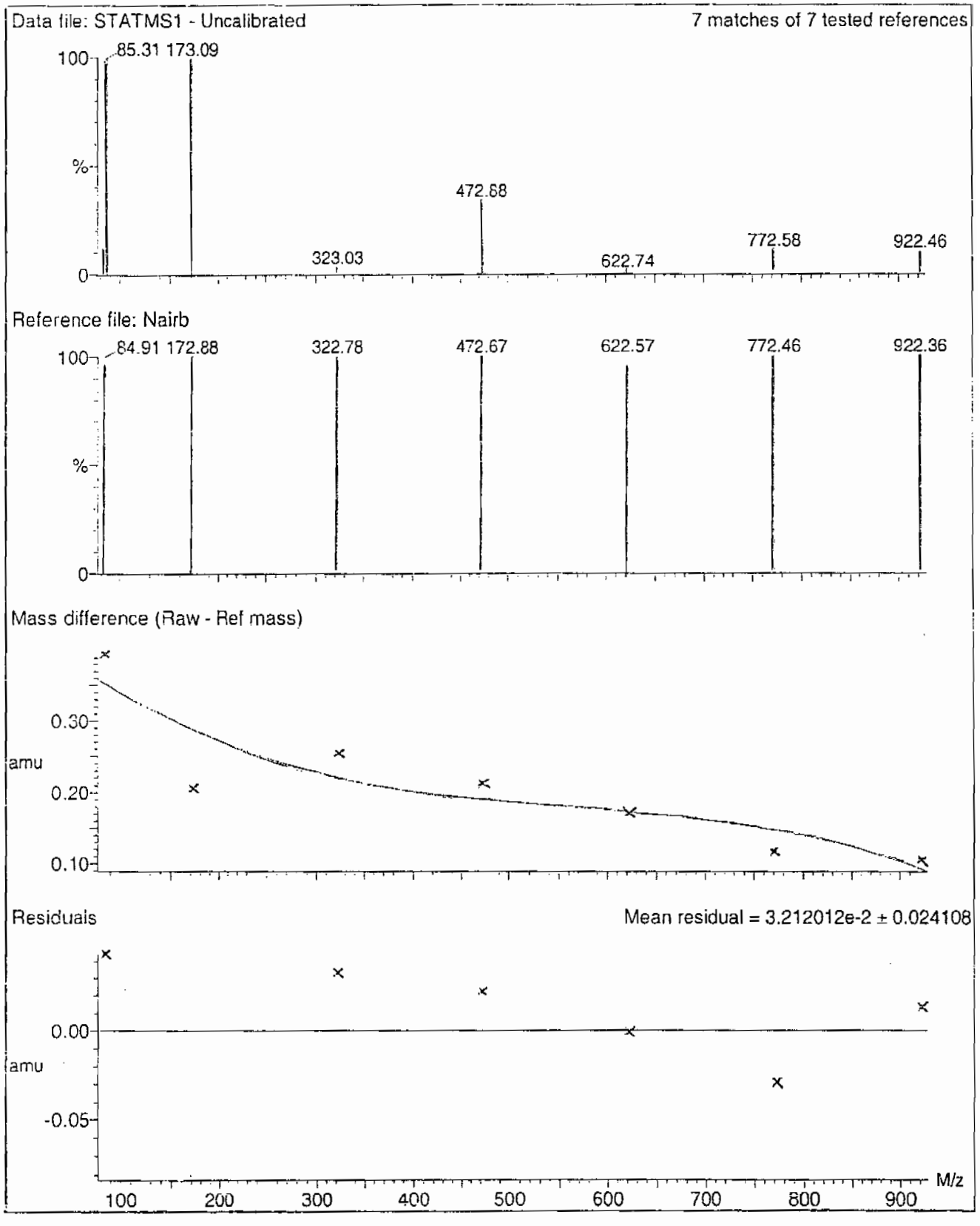
22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

QUATTRO ULTIMA: nairb_01_08_08.cal

Calibration Report - MS1 Static

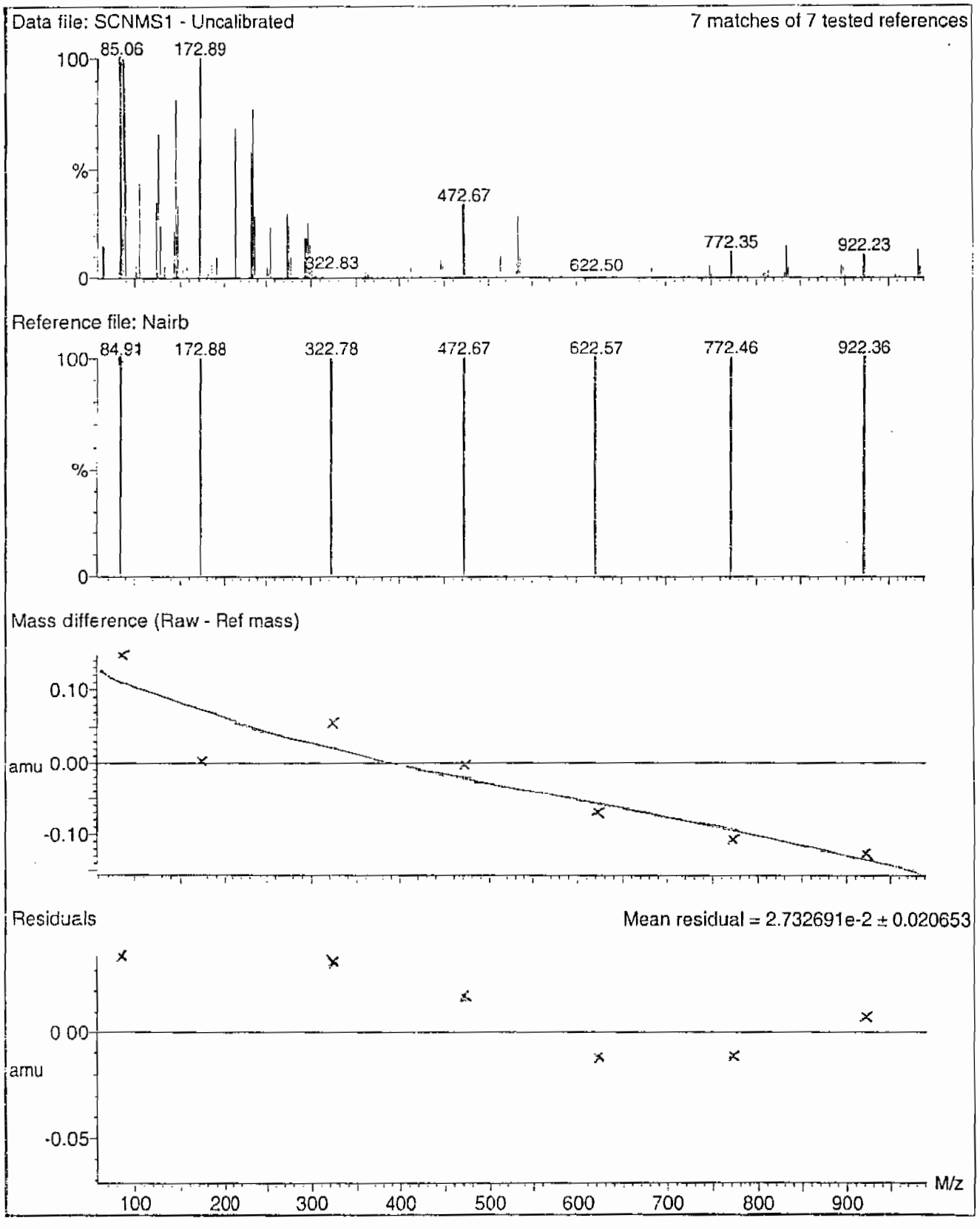
Printed: Tue Jan 08 12:19:12 2008

PEAKS HIGHLIGHTED BY CWW 01-09-08



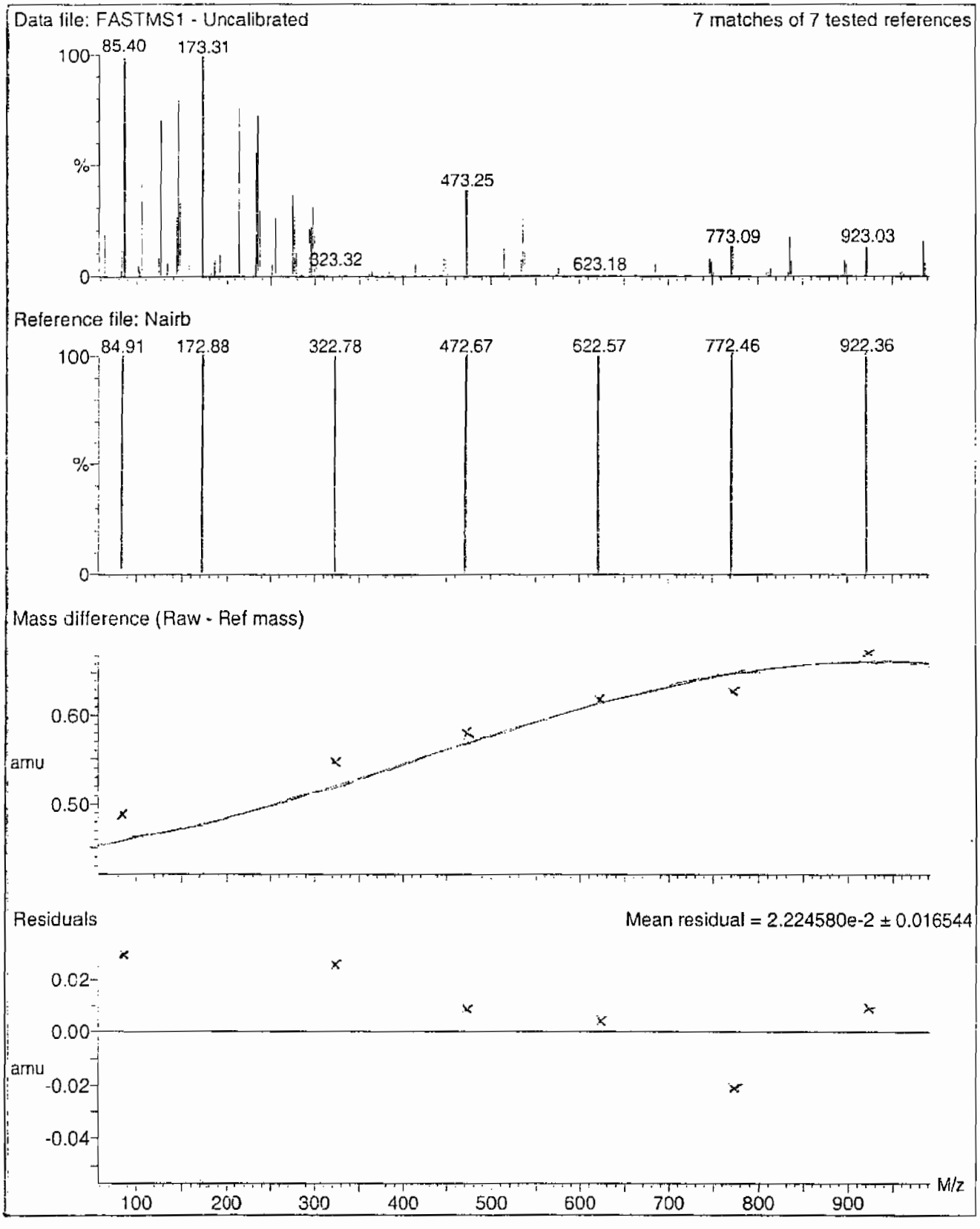
Calibration Report - MS1 Scanning

Printed: Tue Jan 08 12:20:09 2008



Calibration Report - MS1 Scan Speed Compensation

Printed: Tue Jan 08 12:21:04 2008



Calibration Report - MS2 Scan Speed Compensation

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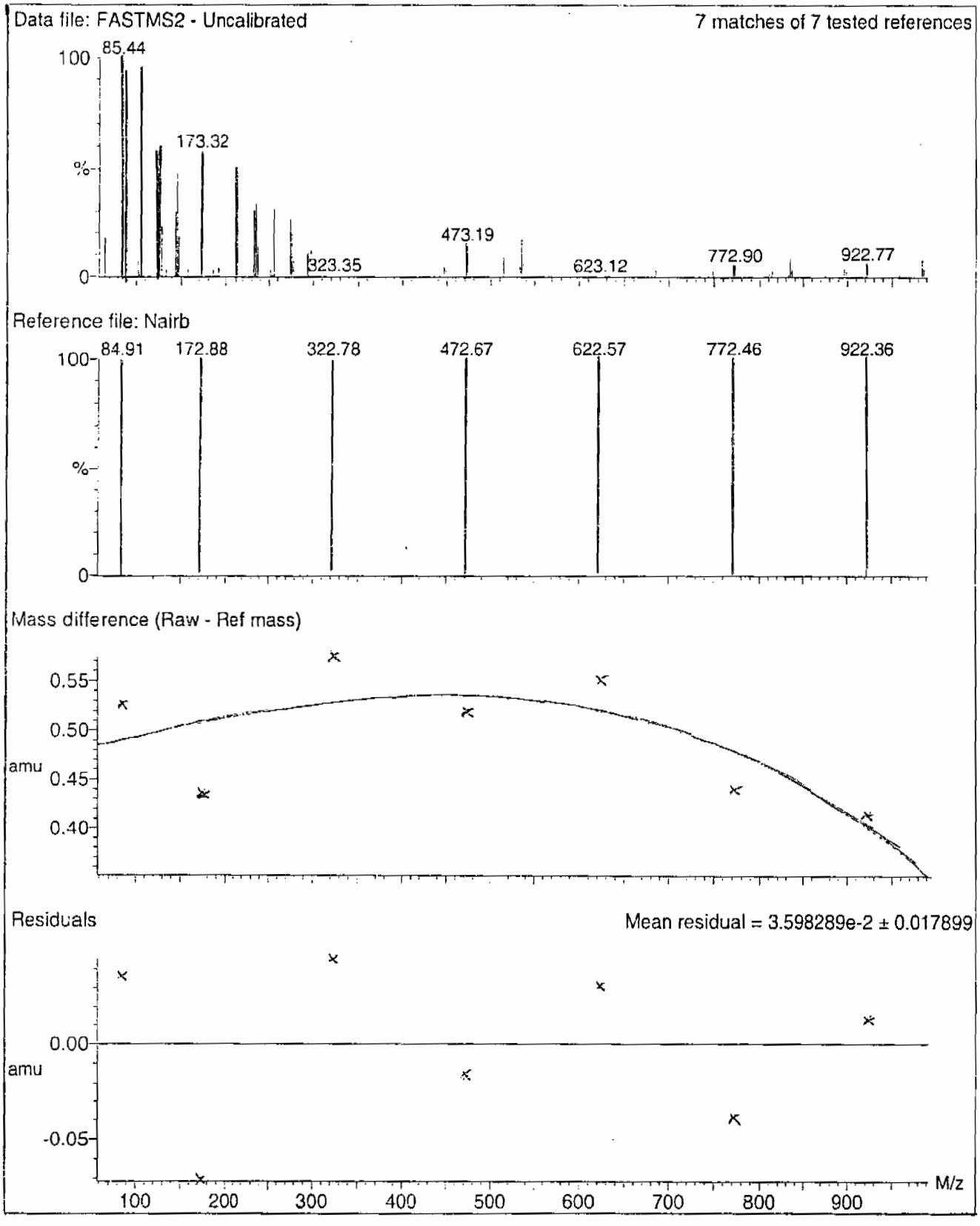
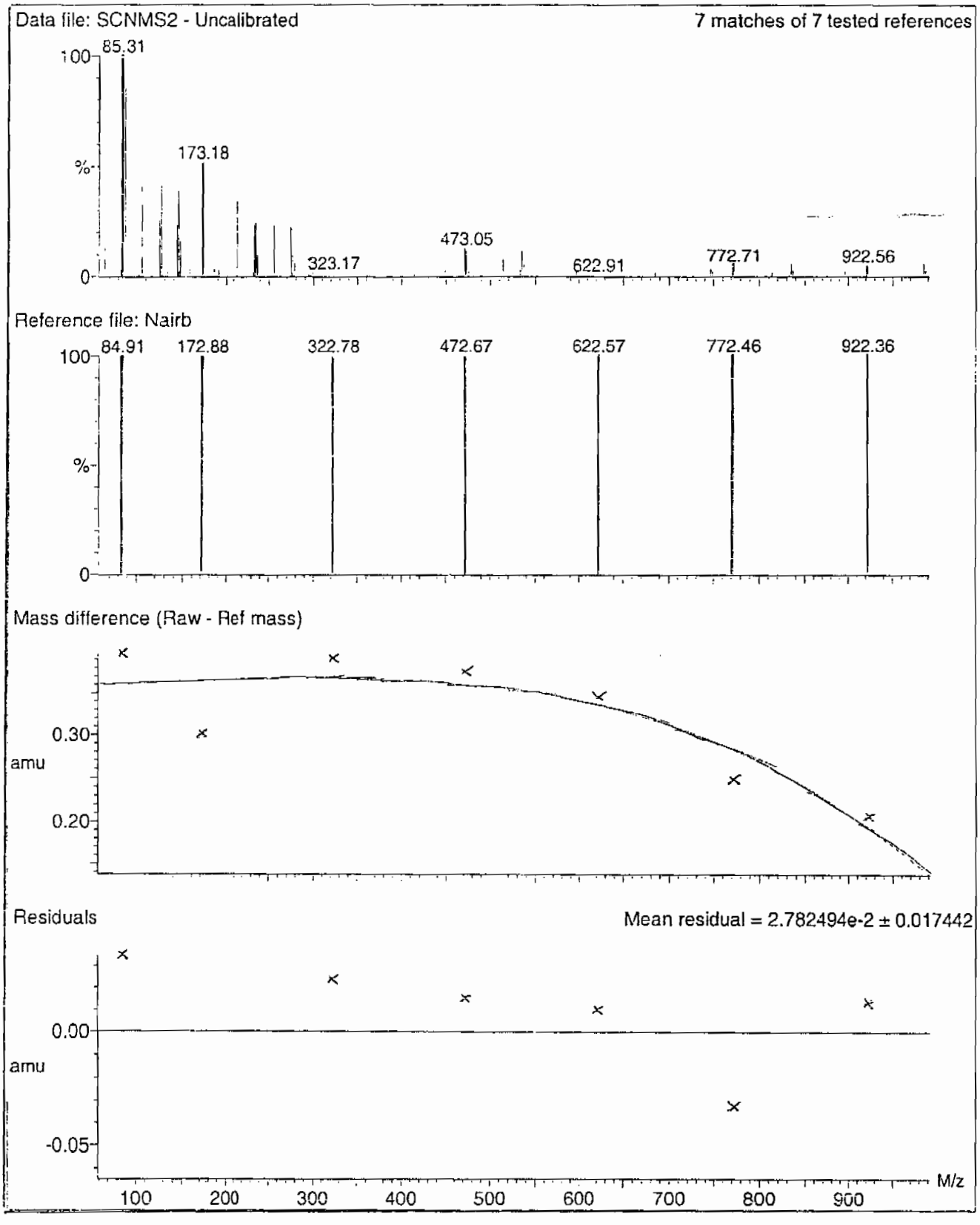


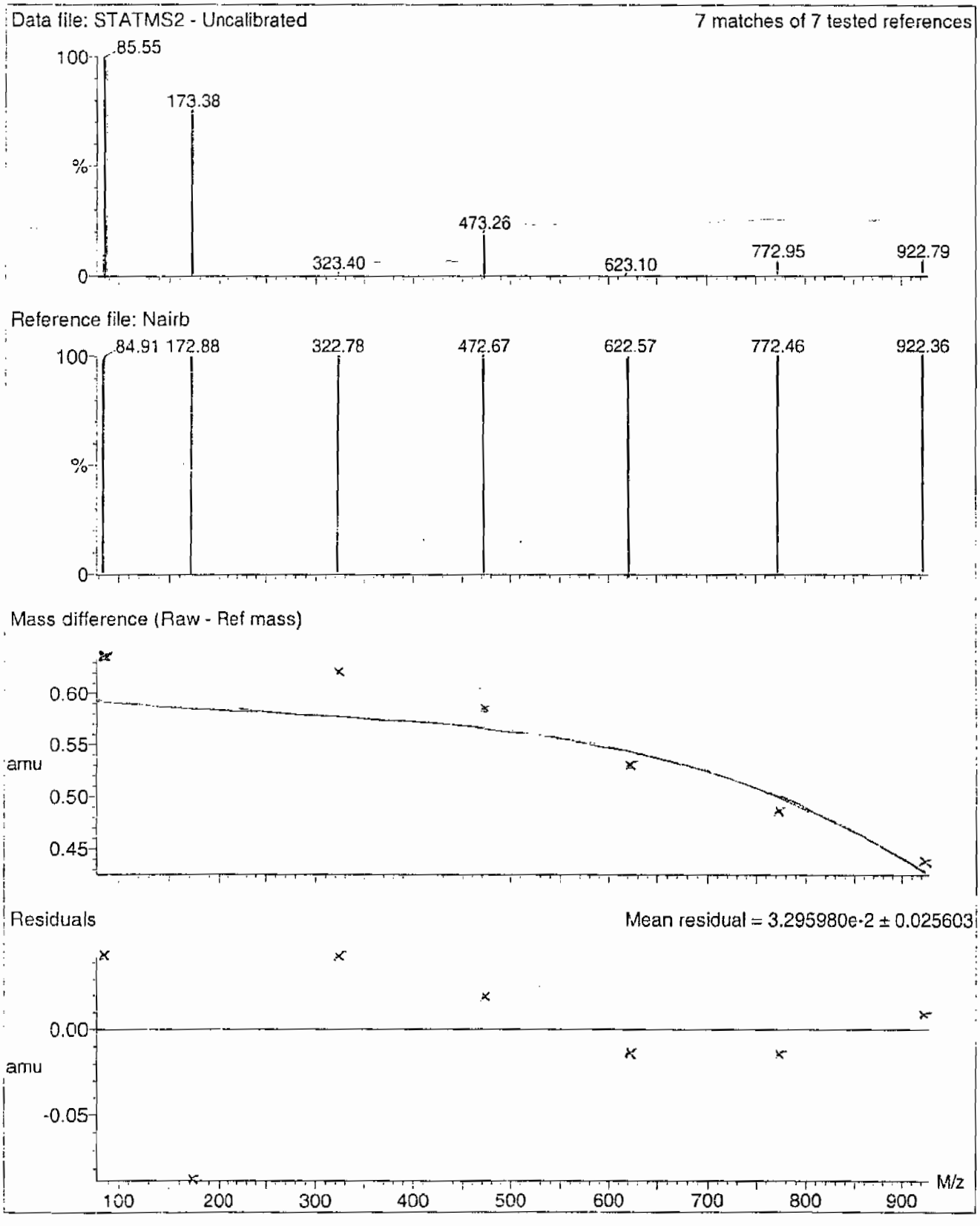
Calibration Report - MS2 Scanning

Printed: Tue Jan 08 12:22:56 2008



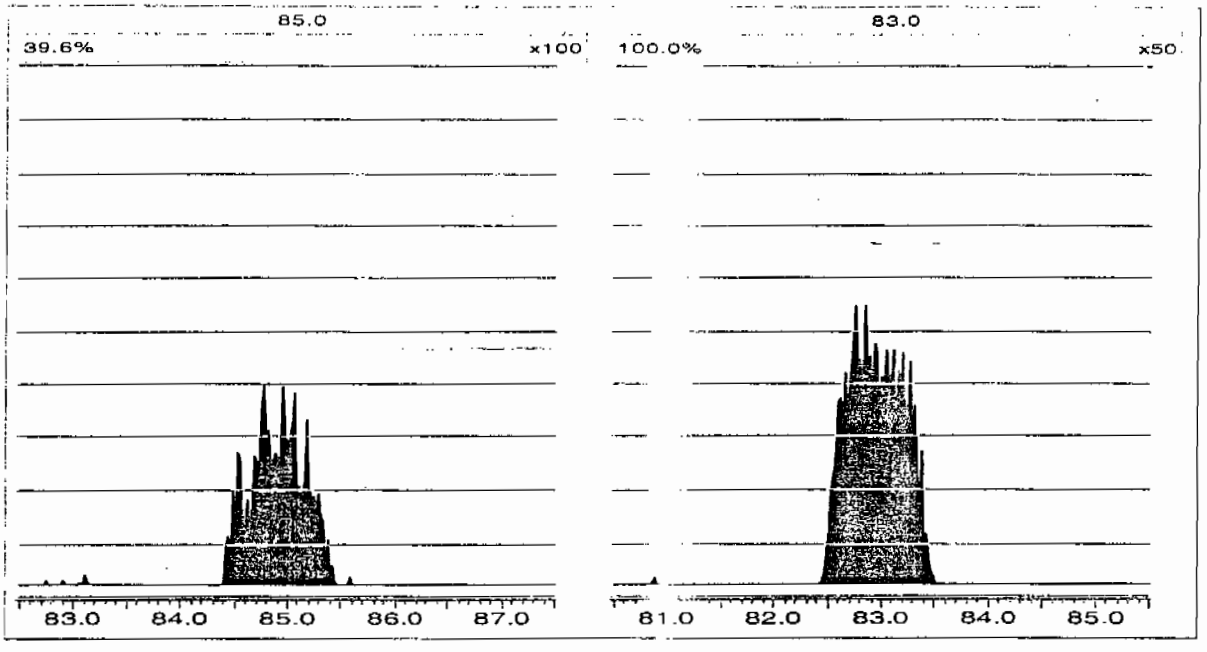
Calibration Report - MS2 Static

Printed: Tue Jan 08 12:21:59 2008



File: C:\MassLynx\Perchlorate.PRO\ACQUDB\Perchlorate.IPR

Printed: Wednesday, March 03, 2010 11:48:06 Eastern Standard Time



Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1666

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	**per0303006a**	**03–MAR–10**	**20176.3**				
Lower Area Limit			**10088.15**				
Upper Area Limit			**40352.6**				
1202042246	per0303012a	03–MAR–10 15:56	20104.5	3.07	3.09773	1.009	
1202042247	per0303013a	03–MAR–10 16:04	20440.3	3.07	3.09775	1.009	
1202042250	per0303014a	03–MAR–10 16:12	20254.1	3.09	3.11007	1.006	
246557001	per0303021a	03–MAR–10 17:08	19698.5	3.06	3.07282	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: 952831

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE15-10-8363

Date Received: 09-FEB-10

GEL Job No (SDG): 10-1666

GEL Sample ID: 246557001

Date Filtered: 25-FEB-10

Injection Volume (uL): 20

%Solids: 81

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.615	2.46	0.615	ug/kg	U	1	03-MAR-10 17:08	per0303021a
	Perchlorate Isotope Ratio						1	03-MAR-10 17:08	per0303021a
14797-73-0	Perchlorate-101	.615	2.46	0.615	ug/kg	U	1	03-MAR-10 17:08	per0303021a
	Perchlorate-O(18)			5.97	ug/kg		1	03-MAR-10 17:08	per0303021a

^ 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 =

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

Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

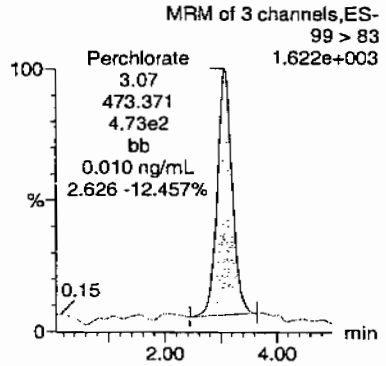
Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303021a
Date: 03-Mar-2010
Time: 17:08:25
ID: 246557001
Vial: 1:4,D

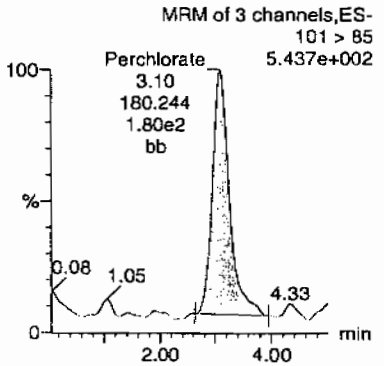
|LANL|952832|SDZD|1|

CWD 03-04-10

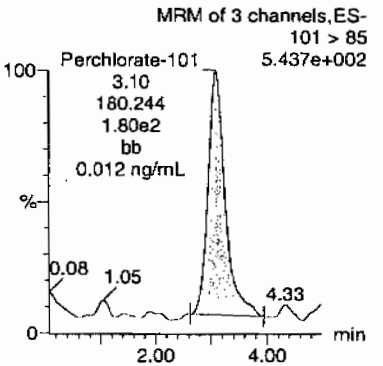
Perchlorate



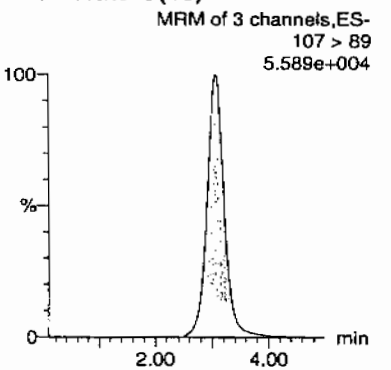
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
246557001	Perchlorate	99 > 83	3.07	473.371	473.371	bb			0.0101			131.925	2.63
246557001	Perchlorate-101	101 > 85	3.10	180.244	180.244	bb			0.0122			38.472	
246557001	Perchlorate-O(18)	107 > 89	3.06	19698.469	19698.469	bb			0.4854	97.09	-2.91	1237.8...	

MM 3/5/10

STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10-1666

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 03-MAR-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: 46811.52

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10-1666

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 03-MAR-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: 14814.28

Response Type: External Standard

Curve Type: RF

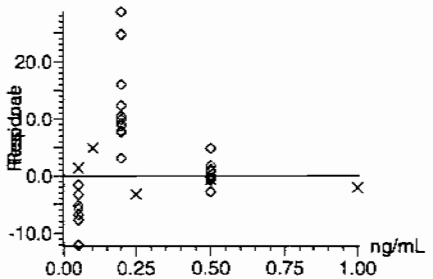
Quantify Calibration Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

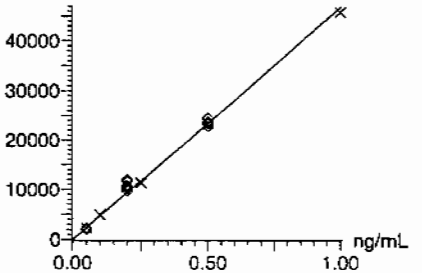
Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per030310a.mdb 04 Mar 2010 07:52:42
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per030310a.cdb 04 Mar 2010 07:53:00

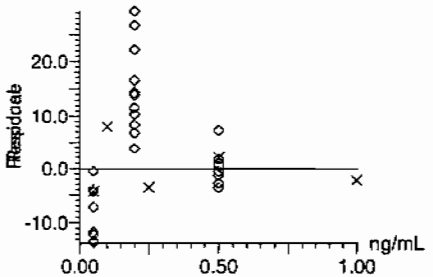
Compound name: Perchlorate
Response Factor: 46811.5
RRF SD: 1507.65, % Relative SD: 3.22068
Response type: External Std, Area
Curve type: RF

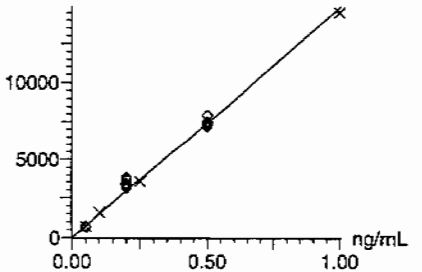




CWW
03-04-10

Compound name: Perchlorate-101
Response Factor: 14814.3
RRF SD: 760.441, % Relative SD: 5.13316
Response type: External Std, Area
Curve type: RF





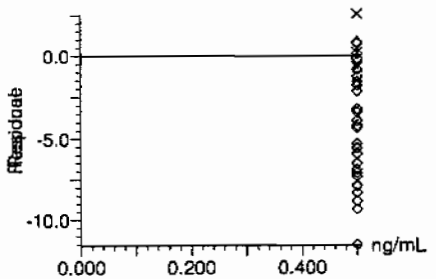
3/4/10

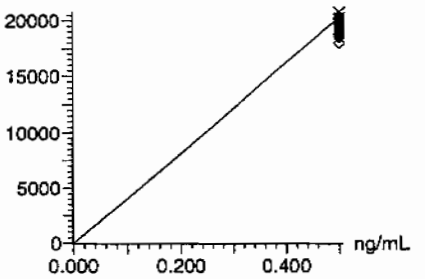
Quantify Calibration Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Compound name: Perchlorate-O(18)
Response Factor: 40578.3
RRF SD: 639.485, % Relative SD: 1.57593
Response type: External Std, Area
Curve type: RF





Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1666

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.52	104.82	03–MAR–10 15:31	per0303009a
Perchlorate Isotope Ratio		3.09		03–MAR–10 15:31	per0303009a
Perchlorate–101	.5	.54	107.29	03–MAR–10 15:31	per0303009a

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

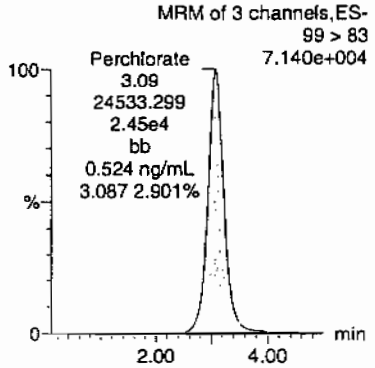
Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

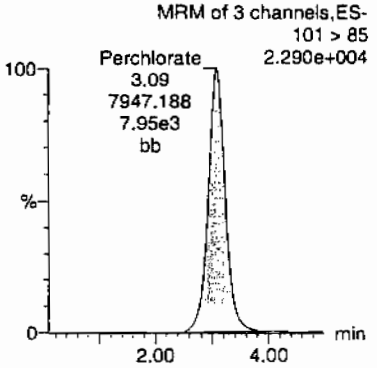
Name: per0303009a
Date: 03-Mar-2010
Time: 15:31:55
ID: WCL100227-06ICV
Vial: 1:2,A

Pwp
03-04-10

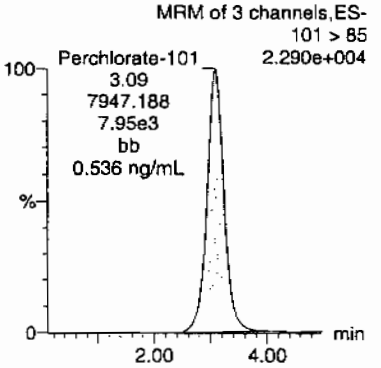
Perchlorate



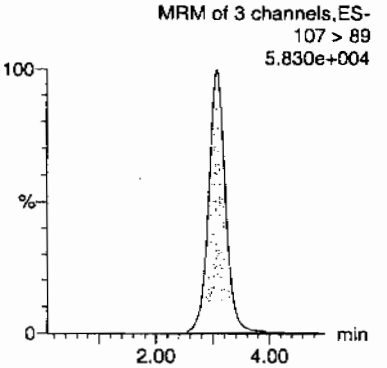
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100227-06ICV	Perchlorate	99 > 83	3.09	24533.299	24533.299	bb			0.5241	104.82	4.82	2862.5...	3.09
WCL100227-06ICV	Perchlorate-101	101 > 85	3.09	7947.188	7947.188	bb			0.5365	107.29	7.29	128.844	
WCL100227-06ICV	Perchlorate-O(18)	107 > 89	3.07	20118.193	20118.193	bb			0.4958	99.16	-0.84	1441.5...	

MM 3/4/10

MM 3/4/10

$$\frac{24533.299}{46811.5} = 0.5241$$

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1666

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.51	101.68	03–MAR–10 17:16	per0303022a
Perchlorate Isotope Ratio		3.19		03–MAR–10 17:16	per0303022a
Perchlorate–101	.5	.5	100.85	03–MAR–10 17:16	per0303022a

Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

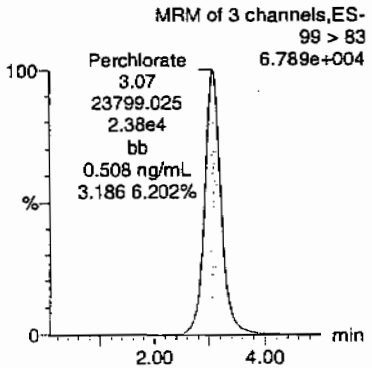
Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

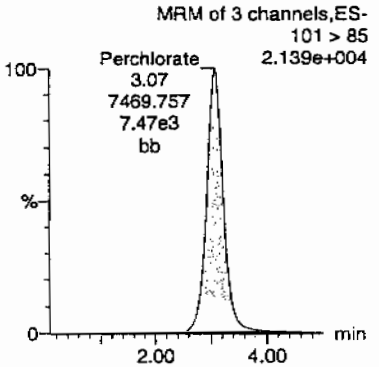
Name: per0303022a
Date: 03-Mar-2010
Time: 17:16:27
ID: WCL100227-06CCV
Vial: 1:2,A

Page 33
03-04-10

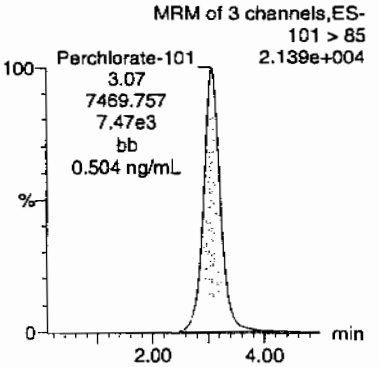
Perchlorate



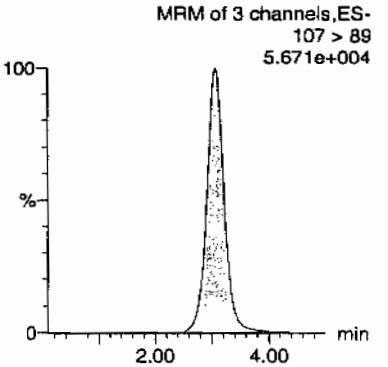
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100227-06CCV	Perchlorate	99 > 83	3.07	23799.025	23799.025	bb			0.5084	101.68	1.68	2429.8...	3.19
WCL100227-06CCV	Perchlorate-101	101 > 85	3.07	7469.757	7469.757	bb			0.5042	100.85	0.85	608.500	
WCL100227-06CCV	Perchlorate-O(18)	107 > 89	3.06	19926.561	19926.561	bb			0.4911	98.21	-1.79	3103.8...	

MM
3/4/10

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1666

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	98.39	03–MAR–10 15:48	per0303011a
Perchlorate Isotope Ratio		3.12		03–MAR–10 15:48	per0303011a
Perchlorate–101	.05	.05	99.55	03–MAR–10 15:48	per0303011a
Perchlorate	.05	.04	88.03	03–MAR–10 17:32	per0303024a
Perchlorate Isotope Ratio		2.91		03–MAR–10 17:32	per0303024a
Perchlorate–101	.05	.05	95.64	03–MAR–10 17:32	per0303024a

Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

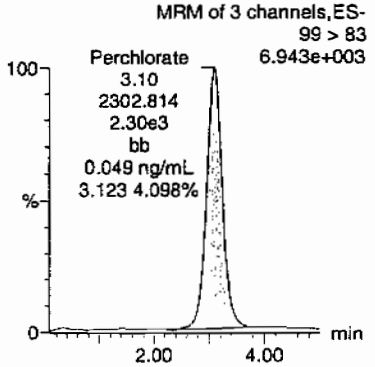
Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

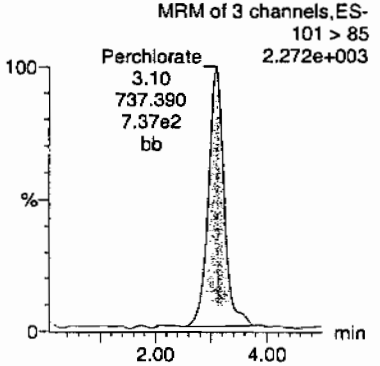
Name: per0303011a
Date: 03-Mar-2010
Time: 15:48:00
ID: WCL100227-07CRI
Vial: 1:2,B

Pass
ano
03-04-10

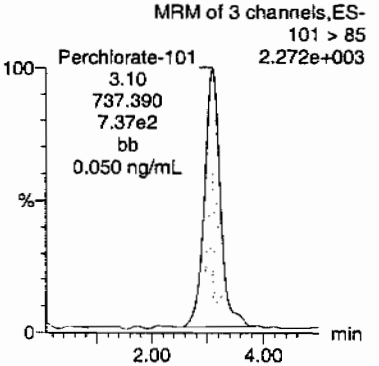
Perchlorate



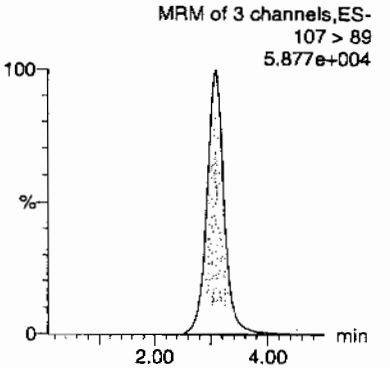
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100227-07CRI	Perchlorate	99 > 83	3.10	2302.814	2302.814	bb			0.0492	98.39	-1.61	342.879	3.12
WCL100227-07CRI	Perchlorate-101	101 > 85	3.10	737.390	737.390	bb			0.0498	99.55	-0.45	477.425	
WCL100227-07CRI	Perchlorate-O(18)	107 > 89	3.07	20464.764	20464.764	bb			0.5043	100.87	0.87	7109.2...	

MM
3/4/10

$$\frac{2302.814}{46811.5} = 0.0492$$

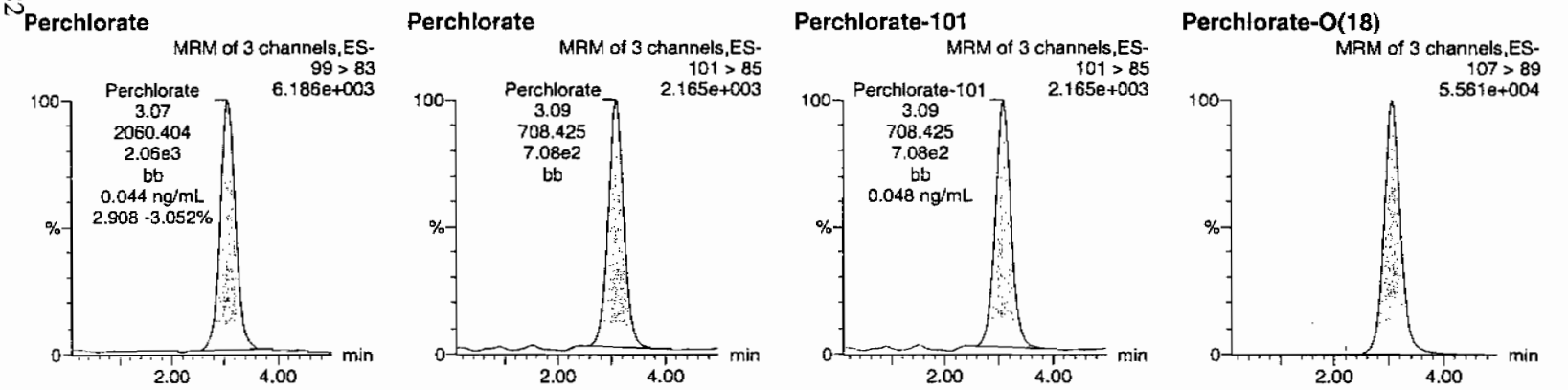
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303024a
Date: 03-Mar-2010
Time: 17:32:32
ID: WCL100227-07CRI
Vial: 1:2,B

Pass
ans
03-04-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100227-07CRI	Perchlorate	99 > 83	3.07	2060.404	2060.404	bb			0.0440	88.03	-11.97	638.752	2.91
WCL100227-07CRI	Perchlorate-101	101 > 85	3.09	708.425	708.425	bb			0.0478	95.64	-4.36	162.366	
WCL100227-07CRI	Perchlorate-O(18)	107 > 89	3.06	19208.881	19208.881	bb			0.4734	94.68	-5.32	2971.0...	

MAT
3/4/10

$\frac{2060.404}{708.425} = 2.9084$

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: 952831

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
MB

Date Received: 25–FEB–10

GEL Job No (SDG): 10–1666

GEL Sample ID: 1202042246

Date Filtered: 25–FEB–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	0.500	ug/kg	U	1	03–MAR–10 15:56	per0303012a
	Perchlorate Isotope Ratio						1	03–MAR–10 15:56	per0303012a
14797–73–0	Perchlorate–101	.5	2	0.500	ug/kg	U	1	03–MAR–10 15:56	per0303012a
	Perchlorate–O(18)			4.95	ug/kg		1	03–MAR–10 15:56	per0303012a

^ 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 =

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

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

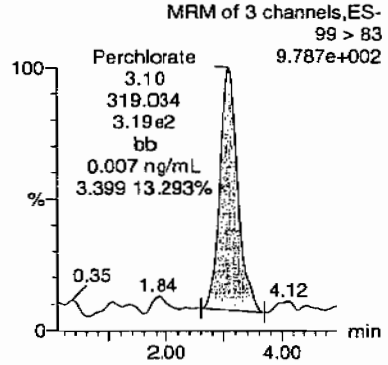
Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303012a
Date: 03-Mar-2010
Time: 15:56:04
ID: 1202042246
Vial: 1:3,A

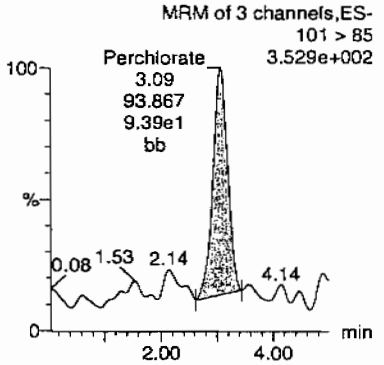
|LANL|952832|50120|1|

CWJ 03-04-10

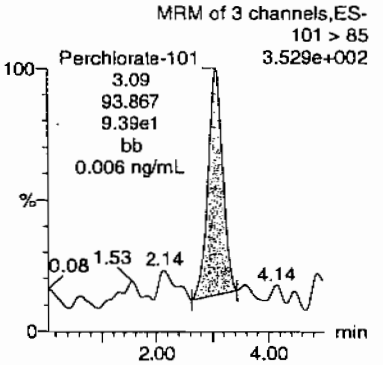
Perchlorate



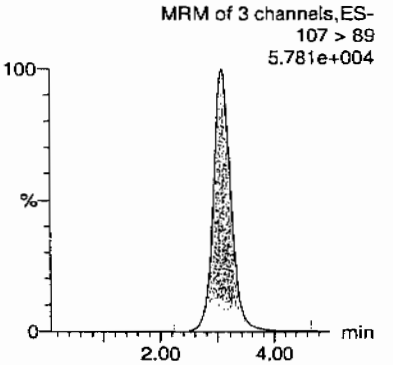
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202042246	Perchlorate	99 > 83	3.10	319.034	319.034	bb			0.0068			27.997	3.40
1202042246	Perchlorate-101	101 > 85	3.09	93.867	93.867	bb			0.0063			36.756	
1202042246	Perchlorate-O(18)	107 > 89	3.07	20104.477	20104.477	bb			0.4954	99.09	-0.91	763.470	

MJT 3/4/10

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 952831

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
LCS

Date Received: 25-FEB-10

GEL Job No (SDG): 10-1666

GEL Sample ID: 1202042247

Date Filtered: 25-FEB-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	2.32	ug/kg		1	03-MAR-10 16:04	per0303013a
	Perchlorate Isotope Ratio			3.15			1	03-MAR-10 16:04	per0303013a
14797-73-0	Perchlorate-101	.5	2	2.33	ug/kg		1	03-MAR-10 16:04	per0303013a
	Perchlorate-O(18)			5.04	ug/kg		1	03-MAR-10 16:04	per0303013a

^ 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 =

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

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qid

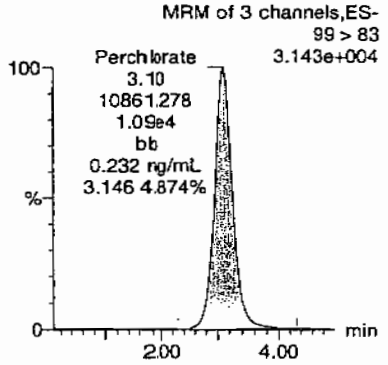
Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303013a
Date: 03-Mar-2010
Time: 16:04:07
ID: 1202042247
Vial: 1:3,B

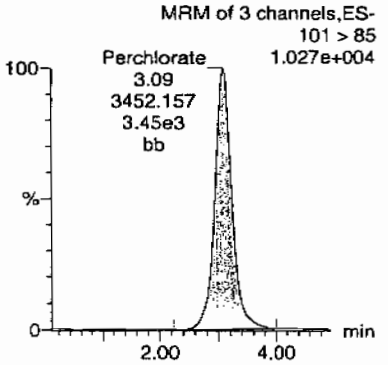
|LANL|952832|50120|LCS|1|

03-04-10

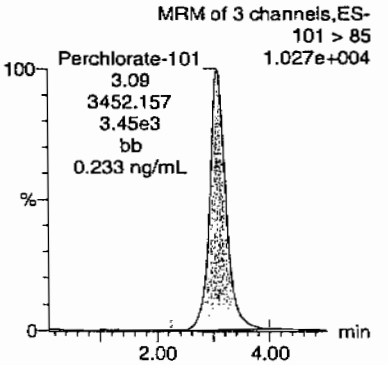
Perchlorate



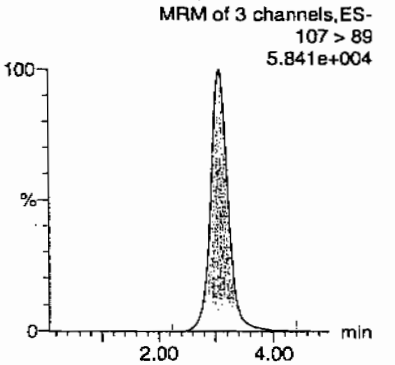
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202042247	Perchlorate	99 > 83	3.10	10861.278	10861.278	bb			0.2320	116.01	16.01	1500.0...	3.15
1202042247	Perchlorate-101	101 > 85	3.09	3452.157	3452.157	bb			0.2330	116.51	16.51	818.275	
1202042247	Perchlorate-O(18)	107 > 89	3.07	20440.275	20440.275	bb			0.5037	100.74	0.74	6177.5...	

MATT 3/4/10

$$\frac{10861.278}{46811.5} = 0.2320$$

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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: 952831 Verified by:
Analyst: Michael Penny
Method: SW846 6850 Modified

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)
1202042246 MB	25-FEB-2010 14:14:00	2	20	10
1202042247 LCS	25-FEB-2010 14:14:00	2	20	10
246554001	25-FEB-2010 14:14:00	2	20	10
246554002	25-FEB-2010 14:14:00	2	20	10
246554003	25-FEB-2010 14:14:00	2	20	10
246554004	25-FEB-2010 14:14:00	2	20	10
246554005	25-FEB-2010 14:14:00	2	20	10
246554006	25-FEB-2010 14:14:00	2	20	10
246557001	25-FEB-2010 14:14:00	2	20	10
246566001	25-FEB-2010 14:14:00	2	20	10
246566002	25-FEB-2010 14:14:00	2	20	10
1202042248 MS (246566002)	25-FEB-2010 14:14:00	2	20	10
1202042249 MSD (246566002)	25-FEB-2010 14:14:00	2	20	10
246566003	25-FEB-2010 14:14:00	2	20	10
246566004	25-FEB-2010 14:14:00	2	20	10
246566005	25-FEB-2010 14:14:00	2	20	10
246566006	25-FEB-2010 14:14:00	2	20	10
246566007	25-FEB-2010 14:14:00	2	20	10
246566008	25-FEB-2010 14:14:00	2	20	10
246566009	25-FEB-2010 14:14:00	2	20	10
246566010	25-FEB-2010 14:14:00	2	20	10
246566011	25-FEB-2010 14:14:00	2	20	10
1202042250 ICS	25-FEB-2010 14:14:00	2	20	10

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
ICS	1202042250	10 ug/L ICV/CCV Second Source	UCL100210-02.1	.4	mL	De-Salting Cartridge Lot#: BJ0003K0402& BJ0005J0812.
LCS	1202042247	10 ug/L ICV/CCV Second Source	UCL100210-02.1	.4	mL	
MS	1202042248	10 ug/L ICV/CCV Second Source	UCL100210-02.1	.4	mL	
MSD	1202042249	10 ug/L ICV/CCV Second Source	UCL100210-02.1	.4	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 03/03/10
Extr. Injection Volume: 20uL
Sequence Number: per030310a
Initial Calibration Date: 03/03/10

Method: EPA 6850-Modified
Int. Std.: UCL100126-01
Mobile Phase Lot#: 1269535, 1271949
Standard-Samp Reagent Lot#:: 1271949

Reviewed BY: [illegible]
Date: 3/5/10
SOP: GL-OA-E-067 Rev.6
Alt Check Std. ID: WCL100227-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0303001a	IPB001	CWW	3/3/2010 14:27			1		USE	B
per0303002a	IPB001	CWW	3/3/2010 14:35			1		USE	B
per0303003a	WCLICAL-01	CWW	3/3/2010 14:43			1		USE	I
per0303004a	WCLICAL-02	CWW	3/3/2010 14:51			1		USE	I
per0303005a	WCLICAL-03	CWW	3/3/2010 14:59			1		USE	I
per0303006a	WCLICAL-04	CWW	3/3/2010 15:07			1		USE	I
per0303007a	WCLICAL-05	CWW	3/3/2010 15:15			1		USE	I
per0303008a	IPB002	CWW	3/3/2010 15:23			1		USE	B
per0303009a	WCLICV	CWW	3/3/2010 15:31			1		USE	C
per0303010a	IPB003	CWW	3/3/2010 15:39			1		USE	B
per0303011a	WCLCRI	CWW	3/3/2010 15:48			1		USE	C
per0303012a	1202042246	CWW	3/3/2010 15:56	952832	VARIOUS	1	LANL	USE	S
per0303013a	1202042247	CWW	3/3/2010 16:04	952832	VARIOUS	1	LANL	USE	S
per0303014a	1202042250	CWW	3/3/2010 16:12	952832	VARIOUS	1	LANL	USE	S
per0303015a	246554001	CWW	3/3/2010 16:20	952832	10-1665	1	LANL	USE	S
per0303016a	246554002	CWW	3/3/2010 16:28	952832	10-1665	1	LANL	USE	S
per0303017a	246554003	CWW	3/3/2010 16:36	952832	10-1665	1	LANL	USE	S
per0303018a	246554004	CWW	3/3/2010 16:44	952832	10-1665	1	LANL	USE	S
per0303019a	246554005	CWW	3/3/2010 16:52	952832	10-1665	1	LANL	USE	S
per0303020a	246554006	CWW	3/3/2010 17:00	952832	10-1665	1	LANL	USE	S
per0303021a	246557001	CWW	3/3/2010 17:08	952832	10-1666	1	LANL	USE	S
per0303022a	WCLCCV	CWW	3/3/2010 17:16			1		USE	C
per0303023a	IPB004	CWW	3/3/2010 17:24			1		USE	B
per0303024a	WCLCRI	CWW	3/3/2010 17:32			1		USE	C
per0303025a	246566001	CWW	3/3/2010 17:40	952832	10-1673	1	LANL	USE	S
per0303026a	246566002	CWW	3/3/2010 17:48	952832	10-1673	1	LANL	USE	S
per0303027a	1202042248	CWW	3/3/2010 17:56	952832	10-1673	1	LANL	USE	S
per0303028a	1202042249	CWW	3/3/2010 18:04	952832	10-1673	1	LANL	USE	S
per0303029a	246566003	CWW	3/3/2010 18:12	952832	10-1673	1	LANL	USE	S

per0303030a	246566004	CWW	3/3/2010 18:20	952832	10-1673	1	LANL	USE	S
per0303031a	246566005	CWW	3/3/2010 18:29	952832	10-1673	1	LANL	USE	S
per0303032a	246566006	CWW	3/3/2010 18:37	952832	10-1673	1	LANL	USE	S
per0303033a	246566007	CWW	3/3/2010 18:45	952832	10-1673	1	LANL	USE	S
per0303034a	246566008	CWW	3/3/2010 18:53	952832	10-1673	1	LANL	USE	S
per0303035a	WCLCCV	CWW	3/3/2010 19:01			1		USE	C
per0303036a	IPB005	CWW	3/3/2010 19:09			1		USE	B
per0303037a	WCLCRI	CWW	3/3/2010 19:17			1		USE	C
per0303038a	246566009	CWW	3/3/2010 19:25	952832	10-1673	1	LANL	USE	S
per0303039a	246566010	CWW	3/3/2010 19:33	952832	10-1673	1	LANL	USE	S
per0303040a	246566011	CWW	3/3/2010 19:41	952832	10-1673	1	LANL	USE	S
per0303041a	IPB006	CWW	3/3/2010 19:49			1		USE	B
per0303042a	1202049008	CWW	3/3/2010 19:57	955694	VARIOUS	1	LANL	USE	S
per0303043a	1202049009	CWW	3/3/2010 20:05	955694	VARIOUS	1	LANL	USE	S
per0303044a	1202049012	CWW	3/3/2010 20:13	955694	VARIOUS	1	LANL	USE	S
per0303045a	247040001	CWW	3/3/2010 20:22	955694	10-1819-1	1	LANL	USE	S
per0303046a	247040002	CWW	3/3/2010 20:30	955694	10-1819-1	1	LANL	USE	S
per0303047a	WCLCCV	CWW	3/3/2010 20:38		10-1819-1	1		USE	C
per0303048a	IPB007	CWW	3/3/2010 20:46		10-1819-1	1		USE	B
per0303049a	WCLCRI	CWW	3/3/2010 20:54		10-1819-1	1		USE	C
per0303050a	1202049010	CWW	3/3/2010 21:02	955694	10-1819-1	1	LANL	USE	S
per0303051a	1202049011	CWW	3/3/2010 21:10	955694	10-1819-1	1	LANL	USE	S
per0303052a	247040003	CWW	3/3/2010 21:18	955694	10-1819-1	1	LANL	USE	S
per0303053a	247040004	CWW	3/3/2010 21:26	955694	10-1819-1	1	LANL	USE	S
per0303054a	247040005	CWW	3/3/2010 21:34	955694	10-1819-1	1	LANL	USE	S
per0303055a	247040006	CWW	3/3/2010 21:42	955694	10-1819-1	1	LANL	USE	S
per0303056a	247040007	CWW	3/3/2010 21:50	955694	10-1819-1	1	LANL	USE	S
per0303057a	247040008	CWW	3/3/2010 21:58	955694	10-1819-1	1	LANL	USE	S
per0303058a	247040009	CWW	3/3/2010 22:06	955694	10-1819-1	1	LANL	USE	S
per0303059a	247040010	CWW	3/3/2010 22:14	955694	10-1819-1	1	LANL	USE	S
per0303060a	WCLCCV	CWW	3/3/2010 22:22			1		USE	C
per0303061a	IPB008	CWW	3/3/2010 22:31			1		USE	B
per0303062a	WCLCRI	CWW	3/3/2010 22:39			1		USE	C
per0303063a	247040011	CWW	3/3/2010 22:47	955694	10-1819-1	1	LANL	USE	S
per0303064a	247040012	CWW	3/3/2010 22:55	955694	10-1819-1	1	LANL	USE	S
per0303065a	247040013	CWW	3/3/2010 23:03	955694	10-1819-1	1	LANL	USE	S
per0303066a	247040014	CWW	3/3/2010 23:11	955694	10-1819-1	1	LANL	USE	S

per0303067a	247040015	CWW	3/3/2010 23:19	955694	10-1819-1	1	LANL	USE	S
per0303068a	247040016	CWW	3/3/2010 23:27	955694	10-1819-1	1	LANL	USE	S
per0303069a	247083001	CWW	3/3/2010 23:35	955694	10-1827	1	LANL	USE	S
per0303070a	247083002	CWW	3/3/2010 23:43	955694	10-1827	1	LANL	USE	S
per0303071a	247083003	CWW	3/3/2010 23:51	955694	10-1827	1	LANL	USE	S
per0303072a	247083004	CWW	3/3/2010 23:59	955694	10-1827	1	LANL	USE	S
per0303073a	WCLCCV	CWW	3/4/2010 0:07			1		USE	C
per0303074a	IPB009	CWW	3/4/2010 0:16			1		USE	B
per0303075a	WCLCRI	CWW	3/4/2010 0:24			1		USE	C
per0303076a	1202049015	CWW	3/4/2010 0:32	955697	VARIOUS	1	LANL	USE	S
per0303077a	1202049016	CWW	3/4/2010 0:40	955697	VARIOUS	1	LANL	USE	S
per0303078a	1202049019	CWW	3/4/2010 0:48	955697	VARIOUS	1	LANL	USE	S
per0303079a	247084001	CWW	3/4/2010 0:56	955697	10-1828	1	LANL	USE	S
per0303080a	247084002	CWW	3/4/2010 1:04	955697	10-1828	1	LANL	USE	S
per0303081a	247086001	CWW	3/4/2010 1:12	955697	10-1829	1	LANL	USE	S
per0303082a	247088001	CWW	3/4/2010 1:20	955697	10-1830	1	LANL	USE	S
per0303083a	247088002	CWW	3/4/2010 1:28	955697	10-1830	1	LANL	USE	S
per0303084a	247088003	CWW	3/4/2010 1:36	955697	10-1830	1	LANL	USE	S
per0303085a	247091001	CWW	3/4/2010 1:44	955697	10-1831	1	LANL	USE	S
per0303086a	WCLCCV	CWW	3/4/2010 1:52			1		USE	C
per0303087a	IPB010	CWW	3/4/2010 2:01			1		USE	B
per0303088a	WCLCRI	CWW	3/4/2010 2:09			1		USE	C
per0303089a	247091002	CWW	3/4/2010 2:17	955697	10-1831	1	LANL	USE	S
per0303090a	247094001	CWW	3/4/2010 2:25	955697	10-1832	1	LANL	USE	S
per0303091a	247094002	CWW	3/4/2010 2:33	955697	10-1832	1	LANL	USE	S
per0303092a	247097001	CWW	3/4/2010 2:42	955697	10-1833	1	LANL	USE	S
per0303093a	1202049017	CWW	3/4/2010 2:50	955697	10-1833	1	LANL	USE	S
per0303094a	1202049018	CWW	3/4/2010 2:58	955697	10-1833	1	LANL	USE	S
per0303095a	247097002	CWW	3/4/2010 3:06	955697	10-1833	1	LANL	USE	S
per0303096a	247097003	CWW	3/4/2010 3:14	955697	10-1833	1	LANL	USE	S
per0303097a	247097004	CWW	3/4/2010 3:22	955697	10-1833	1	LANL	USE	S
per0303098a	247097005	CWW	3/4/2010 3:30	955697	10-1833	1	LANL	USE	S
per0303099a	WCLCCV	CWW	3/4/2010 3:38			1		USE	C
per0303100a	IPB011	CWW	3/4/2010 3:47			1		USE	B
per0303101a	WCLCRI	CWW	3/4/2010 3:55			1		USE	C
per0303102a	247097006	CWW	3/4/2010 4:03	955697	10-1833	1	LANL	USE	S
per0303103a	247097007	CWW	3/4/2010 4:11	955697	10-1833	1	LANL	USE	S

per0303104a	247097008	CWW	3/4/2010 4:19	955697	10-1833	1	LANL	USE	S
per0303105a	247097009	CWW	3/4/2010 4:27	955697	10-1833	1	LANL	USE	S
per0303106a	WCLCCV	CWW	3/4/2010 4:35			1		USE	C
per0303107a	IPB012	CWW	3/4/2010 4:43			1		USE	B
per0303108a	WCLCRI	CWW	3/4/2010 4:51			1		USE	C

Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

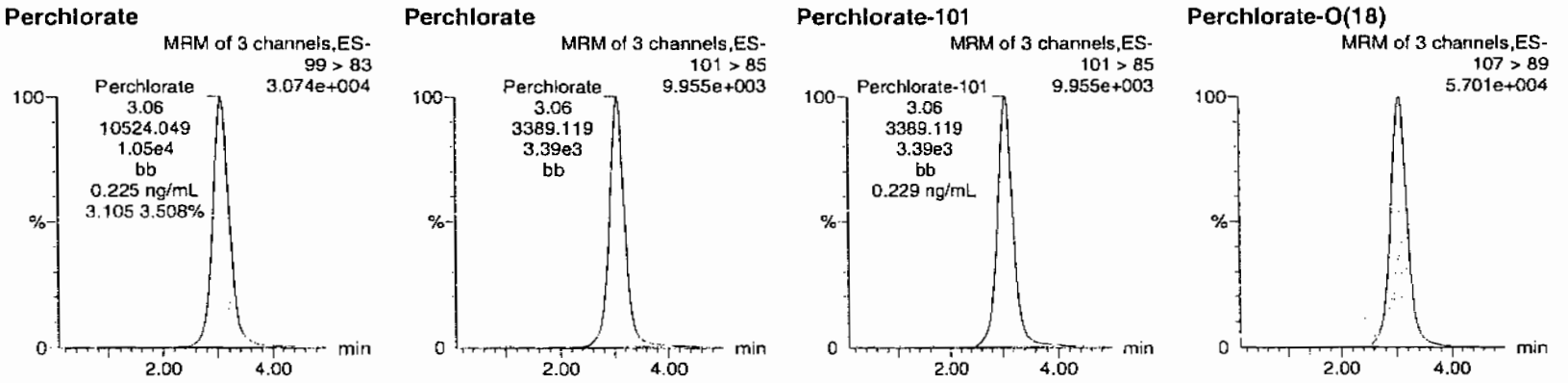
Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303027a
Date: 03-Mar-2010
Time: 17:56:46
ID: 1202042248
Vial: 1:5,A

| LANL | 952332 | 50120 | MS | 1 |

(GW) 03-04-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202042248	Perchlorate	99 > 83	3.06	10524.049	10524.049	bb			0.2248	112.41	12.41	215.781	3.11
1202042248	Perchlorate-101	101 > 85	3.06	3389.119	3389.119	bb			0.2288	114.39	14.39	1396.1...	
1202042248	Perchlorate-O(18)	107 > 89	3.05	19968.680	19968.680	bb			0.4921	98.42	-1.58	3347.1...	

MAT 3/5/10

$$\frac{10524.049}{46811.5} = 0.2248$$

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

Dataset: C:\MassLynx\Perchlorate.PRO\per030310a.qld

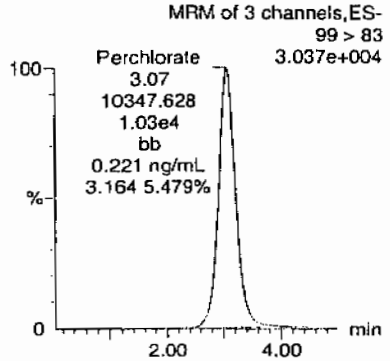
Last Altered: Thursday, March 04, 2010 7:53:01 AM Eastern Standard Time
Printed: Thursday, March 04, 2010 8:11:28 AM Eastern Standard Time

Name: per0303028a
Date: 03-Mar-2010
Time: 18:04:50
ID: 1202042249
Vial: 1:5,B

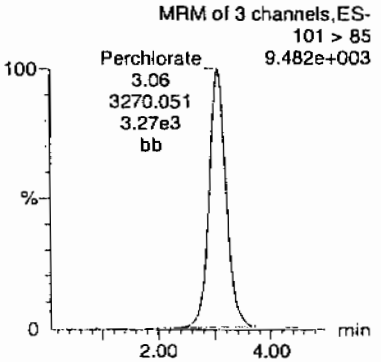
|LANL|952832|5070|11|

CWJ
03-04-10

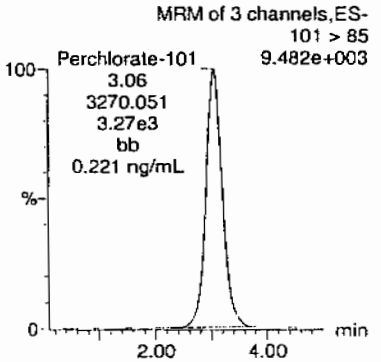
Perchlorate



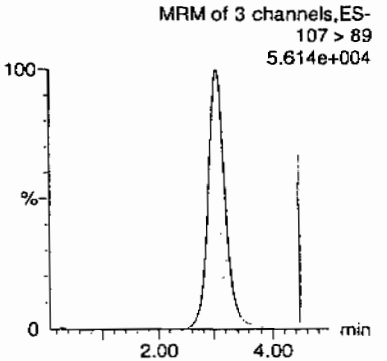
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202042249	Perchlorate	99 > 83	3.07	10347.628	10347.628	bb			0.2210	110.52	10.52	2255.3...	3.16
1202042249	Perchlorate-101	101 > 85	3.06	3270.051	3270.051	bb			0.2207	110.37	10.37	328.947	
1202042249	Perchlorate-O(18)	107 > 89	3.05	19496.334	19496.334	bb			0.4805	96.09	-3.91	2093.3...	

MMT
3/5/10

$$\frac{10347.628}{3270.051} = 3.1644$$

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Isotope Ratio Criteria

Isotope Ratio $_{35}Cl/_{37}CL$

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 10-1666

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:	951349
Prep Batch Number:	951347

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8321A Modified:

Sample ID	Client ID
246557001	RE15-10-8363
1202038769	Method Blank (MB)
1202038770	Laboratory Control Sample (LCS)
1202038771	246554001(RE15-10-8175) Matrix Spike (MS)
1202038772	246554001(RE15-10-8175) 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.

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
Client sample 246554001 (RE15-10-8175) from SDG 10-1665 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 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
Sample 1202038769 (MB) did not meet Surrogate recovery limits for the Secondary analyte analysis. Since there were no target analytes detected in the associated samples, and the surrogate passed in the Primary analyte analysis, the data are reported. Please see data exception report 792626.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries were within the established acceptance limits.

QC Sample Designation
Client sample 246554001 (RE15-10-8175) from SDG 10-1665 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 recovered TATB at 370%. The recovery limits are 29-155%. Since the LCS and MSD both 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 792626.

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 90.5%. 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 792626.

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
Re-extractions or re-analyses were not required in this SDG in this analytical batch for this analysis except for dilutions.

Miscellaneous Information

Data Exception (DER) Documentation
The following DER was generated for this SDG: 792626.

Manual Integrations
Some initial calibration standards, continuing calibration standards, and/or samples required manual integrations due to software limitations.

Flagging Convention
The sample was 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: Heather M Maree **Date:** 02/25/10

SAMPLE DATA SUMMARY

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8363

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 246557001

Sample Amount 2

Moisture: 18.7

Amount Units g

Date Received: 09-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0216055a

Date Analyzed: 17-FEB-10 19:49

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 =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8363

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 246557001

Sample Amount 2

Moisture: 18.7

Amount Units g

Date Received: 09-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS02160052.wiff

Date Analyzed: 17-FEB-10 01:35

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 =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

QUALITY CONTROL SUMMARY

2

High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC **GEL Job No (SDG):** 10–1666

Lab Code: GEL **HPLC Column:** Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
246557001	RE15–10–8363	113	70 – 144	
246557001	RE15–10–8363	134	70 – 144	
1202038769	MB for batch 951347	121	70 – 144	
1202038769	MB for batch 951347	148	70 – 144	*
1202038770	LCS for batch 951347	112	70 – 144	
1202038770	LCS for batch 951347	126	70 – 144	

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) 10-1666

Extract Batch Code: 951347

Date Extracted: 15-FEB-10

GEL LCS ID: 1202038770

GEL LCSDUP ID:

Analysis Date/Time: 17-FEB-10 13:53

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
1,3,5-Trinitrobenzene	5000	3620	72.5					69 - 126
2,4,6-Trinitrotoluene	5000	4290	85.8					73 - 149
2,4-Dinitrotoluene	5000	4960	99.2					87 - 137
2,6-Dinitrotoluene	5000	4950	98.9					89 - 120
2-Amino-4,6-dinitrotoluene	5000	4560	91.2					90 - 130
4-Amino-2,6-dinitrotoluene	5000	4240	84.8					84 - 130
HMX	5000	3980	79.7					58 - 138
Nitrobenzene	5000	4650	93					71 - 122
PETN	5000	4380	87.6					64 - 137
RDX	5000	4270	85.3					81 - 137
Tetryl	5000	2830	56.6					51 - 112
m-Dinitrobenzene	5000	4910	98.3					83 - 122
m-Nitrotoluene	5000	4810	96.2					73 - 118
o-Nitrotoluene	5000	4710	94.3					72 - 119
p-Nitrotoluene	5000	4750	94.9					67 - 131

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) 10-1666

Extract Batch Code: 951347

Date Extracted: 15-FEB-10

GEL LCS ID: 1202038770

GEL LCSDUP ID:

Analysis Date/Time: 16-FEB-10 22:26

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	5170	103					52 - 114
2,6-Diamino-4-nitrotoluene	5000	5350	107					64 - 122
3,5-Dinitroaniline	5000	5270	105					70 - 127
tris(o-cresyl) phosphate	5000	5310	106					84 - 119
TATB	5000	5660	113					28 - 162

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

3

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE15-10-8175

Lab Code: GEL

GEL Job No (SDG) 10-1666

Extract Batch Code: 951347

Date Extracted: 15-FEB-10

GEL Spike ID: 1202038771

GEL SpikeDup ID: 1202038772

Analysis Date/Time: 17-FEB-10 14:52

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	4890	97.8	4690	93.9	4.07	30	50 – 140
2,4,6-Trinitrotoluene	5000	0	5420	108	5260	105	3.04	30	76 – 144
2,4-Dinitrotoluene	5000	0	5180	104	5360	107	3.34	30	86 – 135
2,6-Dinitrotoluene	5000	0	4990	99.7	5130	103	2.78	30	90 – 118
2-Amino-4,6-dinitrotoluene	5000	0	6000	120	5360	107	11.3	30	85 – 137
4-Amino-2,6-dinitrotoluene	5000	0	5300	106	5020	100	5.38	30	72 – 143
HMX	5000	0	4650	93	4480	89.7	3.61	30	51 – 144
Nitrobenzene	5000	0	4980	99.7	4540	90.8	9.27	30	70 – 122
PETN	5000	0	5130	103	5070	101	1.28	30	60 – 140
RDX	5000	0	5020	100	5170	103	2.99	30	59 – 152
Tetryl	5000	0	4340	86.9	3900	77.9	10.8	30	36 – 124
m-Dinitrobenzene	5000	0	5020	100	5010	100	.186	30	85 – 118
m-Nitrotoluene	5000	0	4970	99.4	4840	96.9	2.6	30	70 – 120
o-Nitrotoluene	5000	0	4870	97.3	4810	96.3	1.05	30	69 – 123
p-Nitrotoluene	5000	0	4890	97.8	4690	93.9	4.16	30	65 – 133

#Column to be used to flag recovery and RPD values with an asterisk

3

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE15-10-8175

Lab Code: GEL

GEL Job No (SDG) 10-1666

Extract Batch Code: 951347

Date Extracted: 15-FEB-10

GEL Spike ID: 1202038771

GEL SpikeDup ID: 1202038772

Analysis Date/Time: 16-FEB-10 22:58

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
tris(o-cresyl) phosphate	5000	0	5590	112	5580	112	.179	30	72 - 127
2,4-Diamino-6-nitrotoluene	5000	0	4140	82.8	5230	105	23.3	26	34 - 135
2,6-Diamino-4-nitrotoluene	5000	0	5620	112	4770	95.4	16.4	30	55 - 130
TATB	5000	0	18500	370 *	6970	139	90.5 *	30	29 - 155
3,5-Dinitroaniline	5000	0	5920	118	5790	116	2.22	30	73 - 129

#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): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 16-FEB-10 17:07

GEL Data File: EXP0216001a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	531.163
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
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	509.816

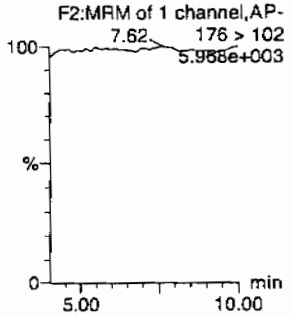
Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\021610expa.mdb, Time: Wed Feb 17 09:19:04 2010
Calibration: Untitled, Time: Wed Feb 17 10:00:06 2010

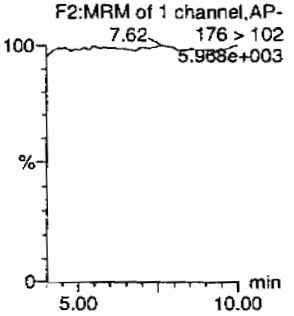
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216001a
Date: 16-Feb-2010
Time: 17:07:38
ID: XIBLK01
Vial: 1:1,A

MAT 2/17/10

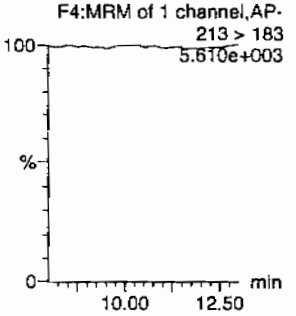
HMX



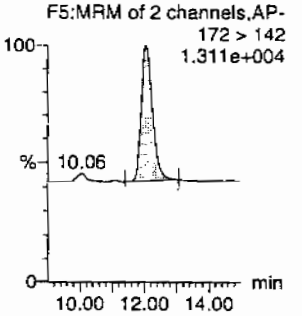
RDX



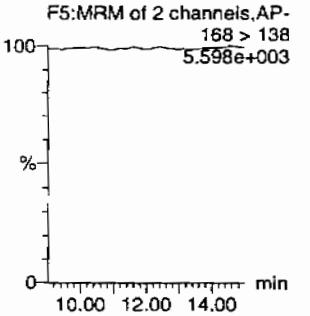
135-Trinitrobenzene



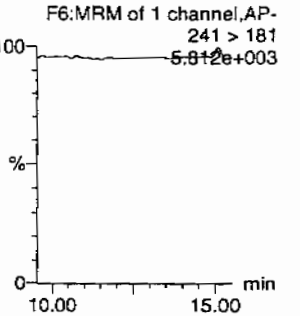
13-Dinitrobenzene-d4



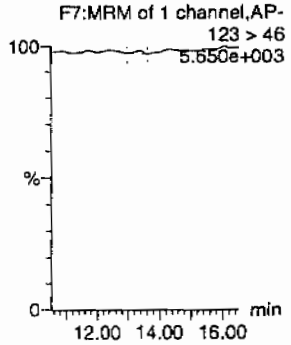
13-Dinitrobenzene



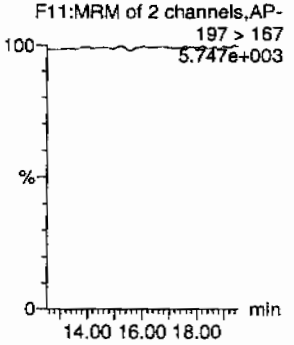
Tetryl



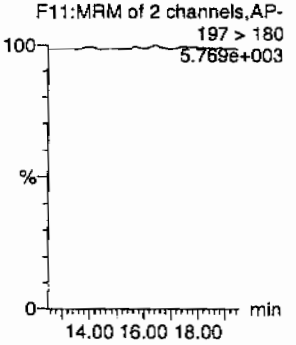
Nitrobenzene



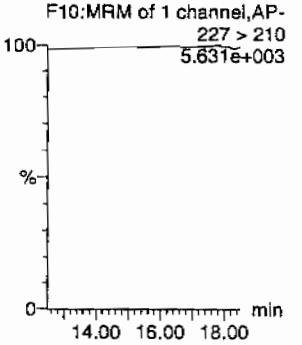
4-Amino-26-dinitrotoluene



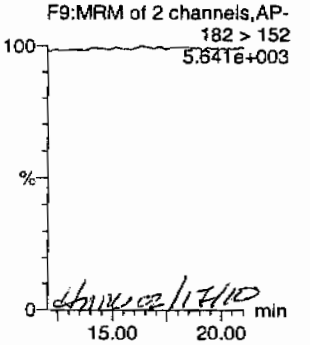
2-Amino-46-dinitrotoluene



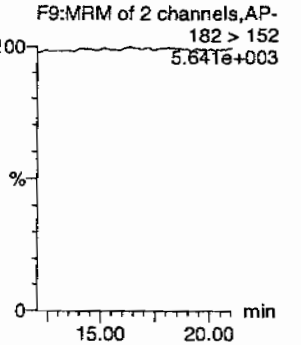
246-Trinitrotoluene



34-dinitrotoluene



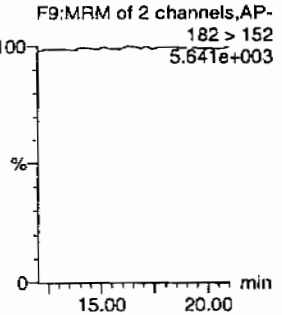
26-dinitrotoluene



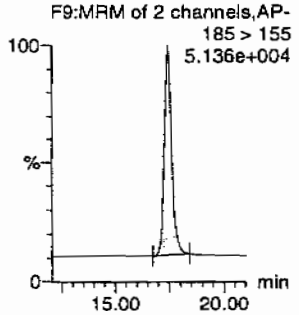
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

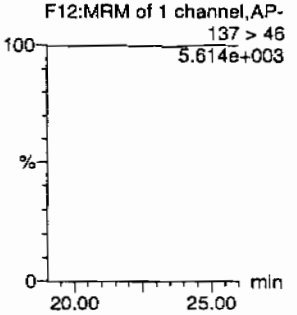
24-dinitrotoluene



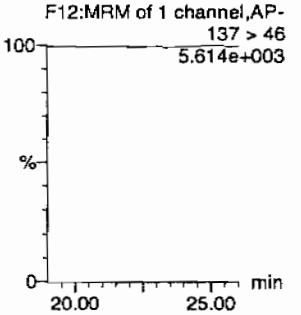
26-dinitrotoluene-d3



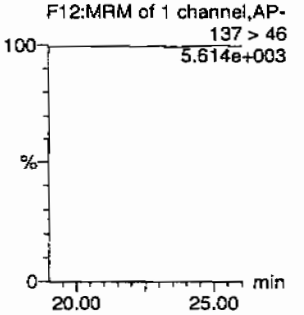
2-Nitrotoluene



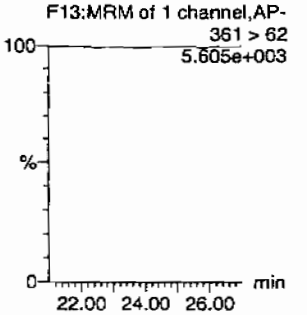
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			3071.556									
XIBLK01	RDX	176 > 102			3071.556									
XIBLK01	135-Trinitrobenzene	213 > 183			3071.556									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.07	3071.556		3071.556	3071.556	bb			509.8160	102.0	2.0	413.3
XIBLK01	13-Dinitrobenzene	168 > 138			3071.556									
XIBLK01	Tetryl	241 > 181			3071.556									
XIBLK01	Nitrobenzene	123 > 46			3071.556			MM-	17-Feb-10	09:21:37				
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			18493.566									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			18493.566									
XIBLK01	246-Trinitrotoluene	227 > 210			18493.566									
XIBLK01	34-dinitrotoluene	182 > 152			18493.566									
XIBLK01	26-dinitrotoluene	182 > 152			18493.566									
XIBLK01	24-dinitrotoluene	182 > 152			18493.566									
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.42	18493.566		18493.566	18493.566	bb			531.1631	106.2	6.2	1741.8
XIBLK01	2-Nitrotoluene	137 > 46			18493.566									
XIBLK01	4-Nitrotoluene	137 > 46			18493.566									
XIBLK01	3-Nitrotoluene	137 > 46			18493.566									
XIBLK01	PETN	361 > 62			18493.566									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 16-FEB-10 17:37

GEL Data File: EXP0216002a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

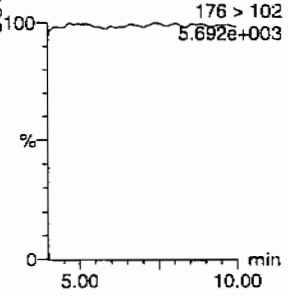
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	540.968
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	530.887
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	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

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

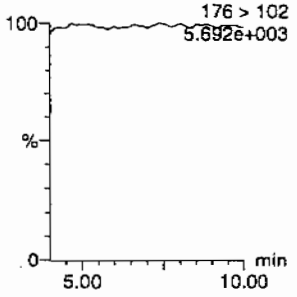
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216002a
Date: 16-Feb-2010
Time: 17:37:26
ID: XIBLK01
Vial: 1:1,A

MGP 2/17/10

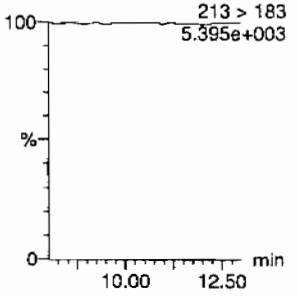
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.692e+003



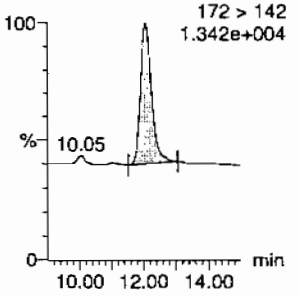
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.692e+003



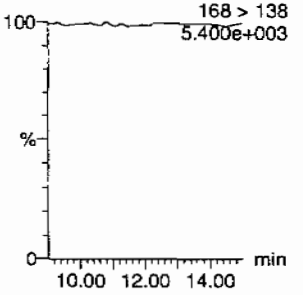
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.395e+003



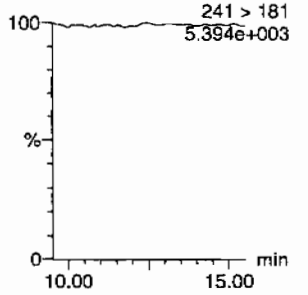
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.342e+004



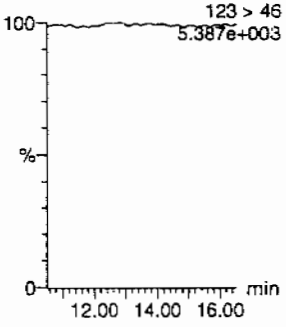
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.400e+003



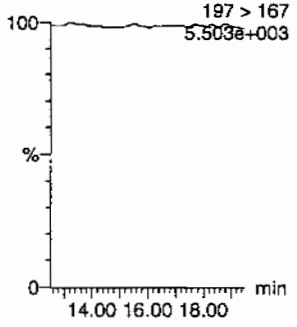
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.394e+003



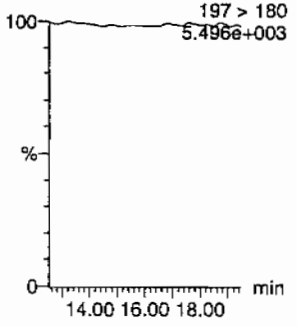
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.387e+003



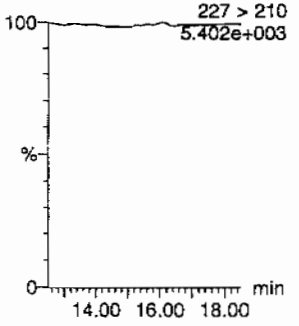
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.503e+003



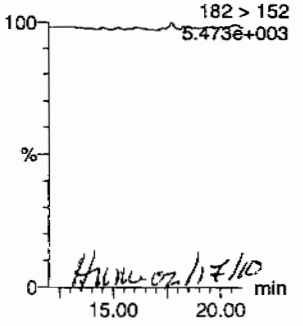
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.496e+003



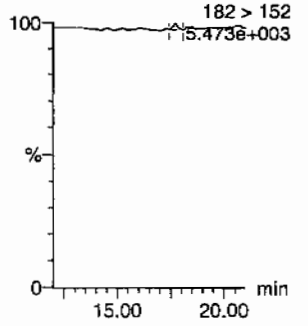
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.402e+003



34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.473e+003



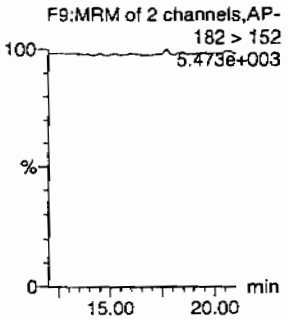
26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.473e+003



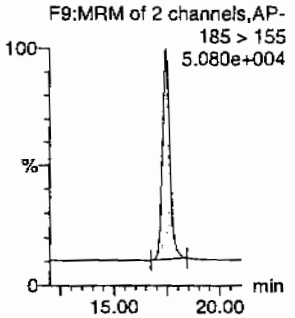
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

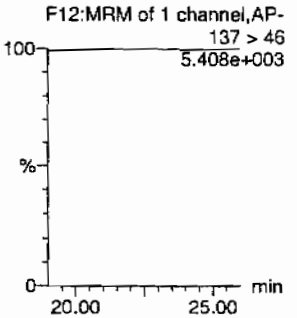
24-dinitrotoluene



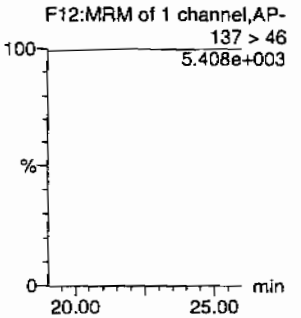
26-dinitrotoluene-d3



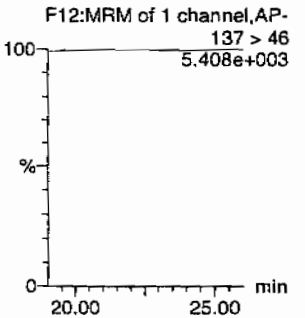
2-Nitrotoluene



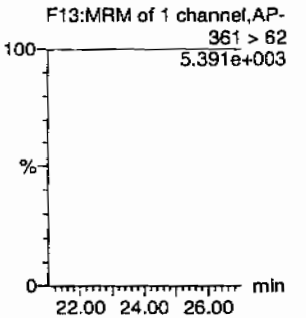
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			3259.244									
XIBLK01	RDX	176 > 102			3259.244									
XIBLK01	135-Trinitrobenzene	213 > 183			3259.244									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.07	3259.244		3259.244	3259.244	bb			540.9684	108.2	8.2	243.5
XIBLK01	13-Dinitrobenzene	168 > 138			3259.244									
XIBLK01	Tetryl	241 > 181			3259.244									
XIBLK01	Nitrobenzene	123 > 46			3259.244									
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			18483.965									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			18483.965									
XIBLK01	246-Trinitrotoluene	227 > 210			18483.965									
XIBLK01	34-dinitrotoluene	182 > 152			18483.965									
XIBLK01	26-dinitrotoluene	182 > 152			18483.965			MM-	17-Feb-10	09:24:48				
XIBLK01	24-dinitrotoluene	182 > 152			18483.965									
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.44	18483.965		18483.965	18483.965	bb			530.8874	106.2	6.2	1863.8
XIBLK01	2-Nitrotoluene	137 > 46			18483.965									
XIBLK01	4-Nitrotoluene	137 > 46			18483.965									
XIBLK01	3-Nitrotoluene	137 > 46			18483.965									
XIBLK01	PETN	361 > 62			18483.965									

4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 16-FEB-10 12:13

GEL Data File: EXS02160001.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

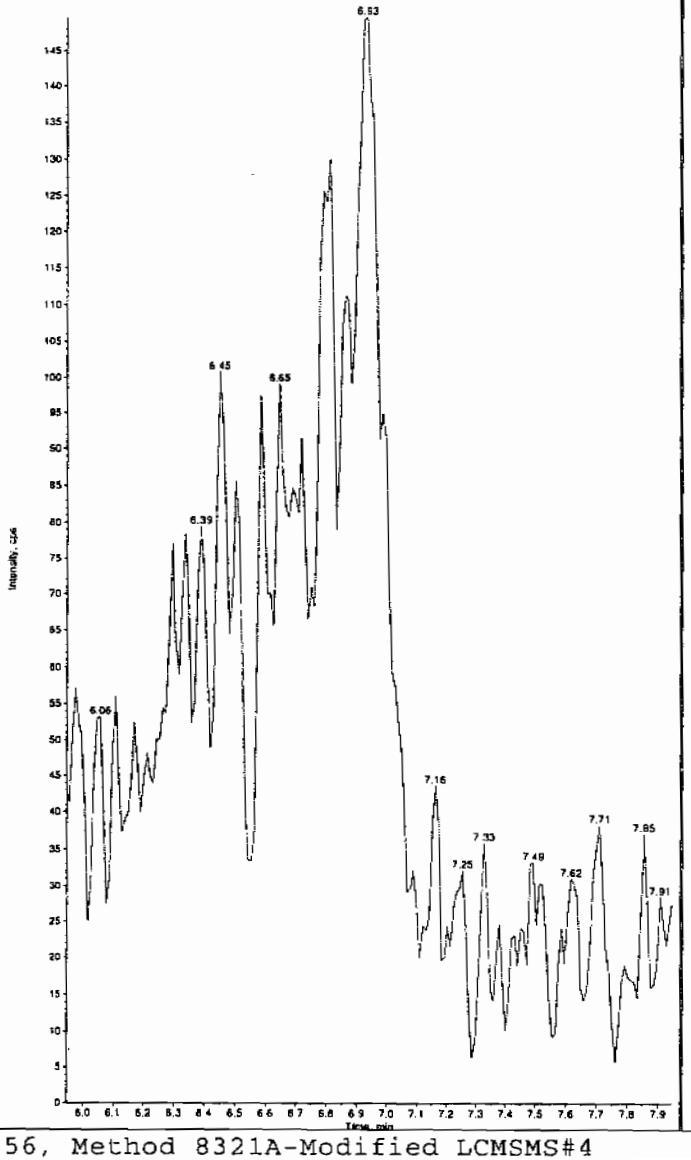
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Ker 2/17/10

Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXSC02160001.wiff"
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: 2/16/2010
Acq. Time: 12:13:08 PM

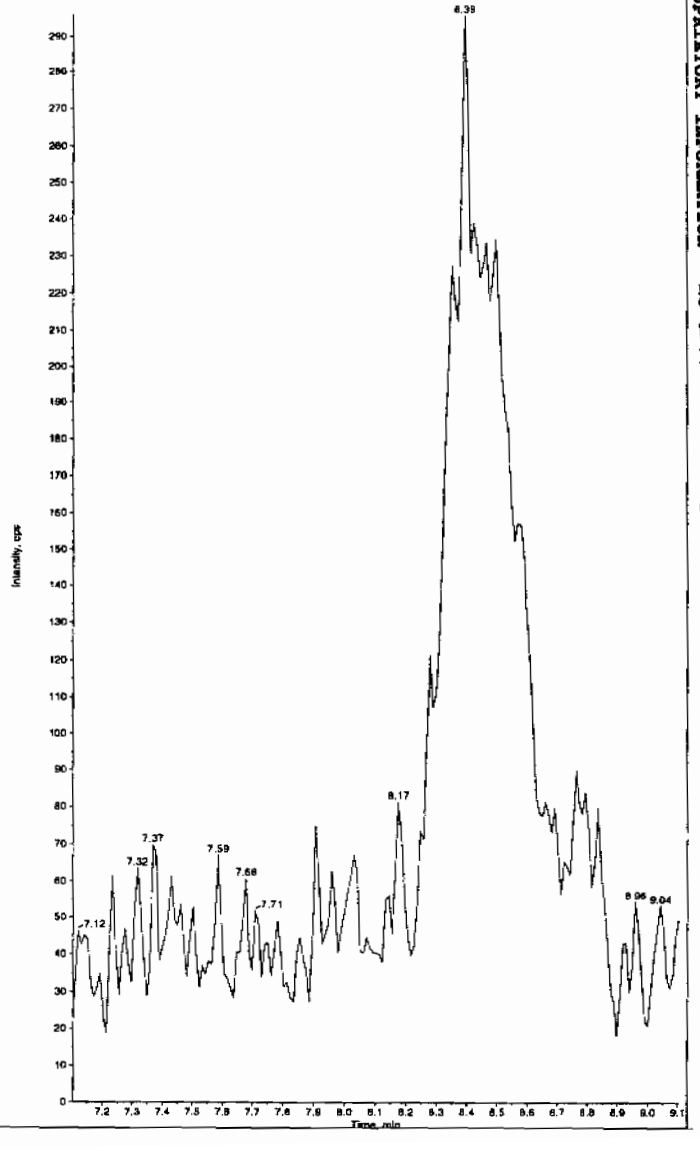
Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXSC02160001.wiff"
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: 2/16/2010
Acq. Time: 12:13:08 PM

Modified: No



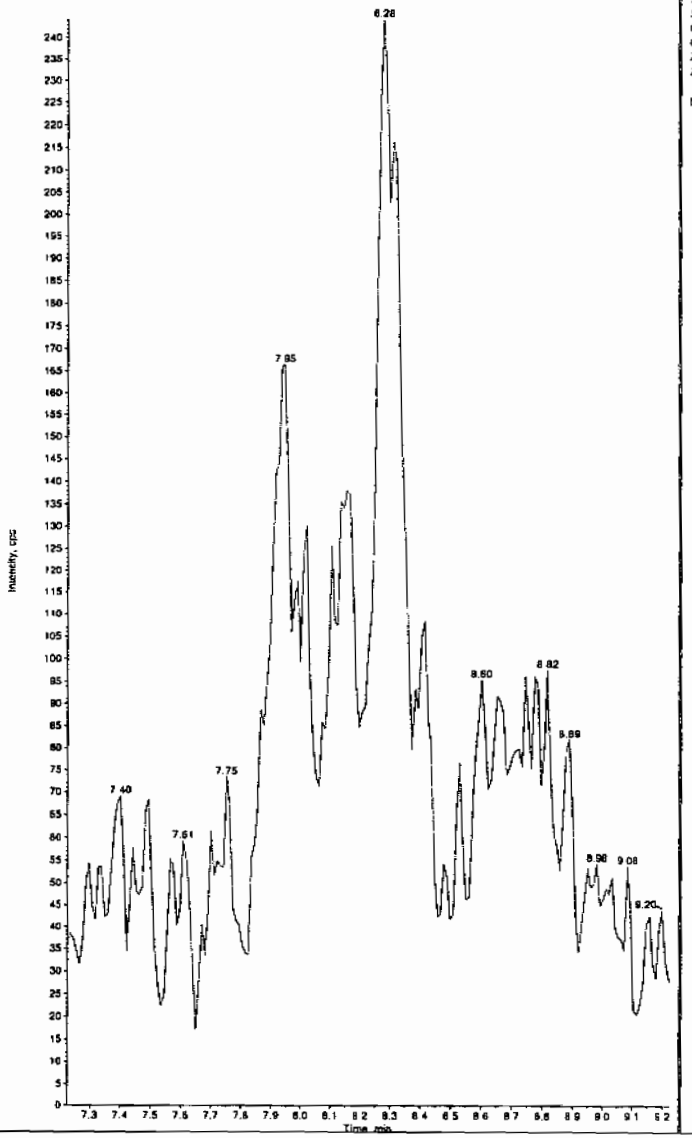
Hmc 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS02160001.wiff"
Peak Name: "34-Dinitrotoluene" Mass(as): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 12:13:08 PM

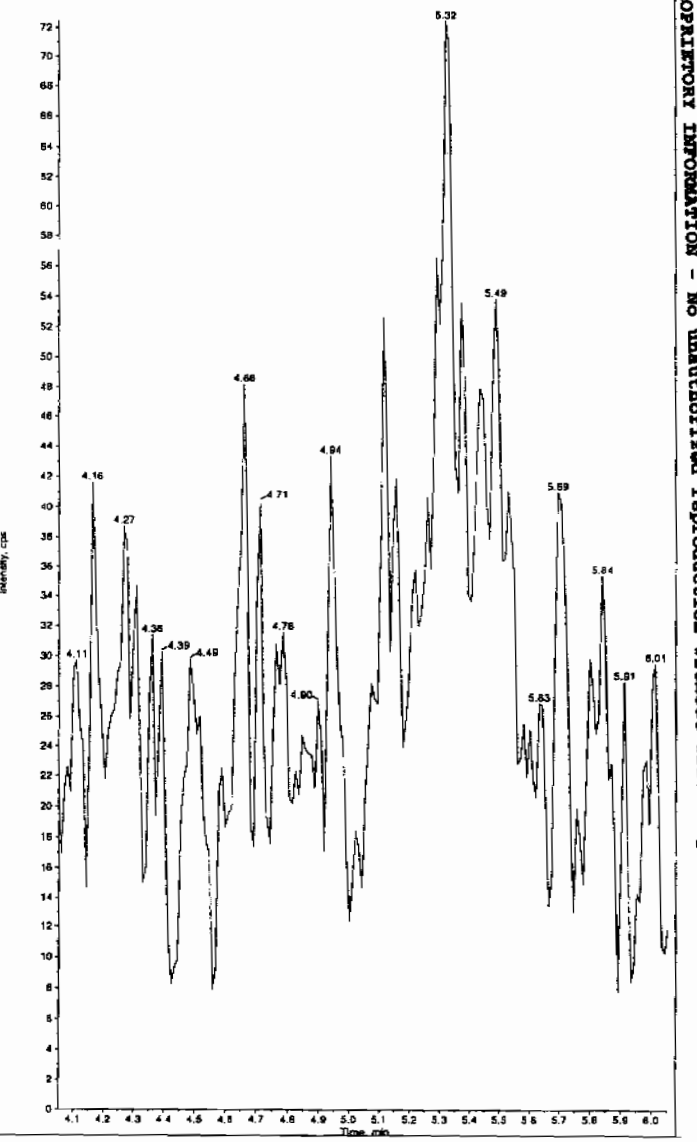
Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS02160001.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(as): "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: 2/16/2010
Acq. Time: 12:13:08 PM

Modified: No

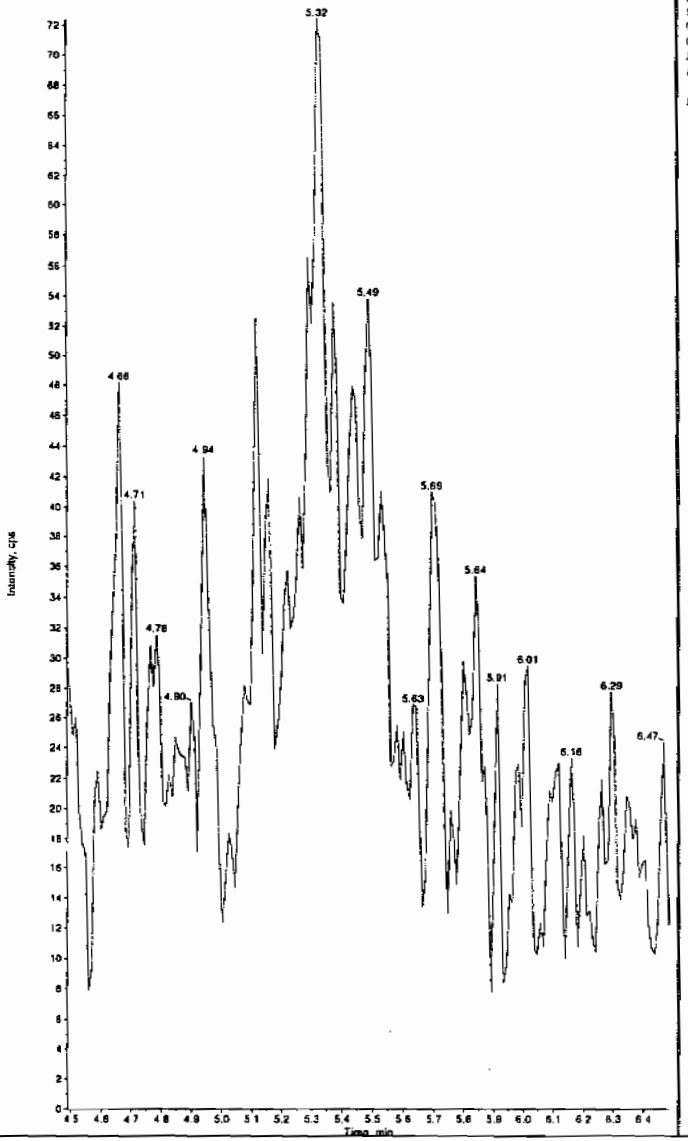


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS02160001.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 12:13:08 PM

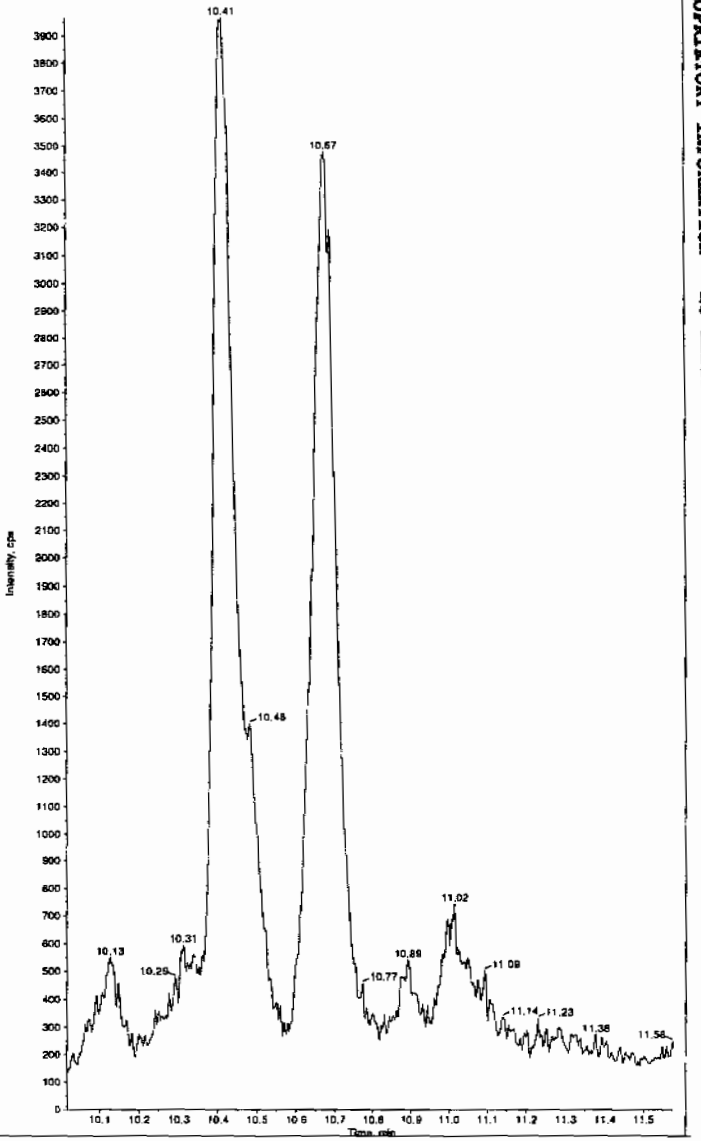
Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS02160001.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 12:13:08 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 16-FEB-10 12:29

GEL Data File: EXS02160002.wiff

Instrument ID: LCMSMS

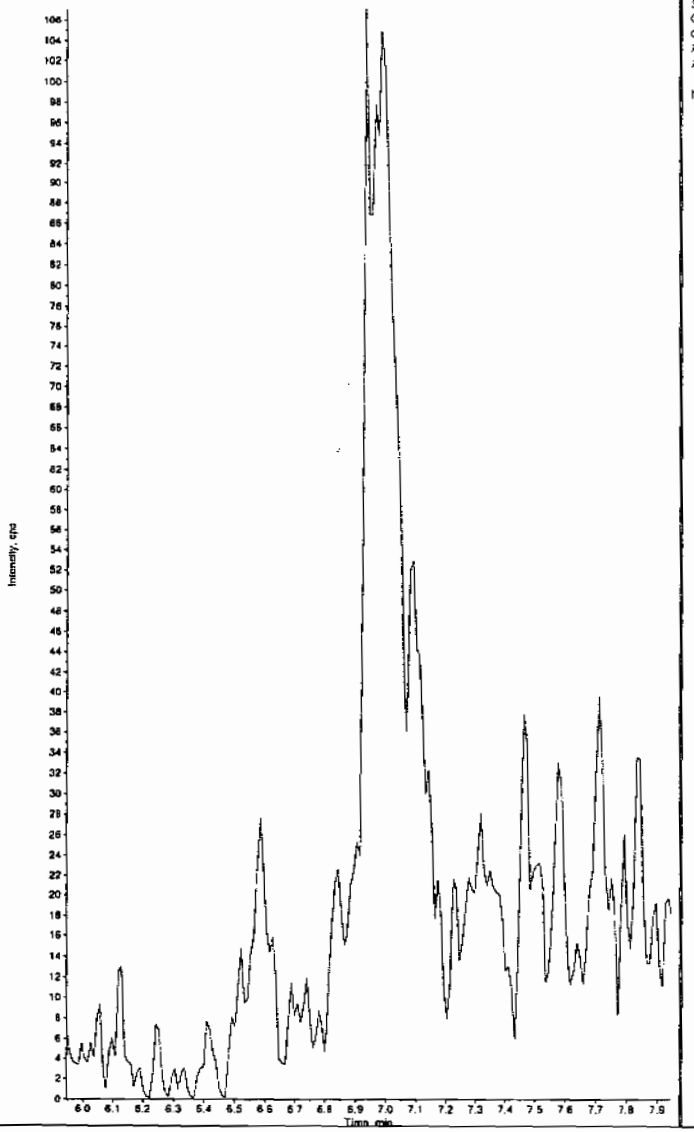
Column: Phenomenex Ultracarb 5u ODS(20)

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

Lan 2/17/10

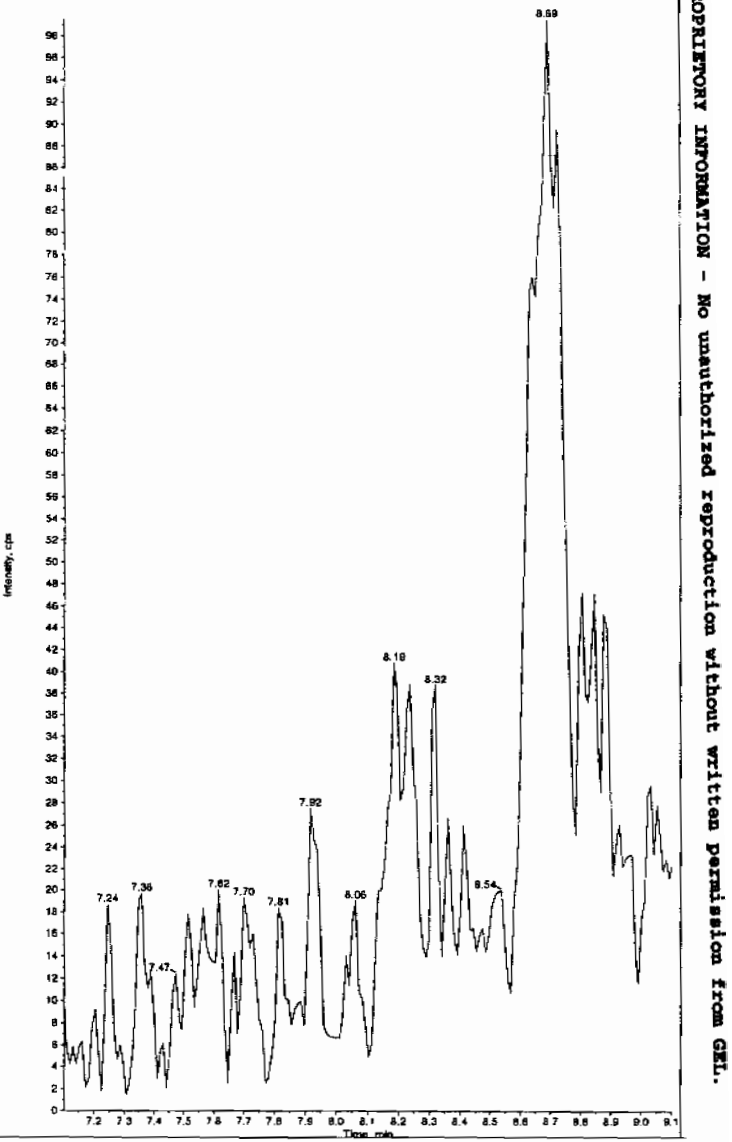
Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS02160002.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 12:29:00 PM

Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS02160002.wiff"
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: 2/16/2010
Acq. Time: 12:29:00 PM

Modified: No



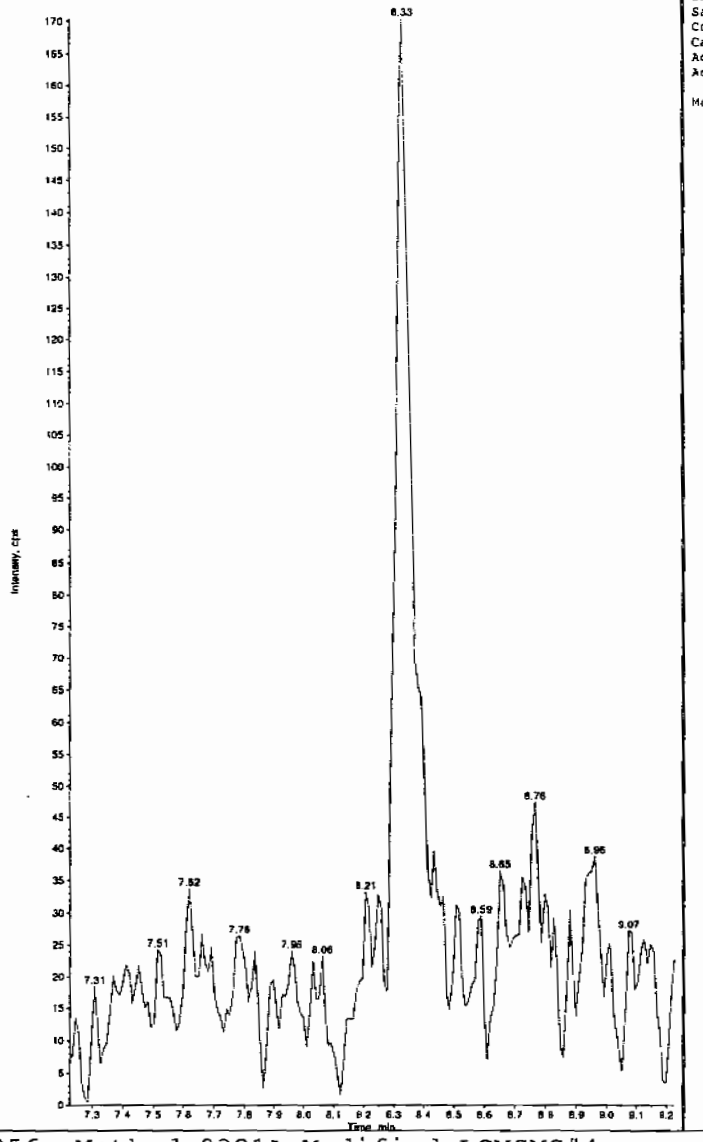
HMM 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK01" Sample ID: "|1|LER" File: "EXS02160002.wiff"
Peak Name: "34-Dinitrotoluene" 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
Acq. Date: 2/16/2010
Acq. Time: 12:29:00 PM

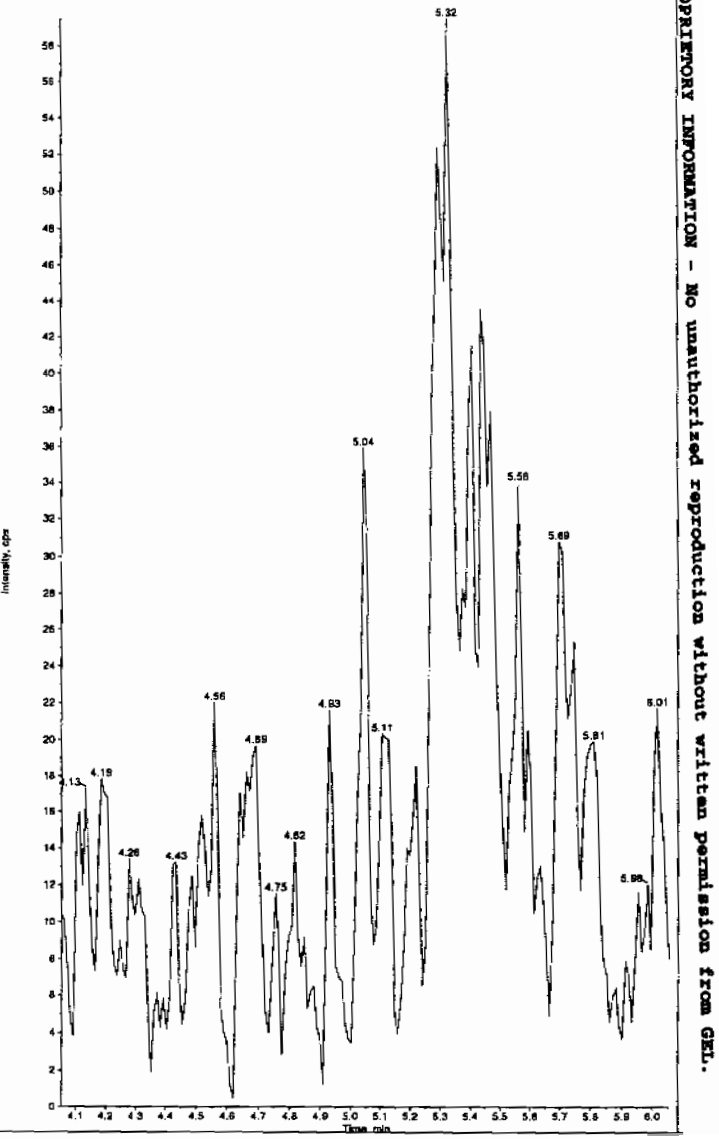
Modified: No



Sample Name: "XIBLK01" Sample ID: "|1|LER" File: "EXS02160002.wiff"
Peak Name: "26-Diamino-4-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
Acq. Date: 2/16/2010
Acq. Time: 12:29:00 PM

Modified: No

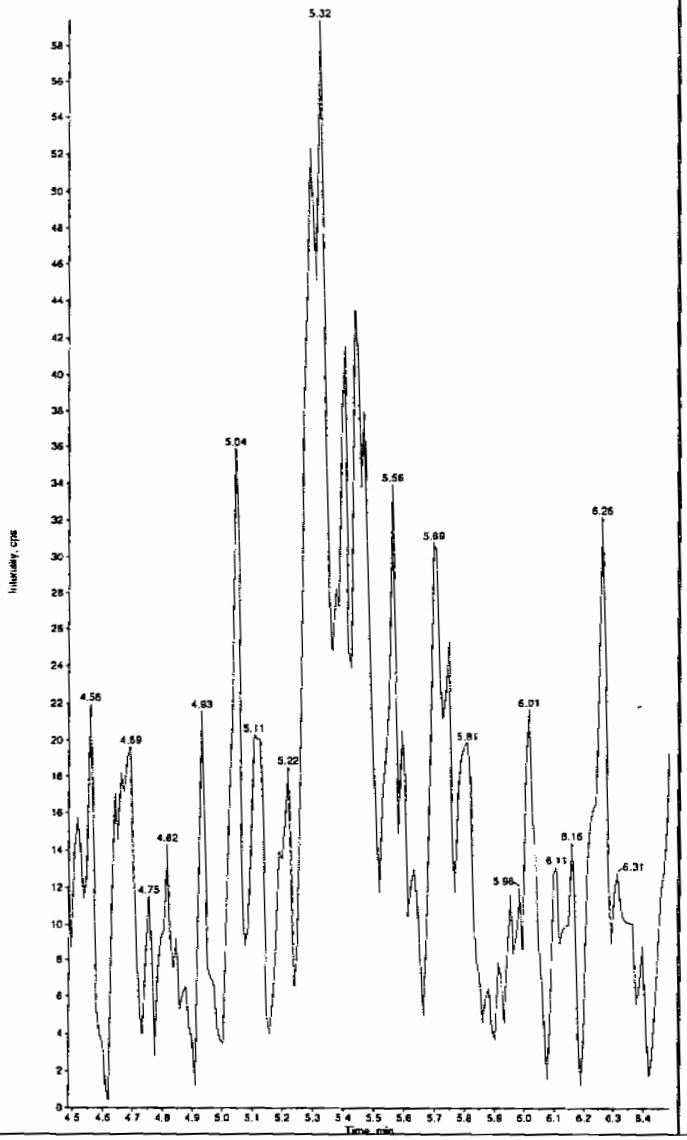


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK01" Sample ID: "|1|LER" File: "EXS02160002.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 12:29:00 PM

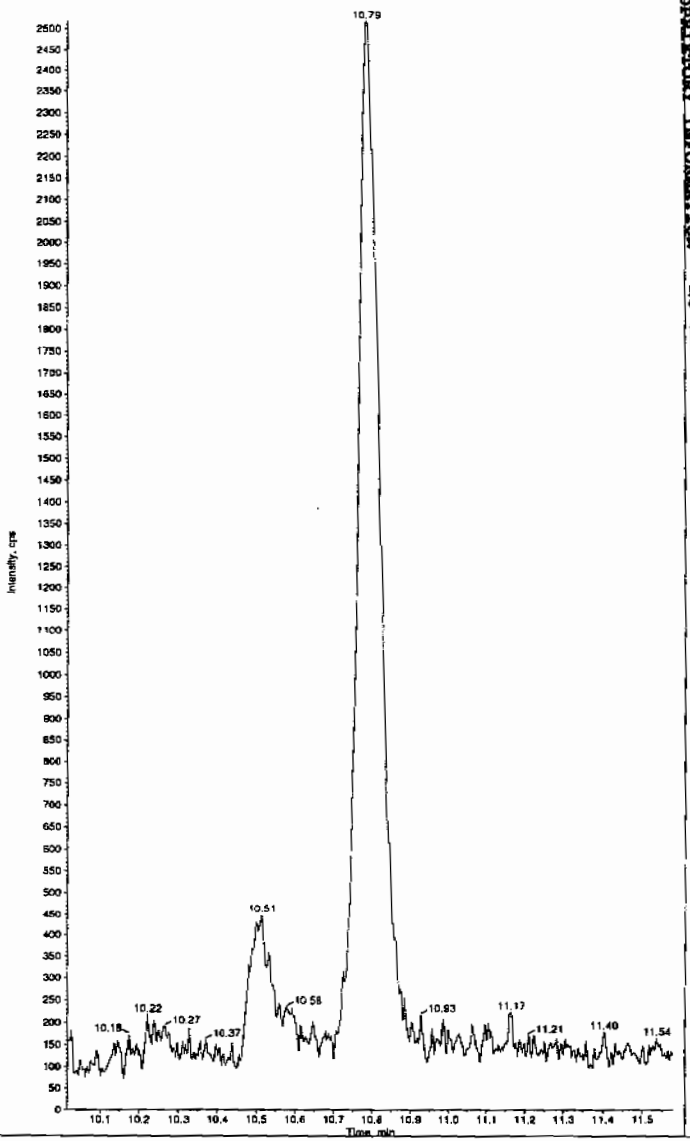
Modified: No



Sample Name: "XIBLK01" Sample ID: "|1|LER" File: "EXS02160002.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 12:29:00 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 16-FEB-10 21:04

GEL Data File: EXP0216009a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
1,3-Dinitrobenzene-d4	500	570.463
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	494.232
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
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0

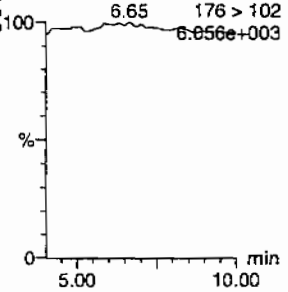
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

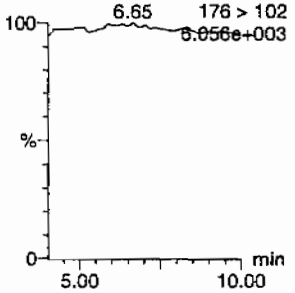
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216009a
Date: 16-Feb-2010
Time: 21:04:59
ID: XIBLK02
Vial: 1:1,A

MM
2/17/10

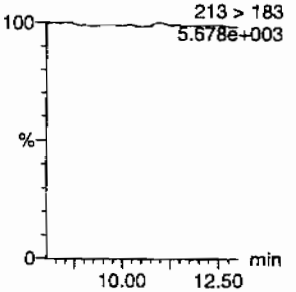
HMX
F2:MRM of 1 channel,AP-
6.65 176 > 102
6.056e+003



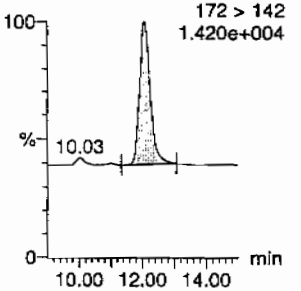
RDX
F2:MRM of 1 channel,AP-
6.65 176 > 102
6.056e+003



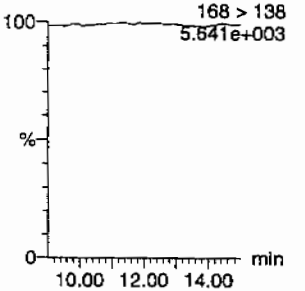
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.678e+003



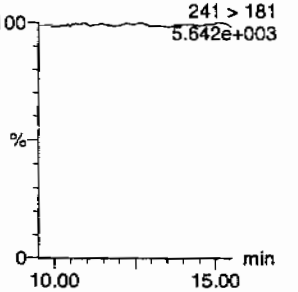
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.420e+004



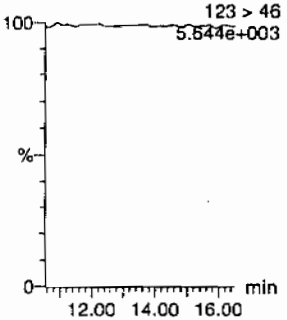
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.641e+003



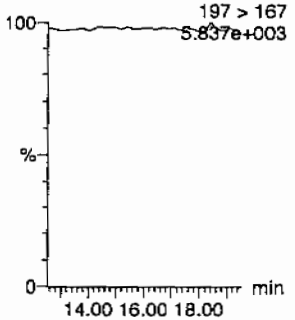
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.642e+003



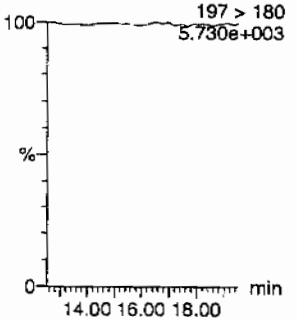
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.644e+003



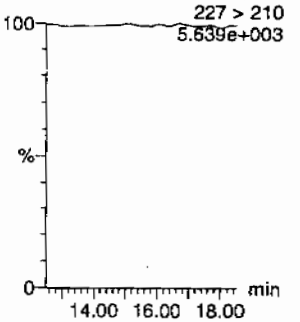
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.837e+003



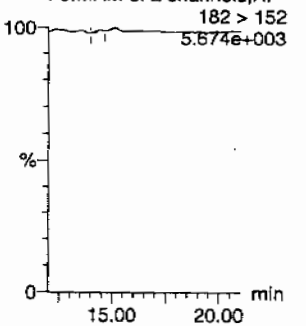
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.730e+003



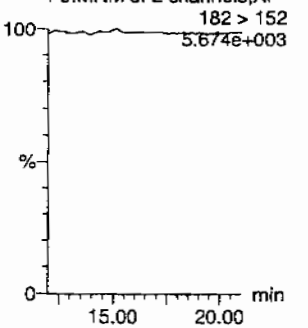
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.639e+003



34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.674e+003



26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.674e+003

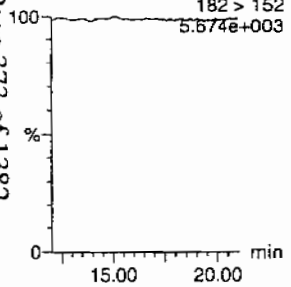


MM 02/17/10

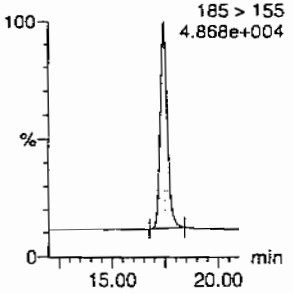
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

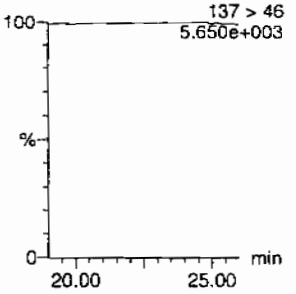
24-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.674e+003



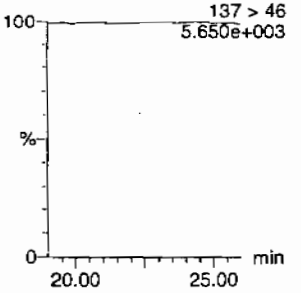
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
4.868e+004



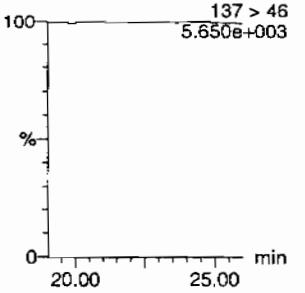
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
5.650e+003



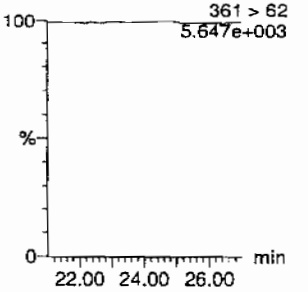
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
5.650e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
5.650e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
5.647e+003



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK02	HMX	176 > 102			3436.941									
XIBLK02	RDX	176 > 102			3436.941									
XIBLK02	135-Trinitrobenzene	213 > 183			3436.941									
XIBLK02	13-Dinitrobenzene-d4	172 > 142	12.03	3436.941		3436.941	3436.941	bb			570.4625	114.1	14.1	178.7
XIBLK02	13-Dinitrobenzene	168 > 138			3436.941									
XIBLK02	Tetryl	241 > 181			3436.941									
XIBLK02	Nitrobenzene	123 > 46			3436.941									
XIBLK02	4-Amino-26-dinitrotoluene	197 > 167			17207.732									
XIBLK02	2-Amino-46-dinitrotoluene	197 > 180			17207.732									
XIBLK02	246-Trinitrotoluene	227 > 210			17207.732									
XIBLK02	34-dinitrotoluene	182 > 152			17207.732			MM-	17-Feb-10	09:24:35				
XIBLK02	26-dinitrotoluene	182 > 152			17207.732									
XIBLK02	24-dinitrotoluene	182 > 152			17207.732									
XIBLK02	26-dinitrotoluene-d3	185 > 155	17.42	17207.732		17207.732	17207.732	bb			494.2320	98.8	-1.2	2636.1
XIBLK02	2-Nitrotoluene	137 > 46			17207.732									
XIBLK02	4-Nitrotoluene	137 > 46			17207.732									
XIBLK02	3-Nitrotoluene	137 > 46			17207.732									
XIBLK02	PETN	361 > 62			17207.732									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1666

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 16–FEB–10 22:04

GEL Data File: EXP0216011a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

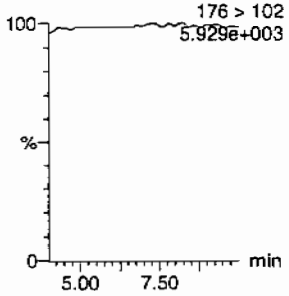
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	445.165
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	575.243
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	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

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

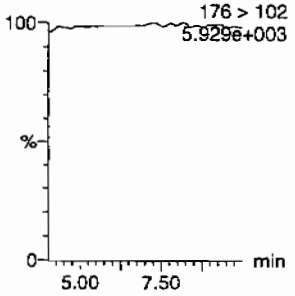
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216011a
Date: 16-Feb-2010
Time: 22:04:12
ID: XIBLK03
Vial: 1:1,A

MMT 2/17/10

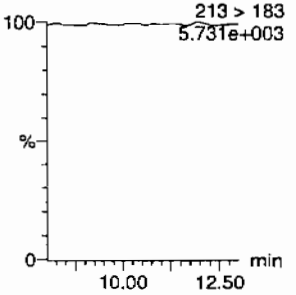
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.929e+003



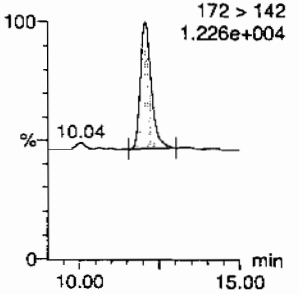
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.929e+003



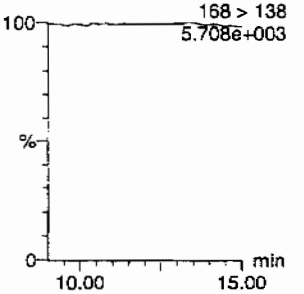
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.731e+003



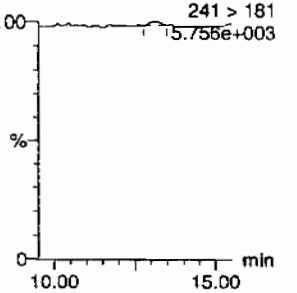
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.226e+004



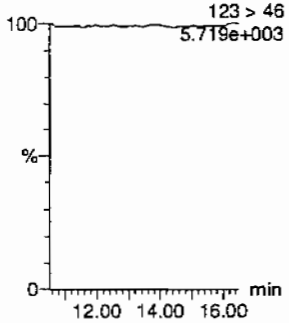
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.708e+003



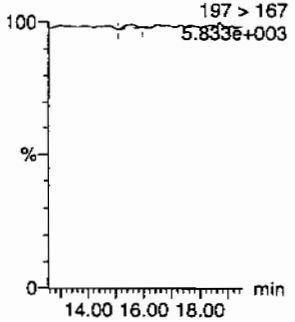
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.755e+003



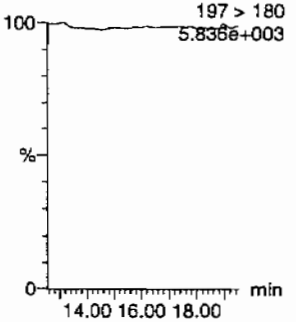
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.719e+003



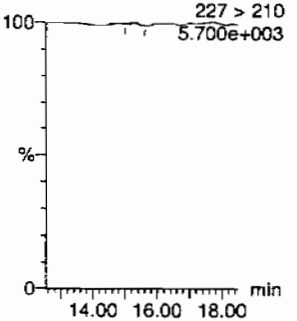
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.833e+003



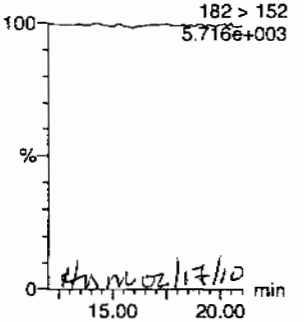
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.836e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.700e+003

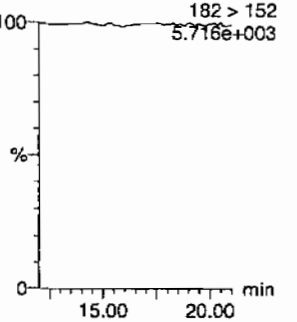


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.716e+003



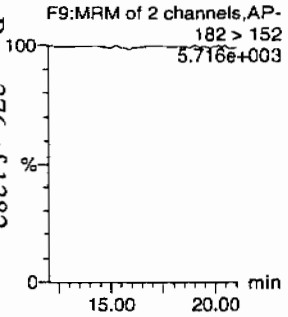
HAM 02/17/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.716e+003

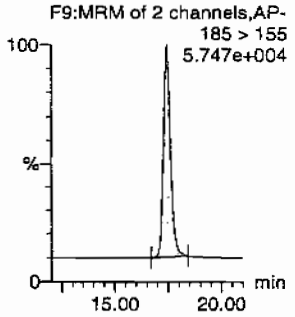


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

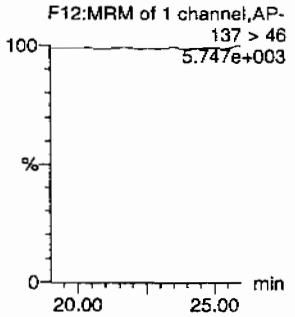
24-dinitrotoluene



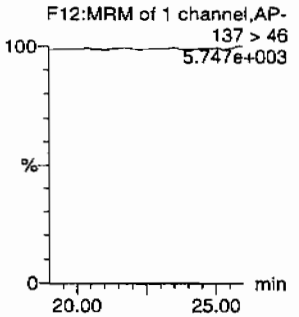
26-dinitrotoluene-d3



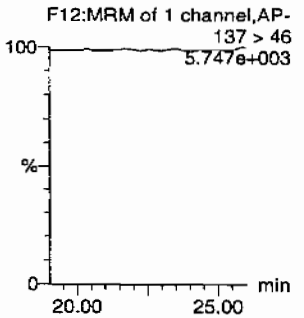
2-Nitrotoluene



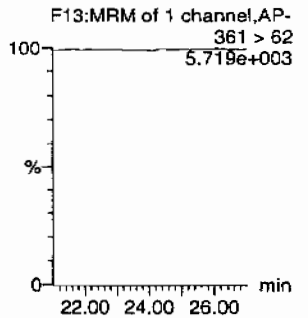
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK03	HMX	176 > 102			2682.047									
XIBLK03	RDX	176 > 102			2682.047									
XIBLK03	135-Trinitrobenzene	213 > 183			2682.047									
XIBLK03	13-Dinitrobenzene-d4	172 > 142	12.06	2682.047		2682.047	2682.047	bb			445.1654	89.0	-11.0	160.3
XIBLK03	13-Dinitrobenzene	168 > 138			2682.047									
XIBLK03	Tetryl	241 > 181			2682.047			MM-	17-Feb-10	09:21:24				
XIBLK03	Nitrobenzene	123 > 46			2682.047									
XIBLK03	4-Amino-26-dinitrotoluene	197 > 167			20028.289			MM-	17-Feb-10	09:22:49				
XIBLK03	2-Amino-46-dinitrotoluene	197 > 180			20028.289									
XIBLK03	246-Trinitrotoluene	227 > 210			20028.289			MM-	17-Feb-10	09:24:30				
XIBLK03	34-dinitrotoluene	182 > 152			20028.289									
XIBLK03	26-dinitrotoluene	182 > 152			20028.289									
XIBLK03	24-dinitrotoluene	182 > 152			20028.289									
XIBLK03	26-dinitrotoluene-d3	185 > 155	17.43	20028.289		20028.289	20028.289	bb			575.2427	115.0	15.0	1997.4
XIBLK03	2-Nitrotoluene	137 > 46			20028.289									
XIBLK03	4-Nitrotoluene	137 > 46			20028.289									
XIBLK03	3-Nitrotoluene	137 > 46			20028.289									
XIBLK03	PETN	361 > 62			20028.289									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 17-FEB-10 03:30

GEL Data File: EXP0216022a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	470.843
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	468.456
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
3,4-Dinitrotoluene	0	0

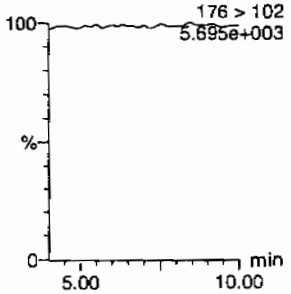
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

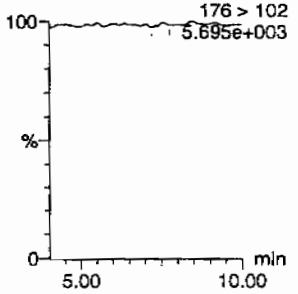
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216022a
Date: 17-Feb-2010
Time: 03:30:28
ID: XIBLK04
Vial: 1:1,A

MET 2/17/10

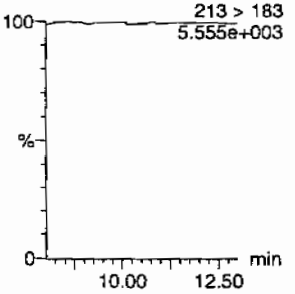
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.695e+003



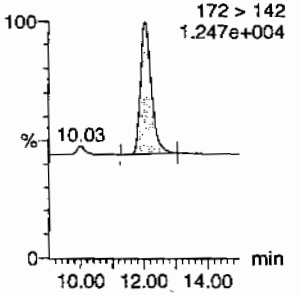
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.695e+003



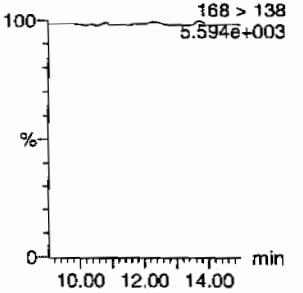
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.555e+003



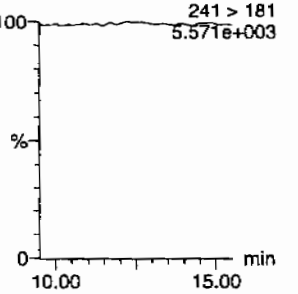
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.247e+004



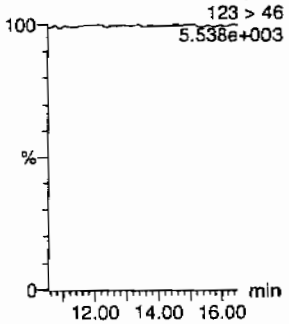
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.594e+003



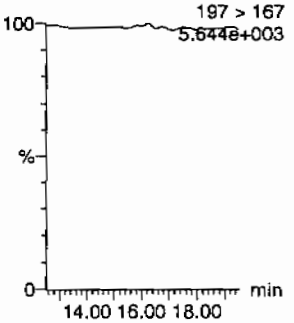
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.571e+003



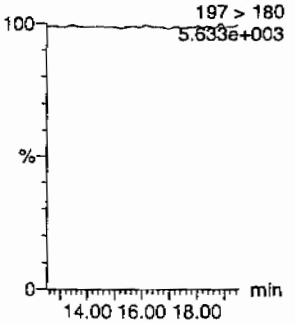
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.538e+003



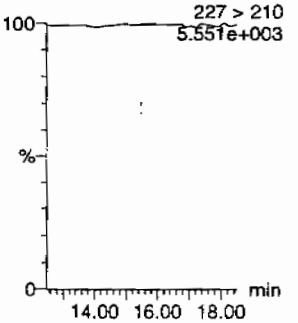
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.644e+003



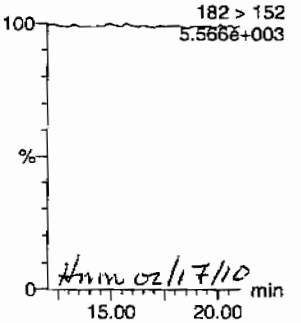
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.633e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.551e+003

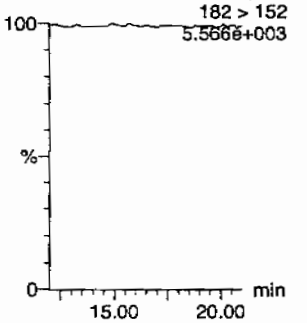


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.566e+003



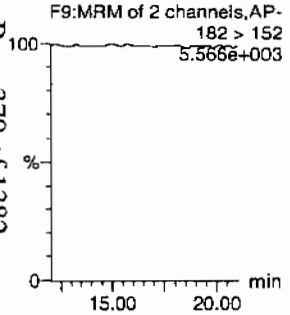
HMM 02/17/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.566e+003

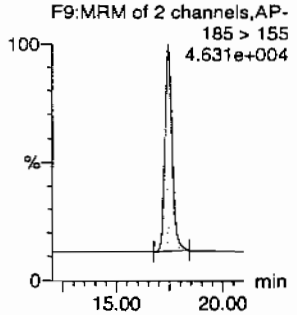


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

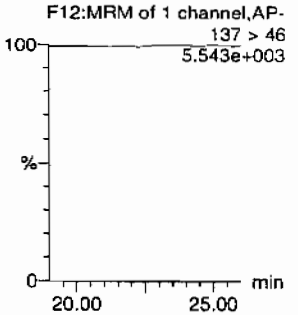
24-dinitrotoluene



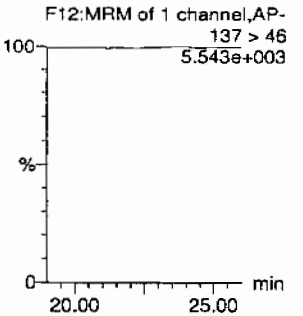
26-dinitrotoluene-d3



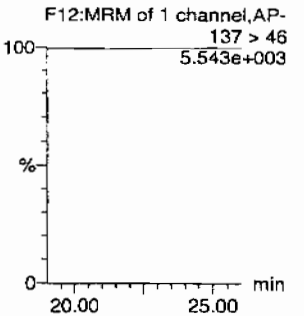
2-Nitrotoluene



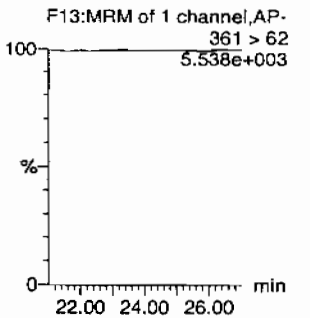
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK04	HMX	176 > 102			2836.752									
XIBLK04	RDX	176 > 102			2836.752			MM-	17-Feb-10	09:20:42				
XIBLK04	135-Trinitrobenzene	213 > 183			2836.752									
XIBLK04	13-Dinitrobenzene-d4	172 > 142	12.07	2836.752		2836.752	2836.752	bb			470.8433	94.2	-5.8	187.3
XIBLK04	13-Dinitrobenzene	168 > 138			2836.752									
XIBLK04	Tetryl	241 > 181			2836.752									
XIBLK04	Nitrobenzene	123 > 46			2836.752									
XIBLK04	4-Amino-26-dinitrotoluene	197 > 167			16310.284									
XIBLK04	2-Amino-46-dinitrotoluene	197 > 180			16310.284									
XIBLK04	246-Trinitrotoluene	227 > 210			16310.284									
XIBLK04	34-dinitrotoluene	182 > 152			16310.284									
XIBLK04	26-dinitrotoluene	182 > 152			16310.284									
XIBLK04	24-dinitrotoluene	182 > 152			16310.284									
XIBLK04	26-dinitrotoluene-d3	185 > 155	17.44	16310.284		16310.284	16310.284	bb			468.4560	93.7	-6.3	1281.5
XIBLK04	2-Nitrotoluene	137 > 46			16310.284									
XIBLK04	4-Nitrotoluene	137 > 46			16310.284									
XIBLK04	3-Nitrotoluene	137 > 46			16310.284									
XIBLK04	PETN	361 > 62			16310.284									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1666

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 17–FEB–10 06:28

GEL Data File: EXP0216028a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

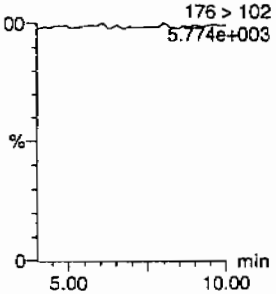
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	443.214
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	440.83
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
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

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

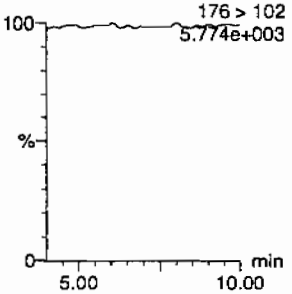
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216028a
Date: 17-Feb-2010
Time: 06:28:06
ID: XIBLK05
Vial: 1:1,A

MM 2/17/10

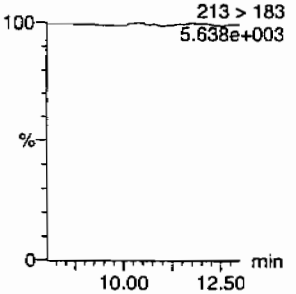
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.774e+003



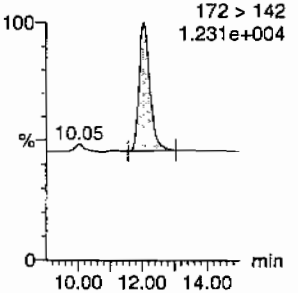
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.774e+003



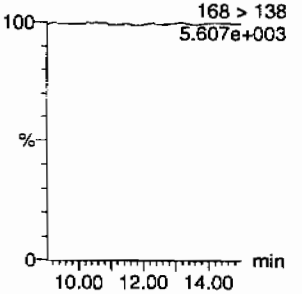
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.638e+003



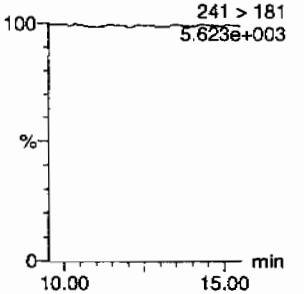
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.231e+004



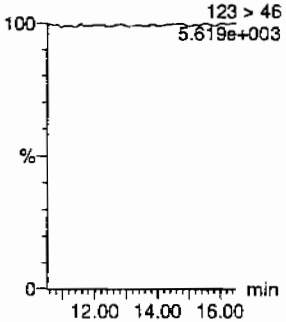
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.607e+003



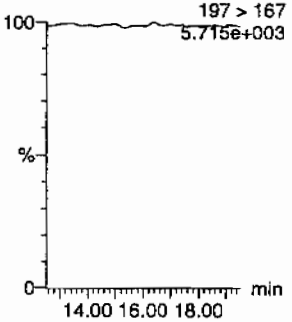
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.623e+003



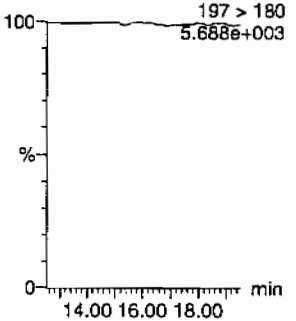
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.619e+003



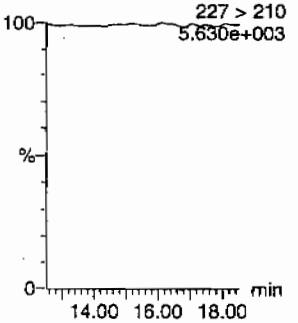
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.715e+003



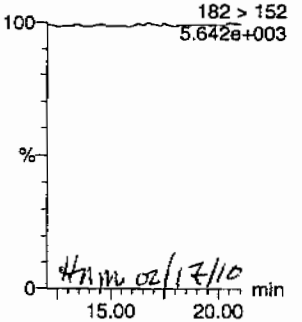
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.688e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.630e+003

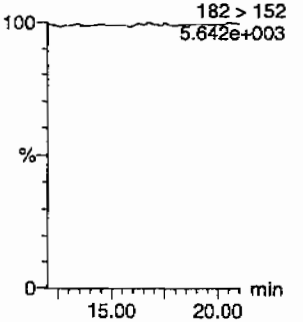


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.642e+003



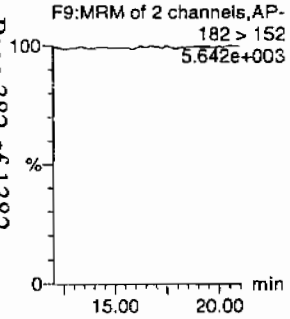
MM 02/17/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.642e+003

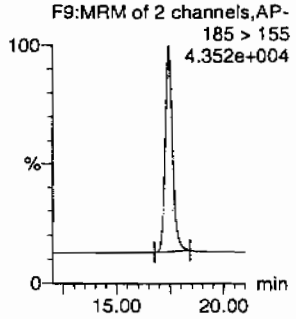


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

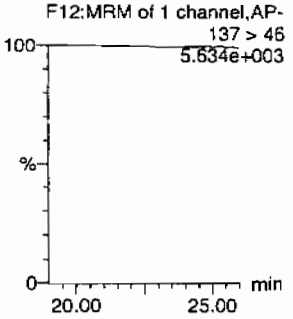
24-dinitrotoluene



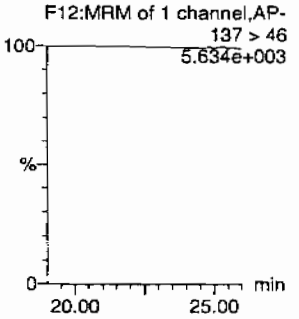
26-dinitrotoluene-d3



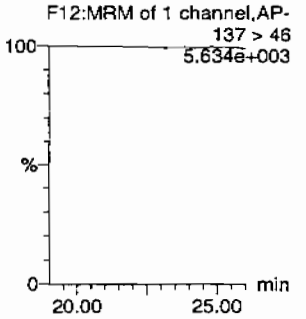
2-Nitrotoluene



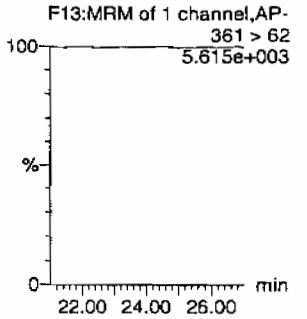
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK05	HMX	176 > 102			2670.289									
XIBLK05	RDX	176 > 102			2670.289									
XIBLK05	135-Trinitrobenzene	213 > 183			2670.289									
XIBLK05	13-Dinitrobenzene-d4	172 > 142	12.07	2670.289		2670.289	2670.289	bb			443.2139	88.6	-11.4	203.6
XIBLK05	13-Dinitrobenzene	168 > 138			2670.289									
XIBLK05	Tetryl	241 > 181			2670.289									
XIBLK05	Nitrobenzene	123 > 46			2670.289									
XIBLK05	4-Amino-26-dinitrotoluene	197 > 167			15348.437									
XIBLK05	2-Amino-46-dinitrotoluene	197 > 180			15348.437									
XIBLK05	246-Trinitrotoluene	227 > 210			15348.437									
XIBLK05	34-dinitrotoluene	182 > 152			15348.437									
XIBLK05	26-dinitrotoluene	182 > 152			15348.437									
XIBLK05	24-dinitrotoluene	182 > 152			15348.437									
XIBLK05	26-dinitrotoluene-d3	185 > 155	17.44	15348.437		15348.437	15348.437	bb			440.8303	88.2	-11.8	1328.0
XIBLK05	2-Nitrotoluene	137 > 46			15348.437									
XIBLK05	4-Nitrotoluene	137 > 46			15348.437									
XIBLK05	3-Nitrotoluene	137 > 46			15348.437									
XIBLK05	PETN	361 > 62			15348.437									

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10-1666
Lab Code: GEL
Lab Sample ID: XIBLK06
Analysis Date: 17-FEB-10 12:24
GEL Data File: EXP0216040a
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

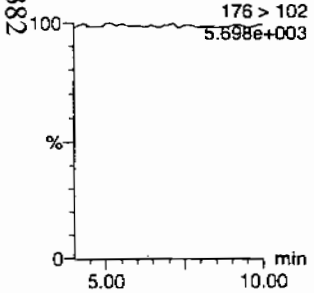
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	431.007
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	413.713
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	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

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

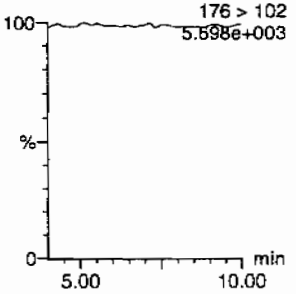
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216040a
Date: 17-Feb-2010
Time: 12:24:42
ID: XIBLK06
Vial: 1:1,A

MMT 4/18/10

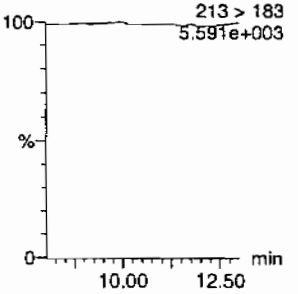
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.598e+003



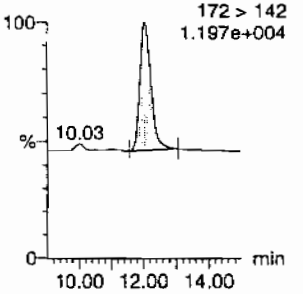
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.598e+003



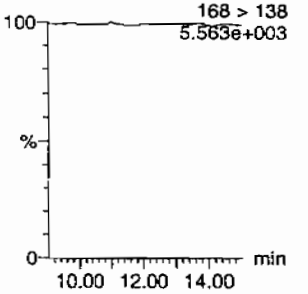
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.591e+003



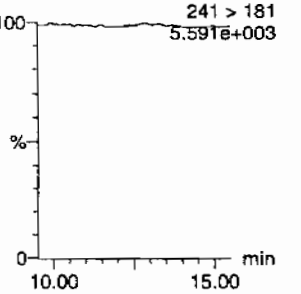
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.197e+004



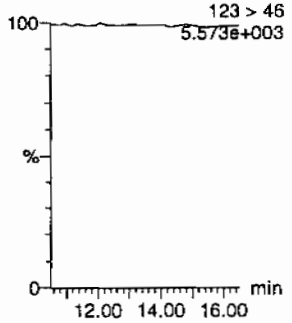
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.563e+003



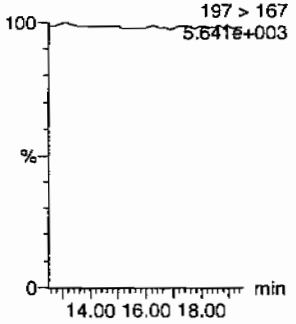
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.591e+003



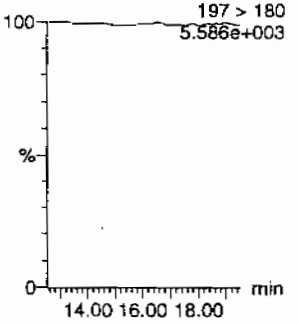
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.573e+003



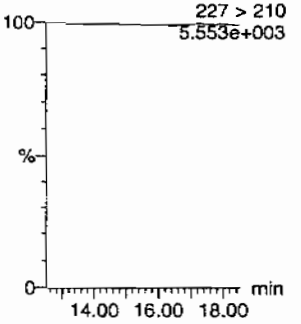
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.641e+003



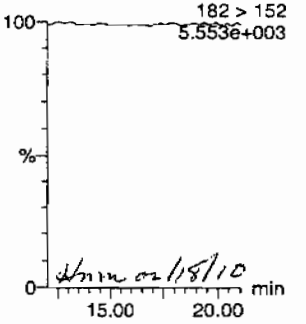
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.586e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.553e+003

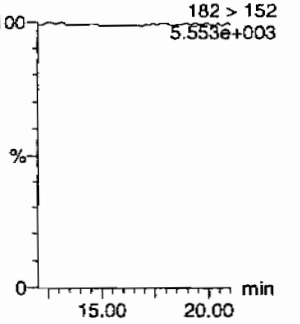


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.553e+003



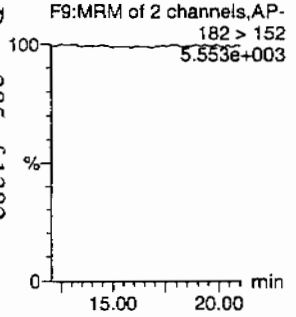
HMM 02/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.553e+003

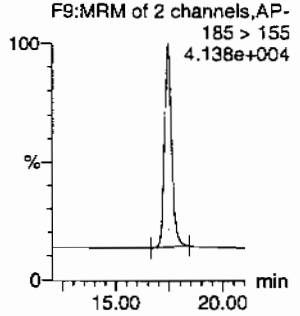


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

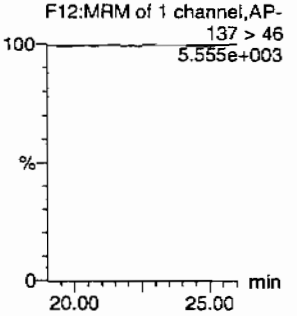
24-dinitrotoluene



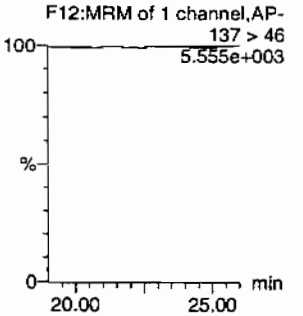
26-dinitrotoluene-d3



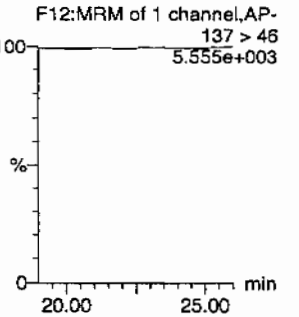
2-Nitrotoluene



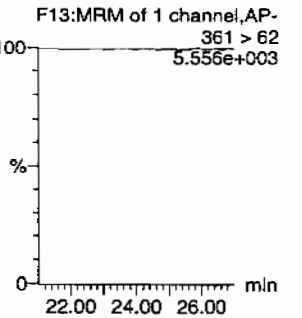
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK06	HMX	176 > 102			2596.742									
XIBLK06	RDX	176 > 102			2596.742									
XIBLK06	135-Trinitrobenzene	213 > 183			2596.742									
XIBLK06	13-Dinitrobenzene-d4	172 > 142	12.03	2596.742		2596.742	2596.742	bb			431.0065	86.2	-13.8	277.6
XIBLK06	13-Dinitrobenzene	168 > 138			2596.742									
XIBLK06	Tetryl	241 > 181			2596.742									
XIBLK06	Nitrobenzene	123 > 46			2596.742									
XIBLK06	4-Amino-26-dinitrotoluene	197 > 167			14404.283									
XIBLK06	2-Amino-46-dinitrotoluene	197 > 180			14404.283									
XIBLK06	246-Trinitrotoluene	227 > 210			14404.283									
XIBLK06	34-dinitrotoluene	182 > 152			14404.283									
XIBLK06	26-dinitrotoluene	182 > 152			14404.283									
XIBLK06	24-dinitrotoluene	182 > 152			14404.283									
XIBLK06	26-dinitrotoluene-d3	185 > 155	17.44	14404.283		14404.283	14404.283	bb			413.7128	82.7	-17.3	1514.9
XIBLK06	2-Nitrotoluene	137 > 46			14404.283									
XIBLK06	4-Nitrotoluene	137 > 46			14404.283									
XIBLK06	3-Nitrotoluene	137 > 46			14404.283									
XIBLK06	PETN	361 > 62			14404.283									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 17-FEB-10 18:50

GEL Data File: EXP0216053a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

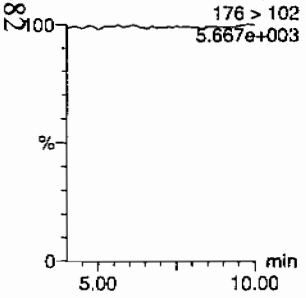
Compound	True	Found (ug/L)
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	517.203
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	500.527
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	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

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

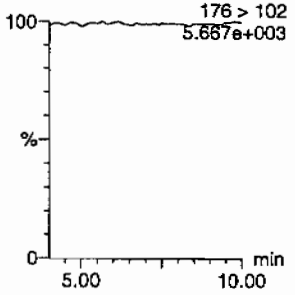
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216053a
Date: 17-Feb-2010
Time: 18:50:03
ID: XIBLK07
Vial: 1:1,A

MM 2/10/10

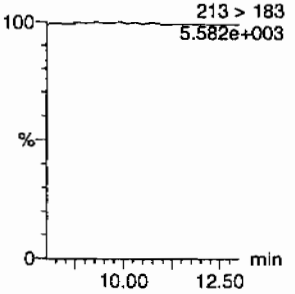
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.667e+003



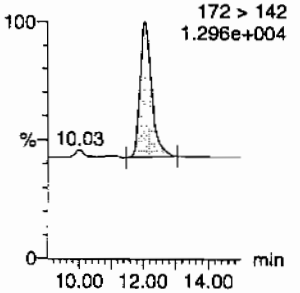
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.667e+003



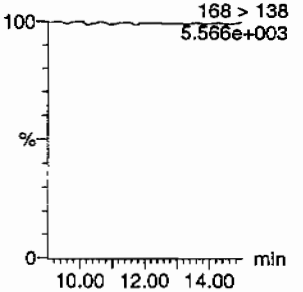
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.582e+003



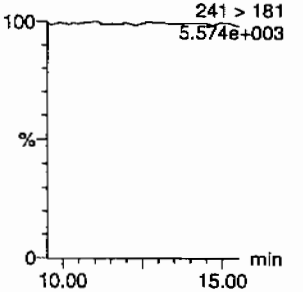
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.296e+004



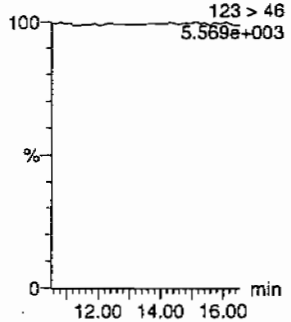
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.566e+003



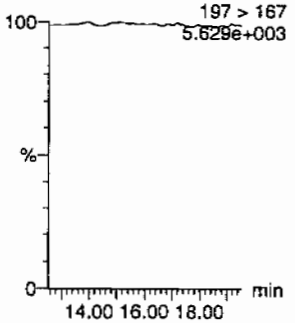
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.574e+003



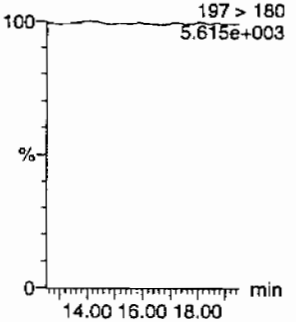
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.569e+003



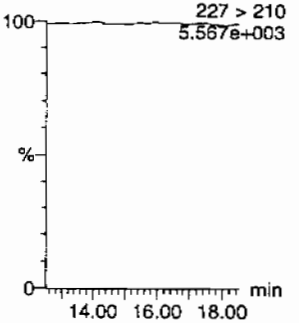
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.629e+003



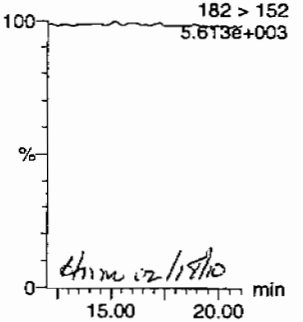
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.615e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.567e+003

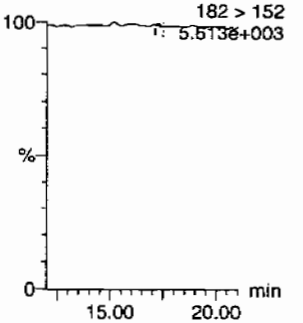


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.613e+003



thm 02/18/10

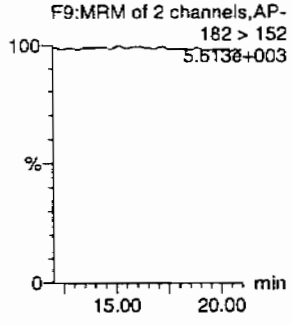
26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.513e+003



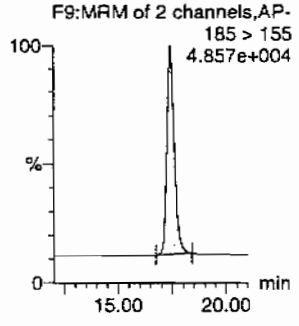
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

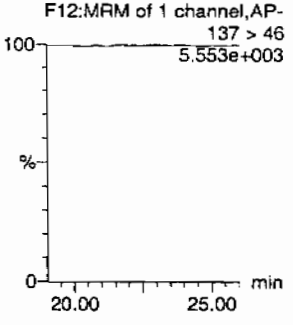
24-dinitrotoluene



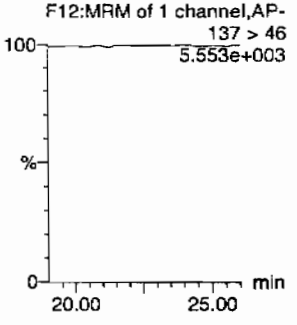
26-dinitrotoluene-d3



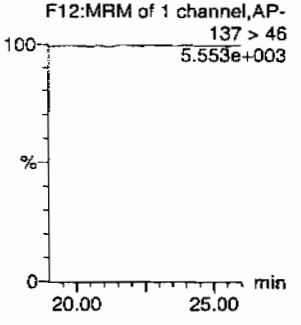
2-Nitrotoluene



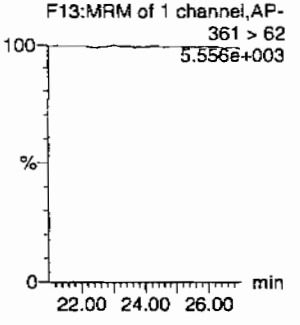
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK07	HMX	176 > 102			3116.063									
XIBLK07	RDX	176 > 102			3116.063									
XIBLK07	135-Trinitrobenzene	213 > 183			3116.063									
XIBLK07	13-Dinitrobenzene-d4	172 > 142	12.03	3116.063		3116.063	3116.063	bb			517.2033	103.4	3.4	364.9
XIBLK07	13-Dinitrobenzene	168 > 138			3116.063									
XIBLK07	Tetryl	241 > 181			3116.063									
XIBLK07	Nitrobenzene	123 > 46			3116.063									
XIBLK07	4-Amino-26-dinitrotoluene	197 > 167			17426.895									
XIBLK07	2-Amino-46-dinitrotoluene	197 > 180			17426.895									
XIBLK07	246-Trinitrotoluene	227 > 210			17426.895									
XIBLK07	34-dinitrotoluene	182 > 152			17426.895									
XIBLK07	26-dinitrotoluene	182 > 152			17426.895			MM-	18-Feb-10	08:48:46				
XIBLK07	24-dinitrotoluene	182 > 152			17426.895									
XIBLK07	26-dinitrotoluene-d3	185 > 155	17.42	17426.895		17426.895	17426.895	bb			500.5267	100.1	0.1	1075.7
XIBLK07	2-Nitrotoluene	137 > 46			17426.895									
XIBLK07	4-Nitrotoluene	137 > 46			17426.895									
XIBLK07	3-Nitrotoluene	137 > 46			17426.895									
XIBLK07	PETN	361 > 62			17426.895									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 18-FEB-10 01:14

GEL Data File: EXP0216066a

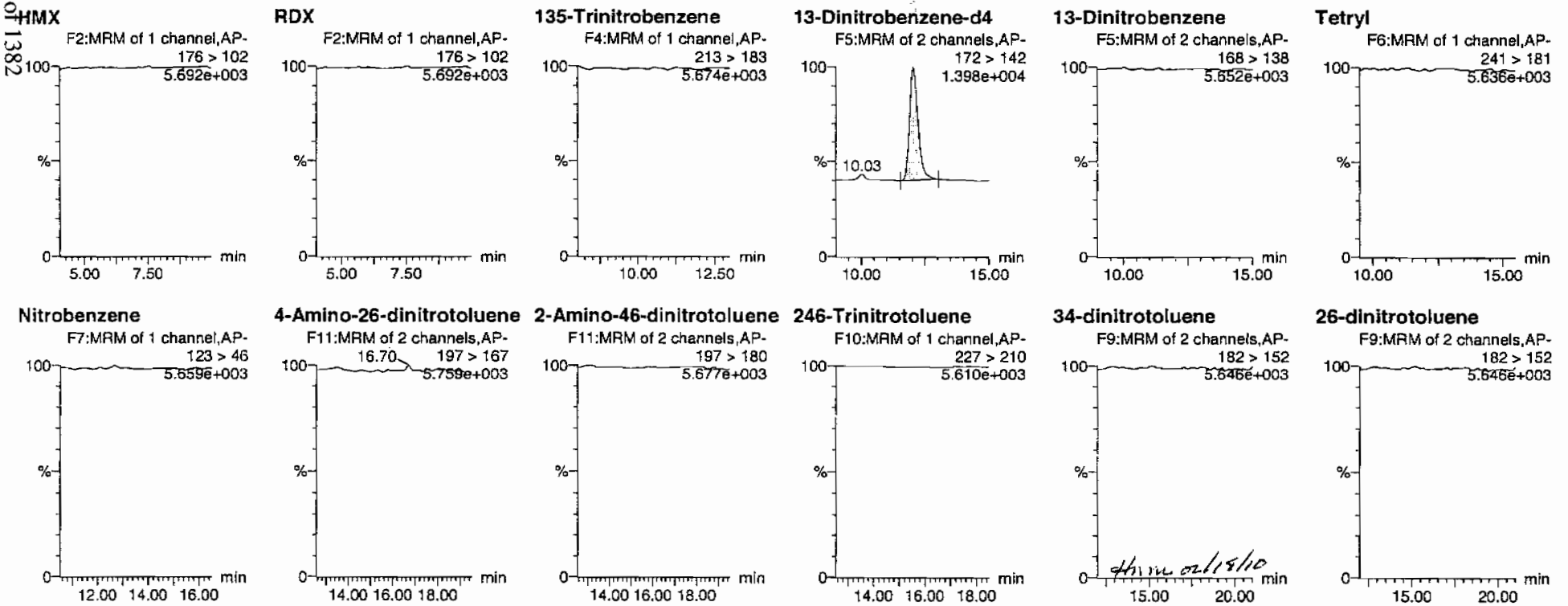
Instrument ID: LCMSMS

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	555.508
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	477.827
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

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

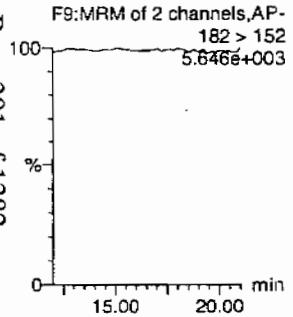
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216066a
Date: 18-Feb-2010
Time: 01:14:55
ID: XIBLK08
Vial: 1:1,A



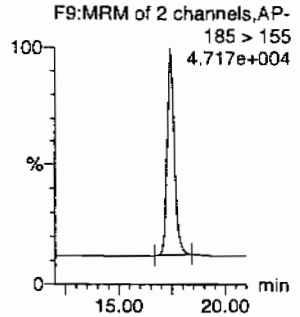
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

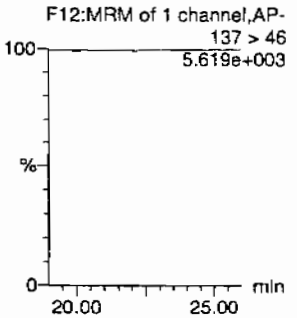
24-dinitrotoluene



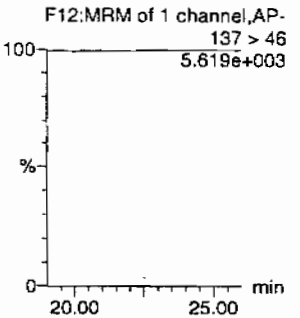
26-dinitrotoluene-d3



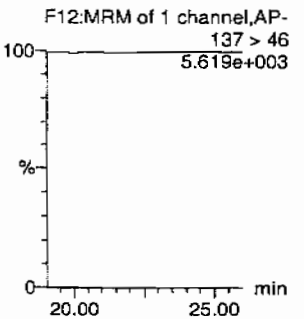
2-Nitrotoluene



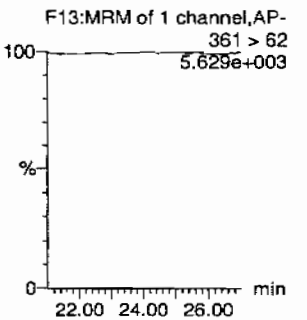
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK08	HMX	176 > 102			3346.844									
XIBLK08	RDX	176 > 102			3346.844									
XIBLK08	135-Trinitrobenzene	213 > 183			3346.844									
XIBLK08	13-Dinitrobenzene-d4	172 > 142	12.03	3346.844		3346.844	3346.844	bb			555.5083	111.1	11.1	89.0
XIBLK08	13-Dinitrobenzene	168 > 138			3346.844									
XIBLK08	Tetryl	241 > 181			3346.844									
XIBLK08	Nitrobenzene	123 > 46			3346.844									
XIBLK08	4-Amino-26-dinitrotoluene	197 > 167			16636.555									
XIBLK08	2-Amino-46-dinitrotoluene	197 > 180			16636.555									
XIBLK08	246-Trinitrotoluene	227 > 210			16636.555									
XIBLK08	34-dinitrotoluene	182 > 152			16636.555									
XIBLK08	26-dinitrotoluene	182 > 152			16636.555									
XIBLK08	24-dinitrotoluene	182 > 152			16636.555									
XIBLK08	26-dinitrotoluene-d3	185 > 155	17.43	16636.555		16636.555	16636.555	bb			477.8270	95.6	-4.4	925.6
XIBLK08	2-Nitrotoluene	137 > 46			16636.555									
XIBLK08	4-Nitrotoluene	137 > 46			16636.555									
XIBLK08	3-Nitrotoluene	137 > 46			16636.555									
XIBLK08	PETN	361 > 62			16636.555									

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1666

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 16–FEB–10 14:34

GEL Data File: EXS02160010.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

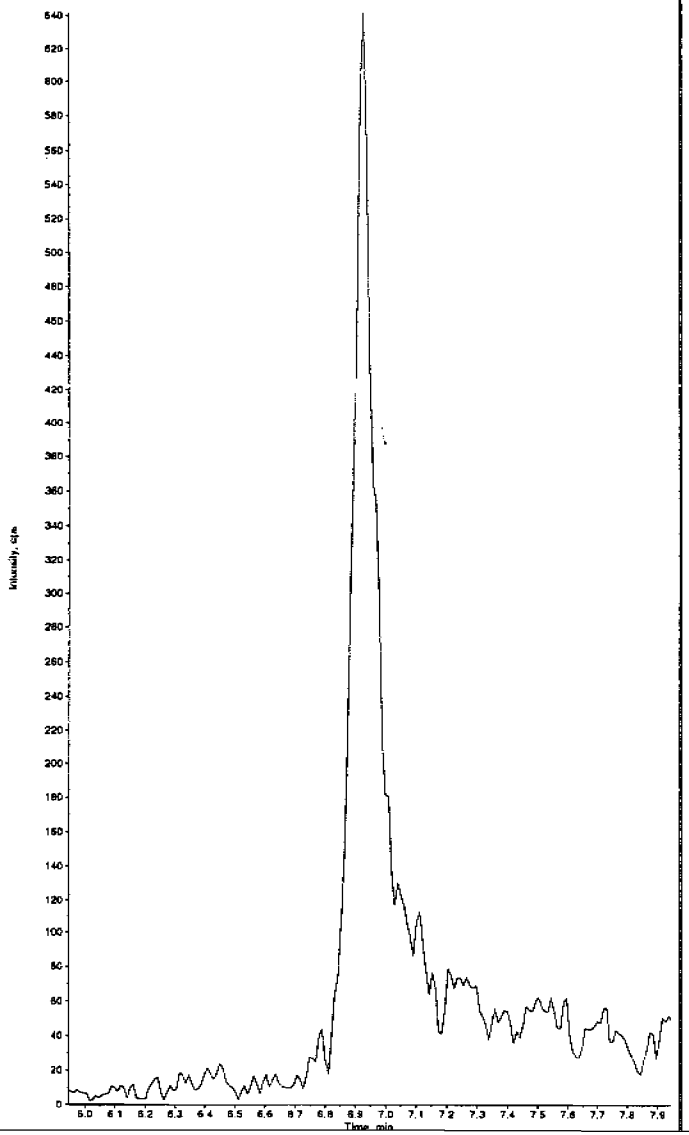
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	1.67
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Lan 2/17/10

Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS02160010.wiff"
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: 2/16/2010
Acq. Time: 2:34:34 PM

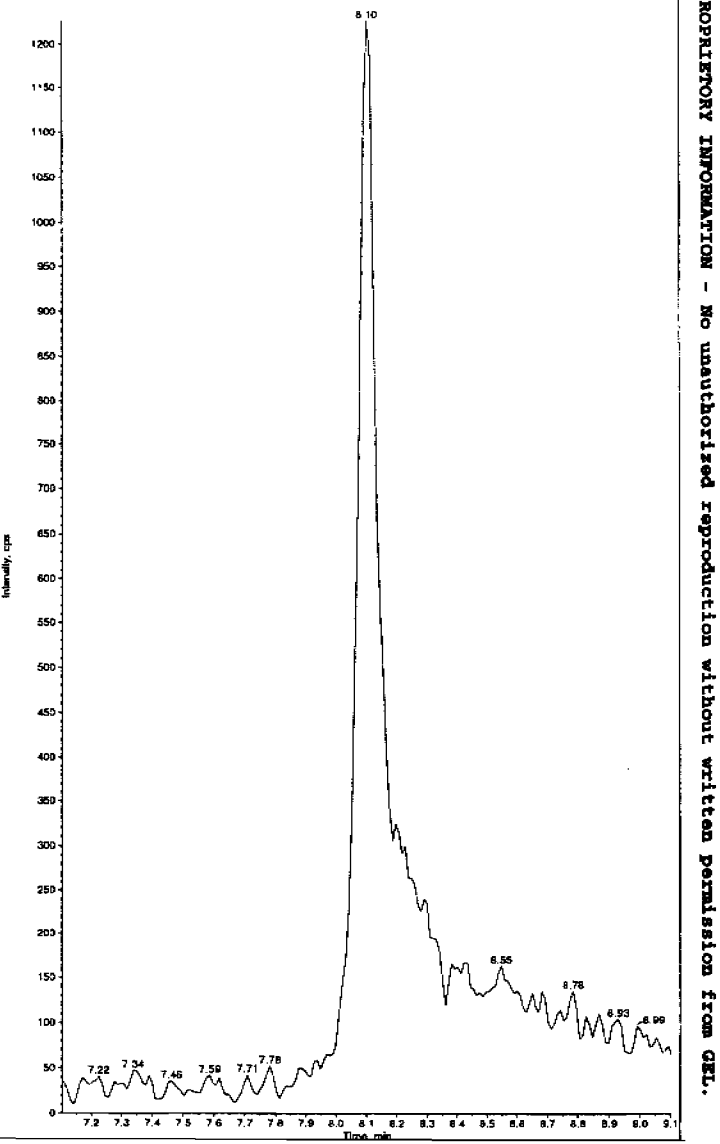
Modified: No



Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS02160010.wiff"
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: 2/16/2010
Acq. Time: 2:34:34 PM

Modified: No



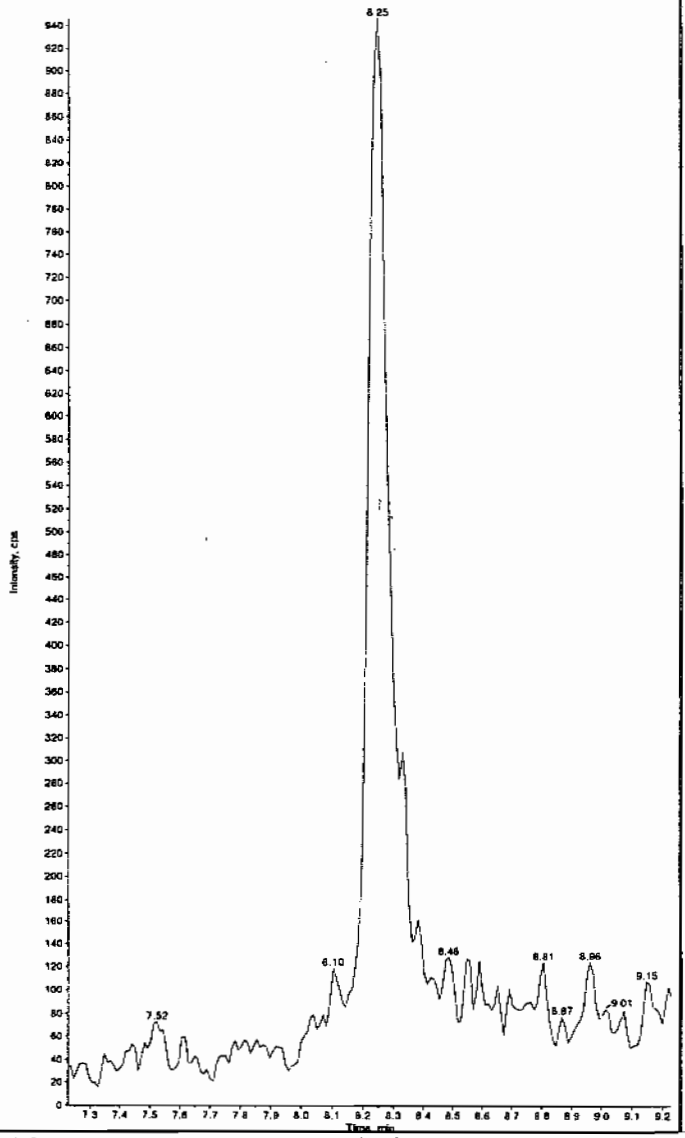
Hmc 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS02160010.wiff"
Peak Name: "34-Dinitrotoluene" 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
Acq. Date: 2/16/2010
Acq. Time: 2:34:34 PM

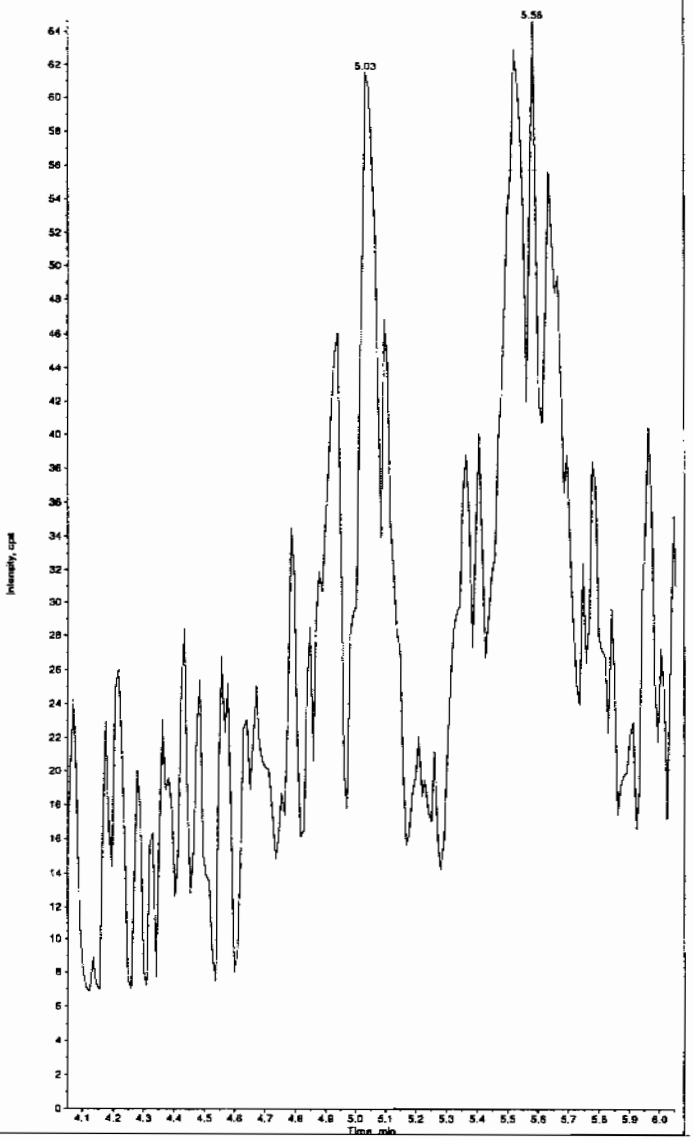
Modified: No



Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS02160010.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(as): "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: 2/16/2010
Acq. Time: 2:34:34 PM

Modified: No

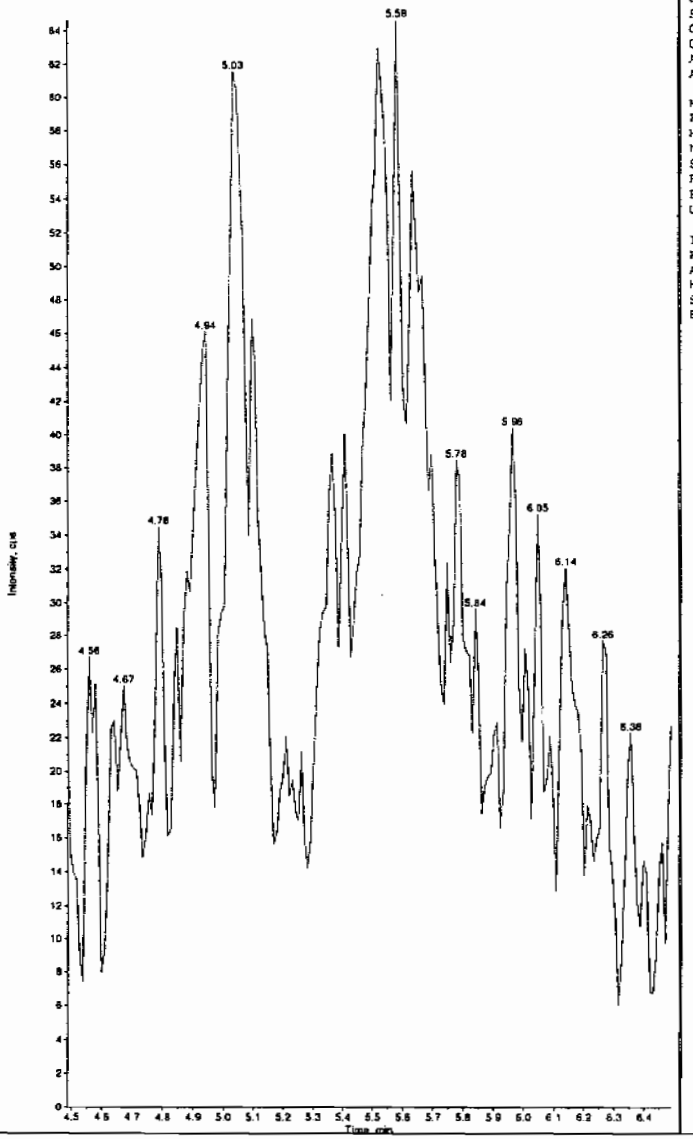


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK02" Sample ID: "|1|LER" File: "EXS02160010.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 2:34:34 PM

Modified: No

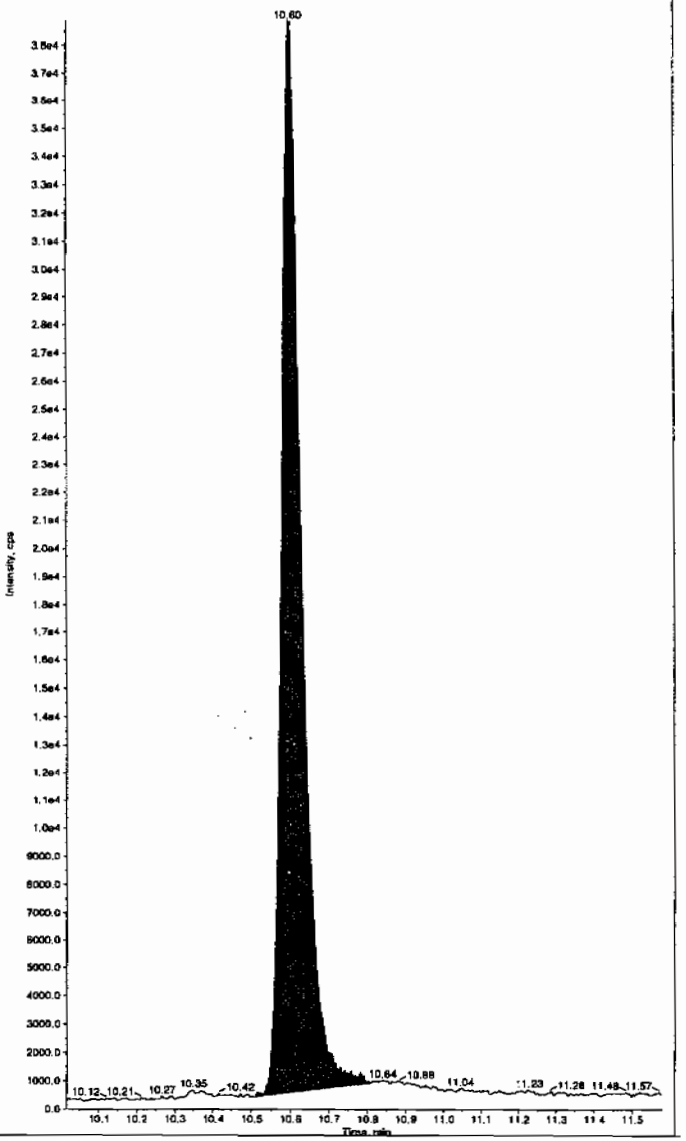


Sample Name: "XIBLK02" Sample ID: "|1|LER" File: "EXS02160010.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1.67 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 2:34:34 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.6 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.6 min
Area: 1.47e+005 counts
Height: 38321.228 cps
Start Time: 10.5 min
End Time: 10.8 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 16-FEB-10 15:05

GEL Data File: EXS02160012.wiff

Instrument ID: LCMSMS

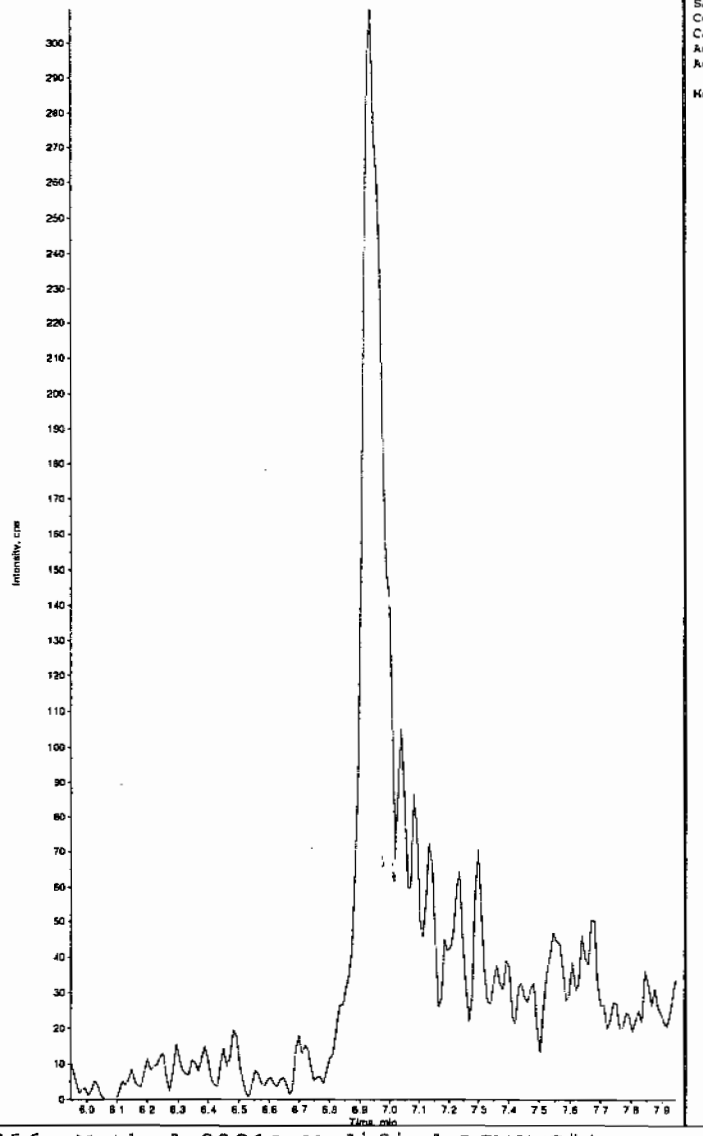
Column: Phenomenex Ultracarb 5u ODS(20)

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

JKW 2/17/10

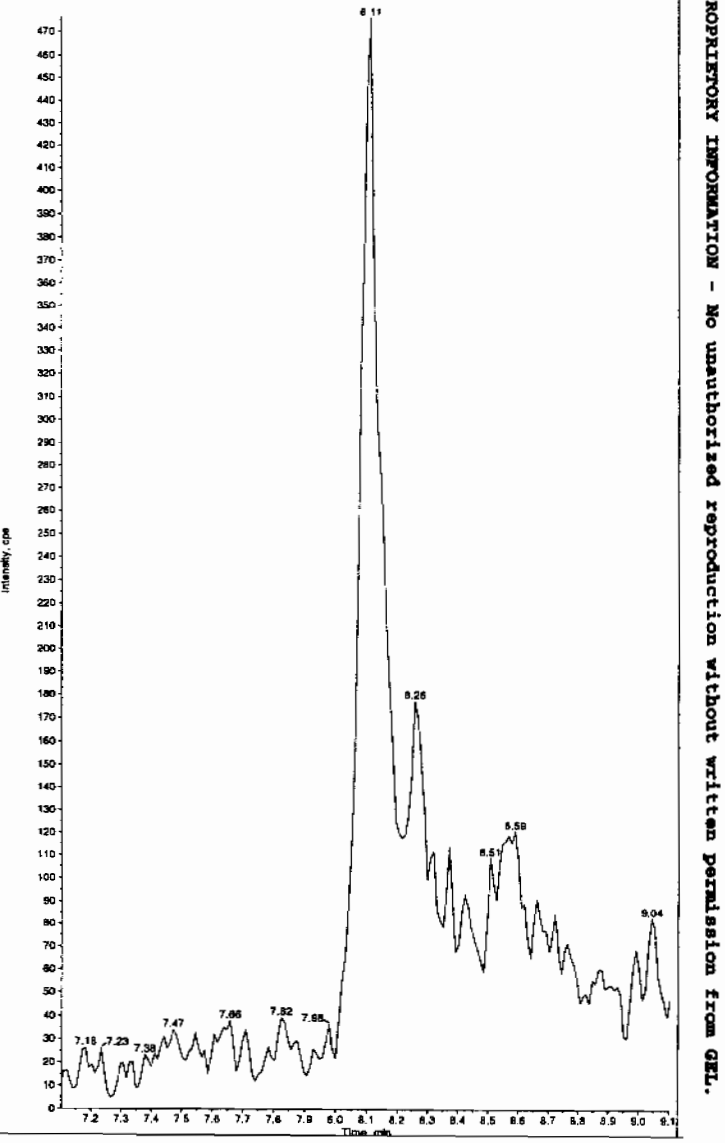
Sample Name: "XIBLK03" Sample ID: "|1|LER" File: "EXS02160012.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 3:05:58 PM

Modified: No



Sample Name: "XIBLK03" Sample ID: "|1|LER" File: "EXS02160012.wiff"
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: 2/16/2010
Acq. Time: 3:05:58 PM

Modified: No



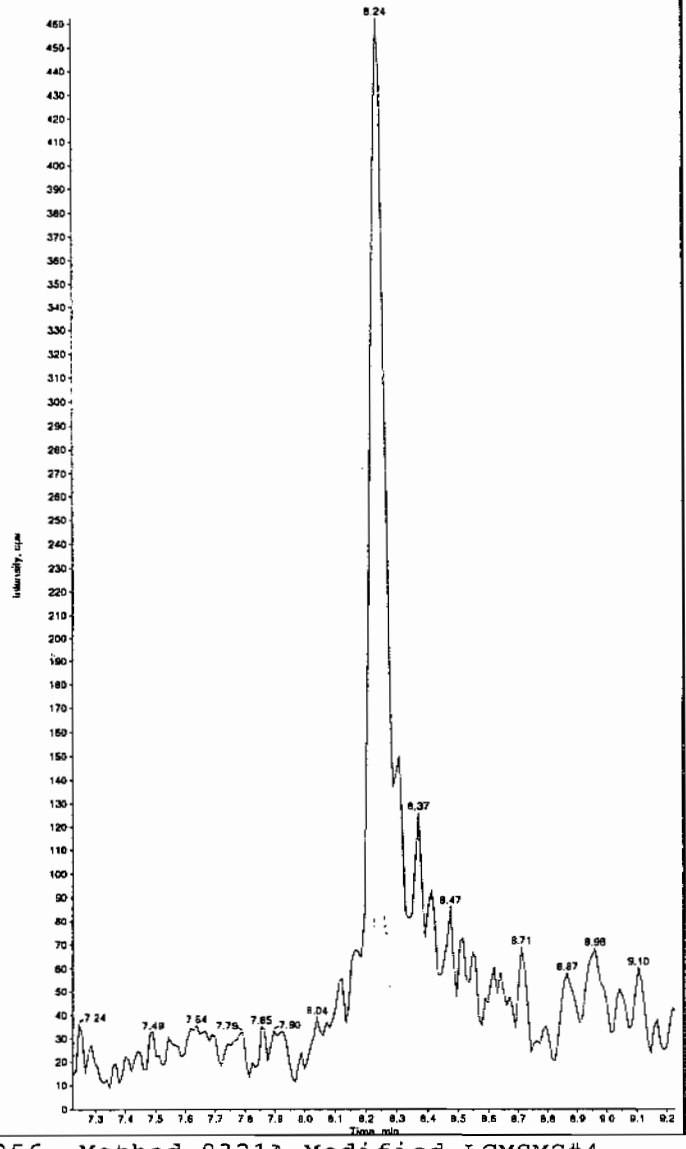
HWK 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS02160012.wiff"
Peak Name: "34-Dinitrotoluene" 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
Acq. Date: 2/16/2010
Acq. Time: 3:05:58 PM

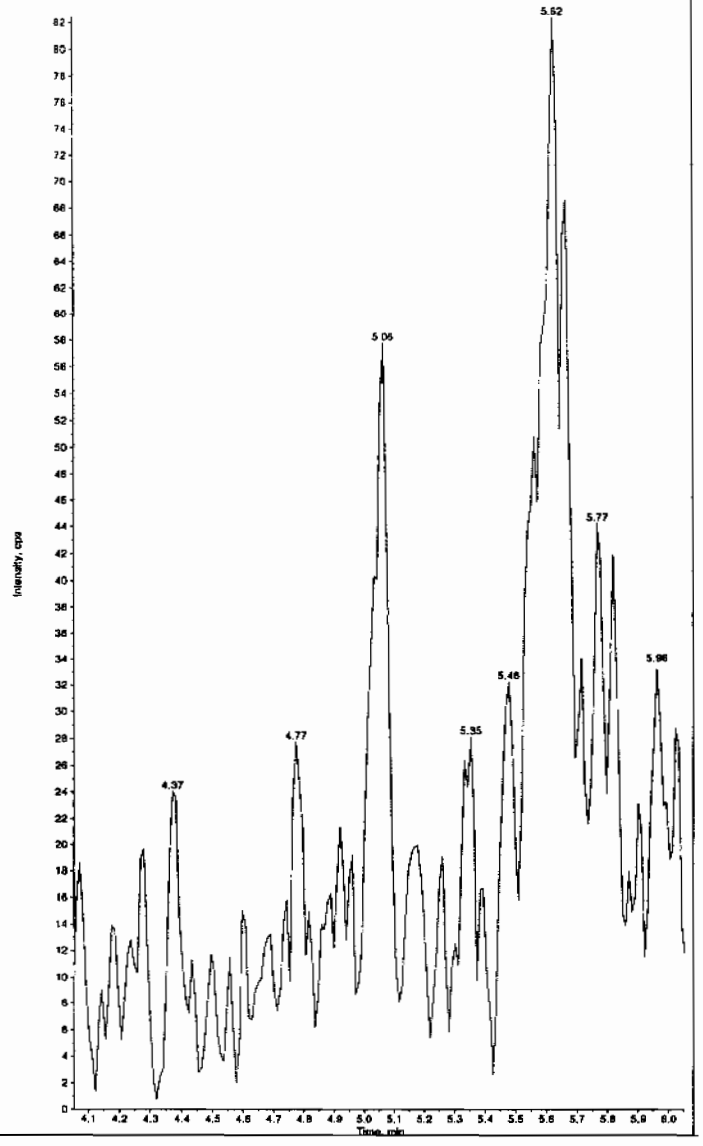
Modified: No



Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS02160012.wiff"
Peak Name: "26-Diamino-4-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
Acq. Date: 2/16/2010
Acq. Time: 3:05:58 PM

Modified: No

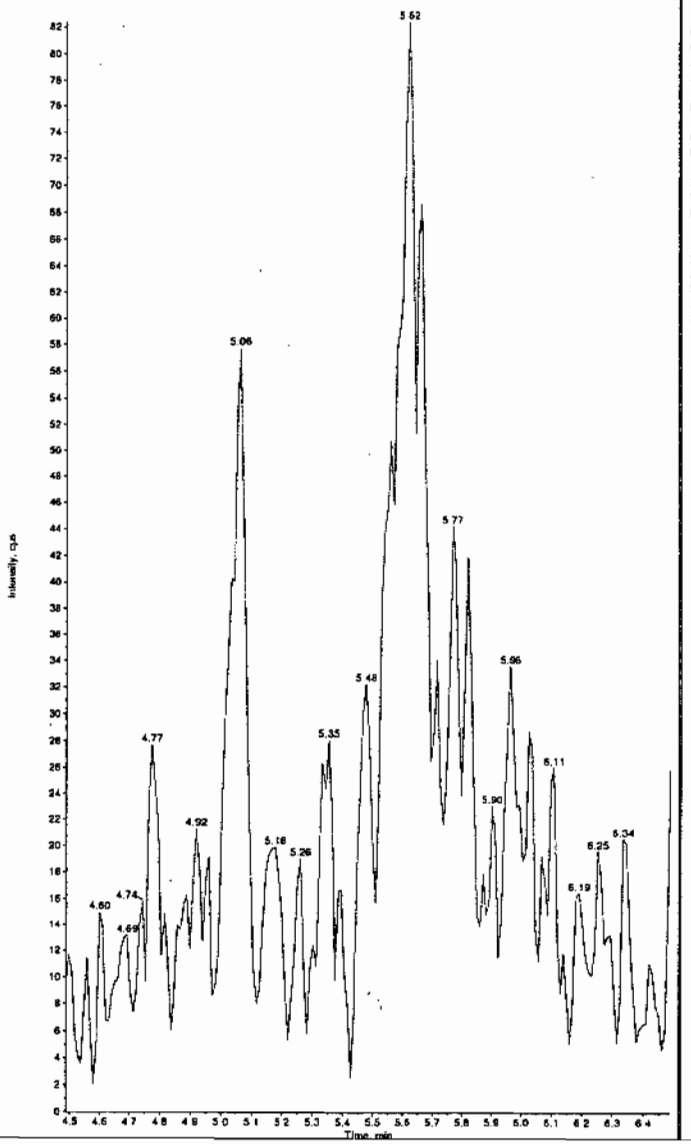


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS02160012.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 3:05:58 PM

Modified: No

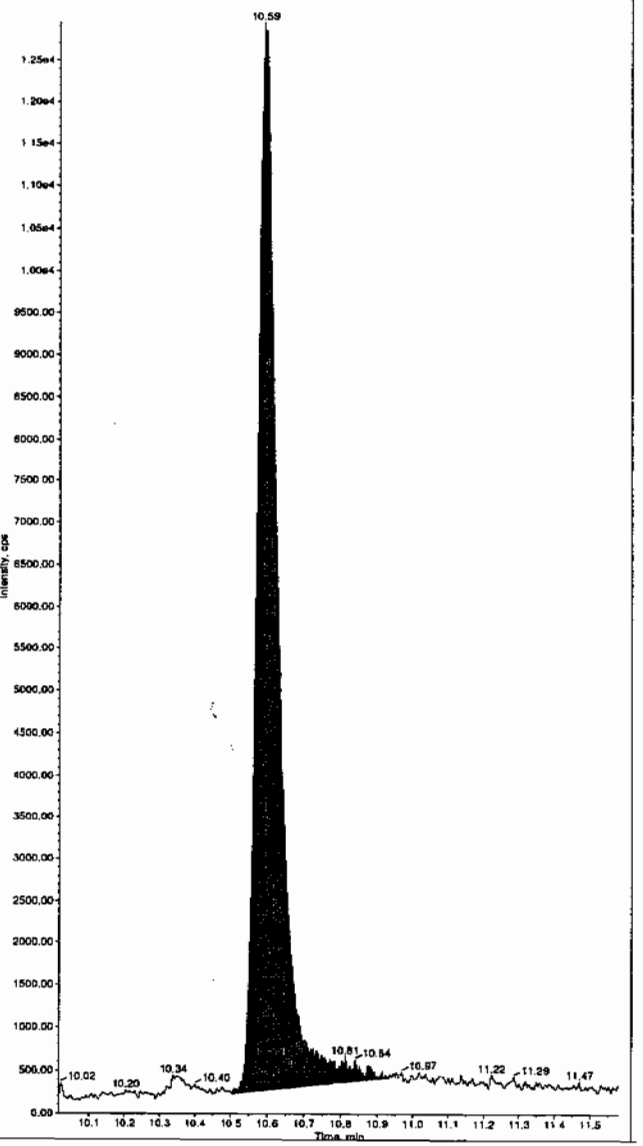


Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS02160012.wiff"
Peak Name: "Tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 2/16/2010
Acq. Time: 3:05:58 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.6 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.6 min
Area: 5.33e+004 counts
Height: 12685.137 cps
Start Time: 10.5 min
End Time: 10.9 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 16-FEB-10 18:30

GEL Data File: EXS02160025.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

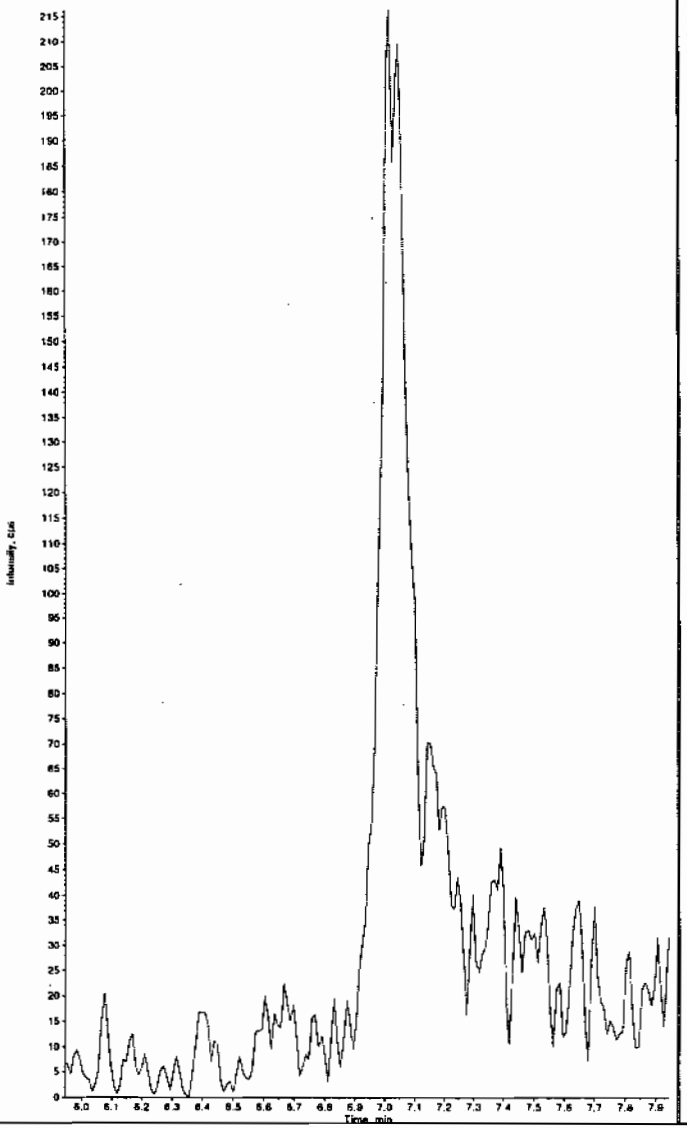
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Lcm 2/17/10

Sample Name: "XIBLK04" Sample ID: "|1|LER" File: "EXS02160025.wiff"
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: 2/16/2010
Acq. Time: 6:30:22 PM

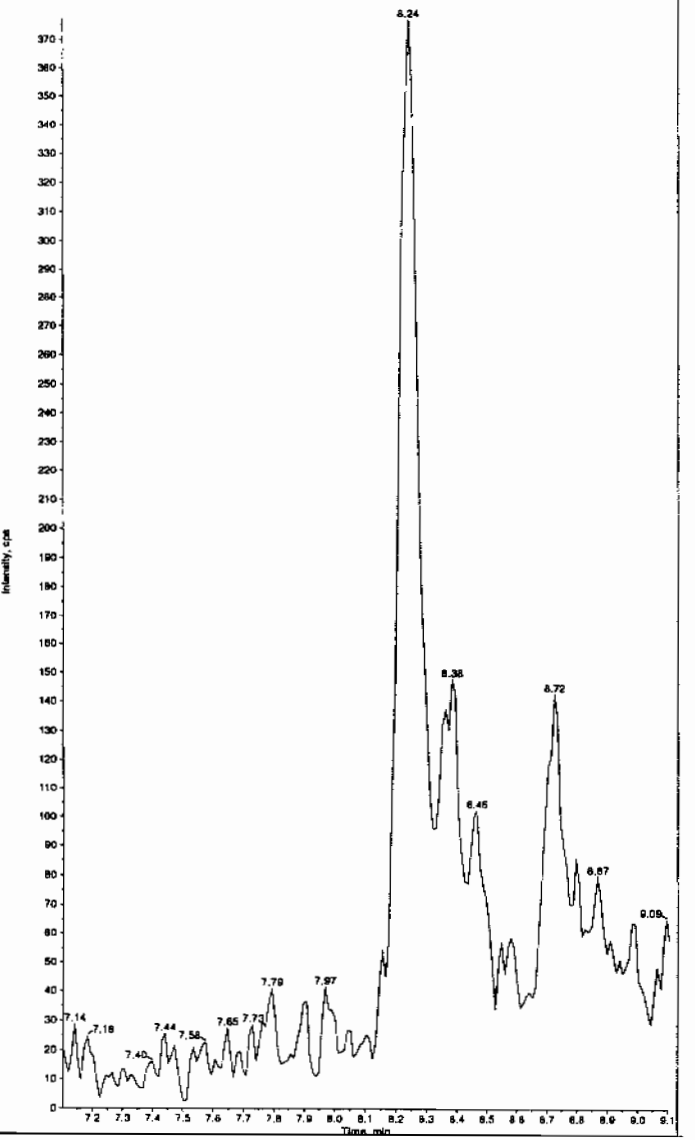
Modified: No



Sample Name: "XIBLK04" Sample ID: "|1|LER" File: "EXS02160025.wiff"
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: 2/16/2010
Acq. Time: 6:30:22 PM

Modified: No



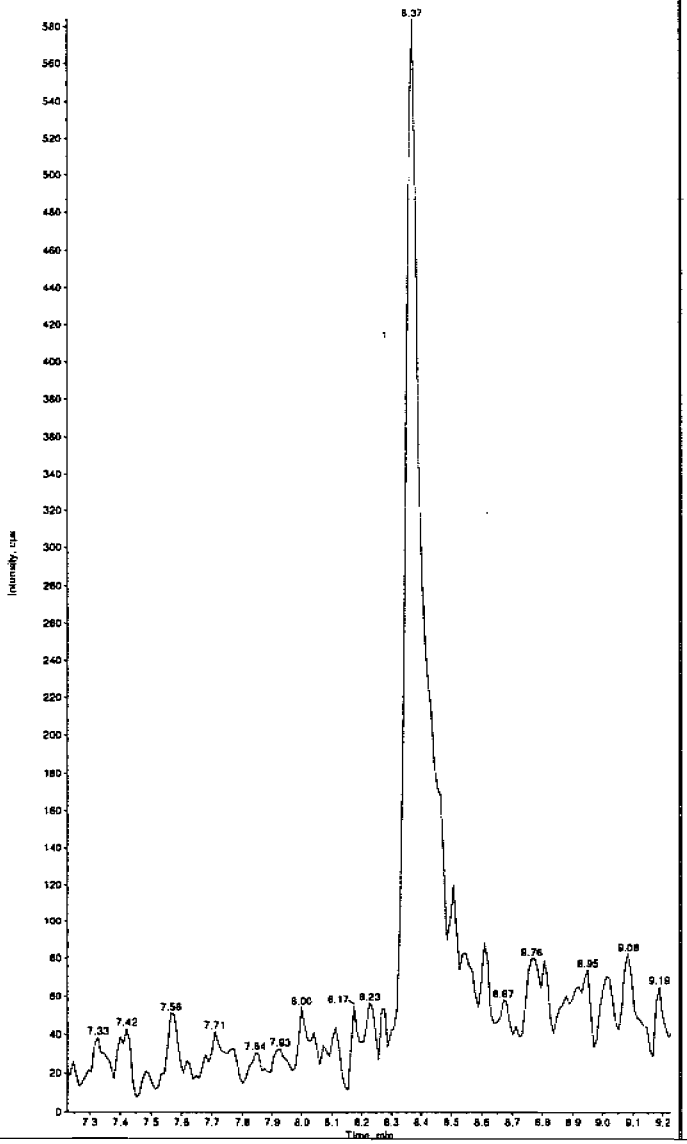
Hmm 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK04" Sample ID: "|1|LER" File: "EXS02160025.wiff"
Peak Name: "34-Dinitrotoluene" 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
Acq. Date: 2/16/2010
Acq. Time: 6:30:22 PM

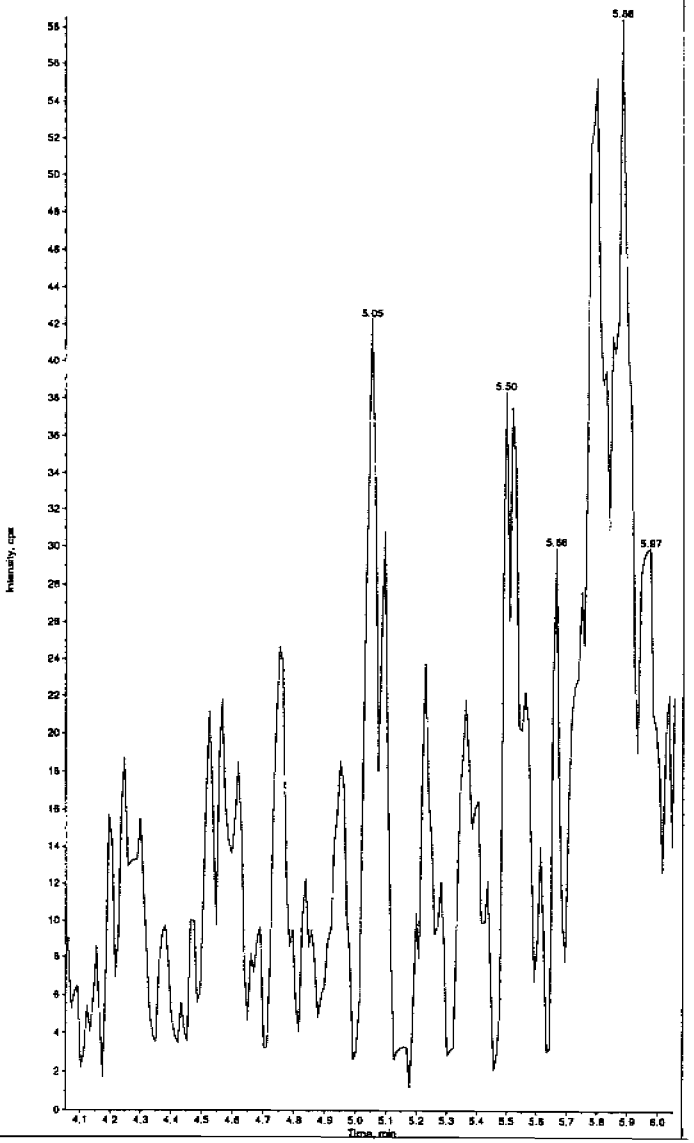
Modified: No



Sample Name: "XIBLK04" Sample ID: "|1|LER" File: "EXS02160025.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "165.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:30:22 PM

Modified: No

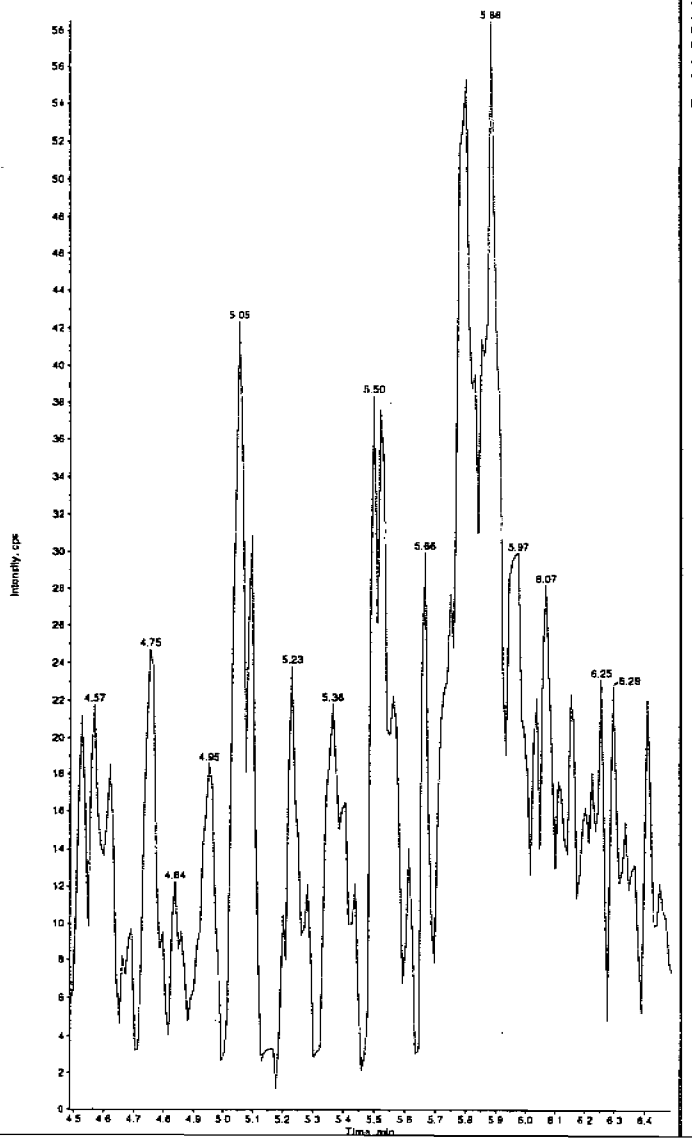


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS02160025.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 6:30:22 PM

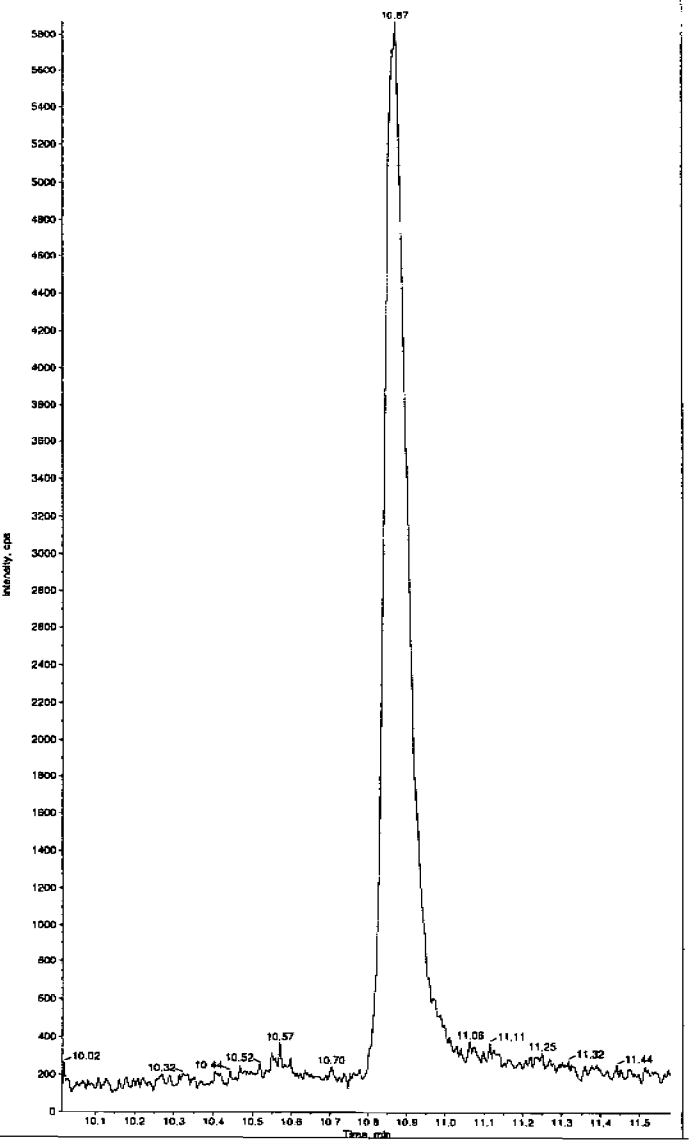
Modified: No



Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS02160025.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 6:30:22 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 16-FEB-10 19:33

GEL Data File: EXS02160029.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

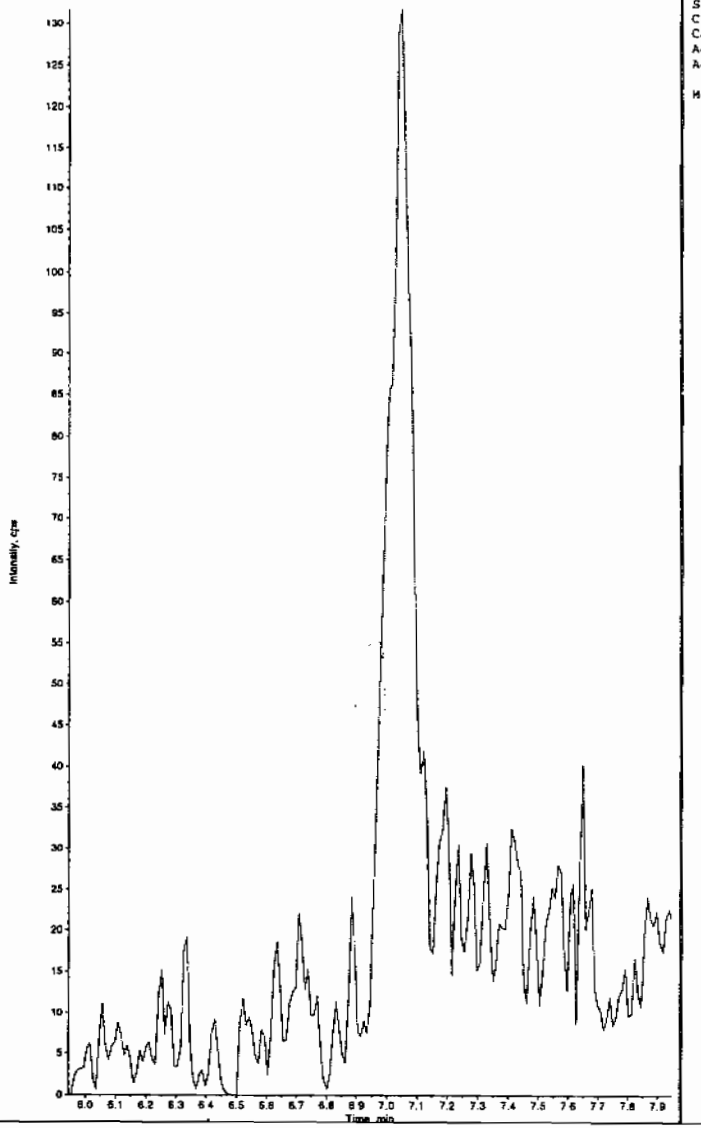
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Lan 2/17/10

Sample Name: "XIBLK05" Sample ID: "|1|LER" File: "EXS02160029.wiff"
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: 2/16/2010
Acq. Time: 7:33:20 PM

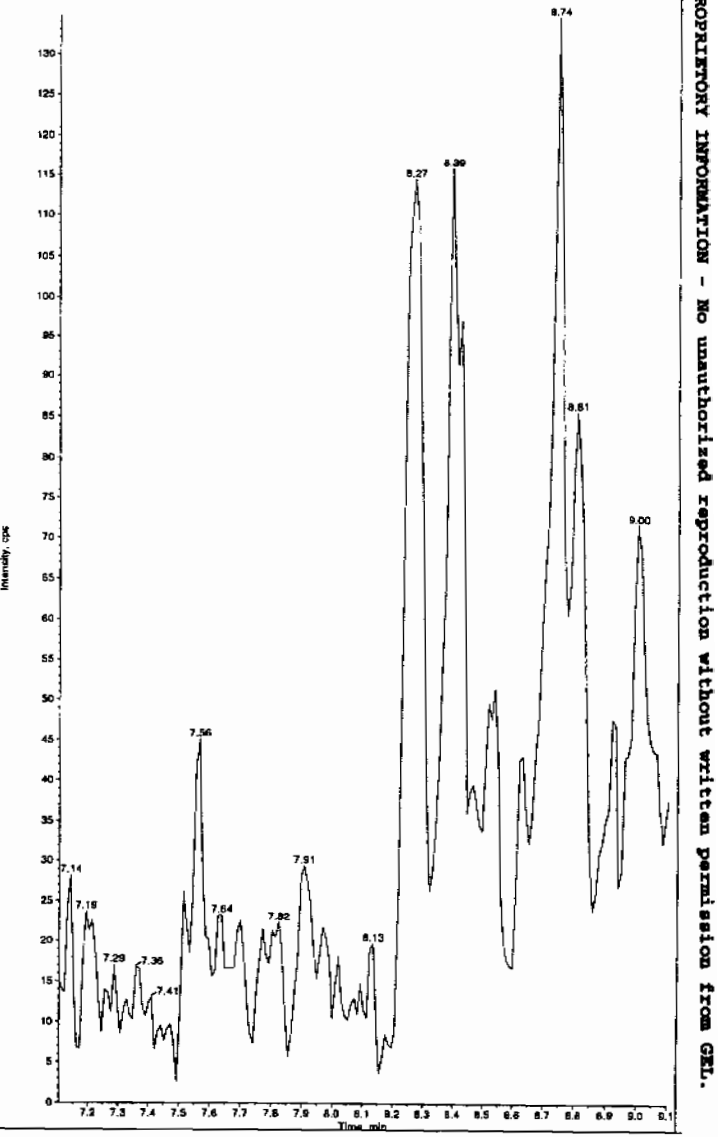
Modified: No



Sample Name: "XIBLK05" Sample ID: "|1|LER" File: "EXS02160029.wiff"
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: 2/16/2010
Acq. Time: 7:33:20 PM

Modified: No



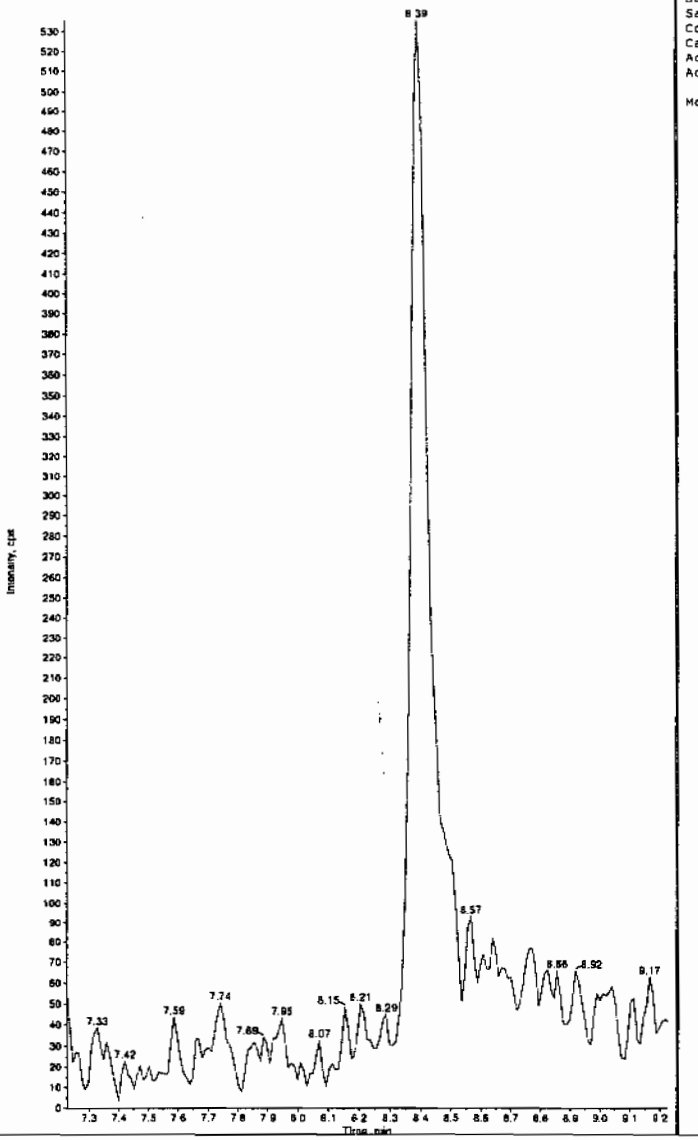
HMM 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS02160029.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_8" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 7:33:20 PM

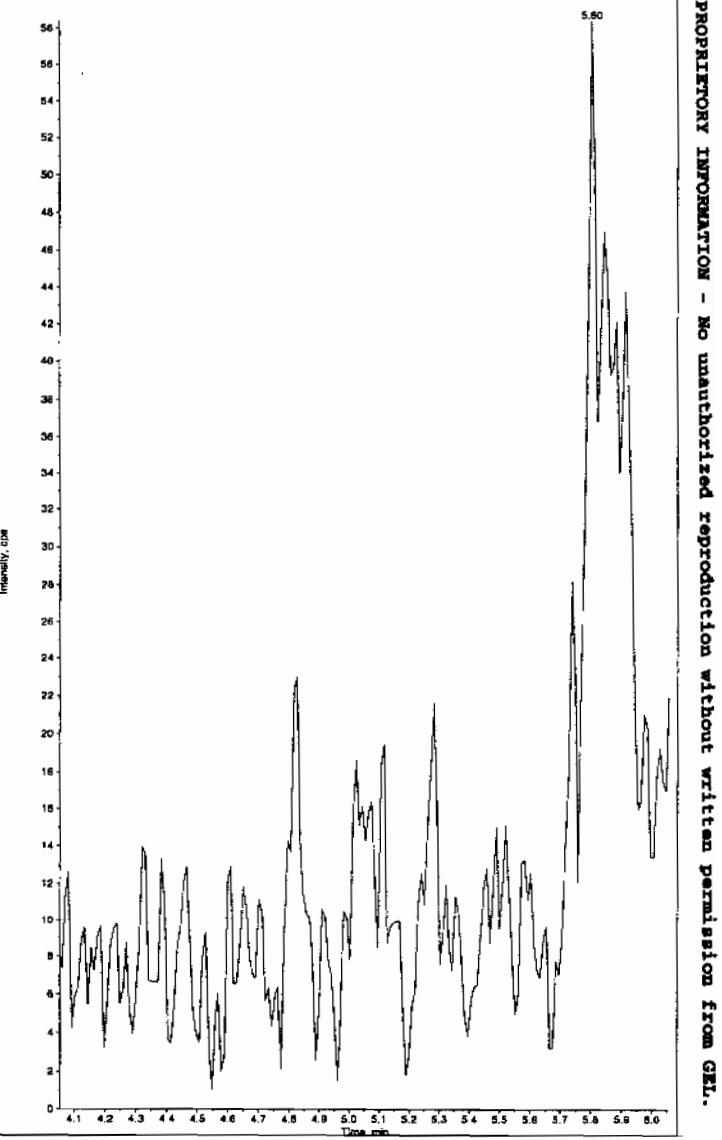
Modified: No



Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS02160029.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_8" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 7:33:20 PM

Modified: No

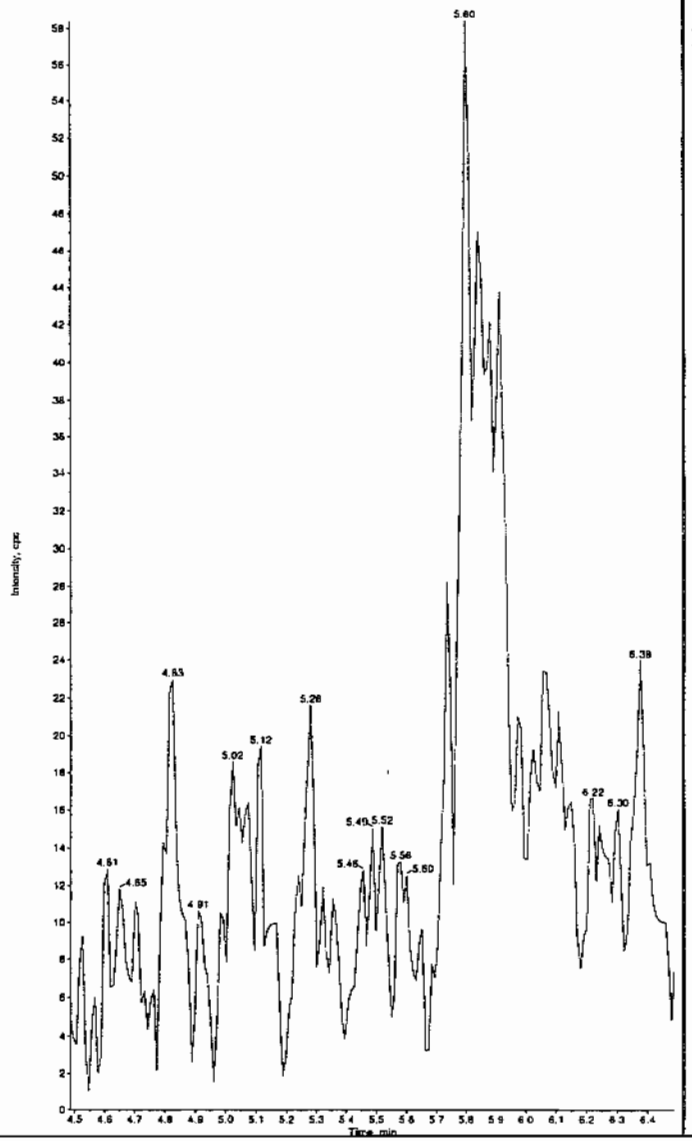


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS02160029.wiff"
Peak Name: "24-Diamino-5-nitrotoluene" Mass(es): "156.0/45.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 7:33:20 PM

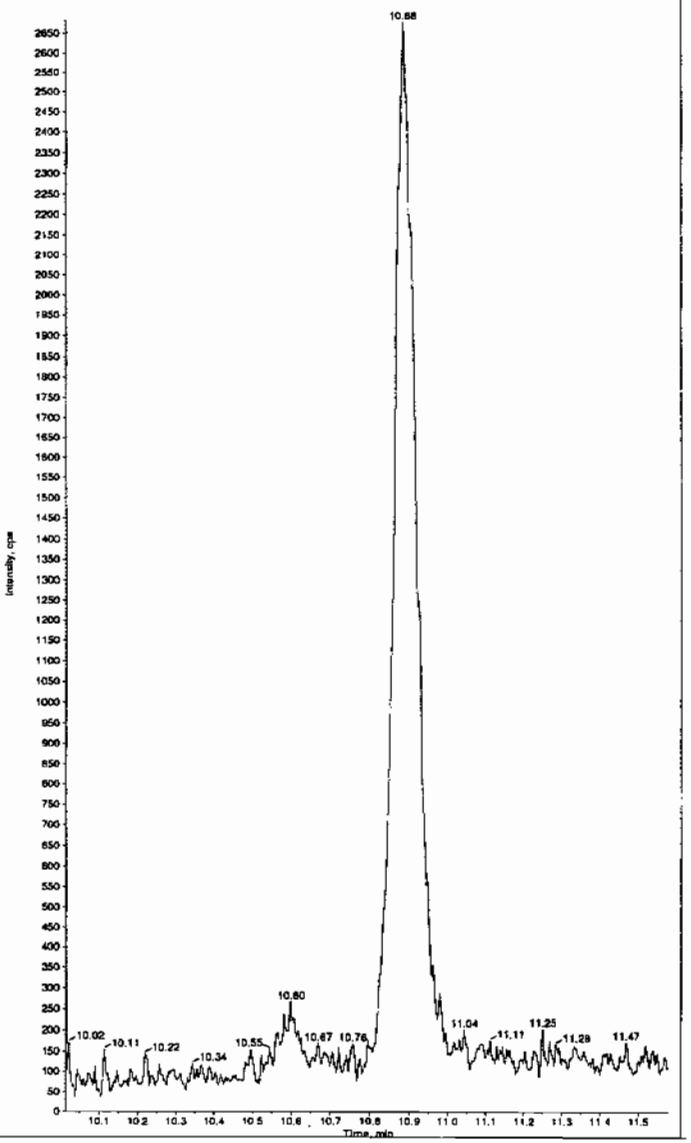
Modified: No



Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS02160029.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 7:33:20 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 16-FEB-10 21:39

GEL Data File: EXS02160037.wiff

Instrument ID: LCMSMS

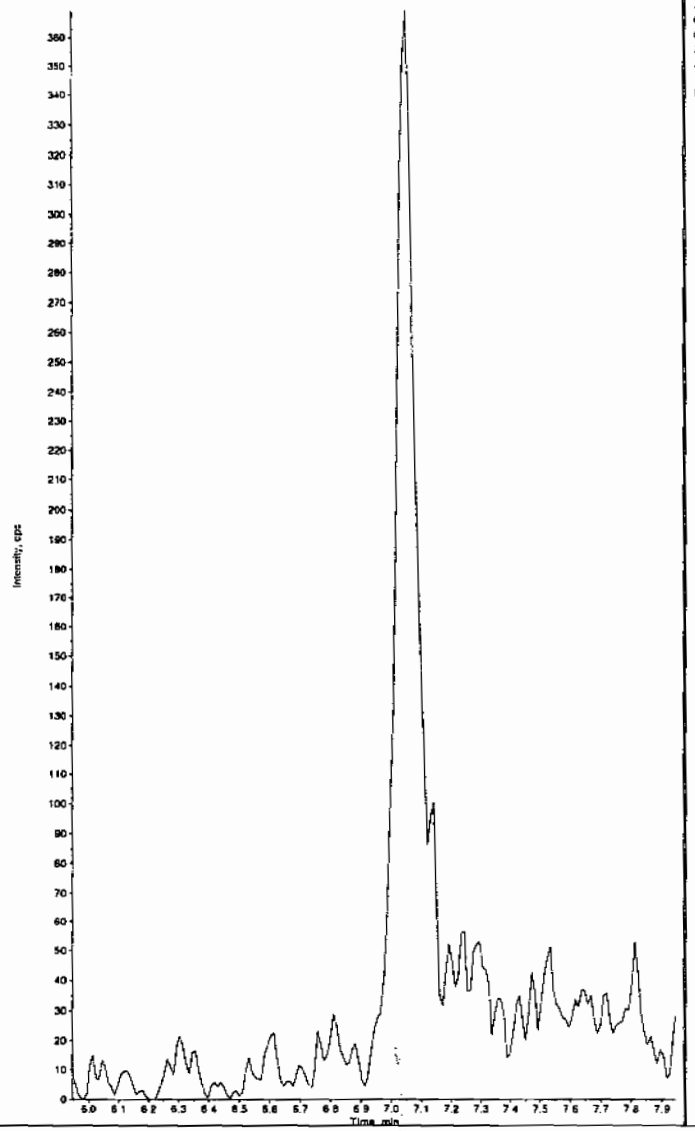
Column: Phenomenex Ultracarb 5u ODS(20)

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

Kan 2/17/10

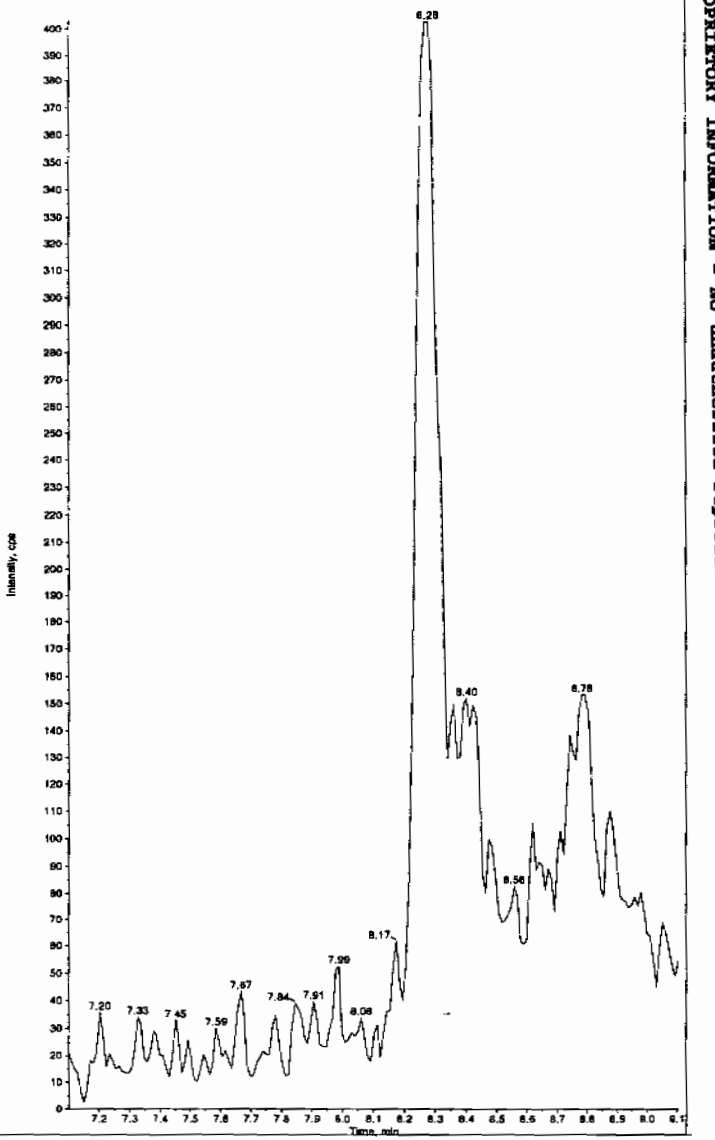
Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS02160037.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:39:27 PM

Modified: No



Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS02160037.wiff"
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: 2/16/2010
Acq. Time: 9:39:27 PM

Modified: No



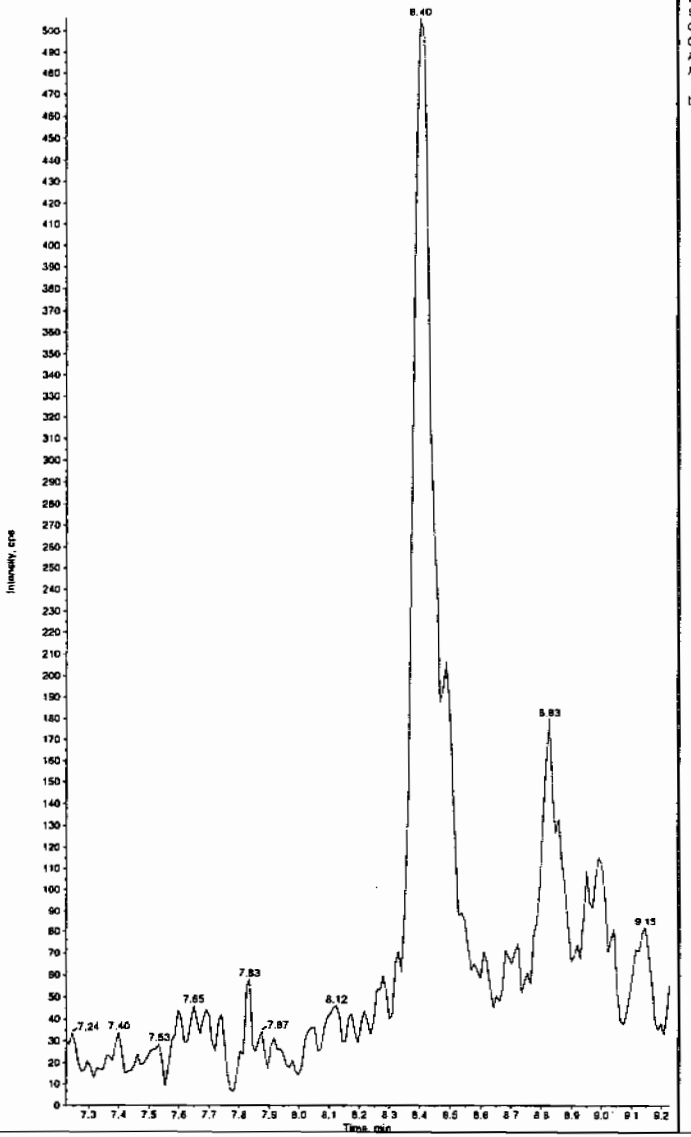
HMM 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS02160037.wiff"
Peak Name: "34-Dinitrotoluene" 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
Acq. Date: 2/16/2010
Acq. Time: 9:39:27 PM

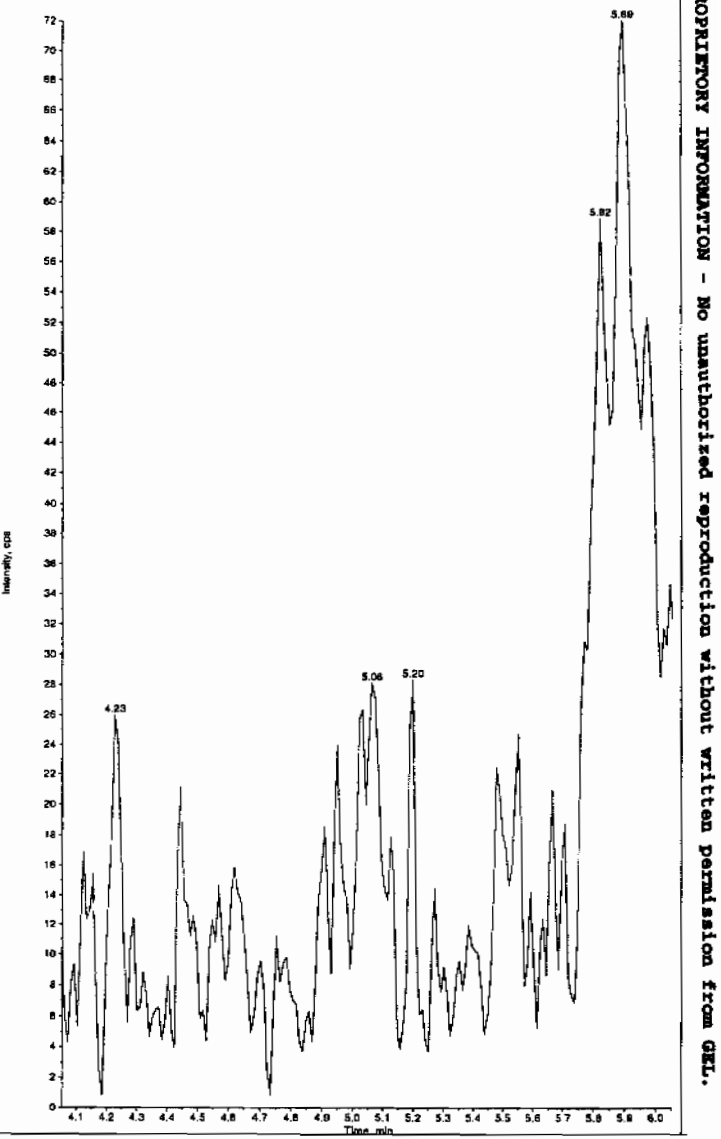
Modified: No



Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS02160037.wiff"
Peak Name: "26-Diamino-4-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
Acq. Date: 2/16/2010
Acq. Time: 9:39:27 PM

Modified: No

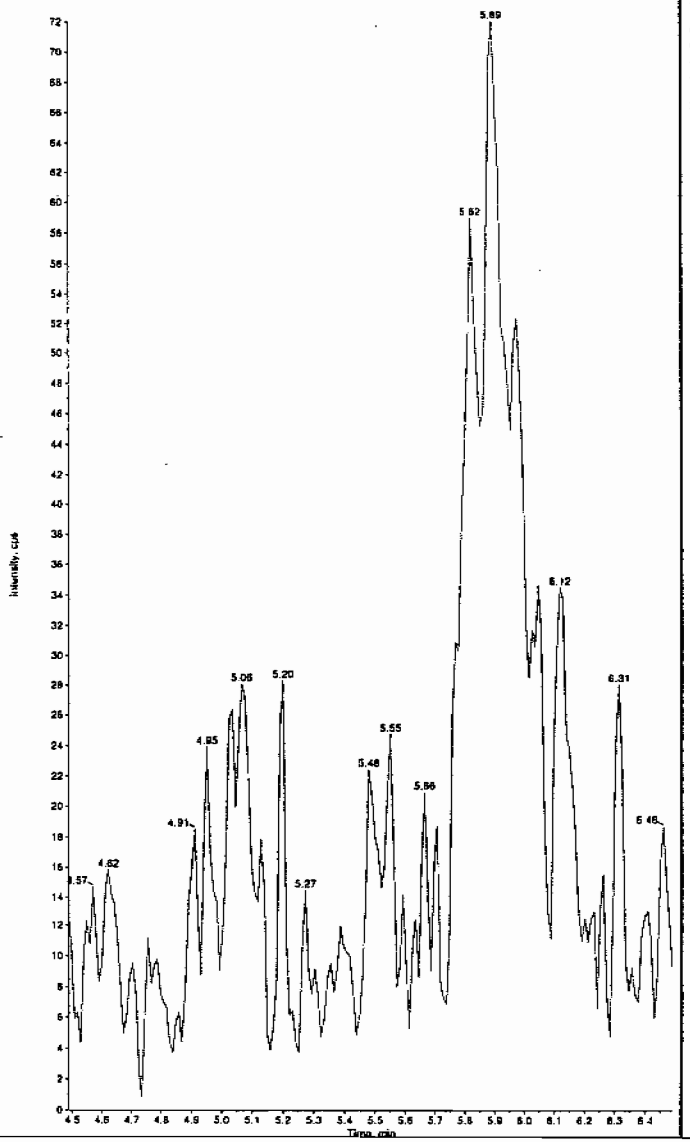


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS02160037.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 9:33:27 PM

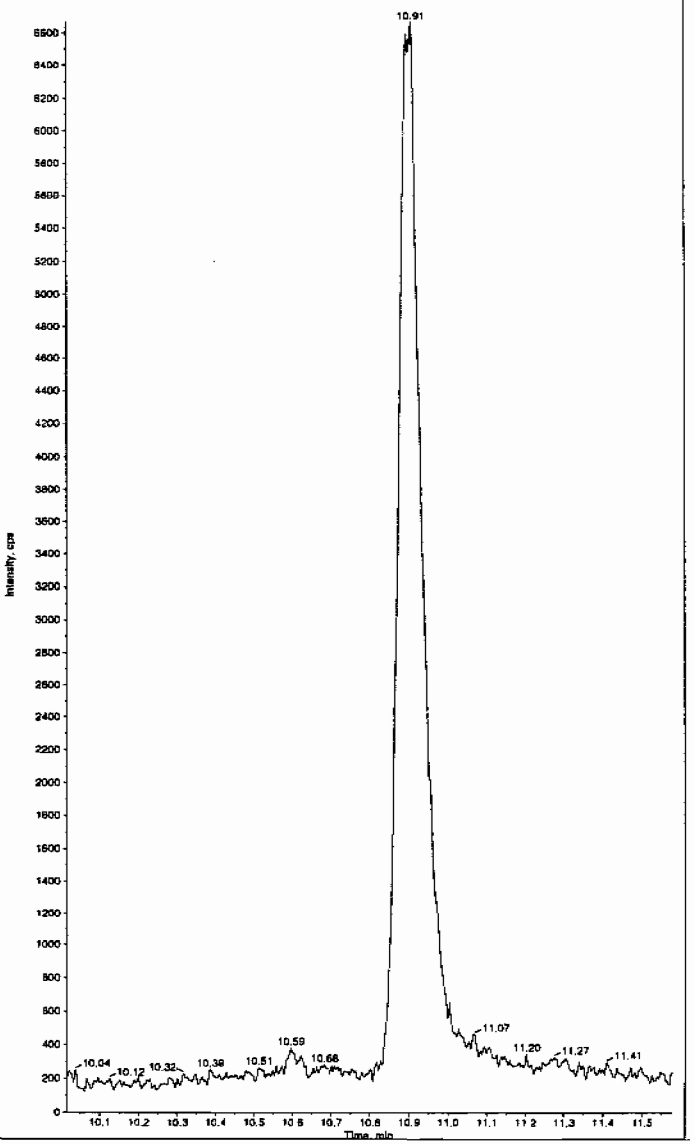
Modified: No



Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS02160037.wiff"
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
Acq. Date: 2/16/2010
Acq. Time: 9:39:27 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 17-FEB-10 01:03

GEL Data File: EXS02160050.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

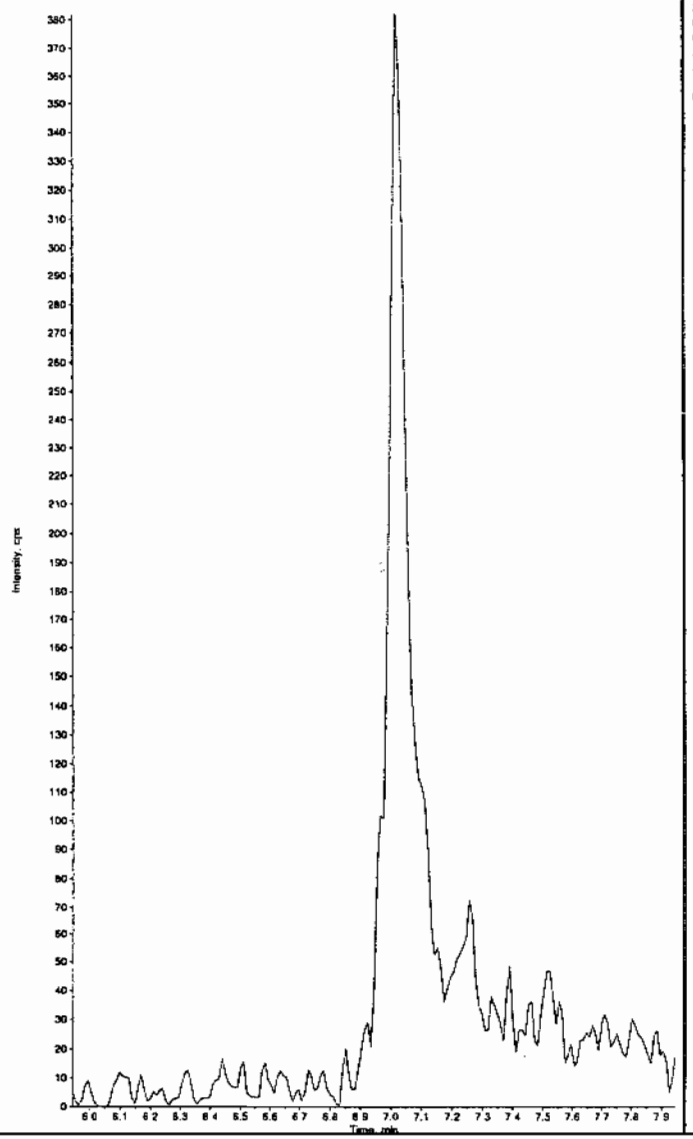
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Sam 2/17/10

Sample Name: "XIBLK07" Sample ID: "|1|LER" File: "EXS02160050.wiff"
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: 2/17/2010
Acq. Time: 1:03:34 AM

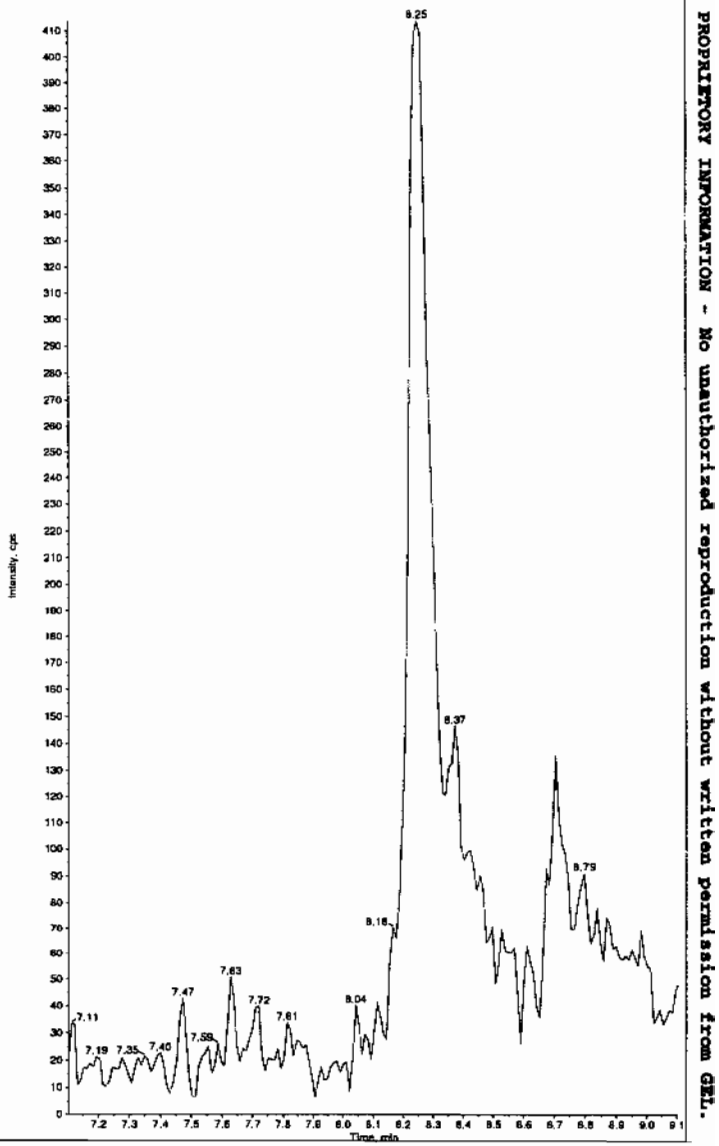
Modified: No



Sample Name: "XIBLK07" Sample ID: "|1|LER" File: "EXS02160050.wiff"
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: 2/17/2010
Acq. Time: 1:03:34 AM

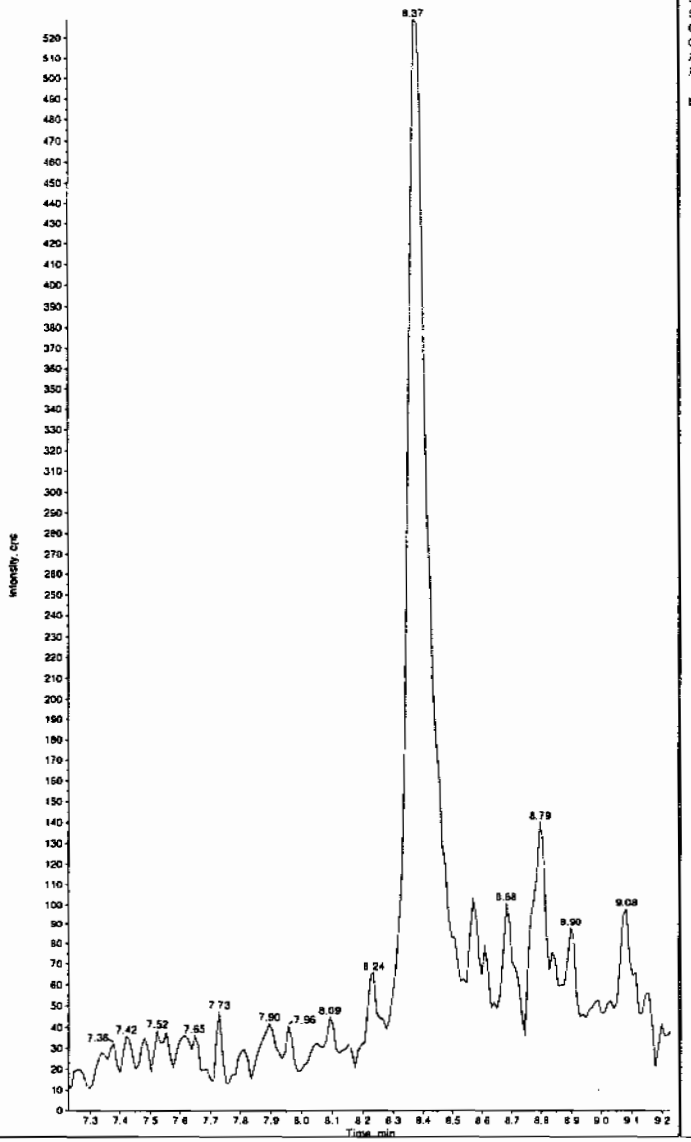
Modified: No



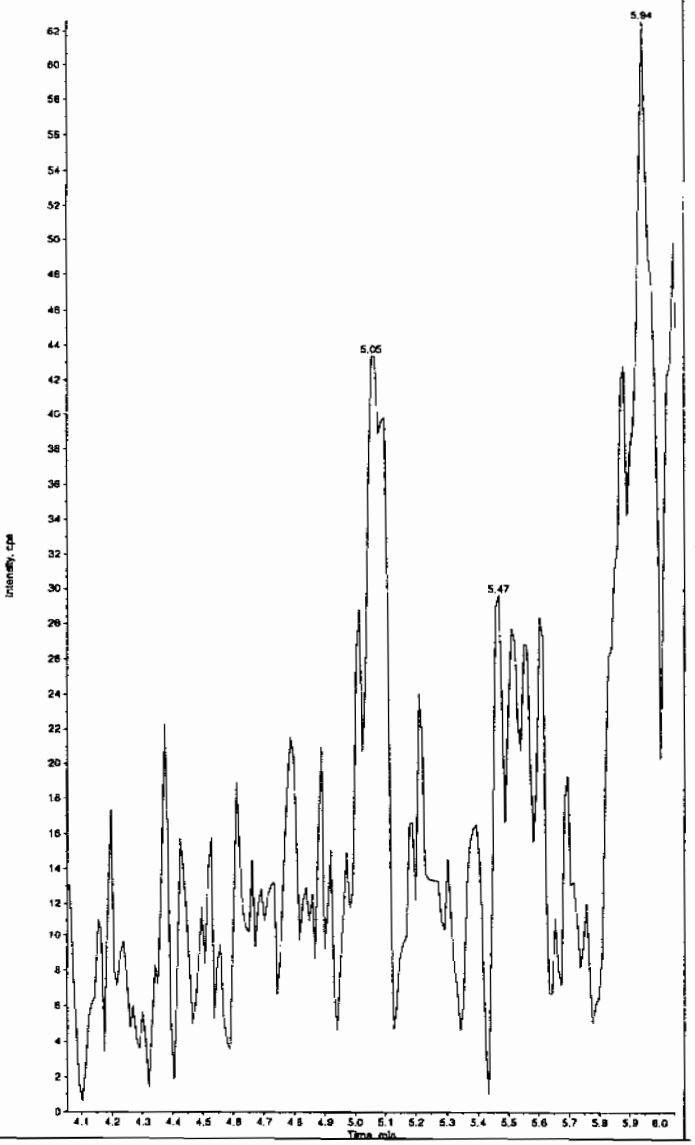
Hnm 2/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS02160050.wiff"
Peak Name: "34-Dinitrotoluene" 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
Acq. Date: 2/17/2010
Acq. Time: 1:03:34 AM
Modified: No



Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS02160050.wiff"
Peak Name: "26-Diamino-4-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
Acq. Date: 2/17/2010
Acq. Time: 1:03:34 AM
Modified: No

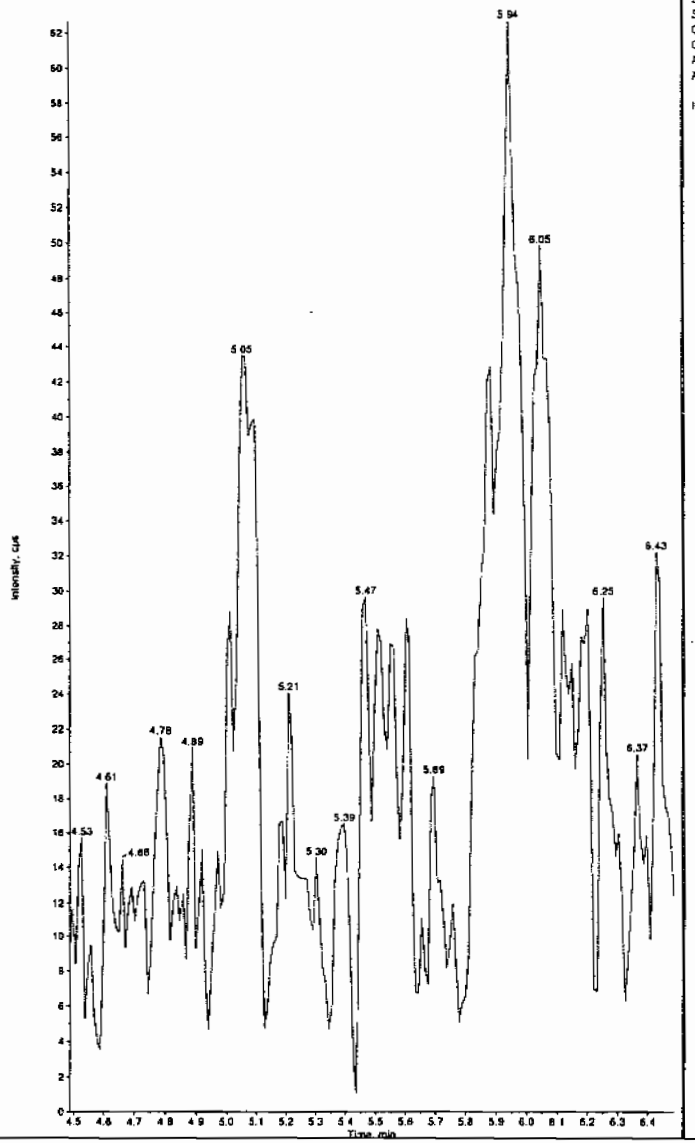


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK07" Sample ID: "1|LER" File: "EXS02160050.wiff"
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
Acq. Date: 2/17/2010
Acq. Time: 1:03:34 AM

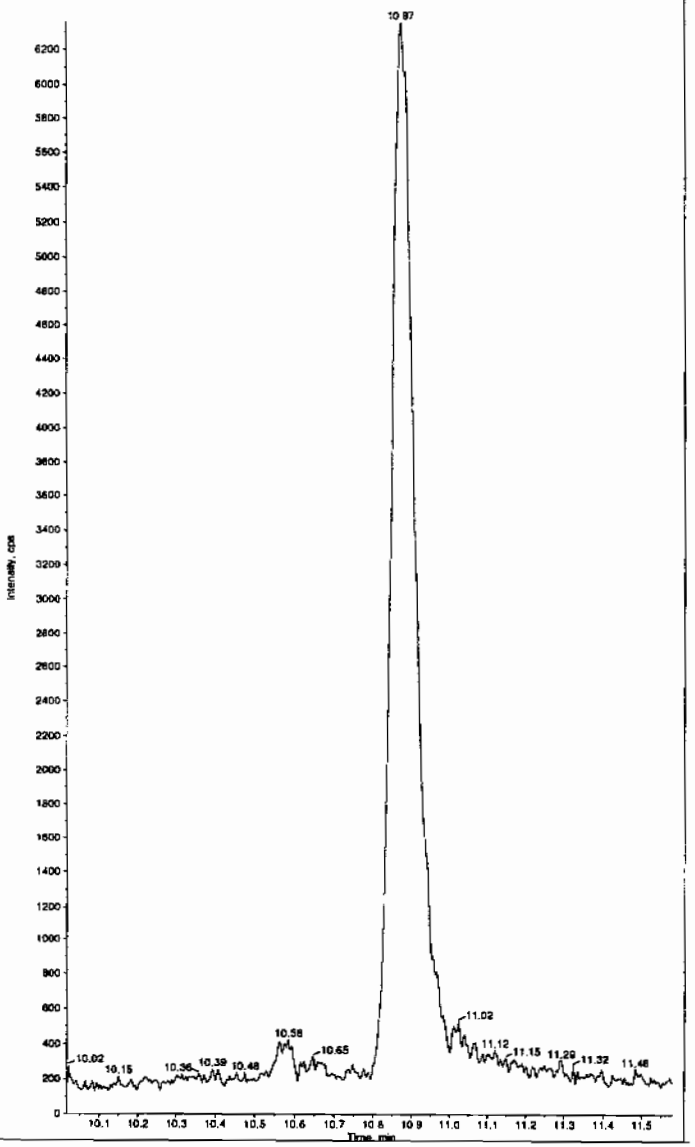
Modified: No



Sample Name: "XIBLK07" Sample ID: "1|LER" File: "EXS02160050.wiff"
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
Acq. Date: 2/17/2010
Acq. Time: 1:03:34 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1666

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 17-FEB-10 04:27

GEL Data File: EXS02160063.wiff

Instrument ID: LCMSMS

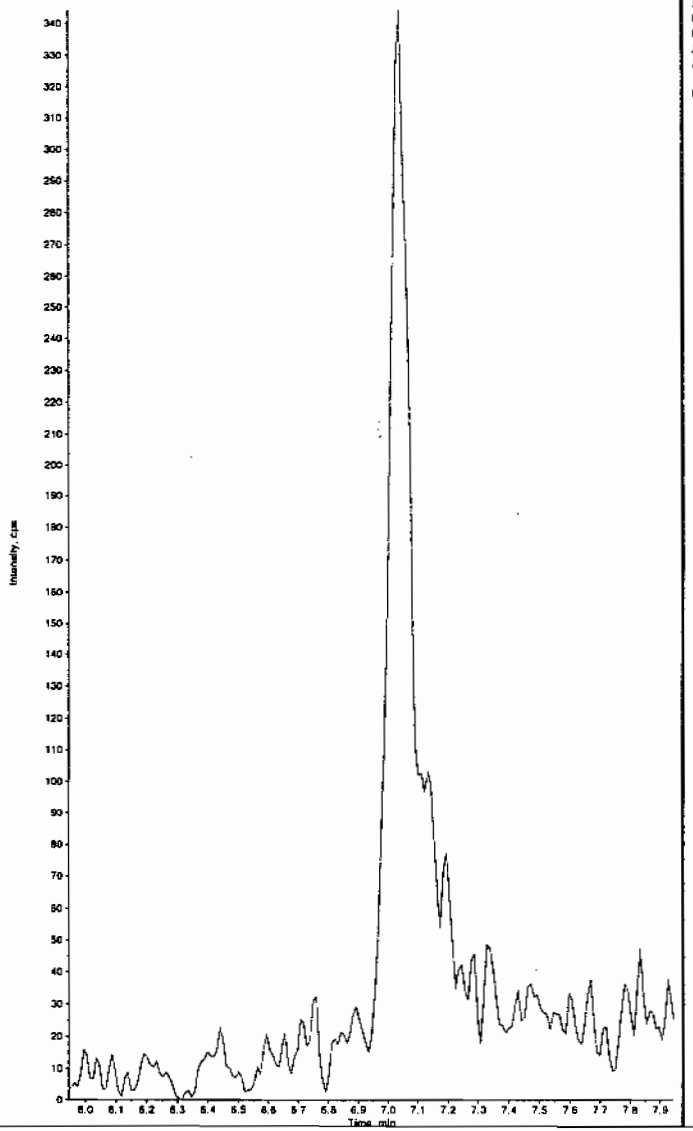
Column: Phenomenex Ultracarb 5u ODS(20)

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

Sam 2/18/10

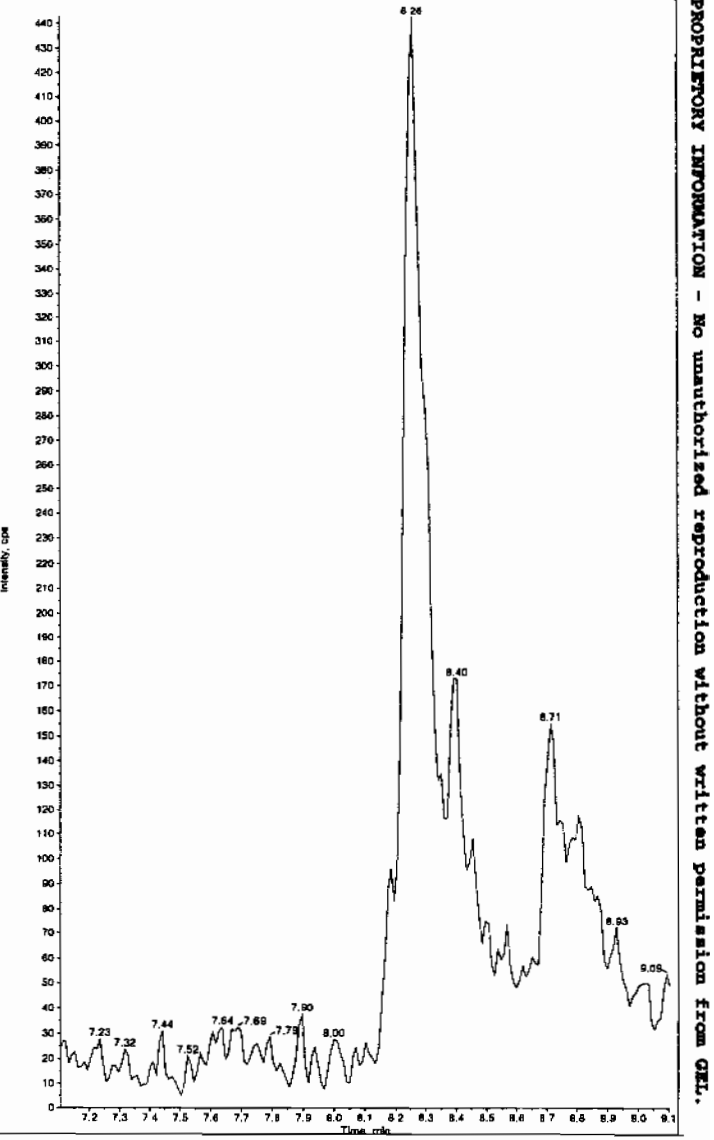
Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS02160063.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:27:44 AM

Modified: No



Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS02160063.wiff"
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: 2/17/2010
Acq. Time: 4:27:44 AM

Modified: No



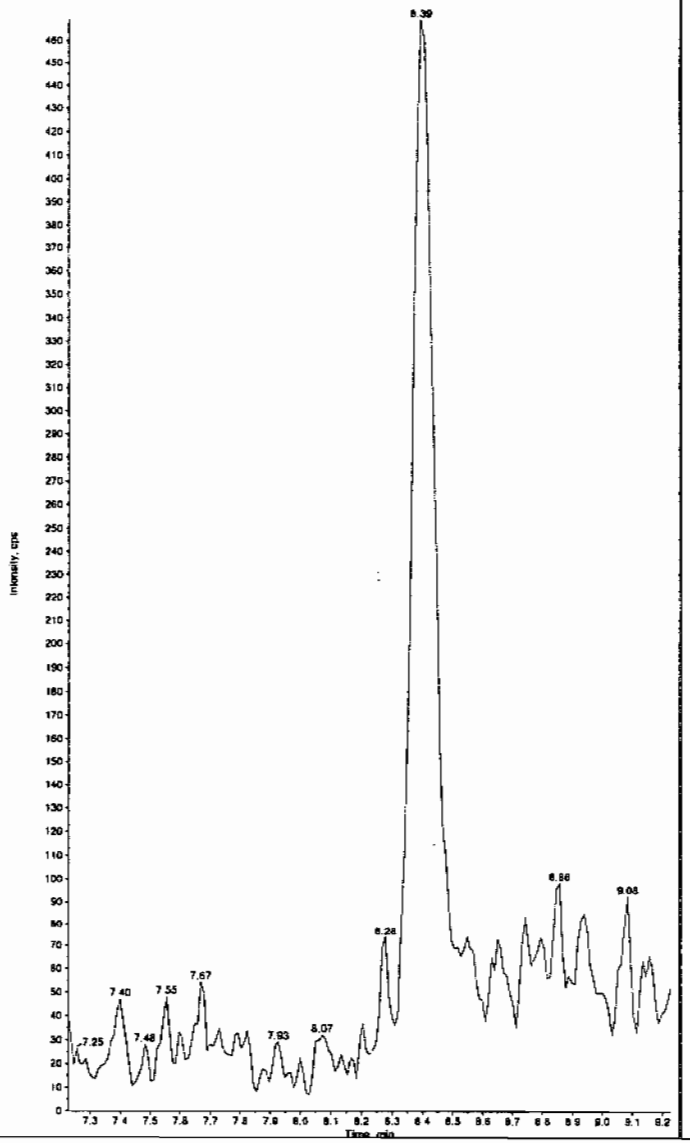
Hmm 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK08" Sample ID: "|1|LER" File: "EXS02160063.wiff"
Peak Name: "34-Dinitrotoluene" 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
Acq. Date: 2/17/2010
Acq. Time: 4:27:44 AM

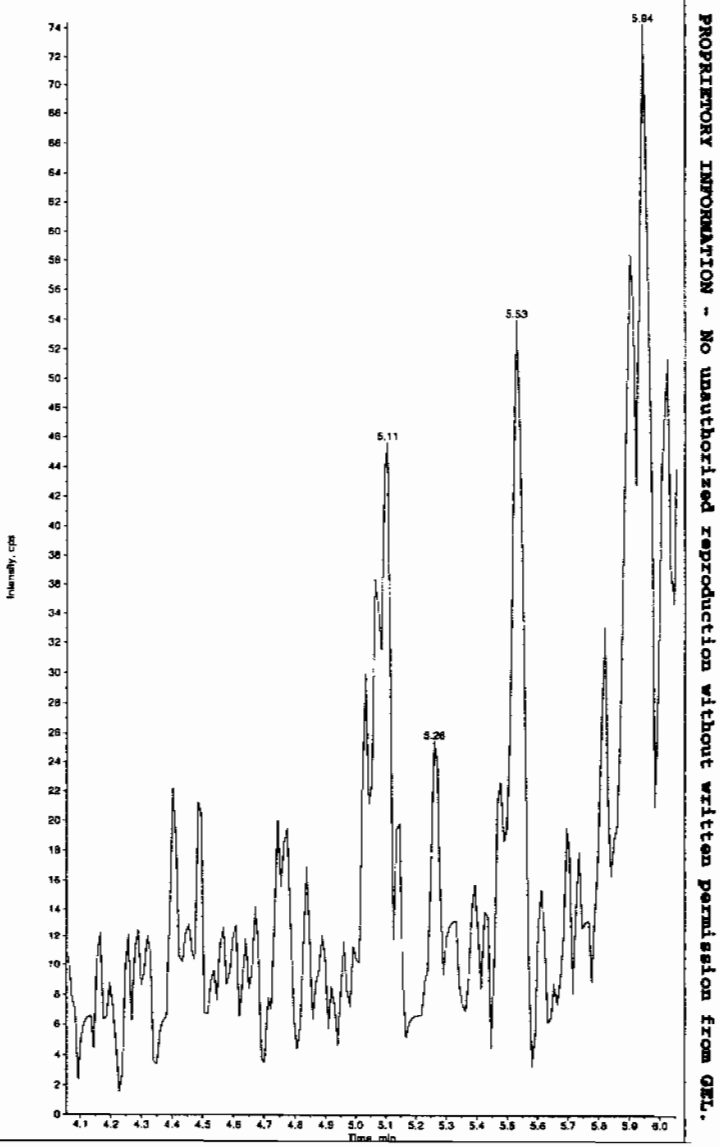
Modified: No



Sample Name: "XIBLK08" Sample ID: "|1|LER" File: "EXS02160063.wiff"
Peak Name: "26-Diamino-4-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
Acq. Date: 2/17/2010
Acq. Time: 4:27:44 AM

Modified: No

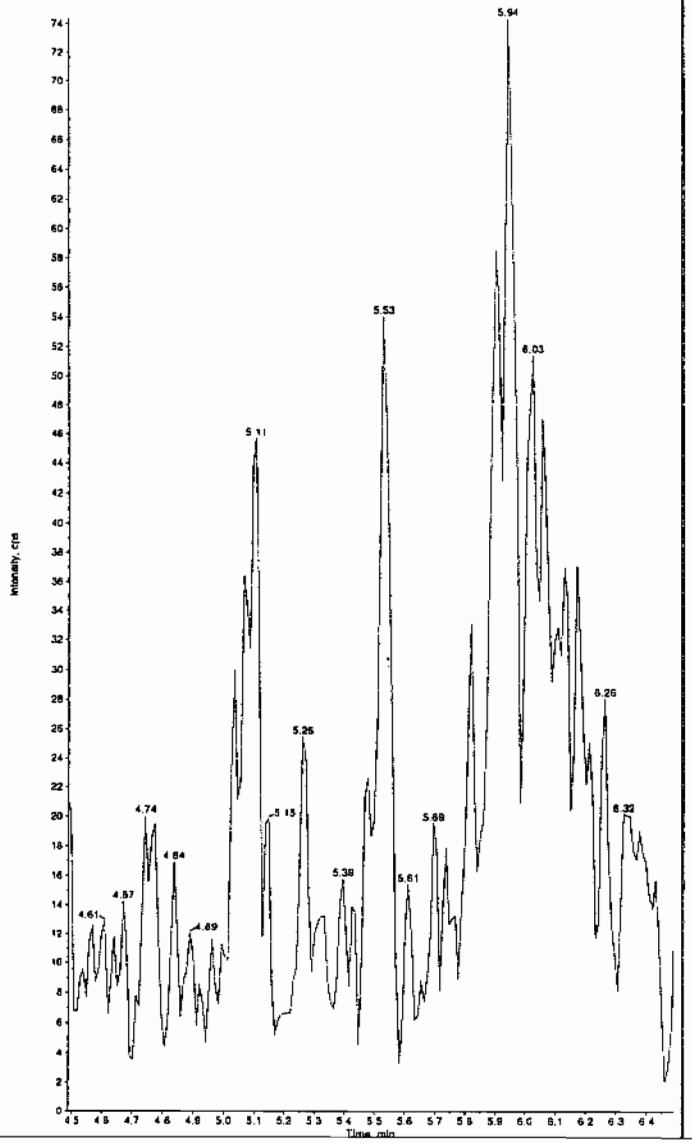


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS02160063.wiff"
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
Acq. Date: 2/17/2010
Acq. Time: 4:27:44 AM

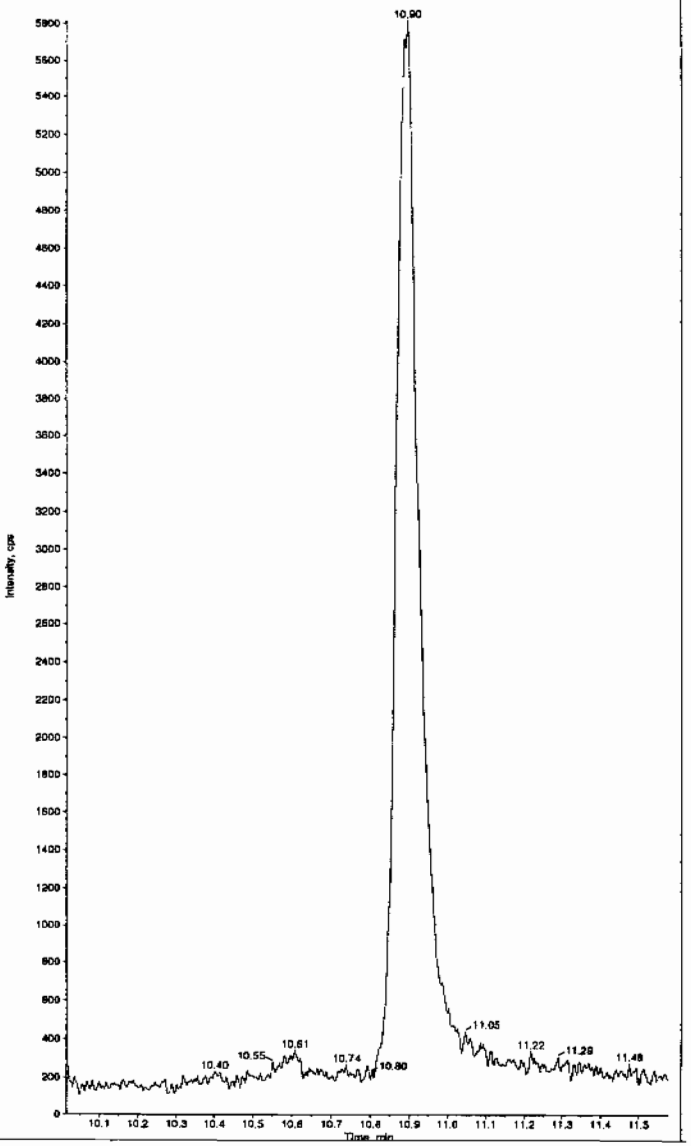
Modified: No



Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS02160063.wiff"
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
Acq. Date: 2/17/2010
Acq. Time: 4:27:44 AM

Modified: No



*GEL 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/H2O.
;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

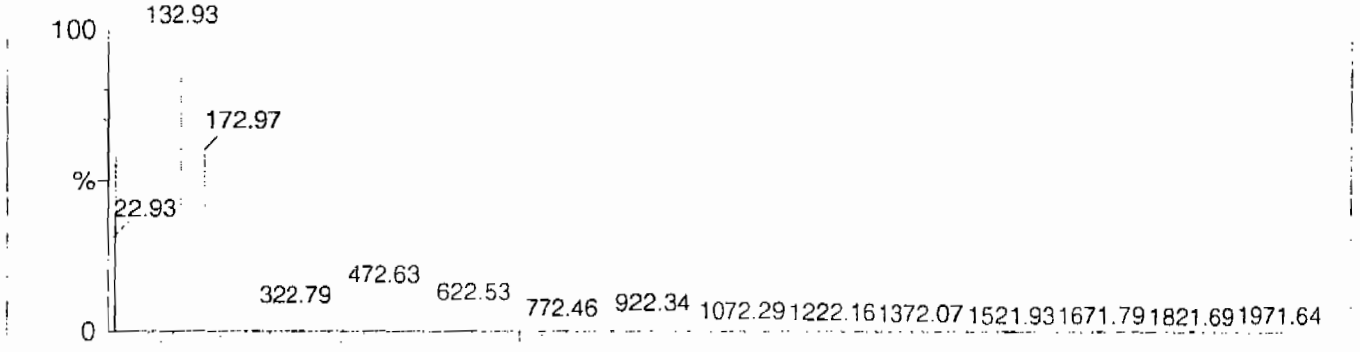
22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	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

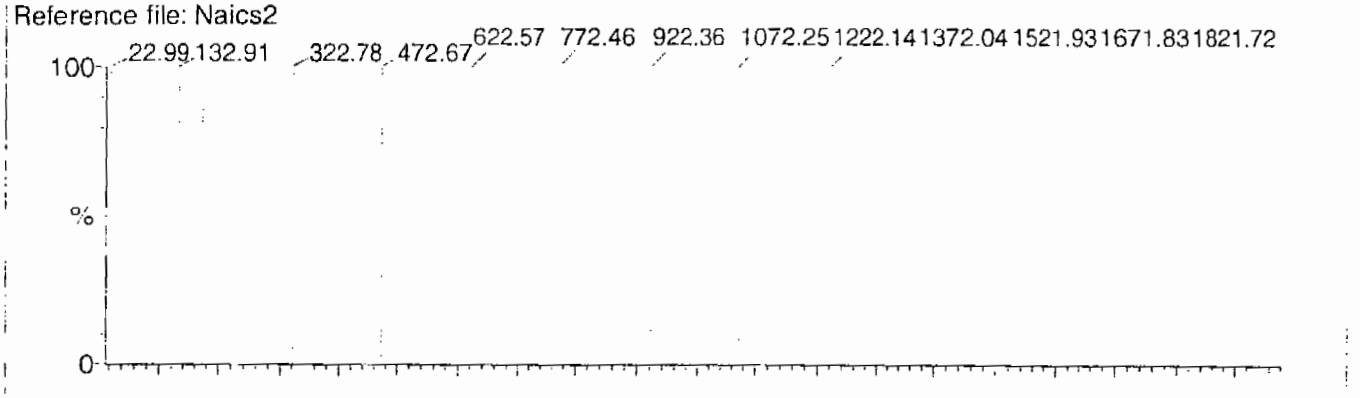
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

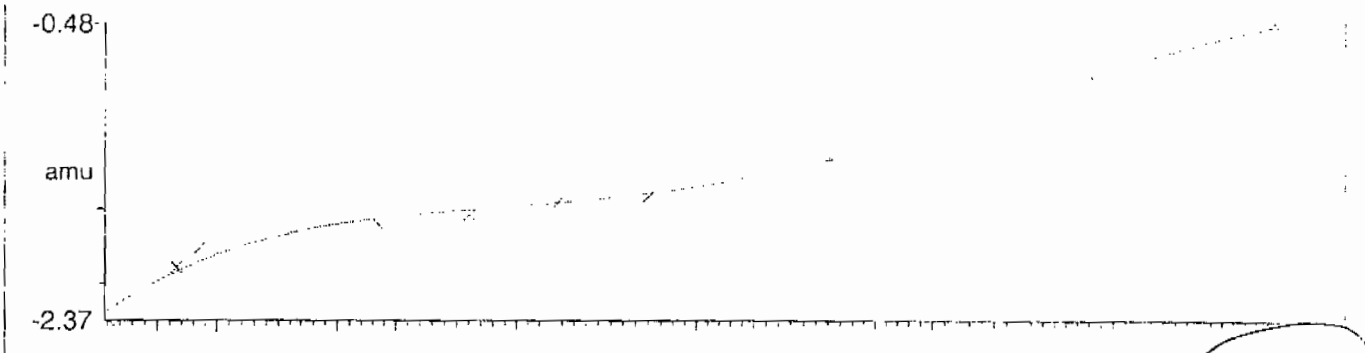
15 matches of 15 tested references



Reference file: Naics2



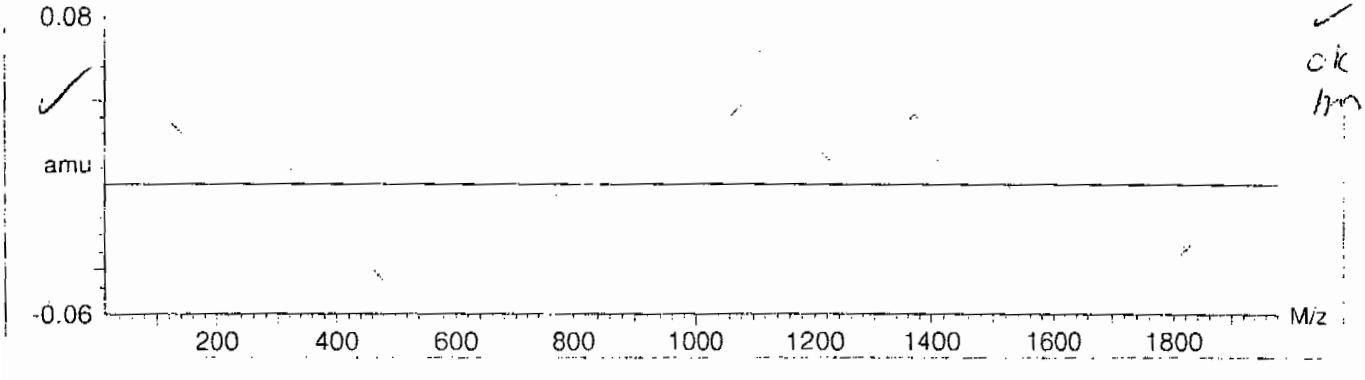
Mass difference (Raw - Ref mass)



Residuals

Mean residual = -1.673470e-9 ± 0.036953

ok
hm

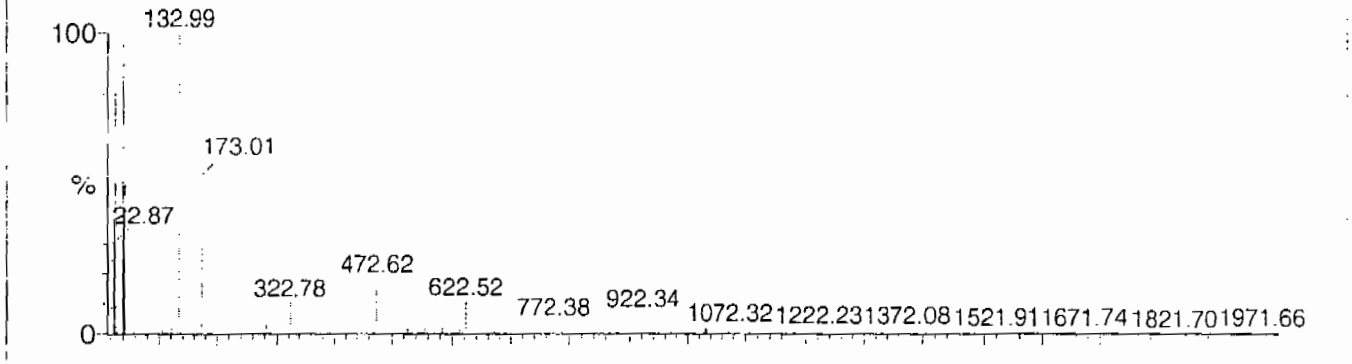


Calibration Report - MS1 Scanning

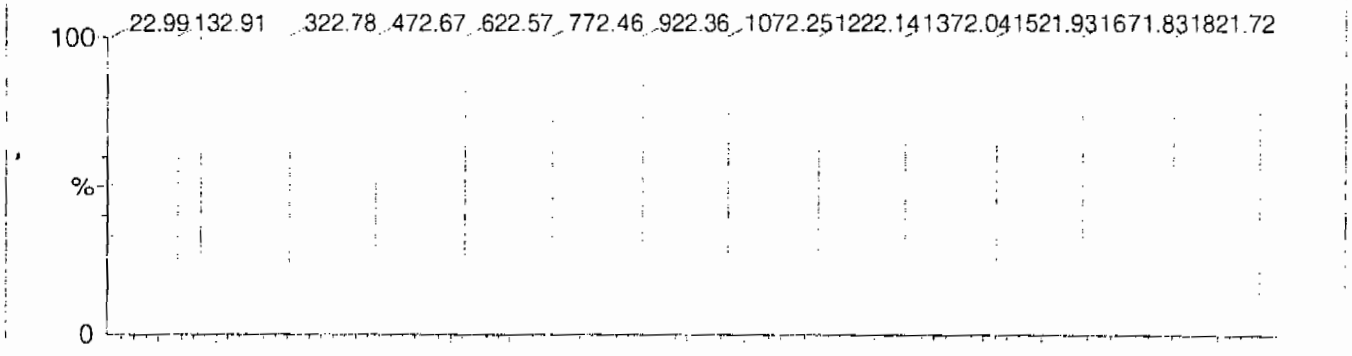
Printed: Fri Aug 25 10:51:06 2006

Data file: SCNMS1 - Calibrated

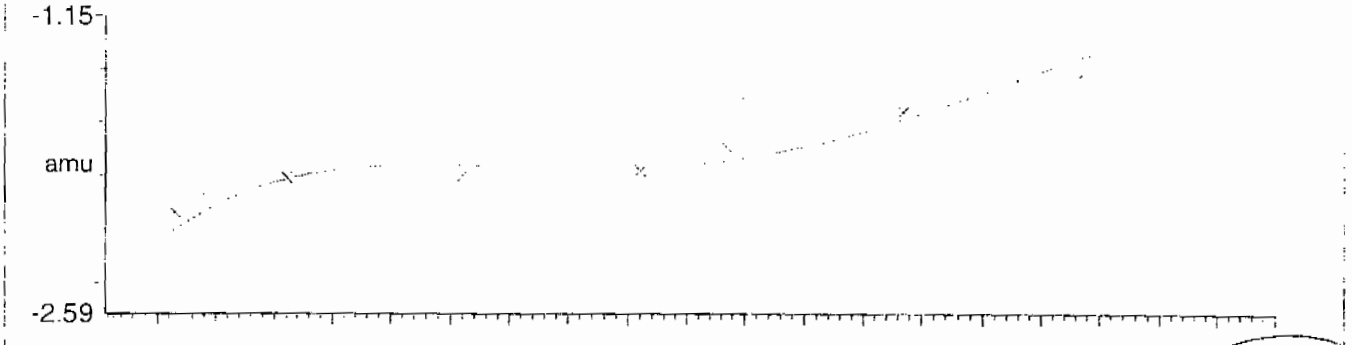
15 matches of 15 tested references



Reference file: Naics2



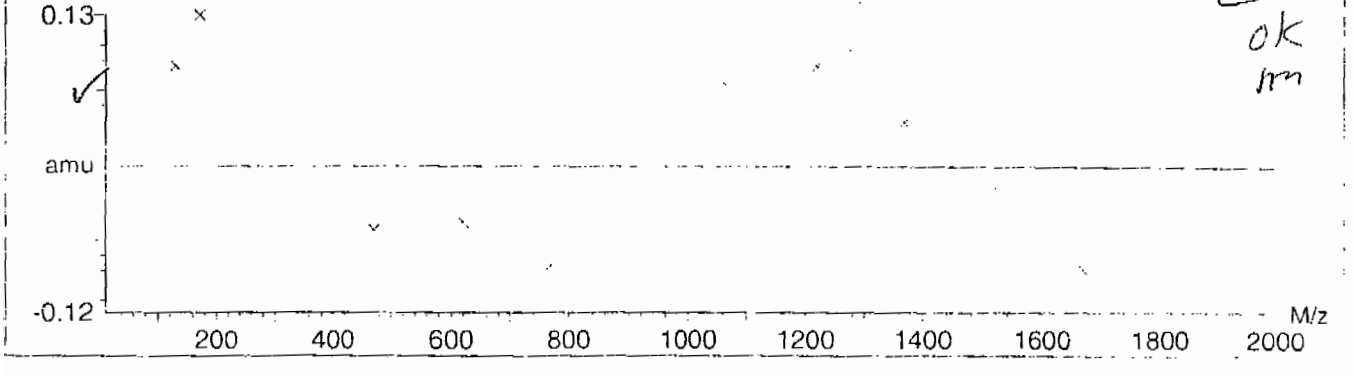
Mass difference (Raw - Ref mass)



Residuals

Mean residual = -5.432715e-9 ± 0.069858

ok
m

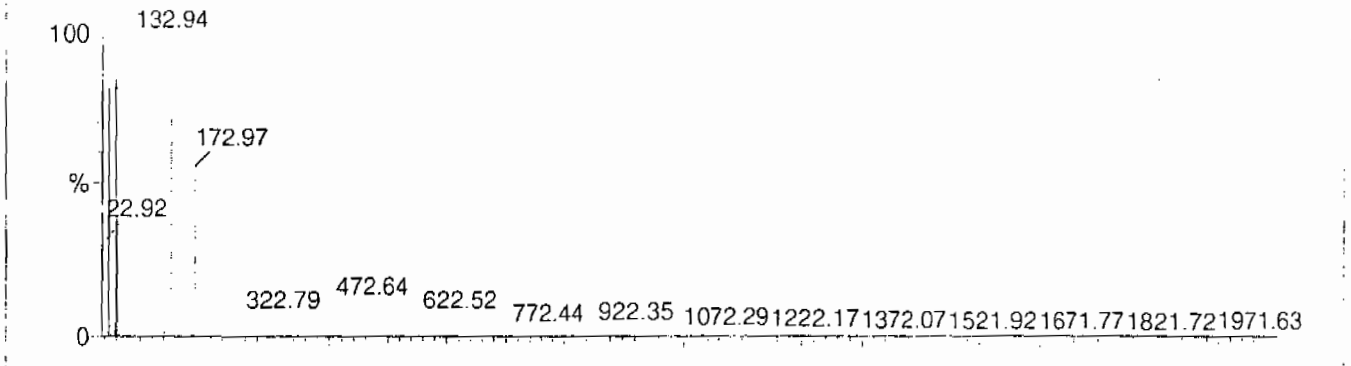


Calibration Report - MS1 Scan Speed Compensation

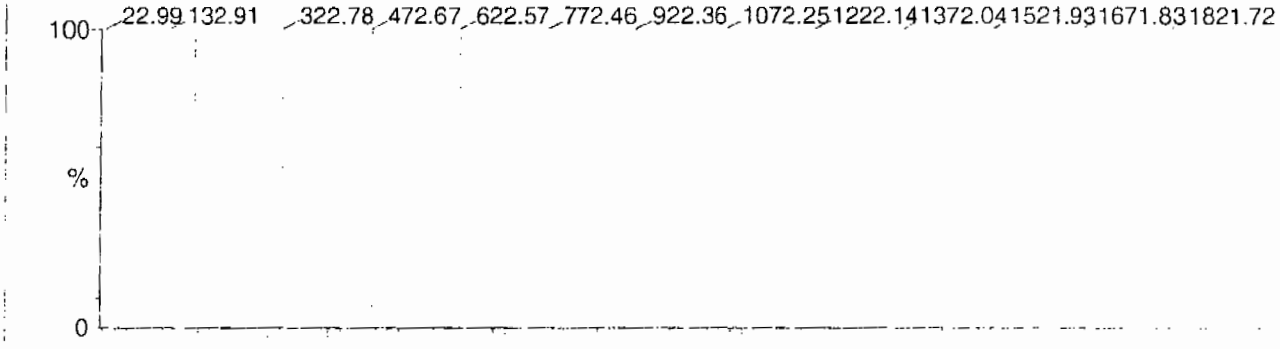
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

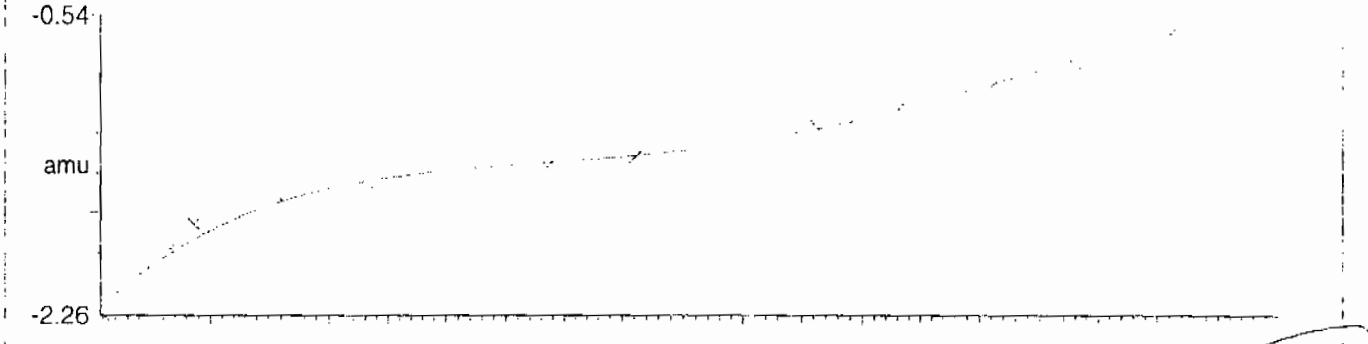
15 matches of 15 tested references



Reference file: Naics2

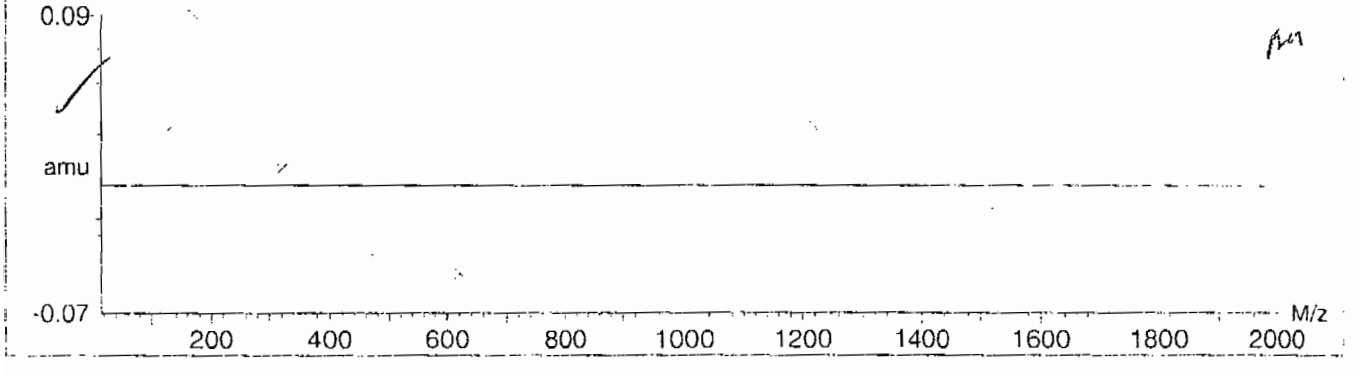


Mass difference (Raw - Ref mass)



Residuals

Mean residual = 3.486639e-9 ± 0.040487

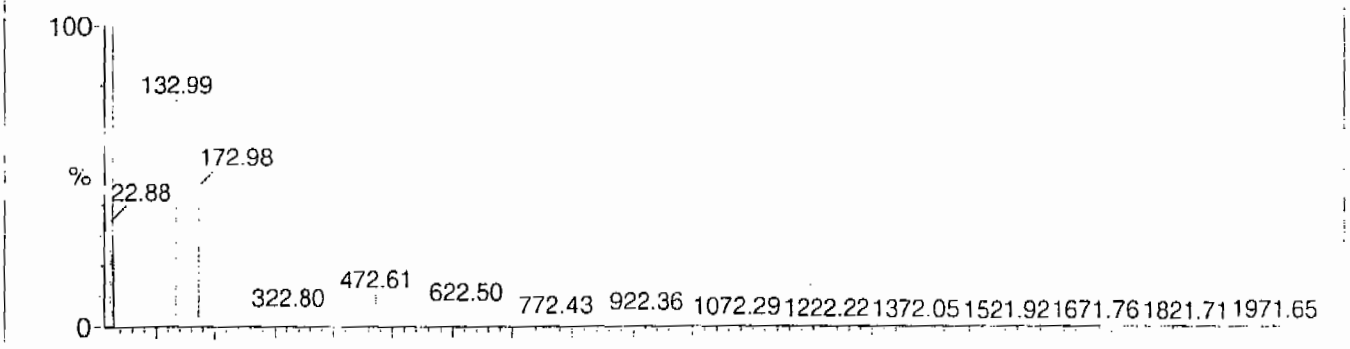


Calibration Report - MS2 Static

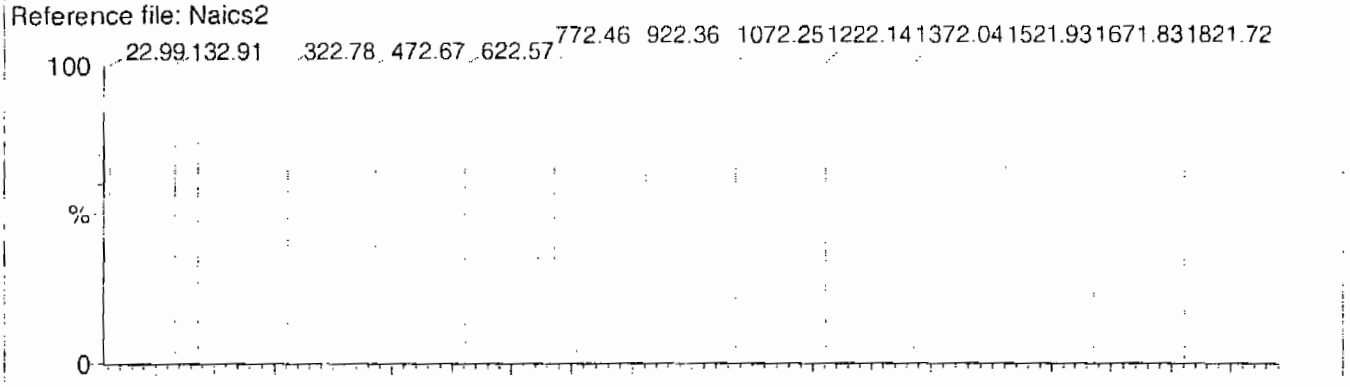
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

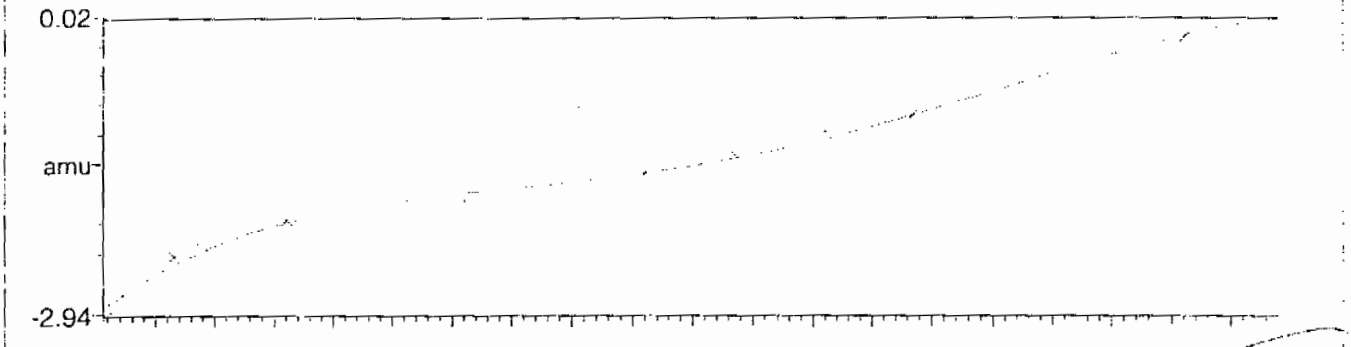
15 matches of 15 tested references



Reference file: Naics2

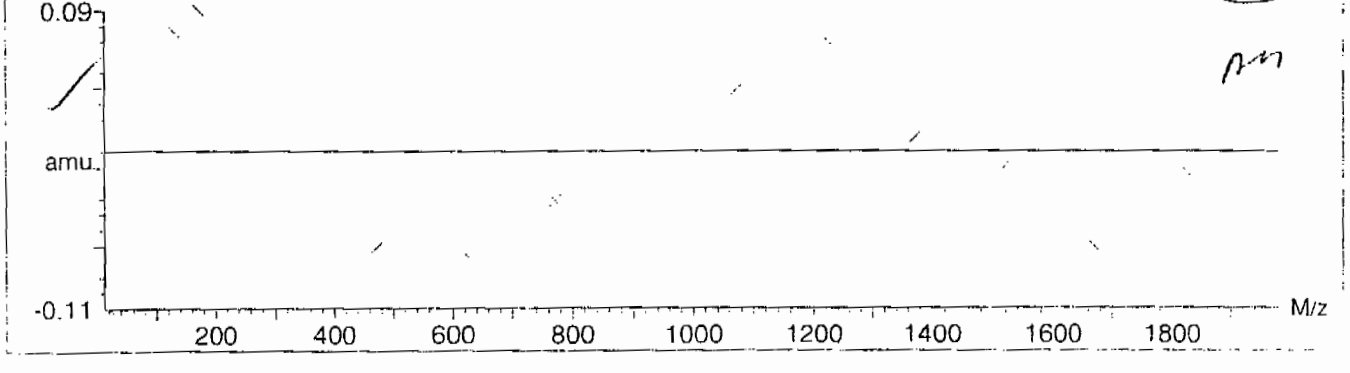


Mass difference (Raw - Ref mass)



Residuals

Mean residual = 2.048910e-9 ± 0.057803

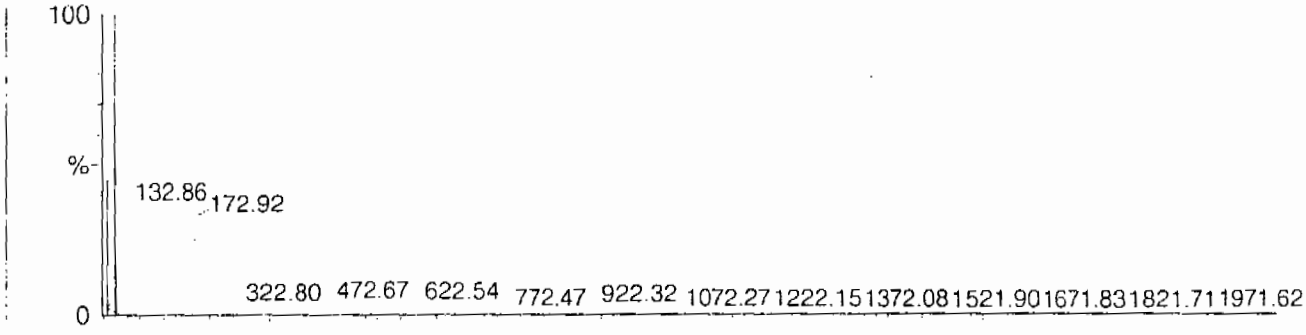


Calibration Report - MS2 Scanning

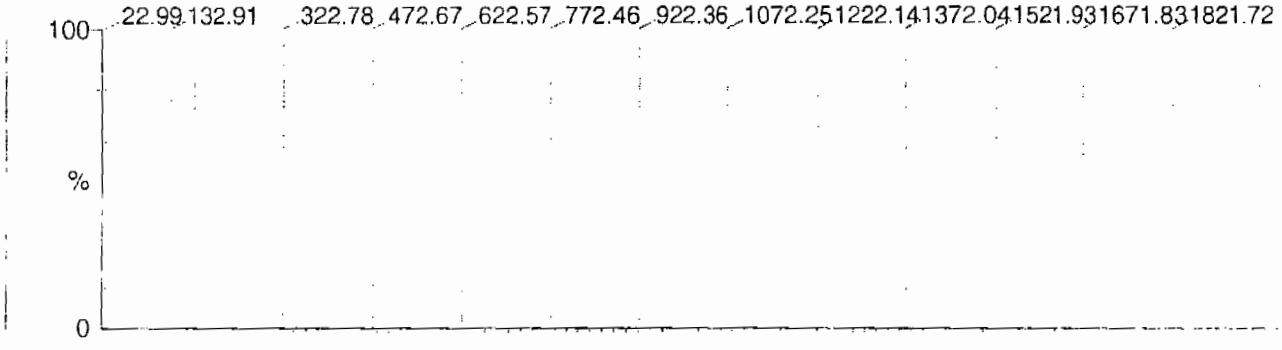
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

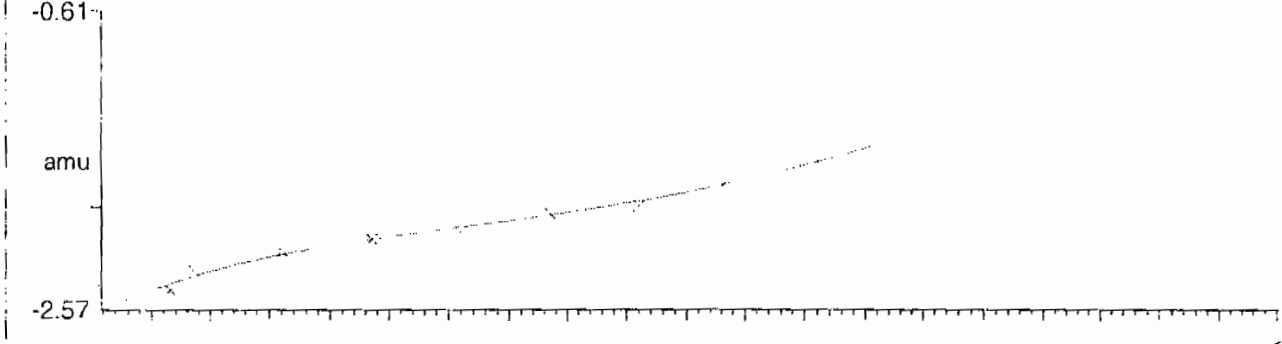
14 matches of 15 tested references



Reference file: Naics2

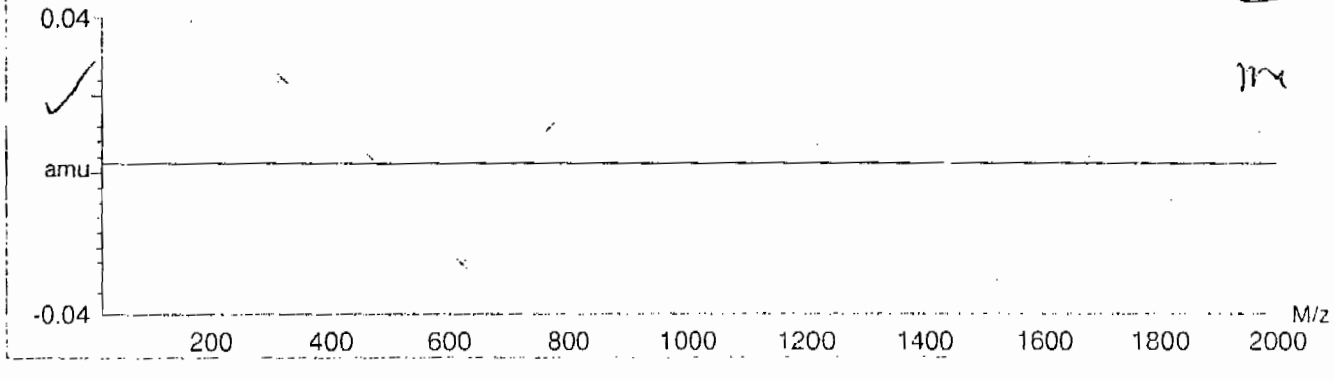


Mass difference (Raw - Ref mass)



Residuals

Mean residual = -2.623502e-9 ± 0.025622

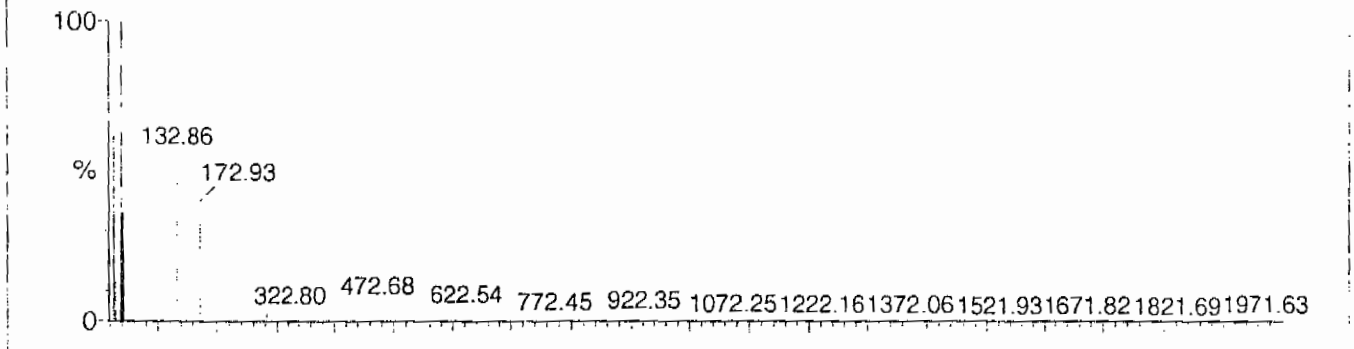


Calibration Report - MS2 Scan Speed Compensation

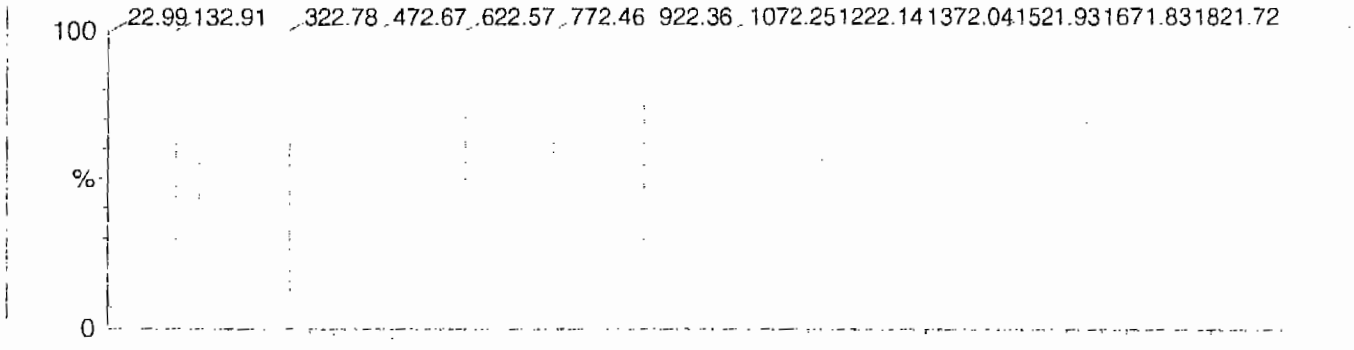
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

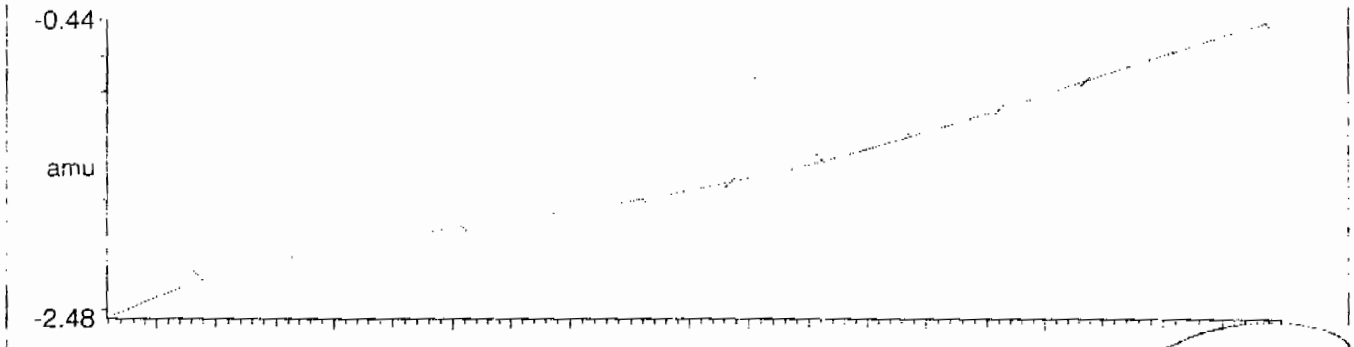
14 matches of 15 tested references



Reference file: Naics2

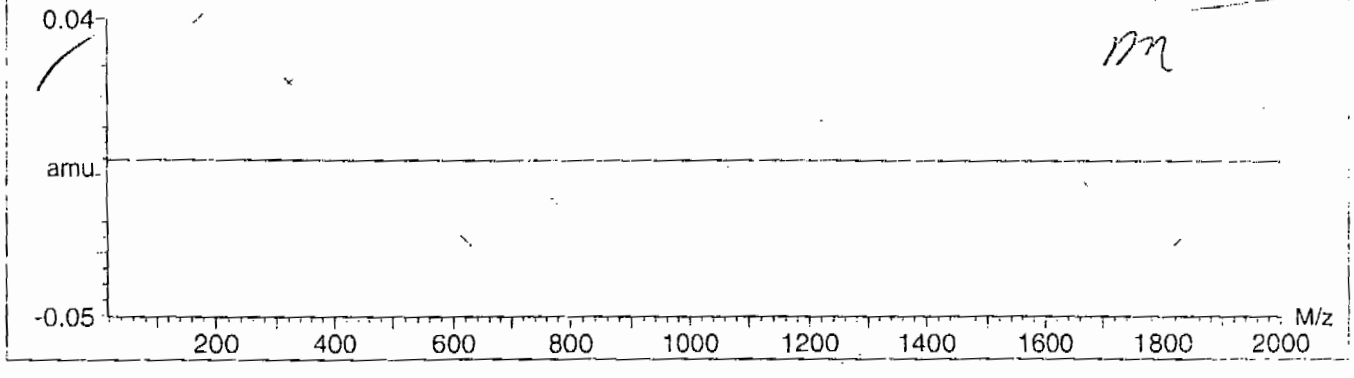


Mass difference (Raw - Ref mass)



Residuals

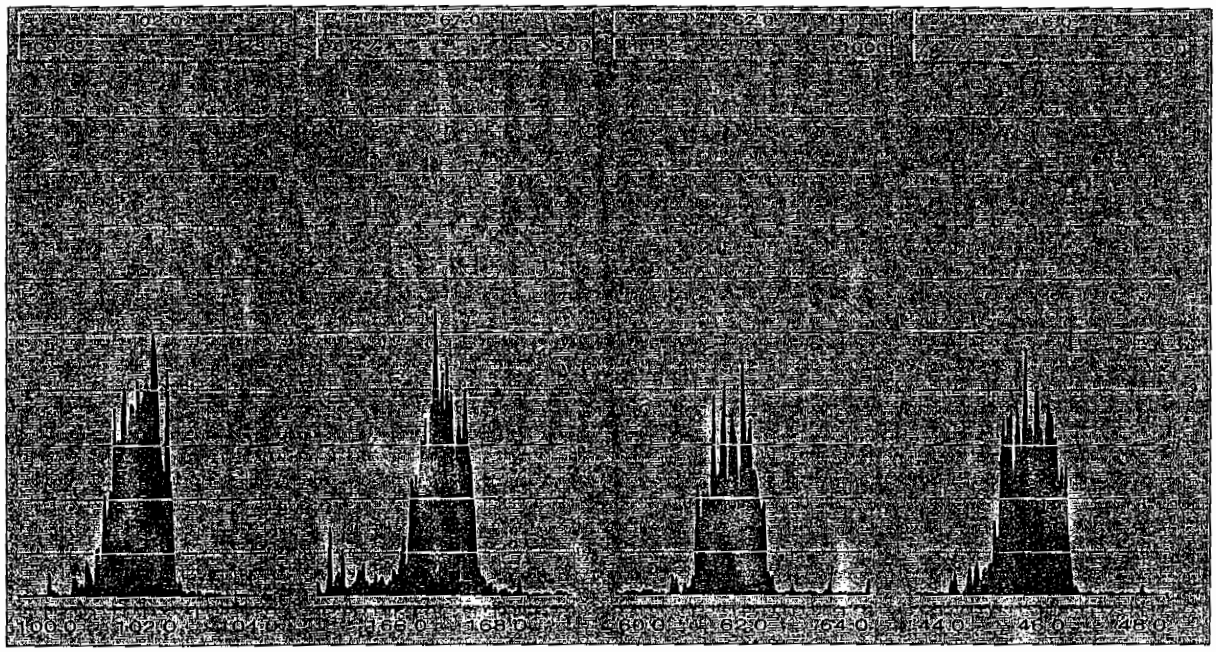
Mean residual = -6.785350e-9 ± 0.023134



Quattro Micro Tune Parameters

Parameter File: C:\MASSLYNX\NEW_EXP.PRO\ACQUDB\explosives04.IPR

Printed : Tue Feb 16 13:37:41 2010



8

High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

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) #
			3012.417	12.049	17408.567	17.428
Upper Limit			3916.1421	12.549	22631.1371	17.928
Lower Limit			2108.6919	11.549	12185.9969	16.928
MB for batch 951347	17-feb-10 13:23	EXP0216042a	3060.29	12.064	16752.3	17.433
LCS for batch 951347	17-feb-10 13:53	EXP0216043a	3323.39	12.067	19281.1	17.422
RE15-10-8363	17-feb-10 19:49	EXP0216055a	3071.46	12.032	18874.2	17.422

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: RE15-10-8363

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 246557001

Sample Amount 2

Moisture: 18.7

Amount Units g

Date Received: 09-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0216055a

Date Analyzed: 17-FEB-10 19:49

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 =

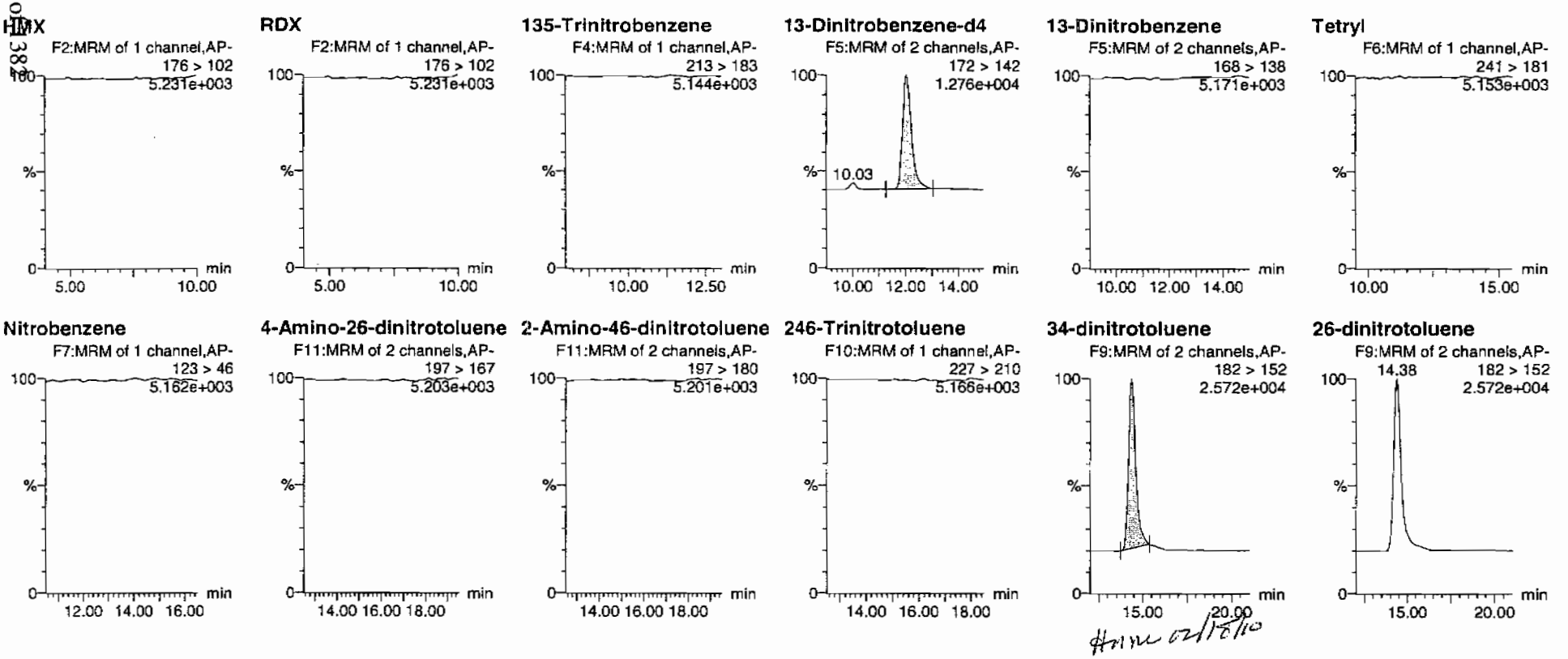
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216055a
Date: 17-Feb-2010
Time: 19:49:31
ID: 246557001
Vial: 2:2,E

/ LAW / 95349 / SOLID / 2 /

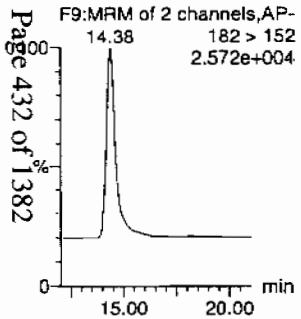
MM 2/18/10



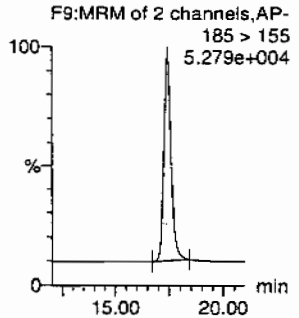
Hmm 02/18/10

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

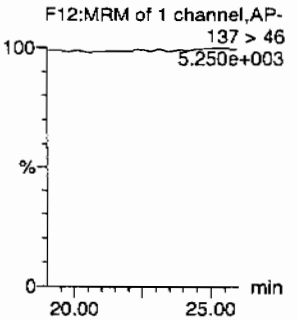
24-dinitrotoluene



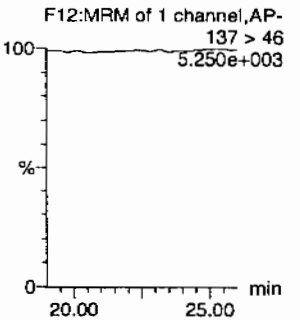
26-dinitrotoluene-d3



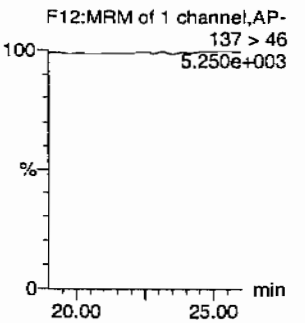
2-Nitrotoluene



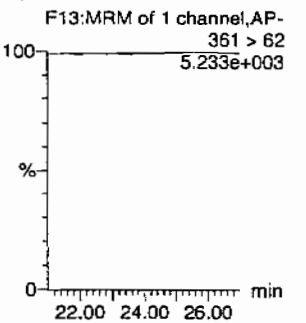
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
246557001	HMX	176 > 102			3071.457									
246557001	RDX	176 > 102			3071.457									
246557001	135-Trinitrobenzene	213 > 183			3071.457									
246557001	13-Dinitrobenzene-d4	172 > 142	12.03	3071.457		3071.457	3071.457	bb			509.7996	102.0	2.0	406.2
246557001	13-Dinitrobenzene	168 > 138			3071.457									
246557001	Tetryl	241 > 181			3071.457									
246557001	Nitrobenzene	123 > 46			3071.457									
246557001	4-Amino-26-dinitrotoluene	197 > 167			18874.182									
246557001	2-Amino-46-dinitrotoluene	197 > 180			18874.182									
246557001	246-Trinitrotoluene	227 > 210			18874.182									
246557001	34-dinitrotoluene	182 > 152	14.38	9679.898	18874.182	9679.898	256.432	bb			283.0375	113.2	13.2	587.9
246557001	26-dinitrotoluene	182 > 152			18874.182									
246557001	24-dinitrotoluene	182 > 152			18874.182									
246557001	26-dinitrotoluene-d3	185 > 155	17.42	18874.182		18874.182	18874.182	bb			542.0950	108.4	8.4	2140.9
246557001	2-Nitrotoluene	137 > 46			18874.182									
246557001	4-Nitrotoluene	137 > 46			18874.182									
246557001	3-Nitrotoluene	137 > 46			18874.182									
246557001	PETN	361 > 62			18874.182									

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8363

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 246557001

Sample Amount 2

Moisture: 18.7

Amount Units g

Date Received: 09-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS02160052.wiff

Date Analyzed: 17-FEB-10 01:35

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 =

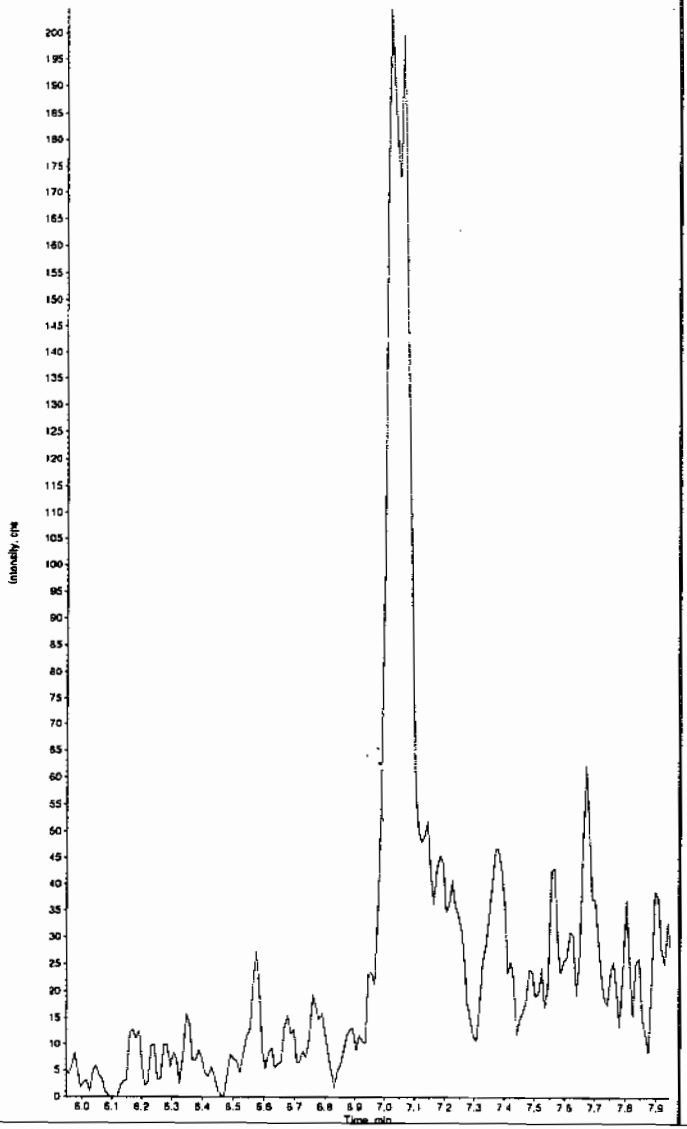
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

RCW 2/17/10

Sample Name: "246557001" Sample ID: "951349|2|LER" File: "EXS02160052.wiff"
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: 2/17/2010
Acq. Time: 1:35:00 AM

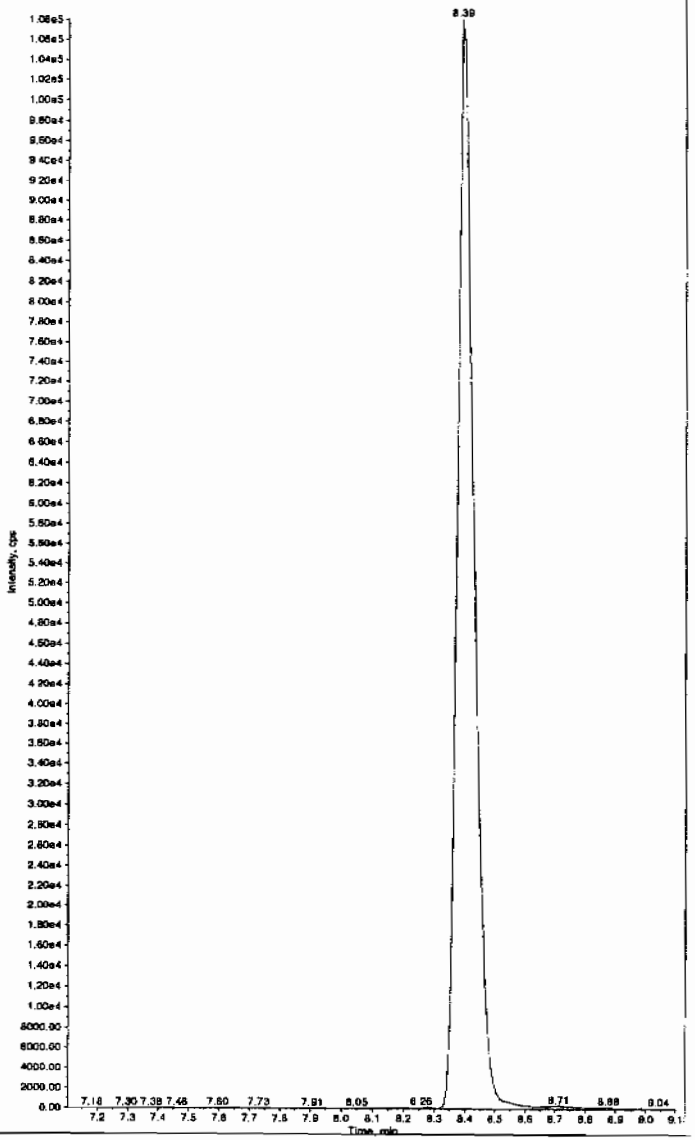
Modified: No



Sample Name: "246557001" Sample ID: "951349|2|LER" File: "EXS02160052.wiff"
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: 0.00 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:35:00 AM

Modified: No



Hmm 02/17/10

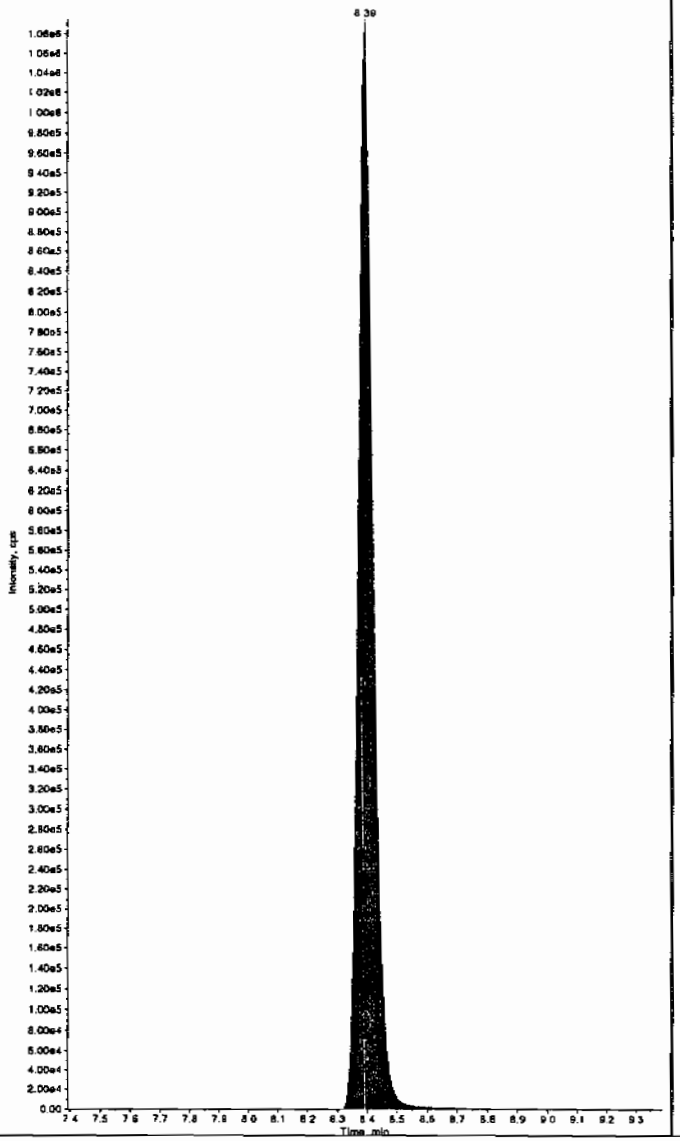
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "246557001" Sample ID: "951349|2|LER" File: "EXS02160052.wiff"
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: 335. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:35:00 AM

Modified: Yes
Peak 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: 8.39 min
Use Relative RT: No

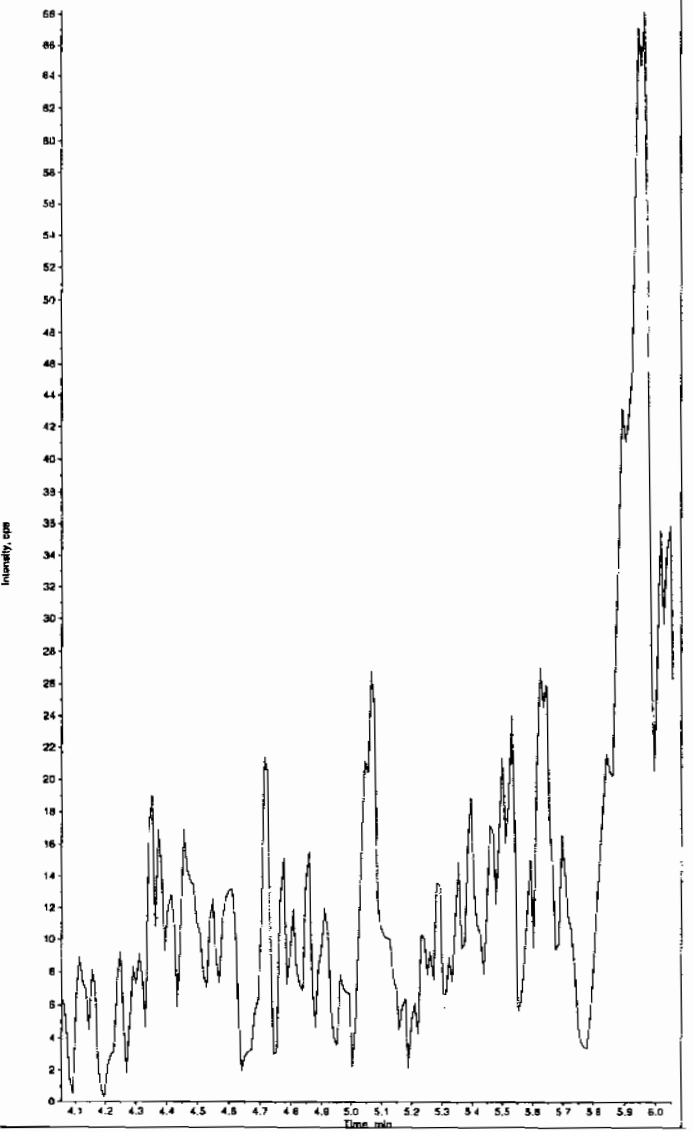
Int. Type: Valley
Retention Time: 8.39 min
Area: 4.00e+006 counts
Height: 1095833.174 cps
Start Time: 8.29 min
End Time: 8.77 min



Sample Name: "246557001" Sample ID: "951349|2|LER" File: "EXS02160052.wiff"
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: 2/17/2010
Acq. Time: 1:35:00 AM

Modified: No

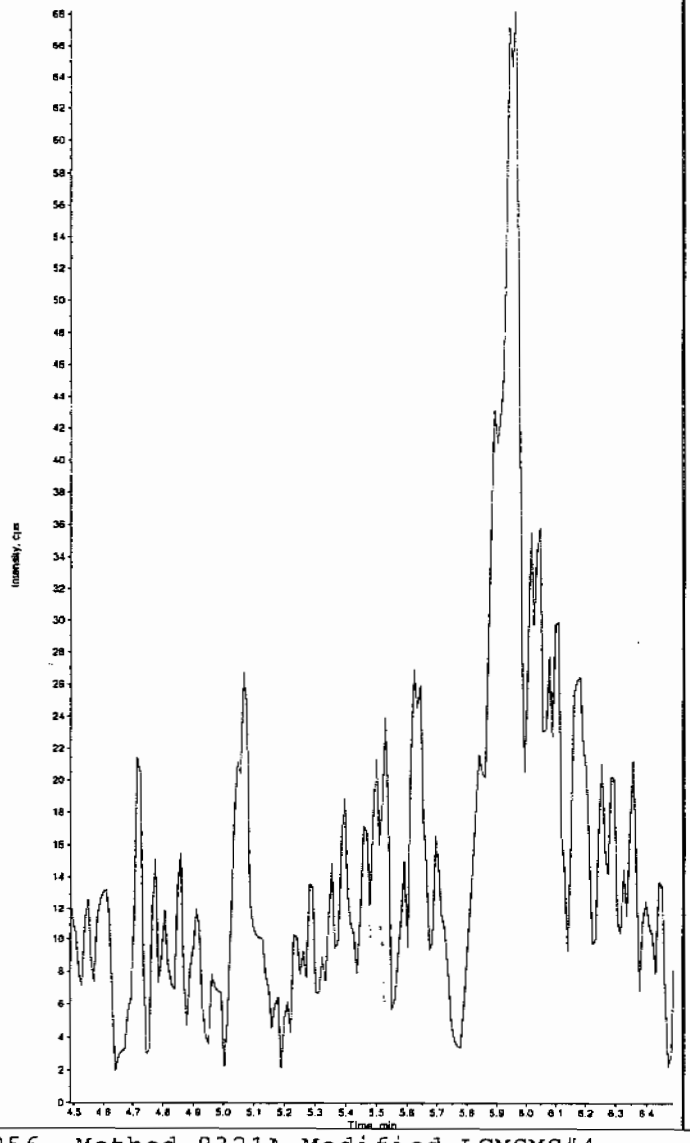


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "246557001" Sample ID: "951349|2|LER" File: "EXS02160052.wiff"
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: 2/17/2010
Acq. Time: 1:35:00 AM

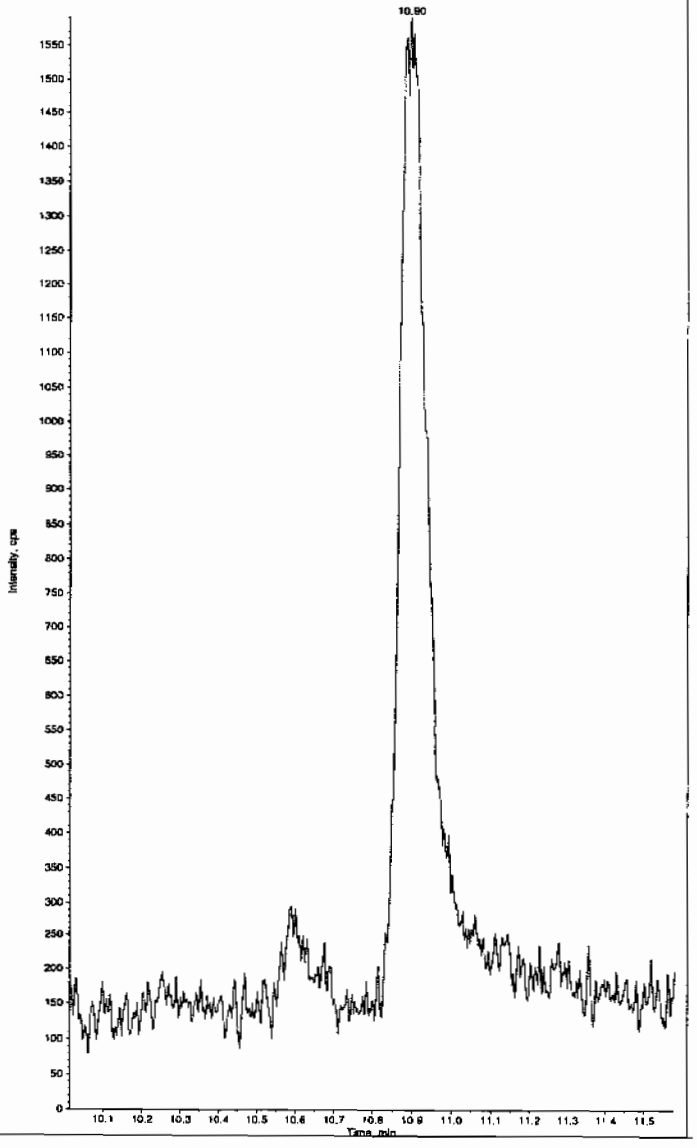
Modified: No



Sample Name: "246557001" Sample ID: "951349|2|LER" File: "EXS02160052.wiff"
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: 2/17/2010
Acq. Time: 1:35:00 AM

Modified: No



*GEL 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
Primary Analytes								
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
MNX	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
Secondary Analytes								
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)

Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1666

Lab Code: GEL

Run Date: 16-FEB-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Average RF

Calibration Level:	1	2	3	4	5	6	Ave RF	RSD	Q
Data File:	EXP0216003a	EXP0216004a	EXP0216005a	EXP0216006a	EXP0216007a	EXP0216008a			
Parmname									
1,3,5-Trinitrobenzene	3.974	4.275	3.998	3.443	3.801	3.743	3.872	7.253	
1,3-Dinitrobenzene-d4	6.479	6.269	6.407	6.397	5.489	5.109	6.025	9.613	
2,4,6-Trinitrotoluene	.311	.331	.325	.38	.335	.329	0.335	7.003	
2,4-Dinitrotoluene	.22	.247	.233	.258	.258	.262	0.246	6.788	
2,6-Dinitrotoluene	.926	1.085	1.036	1.071	1.113	1.126	1.060	6.868	
2,6-Dinitrotoluene-d3	37.517	35.811	37.549	35.639	32.457	29.93	34.817	8.699	
2-Amino-4,6-dinitrotoluene	.4	.452	.421	.427	.458	.435	0.432	4.923	
3,4-Dinitrotoluene	.812	.944	.904	1.008	.893	.876	0.906	7.276	
4-Amino-2,6-dinitrotoluene	.35	.323	.285	.352	.298	.312	0.320	8.491	
HMX	3.59	3.564	3.729	3.903	4.47	3.894	3.858	8.619	
Nitrobenzene	.831	.943	.785	.911	.849	.831	0.858	6.765	
RDX	2.28	2.16	2.79	2.593	3.02	2.717	2.593	12.46	
Tetryl	1.117	1.386	1.084	1.014	.989	.952	1.090	14.415	
m-Dinitrobenzene	.991	1.315	1.169	1.17	1.25	1.236	1.189	9.364	
m-Nitrotoluene	.078	.09	.083	.1	.095	.091	0.090	8.99	
o-Nitrotoluene	.139	.156	.146	.153	.159	.159	0.152	5.121	
p-Nitrotoluene	.072	.072	.076	.082	.083	.076	0.077	6.293	

Q column used to flag RSD values outside of Limit (>20%)
* Values outside of QC Limit

Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1666

Lab Code: GEL

Run Date: 16-FEB-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: 2nd Order

Calibration Level:	1	2	3	4	5	6	X	X^2	Intercept	COD	Q
Data File:	EXP0216003a	EXP0216004a	EXP0216005a	EXP0216006a	EXP0216007a	EXP0216008a					
Parmname:											
PETN	2110.32	4458.8	14532.6	25000.7	38622.3	42985.8	1.84	-.0004443	26.645	.9992	

Quadradic 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

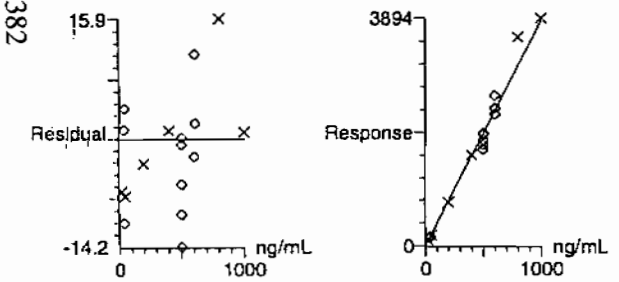
Q column used to flag COD outside of Limit (<0.990)
* Values outside of QC Limit

Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

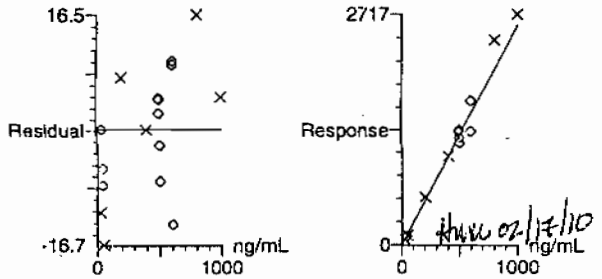
Method: C:\MASSLYNX\New_Exp.PRO\MethDB\021610expa.mdb, Time: Wed Feb 17 09:19:04 2010
Calibration: Untitled, Time: Wed Feb 17 10:00:06 2010

Compound name: HMX
Response Factor: 3.85837
RRF SD: 0.33256, % Relative SD: 8.61918
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



MMT 2/17/10

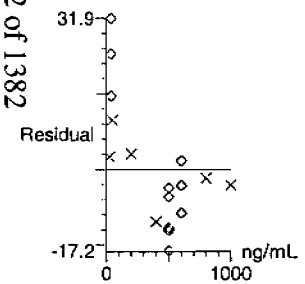
Compound name: RDX
Response Factor: 2.59344
RRF SD: 0.323138, % Relative SD: 12.4598
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF

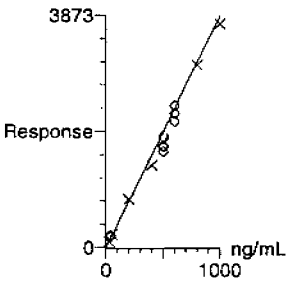


KWW 02/17/10

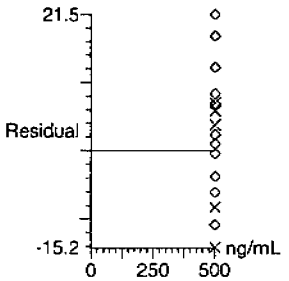
Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

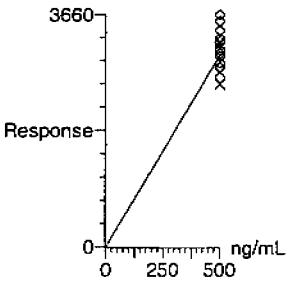
Compound name: 135-Trinitrobenzene
Response Factor: 3.87255
RRF SD: 0.280856, % Relative SD: 7.2525
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





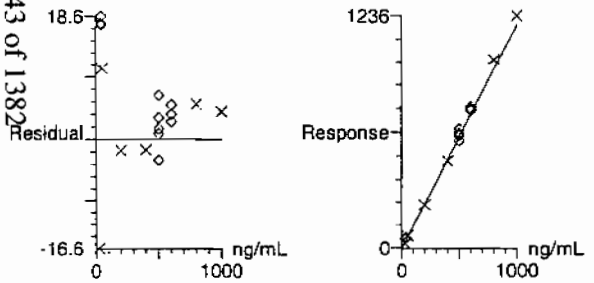
Compound name: 13-Dinitrobenzene-d4
Response Factor: 6.02483
RRF SD: 0.579171, % Relative SD: 9.61306
Response type: External Std, Area
Curve type: RF



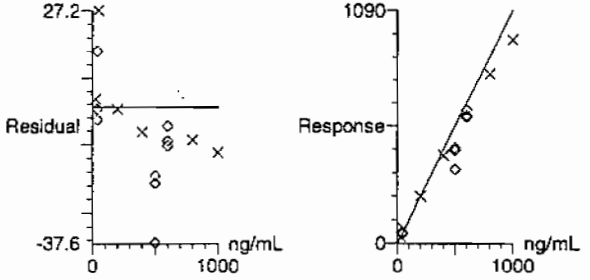


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Compound name: 13-Dinitrobenzene
Response Factor: 1.18852
RRF SD: 0.111292, % Relative SD: 9.36391
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF

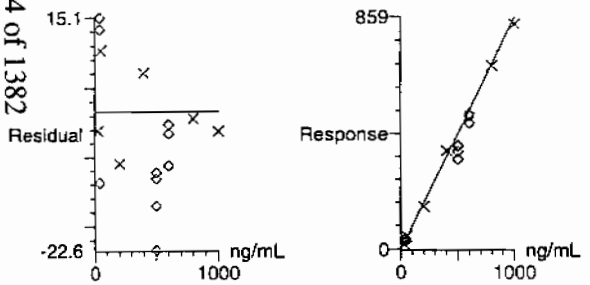


Compound name: Tetryl
Response Factor: 1.09023
RRF SD: 0.157158, % Relative SD: 14.4151
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF

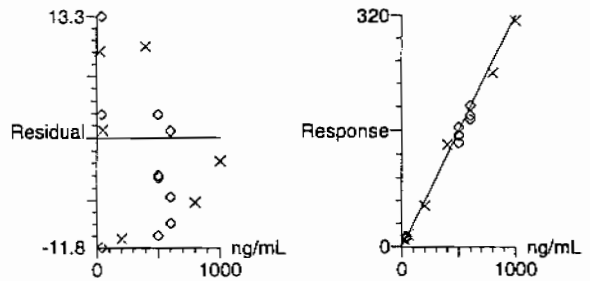


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Compound name: Nitrobenzene
Response Factor: 0.858509
RRF SD: 0.0580797, % Relative SD: 6.76517
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF

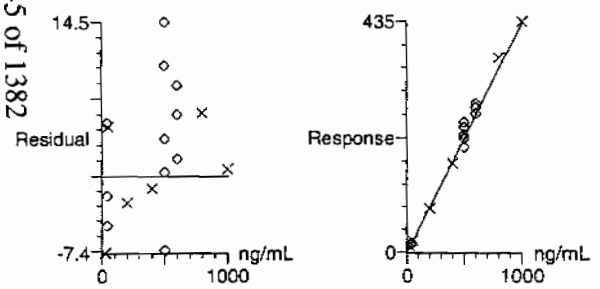


Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.320217
RRF SD: 0.0271885, % Relative SD: 8.49063
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

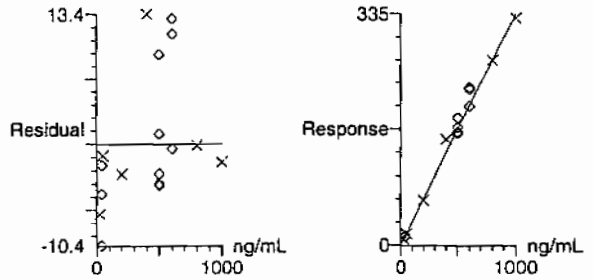


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Compound name: 2-Amino-46-dinitrotoluene
Response Factor: 0.432055
RRF SD: 0.0212718, % Relative SD: 4.9234
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

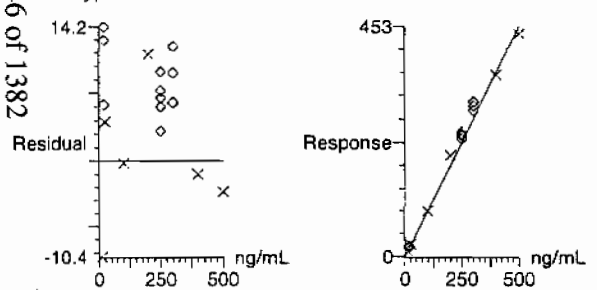


Compound name: 246-Trinitrotoluene
Response Factor: 0.335255
RRF SD: 0.0234791, % Relative SD: 7.00337
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

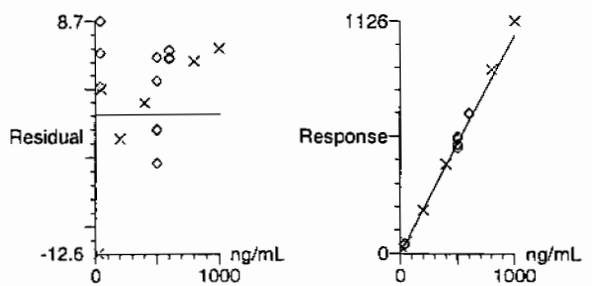


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Compound name: 34-dinitrotoluene
Response Factor: 0.906001
RRF SD: 0.0659248, % Relative SD: 7.27646
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

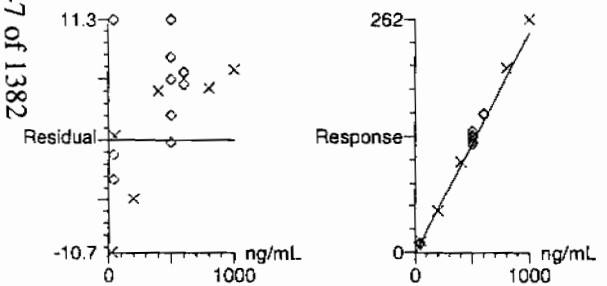


Compound name: 26-dinitrotoluene
Response Factor: 1.05944
RRF SD: 0.0727574, % Relative SD: 6.86754
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

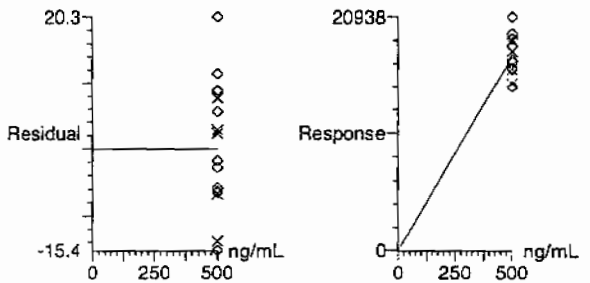


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Compound name: 24-dinitrotoluene
Response Factor: 0.24651
RRF SD: 0.0167341, % Relative SD: 6.78841
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

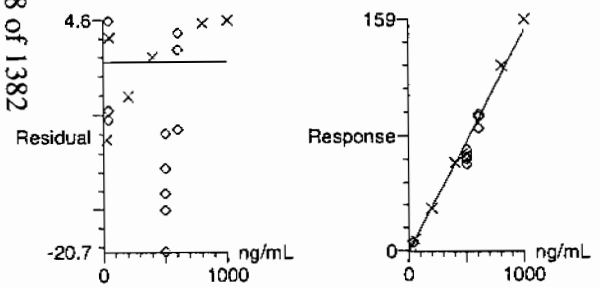


Compound name: 26-dinitrotoluene-d3
Response Factor: 34.8171
RRF SD: 3.02888, % Relative SD: 8.6994
Response type: External Std, Area
Curve type: RF

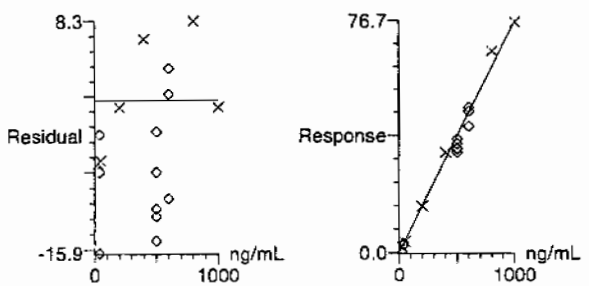


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Compound name: 2-Nitrotoluene
Response Factor: 0.152194
RRF SD: 0.0077939, % Relative SD: 5.12103
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

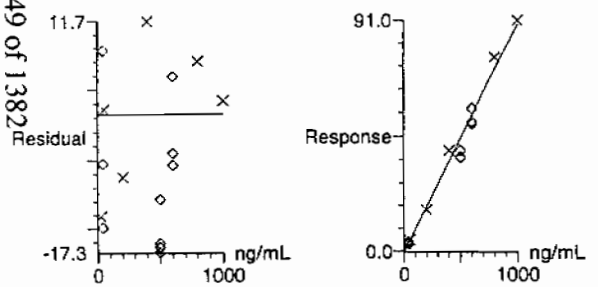


Compound name: 4-Nitrotoluene
Response Factor: 0.0766512
RRF SD: 0.00482394, % Relative SD: 6.29336
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

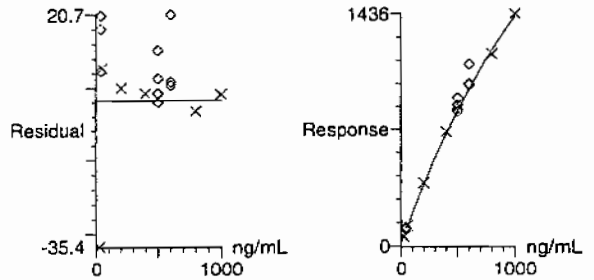


Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Compound name: 3-Nitrotoluene
Response Factor: 0.0894891
RRF SD: 0.0080453, % Relative SD: 8.99027
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: PETN
Coefficient of Determination: 0.999195
Calibration curve: -0.000444334 * x^2 + 1.84022 * x + 26.6447
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: Null, Axis trans: None



7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0216010a

Analysis Date: 16-FEB-10 21:34

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	544.138	91	
1,3-Dinitrobenzene-d4	500	505.15	101	
2,4,6-Trinitrotoluene	600	596.996	99	
2,4-Dinitrotoluene	600	637.037	106	
2,6-Dinitrotoluene	600	631.497	105	
2,6-Dinitrotoluene-d3	500	470.813	94	
2-Amino-4,6-dinitrotoluene	600	609.733	102	
3,4-Dinitrotoluene	300	318.405	106	
4-Amino-2,6-dinitrotoluene	600	544.592	91	
HMX	600	667.211	111	
Nitrobenzene	600	546.753	91	
PETN	600	622.003	104	
RDX	600	517.279	86	
Tetryl	600	535.085	89	
m-Dinitrobenzene	600	615.667	103	
m-Nitrotoluene	600	571.306	95	
o-Nitrotoluene	600	619.132	103	
p-Nitrotoluene	600	620.215	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%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216010a
Date: 16-Feb-2010
Time: 21:34:44
ID: WXX100216-07ICV
Vial: 1:1,B

MM 4/17/10

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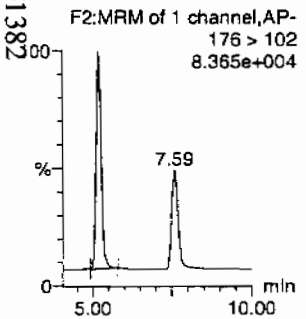
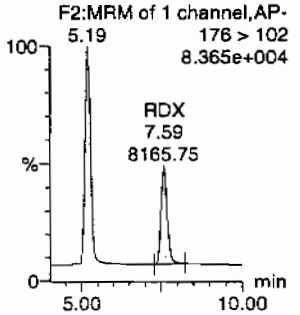
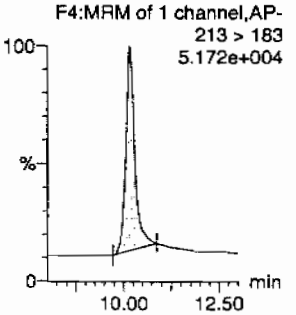
HMX



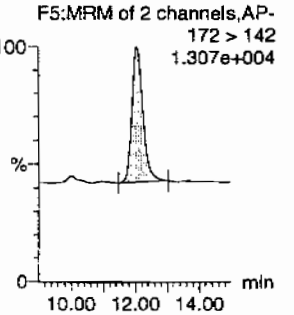
RDX



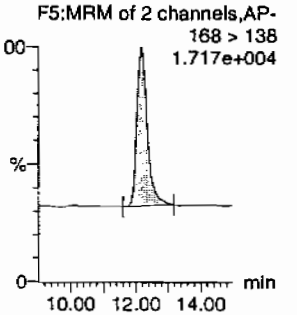
135-Trinitrobenzene



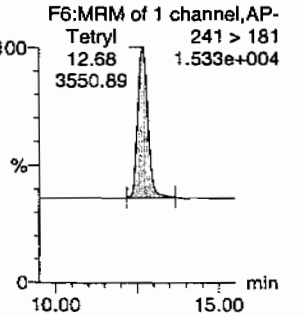
13-Dinitrobenzene-d4



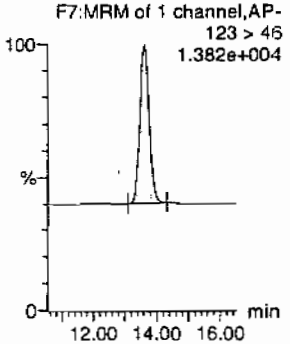
13-Dinitrobenzene



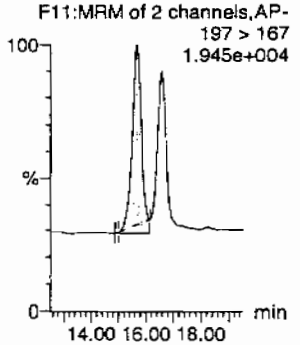
Tetryl



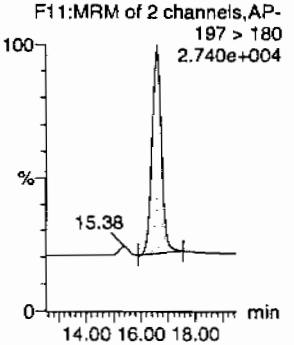
Nitrobenzene



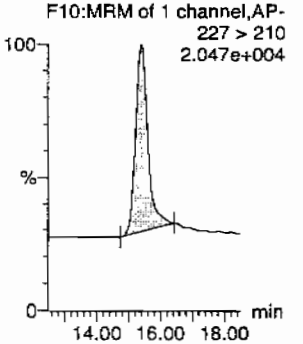
4-Amino-26-dinitrotoluene



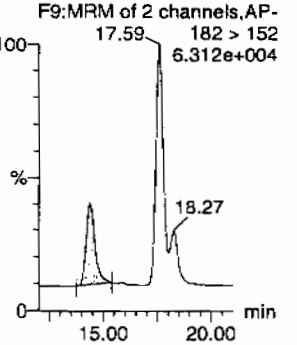
2-Amino-46-dinitrotoluene



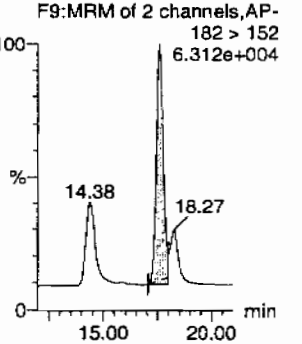
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene

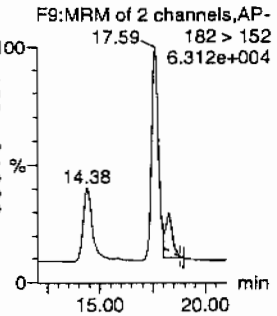


HMW 02/17/10

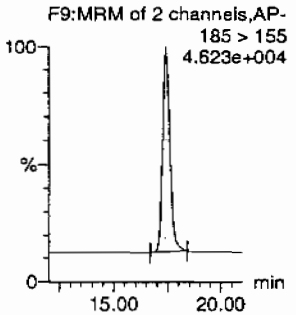
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

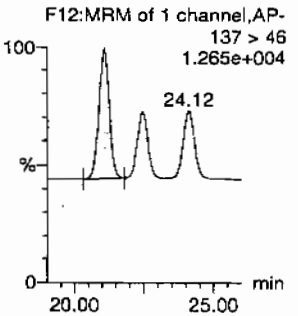
24-dinitrotoluene



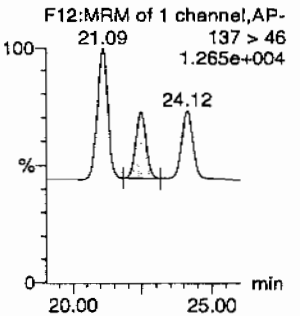
26-dinitrotoluene-d3



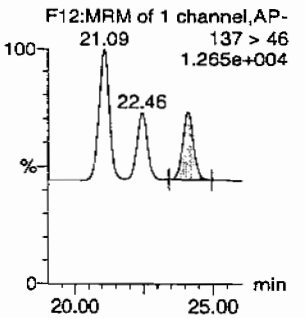
2-Nitrotoluene



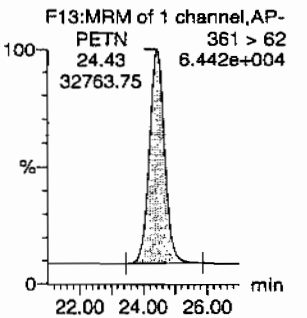
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-07ICV	HMX	176 > 102	5.19	15669.772	3043.441	15669.772	2574.351	db			667.2113	111.2	11.2	1616.5
WXX100216-07ICV	RDX	176 > 102	7.59	8165.754	3043.441	8165.754	1341.533	bb			517.2788	86.2	-13.8	736.8
WXX100216-07ICV	135-Trinitrobenzene	213 > 183	10.16	12826.263	3043.441	12826.263	2107.198	bb			544.1376	90.7	-9.3	1038.4
WXX100216-07ICV	13-Dinitrobenzene-d4	172 > 142	12.07	3043.441		3043.441	3043.441	bb			505.1495	101.0	1.0	83.9
WXX100216-07ICV	13-Dinitrobenzene	168 > 138	12.17	4453.971	3043.441	4453.971	731.733	bb			615.6672	102.6	2.6	397.6
WXX100216-07ICV	Tetryl	241 > 181	12.68	3550.885	3043.441	3550.885	583.367	bb			535.0850	89.2	-10.8	465.9
WXX100216-07ICV	Nitrobenzene	123 > 46	13.62	2857.135	3043.441	2857.135	469.392	bb			546.7525	91.1	-8.9	251.4
WXX100216-07ICV	4-Amino-26-dinitrotoluene	197 > 167	15.67	5717.246	16392.348	5717.246	174.388	MM	17-Feb-10	09:22:45	544.5918	90.8	-9.2	292.7
WXX100216-07ICV	2-Amino-46-dinitrotoluene	197 > 180	16.57	8636.743	16392.348	8636.743	263.438	bb			609.7334	101.6	1.6	597.0
WXX100216-07ICV	246-Trinitrotoluene	227 > 210	15.41	6561.721	16392.348	6561.721	200.146	bb			596.9963	99.5	-0.5	153.4
WXX100216-07ICV	34-dinitrotoluene	182 > 152	14.38	9457.581	16392.348	9457.581	288.475	bb			318.4052	106.1	6.1	368.9
WXX100216-07ICV	26-dinitrotoluene	182 > 152	17.59	21934.039	16392.348	21934.039	669.033	MM	17-Feb-10	09:25:41	631.4965	105.2	5.2	1072.7
WXX100216-07ICV	24-dinitrotoluene	182 > 152	18.27	5148.389	16392.348	5148.389	157.036	MM	17-Feb-10	09:54:19	637.0375	106.2	6.2	230.6
WXX100216-07ICV	26-dinitrotoluene-d3	185 > 155	17.42	16392.348		16392.348	16392.348	bb			470.8130	94.2	-5.8	1428.4
WXX100216-07ICV	2-Nitrotoluene	137 > 46	21.09	3089.247	16392.348	3089.247	94.228	bb			619.1324	103.2	3.2	357.3
WXX100216-07ICV	4-Nitrotoluene	137 > 46	22.46	1558.593	16392.348	1558.593	47.540	bb			620.2153	103.4	3.4	179.8
WXX100216-07ICV	3-Nitrotoluene	137 > 46	24.12	1676.139	16392.348	1676.139	51.126	bb			571.3062	95.2	-4.8	182.7
WXX100216-07ICV	PETN	361 > 62	24.43	32763.752	16392.348	32763.752	999.361	bb			622.0025	103.7	3.7	5170.3

GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 02/16/10
Time of Injection: 2134
Standard Number: WXX100216-07ICV
Data File: EXP0216010a

HMX		111.2
RDX		86.2
135-TNB		90.7
13-DNB		102.6
Tetryl		89.2
Nitrobenzene		91.1
4A-26-DNT		90.8
2A-46-DNT		101.6
246-TNT		99.5
34-DNT(surr)		106.1
26-DNT		105.2
24-DNT		106.2
2-NT		103.2
4-NT		103.4
3-NT		95.2
PETN		103.7
Total		1585.9
Average		99.1

4/17/10

02/17/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1666

Lab Code: GEL

Run Date: 16-FEB-10

LCMSMS Instrument ID: LCMSMS4

Method: 8321A Modified

HPLC Column: YMC J-Sphere ODS-H8O

Calibration Type: 2nd Order

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS02160003.wifl	EXS02160004.wifl	EXS02160005.wifl	EXS02160006.wifl	EXS02160007.wifl	EXS02160008.wifl	EXS02160009.wifl					
Parmname:												
2,4-Diamino-6-nitrotoluene	74100	160000	360000	688000	856000	1300000	2470000	34100	1220	-.001	.9984	
2,6-Diamino-4-nitrotoluene	91400	237000	581000	1070000	1520000	1900000	3610000	33500	2060	-.14	.9995	
3,4-Dinitrotoluene	301000	564000	1450000	2960000	4270000	5500000	9890000	-56500	13200	-3.28	.9984	
3,5-Dinitroaniline	358000	647000	1660000	2900000	5020000	5920000	10300000	-42300	6960	-.898	.9985	
TATB	66400	127000	332000	659000	1000000	1340000	2350000	-22600	1490	-.149	.9998	
tris(o-cresyl) phosphate	1150000	2250000	5360000	9900000	14100000	18200000	28900000	111000	21500	-3.56	1	

Quadradic 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

Peak Name: TATB
No Internal Standard
Q1/Q3 Masses: 257.20/204.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-2.26e+004			
a1	1.49e+003			
a2	-0.149			

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	-4.23e+004			
a1	6.96e+003			
a2	-0.898			

Correlation coefficient 0.9985
Use Area

Peak Name: 34-Dinitrotoluene
No Internal Standard
Q1/Q3 Masses: 182.08/151.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-5.65e+004			
a1	1.32e+004			
a2	-3.28			

Correlation coefficient 0.9984
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	3.35e+004			
a1	2.06e+003			
a2	-0.14			

Correlation coefficient 0.9995
Use Area

Peak Name: 24-Diamino-6-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

2/17/10

Hmc 02/17/10

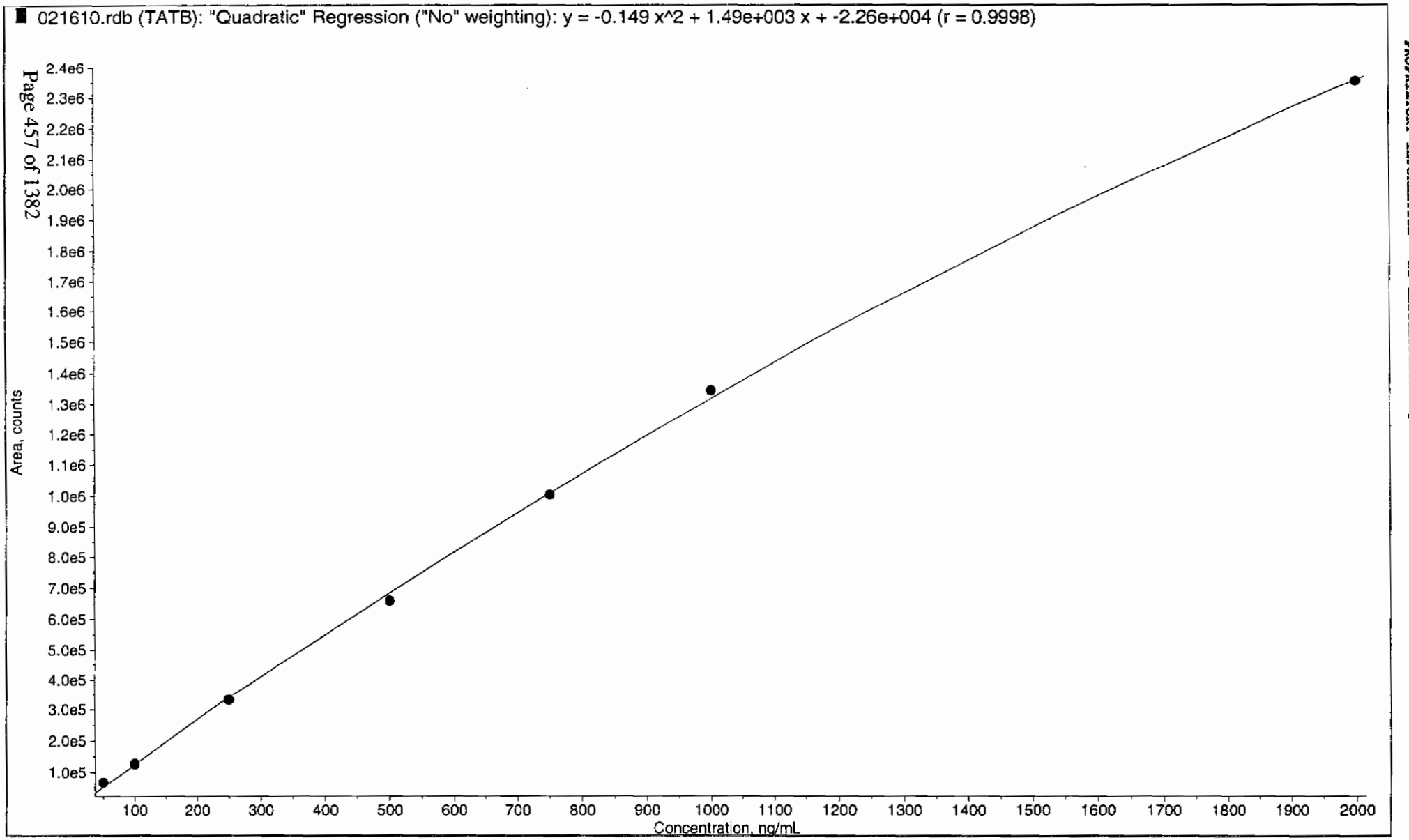
Fit	Quadratic	Weighting	None	Iterate No
a0	3.41e+004			
a1	1.22e+003			
a2	-0.000561			

Correlation coefficient 0.9984
Use Area

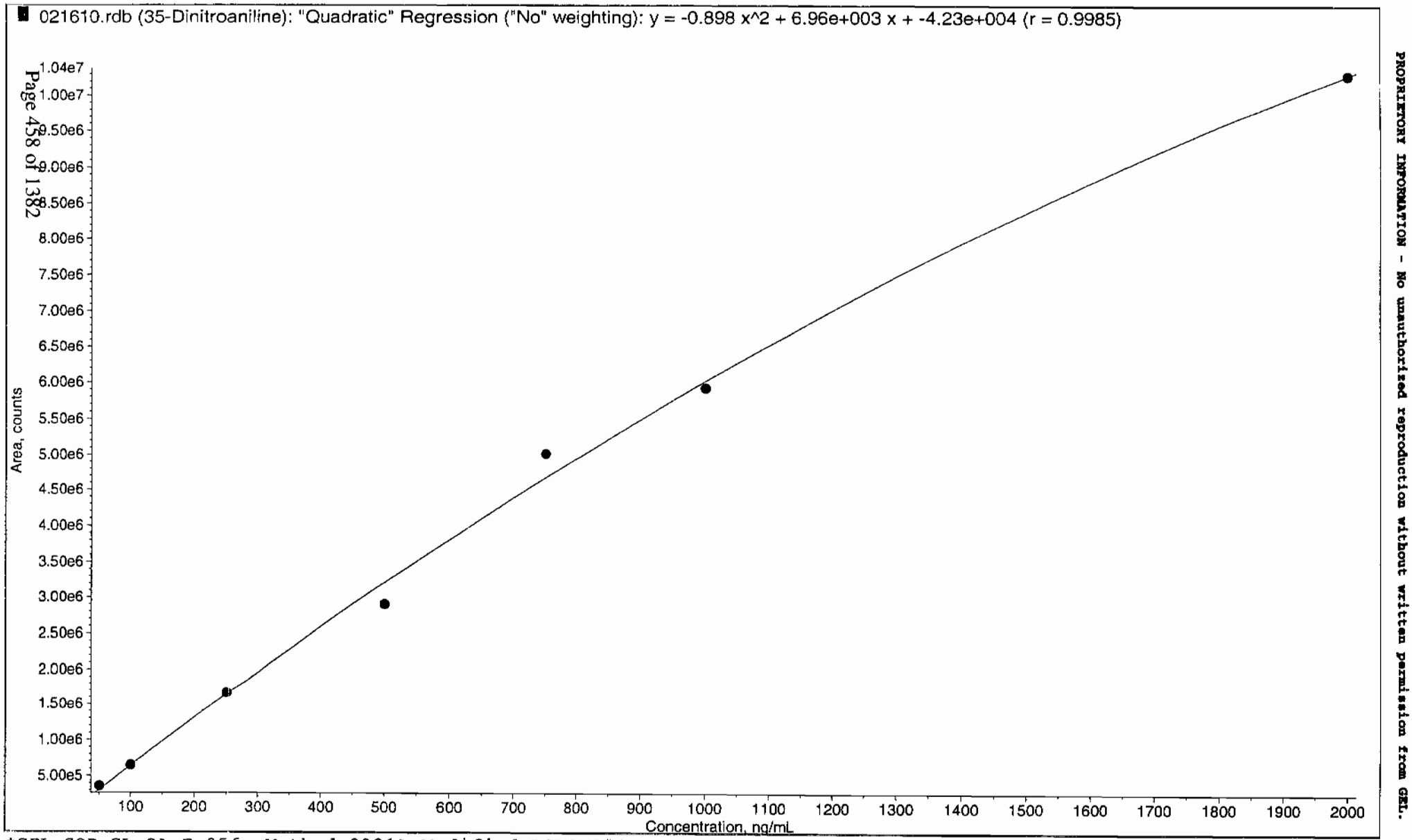
Peak Name: tris(o-cresyl) phosphate
No Internal Standard
Q1/Q3 Masses: 369.15/91.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	1.11e+005			
a1	2.15e+004			
a2	-3.56			

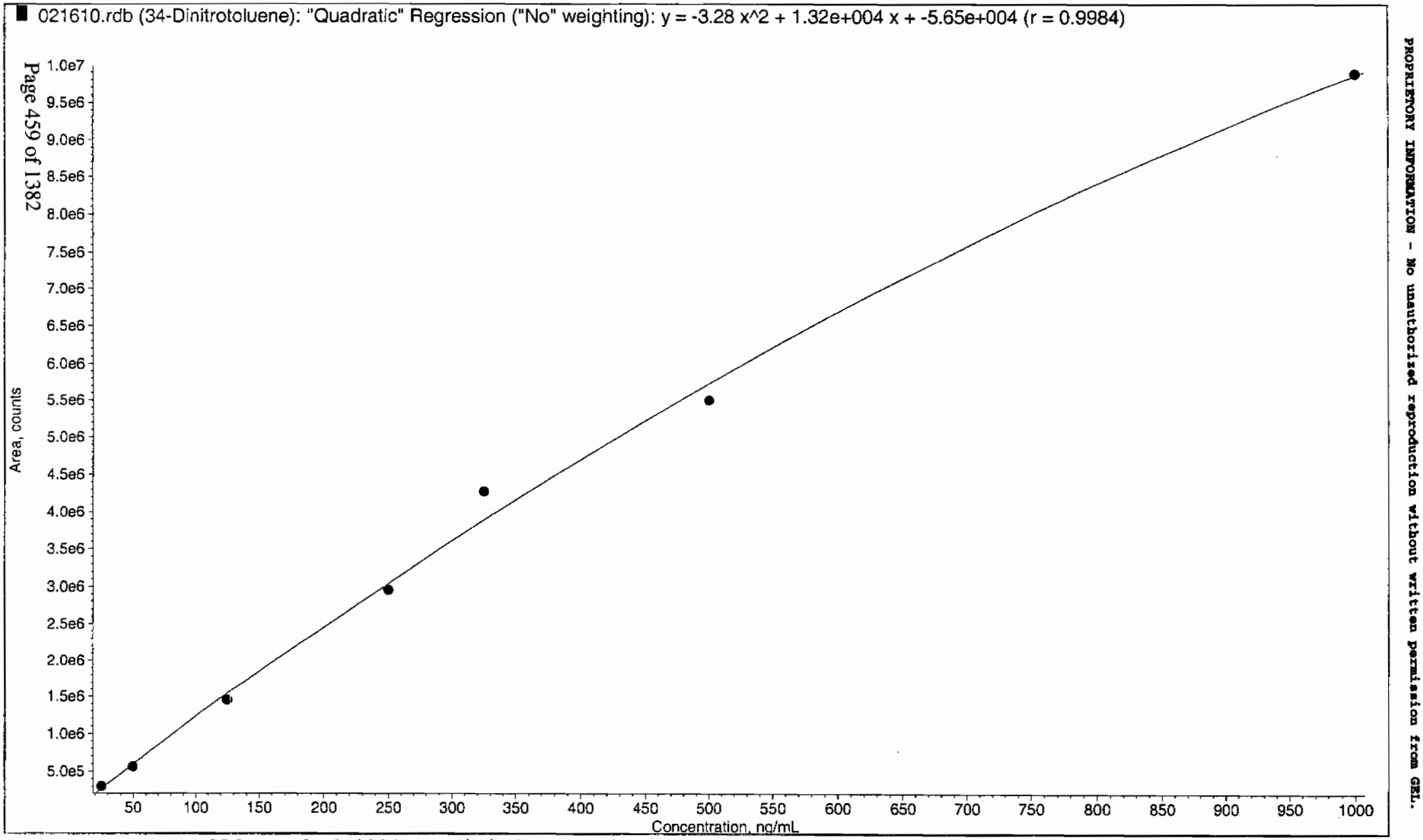
Correlation coefficient 1.0000
Use Area



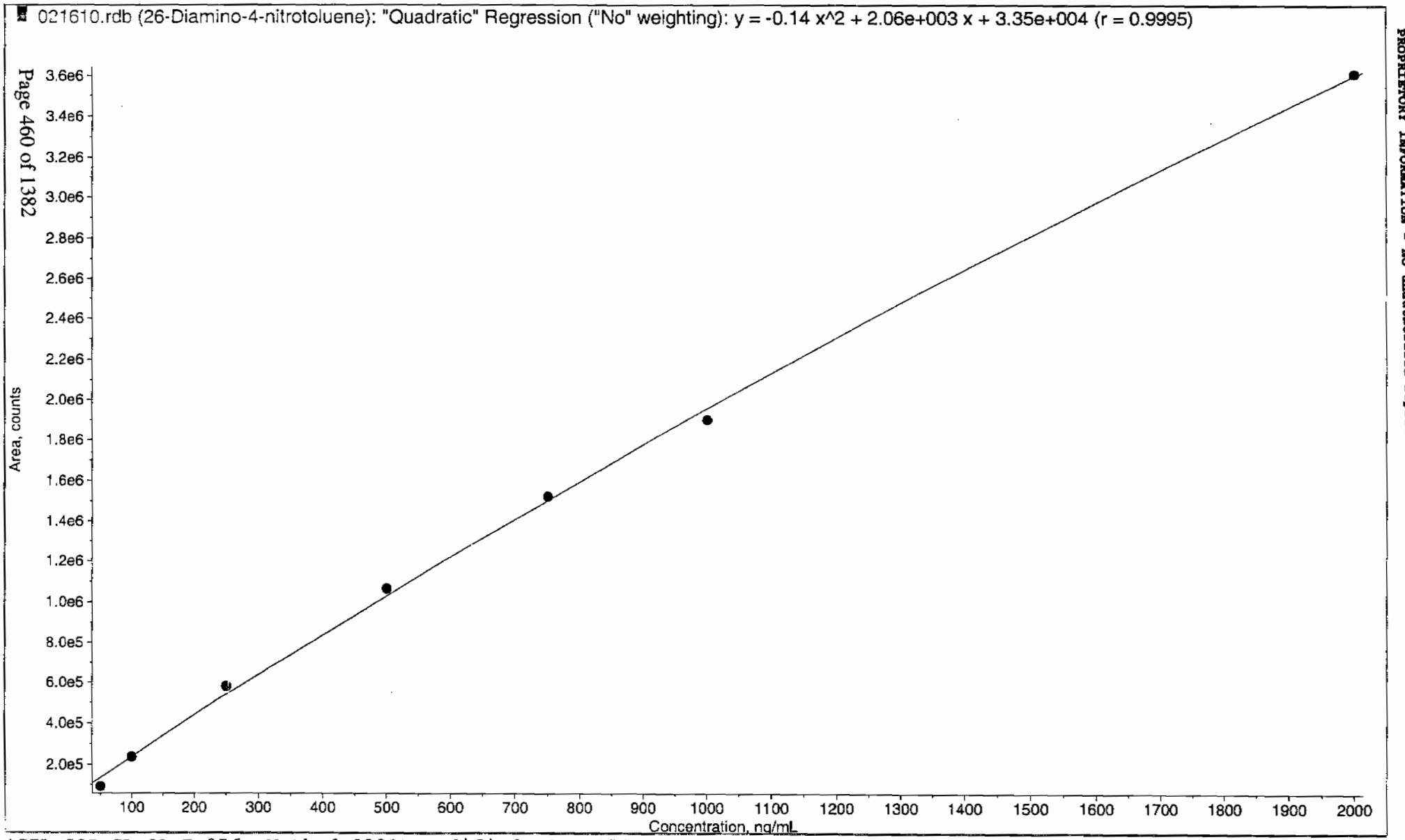
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



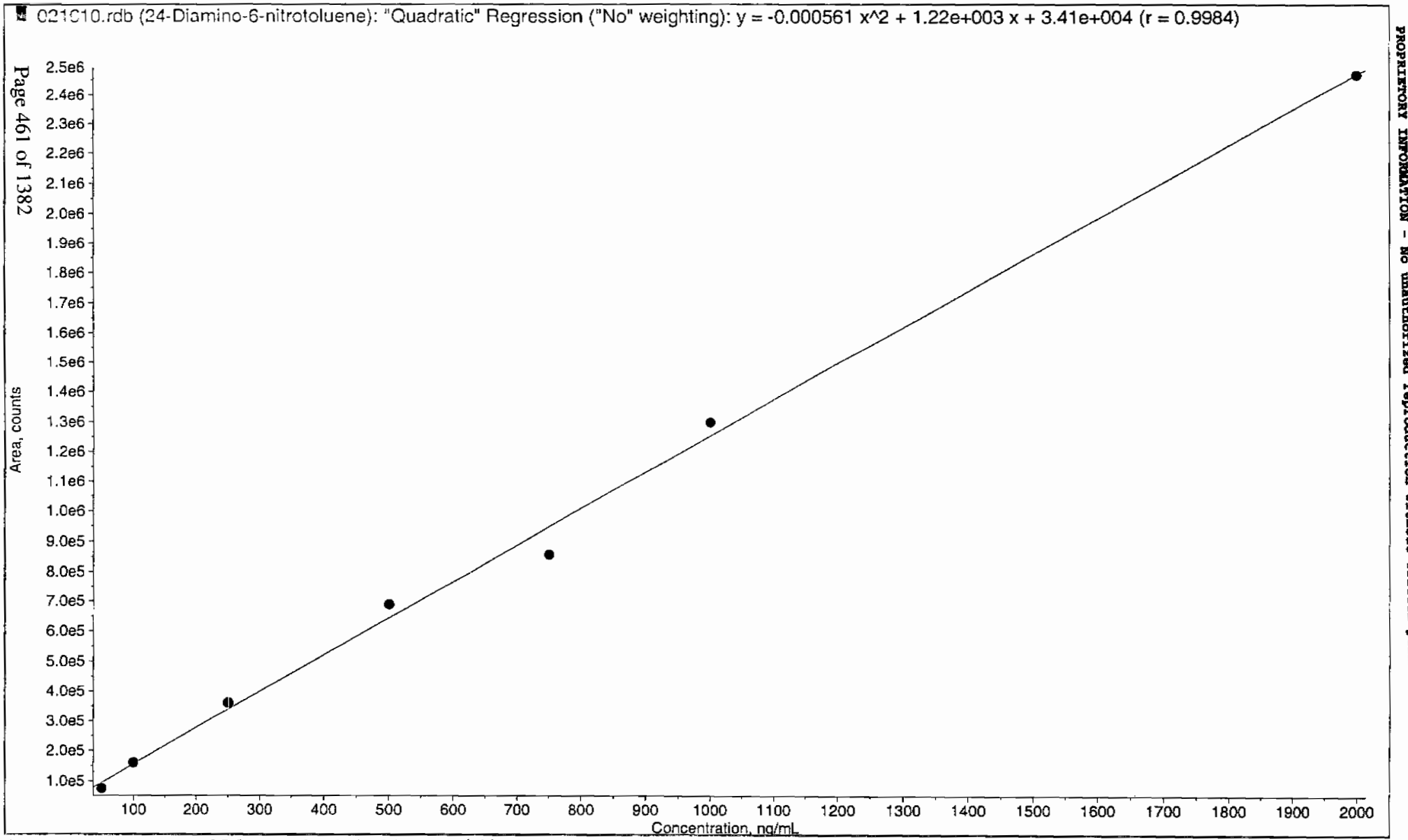
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



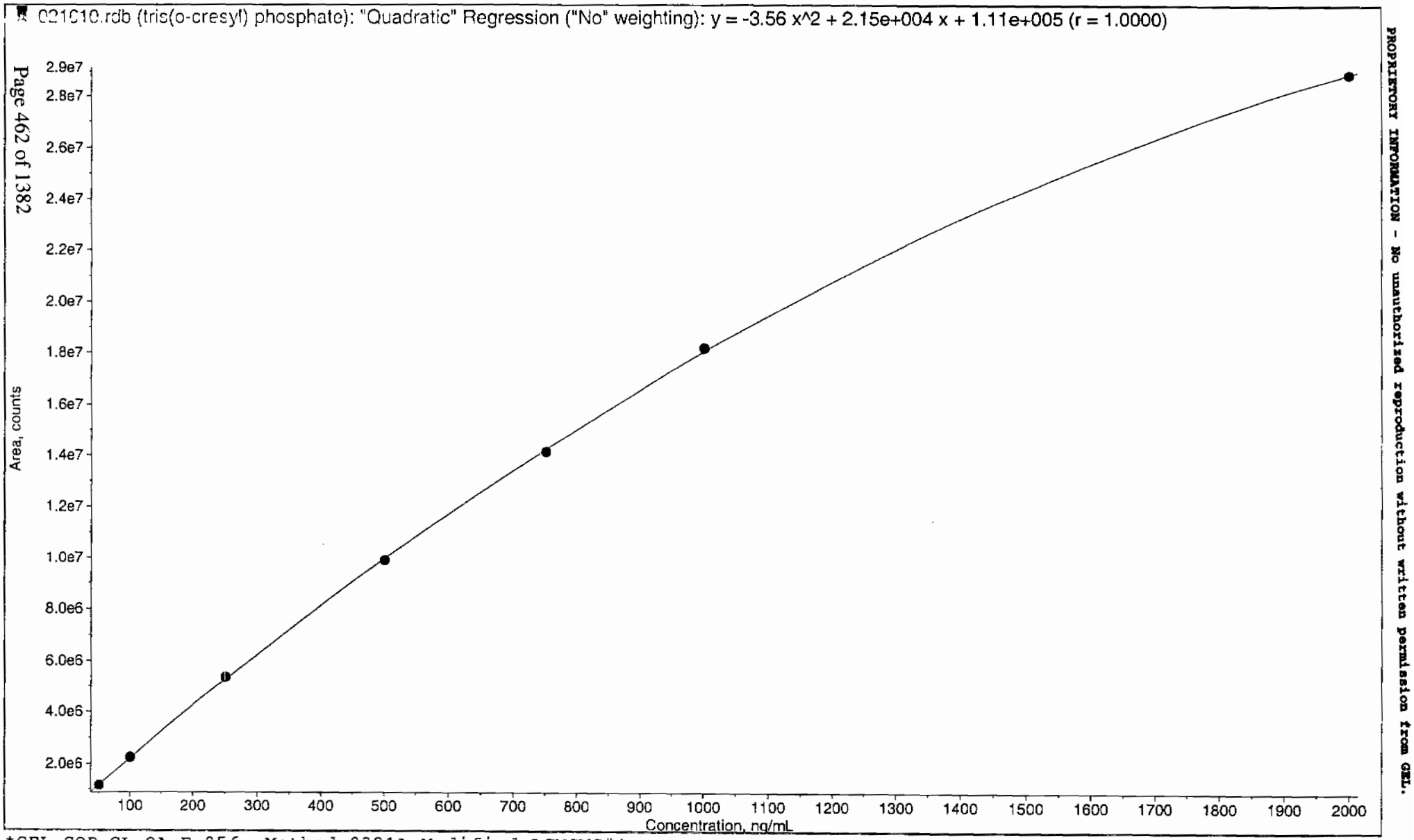
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS02160011.wiff

Analysis Date: 16-FEB-10 14:50

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	495	99	
2,6-Diamino-4-nitrotoluene	500	472	94	
3,4-Dinitrotoluene	250	232	93	
3,5-Dinitroaniline	500	452	90	
TATB	500	448	90	
tris(o-cresyl) phosphate	500	494	99	

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%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

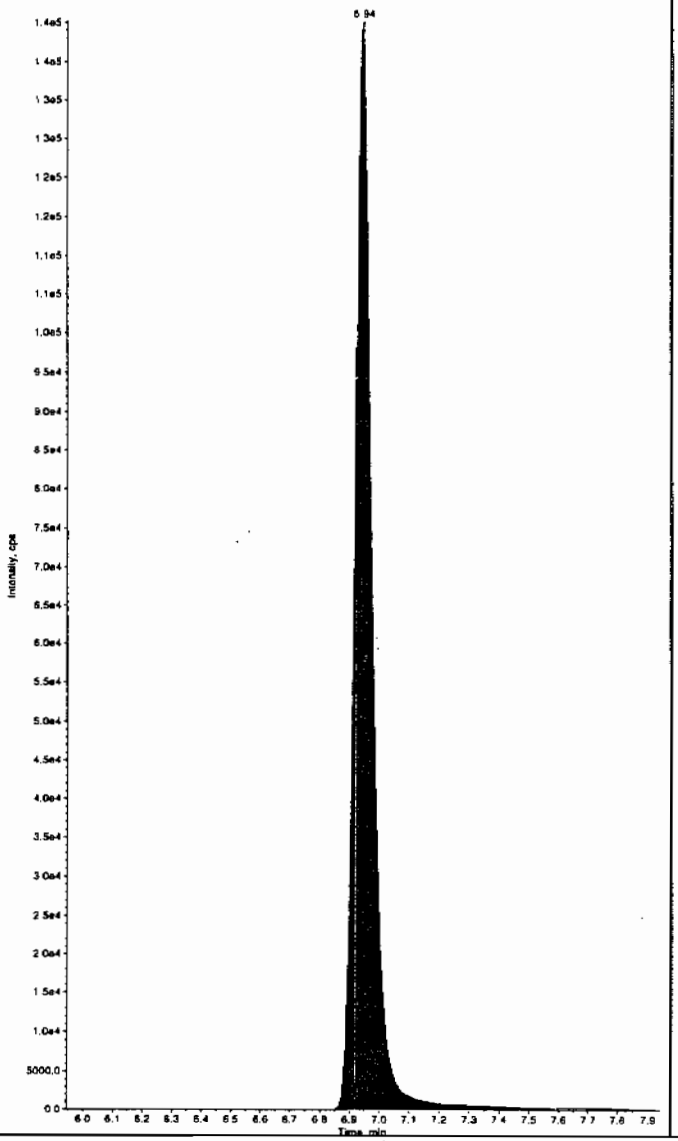
Lan 2/17/10

Sample Name: "WXX100216-26ICV" Sample ID: "[1]LER" File: "EXS02160011.wiff"
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: 448. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 2:50:16 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.94 min
Area: 6.14e+005 counts
Height: 140290.192 cps
Start Time: 6.81 min
End Time: 7.53 min

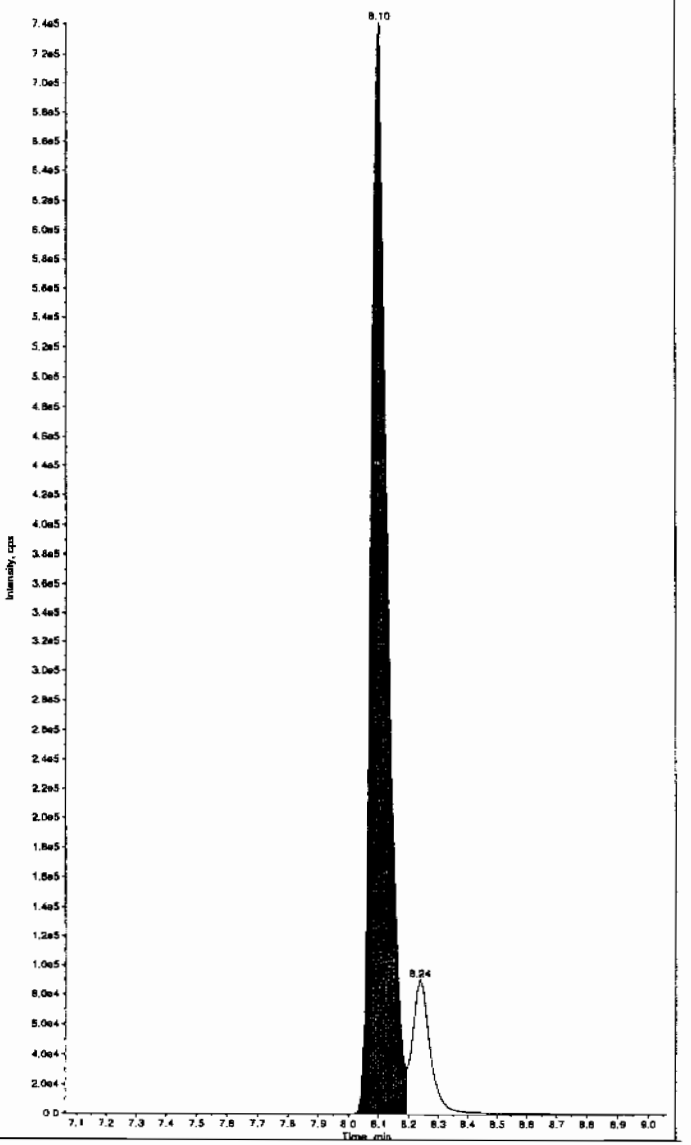


Sample Name: "WXX100216-26ICV" Sample ID: "[1]LER" File: "EXS02160011.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 452. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 2:50:16 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: 8.06 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.10 min
Area: 2.92e+006 counts
Height: 741000.000 cps
Start Time: 8.01 min
End Time: 8.20 min



HJM 02/17/10

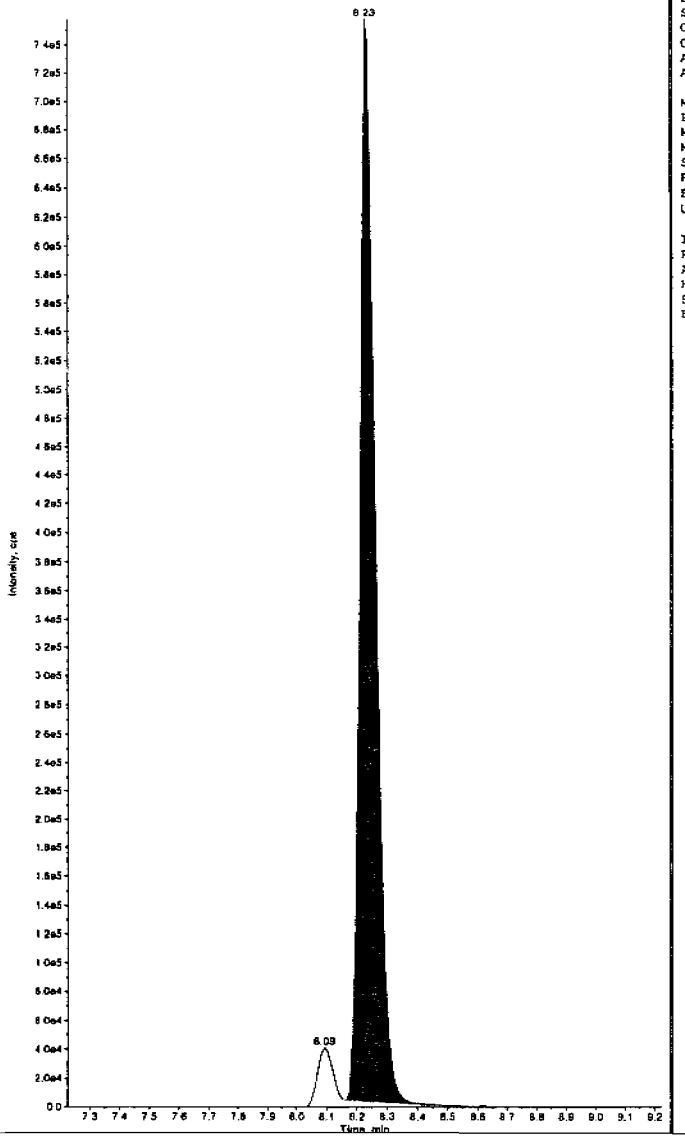
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-25ICV" Sample ID: "[1]LER" File: "EXS02160011.wiff"
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: 2/16/2010
Acq. Time: 2:50:16 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: 8.23 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.23 min
Area: 2.83e+006 counts
Height: 753908.203 cps
Start Time: 8.16 min
End Time: 8.43 min

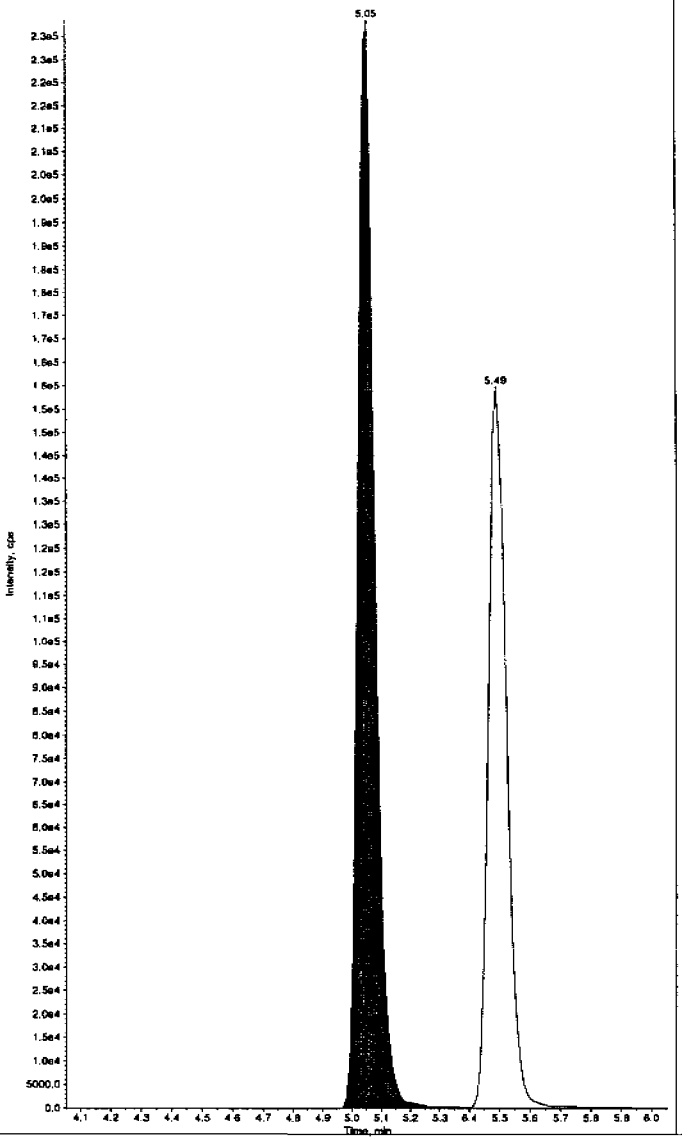


Sample Name: "WXX100216-26ICV" Sample ID: "[1]LER" File: "EXS02160011.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 472. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 2:50:16 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: 5.05 min
Area: 9.76e+005 counts
Height: 233514.343 cps
Start Time: 4.93 min
End Time: 5.33 min



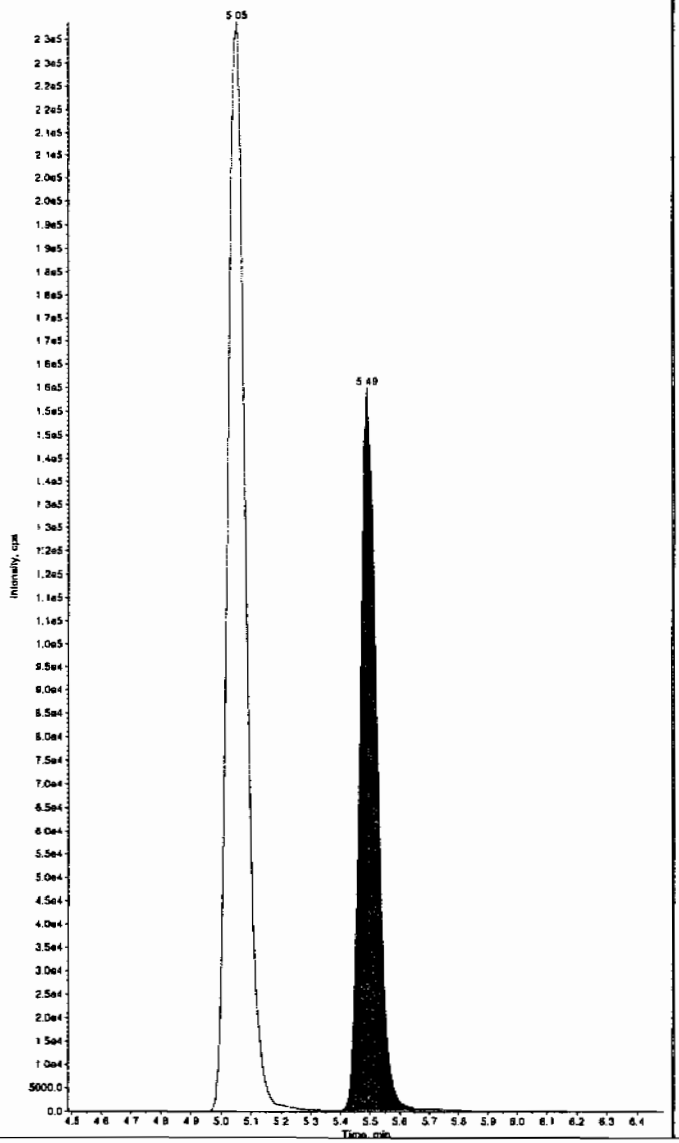
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26ICV" Sample ID: "[1]LER" File: "EXS02160011.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 495. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 2:50:16 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.49 min
Area: 6.37e+005 counts
Height: 154552.673 cps
Start Time: 5.40 min
End Time: 5.67 min

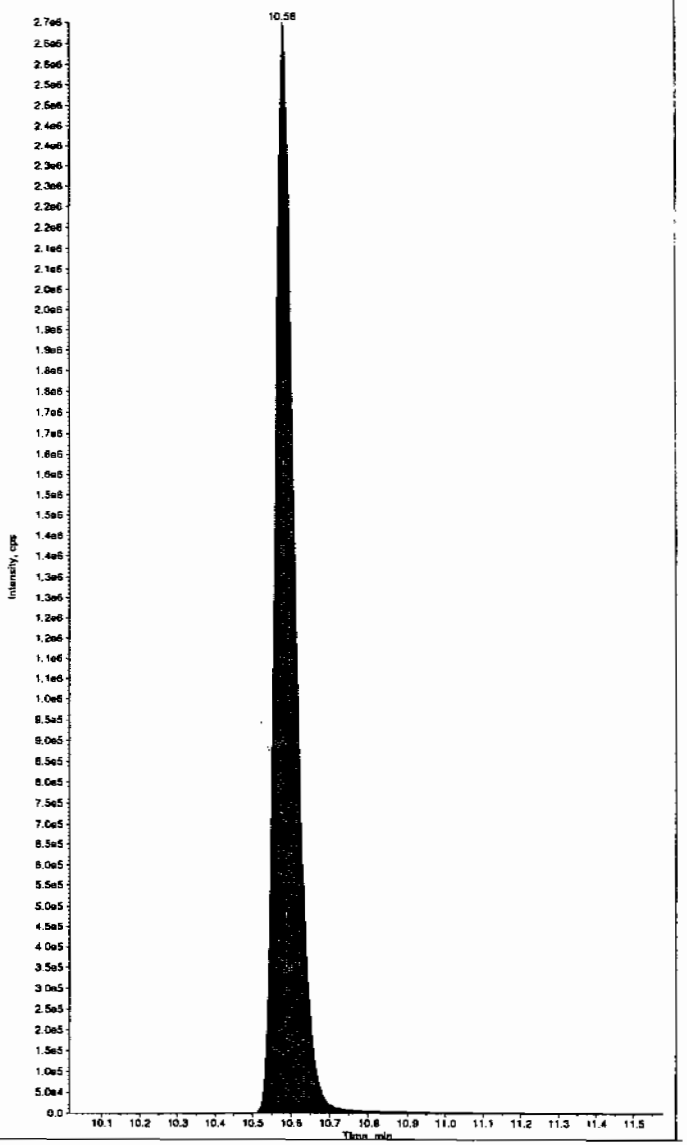


Sample Name: "WXX100216-26ICV" Sample ID: "[1]LER" File: "EXS02160011.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 494. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 2:50:16 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.6 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.6 min
Area: 9.88e+006 counts
Height: 2649684.082 cps
Start Time: 10.5 min
End Time: 11.1 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0216012a

Analysis Date: 16-FEB-10 22:33

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

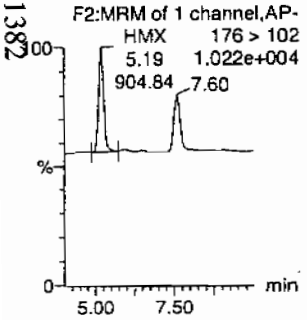
Compound	True	Found	Recovery	Q
p-Nitrotoluene	40	36.985	92	
1,3,5-Trinitrobenzene	40	52.773	132	*
1,3-Dinitrobenzene-d4	500	467.275	93	
2,4,6-Trinitrotoluene	40	39.143	98	
2,4-Dinitrotoluene	40	38.529	96	
2,6-Dinitrotoluene	40	43.494	109	
2,6-Dinitrotoluene-d3	500	466.982	93	
2-Amino-4,6-dinitrotoluene	40	39.227	98	
3,4-Dinitrotoluene	20	22.552	113	
4-Amino-2,6-dinitrotoluene	40	41.012	103	
HMX	40	41.651	104	
Nitrobenzene	40	45.259	113	
PETN	40	42.843	107	
RDX	40	36.749	92	
Tetryl	40	39.776	99	
m-Dinitrobenzene	40	46.913	117	
m-Nitrotoluene	40	43.185	108	
o-Nitrotoluene	40	41.818	105	

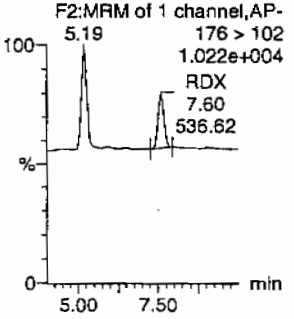
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

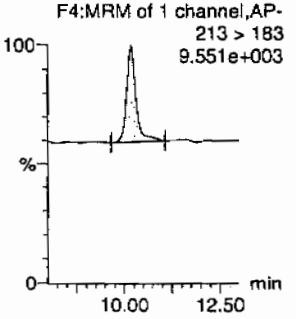
Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

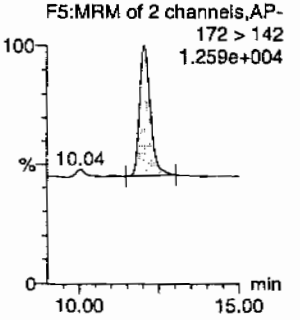
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216012a
Date: 16-Feb-2010
Time: 22:33:56
ID: WXX100216-08CRI
Vial: 1:1,C

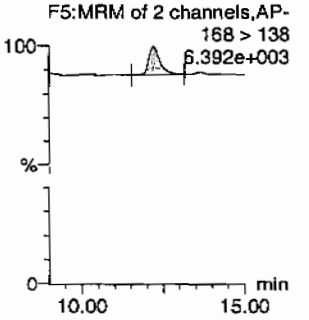
Page 48 of 1382

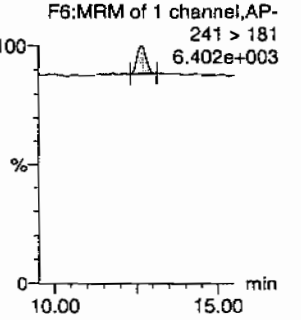
HMX


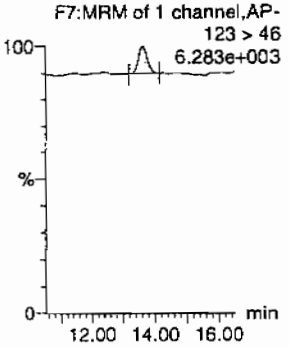
RDX


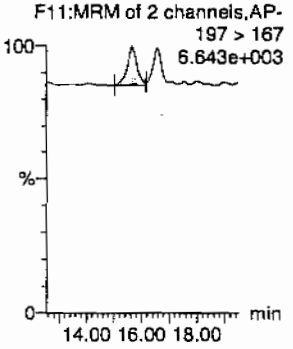
135-Trinitrobenzene


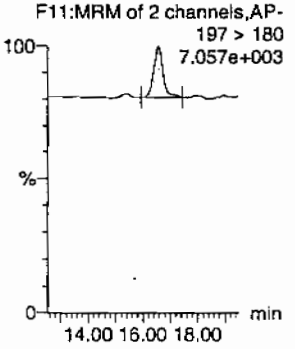
13-Dinitrobenzene-d4


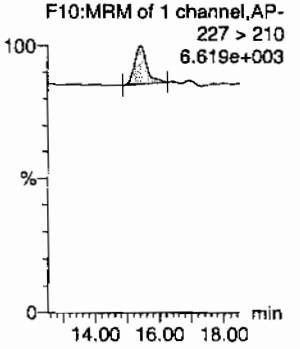
13-Dinitrobenzene


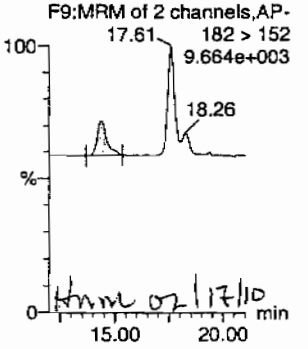
Tetryl


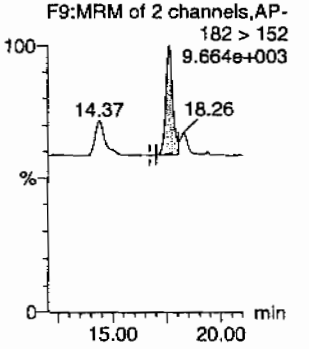
Nitrobenzene


4-Amino-26-dinitrotoluene


2-Amino-46-dinitrotoluene


246-Trinitrotoluene


34-dinitrotoluene


26-dinitrotoluene


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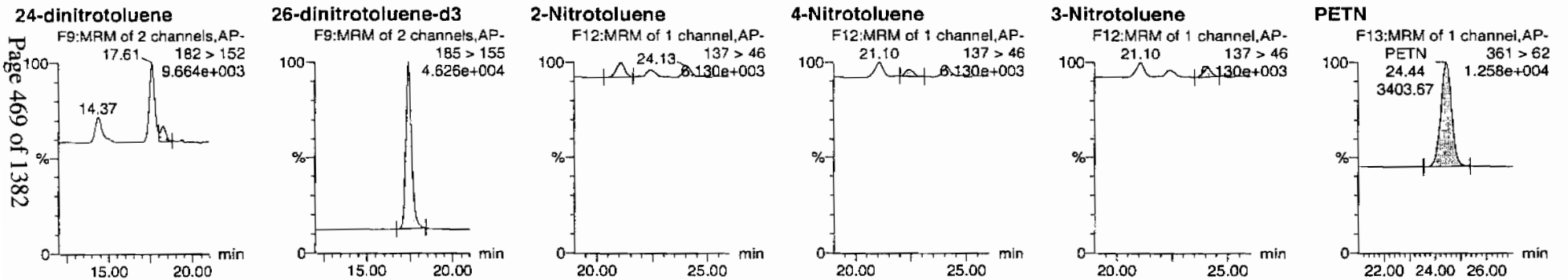


ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100216-08CRI	HMX	176 > 102	5.19	904.843	2815.255	904.843	160.704	bb			41.6506	104.1	4.1	146.1
WXX100216-08CRI	RDX	176 > 102	7.60	536.624	2815.255	536.624	95.306	bb			36.7490	91.9	-8.1	78.6
WXX100216-08CRI	135-Trinitrobenzene	213 > 183	10.18	1150.692	2815.255	1150.692	204.367	bb			52.7734	131.9	31.9	153.3
WXX100216-08CRI	13-Dinitrobenzene-d4	172 > 142	12.06	2815.255		2815.255	2815.255	bb			467.2753	93.5	-6.5	116.9
WXX100216-08CRI	13-Dinitrobenzene	168 > 138	12.20	313.940	2815.255	313.940	55.757	bb			46.9129	117.3	17.3	56.5
WXX100216-08CRI	Tetryl	241 > 181	12.66	244.166	2815.255	244.166	43.365	bb			39.7758	99.4	-0.6	26.2
WXX100216-08CRI	Nitrobenzene	123 > 46	13.61	218.774	2815.255	218.774	38.855	bb			45.2588	113.1	13.1	13.8
WXX100216-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.67	427.054	16258.972	427.054	13.133	MM	17-Feb-10	09:22:56	41.0124	102.5	2.5	29.2
WXX100216-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.57	551.120	16258.972	551.120	16.948	bb			39.2269	98.1	-1.9	56.9
WXX100216-08CRI	246-Trinitrotoluene	227 > 210	15.40	426.730	16258.972	426.730	13.123	bb			39.1431	97.9	-2.1	30.4
WXX100216-08CRI	34-dinitrotoluene	182 > 152	14.37	664.397	16258.972	664.397	20.432	bb			22.5515	112.8	12.8	21.1
WXX100216-08CRI	26-dinitrotoluene	182 > 152	17.61	1498.403	16258.972	1498.403	46.079	MM	17-Feb-10	09:25:53	43.4940	108.7	8.7	65.6
WXX100216-08CRI	24-dinitrotoluene	182 > 152	18.26	308.850	16258.972	308.850	9.498	MM	17-Feb-10	09:54:26	38.5291	96.3	-3.7	13.0
WXX100216-08CRI	26-dinitrotoluene-d3	185 > 155	17.43	16258.972		16258.972	16258.972	bb			466.9822	93.4	-6.6	1321.7
WXX100216-08CRI	2-Nitrotoluene	137 > 46	21.10	206.957	16258.972	206.957	6.364	bb			41.8176	104.5	4.5	61.3
WXX100216-08CRI	4-Nitrotoluene	137 > 46	22.41	92.186	16258.972	92.186	2.835	bb			36.9848	92.5	-7.5	27.2
WXX100216-08CRI	3-Nitrotoluene	137 > 46	24.13	125.667	16258.972	125.667	3.865	bb			43.1845	108.0	8.0	39.5
WXX100216-08CRI	PETN	361 > 62	24.44	3403.665	16258.972	3403.665	104.670	bb			42.8433	107.1	7.1	656.3

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	02/16/10
Time of Injection	2233
Standard Number	WXX100216-08CRI
Data File	EXP0216012a

HMX	104.1
RDX	91.9
135-TNB	131.9
13-DNB	117.3
Tetryl	99.4
Nitrobenzene	113.1
4A-26-DNT	102.5
2A-46-DNT	98.1
246-TNT	97.9
34-DNT(surr)	112.8
26-DNT	108.7
24-DNT	96.3
2-NT	104.5
4-NT	92.5
3-NT	108.0
PETN	107.1
Total	1686.1
Average	105.4

2/17/10

2/17/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0216021a

Analysis Date: 17-FEB-10 03:00

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
p-Nitrotoluene	600	538.033	90	
1,3,5-Trinitrobenzene	600	579.243	97	
1,3-Dinitrobenzene-d4	500	497.509	100	
2,4,6-Trinitrotoluene	600	668.453	111	
2,4-Dinitrotoluene	600	630.739	105	
2,6-Dinitrotoluene	600	632.433	105	
2,6-Dinitrotoluene-d3	500	485.976	97	
2-Amino-4,6-dinitrotoluene	600	634.785	106	
3,4-Dinitrotoluene	300	327.796	109	
4-Amino-2,6-dinitrotoluene	600	562.441	94	
HMX	600	585.906	98	
Nitrobenzene	600	587.781	98	
PETN	600	627.186	105	
RDX	600	656.37	109	
Tetryl	600	543.324	91	
m-Dinitrobenzene	600	630.615	105	
m-Nitrotoluene	600	562.285	94	
o-Nitrotoluene	600	556.59	93	

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%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

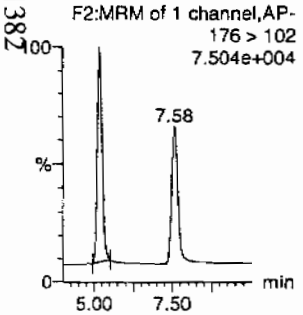
Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216021a
Date: 17-Feb-2010
Time: 03:00:59
ID: WXX100216-07CCV
Vial: 1:1,B

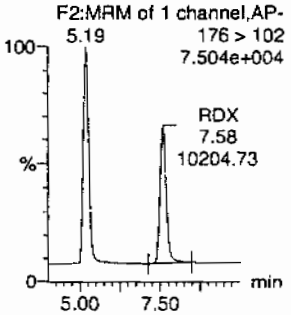
Page 472 of 1382

MM 2/17/10

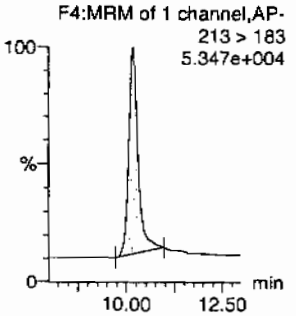
HMX



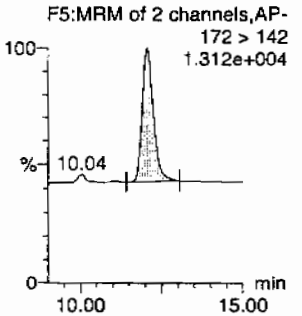
RDX



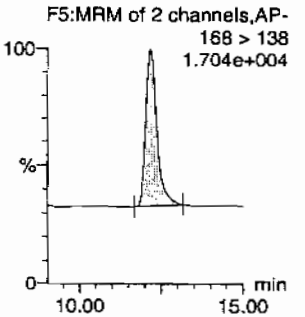
135-Trinitrobenzene



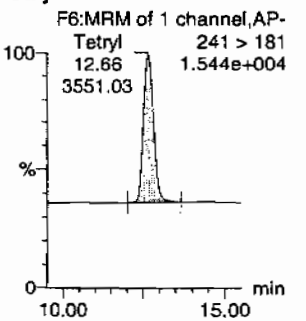
13-Dinitrobenzene-d4



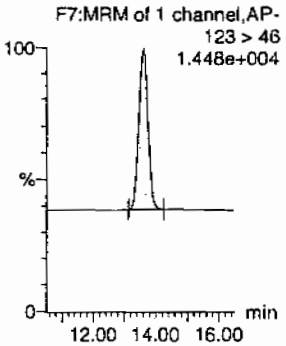
13-Dinitrobenzene



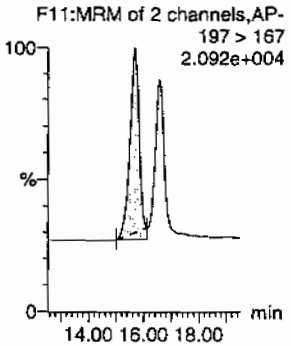
Tetryl



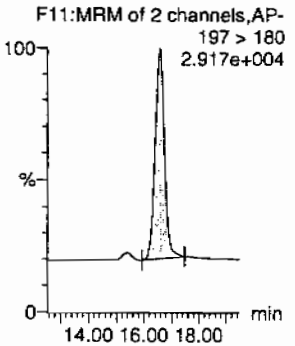
Nitrobenzene



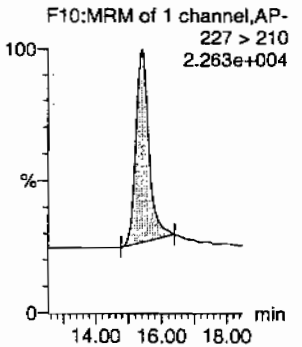
4-Amino-26-dinitrotoluene



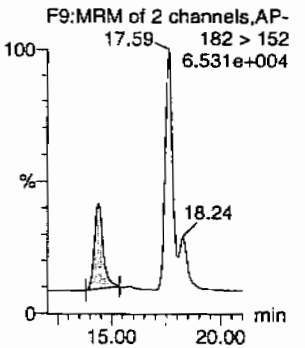
2-Amino-46-dinitrotoluene



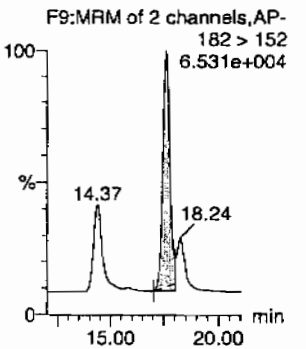
246-Trinitrotoluene



34-dinitrotoluene



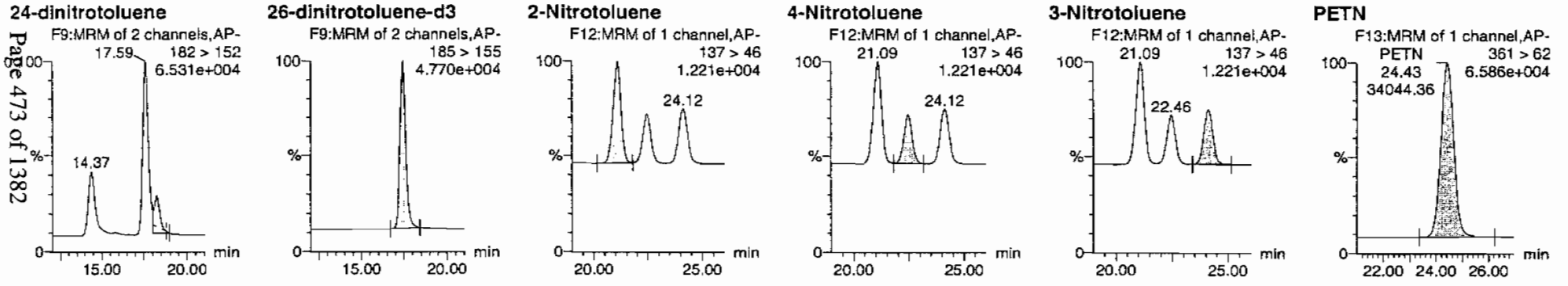
26-dinitrotoluene



MM 02/18/10

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	S/N
WXX100216-07CCV	HMX	176 > 102	5.19	13552.134	2997.406	13552.134	2260.644	bb			585.9057	97.7	-2.3	2331.3
WXX100216-07CCV	RDX	176 > 102	7.58	10204.725	2997.406	10204.725	1702.259	bb			656.3705	109.4	9.4	1478.9
WXX100216-07CCV	135-Trinitrobenzene	213 > 183	10.18	13447.239	2997.406	13447.239	2243.146	bb			579.2434	96.5	-3.5	1192.4
WXX100216-07CCV	13-Dinitrobenzene-d4	172 > 142	12.06	2997.406		2997.406	2997.406	bb			497.5086	99.5	-0.5	158.4
WXX100216-07CCV	13-Dinitrobenzene	168 > 138	12.17	4493.104	2997.406	4493.104	749.499	bb			630.6152	105.1	5.1	503.7
WXX100216-07CCV	Tetryl	241 > 181	12.66	3551.025	2997.406	3551.025	592.350	bb			543.3244	90.6	-9.4	473.6
WXX100216-07CCV	Nitrobenzene	123 > 46	13.61	3025.073	2997.406	3025.073	504.615	bb			587.7805	98.0	-2.0	278.1
WXX100216-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.67	6094.788	16920.273	6094.788	180.103	MM	17-Feb-10	09:23:30	562.4405	93.7	-6.3	422.1
WXX100216-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.57	9281.178	16920.273	9281.178	274.262	bb			634.7853	105.8	5.8	337.8
WXX100216-07CCV	246-Trinitrotoluene	227 > 210	15.40	7583.733	16920.273	7583.733	224.102	bb			668.4527	111.4	11.4	213.3
WXX100216-07CCV	34-dinitrotoluene	182 > 152	14.37	10050.091	16920.273	10050.091	296.984	bb			327.7962	109.3	9.3	453.5
WXX100216-07CCV	26-dinitrotoluene	182 > 152	17.59	22674.004	16920.273	22674.004	670.025	MM	17-Feb-10	09:26:18	632.4328	105.4	5.4	1271.5
WXX100216-07CCV	24-dinitrotoluene	182 > 152	18.24	5261.653	16920.273	5261.653	155.484	MM	17-Feb-10	09:58:25	630.7389	105.1	5.1	273.4
WXX100216-07CCV	26-dinitrotoluene-d3	185 > 155	17.43	16920.273		16920.273	16920.273	bb			485.9758	97.2	-2.8	2036.1
WXX100216-07CCV	2-Nitrotoluene	137 > 46	21.09	2866.625	16920.273	2866.625	84.710	bb			556.5902	92.8	-7.2	705.7
WXX100216-07CCV	4-Nitrotoluene	137 > 46	22.46	1395.615	16920.273	1395.615	41.241	bb			538.0334	89.7	-10.3	337.1
WXX100216-07CCV	3-Nitrotoluene	137 > 46	24.12	1702.802	16920.273	1702.802	50.318	bb			562.2854	93.7	-6.3	379.3
WXX100216-07CCV	PETN	361 > 62	24.43	34044.359	16920.273	34044.359	1006.023	bb			627.1860	104.5	4.5	7276.4

GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 02/17/10
Time of Injection: 0300
Standard Number: WXX100216-07CCV
Data File: EXP0216021a

HMX	97.7
RDX	109.4
135-TNB	96.5
13-DNB	105.1
Tetryl	90.6
Nitrobenzene	98.0
4A-26-DNT	93.7
2A-46-DNT	105.8
246-TNT	111.4
34-DNT(surr)	109.3
26-DNT	105.4
24-DNT	105.1
2-NT	92.8
4-NT	89.7
3-NT	93.7
PETN	104.5
Total	1608.7
Average	100.5

MH 2/17/10

HMC 02/17/10

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): 10-1666

Lab Code: GEI

GEL Sample ID: WXXCRI

GEL Data File EXP0216023a

Analysis Date: 17-FEB-10 03:59

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	49.744	124	
1,3-Dinitrobenzene-d4	500	479.66	96	
2,4,6-Trinitrotoluene	40	35.851	90	
2,4-Dinitrotoluene	40	39.455	99	
2,6-Dinitrotoluene	40	41.064	103	
2,6-Dinitrotoluene-d3	500	491.1	98	
2-Amino-4,6-dinitrotoluene	40	38.066	95	
3,4-Dinitrotoluene	20	21.18	106	
4-Amino-2,6-dinitrotoluene	40	45.31	113	
HMX	40	40.495	101	
Nitrobenzene	40	46.027	115	
PETN	40	46.88	117	
RDX	40	40.003	100	
Tetryl	40	46.382	116	
m-Dinitrobenzene	40	47.022	118	
m-Nitrotoluene	40	34.333	86	
o-Nitrotoluene	40	37.918	95	
p-Nitrotoluene	40	33.624	84	

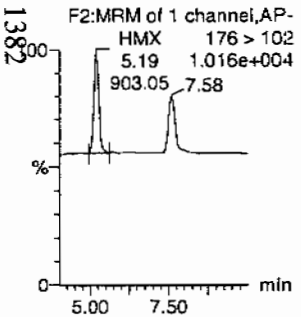
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

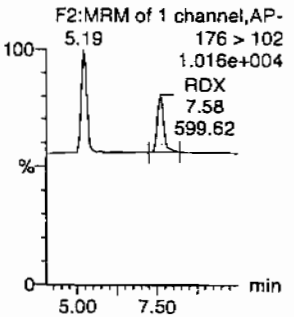
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216023a
Date: 17-Feb-2010
Time: 03:59:56
ID: WXX100216-08CRI
Vial: 1:1,C

MM 2/17/10

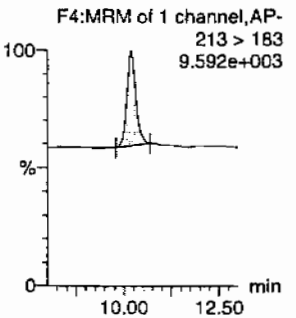
HMX



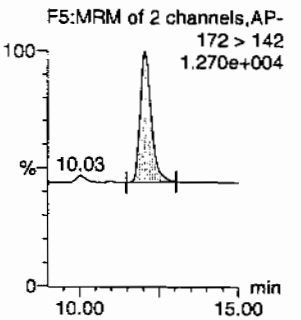
RDX



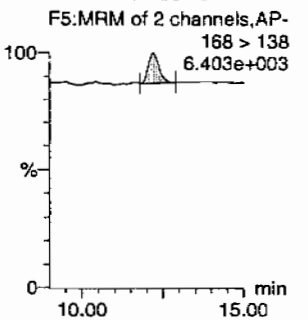
135-Trinitrobenzene



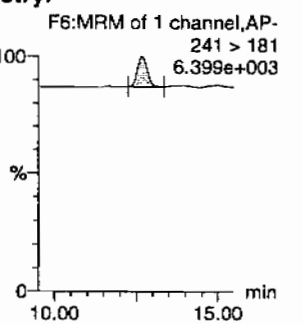
13-Dinitrobenzene-d4



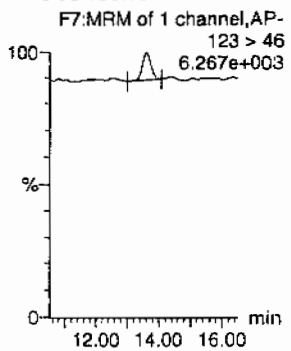
13-Dinitrobenzene



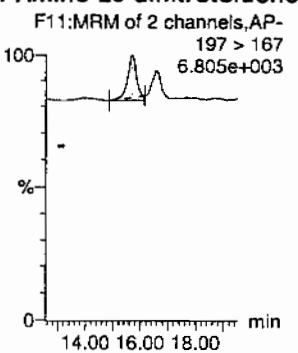
Tetryl



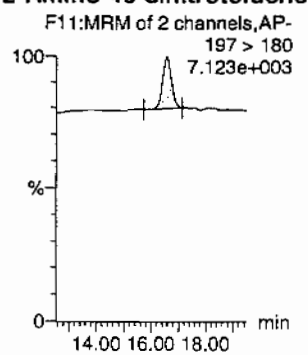
Nitrobenzene



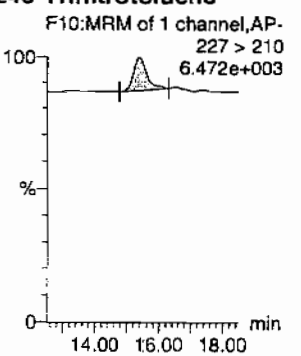
4-Amino-26-dinitrotoluene



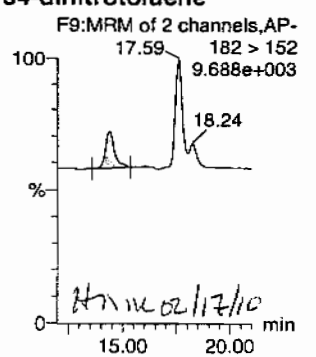
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

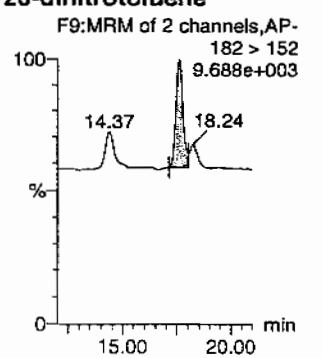


34-dinitrotoluene



HM 02/17/10

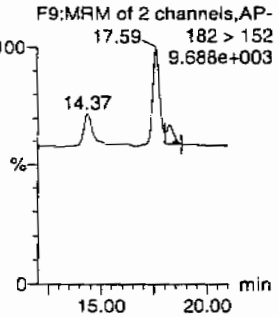
26-dinitrotoluene



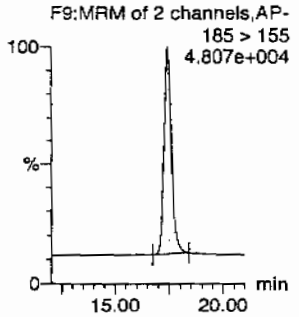
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

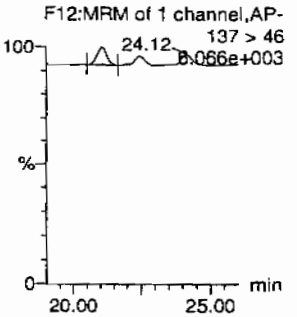
24-dinitrotoluene



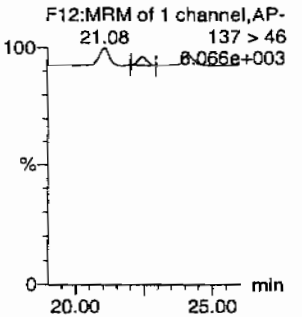
26-dinitrotoluene-d3



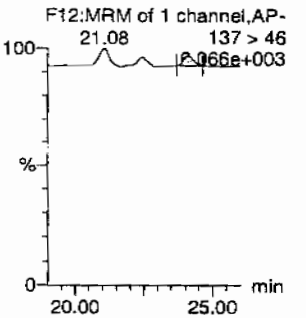
2-Nitrotoluene



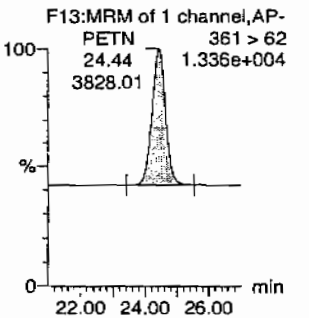
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-08CRI	HMX	176 > 102	5.19	903.051	2889.872	903.051	156.244	bb			40.4948	101.2	1.2	129.0
WXX100216-08CRI	RDX	176 > 102	7.58	599.618	2889.872	599.618	103.745	bb			40.0027	100.0	0.0	71.5
WXX100216-08CRI	135-Trinitrobenzene	213 > 183	10.18	1113.391	2889.872	1113.391	192.637	bb			49.7442	124.4	24.4	149.0
WXX100216-08CRI	13-Dinitrobenzene-d4	172 > 142	12.03	2889.872		2889.872	2889.872	bb			479.6602	95.9	-4.1	417.1
WXX100216-08CRI	13-Dinitrobenzene	168 > 138	12.20	323.009	2889.872	323.009	55.886	bb			47.0218	117.6	17.6	49.9
WXX100216-08CRI	Tetryl	241 > 181	12.66	292.267	2889.872	292.267	50.567	bb			46.3823	116.0	16.0	23.4
WXX100216-08CRI	Nitrobenzene	123 > 46	13.61	228.386	2889.872	228.386	39.515	bb			46.0273	115.1	15.1	23.5
WXX100216-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.70	496.172	17098.684	496.172	14.509	MM	17-Feb-10	09:23:37	45.3101	113.3	13.3	43.7
WXX100216-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.57	562.424	17098.684	562.424	16.446	bb			38.0656	95.2	-4.8	54.4
WXX100216-08CRI	246-Trinitrotoluene	227 > 210	15.37	411.028	17098.684	411.028	12.019	bb			35.8512	89.6	-10.4	34.7
WXX100216-08CRI	34-dinitrotoluene	182 > 152	14.37	656.211	17098.684	656.211	19.189	bb			21.1798	105.9	5.9	25.2
WXX100216-08CRI	26-dinitrotoluene	182 > 152	17.59	1487.743	17098.684	1487.743	43.505	MM	17-Feb-10	09:26:28	41.0638	102.7	2.7	76.0
WXX100216-08CRI	24-dinitrotoluene	182 > 152	18.24	332.609	17098.684	332.609	9.726	MM	17-Feb-10	09:58:34	39.4554	98.6	-1.4	15.9
WXX100216-08CRI	26-dinitrotoluene-d3	185 > 155	17.43	17098.684		17098.684	17098.684	bb			491.1000	98.2	-1.8	1844.2
WXX100216-08CRI	2-Nitrotoluene	137 > 46	21.08	197.351	17098.684	197.351	5.771	bb			37.9183	94.8	-5.2	50.3
WXX100216-08CRI	4-Nitrotoluene	137 > 46	22.44	88.137	17098.684	88.137	2.577	bb			33.6238	84.1	-15.9	24.1
WXX100216-08CRI	3-Nitrotoluene	137 > 46	24.12	105.069	17098.684	105.069	3.072	bb			34.3330	85.8	-14.2	27.3
WXX100216-08CRI	PETN	361 > 62	24.44	3828.005	17098.684	3828.005	111.939	bb			46.8804	117.2	17.2	698.1

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	02/17/10
Time of Injection	0359
Standard Number	WXX100216-08CRI
Data File	EXP0216023a

HMX	101.2
RDX	100.0
135-TNB	124.4
13-DNB	117.6
Tetryl	116.0
Nitrobenzene	115.1
4A-26-DNT	113.3
2A-46-DNT	95.2
246-TNT	89.6
34-DNT(surr)	105.9
26-DNT	102.7
24-DNT	98.6
2-NT	94.8
4-NT	84.1
3-NT	85.8
PETN	117.2
Total	1661.5
Average	103.8

HMT 4/27/10

HMM 02/17/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0216027a

Analysis Date: 17-FEB-10 05:58

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	611.171	102	
1,3-Dinitrobenzene-d4	500	441.467	88	
2,4,6-Trinitrotoluene	600	677.667	113	
2,4-Dinitrotoluene	600	637.719	106	
2,6-Dinitrotoluene	600	636.41	106	
2,6-Dinitrotoluene-d3	500	422.753	85	
2-Amino-4,6-dinitrotoluene	600	651.036	109	
3,4-Dinitrotoluene	300	336.279	112	
4-Amino-2,6-dinitrotoluene	600	604.644	101	
HMX	600	612.626	102	
Nitrobenzene	600	578.267	96	
PETN	600	723.944	121	*
RDX	600	659.537	110	
Tetryl	600	567.895	95	
m-Dinitrobenzene	600	622.089	104	
m-Nitrotoluene	600	628.032	105	
o-Nitrotoluene	600	608.219	101	
p-Nitrotoluene	600	603.723	101	

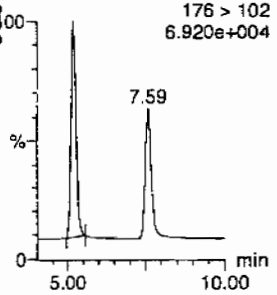
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

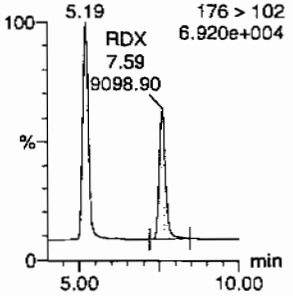
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216027a
Date: 17-Feb-2010
Time: 05:58:23
ID: WXX100216-07CCV
Vial: 1:1,B

MAT 2/17/10

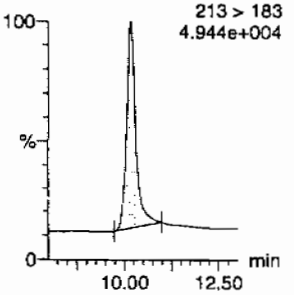
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.920e+004



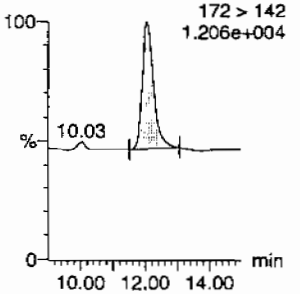
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.920e+004



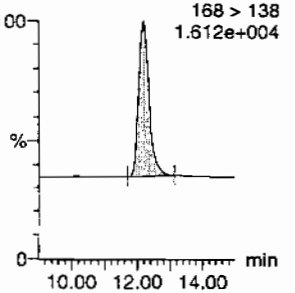
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.944e+004



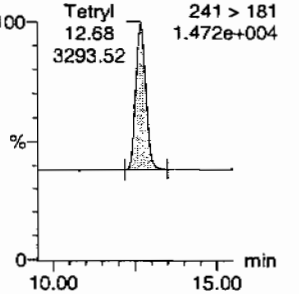
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.206e+004



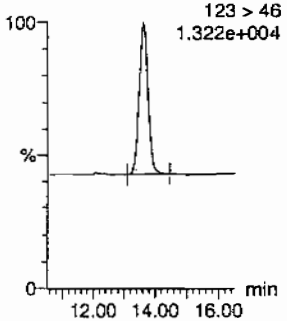
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.612e+004



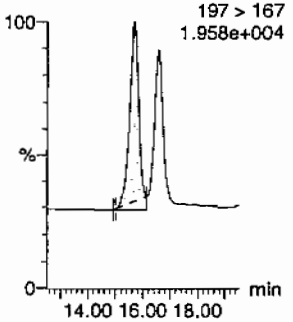
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.472e+004



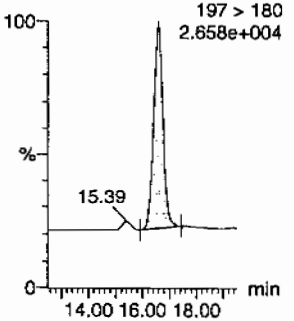
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.322e+004



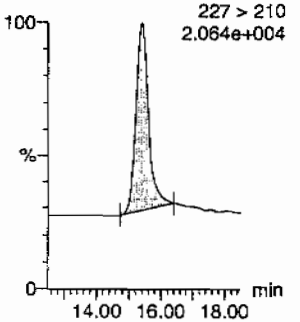
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.958e+004



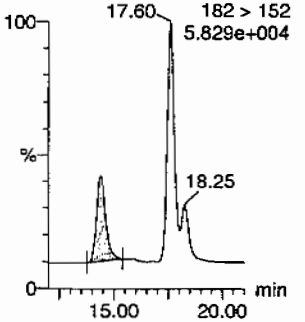
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.658e+004



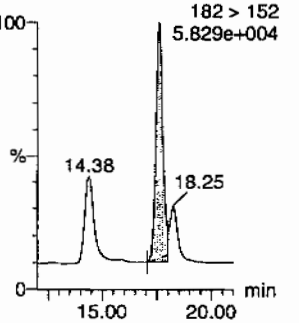
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.064e+004



34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.829e+004



26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.829e+004

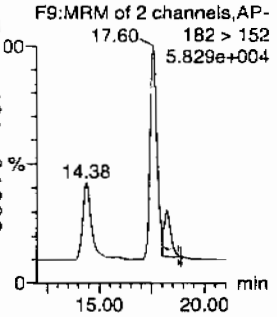


MMM 02/17/10

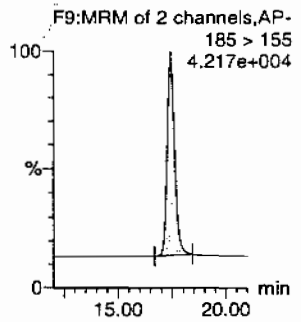
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

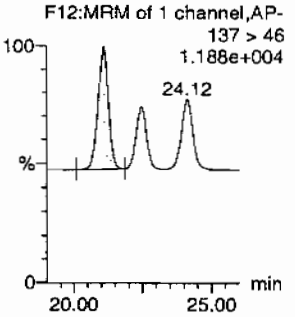
24-dinitrotoluene



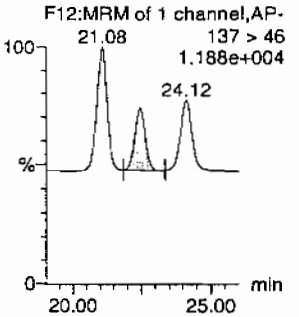
26-dinitrotoluene-d3



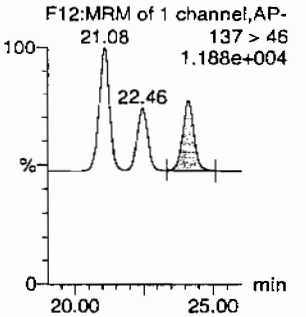
2-Nitrotoluene



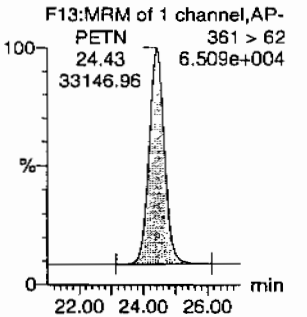
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-07CCV	HMX	176 > 102	5.19	12573.983	2659.764	12573.983	2363.740	bb			612.6259	102.1	2.1	1867.4
WXX100216-07CCV	RDX	176 > 102	7.59	9098.897	2659.764	9098.897	1710.471	bb			659.5367	109.9	9.9	1136.2
WXX100216-07CCV	135-Trinitrobenzene	213 > 183	10.18	12590.188	2659.764	12590.188	2366.787	bb			611.1709	101.9	1.9	720.5
WXX100216-07CCV	13-Dinitrobenzene-d4	172 > 142	12.03	2659.764		2659.764	2659.764	bb			441.4669	88.3	-11.7	384.7
WXX100216-07CCV	13-Dinitrobenzene	168 > 138	12.17	3933.075	2659.764	3933.075	739.365	bb			622.0892	103.7	3.7	572.6
WXX100216-07CCV	Tetryl	241 > 181	12.68	3293.519	2659.764	3293.519	619.137	bb			567.8951	94.6	-5.4	186.1
WXX100216-07CCV	Nitrobenzene	123 > 46	13.63	2640.866	2659.764	2640.866	496.447	bb			578.2667	96.4	-3.6	244.7
WXX100216-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.68	5699.717	14719.028	5699.717	193.617	MM	17-Feb-10	09:24:07	604.6437	100.8	0.8	191.5
WXX100216-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.58	8280.438	14719.028	8280.438	281.283	bb			651.0364	108.5	8.5	208.4
WXX100216-07CCV	246-Trinitrotoluene	227 > 210	15.41	6688.060	14719.028	6688.060	227.191	bb			677.6666	112.9	12.9	176.3
WXX100216-07CCV	34-dinitrotoluene	182 > 152	14.38	8968.860	14719.028	8968.860	304.669	bb			336.2788	112.1	12.1	355.9
WXX100216-07CCV	26-dinitrotoluene	182 > 152	17.60	19848.275	14719.028	19848.275	674.239	MM	17-Feb-10	09:27:00	636.4103	106.1	6.1	997.2
WXX100216-07CCV	24-dinitrotoluene	182 > 152	18.25	4627.791	14719.028	4627.791	157.204	MM	17-Feb-10	09:59:44	637.7191	106.3	6.3	221.0
WXX100216-07CCV	26-dinitrotoluene-d3	185 > 155	17.42	14719.028		14719.028	14719.028	bb			422.7527	84.6	-15.4	873.5
WXX100216-07CCV	2-Nitrotoluene	137 > 46	21.08	2725.003	14719.028	2725.003	92.567	bb			608.2189	101.4	1.4	310.4
WXX100216-07CCV	4-Nitrotoluene	137 > 46	22.46	1362.278	14719.028	1362.278	46.276	bb			603.7228	100.6	0.6	155.4
WXX100216-07CCV	3-Nitrotoluene	137 > 46	24.12	1654.478	14719.028	1654.478	56.202	bb			628.0322	104.7	4.7	174.3
WXX100216-07CCV	PETN	361 > 62	24.43	33146.961	14719.028	33146.961	1125.990	bb			723.9440	120.7	20.7	4875.3

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 02/17/10
Time of Injection: 0558
Standard Number: WXX100216-07CCV
Data File: EXP0216027a

HMX	102.1
RDX	109.9
135-TNB	101.9
13-DNB	103.7
Tetryl	94.6
Nitrobenzene	96.4
4A-26-DNT	100.8
2A-46-DNT	108.5
246-TNT	112.9
34-DNT(surr)	112.1
26-DNT	106.1
24-DNT	106.3
2-NT	101.4
4-NT	100.6
3-NT	104.7
PETN	120.7
Total	1682.7
Average	105.2

HMT 2/17/10

Hmm 02/18/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0216029a

Analysis Date: 17-FEB-10 06:57

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

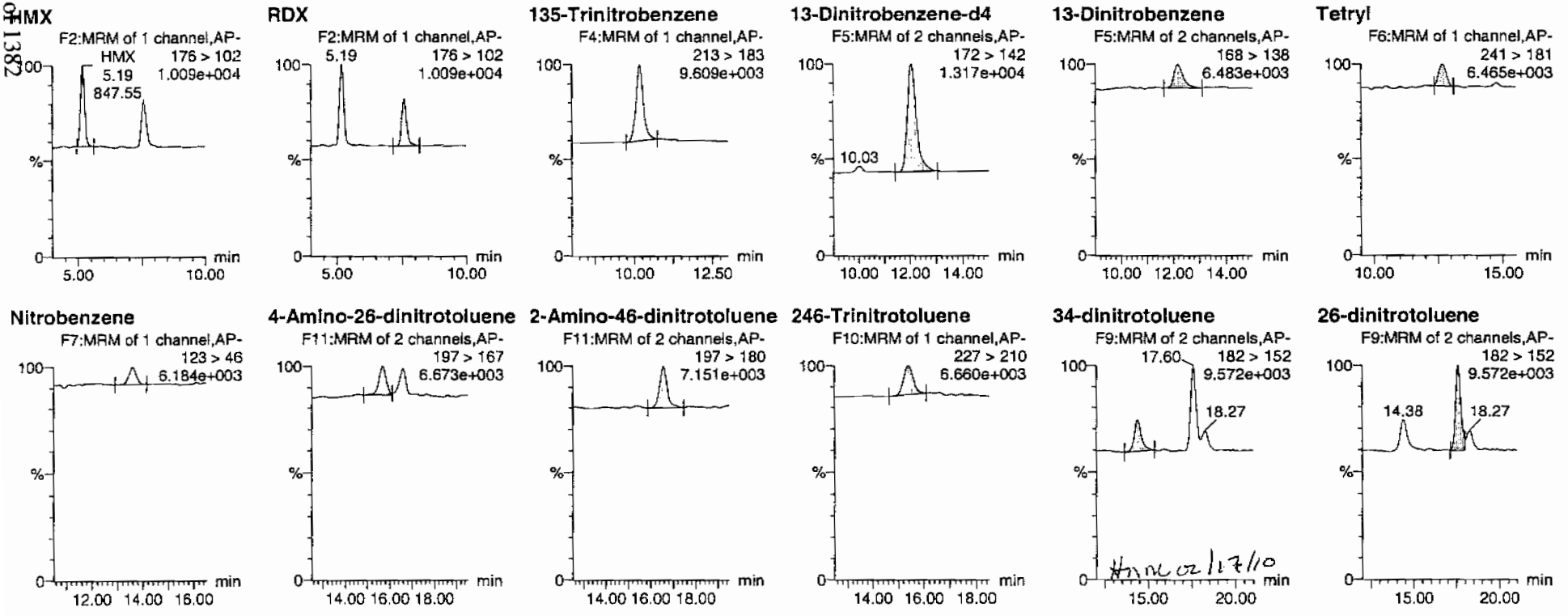
Compound	True	Found	Recovery	Q
HMX	40	35.563	89	
Nitrobenzene	40	35.31	88	
PETN	40	48.188	120	
RDX	40	37.715	94	
Tetryl	40	38.583	96	
m-Dinitrobenzene	40	47.424	119	
m-Nitrotoluene	40	37.561	94	
o-Nitrotoluene	40	37.519	94	
p-Nitrotoluene	40	38.529	96	
1,3,5-Trinitrobenzene	40	46.171	115	
1,3-Dinitrobenzene-d4	500	512.607	103	
2,4,6-Trinitrotoluene	40	37.982	95	
2,4-Dinitrotoluene	40	44.51	111	
2,6-Dinitrotoluene	40	42.325	106	
2,6-Dinitrotoluene-d3	500	468.417	94	
2-Amino-4,6-dinitrotoluene	40	42.003	105	
3,4-Dinitrotoluene	20	22.85	114	
4-Amino-2,6-dinitrotoluene	40	35.28	88	

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%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216029a
Date: 17-Feb-2010
Time: 06:57:50
ID: WXX100216-08CRI
Vial: 1:1,C

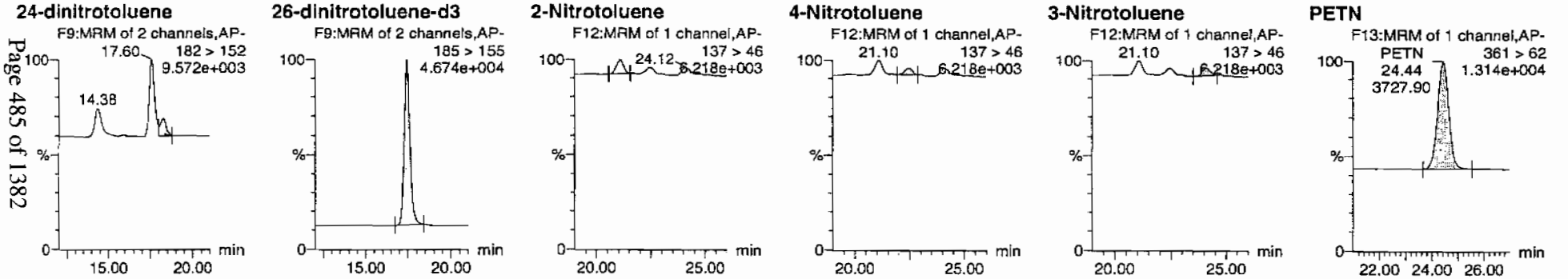
MMT 2/17/10



HMC 02/17/10

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA.qld, Time: Wed Feb 17 10:00:06 2010



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-08CRI	HMX	176 > 102	5.19	847.548	3088.373	847.548	137.216	bb			35.5631	88.9	-11.1	67.2
WXX100216-08CRI	RDX	176 > 102	7.59	604.150	3088.373	604.150	97.810	bb			37.7145	94.3	-5.7	40.2
WXX100216-08CRI	135-Trinitrobenzene	213 > 183	10.18	1104.404	3088.373	1104.404	178.800	bb			46.1713	115.4	15.4	242.0
WXX100216-08CRI	13-Dinitrobenzene-d4	172 > 142	12.03	3088.373		3088.373	3088.373	bb			512.6073	102.5	2.5	183.7
WXX100216-08CRI	13-Dinitrobenzene	168 > 138	12.17	348.146	3088.373	348.146	56.364	bb			47.4237	118.6	18.6	32.0
WXX100216-08CRI	Tetryl	241 > 181	12.68	259.818	3088.373	259.818	42.064	bb			38.5825	96.5	-3.5	17.3
WXX100216-08CRI	Nitrobenzene	123 > 46	13.63	187.241	3088.373	187.241	30.314	bb			35.3099	88.3	-11.7	24.4
WXX100216-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.68	368.489	16308.923	368.489	11.297	MM	17-Feb-10	09:24:15	35.2797	88.2	-11.8	20.6
WXX100216-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.58	591.929	16308.923	591.929	18.147	bb			42.0025	105.0	5.0	42.9
WXX100216-08CRI	246-Trinitrotoluene	227 > 210	15.41	415.344	16308.923	415.344	12.734	bb			37.9820	95.0	-5.0	34.9
WXX100216-08CRI	34-dinitrotoluene	182 > 152	14.38	675.250	16308.923	675.250	20.702	bb			22.8497	114.2	14.2	40.8
WXX100216-08CRI	26-dinitrotoluene	182 > 152	17.60	1462.626	16308.923	1462.626	44.841	MM	17-Feb-10	09:27:06	42.3254	105.8	5.8	114.5
WXX100216-08CRI	24-dinitrotoluene	182 > 152	18.27	357.891	16308.923	357.891	10.972	MM	17-Feb-10	09:59:53	44.5103	111.3	11.3	25.2
WXX100216-08CRI	26-dinitrotoluene-d3	185 > 155	17.42	16308.923		16308.923	16308.923	bb			468.4169	93.7	-6.3	1631.2
WXX100216-08CRI	2-Nitrotoluene	137 > 46	21.10	186.251	16308.923	186.251	5.710	bb			37.5185	93.8	-6.2	60.9
WXX100216-08CRI	4-Nitrotoluene	137 > 46	22.46	96.329	16308.923	96.329	2.953	bb			38.5286	96.3	-3.7	29.1
WXX100216-08CRI	3-Nitrotoluene	137 > 46	24.12	109.637	16308.923	109.637	3.361	bb			37.5605	93.9	-6.1	32.5
WXX100216-08CRI	PETN	361 > 62	24.44	3727.896	16308.923	3727.896	114.290	bb			48.1882	120.5	20.5	1683.7

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	02/17/10
Time of Injection	0657
Standard Number	WXX100216-08CRI
Data File	EXP0216029a

HMX	88.9
RDX	94.3
135-TNB	115.4
13-DNB	118.6
Tetryl	96.5
Nitrobenzene	88.3
4A-26-DNT	88.2
2A-46-DNT	105.0
246-TNT	95.0
34-DNT(surr)	114.2
26-DNT	105.8
24-DNT	111.3
2-NT	93.8
4-NT	96.3
3-NT	93.9
PETN	120.5
Total	1626.0
Average	101.6

MHT 4/27/10

HMM 02/17/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0216039a

Analysis Date: 17-FEB-10 11:55

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3-Dinitrobenzene-d4	500	387.961	78	*
2,4,6-Trinitrotoluene	600	707.346	118	
2,4-Dinitrotoluene	600	645.209	108	
2,6-Dinitrotoluene	600	613.479	102	
2,6-Dinitrotoluene-d3	500	403.474	81	
2-Amino-4,6-dinitrotoluene	600	628.06	105	
3,4-Dinitrotoluene	300	337.542	113	
4-Amino-2,6-dinitrotoluene	600	652.842	109	
HMX	600	593.956	99	
Nitrobenzene	600	632.339	105	
PETN	600	805.557	134	*
RDX	600	659.382	110	
Tetryl	600	551.825	92	
m-Dinitrobenzene	600	625.313	104	
m-Nitrotoluene	600	627.48	105	
o-Nitrotoluene	600	662.654	110	
p-Nitrotoluene	600	651.214	109	
1,3,5-Trinitrobenzene	600	585.479	98	

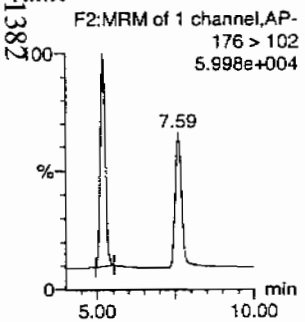
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

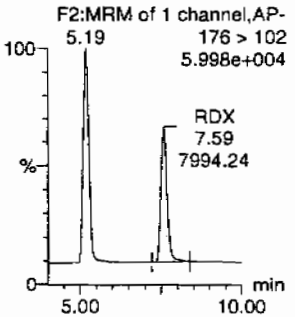
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216039a
Date: 17-Feb-2010
Time: 11:55:13
ID: WXX100216-07CCV
Vial: 1:1,B

MM 4/13/10

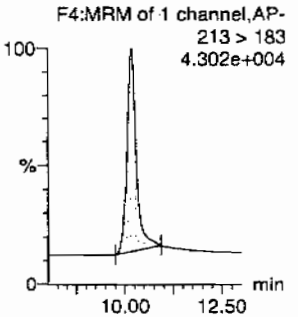
HMX



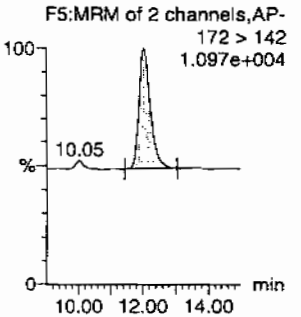
RDX



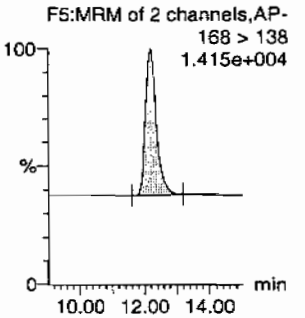
135-Trinitrobenzene



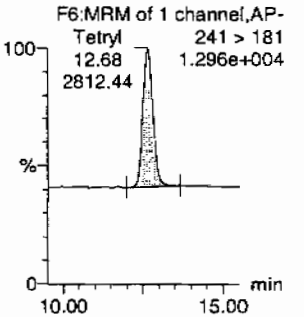
13-Dinitrobenzene-d4



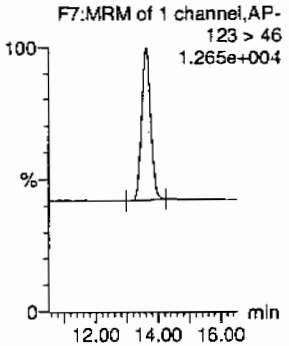
13-Dinitrobenzene



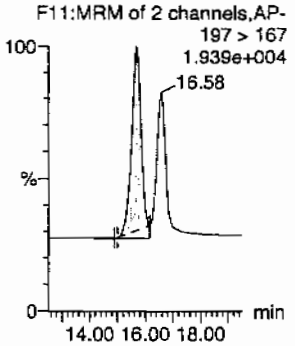
Tetryl



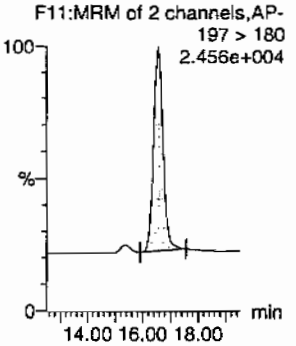
Nitrobenzene



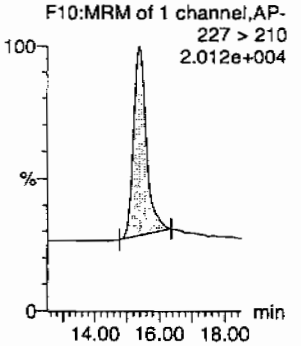
4-Amino-26-dinitrotoluene



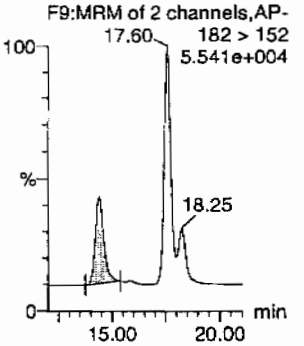
2-Amino-46-dinitrotoluene



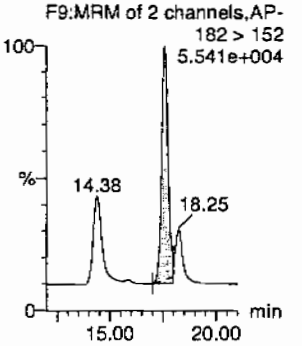
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene

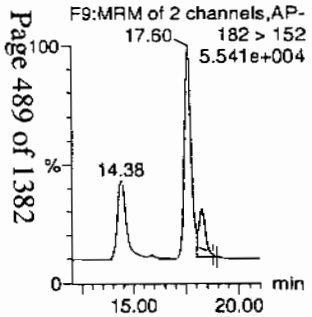


MM 02/18/10

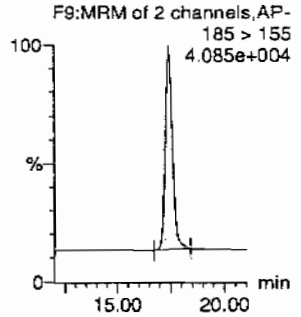
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

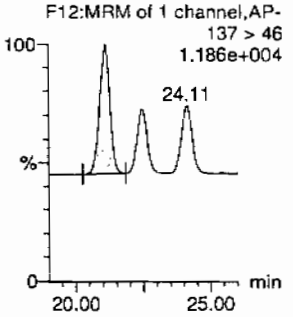
24-dinitrotoluene



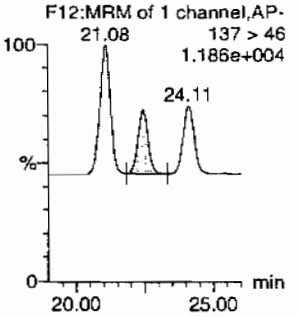
26-dinitrotoluene-d3



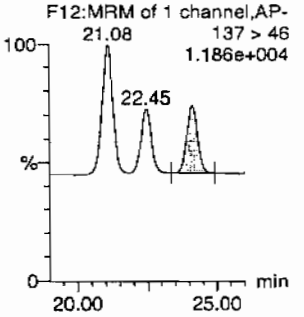
2-Nitrotoluene



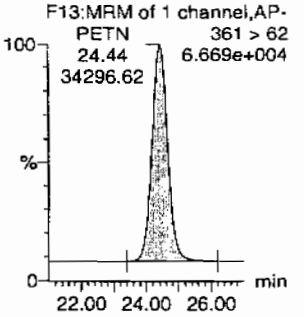
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-07CCV	HMX	176 > 102	5.19	10713.271	2337.401	10713.271	2291.706	bb			593.9562	99.0	-1.0	1627.0
WXX100216-07CCV	RDX	176 > 102	7.59	7994.240	2337.401	7994.240	1710.070	bb			659.3823	109.9	9.9	1027.0
WXX100216-07CCV	135-Trinitrobenzene	213 > 183	10.18	10599.146	2337.401	10599.146	2267.293	bb			585.4788	97.6	-2.4	1024.7
WXX100216-07CCV	13-Dinitrobenzene-d4	172 > 142	12.03	2337.401		2337.401	2337.401	bb			387.9612	77.6	-22.4	133.1
WXX100216-07CCV	13-Dinitrobenzene	168 > 138	12.17	3474.301	2337.401	3474.301	743.197	bb			625.3134	104.2	4.2	284.5
WXX100216-07CCV	Tetryl	241 > 181	12.68	2812.442	2337.401	2812.442	601.617	bb			551.8250	92.0	-8.0	285.9
WXX100216-07CCV	Nitrobenzene	123 > 46	13.63	2537.805	2337.401	2537.805	542.869	bb			632.3390	105.4	5.4	222.2
WXX100216-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.68	5873.420	14047.796	5873.420	209.051	MM	18-Feb-10	08:44:27	652.8422	108.8	8.8	505.6
WXX100216-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.58	7623.921	14047.796	7623.921	271.356	bb			628.0603	104.7	4.7	448.6
WXX100216-07CCV	246-Trinitrotoluene	227 > 210	15.38	6662.623	14047.796	6662.623	237.141	bb			707.3463	117.9	17.9	323.1
WXX100216-07CCV	34-dinitrotoluene	182 > 152	14.38	8592.021	14047.796	8592.021	305.814	bb			337.5425	112.5	12.5	393.2
WXX100216-07CCV	26-dinitrotoluene	182 > 152	17.60	18260.570	14047.796	18260.570	649.944	MM	18-Feb-10	08:47:58	613.4790	102.2	2.2	1068.9
WXX100216-07CCV	24-dinitrotoluene	182 > 152	18.25	4468.623	14047.796	4468.623	159.051	MM	18-Feb-10	08:52:01	645.2089	107.5	7.5	245.7
WXX100216-07CCV	26-dinitrotoluene-d3	185 > 155	17.42	14047.796		14047.796	14047.796	bb			403.4739	80.7	-19.3	1385.8
WXX100216-07CCV	2-Nitrotoluene	137 > 46	21.08	2833.500	14047.796	2833.500	100.852	bb			662.6544	110.4	10.4	243.8
WXX100216-07CCV	4-Nitrotoluene	137 > 46	22.45	1402.429	14047.796	1402.429	49.916	bb			651.2139	108.5	8.5	120.3
WXX100216-07CCV	3-Nitrotoluene	137 > 46	24.11	1577.640	14047.796	1577.640	56.153	bb			627.4798	104.6	4.6	127.1
WXX100216-07CCV	PETN	361 > 62	24.44	34296.621	14047.796	34296.621	1220.712	bb			805.5575	134.3	34.3	5120.9

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 02/17/10
Time of Injection: 1155
Standard Number: WXX100216-07CCV
Data File: EXP0216039a

HMX	99.0
RDX	109.9
135-TNB	97.6
13-DNB	104.2
Tetryl	92.0
Nitrobenzene	105.4
4A-26-DNT	108.8
2A-46-DNT	104.7
246-TNT	117.9
34-DNT(surr)	112.5
26-DNT	102.2
24-DNT	107.5
2-NT	110.4
4-NT	108.5
3-NT	104.6
PETN	134.3
Total	1719.5
Average	107.5

2/18/10

02-/15/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0216041a

Analysis Date: 17-FEB-10 12:54

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	49.958	125	
1,3-Dinitrobenzene-d4	500	436.567	87	
2,4,6-Trinitrotoluene	40	33.868	85	
2,4-Dinitrotoluene	40	48.789	122	
2,6-Dinitrotoluene	40	42.876	107	
2,6-Dinitrotoluene-d3	500	442.639	89	
2-Amino-4,6-dinitrotoluene	40	38.248	96	
3,4-Dinitrotoluene	20	20.64	103	
4-Amino-2,6-dinitrotoluene	40	36.085	90	
HMX	40	43.087	108	
Nitrobenzene	40	41.223	103	
PETN	40	49.973	125	
RDX	40	39.872	100	
Tetryl	40	51.62	129	
m-Dinitrobenzene	40	47.407	119	
m-Nitrotoluene	40	45.574	114	
o-Nitrotoluene	40	37.868	95	
p-Nitrotoluene	40	46.625	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%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

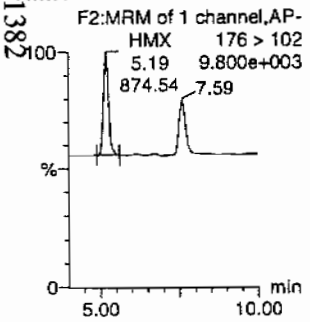
Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216041a
Date: 17-Feb-2010
Time: 12:54:26
ID: WXX100216-08CRI
Vial: 1:1,C

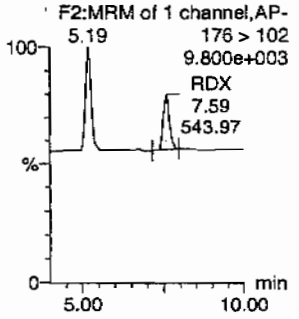
Page 492 of 1382

MM 2/18/10

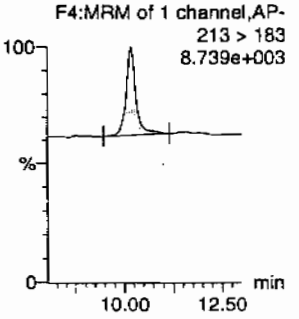
HMX



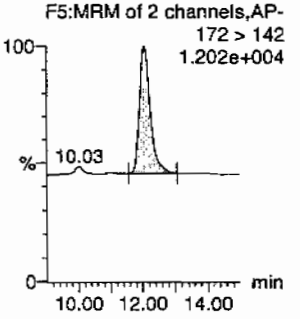
RDX



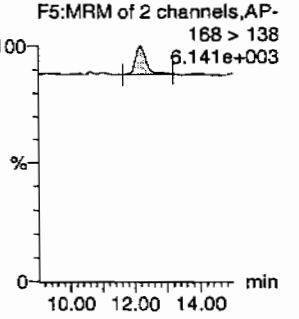
135-Trinitrobenzene



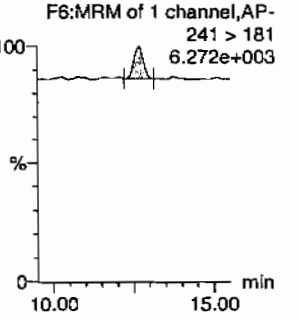
13-Dinitrobenzene-d4



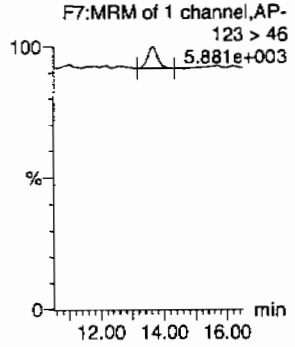
13-Dinitrobenzene



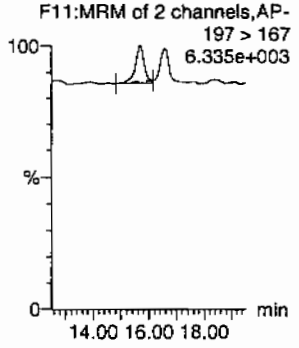
Tetryl



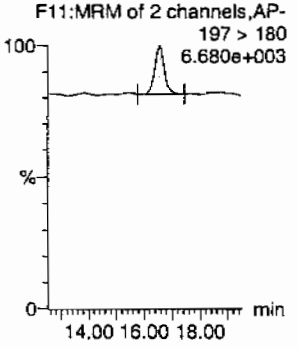
Nitrobenzene



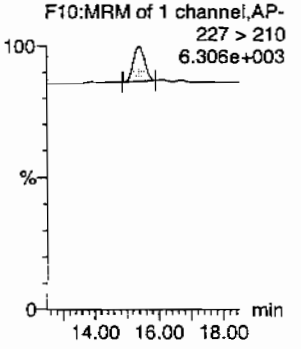
4-Amino-26-dinitrotoluene



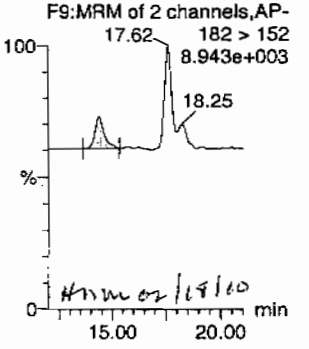
2-Amino-46-dinitrotoluene



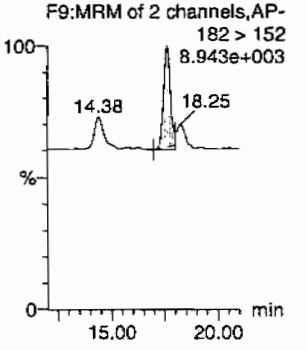
246-Trinitrotoluene



34-dinitrotoluene



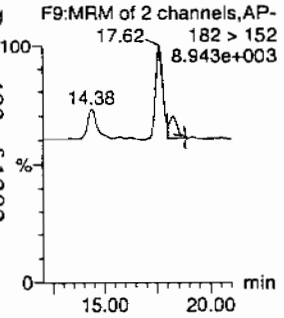
26-dinitrotoluene



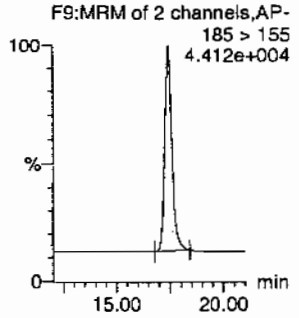
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

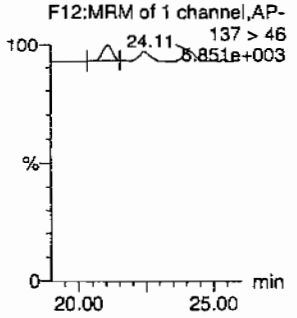
24-dinitrotoluene



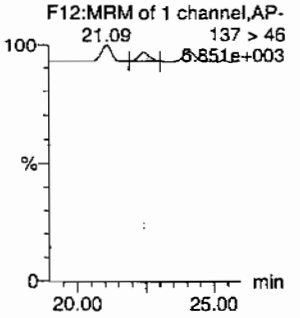
26-dinitrotoluene-d3



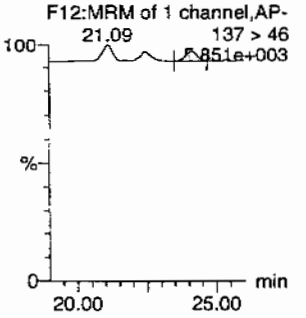
2-Nitrotoluene



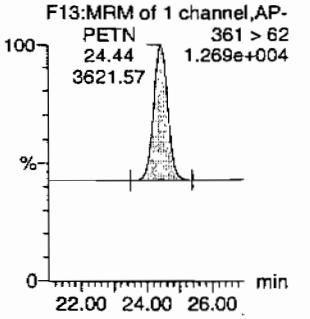
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-08CRI	HMX	176 > 102	5.19	874.541	2630.245	874.541	166.247	bb			43.0873	107.7	7.7	143.8
WXX100216-08CRI	RDX	176 > 102	7.59	543.971	2630.245	543.971	103.407	bb			39.8724	99.7	-0.3	77.7
WXX100216-08CRI	135-Trinitrobenzene	213 > 183	10.18	1017.727	2630.245	1017.727	193.466	bb			49.9584	124.9	24.9	42.9
WXX100216-08CRI	13-Dinitrobenzene-d4	172 > 142	12.07	2630.245		2630.245	2630.245	bb			436.5674	87.3	-12.7	269.0
WXX100216-08CRI	13-Dinitrobenzene	168 > 138	12.20	296.395	2630.245	296.395	56.344	bb			47.4065	118.5	18.5	27.0
WXX100216-08CRI	Tetryl	241 > 181	12.68	296.048	2630.245	296.048	56.278	bb			51.6199	129.0	29.0	24.9
WXX100216-08CRI	Nitrobenzene	123 > 46	13.63	186.169	2630.245	186.169	35.390	bb			41.2227	103.1	3.1	18.2
WXX100216-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.68	356.159	15411.399	356.159	11.555	MM	18-Feb-10	08:44:35	36.0850	90.2	-9.8	23.5
WXX100216-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.58	509.352	15411.399	509.352	16.525	bb			38.2479	95.6	-4.4	62.5
WXX100216-08CRI	246-Trinitrotoluene	227 > 210	15.38	349.977	15411.399	349.977	11.354	bb			33.8682	84.7	-15.3	59.5
WXX100216-08CRI	34-dinitrotoluene	182 > 152	14.38	576.394	15411.399	576.394	18.700	bb			20.6404	103.2	3.2	14.6
WXX100216-08CRI	26-dinitrotoluene	182 > 152	17.62	1400.108	15411.399	1400.108	45.424	MM	18-Feb-10	08:48:09	42.8759	107.2	7.2	47.1
WXX100216-08CRI	24-dinitrotoluene	182 > 152	18.25	370.708	15411.399	370.708	12.027	MM	18-Feb-10	08:51:46	48.7893	122.0	22.0	10.9
WXX100216-08CRI	26-dinitrotoluene-d3	185 > 155	17.42	15411.399		15411.399	15411.399	bb			442.6386	88.5	-11.5	1346.2
WXX100216-08CRI	2-Nitrotoluene	137 > 46	21.09	177.640	15411.399	177.640	5.763	bb			37.8679	94.7	-5.3	32.4
WXX100216-08CRI	4-Nitrotoluene	137 > 46	22.44	110.157	15411.399	110.157	3.574	bb			46.6252	116.6	16.6	18.9
WXX100216-08CRI	3-Nitrotoluene	137 > 46	24.11	125.706	15411.399	125.706	4.078	bb			45.5737	113.9	13.9	20.0
WXX100216-08CRI	PETN	361 > 62	24.44	3621.569	15411.399	3621.569	117.496	bb			49.9729	124.9	24.9	470.4

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	02/17/10
Time of Injection	1254
Standard Number	WXX100216-08CRI
Data File	EXP0216041a

HMX	107.7
RDX	99.7
135-TNB	124.9
13-DNB	118.5
Tetryl	129.0
Nitrobenzene	103.1
4A-26-DNT	90.2
2A-46-DNT	95.6
246-TNT	84.7
34-DNT(surr)	103.2
26-DNT	107.2
24-DNT	122.0
2-NT	94.7
4-NT	116.6
3-NT	113.9
PETN	124.9
Total	1735.9
Average	108.5

HMT 2/18/10

Hmm 02/18/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0216052a

Analysis Date: 17-FEB-10 18:20

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
HMX	600	526.292	88	
Nitrobenzene	600	561.562	94	
PETN	600	685.593	114	
RDX	600	615.154	103	
Tetryl	600	581.072	97	
m-Dinitrobenzene	600	614.714	102	
m-Nitrotoluene	600	522.1	87	
o-Nitrotoluene	600	521.805	87	
p-Nitrotoluene	600	528.568	88	
1,3,5-Trinitrobenzene	600	586.393	98	
1,3-Dinitrobenzene-d4	500	469.603	94	
2,4,6-Trinitrotoluene	600	667.732	111	
2,4-Dinitrotoluene	600	640.278	107	
2,6-Dinitrotoluene	600	617.89	103	
2,6-Dinitrotoluene-d3	500	472.936	95	
2-Amino-4,6-dinitrotoluene	600	700.294	117	
3,4-Dinitrotoluene	300	322.55	108	
4-Amino-2,6-dinitrotoluene	600	558.036	93	

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%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216052a
Date: 17-Feb-2010
Time: 18:20:28
ID: WXX100216-07CCV
Vial: 1:1,B

MJP 2/18/10

HMX
F2:MRM of 1 channel,AP-
176 > 102
6.346e+004
7.59

RDX
F2:MRM of 1 channel,AP-
176 > 102
6.346e+004
5.19
RDX
7.59
9027.48

135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.120e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.253e+004
10.05

13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.651e+004

Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.562e+004
Tetryl
12.68
3584.72

Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.357e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.035e+004

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
3.118e+004

246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.184e+004

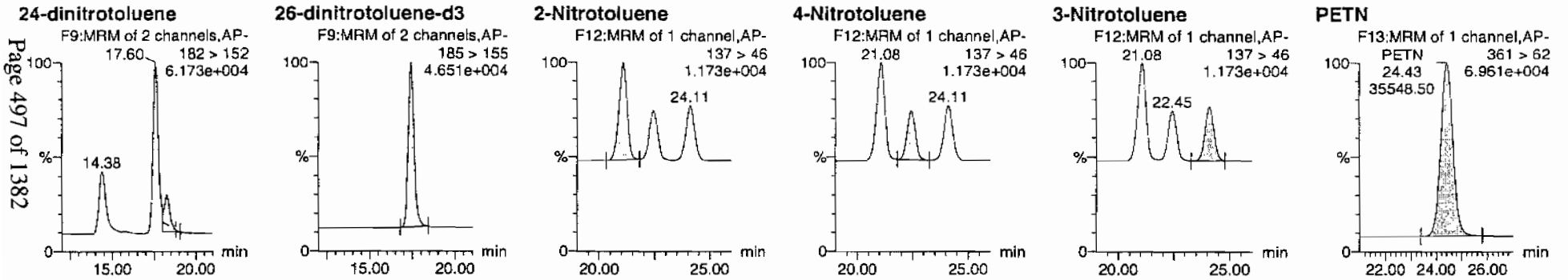
34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.173e+004
17.60
18.27

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.173e+004
14.38
18.27

HMM 02/18/10

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-07CCV	HMX	176 > 102	5.19	11490.467	2829.281	11490.467	2030.634	bb			526.2925	87.7	-12.3	815.5
WXX100216-07CCV	RDX	176 > 102	7.59	9027.476	2829.281	9027.476	1595.366	bb			615.1536	102.5	2.5	550.4
WXX100216-07CCV	135-Trinitrobenzene	213 > 183	10.18	12849.643	2829.281	12849.643	2270.832	bb			586.3926	97.7	-2.3	1070.5
WXX100216-07CCV	13-Dinitrobenzene-d4	172 > 142	12.07	2829.281		2829.281	2829.281	bb			469.6033	93.9	-6.1	279.7
WXX100216-07CCV	13-Dinitrobenzene	168 > 138	12.21	4134.145	2829.281	4134.145	730.600	bb			614.7141	102.5	2.5	343.4
WXX100216-07CCV	Tetryl	241 > 181	12.68	3584.717	2829.281	3584.717	633.503	bb			581.0719	96.8	-3.2	310.8
WXX100216-07CCV	Nitrobenzene	123 > 46	13.63	2728.030	2829.281	2728.030	482.107	bb			561.5623	93.6	-6.4	278.0
WXX100216-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.68	5884.796	16466.256	5884.796	178.693	MM	18-Feb-10	08:45:27	558.0356	93.0	-7.0	329.4
WXX100216-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.58	9964.233	16466.256	9964.233	302.565	bb			700.2936	116.7	16.7	436.1
WXX100216-07CCV	246-Trinitrotoluene	227 > 210	15.41	7372.284	16466.256	7372.284	223.860	bb			667.7320	111.3	11.3	133.4
WXX100216-07CCV	34-dinitrotoluene	182 > 152	14.38	9623.878	16466.256	9623.878	292.230	bb			322.5496	107.5	7.5	471.5
WXX100216-07CCV	26-dinitrotoluene	182 > 152	17.60	21558.193	16466.256	21558.193	654.617	MM	18-Feb-10	08:48:43	617.8898	103.0	3.0	1307.8
WXX100216-07CCV	24-dinitrotoluene	182 > 152	18.27	5197.906	16466.256	5197.906	157.835	MM	18-Feb-10	08:50:57	640.2777	106.7	6.7	288.4
WXX100216-07CCV	26-dinitrotoluene-d3	185 > 155	17.42	16466.256		16466.256	16466.256	bb			472.9357	94.6	-5.4	1834.5
WXX100216-07CCV	2-Nitrotoluene	137 > 46	21.08	2615.357	16466.256	2615.357	79.416	bb			521.8049	87.0	-13.0	493.9
WXX100216-07CCV	4-Nitrotoluene	137 > 46	22.45	1334.272	16466.256	1334.272	40.515	bb			528.5675	88.1	-11.9	245.7
WXX100216-07CCV	3-Nitrotoluene	137 > 46	24.11	1538.681	16466.256	1538.681	46.722	bb			522.1001	87.0	-13.0	271.2
WXX100216-07CCV	PETN	361 > 62	24.43	35548.496	16466.256	35548.496	1079.435	bb			685.5926	114.3	14.3	8100.8

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 02/17/10
Time of Injection: 1820
Standard Number: WXX100216-07CCV
Data File: EXP0216052a

HMX	87.7
RDX	102.5
135-TNB	97.7
13-DNB	102.5
Tetryl	96.8
Nitrobenzene	93.6
4A-26-DNT	93.0
2A-46-DNT	116.7
246-TNT	111.3
34-DNT(surr)	107.5
26-DNT	103.0
24-DNT	106.7
2-NT	87.0
4-NT	88.1
3-NT	87.0
PETN	114.3
Total	1595.4
Average	99.7

MDP 2/18/10

Hmm 02/18/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0216054a

Analysis Date: 17-FEB-10 19:19

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,4-Dinitrotoluene	40	38.588	96	
2,6-Dinitrotoluene	40	43.371	108	
2,6-Dinitrotoluene-d3	500	482.623	97	
2-Amino-4,6-dinitrotoluene	40	45.806	115	
3,4-Dinitrotoluene	20	22.123	111	
4-Amino-2,6-dinitrotoluene	40	49.639	124	
HMX	40	43.201	108	
Nitrobenzene	40	41.456	104	
PETN	40	47.927	120	
RDX	40	45.793	114	
Tetryl	40	38.525	96	
m-Dinitrobenzene	40	46.393	116	
m-Nitrotoluene	40	35.588	89	
o-Nitrotoluene	40	43.751	109	
p-Nitrotoluene	40	34.462	86	
1,3,5-Trinitrobenzene	40	49.067	123	
1,3-Dinitrobenzene-d4	500	526.622	105	
2,4,6-Trinitrotoluene	40	45.215	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%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

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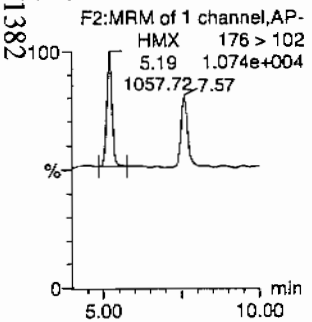
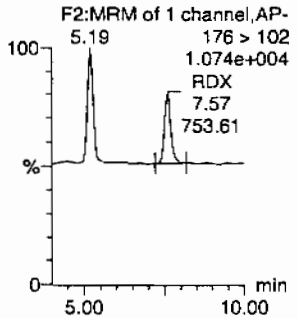
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216054a
Date: 17-Feb-2010
Time: 19:19:47
ID: WXX100216-08CRI
Vial: 1:1,C

MMD 2/18/10

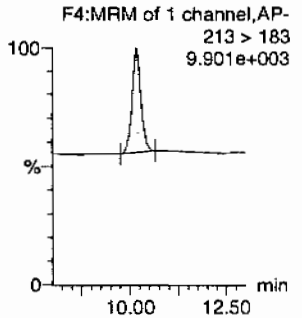
HMX



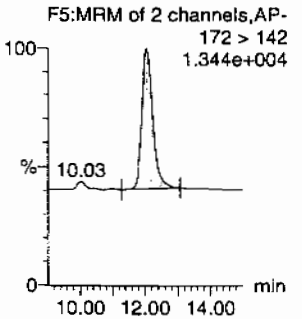
RDX



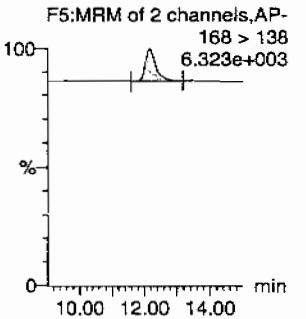
135-Trinitrobenzene



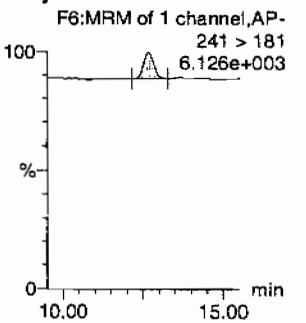
13-Dinitrobenzene-d4



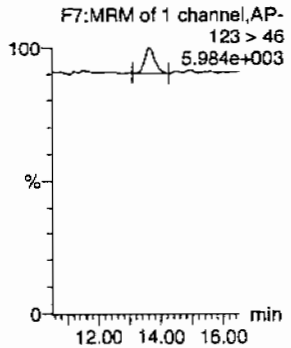
13-Dinitrobenzene



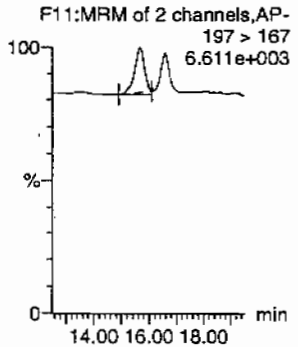
Tetryl



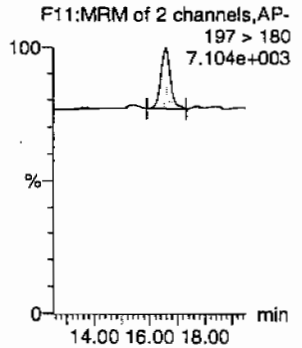
Nitrobenzene



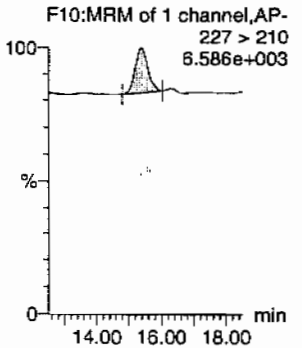
4-Amino-26-dinitrotoluene



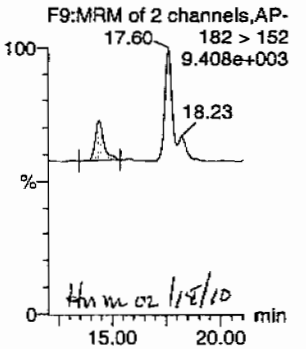
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

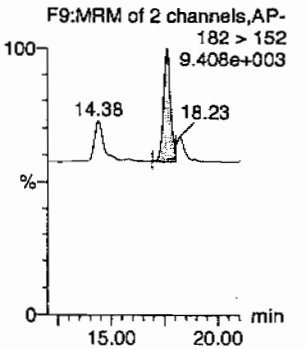


34-dinitrotoluene



Hm m 02 1/18/10

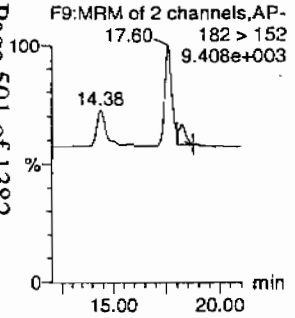
26-dinitrotoluene



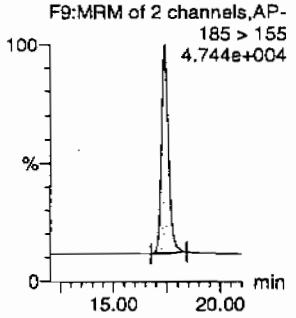
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

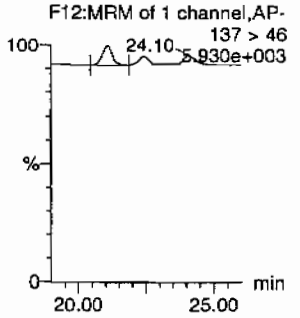
24-dinitrotoluene



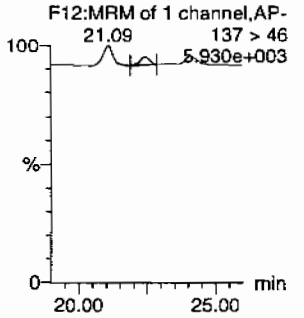
26-dinitrotoluene-d3



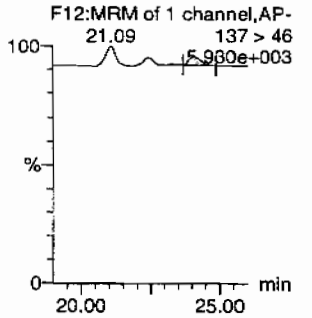
2-Nitrotoluene



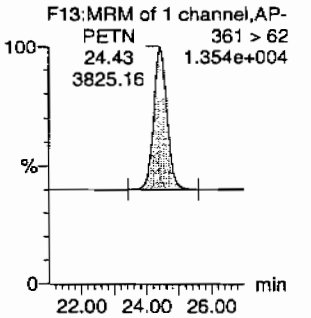
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-08CRI	HMX	176 > 102	5.19	1057.724	3172.809	1057.724	166.686	bb			43.2010	108.0	8.0	337.5
WXX100216-08CRI	RDX	176 > 102	7.57	753.607	3172.809	753.607	118.760	bb			45.7925	114.5	14.5	206.1
WXX100216-08CRI	135-Trinitrobenzene	213 > 183	10.16	1205.768	3172.809	1205.768	190.016	bb			49.0674	122.7	22.7	83.7
WXX100216-08CRI	13-Dinitrobenzene-d4	172 > 142	12.03	3172.809		3172.809	3172.809	bb			526.6220	105.3	5.3	217.3
WXX100216-08CRI	13-Dinitrobenzene	168 > 138	12.17	349.888	3172.809	349.888	55.139	bb			46.3926	116.0	16.0	58.6
WXX100216-08CRI	Tetryl	241 > 181	12.68	266.522	3172.809	266.522	42.001	bb			38.5248	96.3	-3.7	16.4
WXX100216-08CRI	Nitrobenzene	123 > 46	13.58	225.843	3172.809	225.843	35.590	bb			41.4560	103.6	3.6	30.2
WXX100216-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.68	534.191	16803.529	534.191	15.895	MM	18-Feb-10	08:45:35	49.6388	124.1	24.1	30.5
WXX100216-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.58	665.112	16803.529	665.112	19.791	bb			45.8063	114.5	14.5	84.8
WXX100216-08CRI	246-Trinitrotoluene	227 > 210	15.38	509.430	16803.529	509.430	15.158	bb			45.2146	113.0	13.0	71.3
WXX100216-08CRI	34-dinitrotoluene	182 > 152	14.38	673.596	16803.529	673.596	20.043	bb			22.1228	110.6	10.6	46.6
WXX100216-08CRI	26-dinitrotoluene	182 > 152	17.60	1544.212	16803.529	1544.212	45.949	MM	18-Feb-10	08:48:53	43.3711	108.4	8.4	133.2
WXX100216-08CRI	24-dinitrotoluene	182 > 152	18.23	319.681	16803.529	319.681	9.512	MM	18-Feb-10	08:50:42	38.5879	96.5	-3.5	27.1
WXX100216-08CRI	26-dinitrotoluene-d3	185 > 155	17.42	16803.529		16803.529	16803.529	bb			482.6227	96.5	-3.5	1788.6
WXX100216-08CRI	2-Nitrotoluene	137 > 46	21.09	223.779	16803.529	223.779	6.659	bb			43.7513	109.4	9.4	29.9
WXX100216-08CRI	4-Nitrotoluene	137 > 46	22.42	88.774	16803.529	88.774	2.642	bb			34.4617	86.2	-13.8	12.3
WXX100216-08CRI	3-Nitrotoluene	137 > 46	24.10	107.030	16803.529	107.030	3.185	bb			35.5881	89.0	-11.0	12.7
WXX100216-08CRI	PETN	361 > 62	24.43	3825.164	16803.529	3825.164	113.820	bb			47.9269	119.8	19.8	958.7

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	02/17/10
Time of Injection	1919
Standard Number	WXX100216-08CRI
Data File	EXP0216054a

HMX	108.0
RDX	114.5
135-TNB	122.7
13-DNB	116.0
Tetryl	96.3
Nitrobenzene	103.6
4A-26-DNT	124.1
2A-46-DNT	114.5
246-TNT	113.0
34-DNT(surr)	110.6
26-DNT	108.4
24-DNT	96.5
2-NT	109.4
4-NT	86.2
3-NT	89.0
PETN	119.8
Total	1732.6
Average	108.3

4/13/10

Hzmc 02/18/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0216065a

Analysis Date: 18-FEB-10 00:45

LCMSMS ID: 903

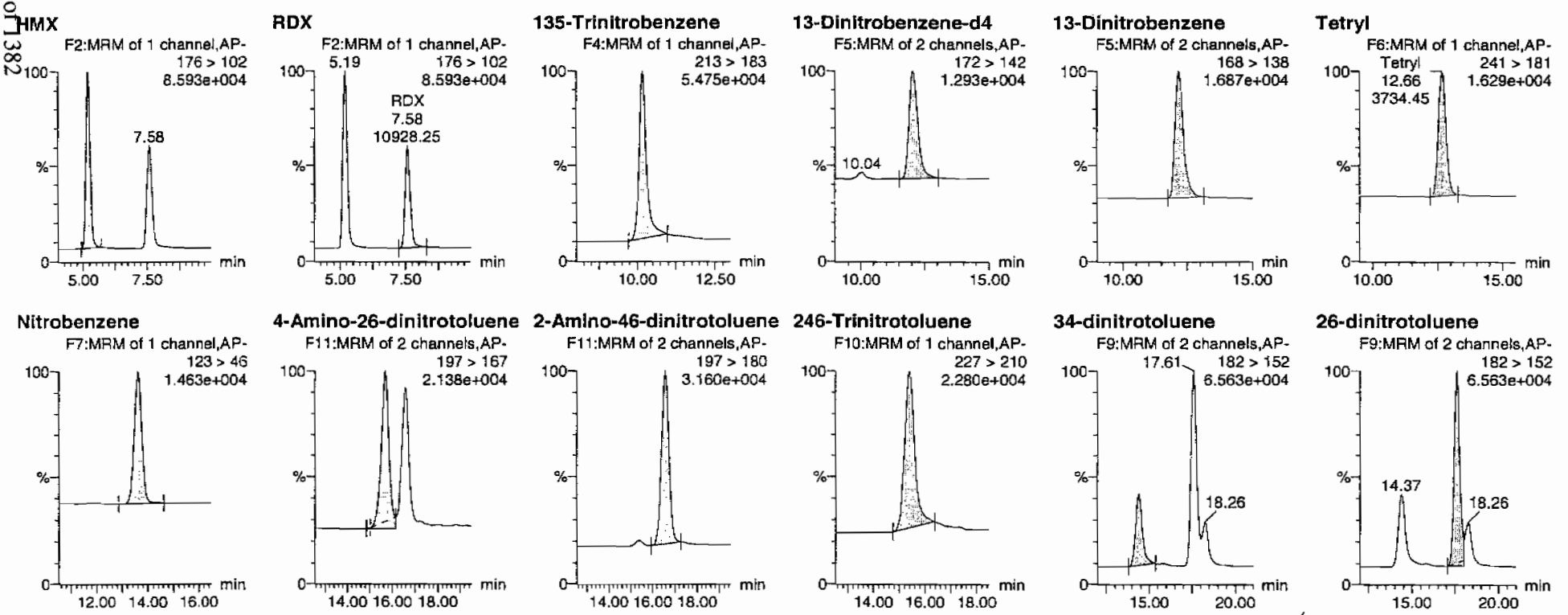
Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	589.98	98	
1,3-Dinitrobenzene-d4	500	503.448	101	
2,4,6-Trinitrotoluene	600	674.628	112	
2,4-Dinitrotoluene	600	646.389	108	
2,6-Dinitrotoluene	600	642.938	107	
2,6-Dinitrotoluene-d3	500	484.848	97	
2-Amino-4,6-dinitrotoluene	600	685.308	114	
3,4-Dinitrotoluene	300	332.023	111	
4-Amino-2,6-dinitrotoluene	600	595.679	99	
HMX	600	685.513	114	
Nitrobenzene	600	619.311	103	
PETN	600	592.614	99	
RDX	600	694.615	116	
Tetryl	600	564.648	94	
m-Dinitrobenzene	600	607.21	101	
m-Nitrotoluene	600	591.803	99	
o-Nitrotoluene	600	604.859	101	
p-Nitrotoluene	600	605.824	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%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

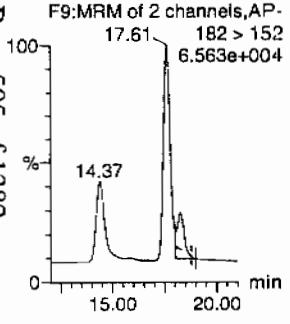
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216065a
Date: 18-Feb-2010
Time: 00:45:20
ID: WXX100216-07CCV
Vial: 1:1,B



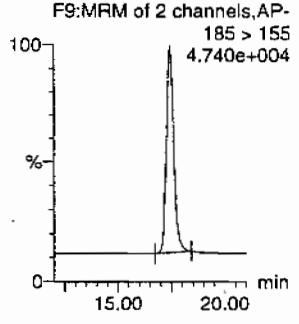
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

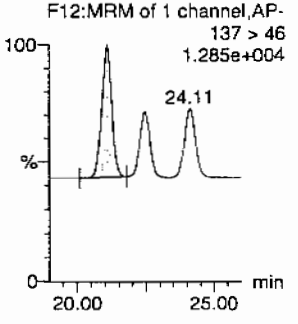
24-dinitrotoluene



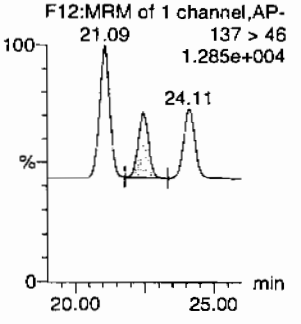
26-dinitrotoluene-d3



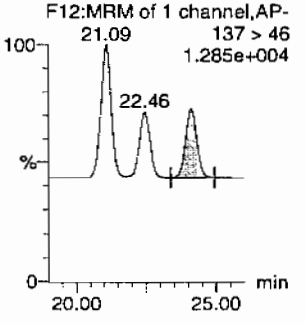
2-Nitrotoluene



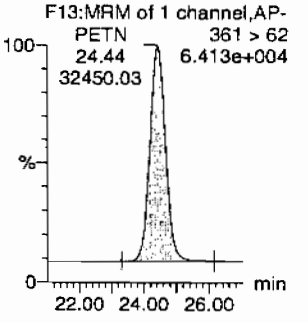
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-07CCV	HMX	176 > 102	5.19	16045.377	3033.191	16045.377	2644.966	bb			685.5131	114.3	14.3	4796.8
WXX100216-07CCV	RDX	176 > 102	7.58	10928.254	3033.191	10928.254	1801.445	bb			694.6153	115.8	15.8	2791.9
WXX100216-07CCV	135-Trinitrobenzene	213 > 183	10.18	13860.002	3033.191	13860.002	2284.723	bb			589.9797	98.3	-1.7	651.9
WXX100216-07CCV	13-Dinitrobenzene-d4	172 > 142	12.06	3033.191		3033.191	3033.191	bb			503.4482	100.7	0.7	211.0
WXX100216-07CCV	13-Dinitrobenzene	168 > 138	12.17	4377.993	3033.191	4377.993	721.681	bb			607.2099	101.2	1.2	1168.9
WXX100216-07CCV	Tetryl	241 > 181	12.66	3734.446	3033.191	3734.446	615.597	bb			564.6476	94.1	-5.9	245.8
WXX100216-07CCV	Nitrobenzene	123 > 46	13.61	3225.402	3033.191	3225.402	531.685	bb			619.3113	103.2	3.2	203.0
WXX100216-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.70	6439.984	16881.000	6439.984	190.747	MM	18-Feb-10	08:45:48	595.6786	99.3	-0.7	289.6
WXX100216-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.57	9996.612	16881.000	9996.612	296.091	bb			685.3080	114.2	14.2	311.7
WXX100216-07CCV	246-Trinitrotoluene	227 > 210	15.40	7636.027	16881.000	7636.027	226.172	bb			674.6279	112.4	12.4	330.2
WXX100216-07CCV	34-dinitrotoluene	182 > 152	14.37	10156.054	16881.000	10156.054	300.813	bb			332.0230	110.7	10.7	270.1
WXX100216-07CCV	26-dinitrotoluene	182 > 152	17.61	22997.145	16881.000	22997.145	681.155	MM	18-Feb-10	08:49:12	642.9383	107.2	7.2	748.4
WXX100216-07CCV	24-dinitrotoluene	182 > 152	18.26	5379.695	16881.000	5379.695	159.342	MM	18-Feb-10	08:50:31	646.3895	107.7	7.7	160.4
WXX100216-07CCV	26-dinitrotoluene-d3	185 > 155	17.43	16881.000		16881.000	16881.000	bb			484.8478	97.0	-3.0	2282.6
WXX100216-07CCV	2-Nitrotoluene	137 > 46	21.09	3107.994	16881.000	3107.994	92.056	bb			604.8589	100.8	0.8	698.8
WXX100216-07CCV	4-Nitrotoluene	137 > 46	22.46	1567.810	16881.000	1567.810	46.437	bb			605.8236	101.0	1.0	345.9
WXX100216-07CCV	3-Nitrotoluene	137 > 46	24.11	1788.032	16881.000	1788.032	52.960	bb			591.8030	98.6	-1.4	366.6
WXX100216-07CCV	PETN	361 > 62	24.44	32450.031	16881.000	32450.031	961.141	bb			592.6141	98.8	-1.2	10378.5

GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 02/18/10
Time of Injection: 0045
Standard Number: WXX100216-07CCV
Data File: EXP0216065a

HMX	114.3
RDX	115.8
135-TNB	98.3
13-DNB	101.2
Tetryl	94.1
Nitrobenzene	103.2
4A-26-DNT	99.3
2A-46-DNT	114.2
246-TNT	112.4
34-DNT(surr)	110.7
26-DNT	107.2
24-DNT	107.7
2-NT	100.8
4-NT	101.0
3-NT	98.6
PETN	98.8
Total	1677.6
Average	104.9

MGH 2/18/10

HMW 02/18/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0216067a

Analysis Date: 18-FEB-10 01:44

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
m-Dinitrobenzene	40	38.48	96	
m-Nitrotoluene	40	33.219	83	
o-Nitrotoluene	40	44.575	111	
p-Nitrotoluene	40	37.562	94	
1,3,5-Trinitrobenzene	40	50.874	127	
1,3-Dinitrobenzene-d4	500	574.253	115	
2,4,6-Trinitrotoluene	40	44.52	111	
2,4-Dinitrotoluene	40	35.748	89	
2,6-Dinitrotoluene	40	41.094	103	
2,6-Dinitrotoluene-d3	500	534.755	107	
2-Amino-4,6-dinitrotoluene	40	37.567	94	
3,4-Dinitrotoluene	20	20.903	105	
4-Amino-2,6-dinitrotoluene	40	37.482	94	
HMX	40	31.977	80	
Nitrobenzene	40	28.466	71	
PETN	40	44.163	110	
RDX	40	37.7	94	
Tetryl	40	40.159	100	

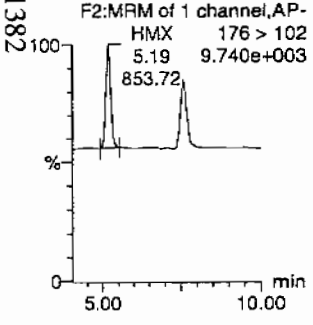
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

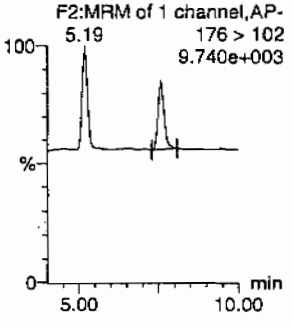
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216067a
Date: 18-Feb-2010
Time: 01:44:38
ID: WXX100216-08CRI
Vial: 1:1,C

MH 2/18/10

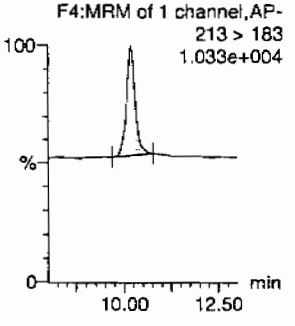
HMX



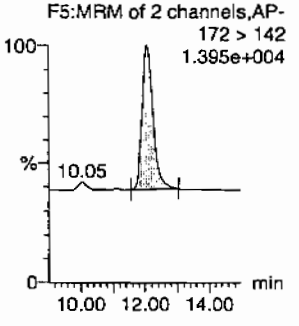
RDX



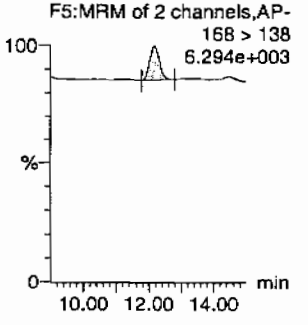
135-Trinitrobenzene



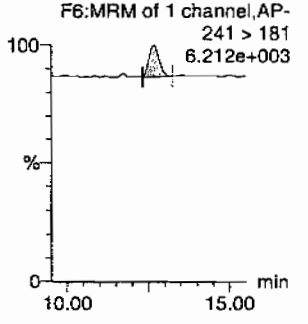
13-Dinitrobenzene-d4



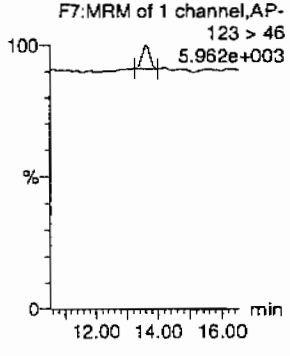
13-Dinitrobenzene



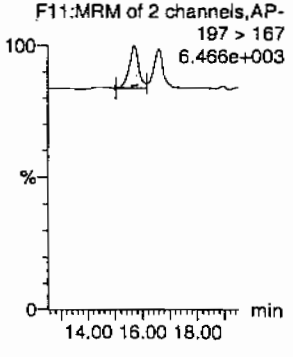
Tetryl



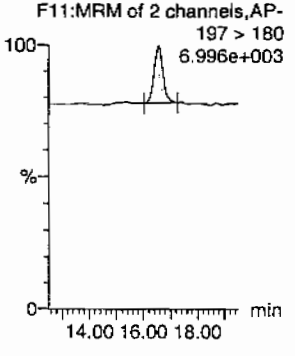
Nitrobenzene



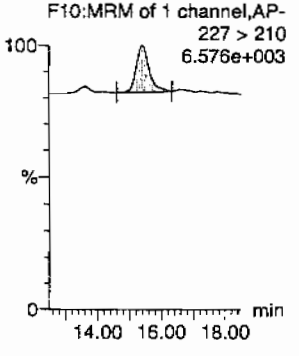
4-Amino-26-dinitrotoluene



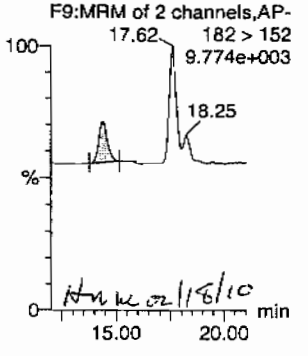
2-Amino-46-dinitrotoluene



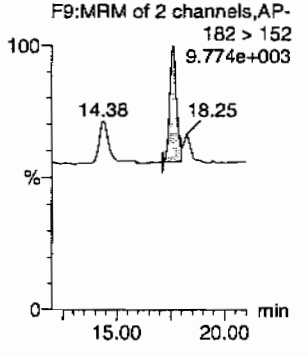
246-Trinitrotoluene



34-dinitrotoluene



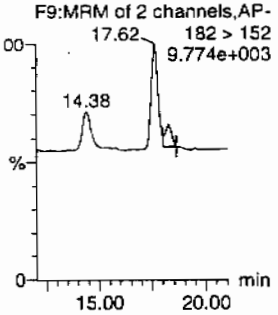
26-dinitrotoluene



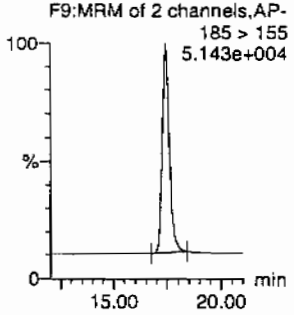
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

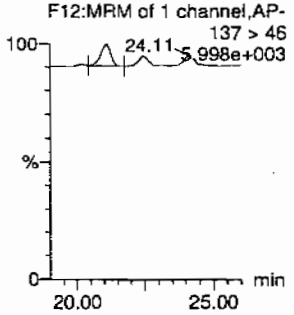
24-dinitrotoluene



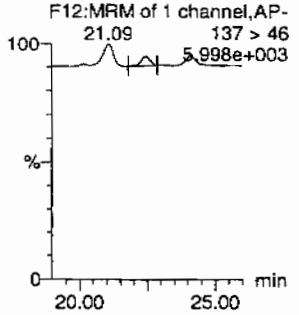
26-dinitrotoluene-d3



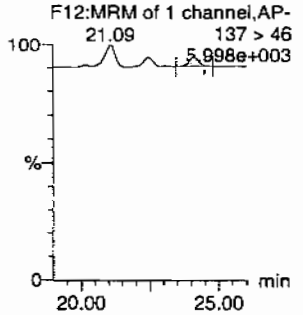
2-Nitrotoluene



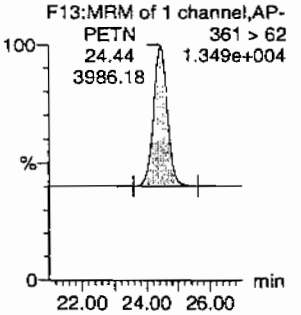
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100216-08CRI	HMX	176 > 102	5.19	853.724	3459.779	853.724	123.378	bb			31.9768	79.9	-20.1	197.3
WXX100216-08CRI	RDX	176 > 102	7.59	676.552	3459.779	676.552	97.774	bb			37.7004	94.3	-5.7	132.5
WXX100216-08CRI	135-Trinitrobenzene	213 > 183	10.18	1363.239	3459.779	1363.239	197.012	bb			50.8741	127.2	27.2	225.1
WXX100216-08CRI	13-Dinitrobenzene-d4	172 > 142	12.07	3459.779		3459.779	3459.779	bb			574.2532	114.9	14.9	215.0
WXX100216-08CRI	13-Dinitrobenzene	168 > 138	12.17	316.458	3459.779	316.458	45.734	bb			38.4797	96.2	-3.8	49.6
WXX100216-08CRI	Tetryl	241 > 181	12.68	302.953	3459.779	302.953	43.782	bb			40.1585	100.4	0.4	45.9
WXX100216-08CRI	Nitrobenzene	123 > 46	13.58	169.101	3459.779	169.101	24.438	bb			28.4658	71.2	-28.8	16.7
WXX100216-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.68	446.929	18618.615	446.929	12.002	MM	18-Feb-10	08:46:00	37.4815	93.7	-6.3	9.9
WXX100216-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.58	604.400	18618.615	604.400	16.231	bb			37.5671	93.9	-6.1	115.4
WXX100216-08CRI	246-Trinitrotoluene	227 > 210	15.38	555.791	18618.615	555.791	14.926	bb			44.5204	111.3	11.3	29.1
WXX100216-08CRI	34-dinitrotoluene	182 > 152	14.38	705.192	18618.615	705.192	18.938	bb			20.9026	104.5	4.5	30.4
WXX100216-08CRI	26-dinitrotoluene	182 > 152	17.62	1621.167	18618.615	1621.167	43.536	MM	18-Feb-10	08:49:18	41.0936	102.7	2.7	86.4
WXX100216-08CRI	24-dinitrotoluene	182 > 152	18.25	328.140	18618.615	328.140	8.812	MM	18-Feb-10	08:50:18	35.7476	89.4	-10.6	18.8
WXX100216-08CRI	26-dinitrotoluene-d3	185 > 155	17.44	18618.615		18618.615	18618.615	bb			534.7547	107.0	7.0	729.5
WXX100216-08CRI	2-Nitrotoluene	137 > 46	21.09	252.621	18618.615	252.621	6.784	bb			44.5753	111.4	11.4	39.4
WXX100216-08CRI	4-Nitrotoluene	137 > 46	22.46	107.213	18618.615	107.213	2.879	bb			37.5622	93.9	-6.1	17.2
WXX100216-08CRI	3-Nitrotoluene	137 > 46	24.11	110.695	18618.615	110.695	2.973	MM	18-Feb-10	08:53:07	33.2186	83.0	-17.0	17.0
WXX100216-08CRI	PETN	361 > 62	24.44	3986.175	18618.615	3986.175	107.048	bb			44.1631	110.4	10.4	1704.1

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	02/18/10
Time of Injection	0144
Standard Number	WXX100216-08CRI
Data File	EXP0216067a

HMX	79.9
RDX	94.3
135-TNB	127.2
13-DNB	96.2
Tetryl	100.4
Nitrobenzene	71.2
4A-26-DNT	93.7
2A-46-DNT	93.9
246-TNT	111.3
34-DNT(surr)	104.5
26-DNT	102.7
24-DNT	89.4
2-NT	111.4
4-NT	93.9
3-NT	83.0
PETN	110.4
Total	1563.4
Average	97.7

MJT 2/19/10

Hme 02/18/10

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): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS02160013.wiff

Analysis Date: 16-FEB-10 15:21

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	69.9	70	
2,6-Diamino-4-nitrotoluene	100	67.7	68	
3,4-Dinitrotoluene	50	47.1	94	
3,5-Dinitroaniline	100	92.2	92	
TATB	100	102	102	
tris(o-cresyl) phosphate	100	101	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 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

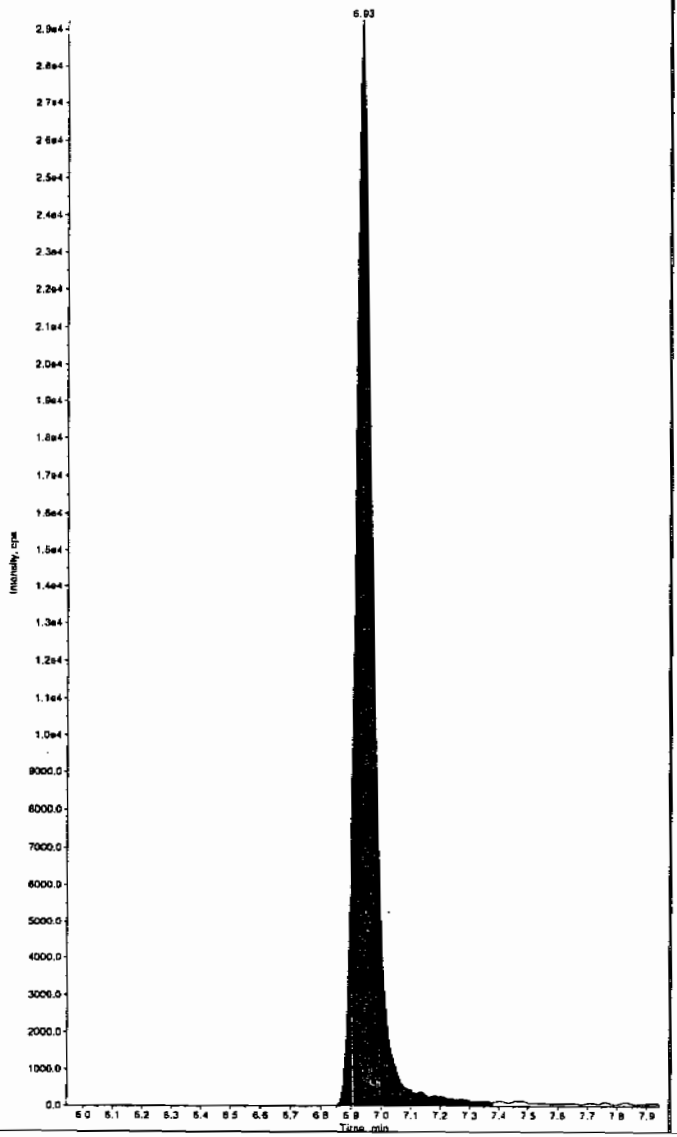
Dan 2/17/10

Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160013.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 102. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 3:21:41 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.93 min
Area: 1.28e+005 counts
Height: 29276.001 cps
Start Time: 6.80 min
End Time: 7.32 min

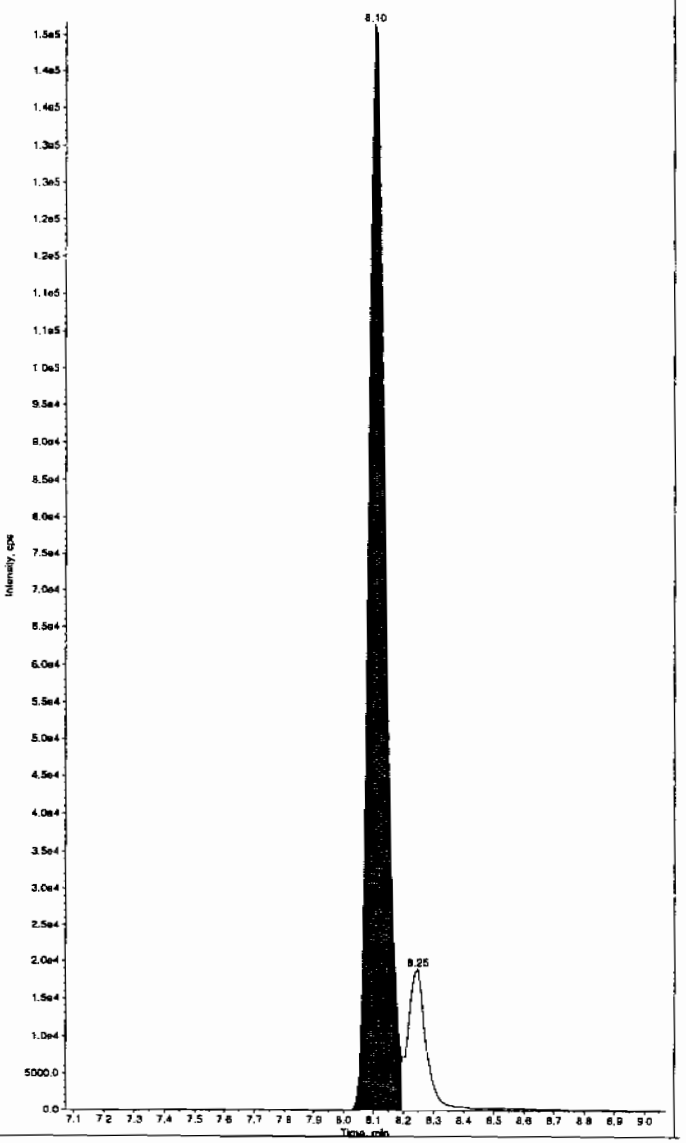


Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160013.wiff"
Peak Name: "3,5-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 92.2 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 3:21:41 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: 8.07 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.10 min
Area: 5.92e+005 counts
Height: 146657.471 cps
Start Time: 8.01 min
End Time: 8.20 min



HMM 02/17/10

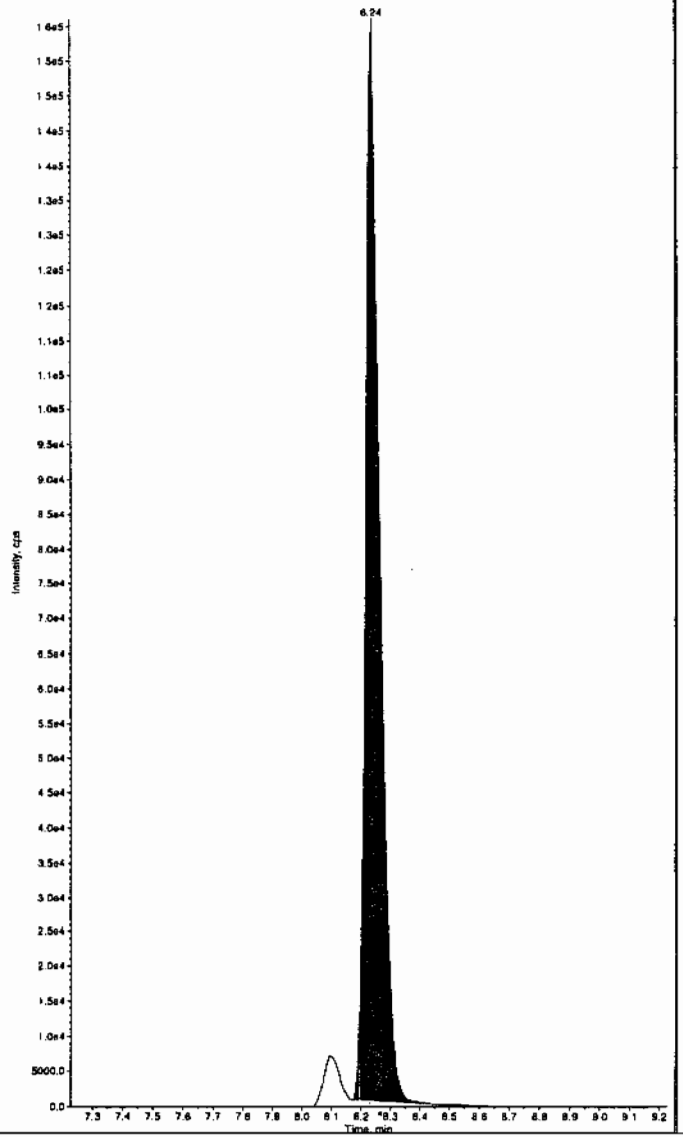
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160013.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182 1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 47.1 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 3:21:41 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: 5.23 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.24 min
Area: 5.52e+005 counts
Height: 155518.661 cps
Start Time: 6.16 min
End Time: 6.44 min

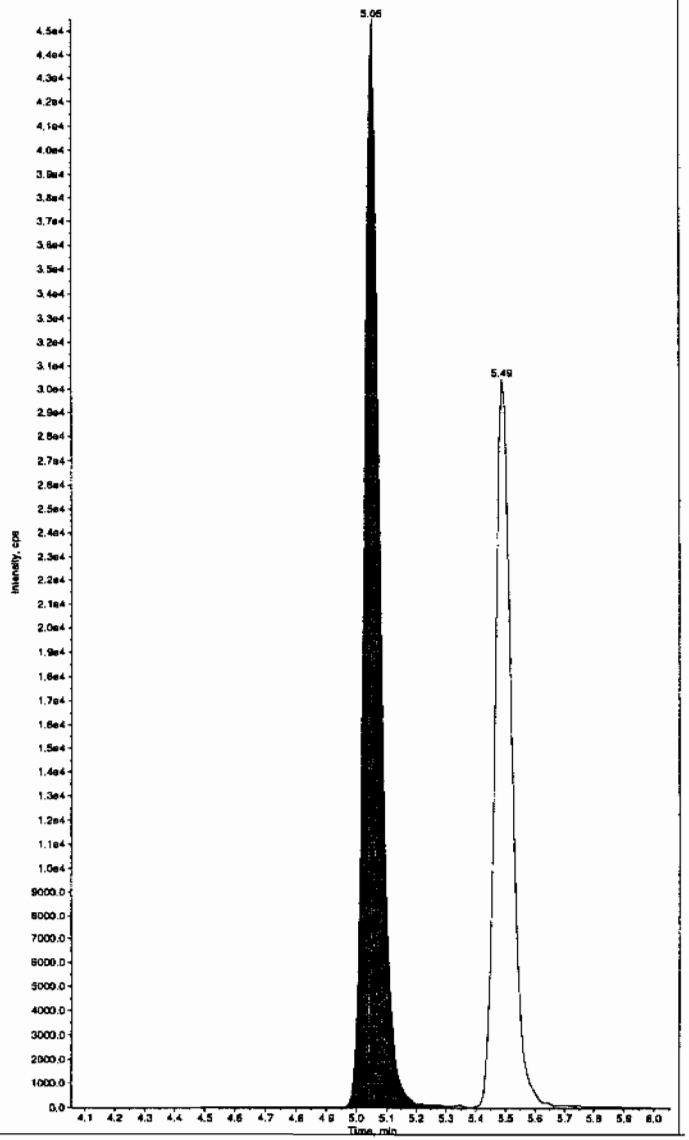


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160013.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 67.7 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 3:21:41 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: 5.05 min
Area: 1.73e+005 counts
Height: 45502.506 cps
Start Time: 4.89 min
End Time: 5.31 min



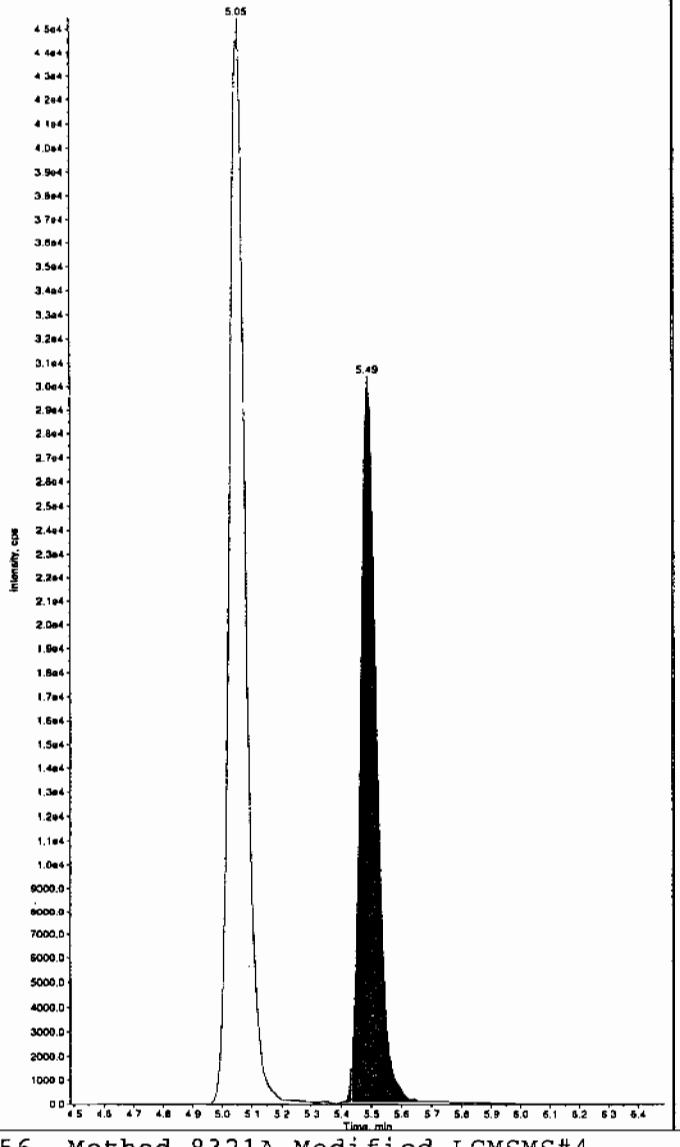
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100215-27CRI" Sample ID: "|1|LER" File: "EXS02160013.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 69.3 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 3:21:41 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.49 min
Area: 1.19e+005 counts
Height: 30350.281 cps
Start Time: 5.41 min
End Time: 5.66 min

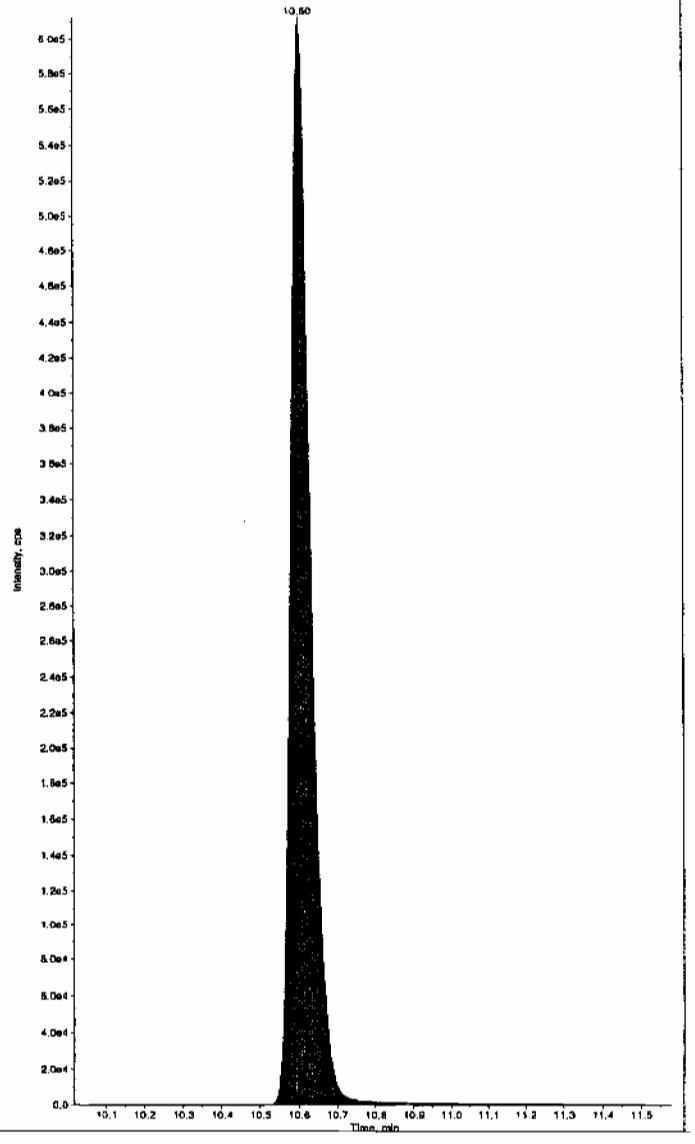


Sample Name: "WXX100215-27CRI" Sample ID: "|1|LER" File: "EXS02160013.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 101. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 3:21:41 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.6 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.6 min
Area: 2.24e+006 counts
Height: 612628.967 cps
Start Time: 10.5 min
End Time: 10.9 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS02160024.wiff

Analysis Date: 16-FEB-10 18:14

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	479	96	
2,6-Diamino-4-nitrotoluene	500	578	116	
3,4-Dinitrotoluene	250	249	99	
3,5-Dinitroaniline	500	525	105	
TATB	500	502	100	
tris(o-cresyl) phosphate	500	507	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%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

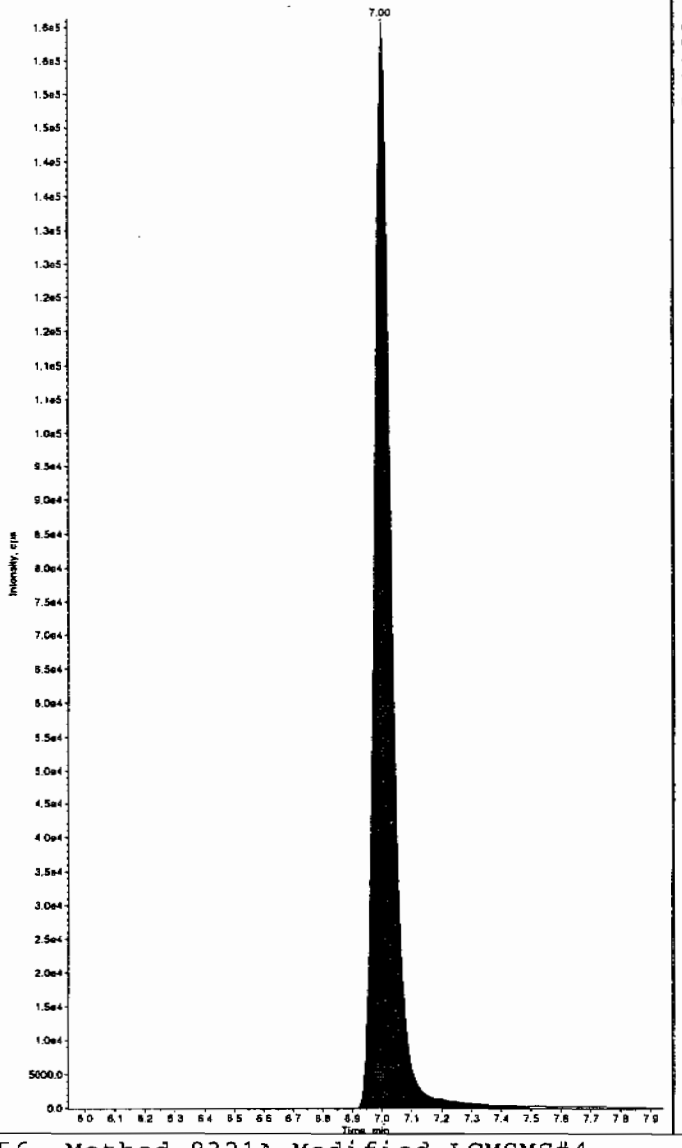
Lan 2/17/10

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160024.wiff"
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: 502. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:14:33 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.00 min
Area: 6.68e+005 counts
Height: 161398.453 cps
Start Time: 6.90 min
End Time: 7.49 min

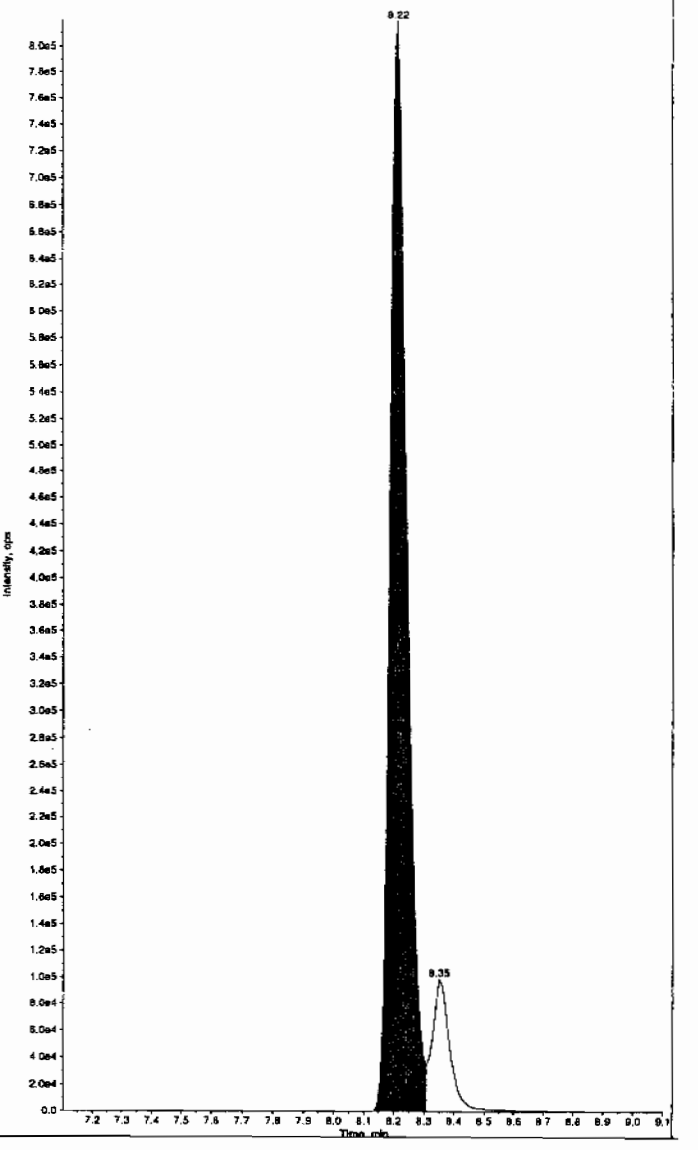


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160024.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 525. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:14:33 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: 8.10 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.22 min
Area: 3.37e+006 counts
Height: 819698.059 cps
Start Time: 8.10 min
End Time: 8.31 min



HM 02/17/10

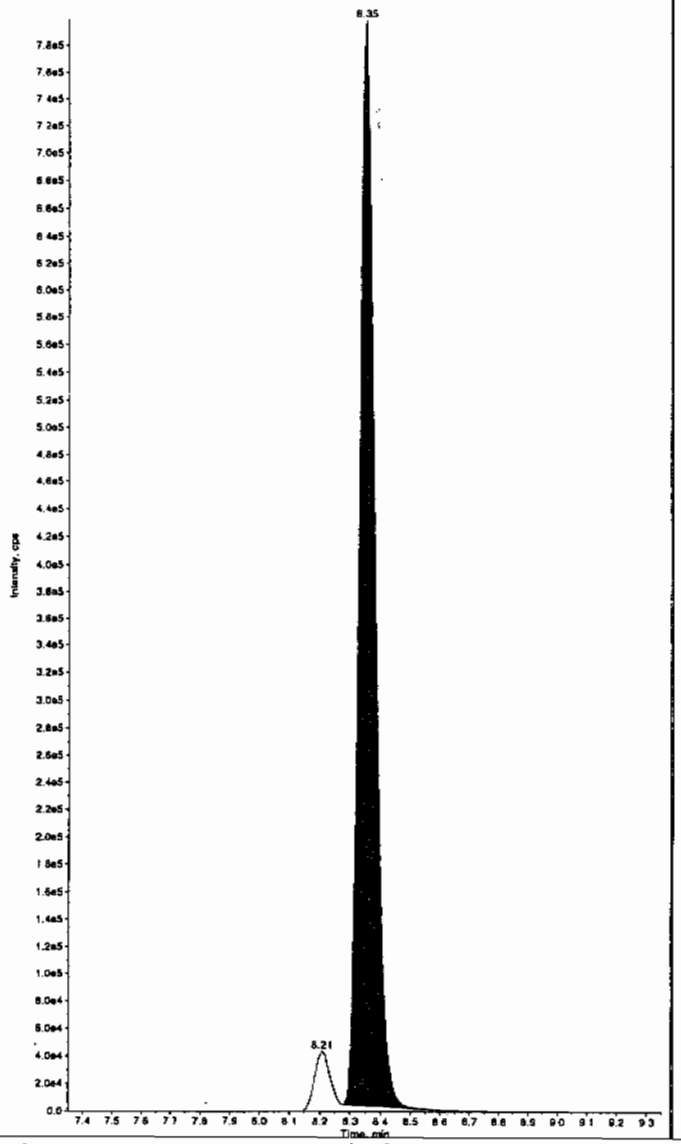
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "|1|LER" File: "EXS02160024.wiff"
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: 249. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:14:33 PM

Modified: Yes
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: 8.35 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.35 min
Area: 3.02e+006 counts
Height: 794659.973 cps
Start Time: 8.28 min
End Time: 8.56 min

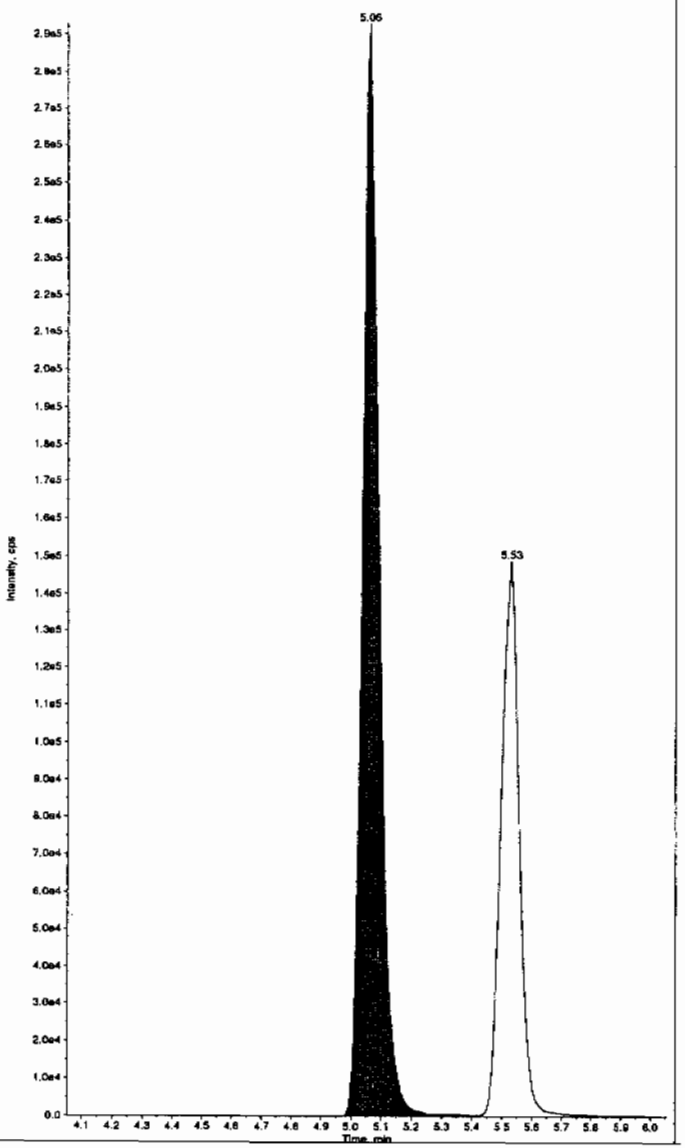


Sample Name: "WXX100216-26CCV" Sample ID: "|1|LER" File: "EXS02160024.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 578. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:14:33 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: 5.06 min
Area: 1.18e+006 counts
Height: 292749.634 cps
Start Time: 4.95 min
End Time: 5.31 min



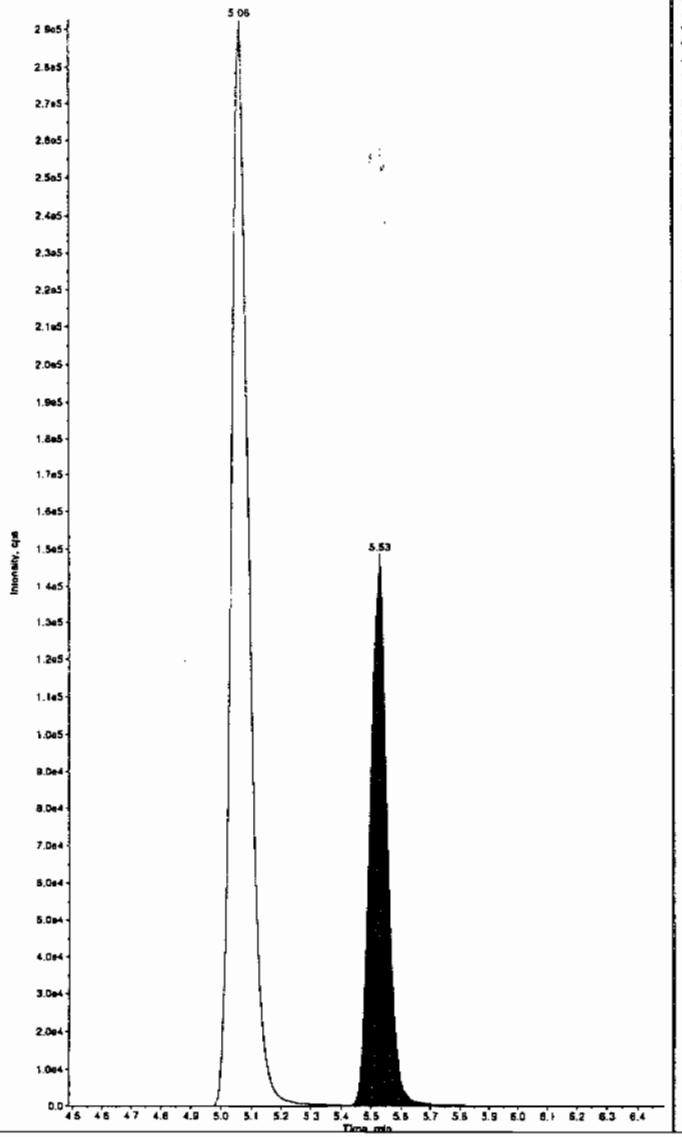
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160024.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 479. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:14:33 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 6.18e+005 counts
Height: 148724.930 cps
Start Time: 5.43 min
End Time: 5.84 min

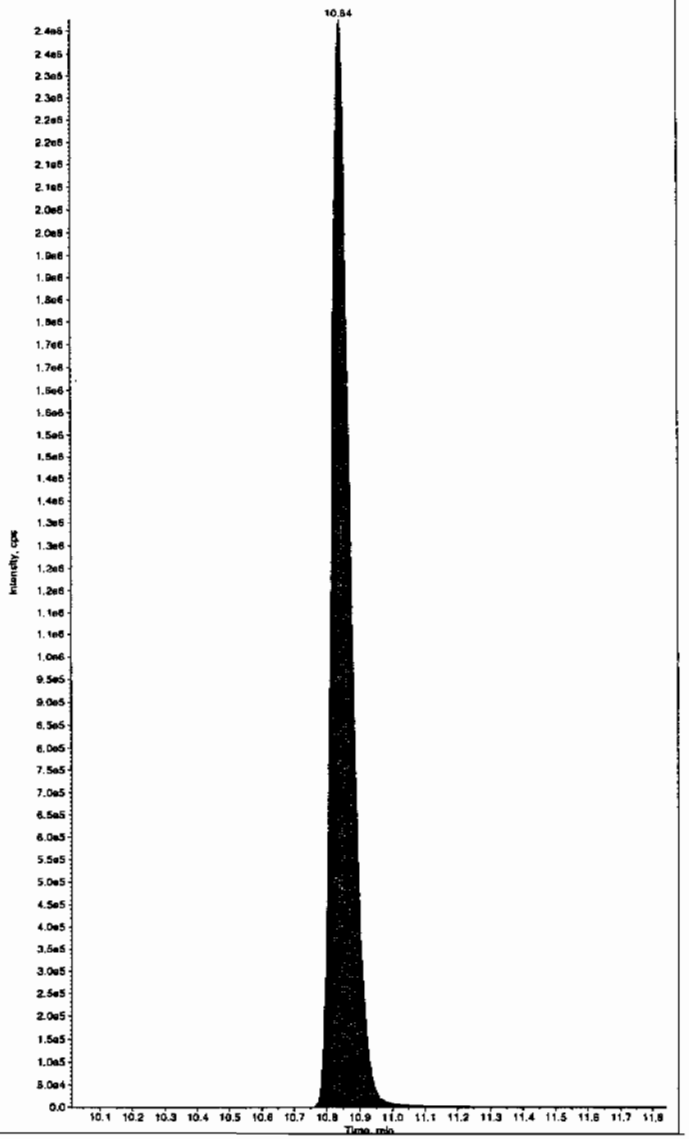


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160024.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 507. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:14:33 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 1.01e+007 counts
Height: 2426467.529 cps
Start Time: 10.7 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS02160026.wiff

Analysis Date: 16-FEB-10 18:46

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	76	76	
2,6-Diamino-4-nitrotoluene	100	92.6	93	
3,4-Dinitrotoluene	50	53.1	106	
3,5-Dinitroaniline	100	100	100	
TATB	100	109	109	
tris(o-cresyl) phosphate	100	103	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 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

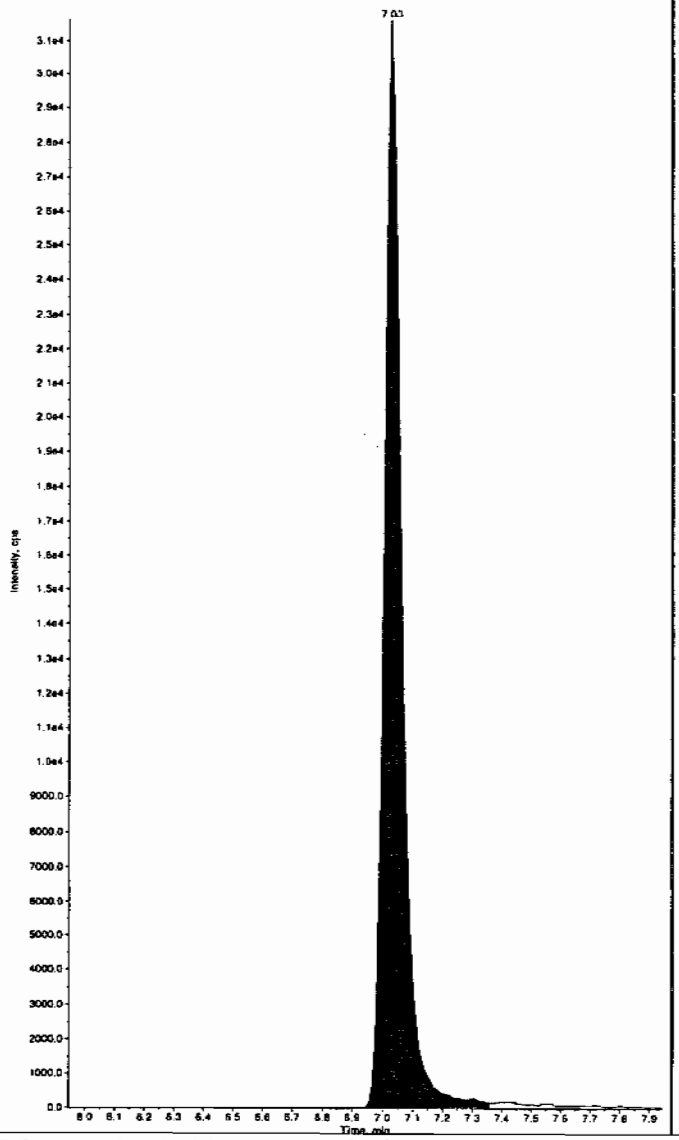
Kar 2/17/10

Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160026.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 109. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:46:04 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.38e+005 counts
Height: 31629.005 cps
Start Time: 6.88 min
End Time: 7.36 min

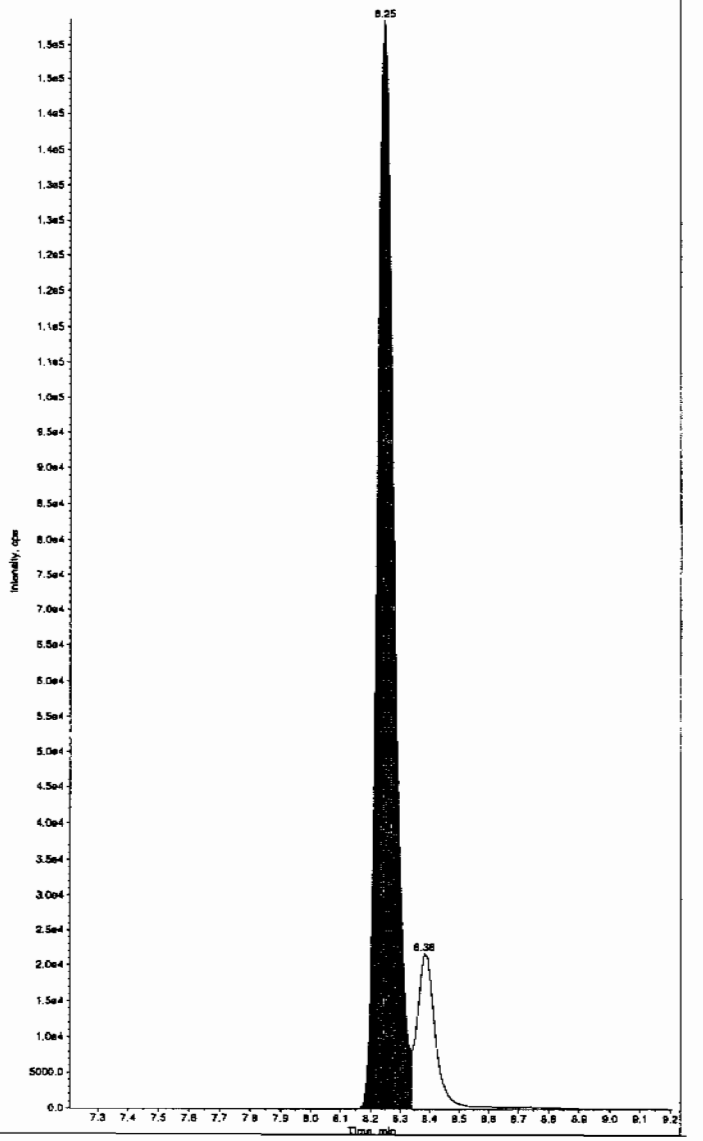


Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160026.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 100. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:46:04 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: 8.21 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 6.47e+005 counts
Height: 153663.422 cps
Start Time: 8.14 min
End Time: 8.34 min



HMM 02/17/10

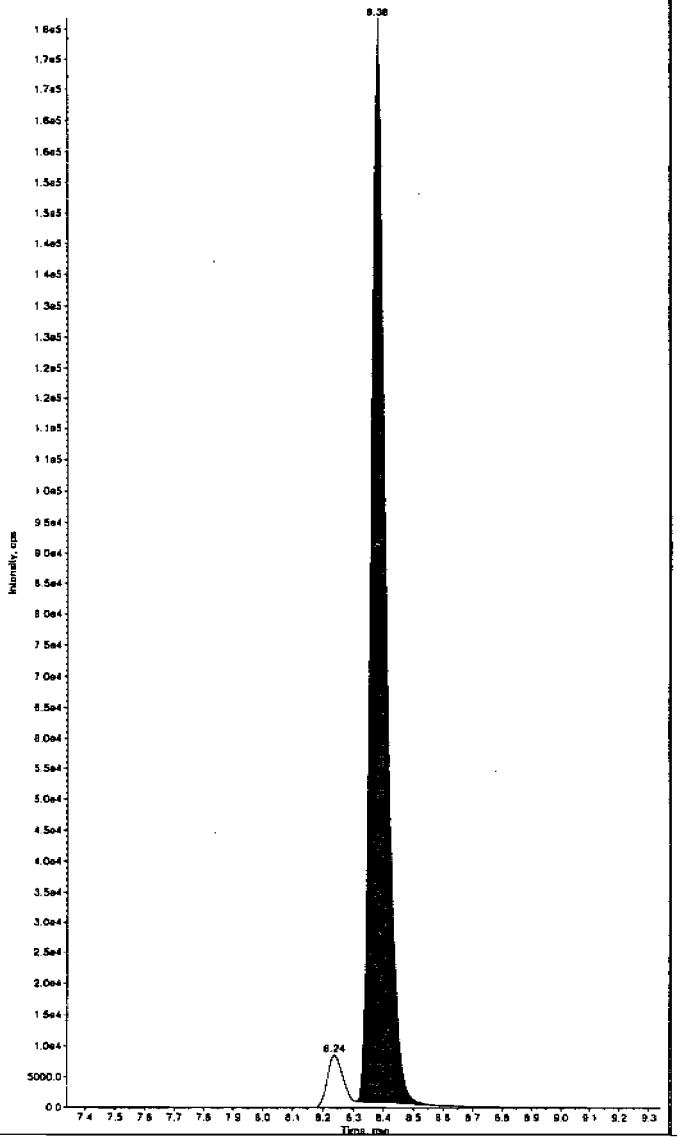
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160026.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 53.1 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:46:04 PM

Modified: Yes
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: 8.34 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 6.35e+005 counts
Height: 175993.652 cps
Start Time: 8.31 min
End Time: 8.58 min

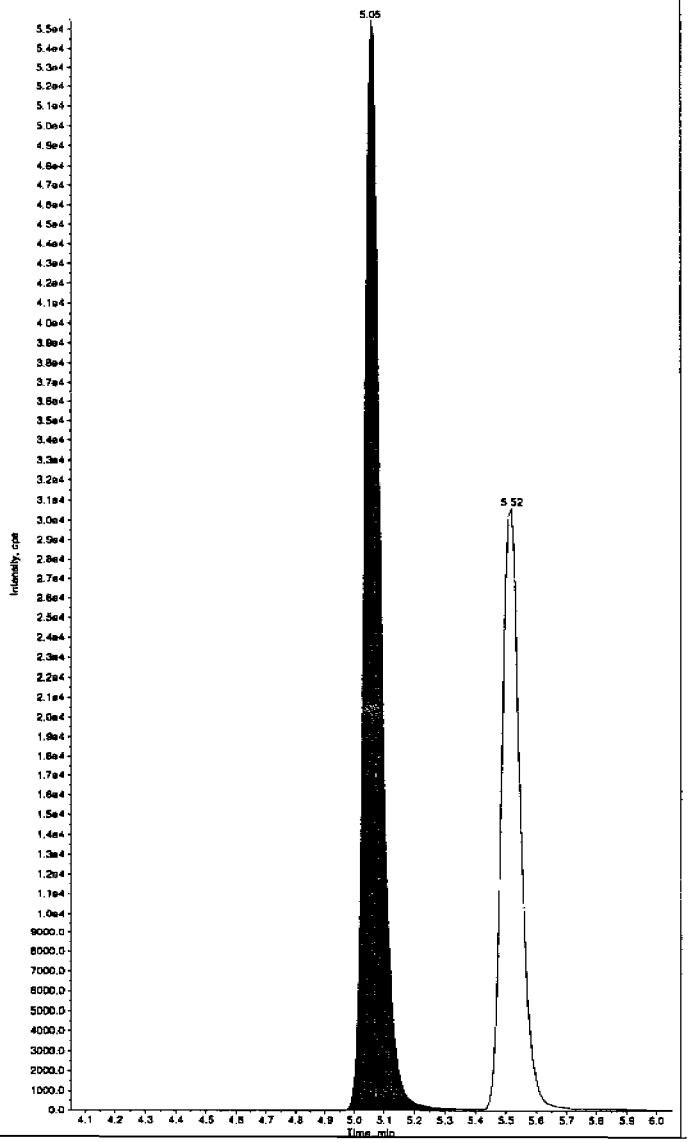


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160026.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 92.6 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:46:04 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: 5.05 min
Area: 2.23e+005 counts
Height: 55479.572 cps
Start Time: 4.93 min
End Time: 5.32 min



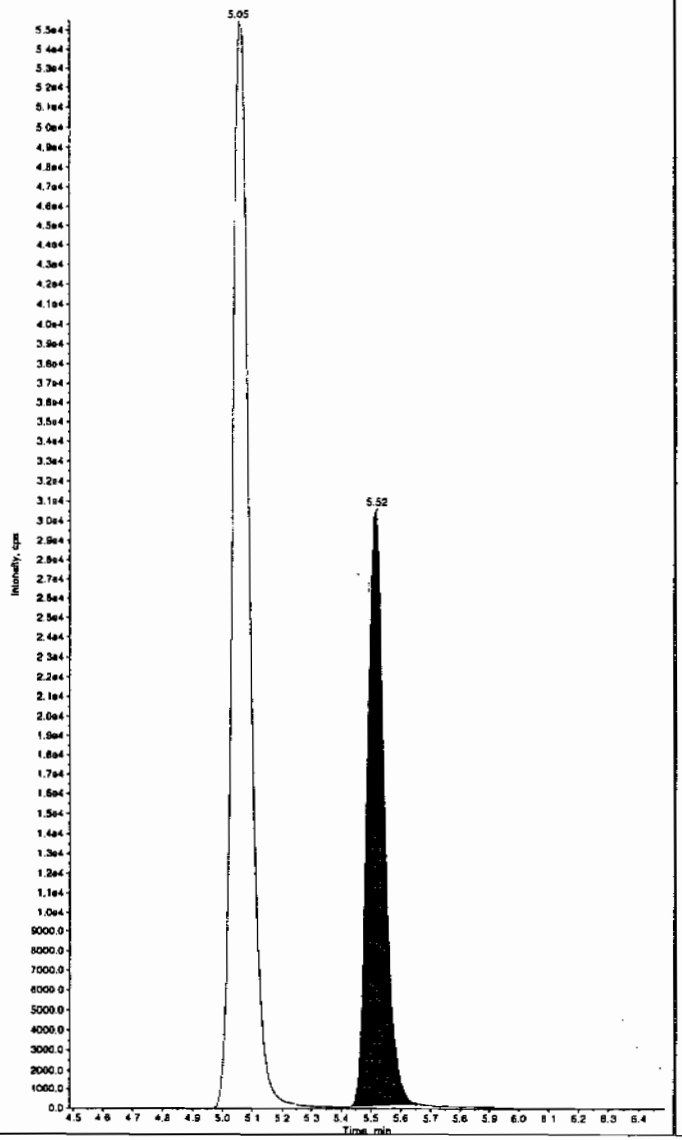
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100215-27CRI" Sample ID: "j1|LER" File: "EXS02160026.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 76.0 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:46:04 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 150.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 1.27e+005 counts
Height: 30474.636 cps
Start Time: 5.44 min
End Time: 5.66 min

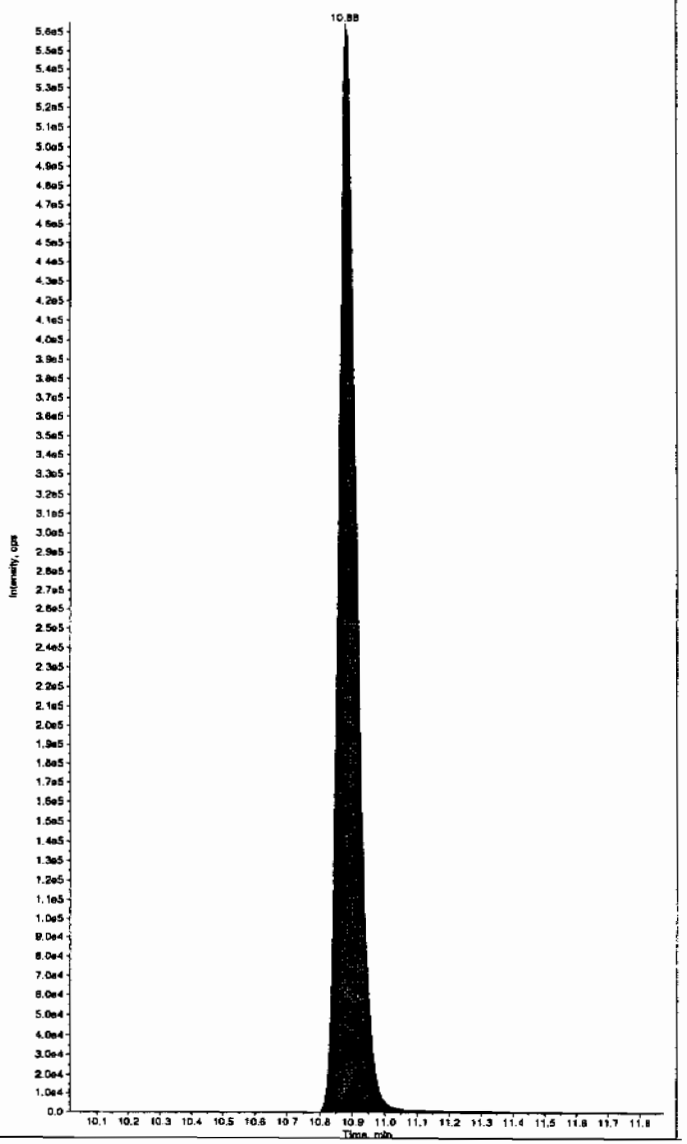


Sample Name: "WXX100215-27CRI" Sample ID: "j1|LER" File: "EXS02160026.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 103. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 6:46:04 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 2.29e+006 counts
Height: 564574.890 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS02160036.wiff

Analysis Date: 16–FEB–10 21:23

LCMSMS ID: 1358

Column ID JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	500	535	107	
2,6–Diamino–4–nitrotoluene	500	536	107	
3,4–Dinitrotoluene	250	263	105	
3,5–Dinitroaniline	500	553	111	
TATB	500	553	111	
tris(o–cresyl) phosphate	500	544	109	

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%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

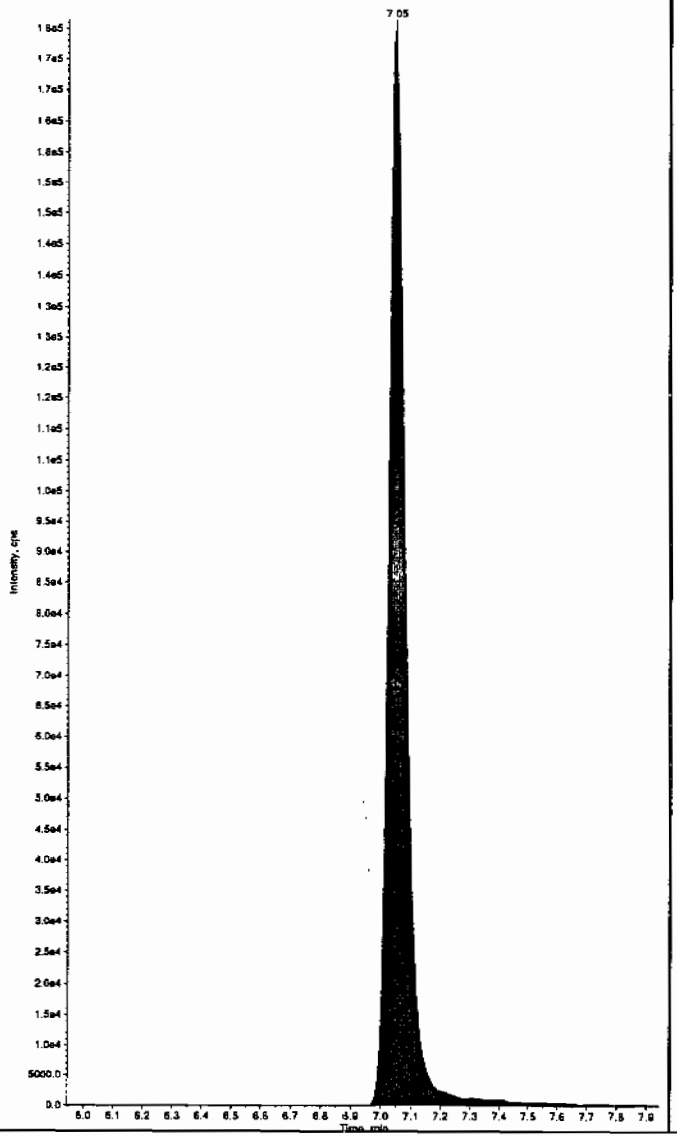
Before Lan 2/17/10

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
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: 553. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 7.56e+005 counts
Height: 176592.728 cps
Start Time: 6.94 min
End Time: 7.69 min

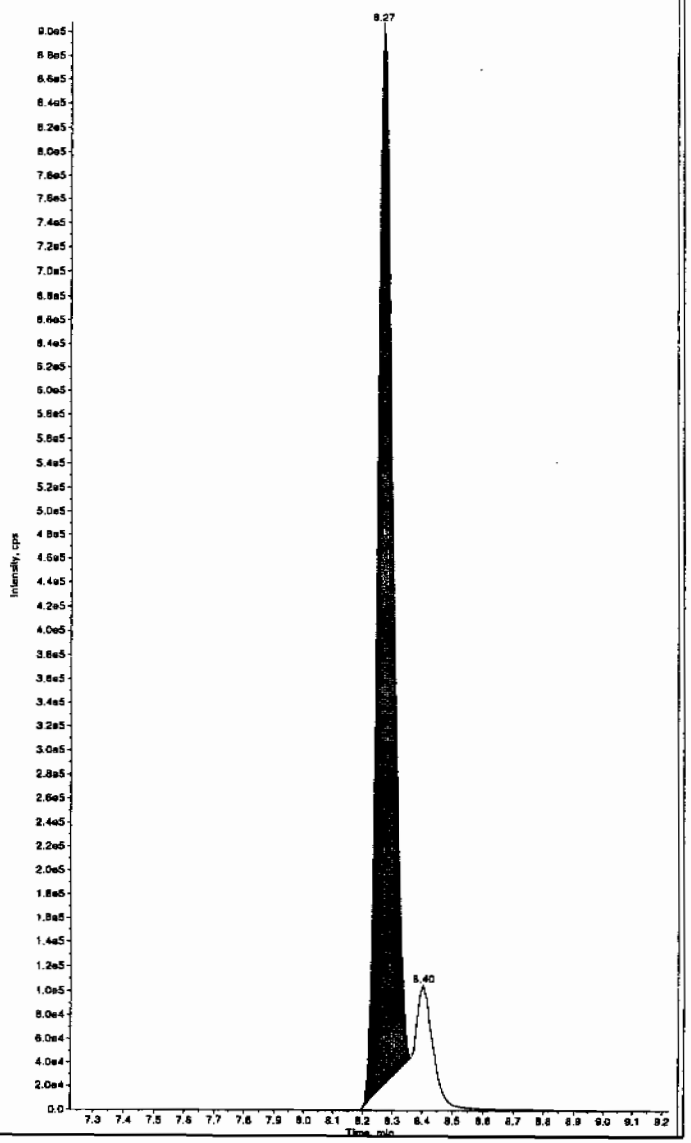


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 518. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 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: 8.23 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.27 min
Area: 3.33e+006 counts
Height: 888225.098 cps
Start Time: 8.20 min
End Time: 8.36 min



HL 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

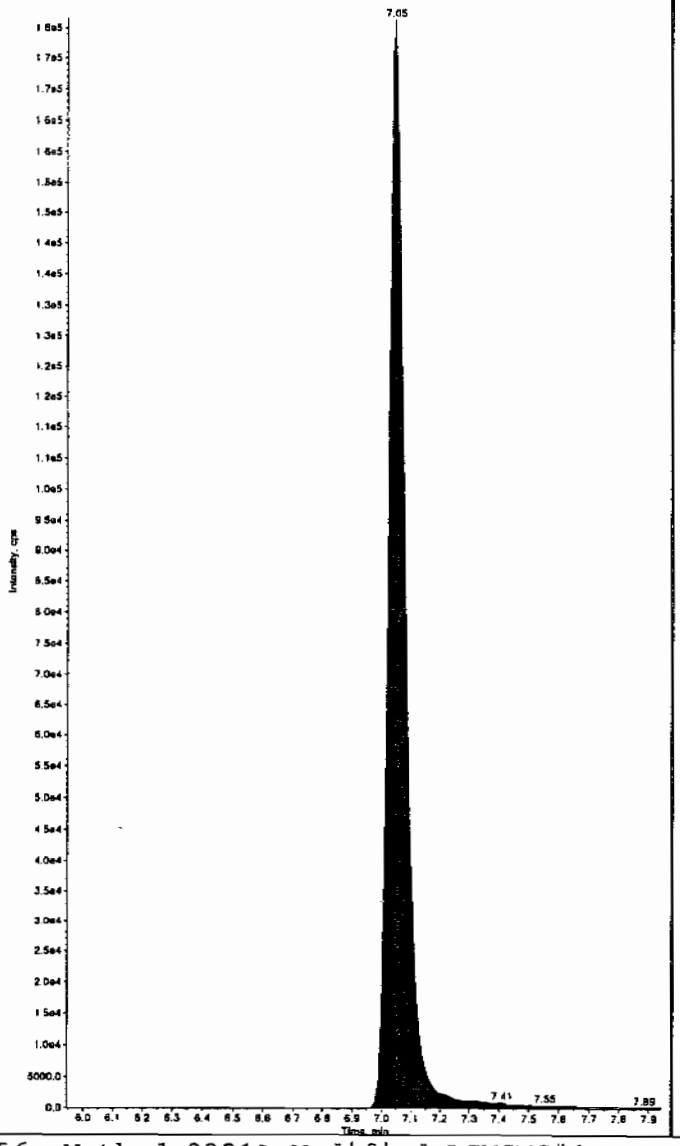
after Dan 2/17/10

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
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: 553. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 PM

Modified: No
Peak 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 7.56e+005 counts
Height: 176592.728 cps
Start Time: 6.94 min
End Time: 7.69 min

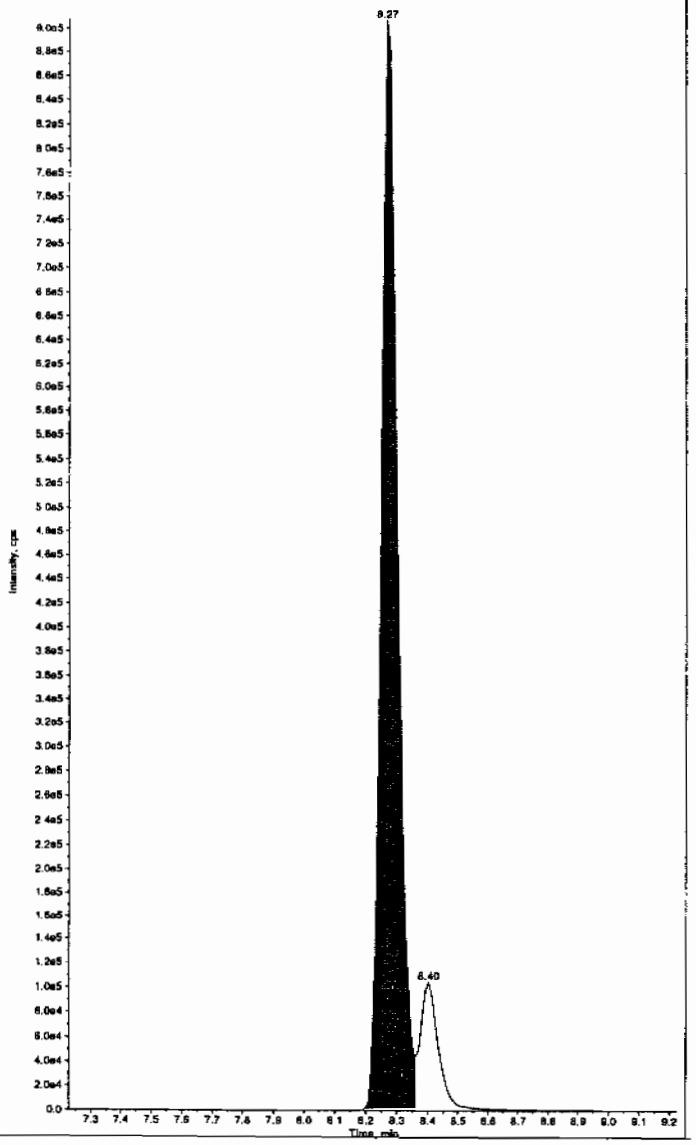


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 553. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.23 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.27 min
Area: 3.53e+006 counts
Height: 916117.169 cps
Start Time: 8.20 min
End Time: 8.36 min



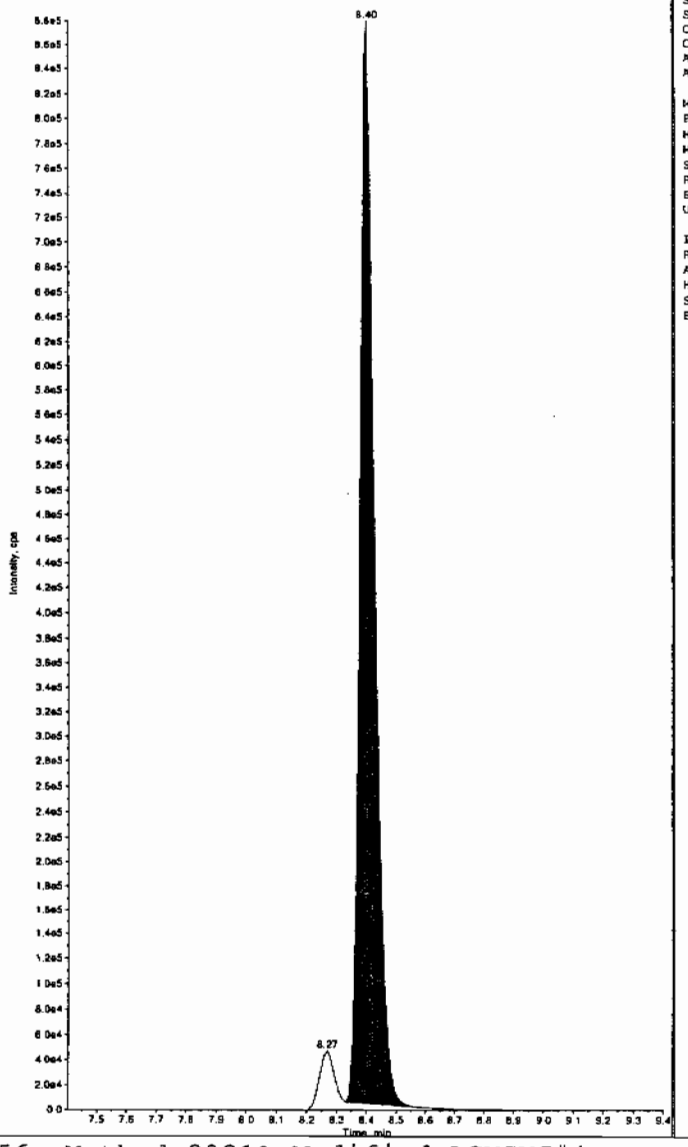
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 350. ng/mL
Calculated Conc: 363. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 PM

Modified: Yes
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: 8.40 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.40 min
Area: 3.19e+006 counts
Height: 875237.854 cps
Start Time: 8.33 min
End Time: 8.53 min

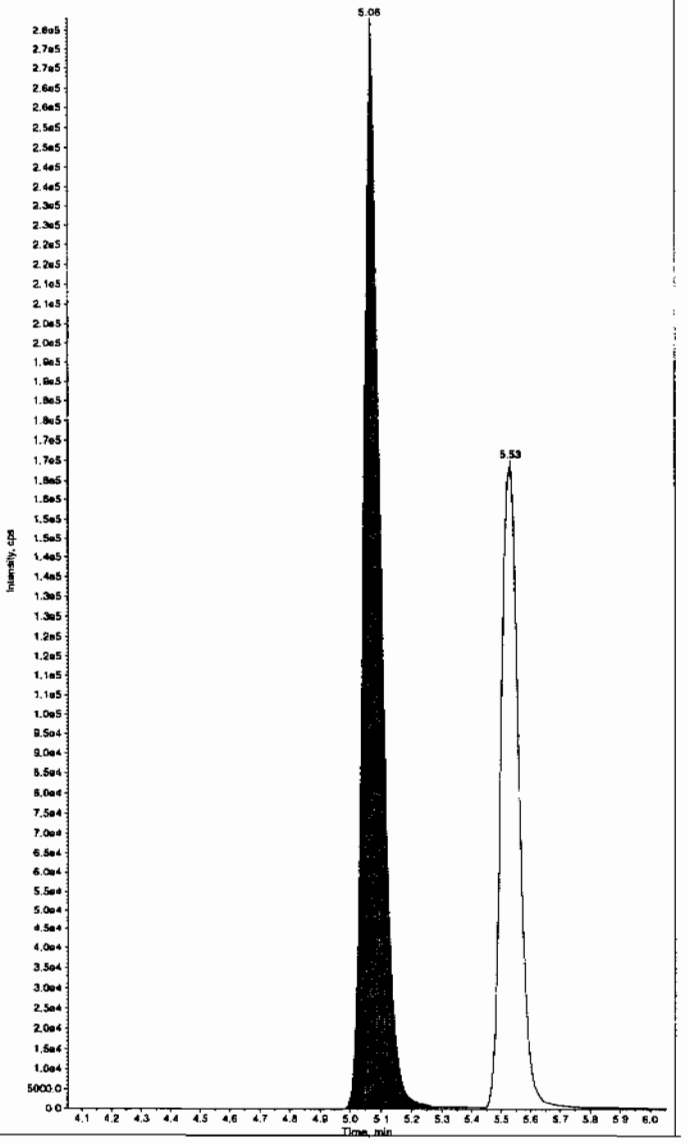


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 536. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 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: 5.06 min
Area: 1.10e+006 counts
Height: 278234.222 cps
Start Time: 4.97 min
End Time: 5.36 min



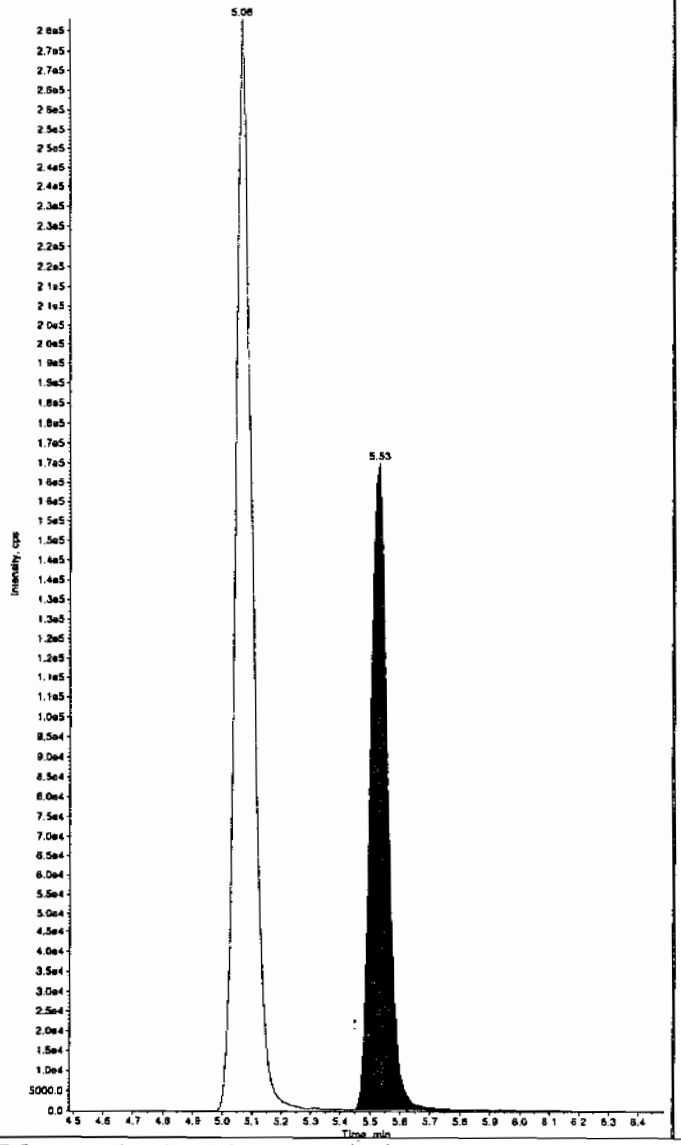
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "24-Diamino-5-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 535. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 6.87e+005 counts
Height: 164672.363 cps
Start Time: 5.45 min
End Time: 5.85 min

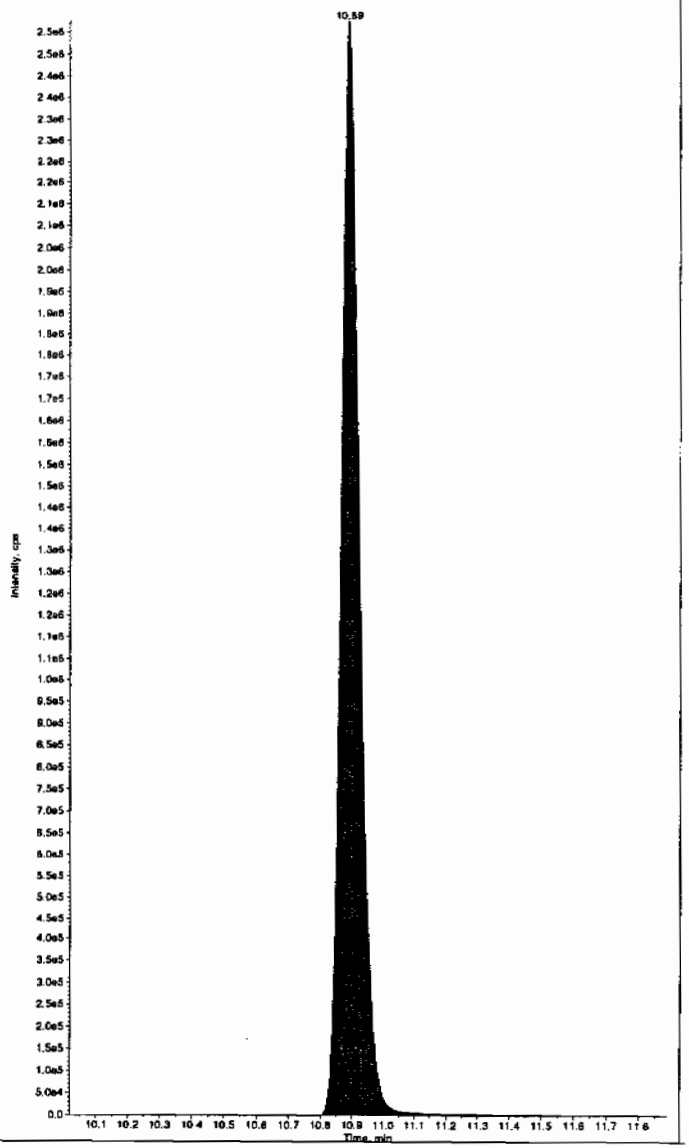


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 544. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:23:36 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.08e+007 counts
Height: 2528285.645 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS02160038.wiff

Analysis Date: 16-FEB-10 21:55

LCMSMS ID: 1358

Column ID JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	69.8	70	
2,6-Diamino-4-nitrotoluene	100	91.6	92	
3,4-Dinitrotoluene	50	52	104	
3,5-Dinitroaniline	100	110	110	
TATB	100	120	120	
tris(o-cresyl) phosphate	100	108	108	

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%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

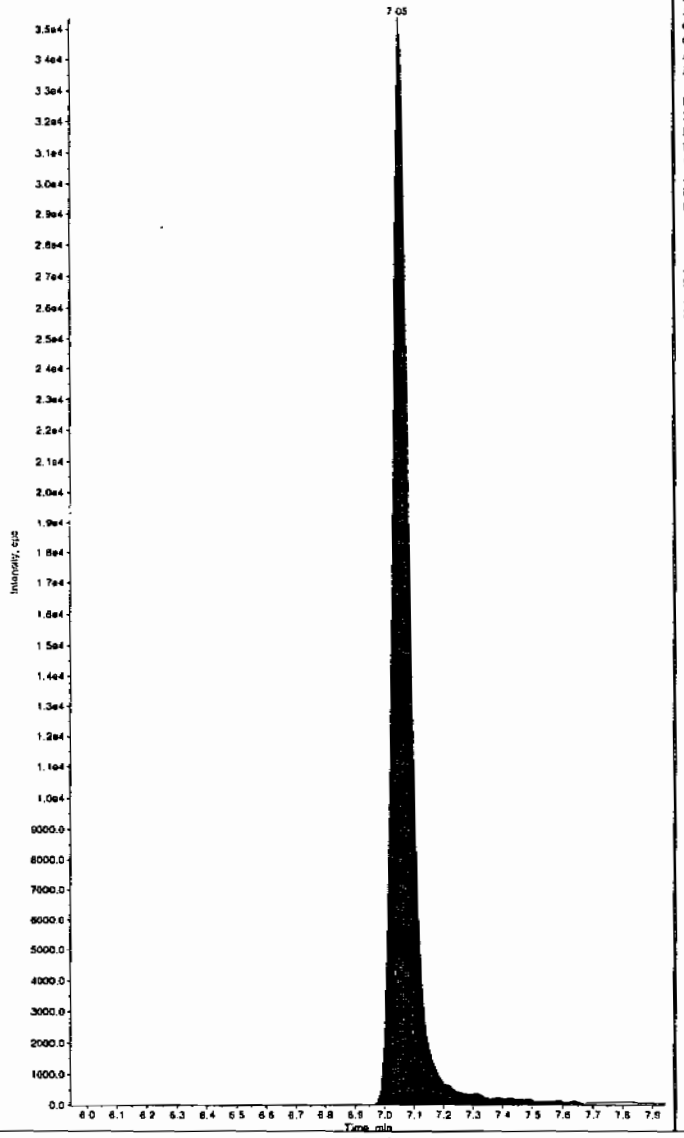
Lcn 2/17/10

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160038.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 120. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:55:09 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 1.54e+005 counts
Height: 35391.315 cps
Start Time: 6.88 min
End Time: 7.67 min

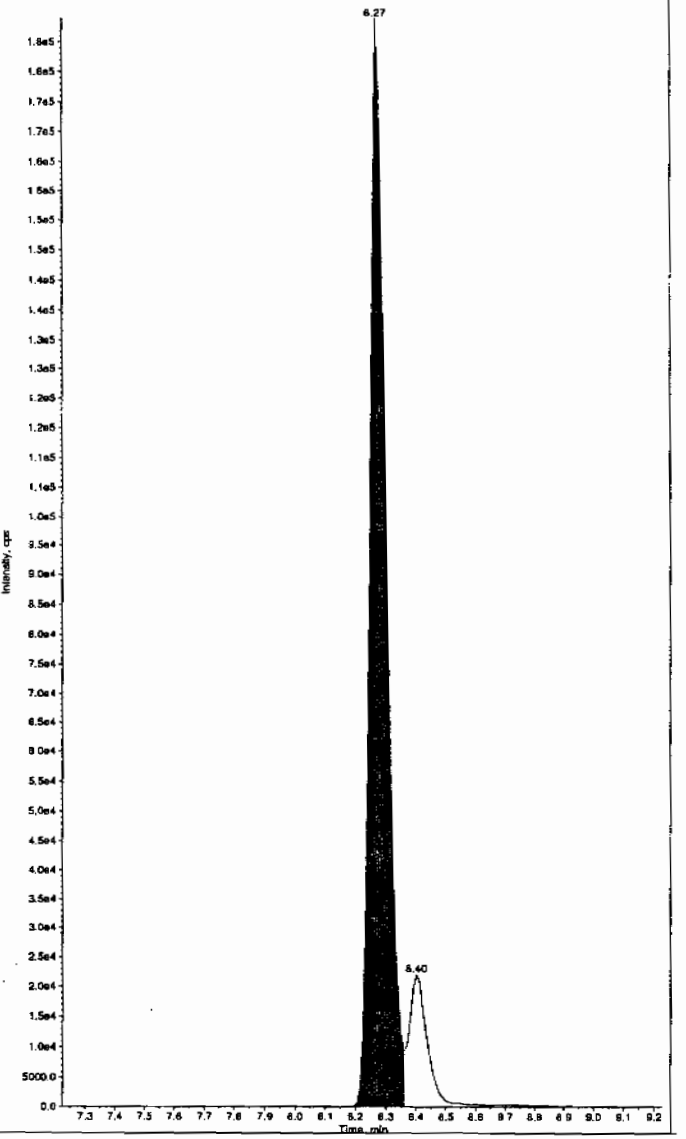


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160038.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 110. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:55:09 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: 8.23 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.27 min
Area: 7.11e+005 counts
Height: 184244.919 cps
Start Time: 8.19 min
End Time: 8.36 min



Hmm 02/17/10

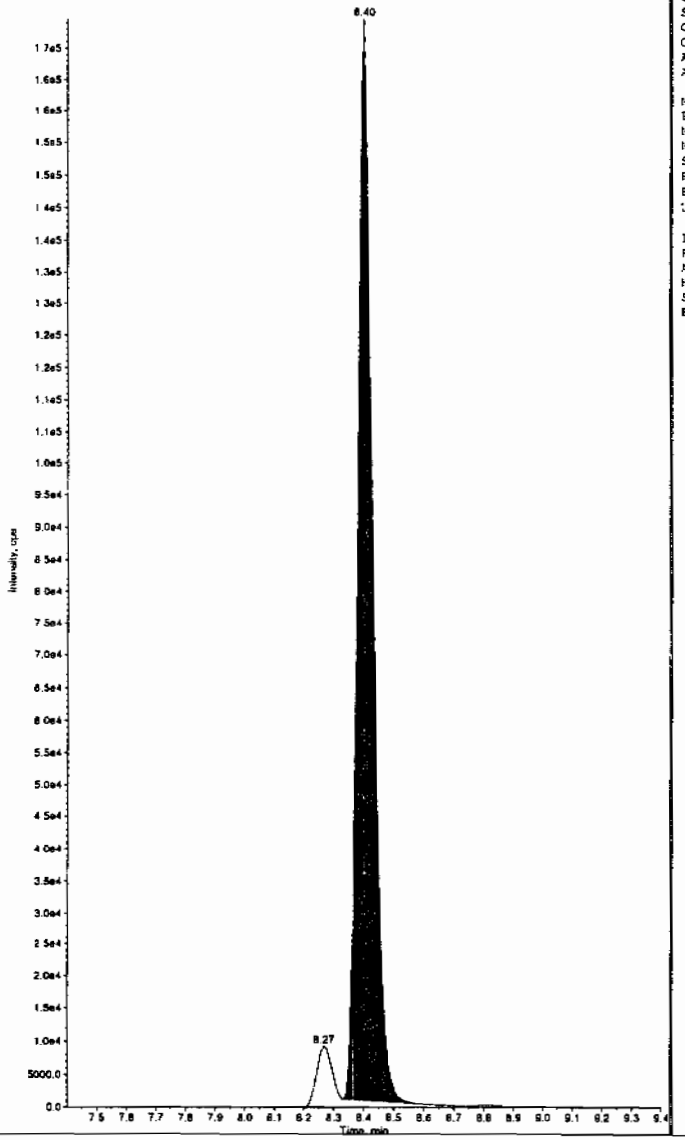
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 52.0 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:55:03 PM

Modified: Yes
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: 8.40 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.40 min
Area: 6.22e+005 counts
Height: 163809.435 cps
Start Time: 8.33 min
End Time: 8.59 min

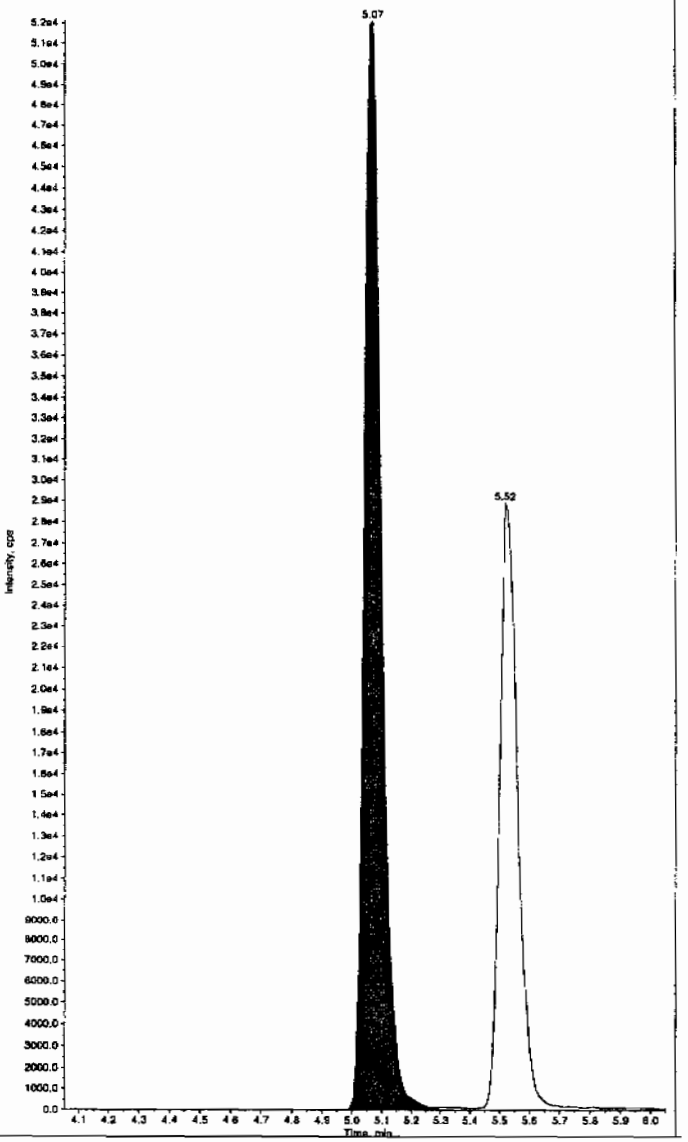


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160036.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 91.6 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:55:09 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: 5.07 min
Area: 2.21e+005 counts
Height: 52107.620 cps
Start Time: 4.94 min
End Time: 5.29 min



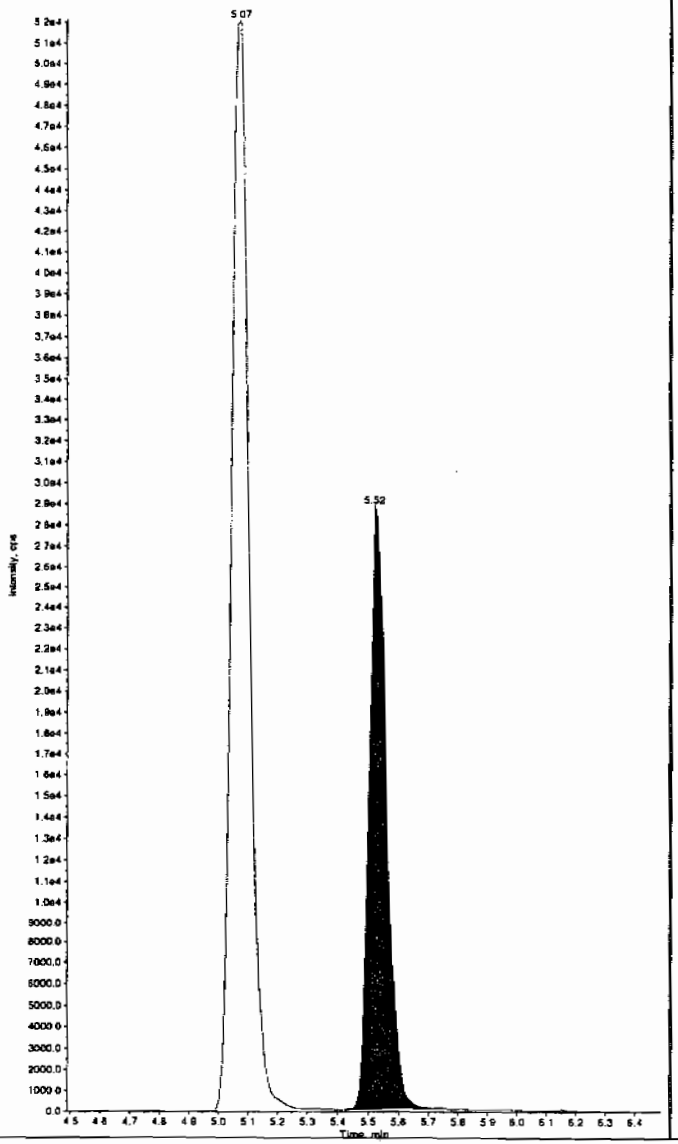
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160038.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 69.8 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:55:09 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 1.15e+005 counts
Height: 28779.385 cps
Start Time: 5.45 min
End Time: 5.72 min

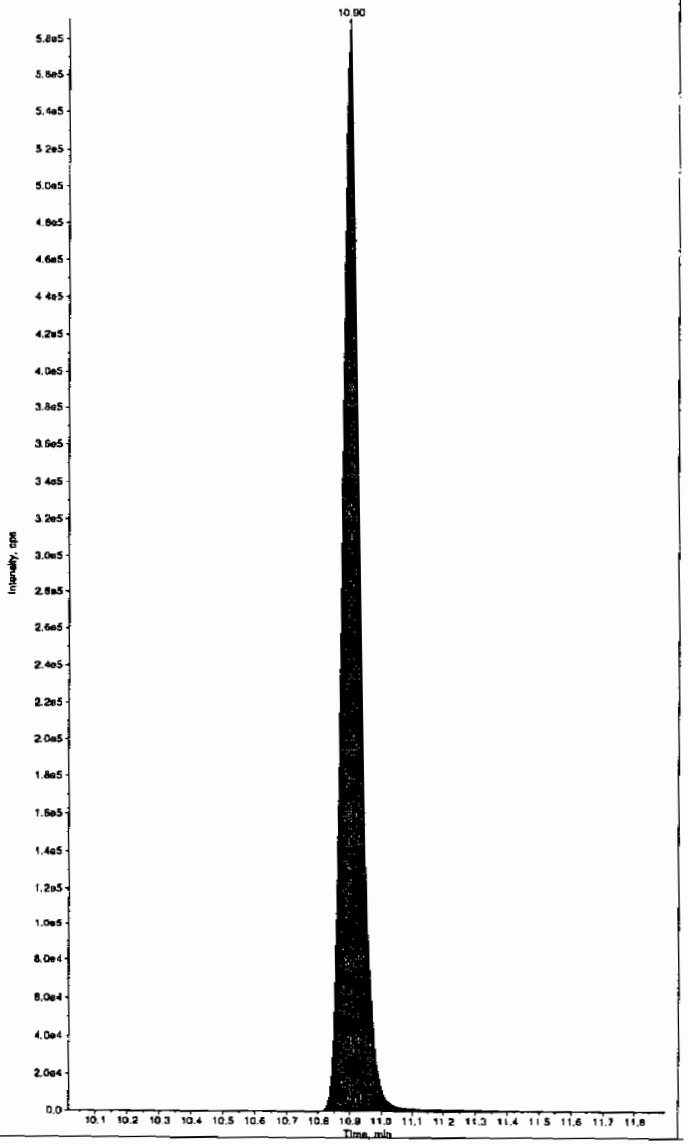


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160038.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 108. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 9:55:09 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 2.40e+006 counts
Height: 591179.504 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS02160049.wiff

Analysis Date: 17-FEB-10 00:47

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	434	87	
2,6-Diamino-4-nitrotoluene	500	557	111	
3,4-Dinitrotoluene	250	263	105	
3,5-Dinitroaniline	500	517	103	
TATB	500	573	115	
tris(o-cresyl) phosphate	500	552	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 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

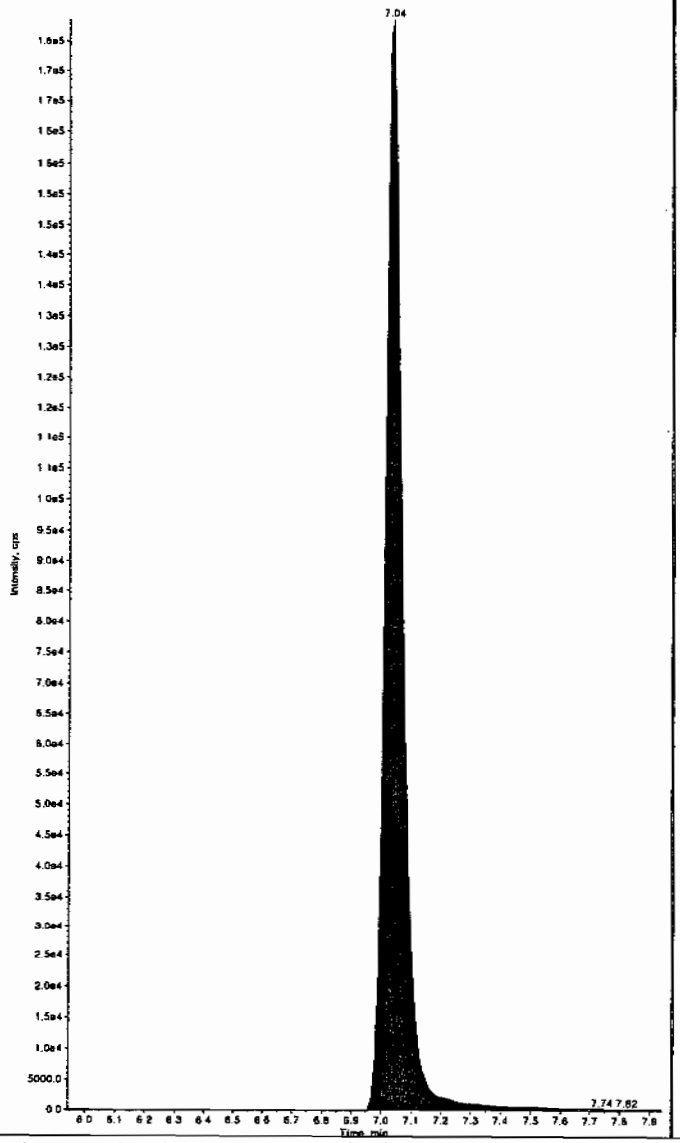
after Jan 2/17/10

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160049.wiff"
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: 573. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 AM

Modified: No
Func. 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.04 min
Area: 7.81e+005 counts
Height: 178814.575 cps
Start Time: 6.87 min
End Time: 7.65 min

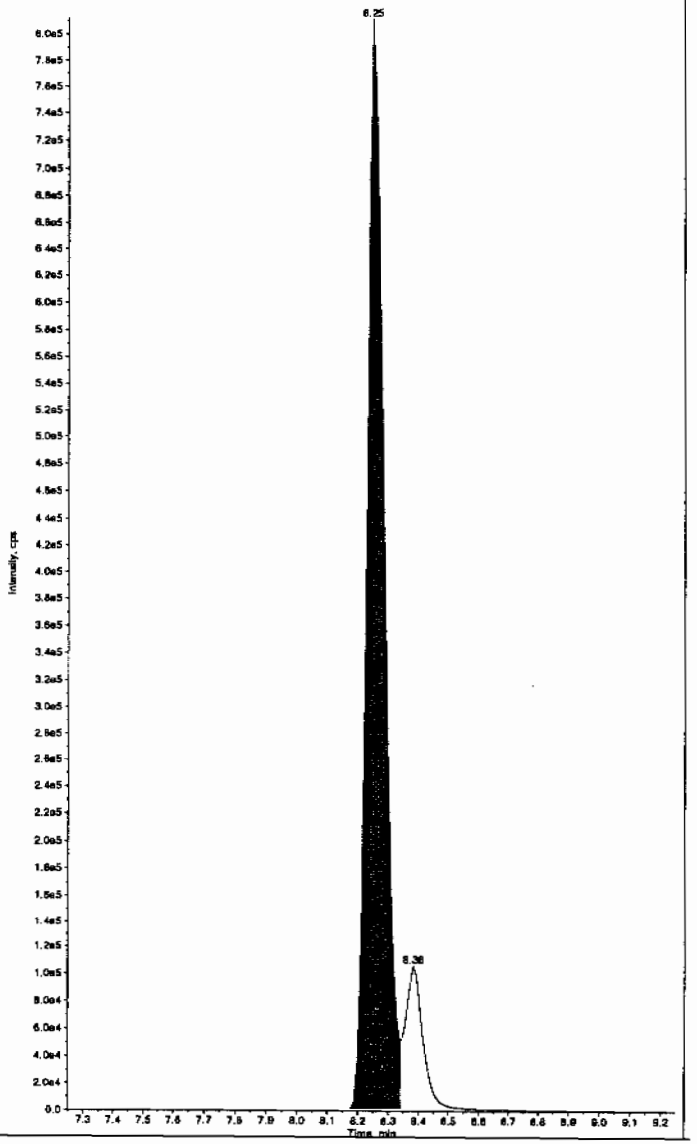


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160049.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 517. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.25 min
Area: 3.32e+006 counts
Height: 814703.568 cps
Start Time: 8.17 min
End Time: 8.34 min



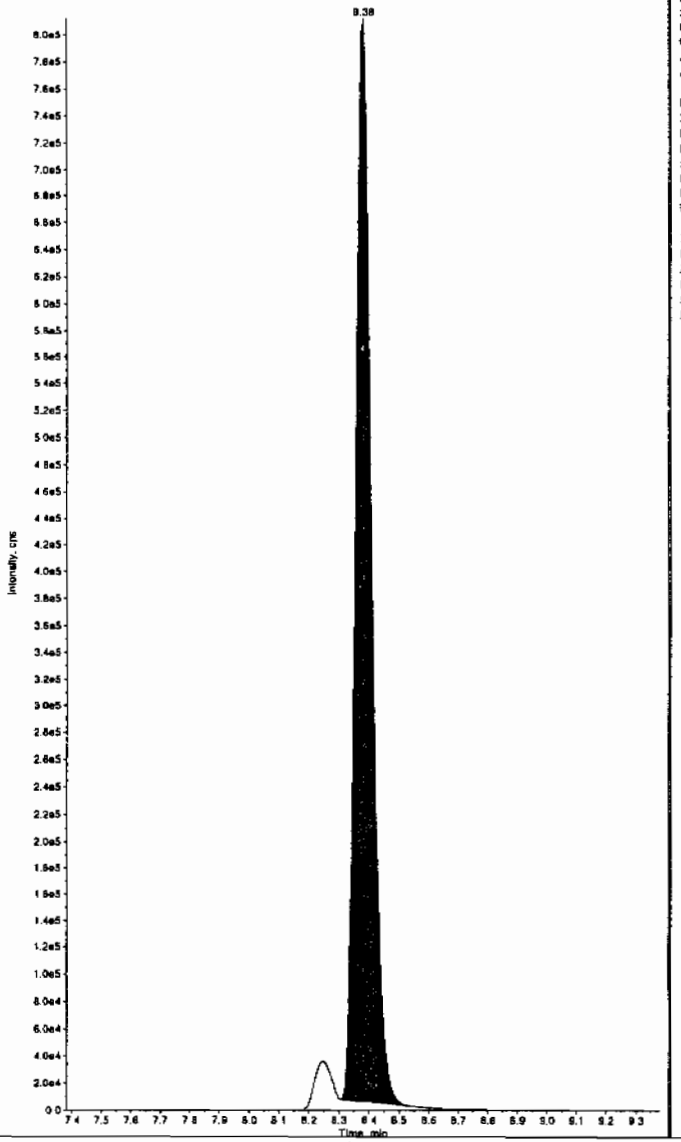
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160049.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 350. ng/mL
Calculated Conc: 263. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 AM

Modified: Yes
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: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 3.19e+006 counts
Height: 807283.020 cps
Start Time: 8.31 min
End Time: 8.54 min

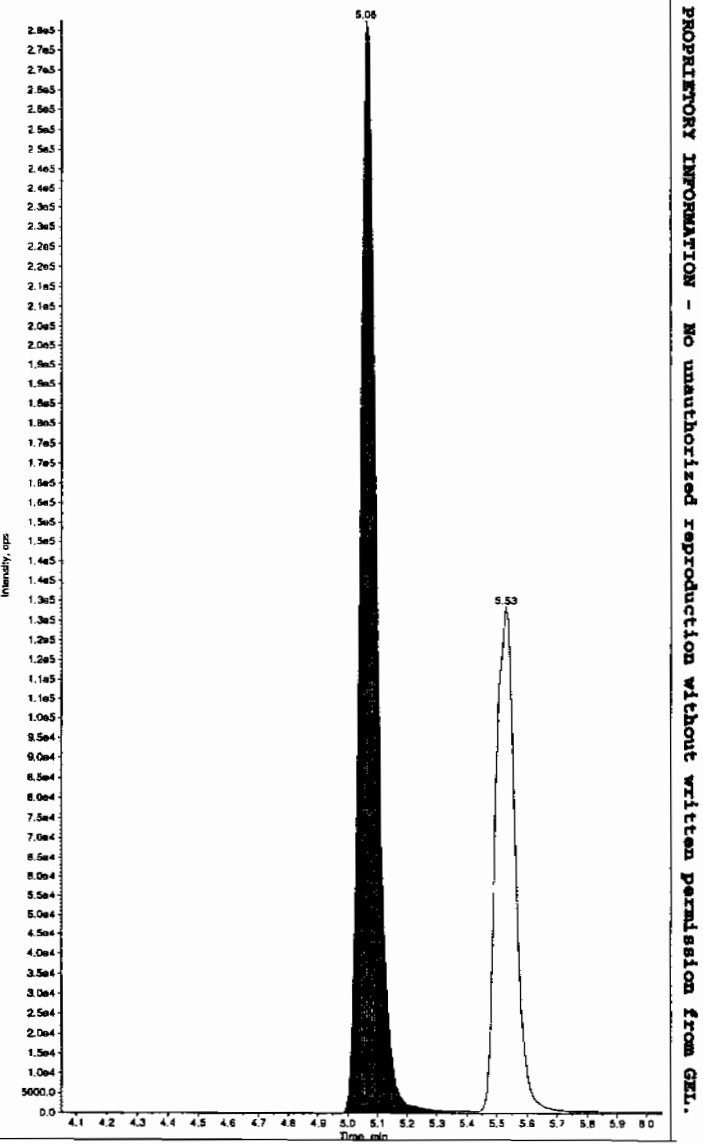


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160049.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 557. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 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: 5.06 min
Area: 1.14e+006 counts
Height: 277784.271 cps
Start Time: 4.96 min
End Time: 5.36 min



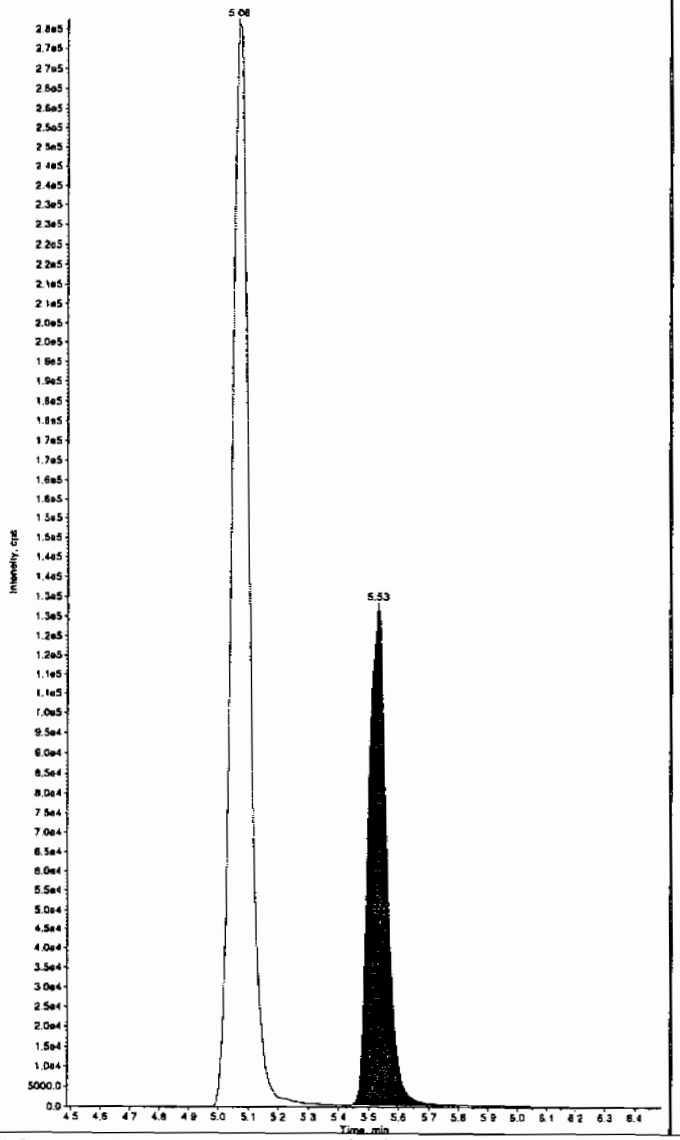
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "1|LER" File: "EXS02160048.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 434. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 5.63e+005 counts
Height: 128092.499 cps
Start Time: 5.43 min
End Time: 5.80 min

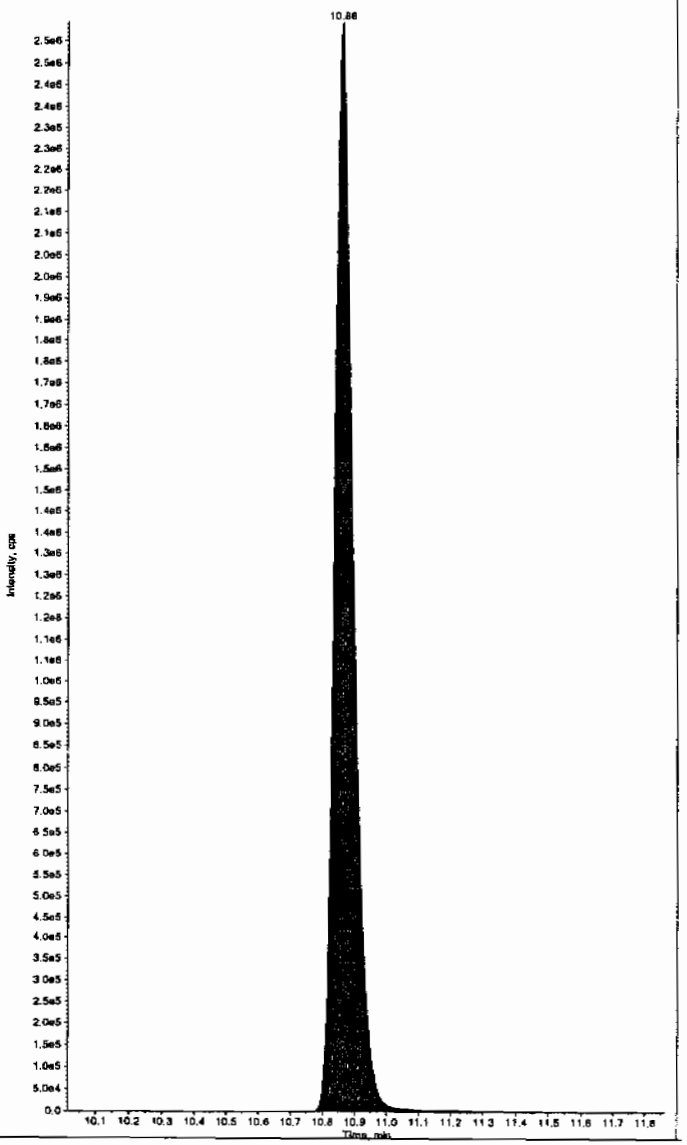


Sample Name: "WXX100216-26CCV" Sample ID: "1|LER" File: "EXS02160049.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 552. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.09e+007 counts
Height: 2545280.273 cps
Start Time: 10.7 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

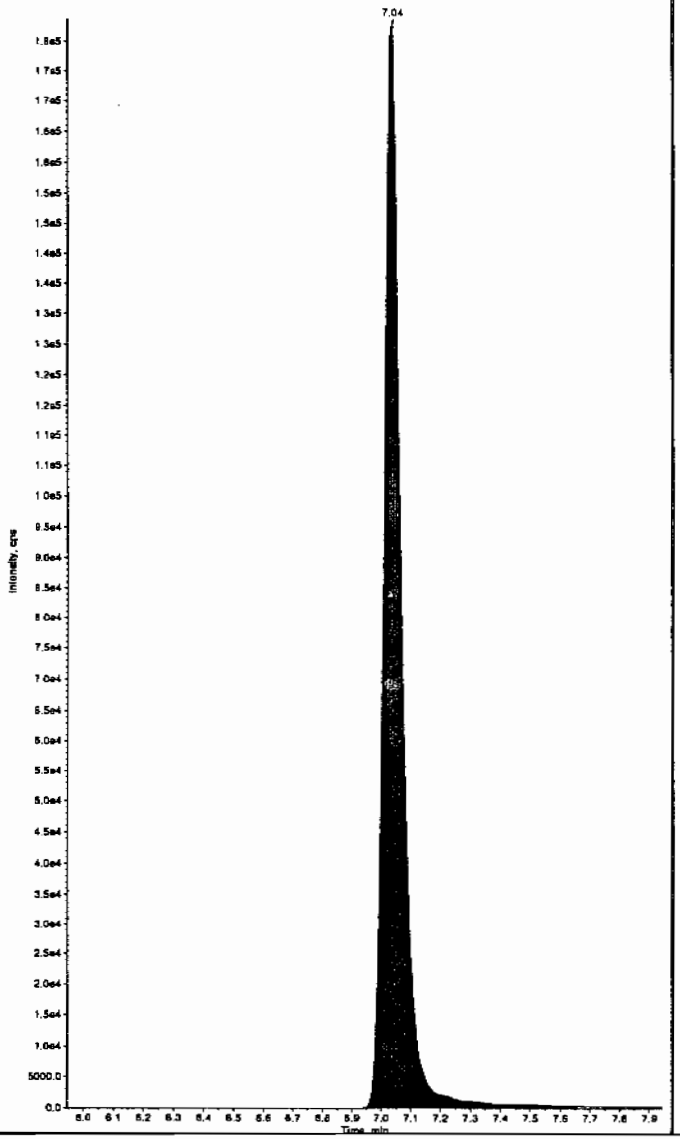
Before Chan 2/17/10

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160049.wiff"
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: 573. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.04 min
Area: 7.81e+005 counts
Height: 178814.575 cps
Start Time: 6.87 min
End Time: 7.65 min

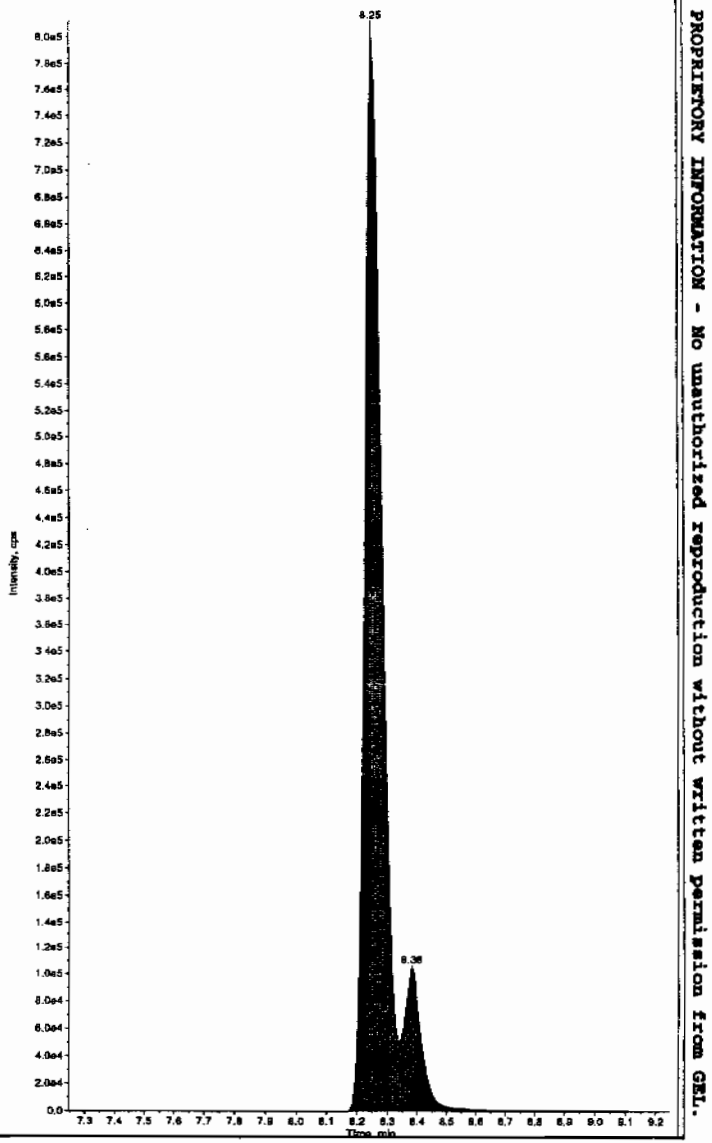


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160049.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 598. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 12:47:52 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: 8.25 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 3.80e+006 counts
Height: 812833.679 cps
Start Time: 8.15 min
End Time: 8.85 min



Hnm 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS02160051.wiff

Analysis Date: 17-FEB-10 01:19

LCMSMS ID: 1358

Column ID JSphere ODS-H80

Compound	True	Found	Recovery	Q
TATB	100	116	116	
tris(o-cresyl) phosphate	100	110	110	
2,4-Diamino-6-nitrotoluene	100	63.3	63	
2,6-Diamino-4-nitrotoluene	100	82	82	
3,4-Dinitrotoluene	50	54.8	110	
3,5-Dinitroaniline	100	99	99	

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%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

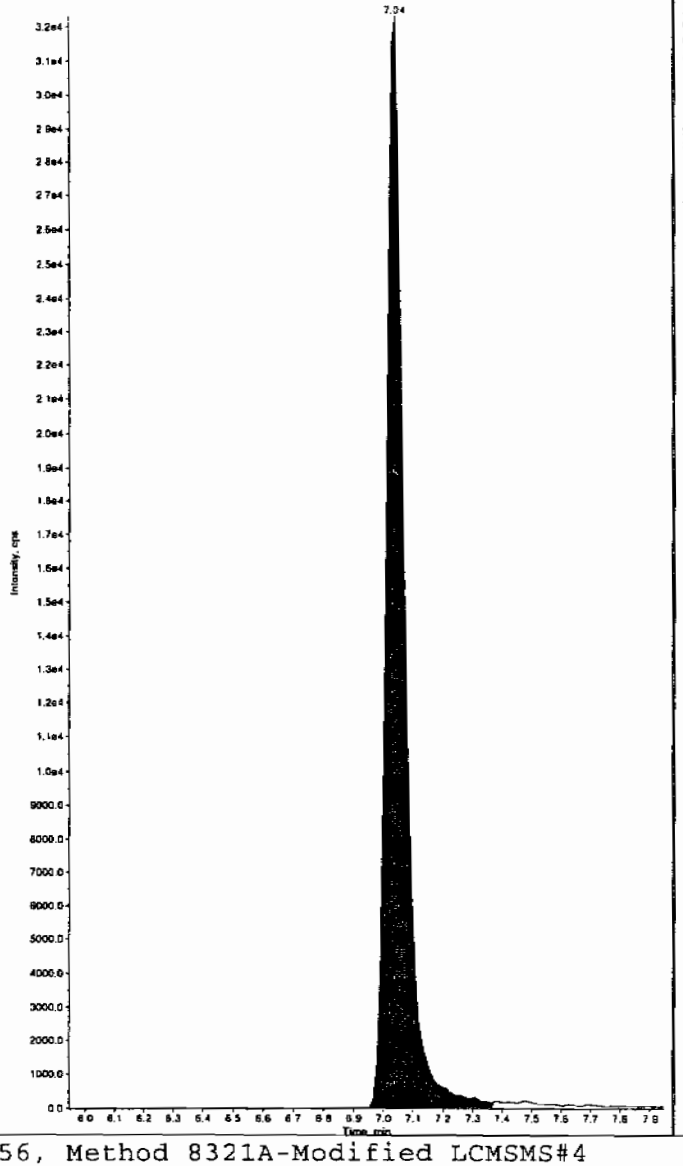
dcw 2/17/10

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160051.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 116. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:13:18 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.04 min
Area: 1.48e+005 counts
Height: 32320.248 cps
Start Time: 6.92 min
End Time: 7.37 min

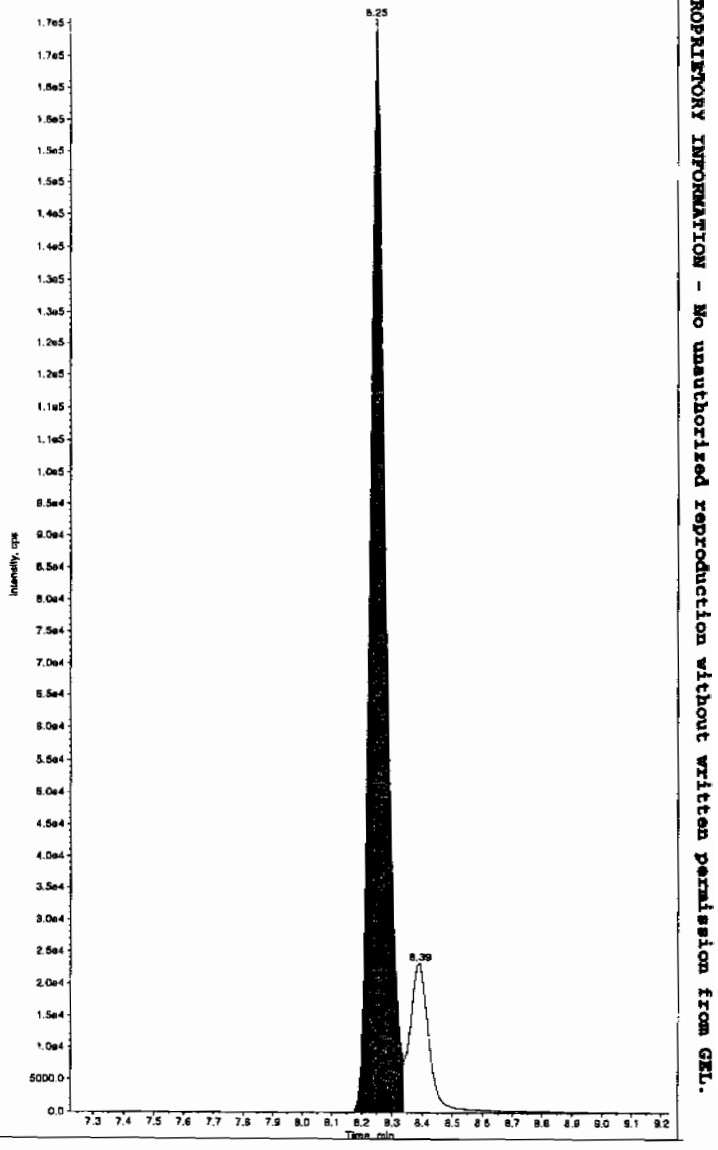


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160051.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 99.0 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:19:18 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: 8.23 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 6.38e+005 counts
Height: 170726.547 cps
Start Time: 8.15 min
End Time: 8.34 min



Hmm 02/17/10

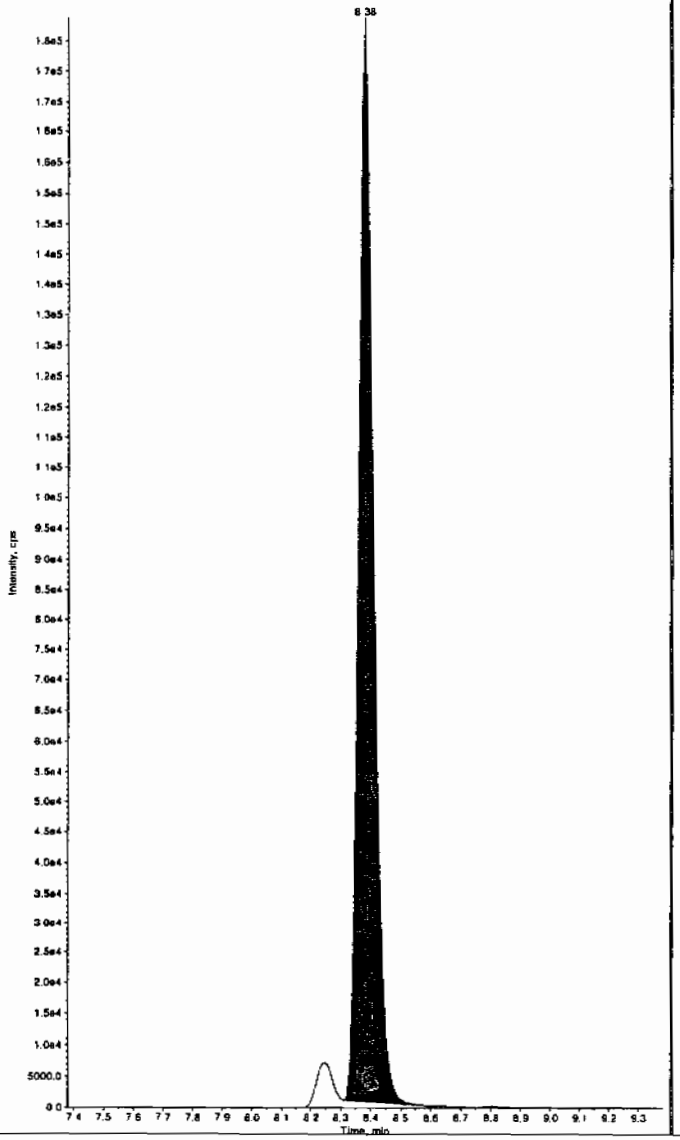
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160051.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 54.8 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:19:18 AM

Modified: Yes
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: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 6.55e+005 counts
Height: 177874.405 cps
Start Time: 8.31 min
End Time: 8.59 min

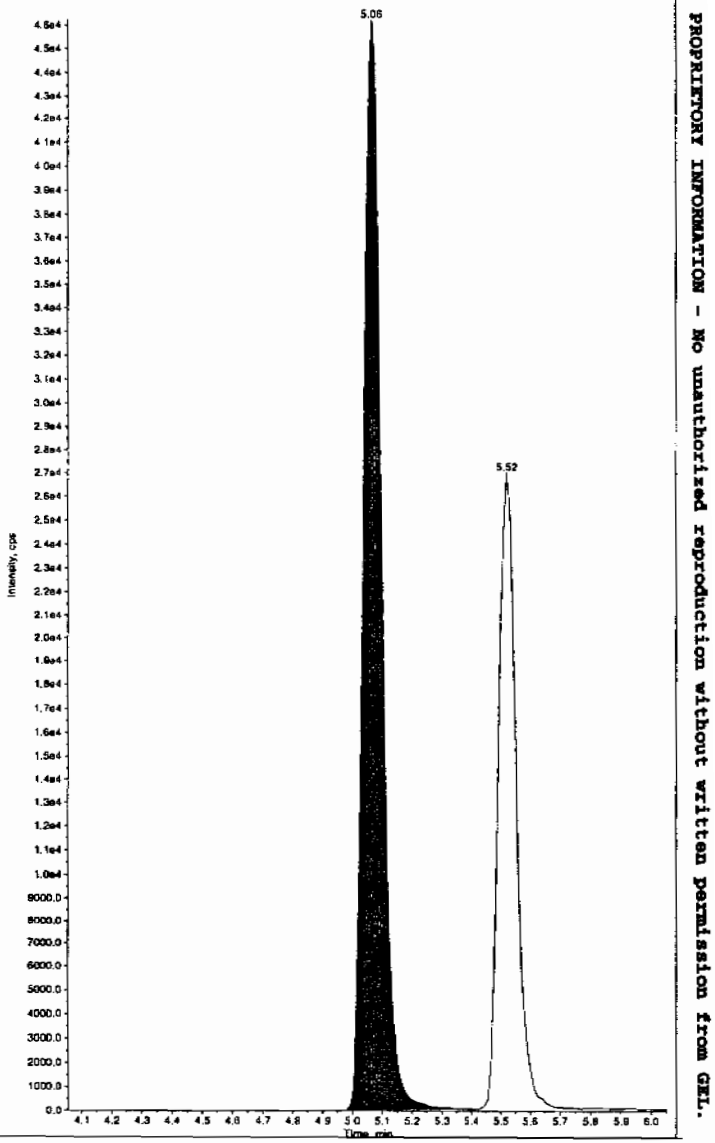


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160051.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 82.0 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:19:18 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: 5.06 min
Area: 2.02e+005 counts
Height: 46203.228 cps
Start Time: 4.97 min
End Time: 5.33 min



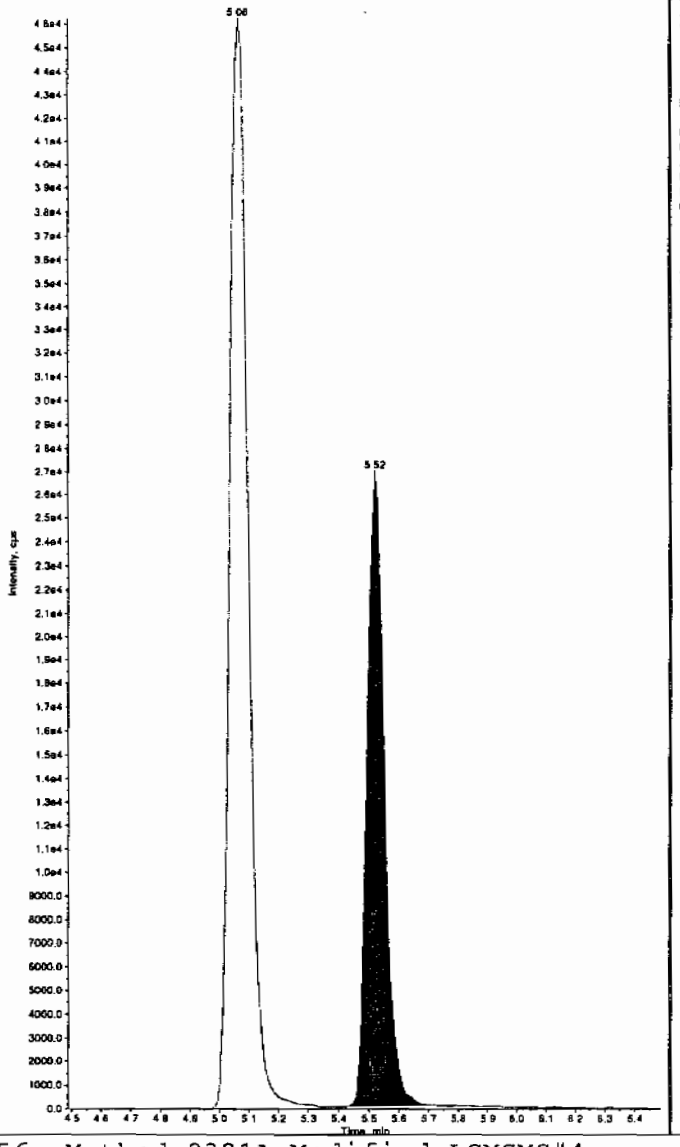
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "1|LER" File: "EXS02160051.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 63.3 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:19:18 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 1.11e+005 counts
Height: 26893.761 cps
Start Time: 5.44 min
End Time: 5.69 min

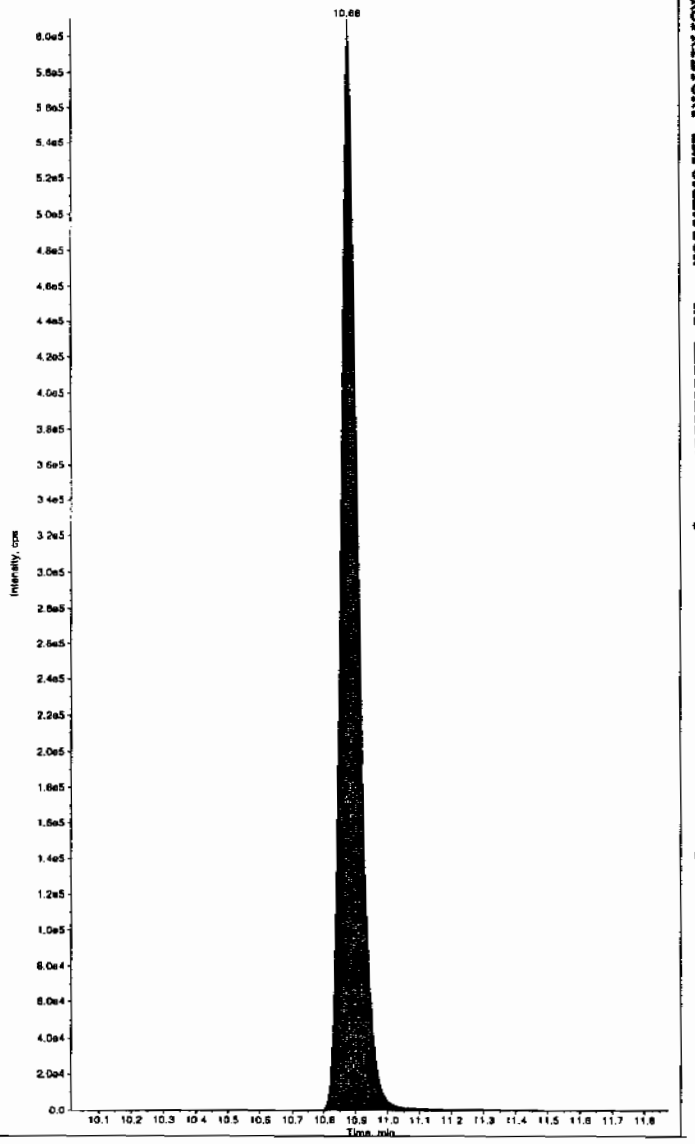


Sample Name: "WXX100216-27CRI" Sample ID: "1|LER" File: "EXS02160051.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 110. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 1:19:18 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 2.43e+006 counts
Height: 609750.183 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS02160062.wiff

Analysis Date: 17-FEB-10 04:12

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	505	101	
2,6-Diamino-4-nitrotoluene	500	469	94	
3,4-Dinitrotoluene	250	285	114	
3,5-Dinitroaniline	500	527	105	
TATB	500	569	114	
tris(o-cresyl) phosphate	500	544	109	

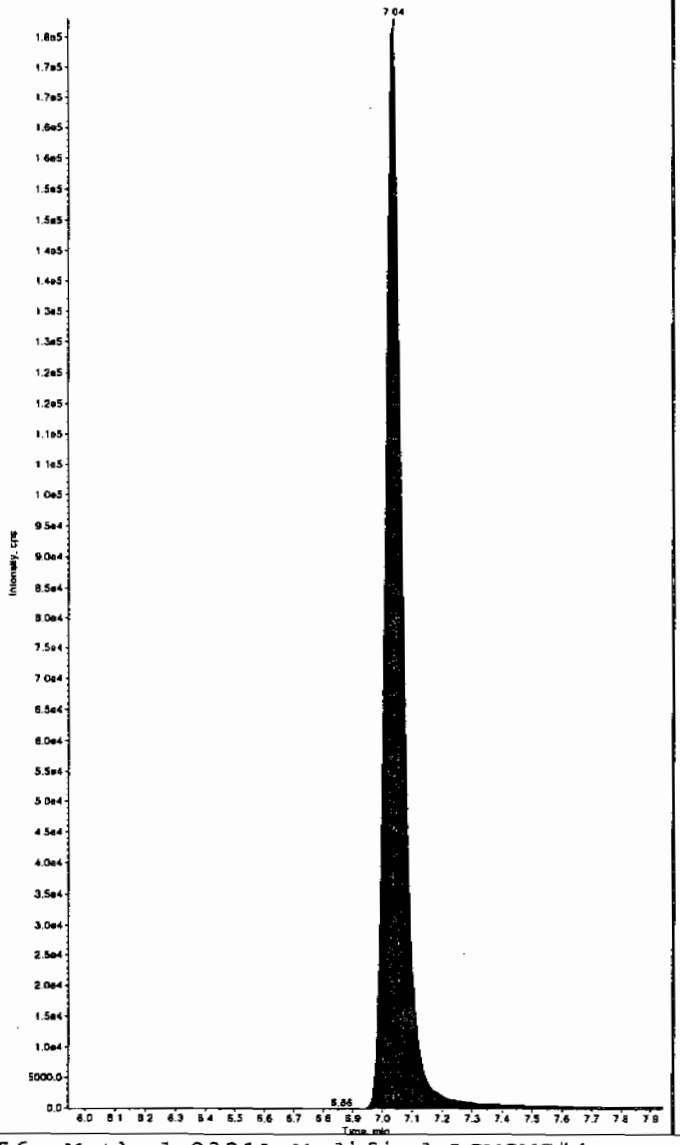
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Sample Name: "WXX100216-26CCV" Sample ID: "|1|LER" File: "EXS02160062.wiff"
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: 569. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:12:02 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.04 min
Area: 7.77e+005 counts
Height: 178060.379 cps
Start Time: 6.29 min
End Time: 7.71 min

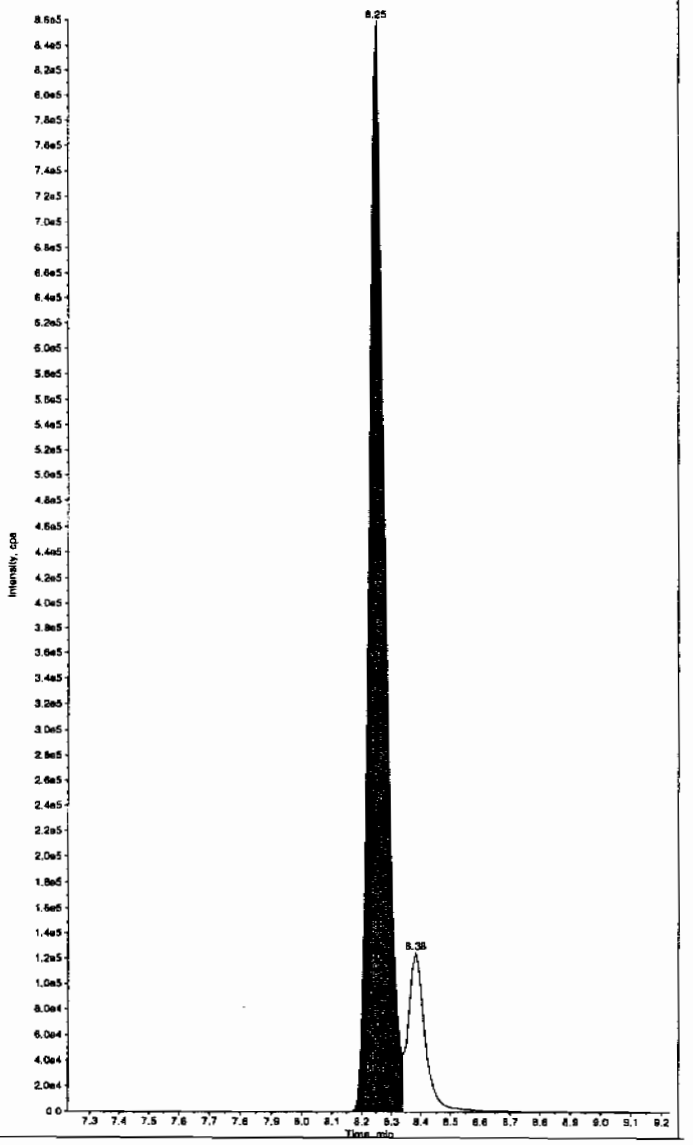


Sample Name: "WXX100216-26CCV" Sample ID: "|1|LER" File: "EXS02160062.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 527. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:12:02 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: 8.23 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 3.38e+006 counts
Height: 860165.222 cps
Start Time: 8.14 min
End Time: 8.34 min



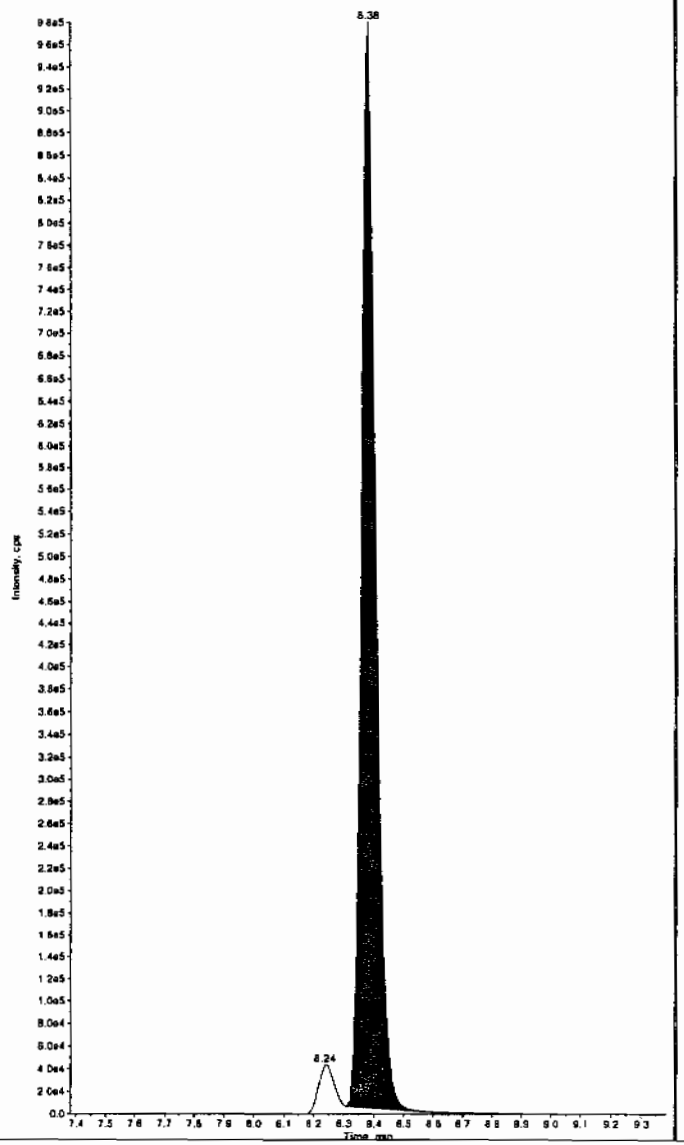
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160062.wiff"
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: 285. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:12:02 AM

Modified: Yes
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: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 3.44e-006 counts
Height: 976252.625 cps
Start Time: 8.31 min
End Time: 8.57 min

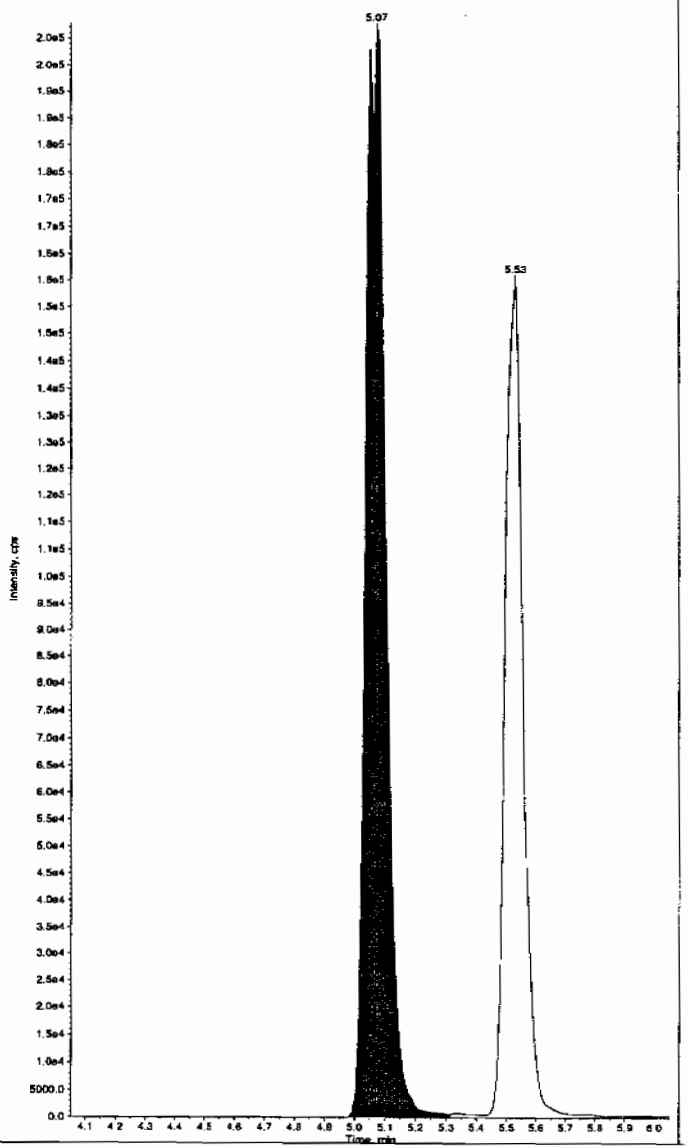


Sample Name: "WXX100216-26CCV" Sample ID: "[1]LER" File: "EXS02160062.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 469. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:12:02 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: 5.07 min
Area: 9.71e+005 counts
Height: 202777.054 cps
Start Time: 4.96 min
End Time: 5.31 min



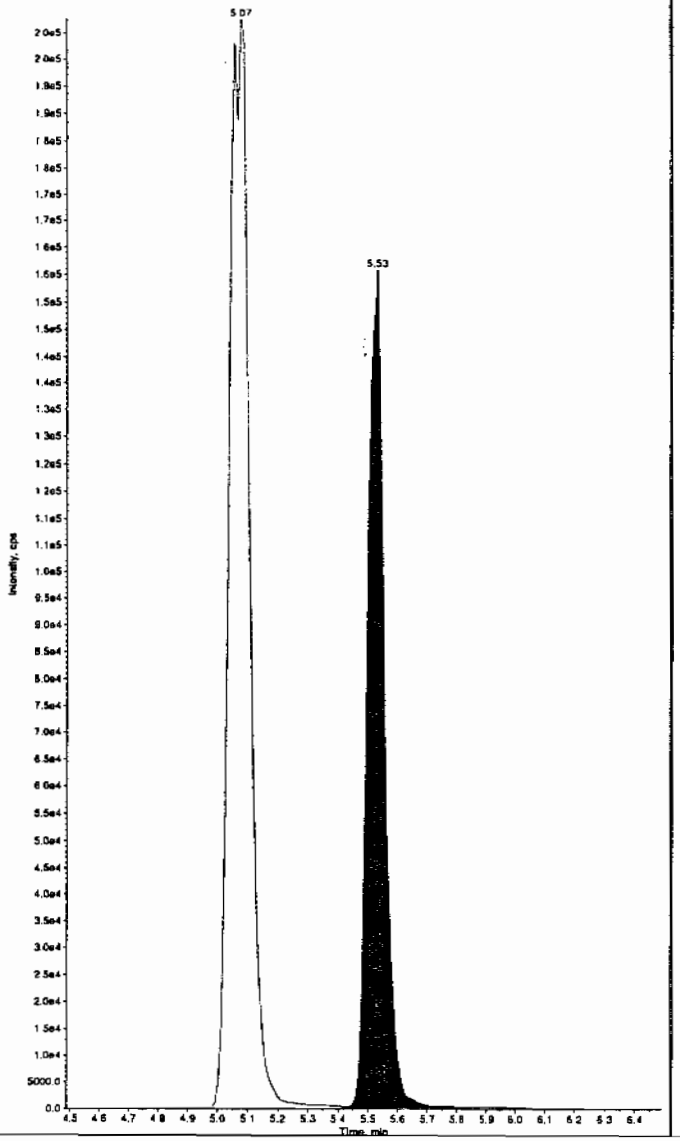
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-26CCV" Sample ID: "|1|LER" File: "EXS02160062.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 505. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:12:02 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 6.49e+005 counts
Height: 155335.571 cps
Start Time: 5.42 min
End Time: 5.84 min

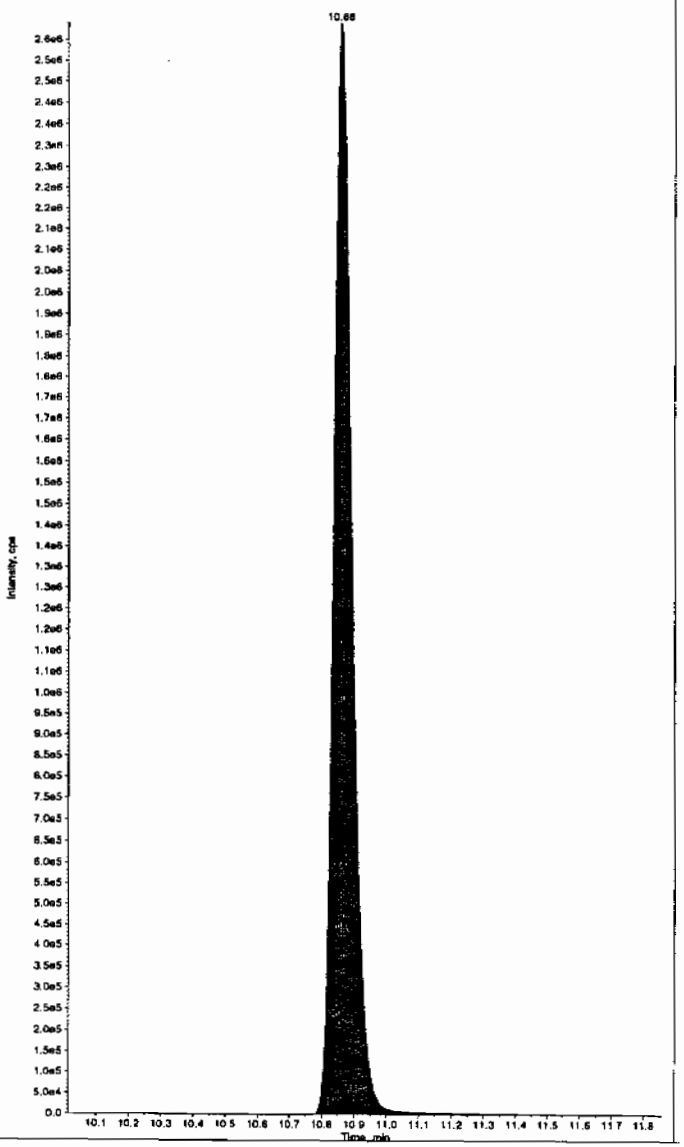


Sample Name: "WXX100216-26CCV" Sample ID: "|1|LER" File: "EXS02160062.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 544. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:12:02 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.08e+007 counts
Height: 2593032.471 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1666

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS02160064.wiff

Analysis Date: 17-FEB-10 04:43

LCMSMS ID: 1358

Column ID JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	74.6	75	
2,6-Diamino-4-nitrotoluene	100	91	91	
3,4-Dinitrotoluene	50	54.8	110	
3,5-Dinitroaniline	100	110	110	
TATB	100	121	121	
tris(o-cresyl) phosphate	100	109	109	

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%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

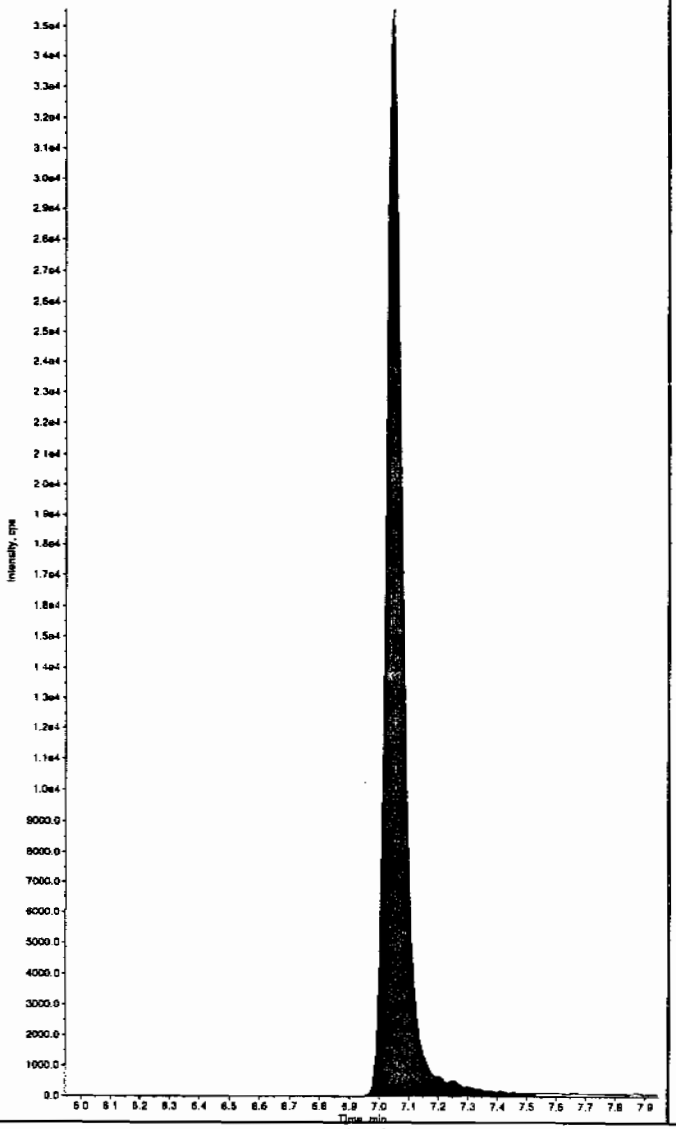
Before Clean 2/17/10

Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160064.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 121. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 1.56e+005 counts
Height: 35566.433 cps
Start Time: 6.94 min
End Time: 7.53 min

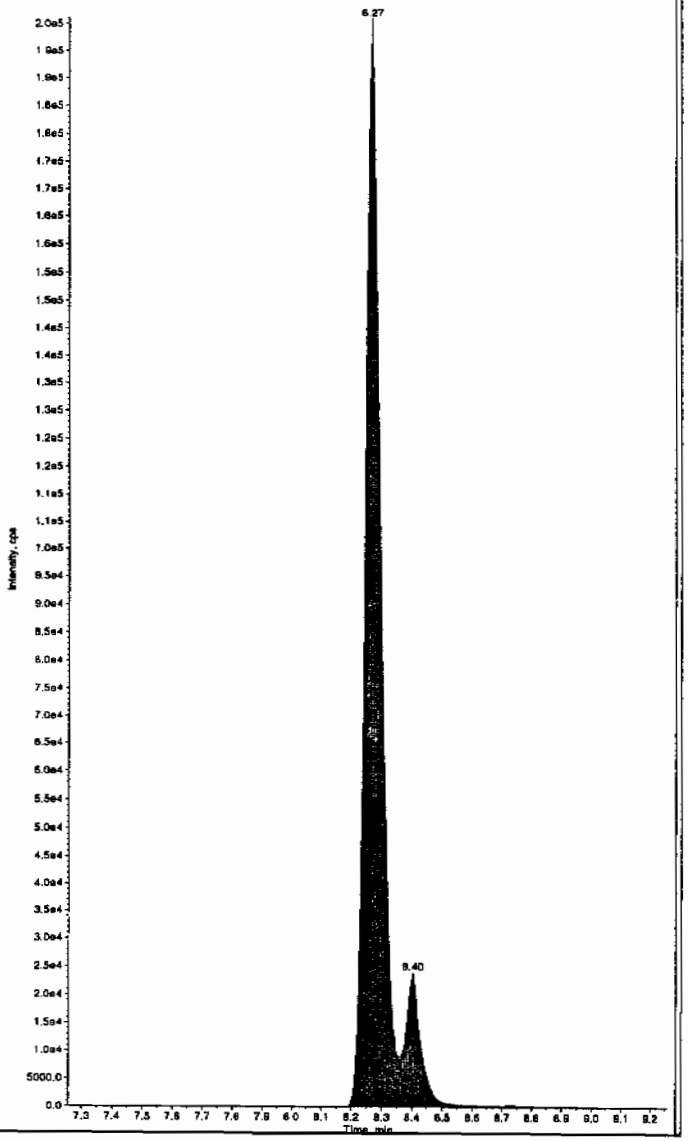


Sample Name: "WXX100216-27CRI" Sample ID: "[1]LER" File: "EXS02160064.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 125. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 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: 8.26 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.27 min
Area: 8.13e+005 counts
Height: 196113.220 cps
Start Time: 8.16 min
End Time: 8.64 min



HMM 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

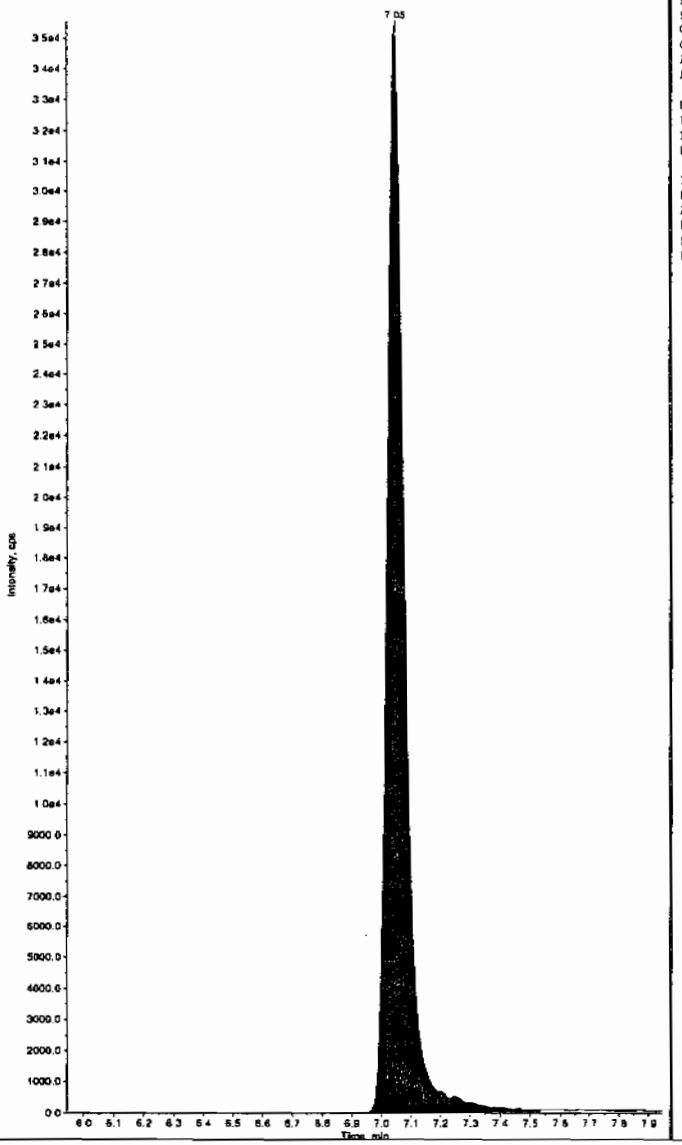
aftg Jan 2/17/10

Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160064.wff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 121. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 AM

Modified: No
Disc. 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 1.56e+005 counts
Height: 35566.433 cps
Start Time: 6.94 min
End Time: 7.53 min

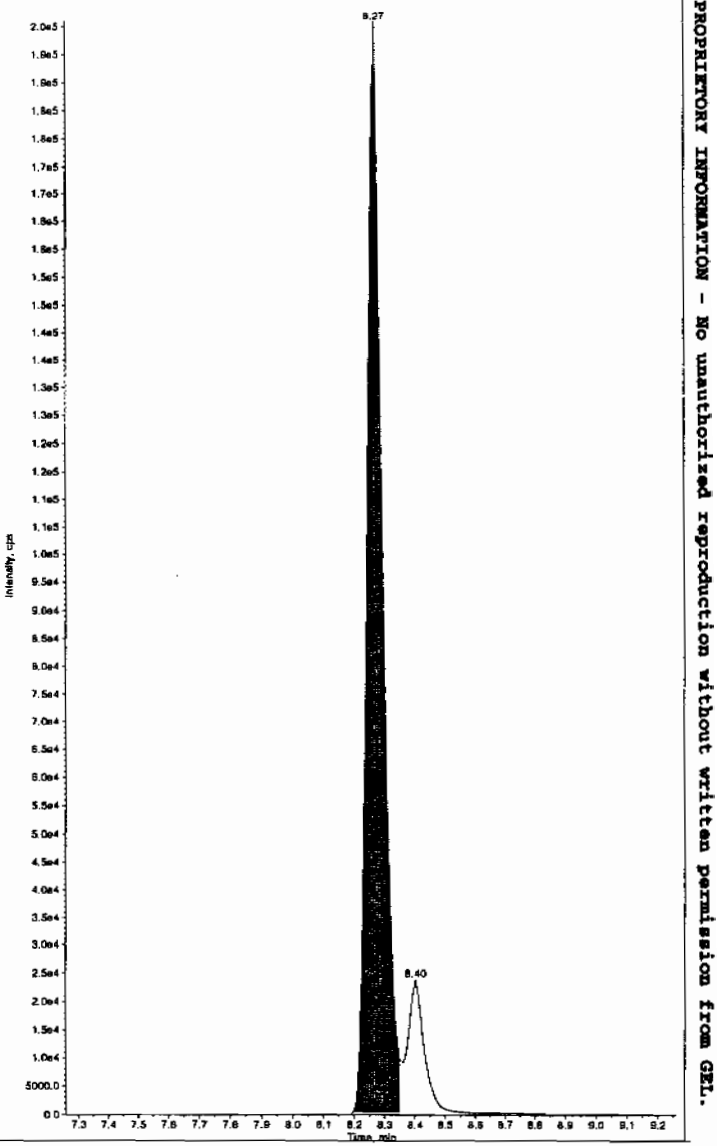


Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160064.wff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 110. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.26 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.27 min
Area: 7.11e+005 counts
Height: 196146.905 cps
Start Time: 8.20 min
End Time: 8.35 min



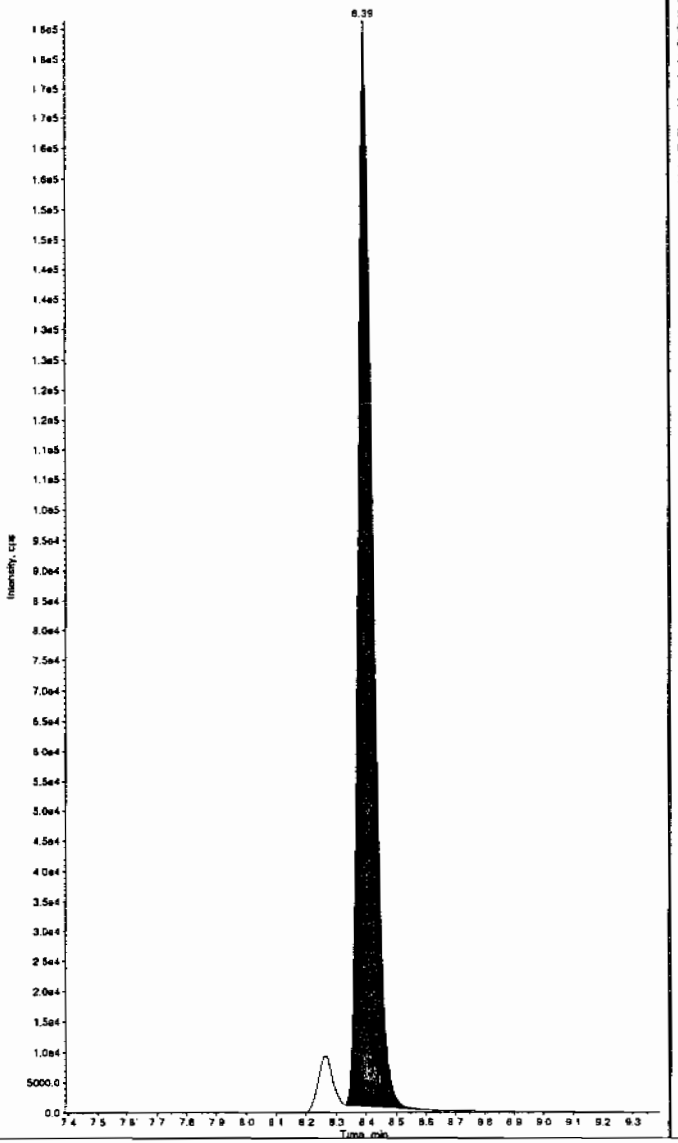
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160064.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 54.8 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 AM

Modified: Yes
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: 8.39 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.39 min
Area: 6.57e+005 counts
Height: 180591.003 cps
Start Time: 8.33 min
End Time: 8.58 min

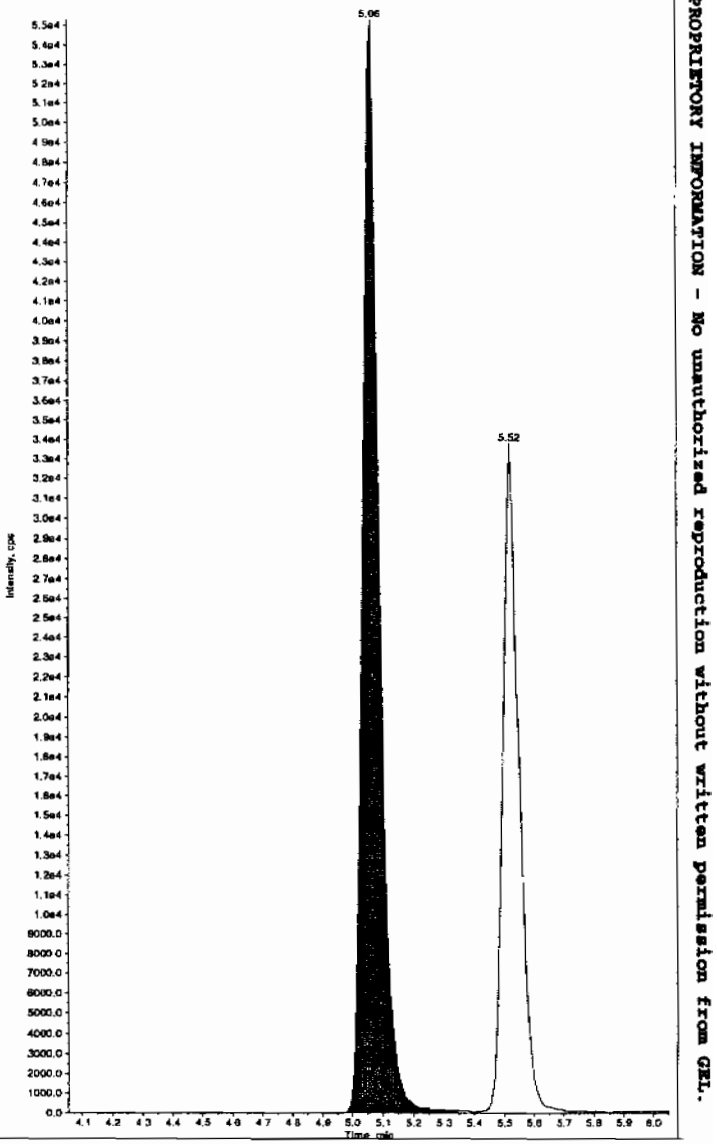


Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160064.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 91.0 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 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: 5.06 min
Area: 2.20e+005 counts
Height: 55294.304 cps
Start Time: 4.94 min
End Time: 5.34 min



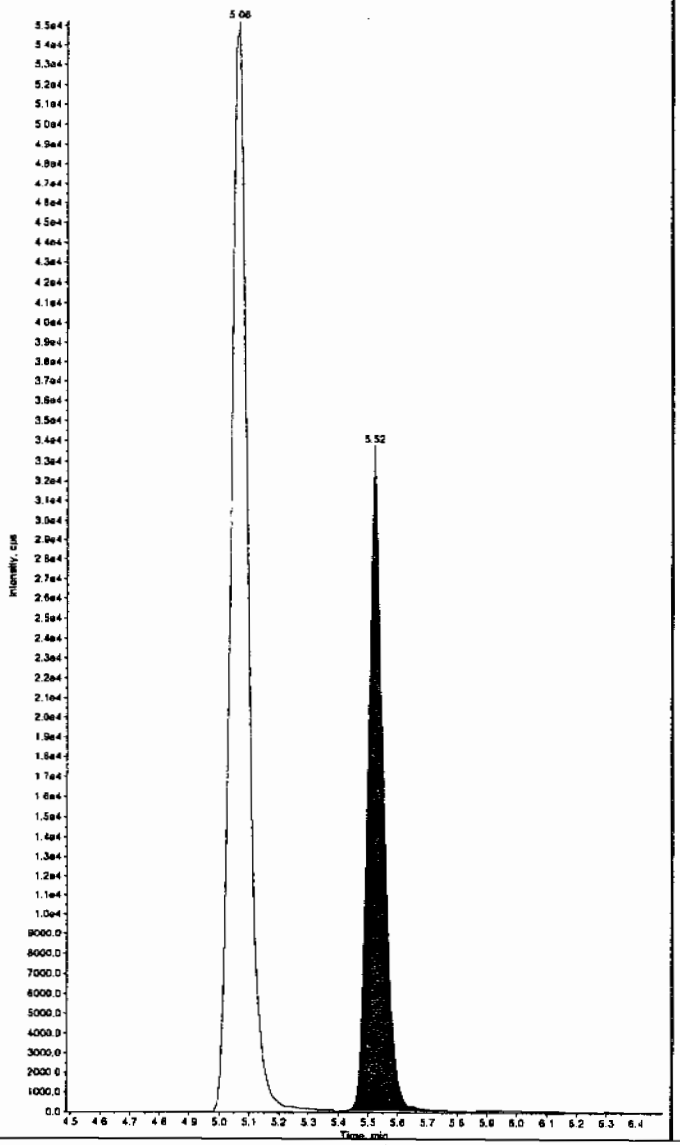
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160064.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 74.6 ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 1.25e+005 counts
Height: 33679.630 cps
Start Time: 5.44 min
End Time: 5.72 min

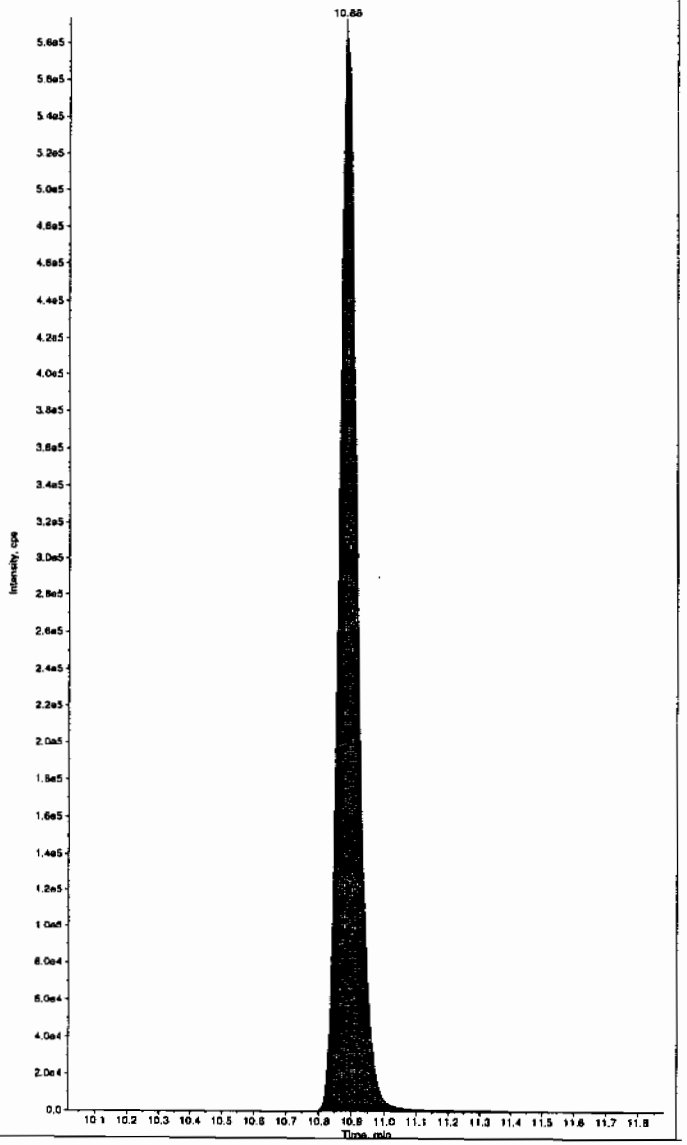


Sample Name: "WXX100216-27CRI" Sample ID: "|1|LER" File: "EXS02160064.wiff"
Peak Name: "tris(p-cresyl) phosphate" Mass(es): "368.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 109. ng/mL
Acq. Date: 2/17/2010
Acq. Time: 4:43:28 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 2.41e+006 counts
Height: 593792.725 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

QUALITY CONTROL DATA

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 951347

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 1202038769

Sample Amount 2

Moisture:

Amount Units g

Date Received: 10-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0216042a

Date Analyzed: 17-FEB-10 13:23

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 =

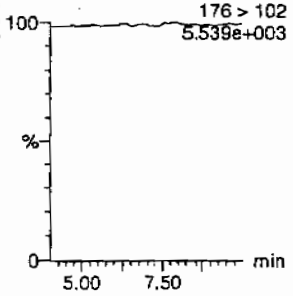
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

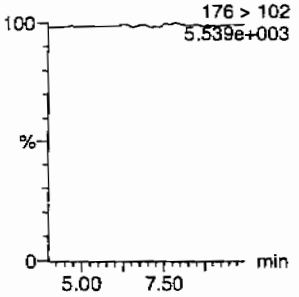
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216042a
Date: 17-Feb-2010
Time: 13:23:57
ID: 1202038769 | LANU | 951349 | Solid | MB | 2 |
Vial: 2:1,A

MAP 2/18/10

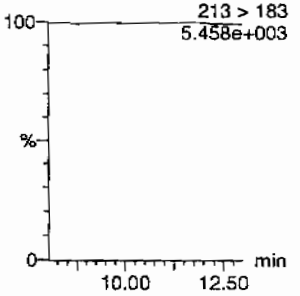
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.539e+003



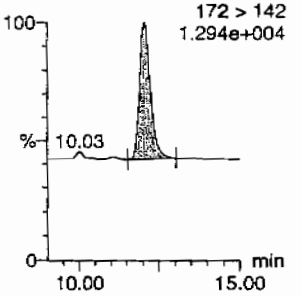
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.539e+003



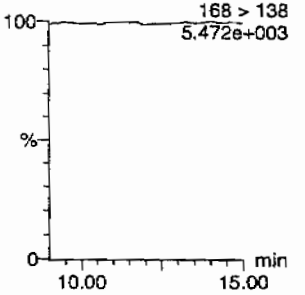
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.458e+003



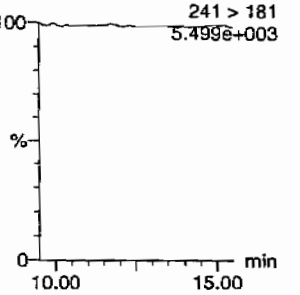
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.294e+004



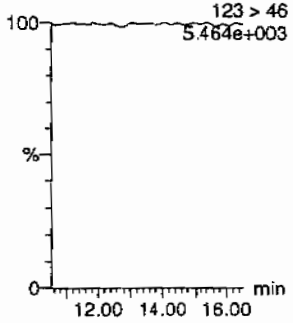
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.472e+003



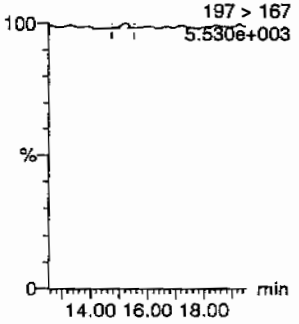
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.499e+003



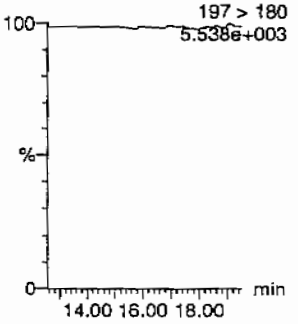
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.464e+003



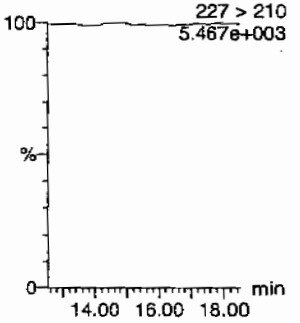
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.530e+003



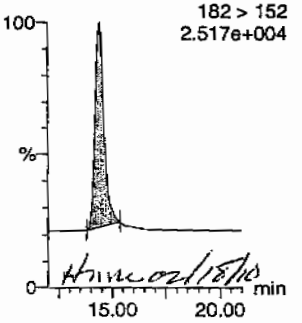
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.538e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.467e+003

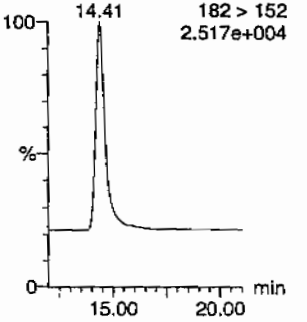


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.517e+004



HMW 02/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.41
182 > 152
2.517e+004



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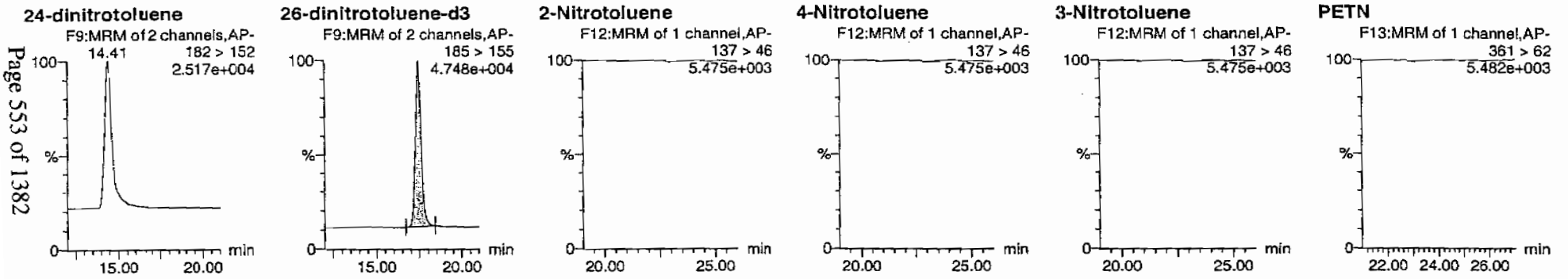


ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
1202038769	HMX	176 > 102			3060.293									
1202038769	RDX	176 > 102			3060.293									
1202038769	135-Trinitrobenzene	213 > 183			3060.293									
1202038769	13-Dinitrobenzene-d4	172 > 142	12.06	3060.293		3060.293	3060.293	bb			507.9466	101.6	1.6	211.0
1202038769	13-Dinitrobenzene	168 > 138			3060.293									
1202038769	Tetryl	241 > 181			3060.293									
1202038769	Nitrobenzene	123 > 46			3060.293									
1202038769	4-Amino-26-dinitrotoluene	197 > 167			16752.256			MM-	18-Feb-10	08:44:38				
1202038769	2-Amino-46-dinitrotoluene	197 > 180			16752.256									
1202038769	246-Trinitrotoluene	227 > 210			16752.256									
1202038769	34-dinitrotoluene	182 > 152	14.41	9193.856	16752.256	9193.856	274.407	bb			302.8766	121.2	21.2	480.7
1202038769	26-dinitrotoluene	182 > 152			16752.256									
1202038769	24-dinitrotoluene	182 > 152			16752.256									
1202038769	26-dinitrotoluene-d3	185 > 155	17.43	16752.256		16752.256	16752.256	bb			481.1501	96.2	-3.8	1970.8
1202038769	2-Nitrotoluene	137 > 46			16752.256									
1202038769	4-Nitrotoluene	137 > 46			16752.256									
1202038769	3-Nitrotoluene	137 > 46			16752.256									
1202038769	PETN	361 > 62			16752.256									

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 951347

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 1202038769

Sample Amount 2

Moisture:

Amount Units g

Date Received: 10-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS02160039.wiff

Date Analyzed: 16-FEB-10 22:10

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 =

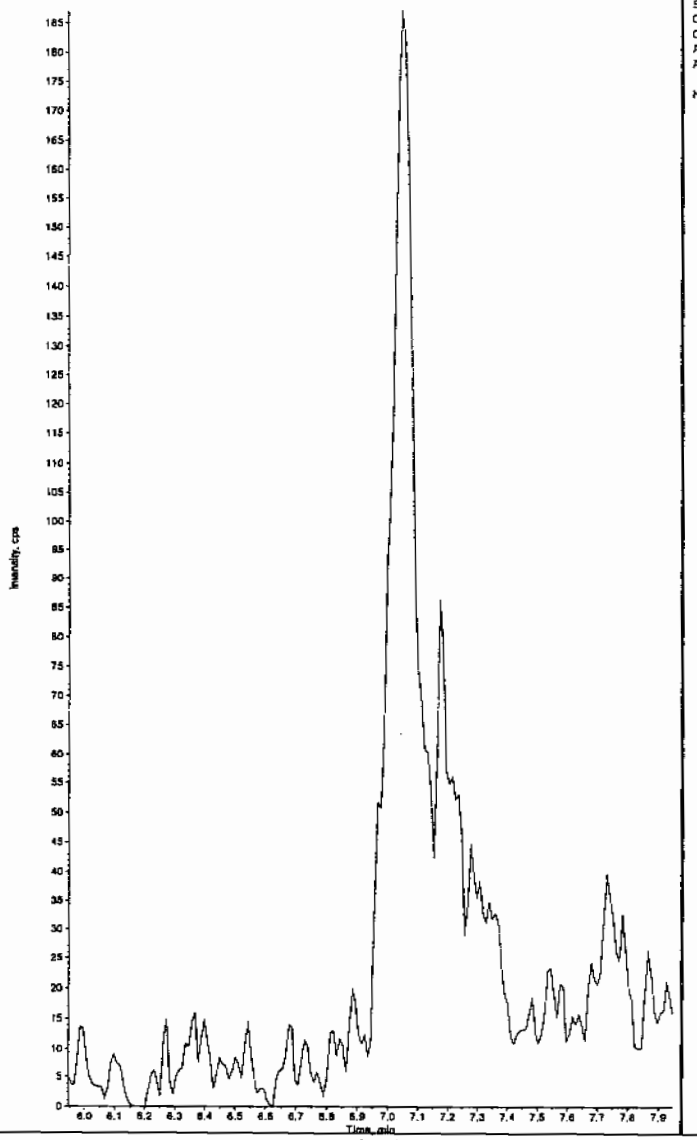
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Lar 2/17/10

Sample Name: "1202038769" Sample ID: "951349|2|LER" File: "EXS02160039.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:10:50 PM

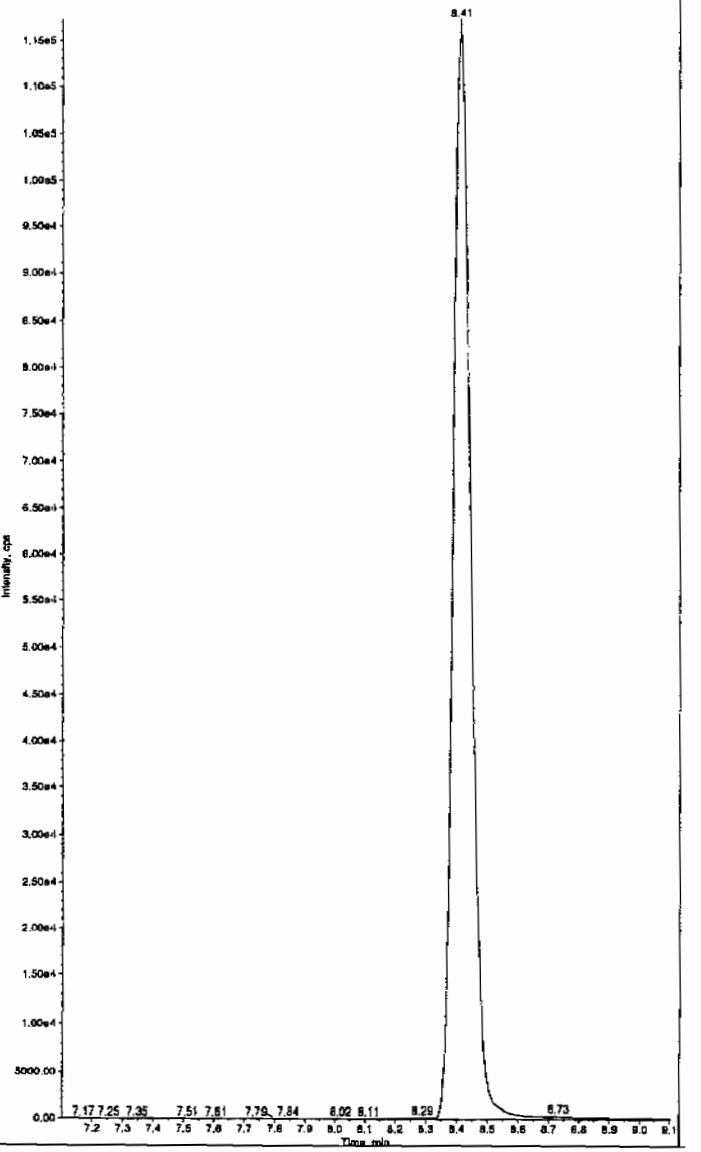
Modified: No



Sample Name: "1202038769" Sample ID: "951349|2|LER" File: "EXS02160039.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:10:50 PM

Modified: No



HMM 02/17/10

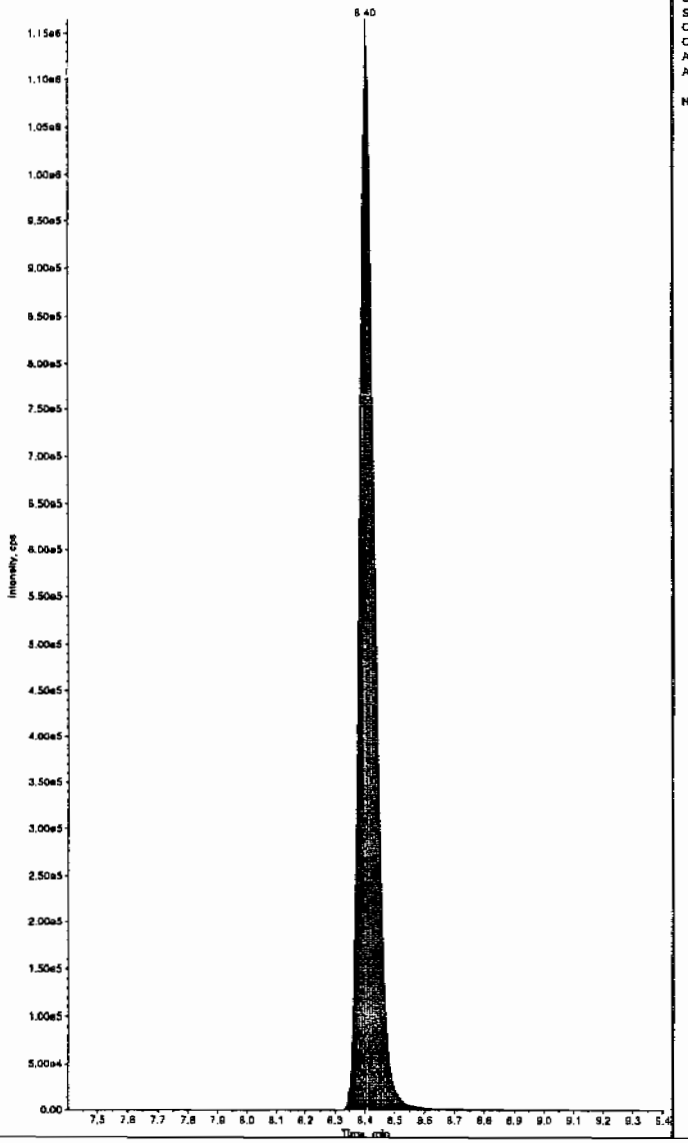
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038769" Sample ID: "951349|2|LER" File: "EXS02160039.wiff"
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: 371. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:10:50 PM

Modified: Yes
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: 8.40 min
Use Relative RT: No

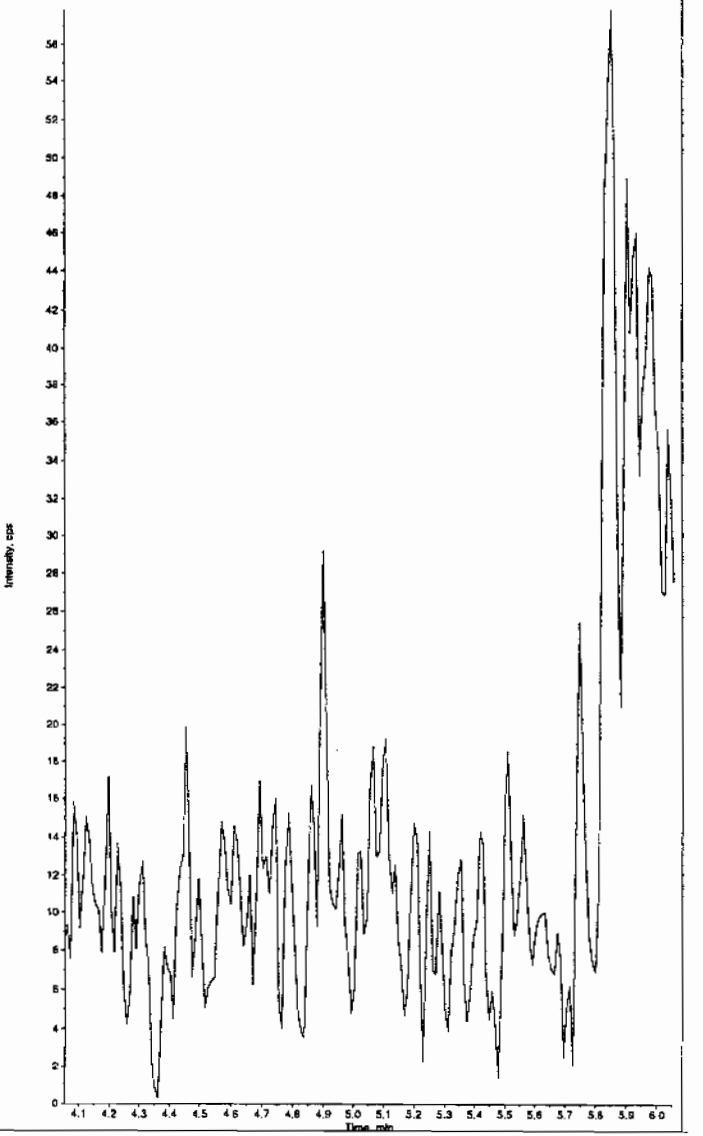
Int. Type: Valley
Retention Time: 8.40 min
Area: 4.39e+006 counts
Height: 1165722.168 cps
Start Time: 8.31 min
End Time: 8.88 min



Sample Name: "1202038769" Sample ID: "951349|2|LER" File: "EXS02160039.wiff"
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: 2/16/2010
Acq. Time: 10:10:50 PM

Modified: No

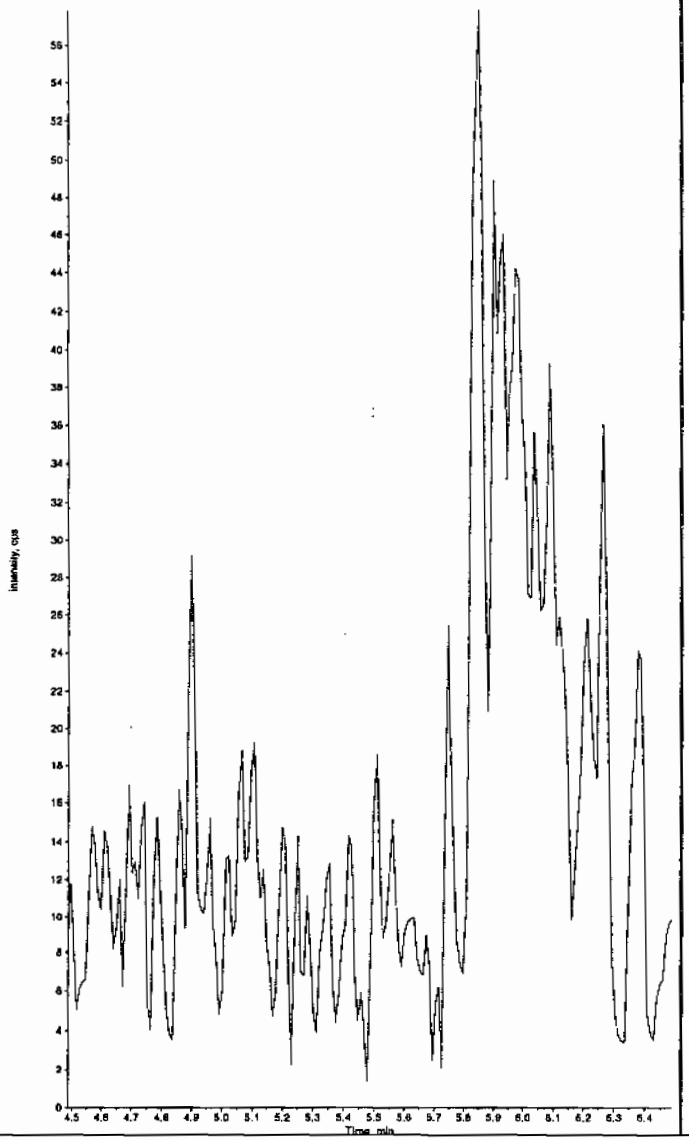


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038769" Sample ID: "951349[2]LER" File: "EXS02160039.wiff"
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: 2/16/2010
Acq. Time: 10:10:50 PM

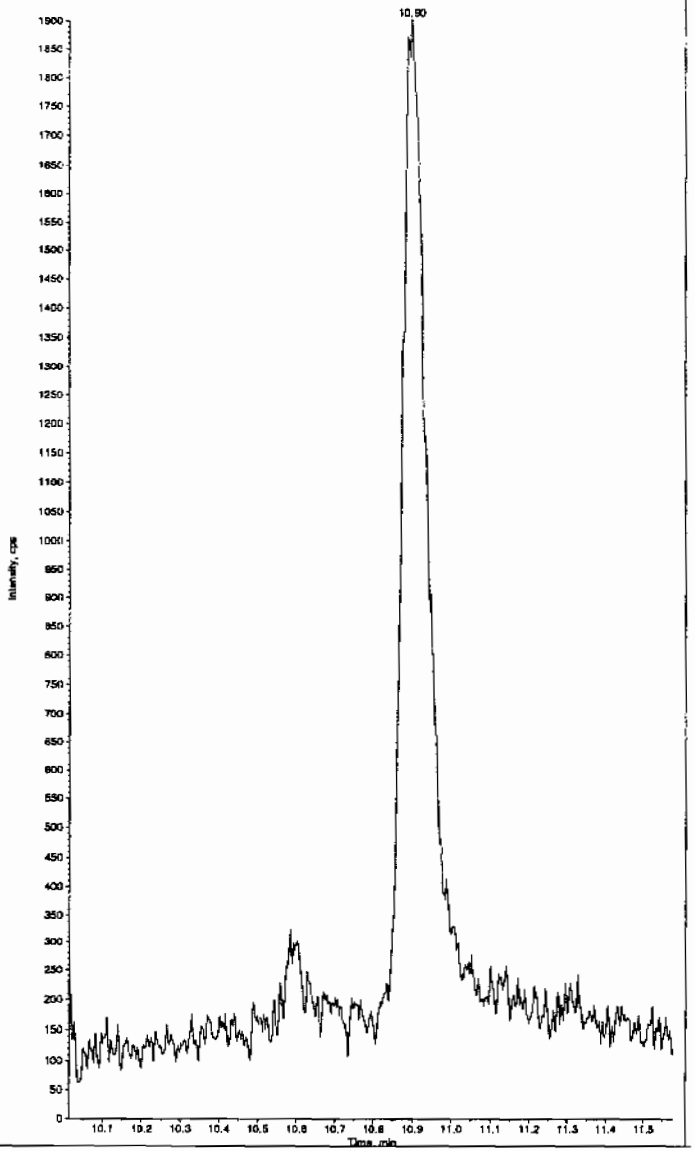
Modified: No



Sample Name: "1202038769" Sample ID: "951349[2]LER" File: "EXS02160039.wiff"
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: 2/16/2010
Acq. Time: 10:10:50 PM

Modified: No



*GEL 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 951347

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 1202038770

Sample Amount 2

Moisture:

Amount Units g

Date Received: 10-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0216043a

Date Analyzed: 17-FEB-10 13:53

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	4290	
121-14-2	2,4-Dinitrotoluene	4960	
121-82-4	RDX	4270	
19406-51-0	4-Amino-2,6-dinitrotoluene	4240	
2691-41-0	HMX	3980	
35572-78-2	2-Amino-4,6-dinitrotoluene	4560	
479-45-8	Tetryl	2830	
606-20-2	2,6-Dinitrotoluene	4950	
78-11-5	PETN	4380	
88-72-2	o-Nitrotoluene	4710	
98-95-3	Nitrobenzene	4650	
99-08-1	m-Nitrotoluene	4810	
99-35-4	1,3,5-Trinitrobenzene	3620	
99-65-0	m-Dinitrobenzene	4910	
99-99-0	p-Nitrotoluene	4750	

*Concentration =

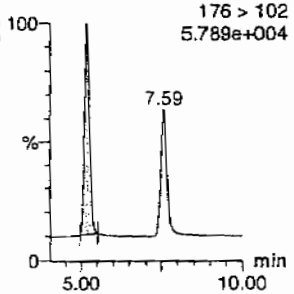
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

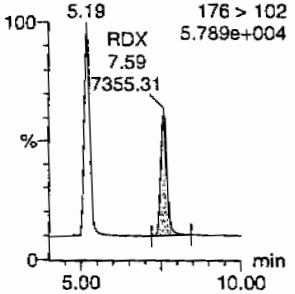
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216043a
Date: 17-Feb-2010
Time: 13:53:30
ID: 1202038770 | LANL | 95349 | Soil | LCS | 2 |
Vial: 2:1,B

2/18/10

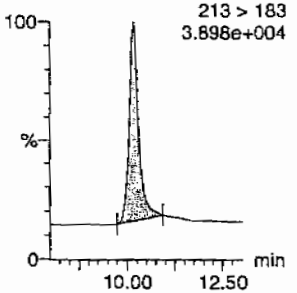
HMX
F2:MRM of 1 channel,AP-
176 > 102
5.789e+004



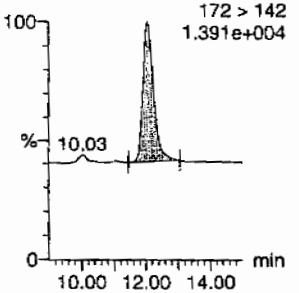
RDX
F2:MRM of 1 channel,AP-
176 > 102
5.789e+004



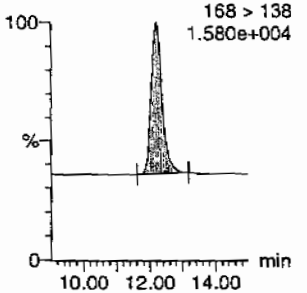
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
3.898e+004



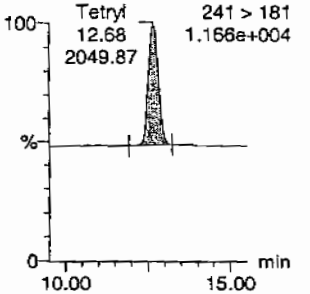
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.391e+004



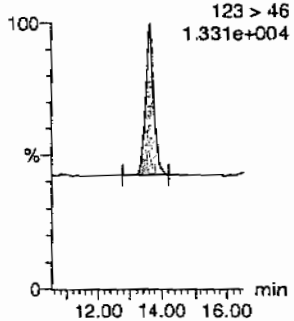
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.580e+004



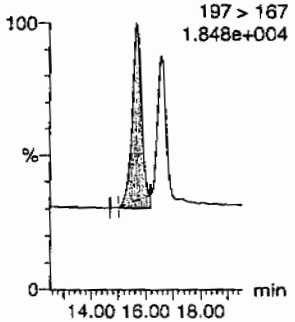
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.166e+004



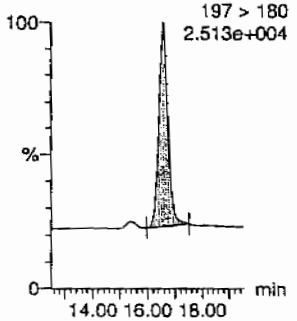
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.331e+004



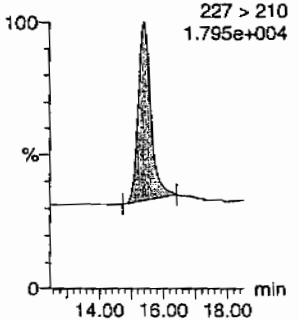
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.848e+004



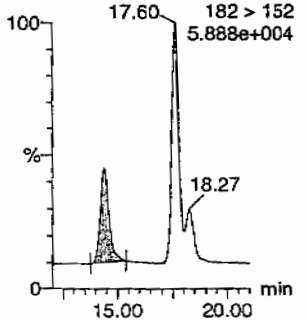
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.513e+004



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
1.795e+004

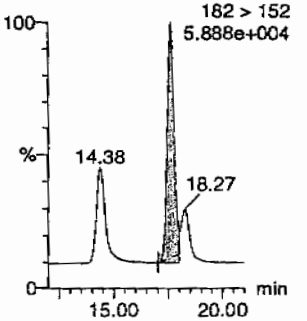


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.888e+004



2/18/10

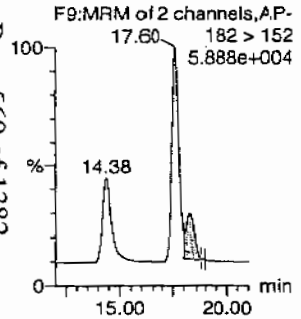
26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.888e+004



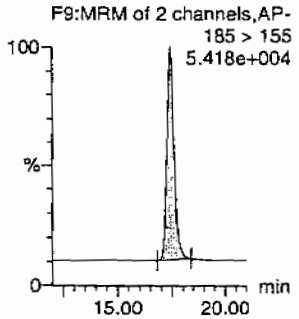
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

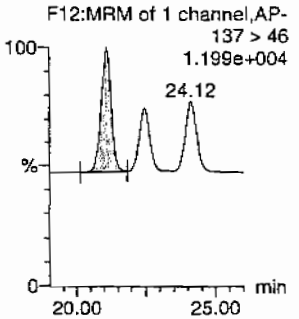
24-dinitrotoluene



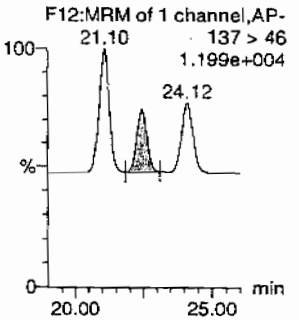
26-dinitrotoluene-d3



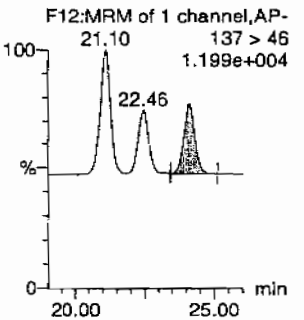
2-Nitrotoluene



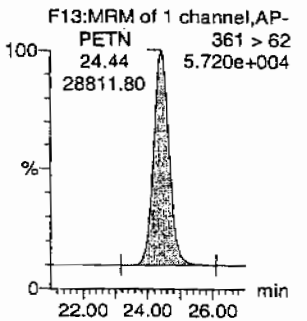
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Ug/ml	%Rec	%Dev	S/N
1202038770	HMX	176 > 102	5.19	10219.766	3323.391	10219.766	1537.551	bb			398.4970	79.7	-20.3	1387.6
1202038770	RDX	176 > 102	7.59	7355.306	3323.391	7355.306	1106.597	bb			426.6901	85.3	-14.7	837.9
1202038770	135-Trinitrobenzene	213 > 183	10.18	9324.805	3323.391	9324.805	1402.905	bb			362.2696	72.5	-27.5	1010.4
1202038770	13-Dinitrobenzene-d4	172 > 142	12.07	3323.391		3323.391	3323.391	bb			551.6155	110.3	10.3	384.0
1202038770	13-Dinitrobenzene	168 > 138	12.20	3881.203	3323.391	3881.203	583.922	bb			491.3019	98.3	-1.7	523.5
1202038770	Tetryl	241 > 181	12.68	2049.874	3323.391	2049.874	308.401	bb			282.8764	56.6	-43.4	170.3
1202038770	Nitrobenzene	123 > 46	13.63	2654.667	3323.391	2654.667	399.391	bb			465.2148	93.0	-7.0	229.5
1202038770	4-Amino-26-dinitrotoluene	197 > 167	15.68	5237.143	19281.141	5237.143	135.810	MM	18-Feb-10	08:44:53	424.1184	84.8	-15.2	232.3
1202038770	2-Amino-46-dinitrotoluene	197 > 180	16.58	7600.715	19281.141	7600.715	197.102	bb			456.1974	91.2	-8.8	1007.8
1202038770	246-Trinitrotoluene	227 > 210	15.41	5547.373	19281.141	5547.373	143.855	bb			429.0912	85.8	-14.2	74.2
1202038770	34-dinitrotoluene	182 > 152	14.38	9750.538	19281.141	9750.538	252.852	bb			279.0854	111.6	11.6	517.9
1202038770	26-dinitrotoluene	182 > 152	17.60	20206.158	19281.141	20206.158	523.988	MM	18-Feb-10	08:48:18	494.5891	98.9	-1.1	1339.5
1202038770	24-dinitrotoluene	182 > 152	18.27	4713.480	19281.141	4713.480	122.230	MM	18-Feb-10	08:51:34	495.8425	99.2	-0.8	282.2
1202038770	26-dinitrotoluene-d3	185 > 155	17.42	19281.141		19281.141	19281.141	bb			553.7835	110.8	10.8	1988.3
1202038770	2-Nitrotoluene	137 > 46	21.10	2765.962	19281.141	2765.962	71.727	bb			471.2871	94.3	-5.7	920.1
1202038770	4-Nitrotoluene	137 > 46	22.46	1402.985	19281.141	1402.985	36.382	bb			474.6476	94.9	-5.1	471.2
1202038770	3-Nitrotoluene	137 > 46	24.12	1659.792	19281.141	1659.792	43.042	bb			480.9733	96.2	-3.8	524.0
1202038770	PETN	361 > 62	24.44	28811.799	19281.141	28811.799	747.150	bb			437.8139	87.6	-12.4	8415.9

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 951347

Lab Code: GEL

GEL Job No (SDG) 10-1666

Matrix: SOIL

GEL Sample ID: 1202038770

Sample Amount 2

Moisture:

Amount Units g

Date Received: 10-FEB-10

Extraction Type Sonication

Extraction Batch ID: 951347

Concentrated Extract Volume (mL) 10

Date Extracted: 15-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS02160040.wiff

Date Analyzed: 16-FEB-10 22:26

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	5660	
59229-75-3	2,6-Diamino-4-nitrotoluene	5350	
618-87-1	3,5-Dinitroaniline	5270	
6629-29-4	2,4-Diamino-6-nitrotoluene	5170	
78-30-8	tris(o-cresyl) phosphate	5310	

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

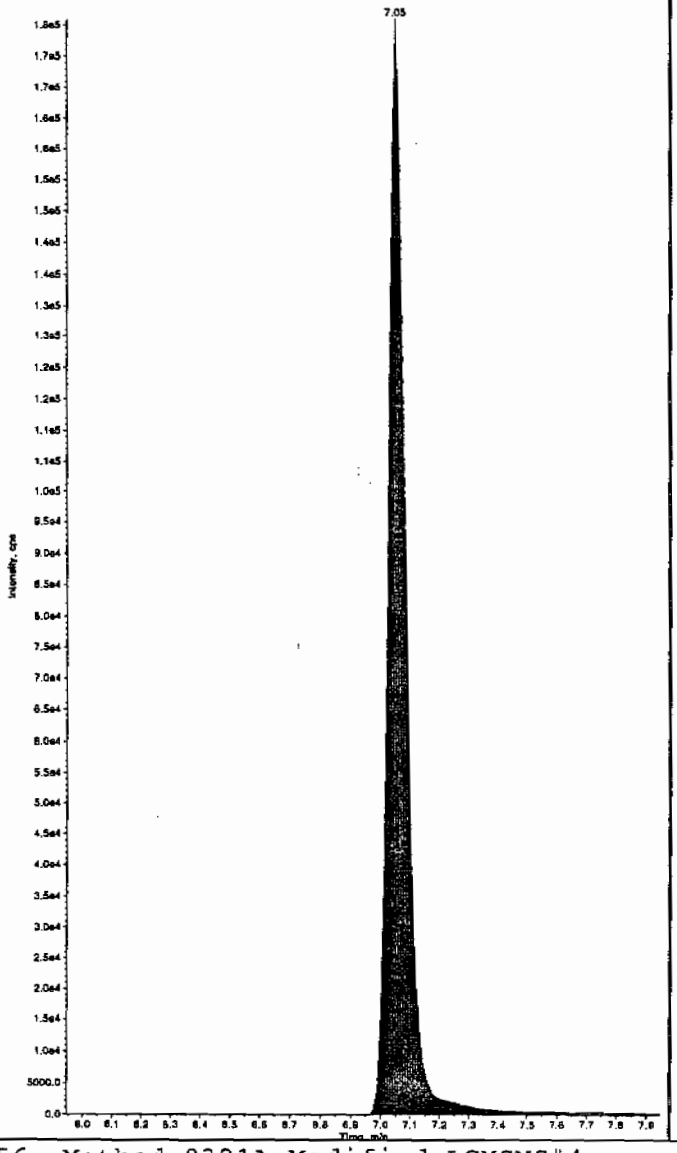
Before Scan 2/17/10

Sample Name: "1202038770" Sample ID: "951349|2|LER" File: "EXS02160040.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 566. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 7.73e+005 counts
Height: 175885.193 cps
Start Time: 6.92 min
End Time: 7.67 min

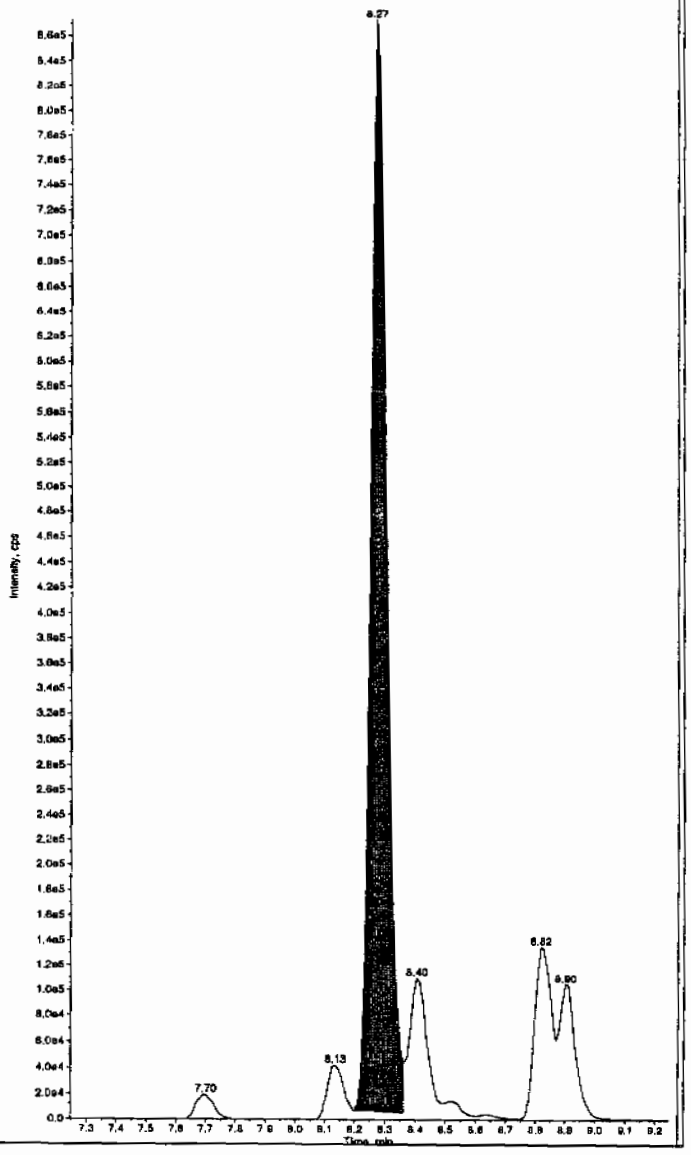


Sample Name: "1202038770" Sample ID: "951349|2|LER" File: "EXS02160040.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 522. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 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: 8.25 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.27 min
Area: 3.35e+006 counts
Height: 866912.537 cps
Start Time: 8.20 min
End Time: 8.36 min



HJ 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

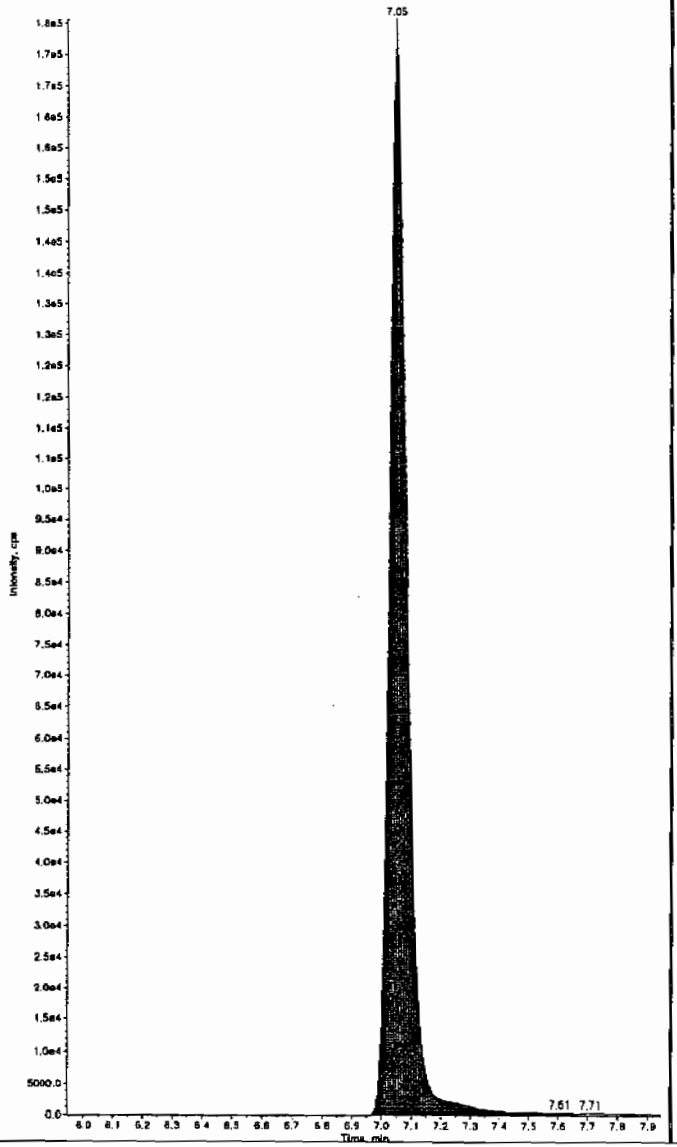
after Jan 2/17/10

Sample Name: "1202038770" Sample ID: "951349|2|LER" File: "EXS02160040.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 566. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 PM

Modified: No
Peak. 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 7.73e+005 counts
Height: 175885.193 cps
Start Time: 6.92 min
End Time: 7.67 min

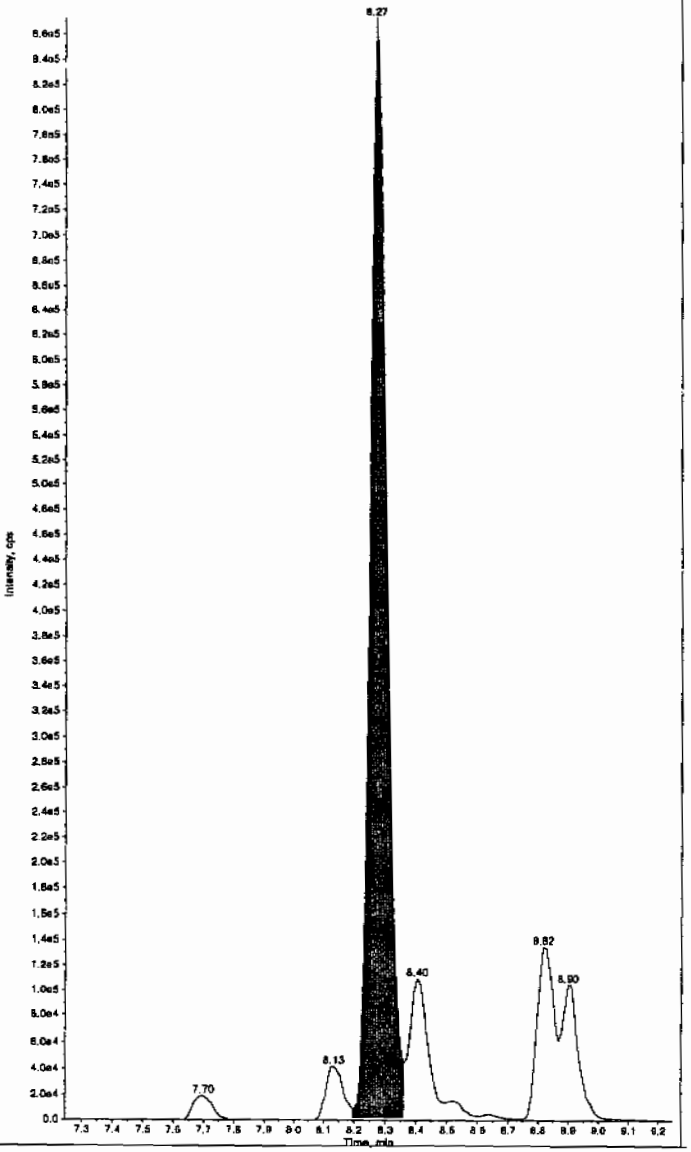


Sample Name: "1202038770" Sample ID: "951349|2|LER" File: "EXS02160040.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 527. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.27 min
Area: 3.38e+006 counts
Height: 878054.513 cps
Start Time: 8.20 min
End Time: 8.36 min



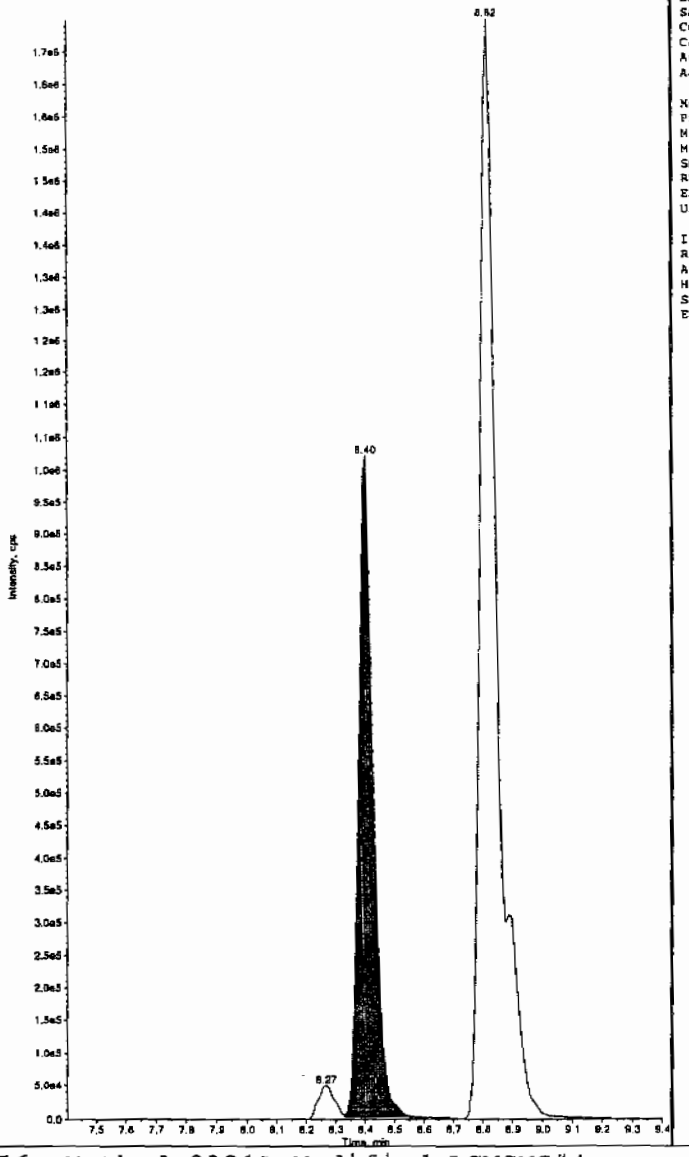
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038770" Sample ID: "951349|2|LER" File: "EXS02160040.wiff"
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: 315. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 PM

Modified: Yes
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: 8.40 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.40 min
Area: 3.77e+006 counts
Height: 2017581.116 cps
Start Time: 8.33 min
End Time: 8.59 min

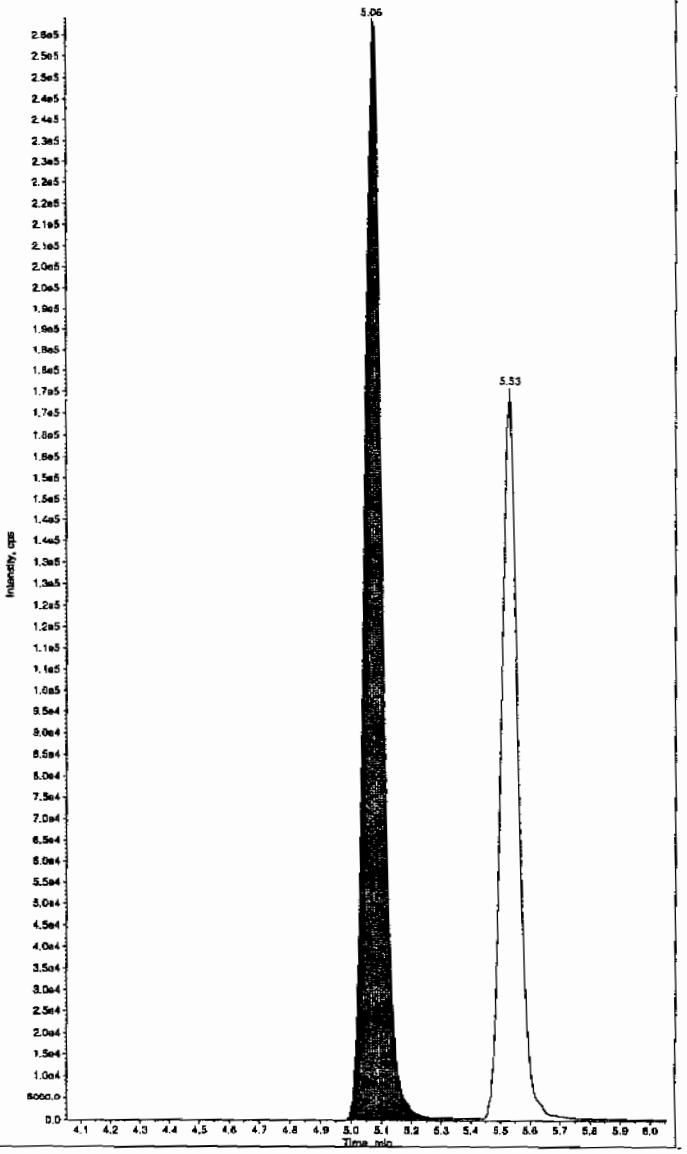


Sample Name: "1202038770" Sample ID: "951349|2|LER" File: "EXS02160040.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 535. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 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: 5.06 min
Area: 1.10e+006 counts
Height: 259059.387 cps
Start Time: 4.96 min
End Time: 5.36 min



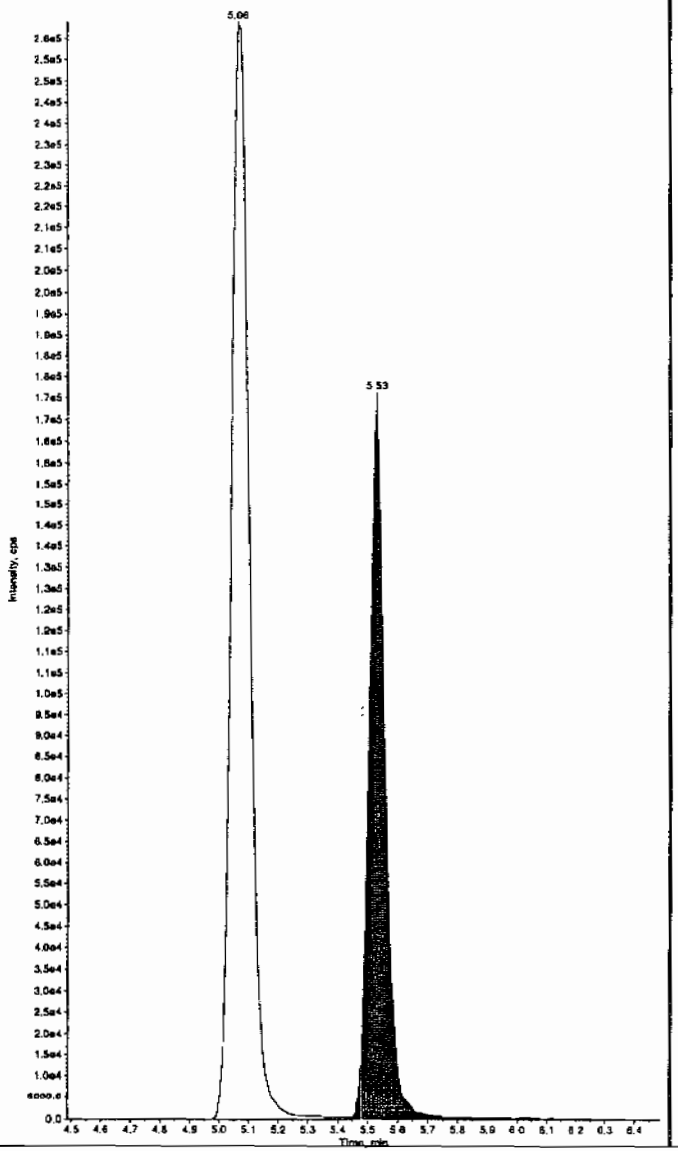
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038770" Sample ID: "951349[2]LER" File: "EXS02160040.wiff"
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: 517. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 6.64e+005 counts
Height: 171030.716 cps
Start Time: 5.43 min
End Time: 5.94 min

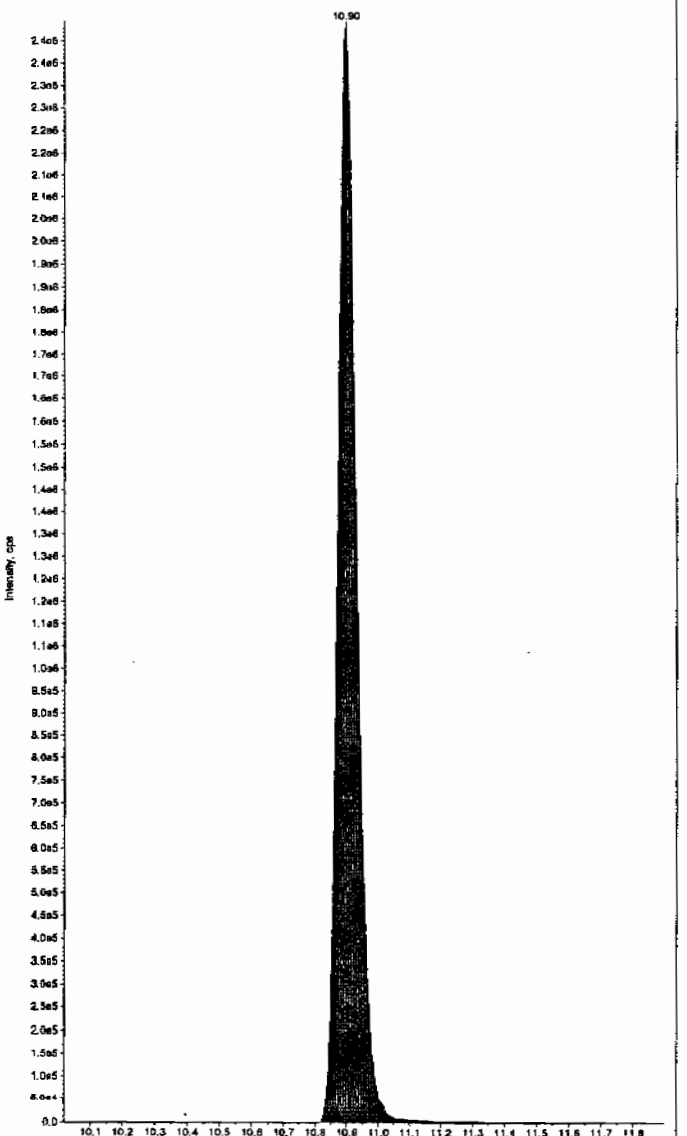


Sample Name: "1202038770" Sample ID: "951349[2]LER" File: "EXS02160040.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(as): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 531. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:26:36 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.05e+007 counts
Height: 2445670.654 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL 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: 951347 **Verified by:** _____

Analyst: Sirena White

Method: SW846 8330 PREP

Lab SOP: GL-OA-E-033 REV# 17

Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202038769 MB	15-FEB-2010 15:17:00	2	10	5
1202038770 LCS	15-FEB-2010 15:17:00	2	10	5
246554001	15-FEB-2010 15:17:00	2	10	5
1202038771 MS (246554001)	15-FEB-2010 15:17:00	2	10	5
1202038772 MSD (246554001)	15-FEB-2010 15:17:00	2	10	5
246554002	15-FEB-2010 15:17:00	2	10	5
246554003	15-FEB-2010 15:17:00	2	10	5
246554004	15-FEB-2010 15:17:00	2	10	5
246554005	15-FEB-2010 15:17:00	2	10	5
246554006	15-FEB-2010 15:17:00	2	10	5
246557001	15-FEB-2010 15:17:00	2	10	5
246562001	15-FEB-2010 15:17:00	2	10	5
246575003	15-FEB-2010 15:17:00	2	10	5
246575004	15-FEB-2010 15:17:00	2	10	5
246582002	15-FEB-2010 15:17:00	2	10	5
246582003	15-FEB-2010 15:17:00	2	10	5
246582004	15-FEB-2010 15:17:00	2	10	5
246582005	15-FEB-2010 15:17:00	2	10	5
246582006	15-FEB-2010 15:17:00	2	10	5
246582007	15-FEB-2010 15:17:00	2	10	5
246582008	15-FEB-2010 15:17:00	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1202038770	8321 Explosives LCS	IXX100208-03	.1	mL
LCS	1202038770	8321 LANL Explosives Mix 10mg/L	UXX100210-02.1	1	mL
MS	1202038771	8321 Explosives LCS	IXX100208-03	.1	mL
MS	1202038771	8321 LANL Explosives Mix 10mg/L	UXX100210-02.1	1	mL
MSD	1202038772	8321 Explosives LCS	IXX100208-03	.1	mL
MSD	1202038772	8321 LANL Explosives Mix 10mg/L	UXX100210-02.1	1	mL
SURR	All	3,4-Dinitrotoluene (8330 Surr.) 100ppm	IXP100210-02	.05	mL

Comments:

Final Solvent: ACN

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 02/16/10
Extr. Injection Volume: 50uL
Sequence Number: 021610expA
Initial Calibration Date: 02/16/10

Method: SW846 8321A-Modified
Int. Std.: UXX100128-01.3
Mobile Phase Lot#: 1269631, 1263794
Standard-Samp Reagent Lot#: 1260901, 1261217

Reviewed BY: HMC
Date: 02/18/10
SOP: GL-OA-E-056 Rev.12
Alt Check Std. ID: WXX100216-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0216001a	XIBLK01	MAP	2/16/10 17:07			1		USE	B
EXP0216002a	XIBLK01	MAP	2/16/10 17:37			1		USE	B
EXP0216003a	WXXICAL-01	MAP	2/16/10 18:07			1		USE	I
EXP0216004a	WXXICAL-02	MAP	2/16/10 18:36			1		USE	I
EXP0216005a	WXXICAL-03	MAP	2/16/10 19:06			1		USE	I
EXP0216006a	WXXICAL-04	MAP	2/16/10 19:35			1		USE	I
EXP0216007a	WXXICAL-05	MAP	2/16/10 20:05			1		USE	I
EXP0216008a	WXXICAL-06	MAP	2/16/10 20:35			1		USE	I
EXP0216009a	XIBLK02	MAP	2/16/10 21:04			1		USE	B
EXP0216010a	WXXICV	MAP	2/16/10 21:34			1		USE	C
EXP0216011a	XIBLK03	MAP	2/16/10 22:04			1		USE	B
EXP0216012a	WXXCRI	MAP	2/16/10 22:33			1		USE	C
EXP0216013a	1202038759	MAP	2/16/10 23:03	951342	Various	2	LANL	USE	S
EXP0216014a	1202038760	MAP	2/16/10 23:33	951342	Various	2	LANL	USE	S
EXP0216015a	246569007	MAP	2/17/10 0:02	951342	10-1669	2	LANL	USE	S
EXP0216016a	1202038761	MAP	2/17/10 0:32	951342	10-1669	2	LANL	USE	S
EXP0216017a	1202038762	MAP	2/17/10 1:02	951342	10-1669	2	LANL	USE	S
EXP0216018a	246572005	MAP	2/17/10 1:32	951342	10-1678	2	LANL	USE	S
EXP0216019a	246580002	MAP	2/17/10 2:01	951342	10-1683	2	LANL	USE	S
EXP0216020a	246580003	MAP	2/17/10 2:31	951342	10-1683	2	LANL	USE	S
EXP0216021a	WXXCCV	MAP	2/17/10 3:00			1		USE	C
EXP0216022a	XIBLK04	MAP	2/17/10 3:30			1		USE	B
EXP0216023a	WXXCRI	MAP	2/17/10 3:59			1		USE	C
EXP0216024a	246595004	MAP	2/17/10 4:29	951342	10-1694	2	LANL	USE	S
EXP0216025a	1202038763	MAP	2/17/10 4:58	951342	10-1694	2	LANL	USE	S
EXP0216026a	1202038764	MAP	2/17/10 5:28	951342	10-1694	2	LANL	USE	S
EXP0216027a	WXXCCV	MAP	2/17/10 5:58			1		USE	C
EXP0216028a	XIBLK05	MAP	2/17/10 6:28			1		USE	B
EXP0216029a	WXXCRI	MAP	2/17/10 6:57			1		USE	C

EXP0216030a	1202030577	MAP	2/17/10 7:27	947919	Various	2	LANL	USE	S
EXP0216031a	1202030578	MAP	2/17/10 7:57	947919	Various	2	LANL	USE	S
EXP0216032a	245908001	MAP	2/17/10 8:27	947919	10-1486	2	LANL	USE	S
EXP0216033a	1202030579	MAP	2/17/10 8:56	947919	10-1486	2	LANL	USE	S
EXP0216034a	1202030580	MAP	2/17/10 9:26	947919	10-1486	2	LANL	USE	S
EXP0216035a	245908002	MAP	2/17/10 9:56	947919	10-1486	2	LANL	USE	S
EXP0216036a	245908005	MAP	2/17/10 10:25	947919	10-1486	2	LANL	USE	S
EXP0216037a	245908006	MAP	2/17/10 10:55	947919	10-1486	2	LANL	USE	S
EXP0216038a	245912003	MAP	2/17/10 11:25	947919	10-1488	2	LANL	USE	S
EXP0216039a	WXXCCV	MAP	2/17/10 11:55			1		USE	C
EXP0216040a	XIBLK06	MAP	2/17/10 12:24			1		USE	B
EXP0216041a	WXXCRI	MAP	2/17/10 12:54			1		USE	C
EXP0216042a	1202038769	MAP	2/17/10 13:23	951349	Various	2	LANL	USE	S
EXP0216043a	1202038770	MAP	2/17/10 13:53	951349	Various	2	LANL	USE	S
EXP0216044a	246554001	MAP	2/17/10 14:23	951349	10-1665	2	LANL	USE	S
EXP0216045a	1202038771	MAP	2/17/10 14:52	951349	10-1665	2	LANL	USE	S
EXP0216046a	1202038772	MAP	2/17/10 15:22	951349	10-1665	2	LANL	USE	S
EXP0216047a	246554002	MAP	2/17/10 15:52	951349	10-1665	2	LANL	USE	S
EXP0216048a	246554003	MAP	2/17/10 16:21	951349	10-1665	2	LANL	USE	S
EXP0216049a	246554004	MAP	2/17/10 16:51	951349	10-1665	2	LANL	USE	S
EXP0216050a	246554005	MAP	2/17/10 17:20	951349	10-1665	2	LANL	USE	S
EXP0216051a	246554006	MAP	2/17/10 17:50	951349	10-1665	2	LANL	USE	S
EXP0216052a	WXXCCV	MAP	2/17/10 18:20			1		USE	C
EXP0216053a	XIBLK07	MAP	2/17/10 18:50			1		USE	B
EXP0216054a	WXXCRI	MAP	2/17/10 19:19			1		USE	C
EXP0216055a	246557001	MAP	2/17/10 19:49	951349	10-1666	2	LANL	USE	S
EXP0216056a	246562001	MAP	2/17/10 20:19	951349	10-1668	2	LANL	USE	S
EXP0216057a	246575003	MAP	2/17/10 20:49	951349	10-1675	2	LANL	USE	S
EXP0216058a	246575004	MAP	2/17/10 21:18	951349	10-1675	2	LANL	USE	S
EXP0216059a	246582002	MAP	2/17/10 21:48	951349	10-1685	2	LANL	USE	S
EXP0216060a	246582003	MAP	2/17/10 22:17	951349	10-1685	2	LANL	USE	S
EXP0216061a	246582004	MAP	2/17/10 22:47	951349	10-1685	2	LANL	USE	S
EXP0216062a	246582005	MAP	2/17/10 23:16	951349	10-1685	2	LANL	USE	S
EXP0216063a	246582006	MAP	2/17/10 23:46	951349	10-1685	2	LANL	USE	S
EXP0216064a	246582007	MAP	2/18/10 0:15	951349	10-1685	2	LANL	USE	S
EXP0216065a	WXXCCV	MAP	2/18/10 0:45			1		USE	C
EXP0216066a	XIBLK08	MAP	2/18/10 1:14			1		USE	B

EXP0216067a	WXXCRI	MAP	2/18/10 1:44			1		USE	C
EXP0216068a	246582008	MAP	2/18/10 2:14	951349	10-1685	2	LANL	USE	S
EXP0216069a	XIBLK09	MAP	2/18/10 2:43			1		USE	B
EXP0216070a	1202032097	MAP	2/18/10 3:13	948572	Various	2	LANL	DUSE	S
EXP0216071a	1202032098	MAP	2/18/10 3:43	948572	Various	2	LANL	DUSE	S
EXP0216072a	245955001	MAP	2/18/10 4:12	948572	10-1509	2	LANL	DUSE	S
EXP0216073a	245955002	MAP	2/18/10 4:42	948572	10-1509	2	LANL	DUSE	S
EXP0216074a	245959001	MAP	2/18/10 5:12	948572	10-1510	2	LANL	DUSE	S
EXP0216075a	1202032099	MAP	2/18/10 5:42	948572	10-1510	2	LANL	DUSE	S
EXP0216076a	1202032100	MAP	2/18/10 6:11	948572	10-1510	2	LANL	DUSE	S
EXP0216077a	245959002	MAP	2/18/10 6:41	948572	10-1510	2	LANL	DUSE	S
EXP0216078a	WXXCCV	MAP	2/18/10 7:10			1		USE	C
EXP0216079a	XIBLK10	MAP	2/18/10 7:40			1		USE	B
EXP0216080a	WXXCRI	MAP	2/18/10 8:10			1		USE	C

GEL ORGANIC RUN LOG INSTRUMENT ID: LCMSMS4

Date: 02/16/10
Extr. Injection Volume: 10uL
Sequence Number: 021610exs
Initial Calibration Date: 021610

Method: 8321A-Modified
Int. Std.: N/A
Mobile Phase Lot#:1263794, 1258141
Standard-Samp Reagent Lot# :1260901, 1261217

Reviewed By: HMC
Date: 02/17/10
SOP: GL-OA-E-056 Rev.12
Alt Check Std. ID: WXX100216-26

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS02160001.wiff	XIBLK01	LER	2/16/2010 12:13			1		USE	B
EXS02160002.wiff	XIBLK01	LER	2/16/2010 12:29			1		USE	B
EXS02160003.wiff	WXXICAL-19	LER	2/16/2010 12:44			1		USE	I
EXS02160004.wiff	WXXICAL-20	LER	2/16/2010 13:00			1		USE	I
EXS02160005.wiff	WXXICAL-21	LER	2/16/2010 13:16			1		USE	I
EXS02160006.wiff	WXXICAL-22	LER	2/16/2010 13:31			1		USE	I
EXS02160007.wiff	WXXICAL-23	LER	2/16/2010 13:47			1		USE	I
EXS02160008.wiff	WXXICAL-24	LER	2/16/2010 14:03			1		USE	I
EXS02160009.wiff	WXXICAL-25	LER	2/16/2010 14:18			1		USE	I
EXS02160010.wiff	XIBLK02	LER	2/16/2010 14:34			1		USE	B
EXS02160011.wiff	WXXICV	LER	2/16/2010 14:50			1		USE	C
EXS02160012.wiff	XIBLK03	LER	2/16/2010 15:05			1		USE	B
EXS02160013.wiff	WXXCRI	LER	2/16/2010 15:21			1		USE	C
EXS02160014.wiff	245994009	LER	2/16/2010 15:37	948579	10-1516	2	LANL	USE	S
EXS02160015.wiff	246006001	LER	2/16/2010 15:53	948579	10-1520	2	LANL	USE	S
EXS02160016.wiff	1202032115	LER	2/16/2010 16:08	948579	10-1520	2	LANL	USE	S
EXS02160017.wiff	1202032116	LER	2/16/2010 16:24	948579	10-1520	2	LANL	USE	S
EXS02160018.wiff	246006002	LER	2/16/2010 16:40	948579	10-1520	2	LANL	USE	S
EXS02160019.wiff	246006003	LER	2/16/2010 16:56	948579	10-1520	2	LANL	USE	S
EXS02160020.wiff	246006004	LER	2/16/2010 17:11	948579	10-1520	2	LANL	USE	S
EXS02160021.wiff	246006005	LER	2/16/2010 17:27	948579	10-1520	2	LANL	USE	S
EXS02160022.wiff	246006006	LER	2/16/2010 17:43	948579	10-1520	2	LANL	USE	S
EXS02160023.wiff	246006007	LER	2/16/2010 17:58	948579	10-1520	2	LANL	USE	S
EXS02160024.wiff	WXXCCV	LER	2/16/2010 18:14			1		USE	C
EXS02160025.wiff	XIBLK04	LER	2/16/2010 18:30			1		USE	B
EXS02160026.wiff	WXXCRI	LER	2/16/2010 18:46			1		USE	C
EXS02160027.wiff	246006008	LER	2/16/2010 19:01	948579	10-1520	2	LANL	USE	S
EXS02160028.wiff	246006009	LER	2/16/2010 19:17	948579	10-1520	2	LANL	USE	S
EXS02160029.wiff	XIBLK05	LER	2/16/2010 19:33			1		USE	S
EXS02160030.wiff	1202040417	LER	2/16/2010 19:49	952030	VARIOUS	2	LANL	USE	S

EXS02160031.wiff	1202040418	LER	2/16/2010 20:05	952030	VARIOUS	2	LANL	USE	S
EXS02160032.wiff	246707005	LER	2/16/2010 20:20	952030	10-1726	2	LANL	USE	S
EXS02160033.wiff	1202040419	LER	2/16/2010 20:36	952030	10-1726	2	LANL	USE	S
EXS02160034.wiff	1202040420	LER	2/16/2010 20:52	952030	10-1726	2	LANL	USE	S
EXS02160035.wiff	246764004	LER	2/16/2010 21:07	952030	10-1721	2	LANL	USE	S
EXS02160036.wiff	WXXCCV	LER	2/16/2010 21:23			1		USE	C
EXS02160037.wiff	XIBLK06	LER	2/16/2010 21:39			1		USE	B
EXS02160038.wiff	WXXCRI	LER	2/16/2010 21:55			1		USE	C
EXS02160039.wiff	1202038769	LER	2/16/2010 22:10	951349	VARIOUS	2	LANL	USE	S
EXS02160040.wiff	1202038770	LER	2/16/2010 22:26	951349	VARIOUS	2	LANL	USE	S
EXS02160041.wiff	246554001	LER	2/16/2010 22:42	951349	10-1665	2	LANL	USE	S
EXS02160042.wiff	1202038771	LER	2/16/2010 22:58	951349	10-1665	2	LANL	USE	S
EXS02160043.wiff	1202038772	LER	2/16/2010 23:13	951349	10-1665	2	LANL	USE	S
EXS02160044.wiff	246554002	LER	2/16/2010 23:29	951349	10-1665	2	LANL	USE	S
EXS02160045.wiff	246554003	LER	2/16/2010 23:45	951349	10-1665	2	LANL	USE	S
EXS02160046.wiff	246554004	LER	2/17/2010 0:00	951349	10-1665	2	LANL	USE	S
EXS02160047.wiff	246554005	LER	2/17/2010 0:16	951349	10-1665	2	LANL	USE	S
EXS02160048.wiff	246554006	LER	2/17/2010 0:32	951349	10-1665	2	LANL	USE	S
EXS02160049.wiff	WXXCCV	LER	2/17/2010 0:47			1		USE	C
EXS02160050.wiff	XIBLK07	LER	2/17/2010 1:03			1		USE	B
EXS02160051.wiff	WXXCRI	LER	2/17/2010 1:19			1		USE	C
EXS02160052.wiff	246557001	LER	2/17/2010 1:35	951349	10-1666	2	LANL	USE	S
EXS02160053.wiff	246562001	LER	2/17/2010 1:50	951349	10-1668	2	LANL	USE	S
EXS02160054.wiff	246575003	LER	2/17/2010 2:06	951349	10-1675	2	LANL	USE	S
EXS02160055.wiff	246575004	LER	2/17/2010 2:22	951349	10-1675	2	LANL	USE	S
EXS02160056.wiff	246582002	LER	2/17/2010 2:37	951349	10-1685	2	LANL	USE	S
EXS02160057.wiff	246582003	LER	2/17/2010 2:53	951349	10-1685	2	LANL	USE	S
EXS02160058.wiff	246582004	LER	2/17/2010 3:09	951349	10-1685	2	LANL	USE	S
EXS02160059.wiff	246582005	LER	2/17/2010 3:24	951349	10-1685	2	LANL	USE	S
EXS02160060.wiff	246582006	LER	2/17/2010 3:40	951349	10-1685	2	LANL	USE	S
EXS02160061.wiff	246582007	LER	2/17/2010 3:56	951349	10-1685	2	LANL	USE	S
EXS02160062.wiff	WXXCCV	LER	2/17/2010 4:12			1		USE	C
EXS02160063.wiff	XIBLK08	LER	2/17/2010 4:27			1		USE	B
EXS02160064.wiff	WXXCRI	LER	2/17/2010 4:43			1		USE	C
EXS02160065.wiff	246582008	LER	2/17/2010 4:59	951349	10-1685	2	LANL	USE	S
EXS02160066.wiff	XIBLK09	LER	2/17/2010 5:14			1		USE	B
EXS02160067.wiff	1202028657	LER	2/17/2010 5:30	947074	VARIOUS	2	LANL	USE	S

EXS02160068.wiff	1202028658	LER	2/17/2010 5:46	947074	VARIOUS	2	LANL	USE	S
EXS02160069.wiff	245789005	LER	2/17/2010 6:02	947074	10-1466	2	LANL	USE	S
EXS02160070.wiff	245789009	LER	2/17/2010 6:17	947074	10-1466	2	LANL	USE	S
EXS02160071.wiff	245789013	LER	2/17/2010 6:33	947074	10-1466	2	LANL	USE	S
EXS02160072.wiff	245789017	LER	2/17/2010 6:49	947074	10-1466	2	LANL	USE	S
EXS02160073.wiff	WXXCCV	LER	2/17/2010 7:04			1		USE	C
EXS02160074.wiff	XIBLK10	LER	2/17/2010 7:20			1		USE	B
EXS02160075.wiff	WXXCRI	LER	2/17/2010 7:36			1		USE	C
EXS02160076.wiff	245809001	LER	2/17/2010 7:52	947074	10-1480	2	LANL	USE	S
EXS02160077.wiff	1202028659	LER	2/17/2010 8:07	947074	10-1480	2	LANL	USE	S
EXS02160078.wiff	1202028660	LER	2/17/2010 8:23	947074	10-1480	2	LANL	USE	S
EXS02160079.wiff	WXXCCV	LER	2/17/2010 8:39			1		USE	C
EXS02160080.wiff	XIBLK11	LER	2/17/2010 8:54			1		USE	B
EXS02160081.wiff	WXXCRI	LER	2/17/2010 9:10			1		USE	C

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216045a
Date: 17-Feb-2010
Time: 14:52:55
ID: 1202038771 | LANU | 951349 | SOLID | 246554001MS | 2 |
Vial: 2:1,D

MATT 2/18/10

HMX
F2:MRM of 1 channel,AP-
176 > 102
6.009e+004
7.59

RDX
F2:MRM of 1 channel,AP-
176 > 102
6.009e+004
5.19
RDX
7.59
7954.25

135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.697e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.295e+004
10.03

13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.528e+004

Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.374e+004
Tetryl
12.68
2892.70

Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.311e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.070e+004

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.950e+004

246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.048e+004

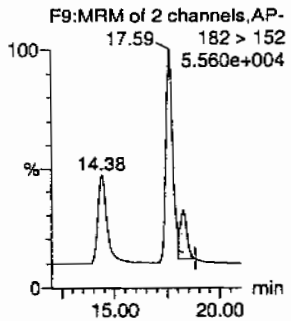
34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.560e+004
17.59
18.25

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.560e+004
14.38
18.25

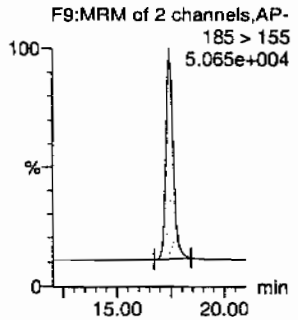
HMM 02/18/10

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

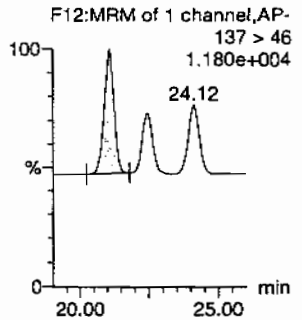
24-dinitrotoluene



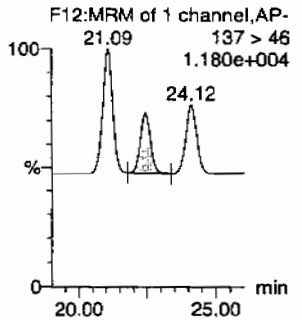
26-dinitrotoluene-d3



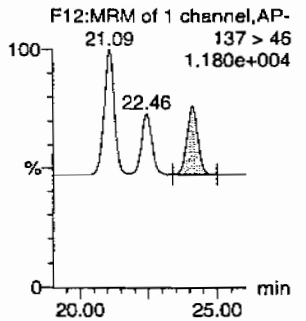
2-Nitrotoluene



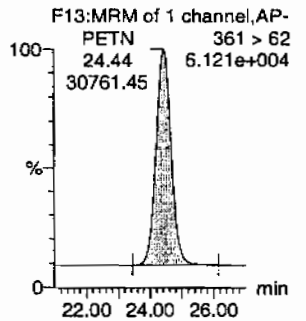
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
1202038771	HMX	176 > 102	5.19	10956.609	3054.863	10956.609	1793.306	db			464.7828	93.0	-7.0	2067.3
1202038771	RDX	176 > 102	7.59	7954.250	3054.863	7954.250	1301.900	bb			501.9966	100.4	0.4	1293.0
1202038771	135-Trinitrobenzene	213 > 183	10.18	11567.304	3054.863	11567.304	1893.261	bb			488.8931	97.8	-2.2	2058.0
1202038771	13-Dinitrobenzene-d4	172 > 142	12.07	3054.863		3054.863	3054.863	bb			507.0453	101.4	1.4	203.5
1202038771	13-Dinitrobenzene	168 > 138	12.21	3643.867	3054.863	3643.867	596.404	bb			501.8042	100.4	0.4	422.6
1202038771	Tetryl	241 > 181	12.68	2892.703	3054.863	2892.703	473.459	bb			434.2733	86.9	-13.1	294.4
1202038771	Nitrobenzene	123 > 46	13.63	2613.889	3054.863	2613.889	427.824	bb			498.3338	99.7	-0.3	177.7
1202038771	4-Amino-26-dinitrotoluene	197 > 167	15.68	6108.583	18005.000	6108.583	169.636	MM	18-Feb-10	08:45:07	529.7521	106.0	6.0	222.1
1202038771	2-Amino-46-dinitrotoluene	197 > 180	16.57	9332.982	18005.000	9332.982	259.178	bb			599.8718	120.0	20.0	598.4
1202038771	246-Trinitrotoluene	227 > 210	15.41	6541.622	18005.000	6541.622	181.661	bb			541.8603	108.4	8.4	259.9
1202038771	34-dinitrotoluene	182 > 152	14.38	9690.661	18005.000	9690.661	269.110	bb			297.0309	118.8	18.8	414.1
1202038771	26-dinitrotoluene	182 > 152	17.59	19019.293	18005.000	19019.293	528.167	MM	18-Feb-10	08:48:27	498.5340	99.7	-0.3	1005.1
1202038771	24-dinitrotoluene	182 > 152	18.25	4601.292	18005.000	4601.292	127.778	MM	18-Feb-10	08:51:25	518.3481	103.7	3.7	233.2
1202038771	26-dinitrotoluene-d3	185 > 155	17.44	18005.000		18005.000	18005.000	bb			517.1308	103.4	3.4	2193.7
1202038771	2-Nitrotoluene	137 > 46	21.09	2666.284	18005.000	2666.284	74.043	bb			486.5028	97.3	-2.7	485.9
1202038771	4-Nitrotoluene	137 > 46	22.46	1350.409	18005.000	1350.409	37.501	bb			489.2413	97.8	-2.2	238.0
1202038771	3-Nitrotoluene	137 > 46	24.12	1602.234	18005.000	1602.234	44.494	bb			497.2020	99.4	-0.6	271.1
1202038771	PETN	361 > 62	24.44	30761.449	18005.000	30761.449	854.247	bb			513.3634	102.7	2.7	4549.8

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

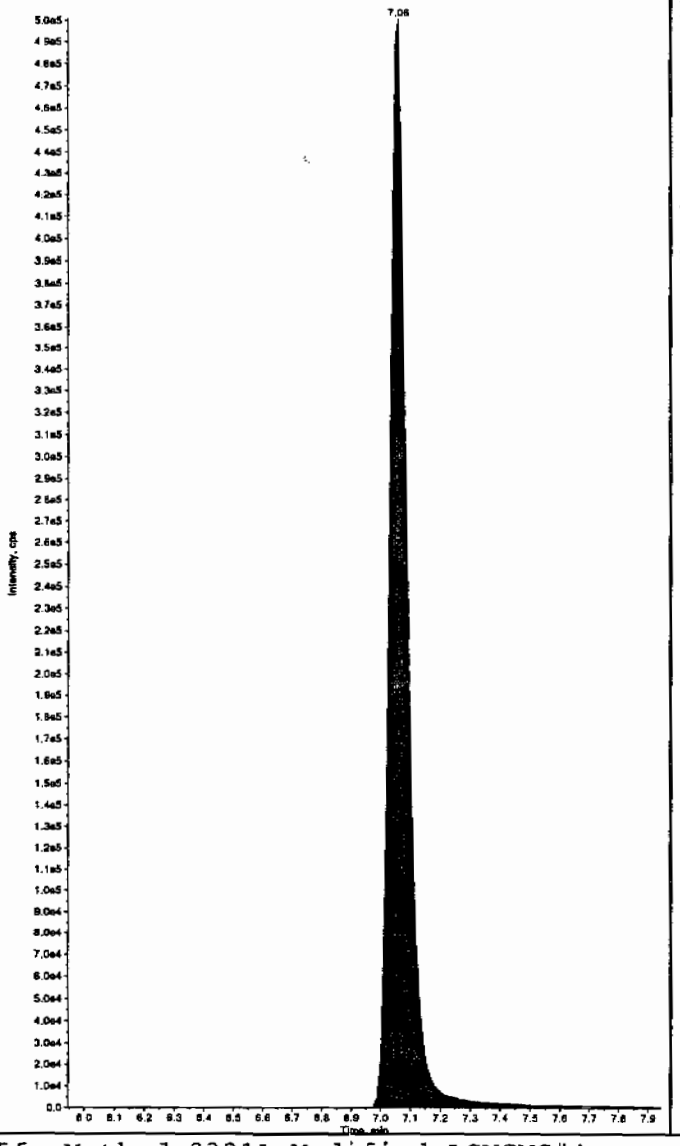
Before Scan 2/17/10

Sample Name: "1202038771" Sample ID: "951349|2|LER" File: "EXS02160042.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1850. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.06 min
Area: 2.22e+006 counts
Height: 501063.660 cps
Start Time: 6.93 min
End Time: 7.67 min

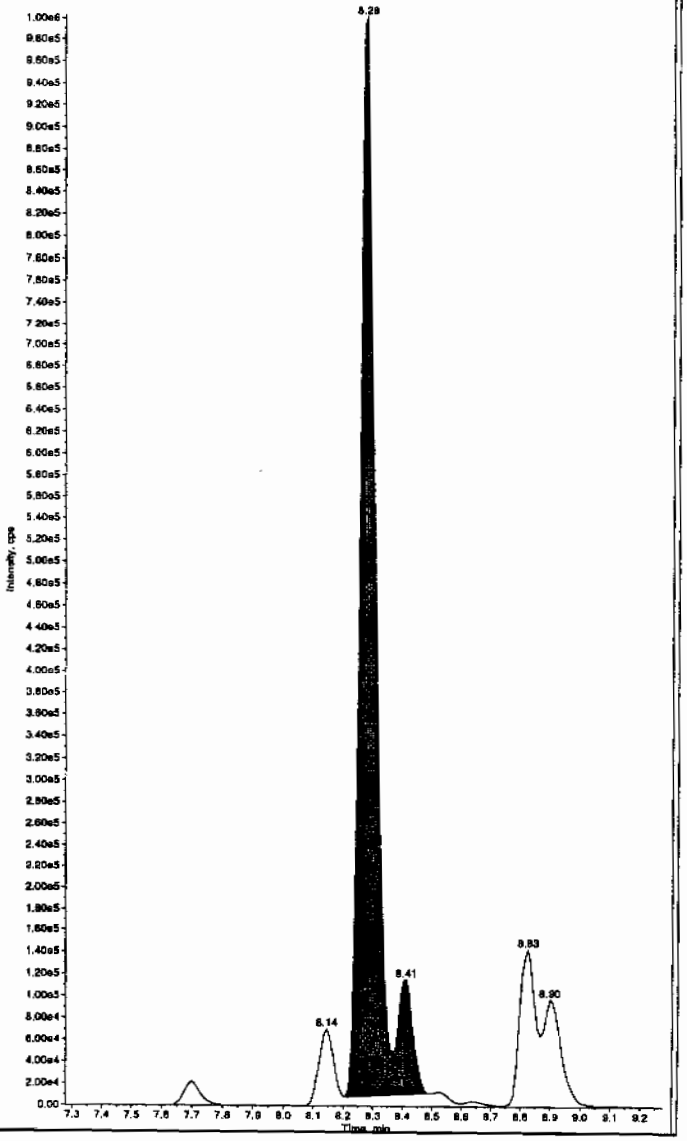


Sample Name: "1202038771" Sample ID: "951349|2|LER" File: "EXS02160042.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 653. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 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: 8.28 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.28 min
Area: 4.12e+006 counts
Height: 993786.743 cps
Start Time: 8.21 min
End Time: 8.48 min



Hmm 02/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

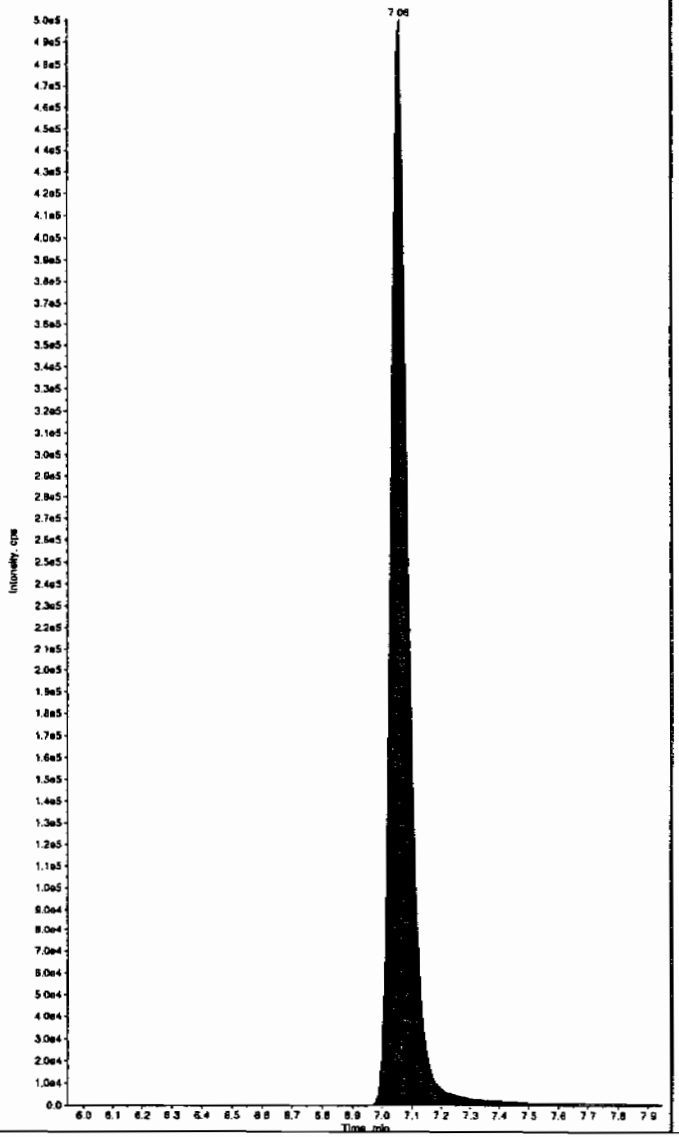
after Dan 2/17/10

Sample Name: "1202038771" Sample ID: "951349[2]LER" File: "EXS02150042.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1850. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 PM

Modified: No
Calc. 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.06 min
Area: 2.22e+006 counts
Height: 501063.660 cps
Start Time: 6.93 min
End Time: 7.67 min

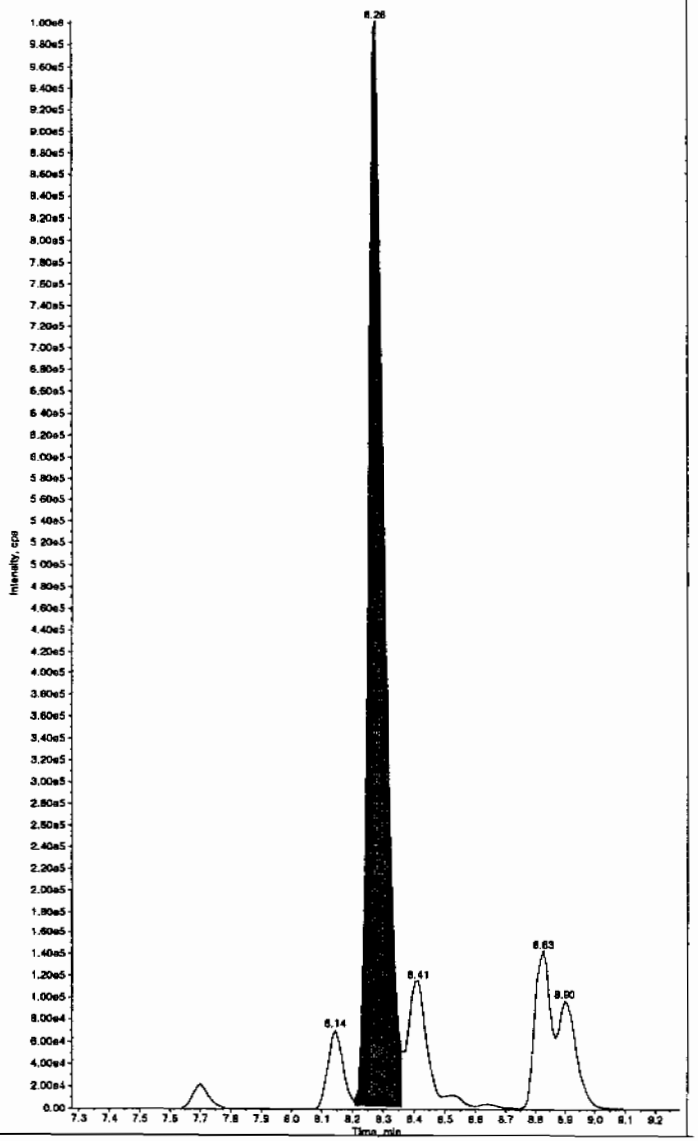


Sample Name: "1202038771" Sample ID: "951349[2]LER" File: "EXS02150042.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 592. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.28 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.27 min
Area: 3.77e+006 counts
Height: 1016731.171 cps
Start Time: 8.21 min
End Time: 8.36 min



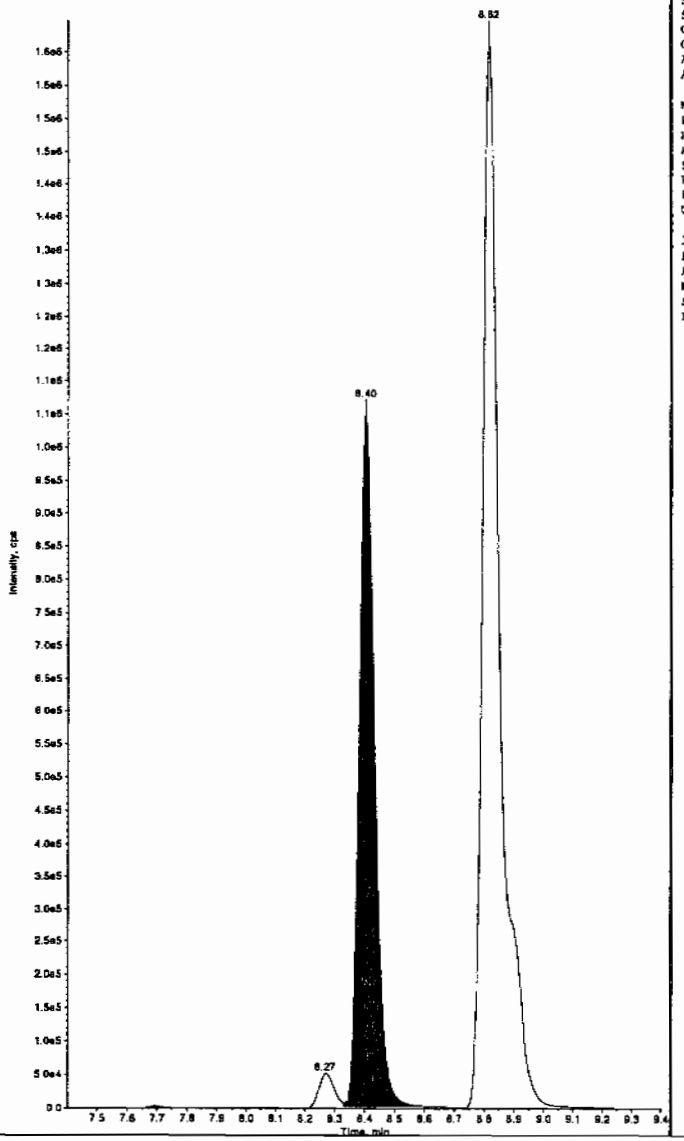
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038771" Sample ID: "951349|2|LER" File: "EXS02160042.wiff"
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: 330. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 PM

Modified: Yes
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: 8.40 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.40 min
Area: 3.95e+006 counts
Height: 1068887.207 cps
Start Time: 8.33 min
End Time: 8.61 min

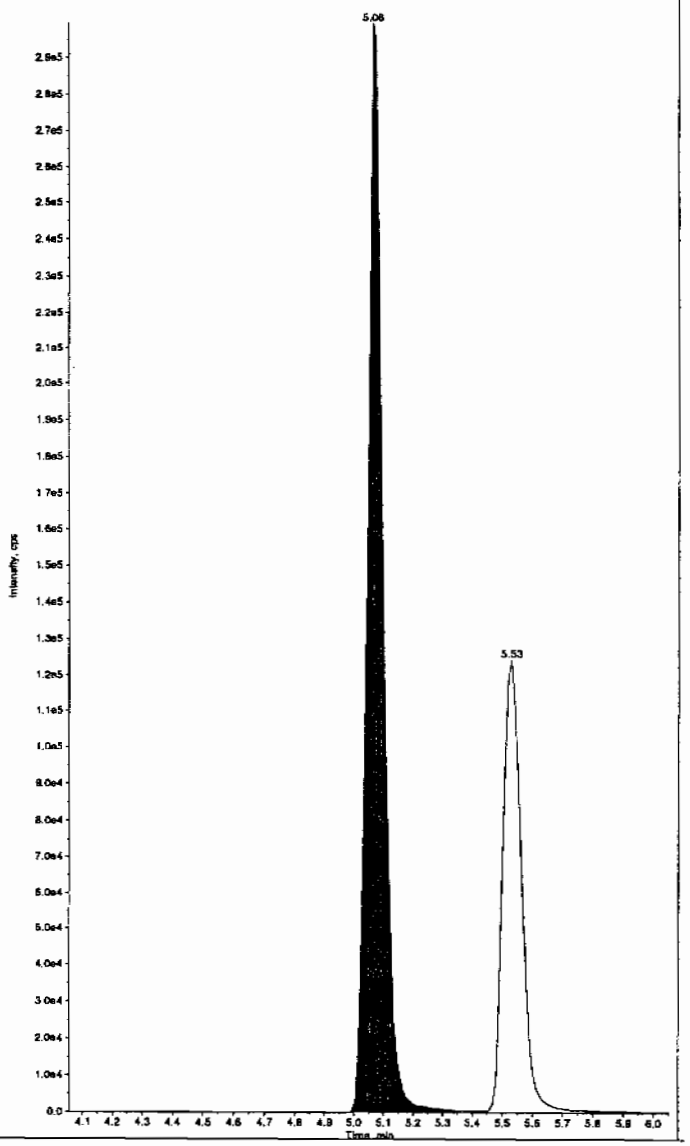


Sample Name: "1202038771" Sample ID: "951349|2|LER" File: "EXS02160042.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(as): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 562. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 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: 5.06 min
Area: 1.15e+006 counts
Height: 299682.281 cps
Start Time: 4.96 min
End Time: 5.36 min



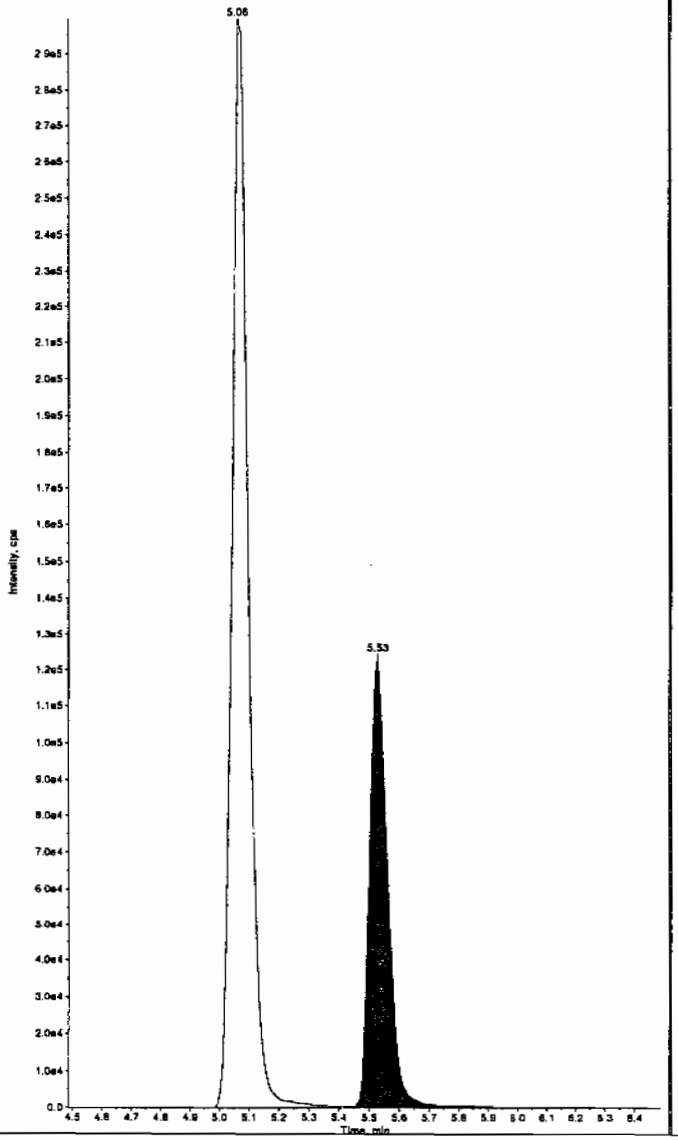
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038771" Sample ID: "951349[2]LER" File: "EXS02160042.wiff"
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: 414. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 5.38e+005 counts
Height: 124340.019 cps
Start Time: 5.43 min
End Time: 6.01 min

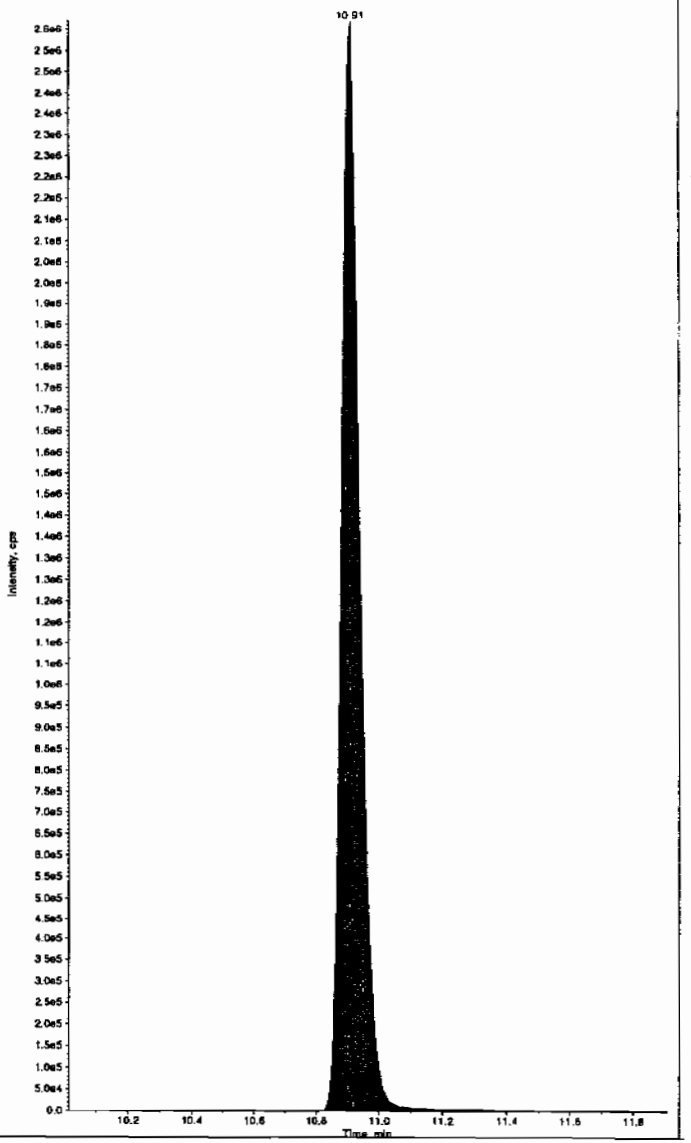


Sample Name: "1202038771" Sample ID: "951349[2]LER" File: "EXS02160042.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 559. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 10:58:01 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.10e+007 counts
Height: 2571125.977 cps
Start Time: 10.8 min
End Time: 11.2 min



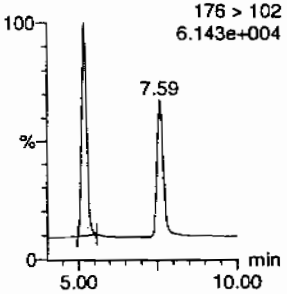
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010

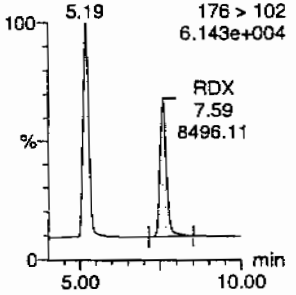
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0216046a
Date: 17-Feb-2010
Time: 15:22:22
ID: 1202038772 / LANL / 957349 / Solids / 246554001 MSD / 2 /
Vial: 2:1,E

MH 2/18/10

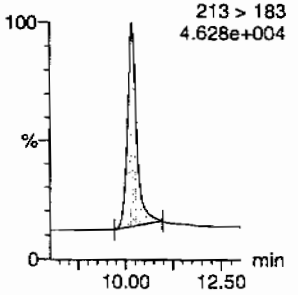
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.143e+004



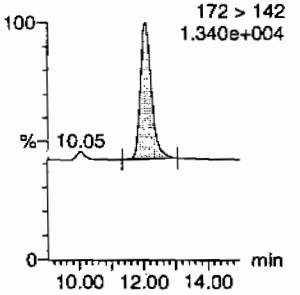
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.143e+004



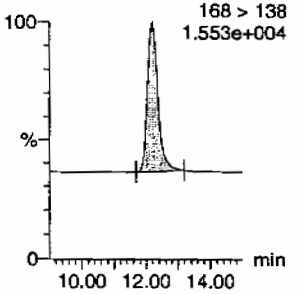
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.628e+004



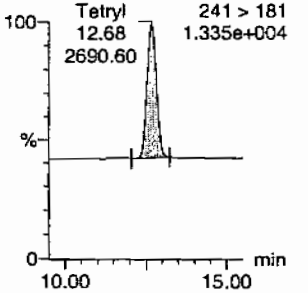
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.340e+004



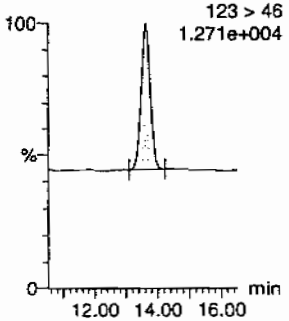
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.553e+004



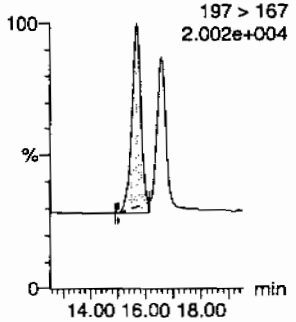
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.335e+004



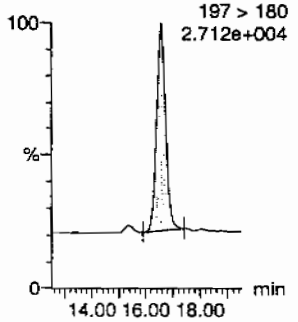
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.271e+004



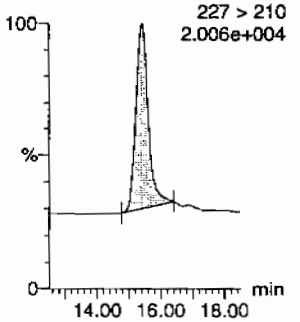
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.002e+004



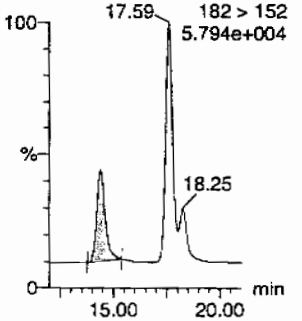
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.712e+004



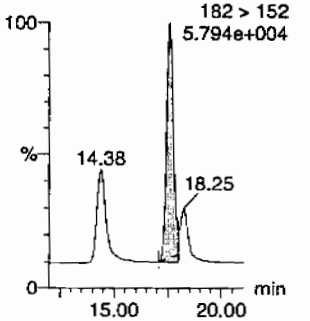
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.006e+004



34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.794e+004



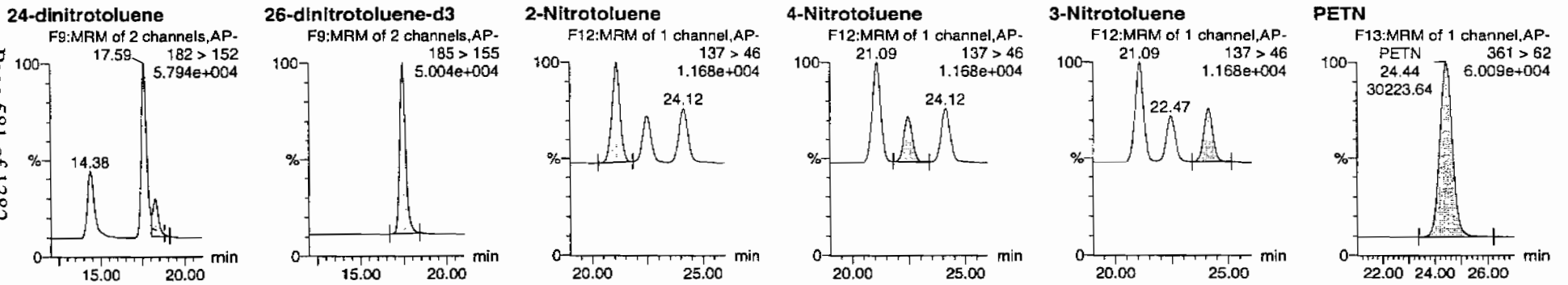
26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.794e+004



HMW 02/18/10

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\021610expA1.qld, Time: Thu Feb 18 08:53:07 2010



ID	Name	Trace	RT	Area	IS Area	Abs:Resp	Response	Flags	Mod:Date	Mod:Time	ng/ml	%Rec	%Dev	S/N
1202038772	HMX	176 > 102	5.19	10955.085	3166.835	10955.085	1729.658	bb			448.2867	89.7	-10.3	1340.9
1202038772	RDX	176 > 102	7.59	8496.111	3166.835	8496.111	1341.420	bb			517.2352	103.4	3.4	871.8
1202038772	135-Trinitrobenzene	213 > 183	10.18	11513.595	3166.835	11513.595	1817.839	bb			469.4172	93.9	-6.1	1944.3
1202038772	13-Dinitrobenzene-d4	172 > 142	12.07	3166.835		3166.835	3166.835	bb			525.6304	105.1	5.1	497.2
1202038772	13-Dinitrobenzene	168 > 138	12.21	3770.426	3166.835	3770.426	595.299	bb			500.8740	100.2	0.2	350.6
1202038772	Tetryl	241 > 181	12.68	2690.599	3166.835	2690.599	424.809	bb			389.6499	77.9	-22.1	447.7
1202038772	Nitrobenzene	123 > 46	13.63	2469.613	3166.835	2469.613	389.918	bb			454.1804	90.8	-9.2	162.8
1202038772	4-Amino-26-dinitrotoluene	197 > 167	15.68	5748.477	17880.088	5748.477	160.751	MM	18-Feb-10	08:45:16	502.0055	100.4	0.4	436.6
1202038772	2-Amino-46-dinitrotoluene	197 > 180	16.57	8279.894	17880.088	8279.894	231.540	bb			535.9031	107.2	7.2	161.3
1202038772	246-Trinitrotoluene	227 > 210	15.42	6301.841	17880.088	6301.841	176.225	bb			525.6453	105.1	5.1	484.6
1202038772	34-dinitrotoluene	182 > 152	14.38	9393.174	17880.088	9393.174	262.671	bb			289.9239	116.0	16.0	255.9
1202038772	26-dinitrotoluene	182 > 152	17.59	19420.551	17880.088	19420.551	543.078	MM	18-Feb-10	08:48:32	512.6081	102.5	2.5	676.3
1202038772	24-dinitrotoluene	182 > 152	18.25	4724.432	17880.088	4724.432	132.114	MM	18-Feb-10	08:51:10	535.9383	107.2	7.2	145.7
1202038772	26-dinitrotoluene-d3	185 > 155	17.44	17880.088		17880.088	17880.088	bb			513.5431	102.7	2.7	1232.9
1202038772	2-Nitrotoluene	137 > 46	21.09	2620.086	17880.088	2620.086	73.268	bb			481.4132	96.3	-3.7	345.8
1202038772	4-Nitrotoluene	137 > 46	22.47	1286.365	17880.088	1286.365	35.972	bb			469.2946	93.9	-6.1	161.2
1202038772	3-Nitrotoluene	137 > 46	24.12	1550.212	17880.088	1550.212	43.350	bb			484.4194	96.9	-3.1	188.3
1202038772	PETN	361 > 62	24.44	30223.643	17880.088	30223.643	845.176	bb			506.8228	101.4	1.4	4357.3

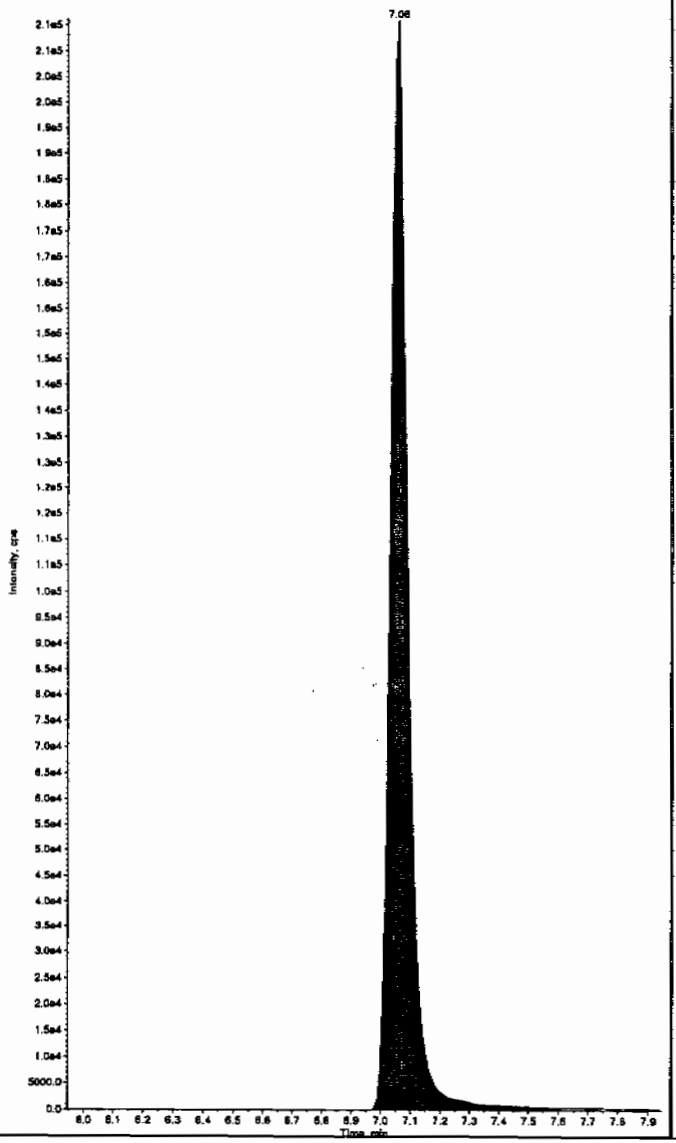
Before Clan 2/17/10

Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 697. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 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: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.06 min
Area: 9.43e+005 counts
Height: 211058.029 cps
Start Time: 6.87 min
End Time: 7.61 min

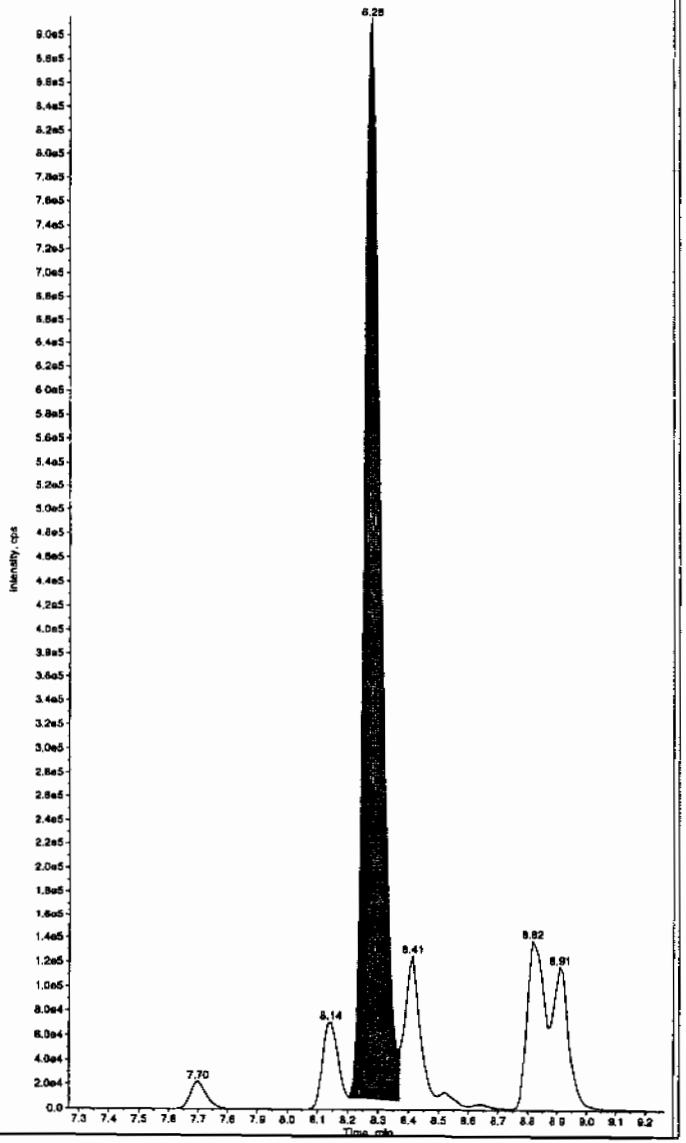


Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 569. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 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: 8.27 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.28 min
Area: 3.63e+006 counts
Height: 906393.066 cps
Start Time: 8.21 min
End Time: 8.37 min



Hmcd 2/17/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

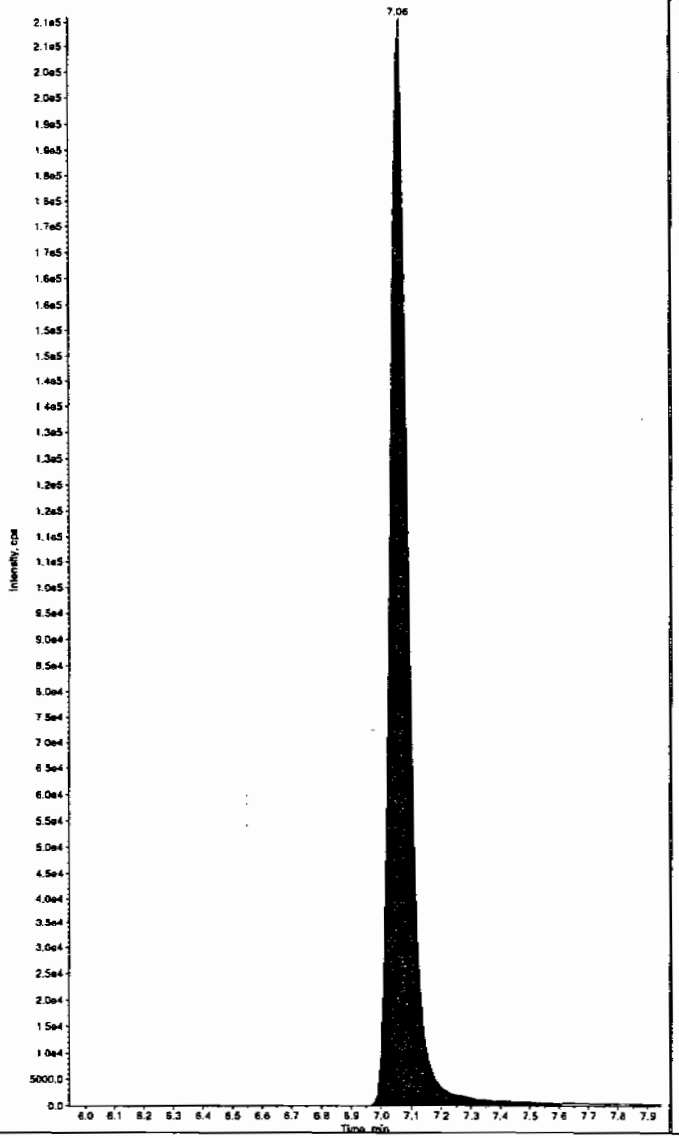
after Dan 2/17/10

Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 697. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 PM

Modified: No
Quan. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 1 points
RT Window: 30.0 sec
Expected RT: 6.94 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.06 min
Area: 9.43e+005 counts
Height: 211058.029 cps
Start Time: 6.87 min
End Time: 7.61 min

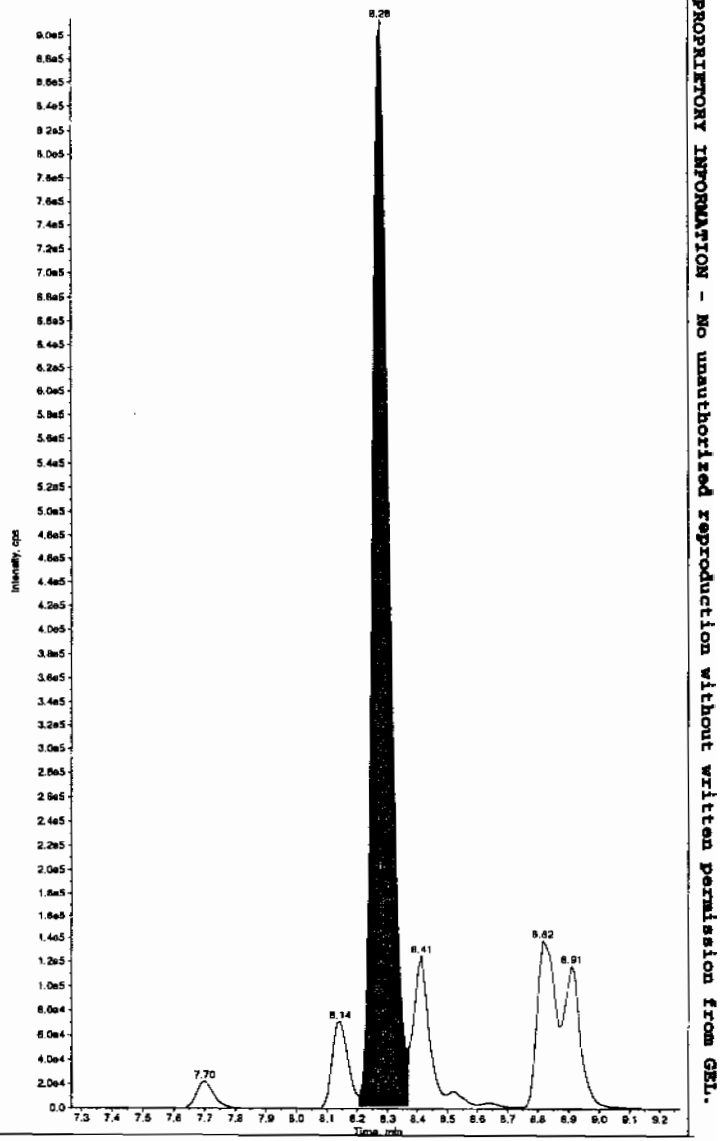


Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 579. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.27 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.27 min
Area: 3.69e+006 counts
Height: 920892.183 cps
Start Time: 8.21 min
End Time: 8.37 min



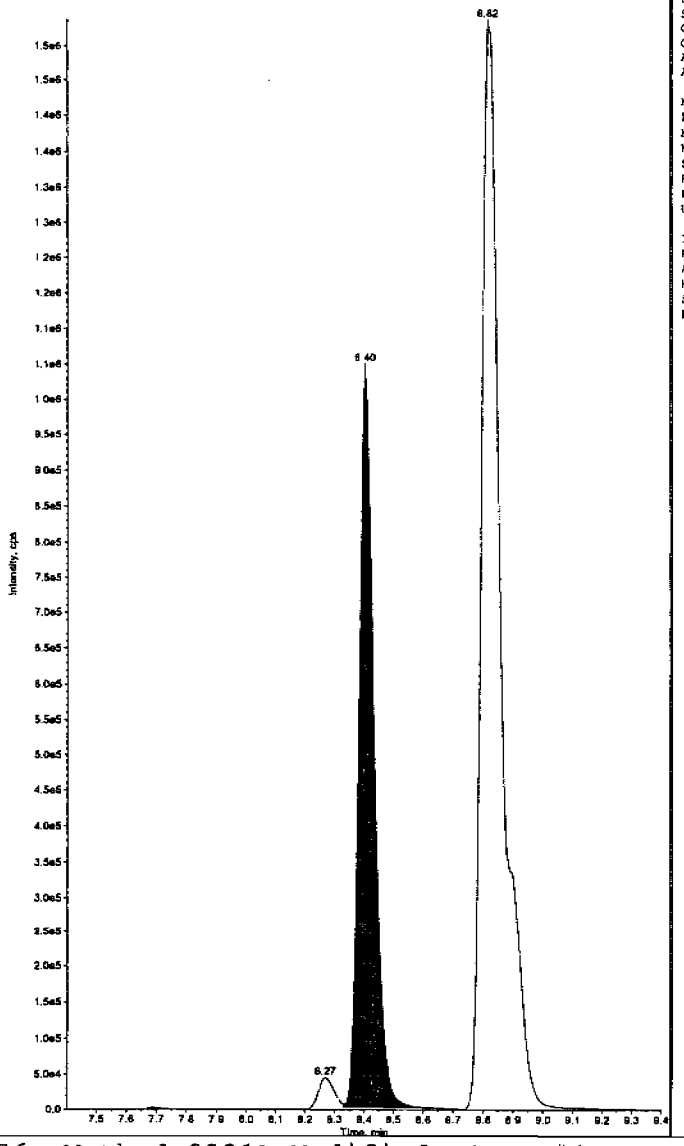
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
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: 326. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 PM

Modified: Yes
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: 8.40 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.40 min
Area: 3.90e+006 counts
Height: 1048649.902 cps
Start Time: 8.33 min
End Time: 8.60 min

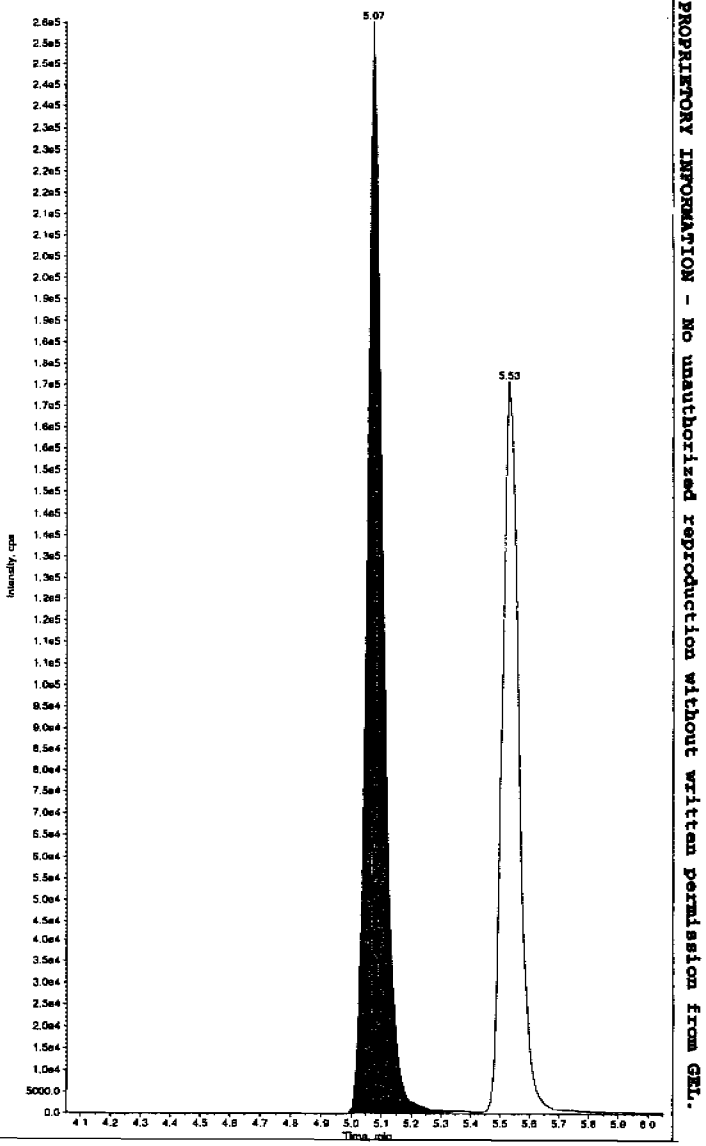


Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 477. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 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: 5.07 min
Area: 9.86e+005 counts
Height: 255243.286 cps
Start Time: 4.97 min
End Time: 5.34 min



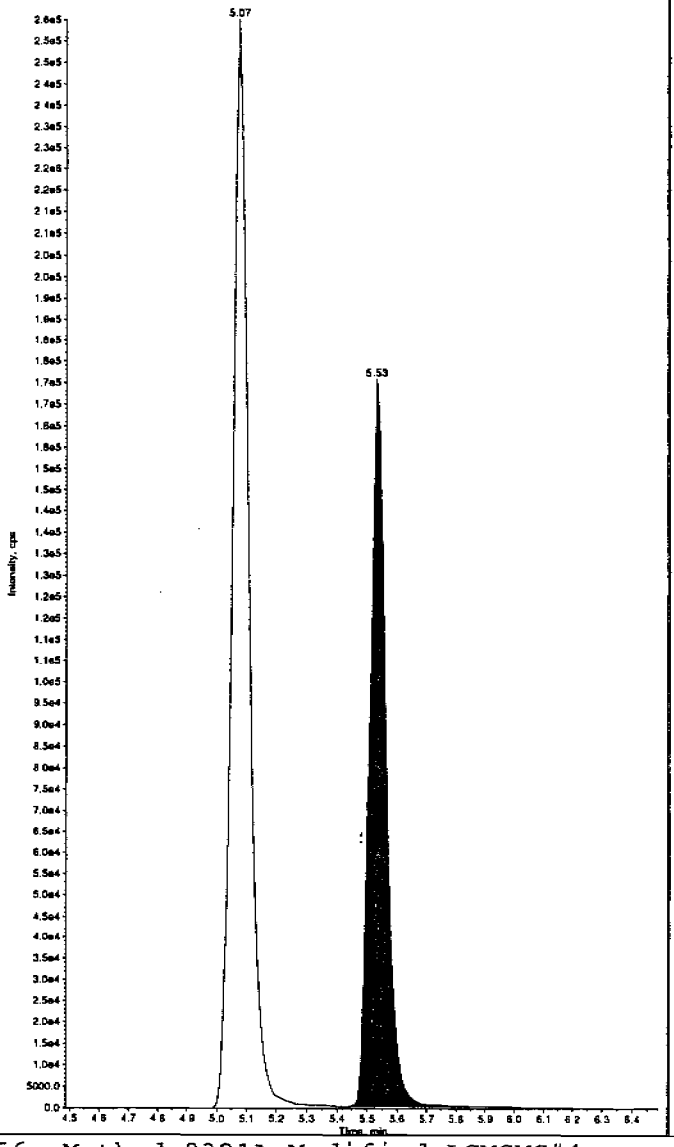
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
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: 523. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 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: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 6.72e+005 counts
Height: 170422.379 cps
Start Time: 5.45 min
End Time: 5.83 min

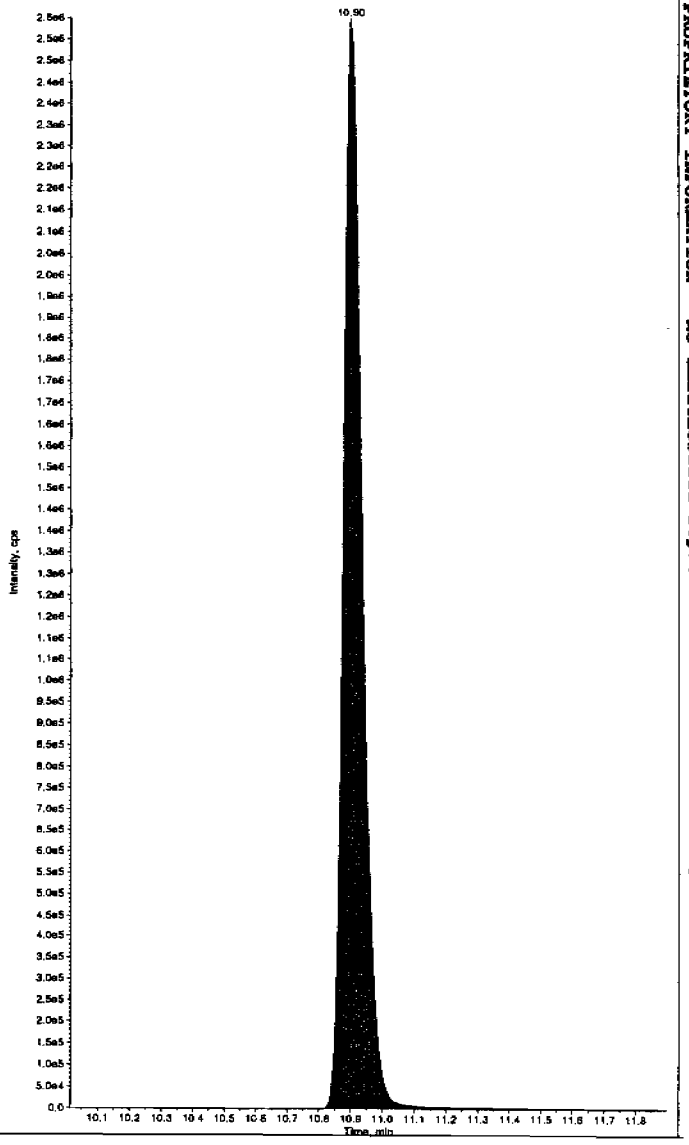


Sample Name: "1202038772" Sample ID: "951349|2|LER" File: "EXS02160043.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 558. ng/mL
Acq. Date: 2/16/2010
Acq. Time: 11:13:44 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 8000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 60.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.10e+007 counts
Height: 2550793.457 cps
Start Time: 10.8 min
End Time: 11.3 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

GEL Laboratories LLC
Form GEL-DER

DER Report No.: 792626
Revision No.:

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
18-FEB-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LC-MS/MS	SW846 8321A Modified	Solid	LANL
Batch ID:	**Sample Numbers:**		
951349	See Below		

Potentially affected work order(s)(SDG): 246554(10-1665),246557(10-1666),246562(10-1668),246575(10-1675),246582(10-1685)

Application Issues:

Failed Recovery for MS/PS

Failed RPD for MS/MSD, or PS/PSD

Failed Recovery for Surrogate or Tracer

Specification and Requirements Exception Description:	DER Disposition:
1. The following samples did not meet Surrogate recovery limits for the Secondary analyte analysis: 1202038769(MB) at 148%, 246575003 at 145% and 246582008 at 146%. The recovery limits are 70-144%.	1. Since there were no target analytes detected in the associated samples, and the surrogate passed in the Primary analyte analysis, the data are reported with the appropriate DER. The discrepancies are noted in the case narrative.
2. The Matrix Spike (1202038771) did not meet spike recovery limits for TATB at 370%. The recovery limits are 29-155%.	2. Since the Laboratory Control Sample and Matrix Spike duplicate both 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.
3. The MS/MSD pair (1202038771/2) did not meet RPD acceptance limits for TATB at 90.5%. The acceptance limits are 0-30%.	3. 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 18-FEB-10

Data Validator/Group Leader:

Herbert Maier 18-FEB-10

Metals Analysis

Case Narrative

Metals Fractional Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1666

Sample Analysis

Sample ID	Client ID
246557001	RE15-10-8363
1202039771	Method Blank (MB) **ICP**
1202039772	Laboratory Control Sample (LCS)
1202039775	246562001(WST16-10-12212L) Serial Dilution (SD)
1202039773	246562001(WST16-10-12212D) Sample Duplicate (DUP)
1202039774	246562001(WST16-10-12212S) Matrix Spike (MS)
1202039776	246562001(WST16-10-12212SD) Matrix Spike Duplicate (MSD)
1202041828	Method Blank (MB) **ICP-MS**
1202041833	Laboratory Control Sample (LCS)
1202041830	246557001(RE15-10-8363L) Serial Dilution (SD)
1202041829	246557001(RE15-10-8363D) Sample Duplicate (DUP)
1202041831	246557001(RE15-10-8363S) Matrix Spike (MS)
1202041832	246557001(RE15-10-8363SD) Matrix Spike Duplicate (MSD)
1202039457	Method Blank (MB) **CVAA**
1202039458	Laboratory Control Sample (LCS)
1202039461	246566001(RE46-10-11496L) Serial Dilution (SD)
1202039459	246566001(RE46-10-11496D) Sample Duplicate (DUP)
1202039460	246566001(RE46-10-11496S) Matrix Spike (MS)
1202039462	246566001(RE46-10-11496SD) Matrix Spike Duplicate (MSD)

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

Method/Analysis Information

Analytical Batch:	951755, 952645 and 951632
Prep Batch :	951754, 952644 and 951631
Standard Operating Procedures:	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

Analytical Method: SW846 3050B/6010B, SW846 3050B/6020 and SW846 7471A
Prep Method : 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 4300 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 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 3607 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.

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 analyzed with this SDG me the acceptance criteria of percent recovery with the exceptions of antimony. Per the DOE-AL statement of work, page forty, silver and antimony are exempt from the re-digestion requirement for LCS failures.

Quality Control (QC) Sample Statement
The following samples were selected as the quality control (QC) samples for this SDG: 246562001 (WST16-10-12212)-ICP, 246557001 (RE15-10-8363)-ICP-MS and 246566001 (RE46-10-11496)-CVAA.

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 aluminum, potassium, sodium, nickel, and selenium, 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 aluminum, potassium, manganese, potassium, sodium, nickel, and selenium, 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%, with the exception of magnesium, as indicated by the "*" qualifier.

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, with the exception of magnesium and nickel, as indicated by the "*" qualifiers.

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), with the exception of zinc, as indicated by the "E" qualifiers.

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 DERs were

generated for this SDG: 796957 and 800470. 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: _____ **Date:** 3/8/10

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: 10-1666 GEL Work Order: 246557

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 _____ 3/8/10

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1666 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 246557001 **BASIS:** Dry Weight **DATE COLLECTED** 03-FEB-10

CLIENT ID: RE15-10-8363 **LEVEL:** Low **DATE RECEIVED** 09-FEB-10

MATRIX: SOIL **%SOLIDS:** 81

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	3000000	ug/Kg		8070	23700	23700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-36-0	Antimony	1190	ug/Kg	U	392	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-38-2	Arsenic	1.05	mg/kg	J	0.235	1.17	1.17	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-39-3	Barium	36200	ug/Kg		119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-41-7	Beryllium	0.683	mg/kg		0.0235	0.117	0.117	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-43-9	Cadmium	297	ug/Kg	J	119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-70-2	Calcium	741000	ug/Kg		9500	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-47-3	Chromium	17300	ug/Kg		178	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-48-4	Cobalt	1220	ug/Kg		178	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-50-8	Copper	4390	ug/Kg		356	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-89-6	Iron	6820000	ug/Kg		9500	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-92-1	Lead	6810	ug/Kg		297	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-95-4	Magnesium	464000	ug/Kg		10100	35600	35600	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-96-5	Manganese	254000	ug/Kg		237	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755
7439-97-6	Mercury	5.11	ug/kg	J	4.39	12.9	12.9	1	AV	JXL1	02/26/10 10:24	022610S1-9	951632
7440-02-0	Nickel	5.77	mg/kg	*N	0.117	0.47	0.47	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-09-7	Potassium	472000	ug/Kg		7600	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7782-49-2	Selenium	1.17	mg/kg	UN	0.587	1.17	1.17	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-22-4	Silver	208	ug/Kg	J	119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-23-5	Sodium	56300	ug/Kg		8310	29700	29700	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-28-0	Thallium	0.104	mg/kg	J	0.0704	0.235	0.235	2	MS	BAJ	03/06/10 22:14	100306-2	952645
7440-61-1	Uranium	1.61	mg/kg		0.0155	0.047	0.047	2	MS	BAJ	03/07/10 09:28	100306-8	952645
7440-62-2	Vanadium	5500	ug/Kg		119	594	594	1	P	HSC	02/26/10 08:28	022610D-1	951755
7440-66-6	Zinc	30700	ug/Kg		392	1190	1190	1	P	HSC	02/26/10 08:28	022610D-1	951755

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
951632	951631	SW846 7471A Prep	0.572	g	30	mL	02/25/10	TXB3
951755	951754	SW846 3050B	0.518	g	50	mL	02/13/10	LYH1
952645	952644	SW846 3050B	0.524	g	50	mL	02/18/10	LYH1

Quality Control Summary

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
ICV01										
	Aluminum	5050	ug/L	5000	ug/L	101	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Antimony	498	ug/L	500	ug/L	99.6	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Barium	517	ug/L	500	ug/L	103.4	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Cadmium	505	ug/L	500	ug/L	100.9	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Calcium	5040	ug/L	5000	ug/L	100.8	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Chromium	500	ug/L	500	ug/L	100.1	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Cobalt	519	ug/L	500	ug/L	103.8	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Copper	517	ug/L	500	ug/L	103.4	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Iron	5030	ug/L	5000	ug/L	100.7	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Lead	508	ug/L	500	ug/L	101.6	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Magnesium	5020	ug/L	5000	ug/L	100.5	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Manganese	503	ug/L	500	ug/L	100.5	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Potassium	2410	ug/L	2500	ug/L	96.5	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Silver	254	ug/L	250	ug/L	101.8	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Sodium	2420	ug/L	2500	ug/L	96.7	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Vanadium	506	ug/L	500	ug/L	101.1	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Zinc	491	ug/L	500	ug/L	98.2	90.0 - 110.0	P	26-FEB-10 02:08	022610D-1
	Mercury	5.13	ug/L	5	ug/L	102.7	90.0 - 110.0	AV	26-FEB-10 10:10	022610S1-9
	Arsenic	49.6	ug/L	50	ug/L	99.1	90.0 - 110.0	MS	06-MAR-10 20:46	100306-2
	Beryllium	52	ug/L	50	ug/L	104	90.0 - 110.0	MS	06-MAR-10 20:46	100306-2
	Nickel	52.5	ug/L	50	ug/L	105	90.0 - 110.0	MS	06-MAR-10 20:46	100306-2
	Selenium	51.2	ug/L	50	ug/L	102.3	90.0 - 110.0	MS	06-MAR-10 20:46	100306-2
	Thallium	54	ug/L	50	ug/L	108	90.0 - 110.0	MS	06-MAR-10 20:46	100306-2
	Uranium	53.9	ug/L	50	ug/L	107.9	90.0 - 110.0	MS	07-MAR-10 09:12	100306-8
CCV01										
	Aluminum	5150	ug/L	5000	ug/L	103	90.0 - 110.0	P	26-FEB-10 02:31	022610D-1
	Antimony	533	ug/L	500	ug/L	106.5	90.0 - 110.0	P	26-FEB-10 02:31	022610D-1
	Barium	517	ug/L	500	ug/L	103.4	90.0 - 110.0	P	26-FEB-10 02:31	022610D-1
	Cadmium	518	ug/L	500	ug/L	103.6	90.0 - 110.0	P	26-FEB-10 02:31	022610D-1
	Calcium	5220	ug/L	5000	ug/L	104.4	90.0 - 110.0	P	26-FEB-10 02:31	022610D-1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Chromium	518	ug/L	500	ug/L	103.6	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Cobalt	517	ug/L	500	ug/L	103.4	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Copper	513	ug/L	500	ug/L	102.7	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Iron	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Lead	524	ug/L	500	ug/L	104.9	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Magnesium	5270	ug/L	5000	ug/L	105.5	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Manganese	526	ug/L	500	ug/L	105.2	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Potassium	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Silver	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Sodium	9920	ug/L	10000	ug/L	99.2	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Vanadium	518	ug/L	500	ug/L	103.5	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Zinc	521	ug/L	500	ug/L	104.2	90.0 – 110.0	P	26–FEB–10 02:31	022610D–1
	Mercury	5.11	ug/L	5	ug/L	102.3	80.0 – 120.0	AV	26–FEB–10 10:16	022610S1–9
	Arsenic	49.4	ug/L	50	ug/L	98.8	90.0 – 110.0	MS	06–MAR–10 21:05	100306–2
	Beryllium	53.1	ug/L	50	ug/L	106.2	90.0 – 110.0	MS	06–MAR–10 21:05	100306–2
	Nickel	51.6	ug/L	50	ug/L	103.2	90.0 – 110.0	MS	06–MAR–10 21:05	100306–2
	Selenium	51.4	ug/L	50	ug/L	102.8	90.0 – 110.0	MS	06–MAR–10 21:05	100306–2
	Thallium	53.8	ug/L	50	ug/L	107.7	90.0 – 110.0	MS	06–MAR–10 21:05	100306–2
	Uranium	54.5	ug/L	50	ug/L	109.1	90.0 – 110.0	MS	07–MAR–10 09:20	100306–8
CCV02										
	Aluminum	4920	ug/L	5000	ug/L	98.5	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Antimony	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Barium	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Cadmium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Calcium	5070	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Chromium	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Cobalt	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Copper	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Iron	5040	ug/L	5000	ug/L	100.8	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Lead	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Magnesium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Manganese	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Potassium	4850	ug/L	5000	ug/L	97	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Silver	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Sodium	9970	ug/L	10000	ug/L	99.7	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Vanadium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Zinc	505	ug/L	500	ug/L	101	90.0 – 110.0	P	26–FEB–10 03:42	022610D–1
	Mercury	5.05	ug/L	5	ug/L	100.9	80.0 – 120.0	AV	26–FEB–10 10:40	022610S1–9
	Arsenic	48.8	ug/L	50	ug/L	97.6	90.0 – 110.0	MS	06–MAR–10 21:26	100306–2
	Beryllium	53.2	ug/L	50	ug/L	106.3	90.0 – 110.0	MS	06–MAR–10 21:26	100306–2
	Nickel	52.3	ug/L	50	ug/L	104.6	90.0 – 110.0	MS	06–MAR–10 21:26	100306–2
	Selenium	50.9	ug/L	50	ug/L	101.8	90.0 – 110.0	MS	06–MAR–10 21:26	100306–2
	Thallium	53.6	ug/L	50	ug/L	107.2	90.0 – 110.0	MS	06–MAR–10 21:26	100306–2
	Uranium	54.6	ug/L	50	ug/L	109.2	90.0 – 110.0	MS	07–MAR–10 09:36	100306–8
CCV03										
	Aluminum	4890	ug/L	5000	ug/L	97.9	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Antimony	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Barium	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Cadmium	499	ug/L	500	ug/L	99.7	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Calcium	5010	ug/L	5000	ug/L	100.2	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Chromium	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Cobalt	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Copper	488	ug/L	500	ug/L	97.6	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Iron	4850	ug/L	5000	ug/L	97	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Lead	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Magnesium	4960	ug/L	5000	ug/L	99.3	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Manganese	495	ug/L	500	ug/L	99	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Potassium	4840	ug/L	5000	ug/L	96.9	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Silver	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1
	Sodium	9310	ug/L	10000	ug/L	93.1	90.0 – 110.0	P	26–FEB–10 03:52	022610D–1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Vanadium	496	ug/L	500	ug/L	99.2	90.0 - 110.0	P	26-FEB-10 03:52	022610D-1
	Zinc	495	ug/L	500	ug/L	99.1	90.0 - 110.0	P	26-FEB-10 03:52	022610D-1
	Arsenic	48.9	ug/L	50	ug/L	97.7	90.0 - 110.0	MS	06-MAR-10 22:00	100306-2
	Beryllium	54.7	ug/L	50	ug/L	109.3	90.0 - 110.0	MS	06-MAR-10 22:00	100306-2
	Nickel	52.7	ug/L	50	ug/L	105.4	90.0 - 110.0	MS	06-MAR-10 22:00	100306-2
	Selenium	49.8	ug/L	50	ug/L	99.6	90.0 - 110.0	MS	06-MAR-10 22:00	100306-2
	Thallium	53.8	ug/L	50	ug/L	107.6	90.0 - 110.0	MS	06-MAR-10 22:00	100306-2
CCV04										
	Aluminum	4970	ug/L	5000	ug/L	99.3	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Antimony	501	ug/L	500	ug/L	100.2	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Barium	497	ug/L	500	ug/L	99.5	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Cadmium	498	ug/L	500	ug/L	99.5	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Calcium	5020	ug/L	5000	ug/L	100.3	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Chromium	494	ug/L	500	ug/L	98.9	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Cobalt	499	ug/L	500	ug/L	99.8	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Copper	491	ug/L	500	ug/L	98.2	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Iron	4830	ug/L	5000	ug/L	96.6	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Lead	505	ug/L	500	ug/L	101.1	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Magnesium	4980	ug/L	5000	ug/L	99.6	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Manganese	496	ug/L	500	ug/L	99.2	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Potassium	4900	ug/L	5000	ug/L	98.1	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Silver	495	ug/L	500	ug/L	99.1	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Sodium	9310	ug/L	10000	ug/L	93.1	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Vanadium	498	ug/L	500	ug/L	99.6	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Zinc	498	ug/L	500	ug/L	99.5	90.0 - 110.0	P	26-FEB-10 04:31	022610D-1
	Arsenic	49.8	ug/L	50	ug/L	99.6	90.0 - 110.0	MS	06-MAR-10 22:33	100306-2
	Beryllium	54	ug/L	50	ug/L	108	90.0 - 110.0	MS	06-MAR-10 22:33	100306-2
	Nickel	51.6	ug/L	50	ug/L	103.2	90.0 - 110.0	MS	06-MAR-10 22:33	100306-2
	Selenium	51.8	ug/L	50	ug/L	103.6	90.0 - 110.0	MS	06-MAR-10 22:33	100306-2
	Thallium	54.1	ug/L	50	ug/L	108.2	90.0 - 110.0	MS	06-MAR-10 22:33	100306-2

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
CCV05										
	Aluminum	5160	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Antimony	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Barium	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Cadmium	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Calcium	5230	ug/L	5000	ug/L	104.5	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Chromium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Cobalt	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Copper	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Iron	5010	ug/L	5000	ug/L	100.3	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Lead	515	ug/L	500	ug/L	103	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Magnesium	5190	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Manganese	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Potassium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Silver	502	ug/L	500	ug/L	100.3	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Sodium	9460	ug/L	10000	ug/L	94.6	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Vanadium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
	Zinc	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	26–FEB–10 05:10	022610D–1
CCV06										
	Aluminum	5270	ug/L	5000	ug/L	105.4	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Antimony	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Barium	519	ug/L	500	ug/L	103.8	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Cadmium	521	ug/L	500	ug/L	104.2	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Calcium	5380	ug/L	5000	ug/L	107.6	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Chromium	515	ug/L	500	ug/L	103	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Cobalt	521	ug/L	500	ug/L	104.2	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Copper	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Iron	5110	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Lead	522	ug/L	500	ug/L	104.4	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Magnesium	5290	ug/L	5000	ug/L	105.8	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1
	Manganese	527	ug/L	500	ug/L	105.4	90.0 – 110.0	P	26–FEB–10 05:47	022610D–1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Potassium	5200	ug/L	5000	ug/L	104	90.0 - 110.0	P	26-FEB-10 05:47	022610D-1
	Silver	512	ug/L	500	ug/L	102.3	90.0 - 110.0	P	26-FEB-10 05:47	022610D-1
	Sodium	9570	ug/L	10000	ug/L	95.7	90.0 - 110.0	P	26-FEB-10 05:47	022610D-1
	Vanadium	518	ug/L	500	ug/L	103.5	90.0 - 110.0	P	26-FEB-10 05:47	022610D-1
	Zinc	518	ug/L	500	ug/L	103.7	90.0 - 110.0	P	26-FEB-10 05:47	022610D-1
CCV07										
	Aluminum	5280	ug/L	5000	ug/L	105.6	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Antimony	514	ug/L	500	ug/L	102.8	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Barium	512	ug/L	500	ug/L	102.4	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Cadmium	513	ug/L	500	ug/L	102.5	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Calcium	5310	ug/L	5000	ug/L	106.2	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Chromium	507	ug/L	500	ug/L	101.4	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Cobalt	513	ug/L	500	ug/L	102.6	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Copper	505	ug/L	500	ug/L	101	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Iron	5020	ug/L	5000	ug/L	100.4	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Lead	511	ug/L	500	ug/L	102.3	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Magnesium	5180	ug/L	5000	ug/L	103.6	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Manganese	524	ug/L	500	ug/L	104.7	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Potassium	5200	ug/L	5000	ug/L	103.9	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Silver	508	ug/L	500	ug/L	101.6	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Sodium	9470	ug/L	10000	ug/L	94.7	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Vanadium	511	ug/L	500	ug/L	102.1	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
	Zinc	511	ug/L	500	ug/L	102.2	90.0 - 110.0	P	26-FEB-10 06:27	022610D-1
CCV08										
	Aluminum	5300	ug/L	5000	ug/L	106.1	90.0 - 110.0	P	26-FEB-10 07:08	022610D-1
	Antimony	525	ug/L	500	ug/L	104.9	90.0 - 110.0	P	26-FEB-10 07:08	022610D-1
	Barium	525	ug/L	500	ug/L	104.9	90.0 - 110.0	P	26-FEB-10 07:08	022610D-1
	Cadmium	526	ug/L	500	ug/L	105.3	90.0 - 110.0	P	26-FEB-10 07:08	022610D-1
	Calcium	5380	ug/L	5000	ug/L	107.6	90.0 - 110.0	P	26-FEB-10 07:08	022610D-1
	Chromium	521	ug/L	500	ug/L	104.1	90.0 - 110.0	P	26-FEB-10 07:08	022610D-1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Cobalt	526	ug/L	500	ug/L	105.2	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Copper	515	ug/L	500	ug/L	103.1	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Iron	5070	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Lead	529	ug/L	500	ug/L	105.9	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Magnesium	5280	ug/L	5000	ug/L	105.7	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Manganese	534	ug/L	500	ug/L	106.9	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Potassium	5260	ug/L	5000	ug/L	105.3	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Silver	518	ug/L	500	ug/L	103.6	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Sodium	9550	ug/L	10000	ug/L	95.5	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Vanadium	522	ug/L	500	ug/L	104.4	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
	Zinc	525	ug/L	500	ug/L	105	90.0 – 110.0	P	26–FEB–10 07:08	022610D–1
CCV09										
	Aluminum	5200	ug/L	5000	ug/L	104	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Antimony	524	ug/L	500	ug/L	104.8	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Barium	521	ug/L	500	ug/L	104.1	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Cadmium	523	ug/L	500	ug/L	104.6	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Calcium	5280	ug/L	5000	ug/L	105.6	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Chromium	517	ug/L	500	ug/L	103.5	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Cobalt	523	ug/L	500	ug/L	104.6	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Copper	513	ug/L	500	ug/L	102.7	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Iron	4970	ug/L	5000	ug/L	99.5	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Lead	523	ug/L	500	ug/L	104.5	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Magnesium	5190	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Manganese	530	ug/L	500	ug/L	105.9	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Potassium	5160	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Silver	516	ug/L	500	ug/L	103.1	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Sodium	9440	ug/L	10000	ug/L	94.4	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Vanadium	519	ug/L	500	ug/L	103.9	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1
	Zinc	520	ug/L	500	ug/L	104.1	90.0 – 110.0	P	26–FEB–10 07:48	022610D–1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1666

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
CCV10										
	Aluminum	5180	ug/L	5000	ug/L	103.5	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Antimony	517	ug/L	500	ug/L	103.5	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Barium	514	ug/L	500	ug/L	102.8	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Cadmium	514	ug/L	500	ug/L	102.8	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Calcium	5240	ug/L	5000	ug/L	104.8	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Chromium	509	ug/L	500	ug/L	101.9	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Cobalt	516	ug/L	500	ug/L	103.3	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Copper	510	ug/L	500	ug/L	102	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Iron	4970	ug/L	5000	ug/L	99.3	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Lead	521	ug/L	500	ug/L	104.3	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Magnesium	5130	ug/L	5000	ug/L	102.7	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Manganese	515	ug/L	500	ug/L	102.9	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Potassium	5180	ug/L	5000	ug/L	103.5	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Silver	511	ug/L	500	ug/L	102.2	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Sodium	9410	ug/L	10000	ug/L	94.1	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Vanadium	513	ug/L	500	ug/L	102.6	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1
	Zinc	514	ug/L	500	ug/L	102.9	90.0 - 110.0	P	26-FEB-10 08:32	022610D-1

METALS
-2b-
CRDL Standard for AA & ICP

SDG No: 10-1666

Contract: LANL01004 **Lab Code:** GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS5,MER536,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M	Analysis Date/Time	Run Number
CRDL01										
	Mercury	.191	ug/L	.2	ug/L	95.4	70.0 - 130.0	AV	26-FEB-10 10:14	022610S1-9
	Nickel	2.16	ug/L	2	ug/L	108	70.0 - 130.0	MS	06-MAR-10 20:54	100306-2
	Thallium	1.29	ug/L	1	ug/L	129	70.0 - 130.0	MS	06-MAR-10 20:54	100306-2
	Beryllium	.533	ug/L	.5	ug/L	106.6	70.0 - 130.0	MS	06-MAR-10 20:54	100306-2
	Selenium	5.7	ug/L	5	ug/L	113.9	70.0 - 130.0	MS	06-MAR-10 20:54	100306-2
	Arsenic	6.05	ug/L	5	ug/L	121	70.0 - 130.0	MS	06-MAR-10 20:54	100306-2
	Uranium	.244	ug/L	.2	ug/L	122	70.0 - 130.0	MS	07-MAR-10 09:15	100306-8
PQL01										
	Potassium	168	ug/L	150	ug/L	112.3	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Silver	5.01	ug/L	5	ug/L	100.1	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Sodium	302	ug/L	300	ug/L	100.5	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Antimony	10.9	ug/L	10	ug/L	108.7	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Barium	5.15	ug/L	5	ug/L	102.9	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Cadmium	4.88	ug/L	5	ug/L	97.6	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Chromium	5.52	ug/L	5	ug/L	110.4	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Cobalt	4.52	ug/L	5	ug/L	90.4	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Copper	10.6	ug/L	10	ug/L	105.9	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Vanadium	5.04	ug/L	5	ug/L	100.9	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Zinc	9.02	ug/L	10	ug/L	90.2	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Calcium	178	ug/L	200	ug/L	89.2	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Aluminum	177	ug/L	200	ug/L	88.6	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Iron	98.7	ug/L	100	ug/L	98.7	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Lead	10.1	ug/L	10	ug/L	100.7	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Magnesium	298	ug/L	300	ug/L	99.4	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1
	Manganese	10.6	ug/L	10	ug/L	106	70.0 - 130.0	P	26-FEB-10 02:15	022610D-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
ICB01										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	26-FEB-10 02:12	022610D-1
	Antimony	3.41	+/-10	J	3.3	10.0	SOL	P	26-FEB-10 02:12	022610D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:12	022610D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:12	022610D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 02:12	022610D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 02:12	022610D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 02:12	022610D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	26-FEB-10 02:12	022610D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 02:12	022610D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	26-FEB-10 02:12	022610D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	26-FEB-10 02:12	022610D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	26-FEB-10 02:12	022610D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	26-FEB-10 02:12	022610D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:12	022610D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	26-FEB-10 02:12	022610D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:12	022610D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 02:12	022610D-1
	Mercury	-0.113	+/-.2	J	0.068	0.2	SOL	AV	26-FEB-10 10:12	022610S1-9
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	06-MAR-10 20:50	100306-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	SOL	MS	06-MAR-10 20:50	100306-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	06-MAR-10 20:50	100306-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	06-MAR-10 20:50	100306-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	06-MAR-10 20:50	100306-2
	Uranium	0.066	+/-.2	U	0.066	0.2	SOL	MS	07-MAR-10 09:13	100306-8
CCB01										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	26-FEB-10 02:35	022610D-1
	Antimony	5.74	+/-10	J	3.3	10.0	SOL	P	26-FEB-10 02:35	022610D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:35	022610D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:35	022610D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 02:35	022610D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 02:35	022610D-1

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 10-1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 02:35	022610D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	26-FEB-10 02:35	022610D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 02:35	022610D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	26-FEB-10 02:35	022610D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	26-FEB-10 02:35	022610D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	26-FEB-10 02:35	022610D-1
	Potassium	123.3	+/-250	J	64.0	250	SOL	P	26-FEB-10 02:35	022610D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:35	022610D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	26-FEB-10 02:35	022610D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 02:35	022610D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 02:35	022610D-1
	Mercury	0.068	+/-.2	U	0.068	0.2	SOL	AV	26-FEB-10 10:18	022610S1-9
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	06-MAR-10 21:08	100306-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	SOL	MS	06-MAR-10 21:08	100306-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	06-MAR-10 21:08	100306-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	06-MAR-10 21:08	100306-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	06-MAR-10 21:08	100306-2
	Uranium	0.066	+/-.2	U	0.066	0.2	SOL	MS	07-MAR-10 09:22	100306-8
CCB02										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	26-FEB-10 03:45	022610D-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 03:45	022610D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 03:45	022610D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 03:45	022610D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 03:45	022610D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 03:45	022610D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 03:45	022610D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	26-FEB-10 03:45	022610D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 03:45	022610D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	26-FEB-10 03:45	022610D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	26-FEB-10 03:45	022610D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	26-FEB-10 03:45	022610D-1

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 10–1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	26–FEB–10 03:45	022610D–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 03:45	022610D–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	26–FEB–10 03:45	022610D–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 03:45	022610D–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 03:45	022610D–1
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	26–FEB–10 10:42	022610S1–9
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	06–MAR–10 21:30	100306–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	06–MAR–10 21:30	100306–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	06–MAR–10 21:30	100306–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	06–MAR–10 21:30	100306–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	06–MAR–10 21:30	100306–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	07–MAR–10 09:38	100306–8
CCB03										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	26–FEB–10 03:56	022610D–1
	Antimony	3.47	+/–10	J	3.3	10.0	SOL	P	26–FEB–10 03:56	022610D–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 03:56	022610D–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 03:56	022610D–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 03:56	022610D–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 03:56	022610D–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 03:56	022610D–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	26–FEB–10 03:56	022610D–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 03:56	022610D–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	26–FEB–10 03:56	022610D–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	26–FEB–10 03:56	022610D–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	26–FEB–10 03:56	022610D–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	26–FEB–10 03:56	022610D–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 03:56	022610D–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	26–FEB–10 03:56	022610D–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 03:56	022610D–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 03:56	022610D–1
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	06–MAR–10 22:03	100306–2

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 10-1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Beryllium	0.1	+/-.5	U	0.1	0.5	SOL	MS	06-MAR-10 22:03	100306-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	06-MAR-10 22:03	100306-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	06-MAR-10 22:03	100306-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	06-MAR-10 22:03	100306-2
CCB04										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	26-FEB-10 04:34	022610D-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 04:34	022610D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 04:34	022610D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 04:34	022610D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 04:34	022610D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 04:34	022610D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 04:34	022610D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	26-FEB-10 04:34	022610D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 04:34	022610D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	26-FEB-10 04:34	022610D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	26-FEB-10 04:34	022610D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	26-FEB-10 04:34	022610D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	26-FEB-10 04:34	022610D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 04:34	022610D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	26-FEB-10 04:34	022610D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 04:34	022610D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 04:34	022610D-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	06-MAR-10 22:36	100306-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	SOL	MS	06-MAR-10 22:36	100306-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	06-MAR-10 22:36	100306-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	06-MAR-10 22:36	100306-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	06-MAR-10 22:36	100306-2
CCB05										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	26-FEB-10 05:14	022610D-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 05:14	022610D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 05:14	022610D-1

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 10–1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 05:14	022610D–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 05:14	022610D–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 05:14	022610D–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 05:14	022610D–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	26–FEB–10 05:14	022610D–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 05:14	022610D–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	26–FEB–10 05:14	022610D–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	26–FEB–10 05:14	022610D–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	26–FEB–10 05:14	022610D–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	26–FEB–10 05:14	022610D–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 05:14	022610D–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	26–FEB–10 05:14	022610D–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 05:14	022610D–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 05:14	022610D–1
CCB06										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	26–FEB–10 05:51	022610D–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 05:51	022610D–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 05:51	022610D–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 05:51	022610D–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 05:51	022610D–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 05:51	022610D–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 05:51	022610D–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	26–FEB–10 05:51	022610D–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 05:51	022610D–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	26–FEB–10 05:51	022610D–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	26–FEB–10 05:51	022610D–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	26–FEB–10 05:51	022610D–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	26–FEB–10 05:51	022610D–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 05:51	022610D–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	26–FEB–10 05:51	022610D–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 05:51	022610D–1

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 10-1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 05:51	022610D-1
CCB07										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	26-FEB-10 06:30	022610D-1
	Antimony	3.61	+/-10	J	3.3	10.0	SOL	P	26-FEB-10 06:30	022610D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 06:30	022610D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 06:30	022610D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 06:30	022610D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 06:30	022610D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 06:30	022610D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	26-FEB-10 06:30	022610D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 06:30	022610D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	26-FEB-10 06:30	022610D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	26-FEB-10 06:30	022610D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	26-FEB-10 06:30	022610D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	26-FEB-10 06:30	022610D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 06:30	022610D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	26-FEB-10 06:30	022610D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 06:30	022610D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 06:30	022610D-1
CCB08										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	26-FEB-10 07:12	022610D-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 07:12	022610D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 07:12	022610D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 07:12	022610D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 07:12	022610D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 07:12	022610D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 07:12	022610D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	26-FEB-10 07:12	022610D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 07:12	022610D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	26-FEB-10 07:12	022610D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	26-FEB-10 07:12	022610D-1

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 10–1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	26–FEB–10 07:12	022610D–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	26–FEB–10 07:12	022610D–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 07:12	022610D–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	26–FEB–10 07:12	022610D–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 07:12	022610D–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 07:12	022610D–1
CCB09										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	26–FEB–10 07:52	022610D–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 07:52	022610D–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 07:52	022610D–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 07:52	022610D–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 07:52	022610D–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 07:52	022610D–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 07:52	022610D–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	26–FEB–10 07:52	022610D–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 07:52	022610D–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	26–FEB–10 07:52	022610D–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	26–FEB–10 07:52	022610D–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	26–FEB–10 07:52	022610D–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	26–FEB–10 07:52	022610D–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 07:52	022610D–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	26–FEB–10 07:52	022610D–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 07:52	022610D–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 07:52	022610D–1
CCB10										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	26–FEB–10 08:36	022610D–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	26–FEB–10 08:36	022610D–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 08:36	022610D–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	26–FEB–10 08:36	022610D–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	26–FEB–10 08:36	022610D–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	26–FEB–10 08:36	022610D–1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1666

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	26-FEB-10 08:36	022610D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	26-FEB-10 08:36	022610D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	26-FEB-10 08:36	022610D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	26-FEB-10 08:36	022610D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	26-FEB-10 08:36	022610D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	26-FEB-10 08:36	022610D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	26-FEB-10 08:36	022610D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 08:36	022610D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	26-FEB-10 08:36	022610D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	26-FEB-10 08:36	022610D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	26-FEB-10 08:36	022610D-1

METALS
–3b–
PREPARATION BLANK SUMMARY

SDG NO. 10–1666

Contract: LANL01004

Matrix: SOIL

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M	MDL	RDL
1202039457								
	Mercury	3.8	ug/kg	+/–11.2	U	AV	3.8	11.2
1202039771								
	Magnesium	7900	ug/Kg	+/–27900	U	P	7900	27900
	Manganese	186	ug/Kg	+/–929	U	P	186	929
	Potassium	5950	ug/Kg	+/–23200	U	P	5950	23200
	Silver	92.9	ug/Kg	+/–465	U	P	92.9	465
	Sodium	6510	ug/Kg	+/–23200	U	P	6510	23200
	Vanadium	92.9	ug/Kg	+/–465	U	P	92.9	465
	Zinc	307	ug/Kg	+/–929	U	P	307	929
	Antimony	307	ug/Kg	+/–929	U	P	307	929
	Lead	232	ug/Kg	+/–929	U	P	232	929
	Iron	7430	ug/Kg	+/–23200	U	P	7430	23200
	Copper	279	ug/Kg	+/–929	U	P	279	929
	Cobalt	139	ug/Kg	+/–465	U	P	139	465
	Chromium	139	ug/Kg	+/–465	U	P	139	465
	Calcium	7430	ug/Kg	+/–23200	U	P	7430	23200
	Cadmium	92.9	ug/Kg	+/–465	U	P	92.9	465
	Barium	92.9	ug/Kg	+/–465	U	P	92.9	465
	Aluminum	6320	ug/Kg	+/–18600	U	P	6320	18600
1202041828								
	Arsenic	0.196	mg/kg	+/–0.98	U	MS	0.196	0.98
	Beryllium	0.0196	mg/kg	+/–0.098	U	MS	0.0196	0.098
	Nickel	0.098	mg/kg	+/–0.392	U	MS	0.098	0.392
	Selenium	0.49	mg/kg	+/–0.98	U	MS	0.49	0.98
	Thallium	0.0588	mg/kg	+/–0.196	U	MS	0.0588	0.196
	Uranium	0.0129	mg/kg	+/–0.0392	U	MS	0.0129	0.0392

METALS
-4-
Interference Check Sample

SDG No: 10-1666

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Aluminum	525000	ug/L	500000	ug/L	105	80.0 - 120.0	26-FEB-10 02:19	022610D-1
	Antimony	0.022	ug/L					26-FEB-10 02:19	022610D-1
	Barium	7.39	ug/L					26-FEB-10 02:19	022610D-1
	Cadmium	5.94	ug/L					26-FEB-10 02:19	022610D-1
	Calcium	493000	ug/L	500000	ug/L	98.6	80.0 - 120.0	26-FEB-10 02:19	022610D-1
	Chromium	-2.47	ug/L					26-FEB-10 02:19	022610D-1
	Cobalt	2.82	ug/L					26-FEB-10 02:19	022610D-1
	Copper	0.384	ug/L					26-FEB-10 02:19	022610D-1
	Iron	190000	ug/L	200000	ug/L	95.2	80.0 - 120.0	26-FEB-10 02:19	022610D-1
	Lead	-16.3	ug/L					26-FEB-10 02:19	022610D-1
	Magnesium	506000	ug/L	500000	ug/L	101	80.0 - 120.0	26-FEB-10 02:19	022610D-1
	Manganese	-0.366	ug/L					26-FEB-10 02:19	022610D-1
	Potassium	-59.4	ug/L					26-FEB-10 02:19	022610D-1
	Silver	0.217	ug/L					26-FEB-10 02:19	022610D-1
	Sodium	0.305	ug/L					26-FEB-10 02:19	022610D-1
	Vanadium	0.047	ug/L					26-FEB-10 02:19	022610D-1
	Zinc	-0.482	ug/L					26-FEB-10 02:19	022610D-1
ICSAB01									
	Aluminum	533000	ug/L	500000	ug/L	107	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Antimony	532	ug/L	500	ug/L	106	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Barium	504	ug/L	500	ug/L	101	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Cadmium	478	ug/L	500	ug/L	95.6	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Calcium	502000	ug/L	500000	ug/L	100	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Chromium	489	ug/L	500	ug/L	97.8	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Cobalt	452	ug/L	500	ug/L	90.5	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Copper	557	ug/L	500	ug/L	111	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Iron	189000	ug/L	200000	ug/L	94.4	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Lead	478	ug/L	500	ug/L	95.6	80.0 - 120.0	26-FEB-10 02:22	022610D-1
	Magnesium	505000	ug/L	500000	ug/L	101	80.0 - 120.0	26-FEB-10 02:22	022610D-1

METALS
–4–
Interference Check Sample

SDG No: 10–1666

Contract: LANL01004 **Lab Code:** GEL

ICS:

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
	Manganese	487	ug/L	500	ug/L	97.5	80.0 – 120.0	26–FEB–10 02:22	022610D–1
	Potassium	5290	ug/L	5000	ug/L	106	80.0 – 120.0	26–FEB–10 02:22	022610D–1
	Silver	266	ug/L	250	ug/L	106	80.0 – 120.0	26–FEB–10 02:22	022610D–1
	Sodium	5150	ug/L	5000	ug/L	103	80.0 – 120.0	26–FEB–10 02:22	022610D–1
	Vanadium	522	ug/L	500	ug/L	104	80.0 – 120.0	26–FEB–10 02:22	022610D–1
	Zinc	478	ug/L	500	ug/L	95.6	80.0 – 120.0	26–FEB–10 02:22	022610D–1

METALS
-4-
Interference Check Sample

SDG No: 10-1666

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Arsenic	0.214	ug/L					06-MAR-10 20:57	100306-2
	Beryllium	0.076	ug/L					06-MAR-10 20:57	100306-2
	Nickel	3.21	ug/L					06-MAR-10 20:57	100306-2
	Selenium	-1.62	ug/L					06-MAR-10 20:57	100306-2
	Thallium	0.028	ug/L					06-MAR-10 20:57	100306-2
ICSAB01									
	Arsenic	19.3	ug/L	20	ug/L	96.5	80.0 - 120.0	06-MAR-10 21:01	100306-2
	Beryllium	17.7	ug/L	20	ug/L	88.7	80.0 - 120.0	06-MAR-10 21:01	100306-2
	Nickel	21.2	ug/L	23.31	ug/L	90.8	80.0 - 120.0	06-MAR-10 21:01	100306-2
	Selenium	17.8	ug/L	20	ug/L	88.9	80.0 - 120.0	06-MAR-10 21:01	100306-2
	Thallium	19.6	ug/L	20	ug/L	98.1	80.0 - 120.0	06-MAR-10 21:01	100306-2

METALS
–4–
Interference Check Sample

SDG No: 10–1666

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Uranium	–0.018	ug/L					07–MAR–10 09:17	100306–8
ICSAB01									
	Uranium	23.0	ug/L	20	ug/L	115	80.0 – 120.0	07–MAR–10 09:18	100306–8

METALS
–5a–

Matrix Spike Summary

SDG NO. 10–1666 **Client ID** RE46–10–11496S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 97

Sample ID: 246566001 **Spike ID:** 1202039460

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75–125	132		4.38	J	124	103		AV

METALS
-5a-

Matrix Spike Duplicate Summary

SDG NO. 10-1666 **Client ID** RE46-10-11496SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 97

Sample ID: 246566001 **Spike ID:** 1202039462

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75-125	130		4.38	J	122	103		AV

METALS
–5a–

Matrix Spike Summary

SDG NO. 10–1666 **Client ID** WST16–10–12212S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 87

Sample ID: 246562001 **Spike ID:** 1202039774

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/Kg	75–125	2580000		1350000		542000	227	N	P
Antimony	ug/Kg	75–125	52800		353	U	54200	97.4		P
Barium	ug/Kg	75–125	75600		25300		54200	92.7		P
Cadmium	ug/Kg	75–125	55800		270	J	54200	102		P
Calcium	ug/Kg	75–125	1230000		714000		542000	95.2		P
Chromium	ug/Kg	75–125	58700		2430		54200	104		P
Cobalt	ug/Kg	75–125	54800		671		54200	99.9		P
Copper	ug/Kg	75–125	60700		2400		54200	108		P
Iron	ug/Kg		9390000		9510000		542000	–22.5	N/A	P
Lead	ug/Kg	75–125	58300		1510		54200	105		P
Magnesium	ug/Kg	75–125	743000		194000		542000	101		P
Manganese	ug/Kg	75–125	220000		162000		54200	106		P
Potassium	ug/Kg	75–125	1320000		464000		542000	157	N	P
Silver	ug/Kg	75–125	54600		223	J	54200	100		P
Sodium	ug/Kg	75–125	953000		255000		542000	129	N	P
Vanadium	ug/Kg	75–125	59600		3460		54200	104		P
Zinc	ug/Kg	75–125	78400		22700		54200	103		P

METALS
–5a–

Matrix Spike Duplicate Summary

SDG NO. 10–1666 **Client ID** WST16–10–12212SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 87

Sample ID: 246562001 **Spike ID:** 1202039776

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/Kg	75–125	2770000		1350000		536000	267	N	P
Antimony	ug/Kg	75–125	53500		353	U	53600	99.9		P
Barium	ug/Kg	75–125	87600		25300		53600	116		P
Cadmium	ug/Kg	75–125	55100		270	J	53600	102		P
Calcium	ug/Kg	75–125	1250000		714000		536000	100		P
Chromium	ug/Kg	75–125	59400		2430		53600	106		P
Cobalt	ug/Kg	75–125	54500		671		53600	101		P
Copper	ug/Kg	75–125	60700		2400		53600	109		P
Iron	ug/Kg		9490000		9510000		536000	–4.6	N/A	P
Lead	ug/Kg	75–125	58700		1510		53600	107		P
Magnesium	ug/Kg	75–125	927000		194000		536000	137	N	P
Manganese	ug/Kg	75–125	250000		162000		53600	165	N	P
Potassium	ug/Kg	75–125	1470000		464000		536000	187	N	P
Silver	ug/Kg	75–125	54200		223	J	53600	101		P
Sodium	ug/Kg	75–125	970000		255000		536000	133	N	P
Vanadium	ug/Kg	75–125	59500		3460		53600	105		P
Zinc	ug/Kg	75–125	79100		22700		53600	105		P

METALS
–5a–

Matrix Spike Summary

SDG NO. 10–1666 **Client ID** RE15–10–8363S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 81

Sample ID: 246557001 **Spike ID:** 1202041831

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75–125	8.19		1.05	J	9.3	76.8		MS
Beryllium	mg/kg	75–125	5.47		0.683		5.81	82.3		MS
Nickel	mg/kg	75–125	8.46		5.77		5.81	46.3	N	MS
Selenium	mg/kg	75–125	1.76		0.587	U	2.33	70.5	N	MS
Thallium	mg/kg	75–125	9.42		0.104	J	11.6	80.1		MS
Uranium	mg/kg	75–125	6.55		1.61		5.81	85		MS

METALS
–5a–

Matrix Spike Duplicate Summary

SDG NO. 10–1666 **Client ID** RE15–10–8363SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 81

Sample ID: 246557001 **Spike ID:** 1202041832

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75–125	8.71		1.05	J	9.71	79		MS
Beryllium	mg/kg	75–125	5.72		0.683		6.07	83.1		MS
Nickel	mg/kg	75–125	8.43		5.77		6.07	43.9	N	MS
Selenium	mg/kg	75–125	1.83		0.587	U	2.43	70.6	N	MS
Thallium	mg/kg	75–125	10.3		0.104	J	12.1	83.9		MS
Uranium	mg/kg	75–125	7.58		1.61		6.07	98.3		MS

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1666

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE46-10-11496D

Sample ID: 246566001 **Duplicate ID:** 1202039459 **Percent Solids for Dup:** 97

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg		4.38	J	4.16	U	200		AV

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1666

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE46–10–11496SD

Sample ID: 1202039460 **Duplicate ID:** 1202039462 **Percent Solids for Dup:** 97

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/–20	132		130		1.39		AV

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1666

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** WST16–10–12212D

Sample ID: 246562001 **Duplicate ID:** 1202039773 **Percent Solids for Dup:** 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/–20%	1350000		1200000		11.5		P
Antimony	ug/Kg		353	U	352	U			P
Barium	ug/Kg	+/–20%	25300		23700		6.71		P
Cadmium	ug/Kg	+/–534	270	J	242	J	10.8		P
Calcium	ug/Kg	+/–20%	714000		626000		13.1		P
Chromium	ug/Kg	+/–534	2430		2140		12.7		P
Cobalt	ug/Kg	+/–534	671		599		11.3		P
Copper	ug/Kg	+/–1070	2400		2310		3.96		P
Iron	ug/Kg	+/–20%	9510000		9660000		1.56		P
Lead	ug/Kg	+/–1070	1510		1430		5.71		P
Magnesium	ug/Kg	+/–32000	194000		155000		22.5	*	P
Manganese	ug/Kg	+/–20%	162000		153000		5.45		P
Potassium	ug/Kg	+/–20%	464000		399000		15.1		P
Silver	ug/Kg	+/–534	223	J	253	J	12.8		P
Sodium	ug/Kg	+/–20%	255000		230000		10.6		P
Vanadium	ug/Kg	+/–20%	3460		3550		2.66		P
Zinc	ug/Kg	+/–20%	22700		21300		6.07		P

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1666

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** WST16-10-12212SD

Sample ID: 1202039774 **Duplicate ID:** 1202039776 **Percent Solids for Dup:** 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20	2580000		2770000		7.42		P
Antimony	ug/Kg	+/-20	52800		53500		1.35		P
Barium	ug/Kg	+/-20	75600		87600		14.7		P
Cadmium	ug/Kg	+/-20	55800		55100		1.27		P
Calcium	ug/Kg	+/-20	1230000		1250000		1.82		P
Chromium	ug/Kg	+/-20	58700		59400		1.1		P
Cobalt	ug/Kg	+/-20	54800		54500		.442		P
Copper	ug/Kg	+/-20	60700		60700		.0432		P
Iron	ug/Kg	+/-20	9390000		9490000		1.03		P
Lead	ug/Kg	+/-20	58300		58700		.806		P
Magnesium	ug/Kg	+/-20	743000		927000		22.1	*	P
Manganese	ug/Kg	+/-20	220000		250000		13		P
Potassium	ug/Kg	+/-20	1320000		1470000		10.8		P
Silver	ug/Kg	+/-20	54600		54200		.795		P
Sodium	ug/Kg	+/-20	953000		970000		1.72		P
Vanadium	ug/Kg	+/-20	59600		59500		.113		P
Zinc	ug/Kg	+/-20	78400		79100		.774		P

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1666

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE15-10-8363D

Sample ID: 246557001 **Duplicate ID:** 1202041829 **Percent Solids for Dup:** 81

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1.21	1.05	J	1.11	J	5.62		MS
Beryllium	mg/kg	+/-20%	0.683		0.714		4.47		MS
Nickel	mg/kg	+/-20%	5.77		4.34		28.2	*	MS
Selenium	mg/kg		0.587	U	0.604	U			MS
Thallium	mg/kg		0.104	J	0.0725	U	200		MS
Uranium	mg/kg	+/-20%	1.61		1.47		9.56		MS

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1666

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE15–10–8363SD

Sample ID: 1202041831 **Duplicate ID:** 1202041832 **Percent Solids for Dup:** 81

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/–20	8.19		8.71		6.18		MS
Beryllium	mg/kg	+/–20	5.47		5.72		4.57		MS
Nickel	mg/kg	+/–20	8.46		8.43		.336		MS
Selenium	mg/kg	+/–20	1.76		1.83		4.14		MS
Thallium	mg/kg	+/–20	9.42		10.3		8.78		MS
Uranium	mg/kg	+/–20	6.55		7.58		14.5		MS

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 10–1666

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202039458								
	Mercury	ug/kg	5150	5400		105	71.6–128.3	AV

METALS
-7-
Laboratory Control Sample Summary

SDG NO. 10-1666

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202039772								
	Manganese	ug/Kg	558000	553000		99.1	81-119	P
	Potassium	ug/Kg	4300000	4110000		95.5	74-127	P
	Silver	ug/Kg	30100	31600		105	66-134	P
	Sodium	ug/Kg	1020000	914000		89.7	74-127	P
	Vanadium	ug/Kg	115000	125000		109	79-121	P
	Zinc	ug/Kg	594000	589000		99.2	80-121	P
	Aluminum	ug/Kg	10500000	9070000		86.4	56-144	P
	Antimony	ug/Kg	173000	121000		69.7	71-130	P
	Barium	ug/Kg	198000	193000		97.4	80-120	P
	Cadmium	ug/Kg	60700	61200		101	81-120	P
	Calcium	ug/Kg	9870000	10100000		102	83-117	P
	Chromium	ug/Kg	236000	243000		103	80-120	P
	Cobalt	ug/Kg	91200	92800		102	81-120	P
	Copper	ug/Kg	174000	189000		108	81-118	P
	Iron	ug/Kg	18000000	17800000		99.1	51-149	P
	Lead	ug/Kg	86000	88300		103	79-121	P
	Magnesium	ug/Kg	4000000	3770000		94.2	79-122	P

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 10–1666

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202041833								
	Arsenic	mg/kg	114	113		99.8	78–123	MS
	Beryllium	mg/kg	84.9	86.6		102	84–116	MS
	Nickel	mg/kg	147	142		96.7	78–123	MS
	Selenium	mg/kg	313	308		98.5	77–123	MS
	Thallium	mg/kg	132	149		112	78–122	MS
	Uranium	mg/kg	2.33	2.33		99.9	73–127	MS

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1666 **Client ID** RE46-10-11496L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 246566001 **Serial Dilution ID:** 1202039461

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Mercury	.0785	J	.34	U	100			AV

METALS
–9–
Serial Dilution Sample Summary

SDG NO. 10–1666 **Client ID** WST16–10–12212L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 246562001 **Serial Dilution ID:** 1202039775

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	12600		12300		2.38		10	P
Antimony	3.3	U	16.5	U				P
Barium	237		224		5.7		10	P
Cadmium	2.52	J	5	U	100			P
Calcium	6680		6350		4.94		10	P
Chromium	22.8		21.6	J	5.26			P
Cobalt	6.27		7.5	U	100			P
Copper	22.5		22.5	J	.222			P
Iron	88900		88500		.45		10	P
Lead	14.1		14.8	J	4.61			P
Magnesium	1810		1680		7.46			P
Manganese	1510		1480		2.32		10	P
Potassium	4340		4390		1.04		10	P
Silver	2.08	J	5	U	100			P
Sodium	2390		2300		3.97			P
Vanadium	32.3		32.1		.619			P
Zinc	212		190		10.4	E	10	P

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1666 **Client ID** RE15-10-8363L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 246557001 **Serial Dilution ID:** 1202041830

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Arsenic	4.46	J	5.7	J	27.8			MS
Beryllium	2.91		2.86		1.72			MS
Nickel	24.6		25.4		3.25			MS
Selenium	2.5	U	12.5	U				MS
Thallium	.444	J	1.5	U	100			MS
Uranium	6.88		6.9		.291		10	MS

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1666 **Method Type:** P

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 951754							
1202039771	MB for batch 951754	MB	S	13-FEB-10	.538g	50mL	
1202039772	LCS for batch 951754	LCS	S	13-FEB-10	.53g	50mL	
1202039774	WST16-10-12212S	MS	S	13-FEB-10	.529g	50mL	
1202039776	WST16-10-12212SD	MSD	S	13-FEB-10	.535g	50mL	
1202039773	WST16-10-12212D	DUP	S	13-FEB-10	.537g	50mL	
246557001	RE15-10-8363	SAMPLE	S	13-FEB-10	.518g	50mL	

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1666 **Method Type** MS

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	952644						
1202041828	MB for batch 952644	MB	S	18-FEB-10	.51g	50mL	
1202041833	LCS for batch 952644	LCS	S	18-FEB-10	.5g	50mL	
1202041831	RE15-10-8363S	MS	S	18-FEB-10	.529g	50mL	
1202041832	RE15-10-8363SD	MSD	S	18-FEB-10	.507g	50mL	
1202041829	RE15-10-8363D	DUP	S	18-FEB-10	.509g	50mL	
246557001	RE15-10-8363	SAMPLE	S	18-FEB-10	.524g	50mL	

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1666 **Method Type** AV

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	951631						
1202039457	MB for batch 951631	MB	S	25-FEB-10	.537g	30mL	
1202039458	LCS for batch 951631	LCS	S	25-FEB-10	.202g	30mL	
1202039460	RE46-10-11496S	MS	S	25-FEB-10	.5g	30mL	
1202039462	RE46-10-11496SD	MSD	S	25-FEB-10	.505g	30mL	
1202039459	RE46-10-11496D	DUP	S	25-FEB-10	.506g	30mL	
246557001	RE15-10-8363	SAMPLE	S	25-FEB-10	.572g	30mL	

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS5
Start Date: 06–MAR–10 **End Date:** 07–MAR–10

Client Sdg: 10–1666
Method MS
Data File: 100306–2

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	20:36			X		X											X		X			X			
S10	1	20:39			X		X											X		X			X			
S100	1	20:43			X		X											X		X			X			
ICV01	1	20:46			X		X											X		X			X			
ICB01	1	20:50			X		X											X		X			X			
CRDL01	1	20:54			X		X											X		X			X			
ICSA01	1	20:57			X		X											X		X			X			
ICSAB01	1	21:01			X		X											X		X			X			
CCV01	1	21:05			X		X											X		X			X			
CCB01	1	21:08			X		X											X		X			X			
ZZZZZZ	2	21:12																								
ZZZZZZ	2	21:16																								
ZZZZZZ	2	21:19																								
ZZZZZZ	2	21:23																								
CCV02	1	21:26			X		X											X		X			X			
CCB02	1	21:30			X		X											X		X			X			
ZZZZZZ	2	21:34																								
ZZZZZZ	2	21:38																								
ZZZZZZ	2	21:41																								
ZZZZZZ	2	21:45																								
ZZZZZZ	2	21:49																								
ZZZZZZ	2	21:52																								
ZZZZZZ	2	21:56																								
CCV03	1	22:00			X		X											X		X			X			
CCB03	1	22:03			X		X											X		X			X			
1202041828	2	22:07			X		X											X		X			X			
1202041833	40	22:11			X		X											X		X			X			
246557001	2	22:14			X		X											X		X			X			
1202041829	2	22:18			X		X											X		X			X			
1202041831	2	22:22			X		X											X		X			X			
1202041832	2	22:25			X		X											X		X			X			
1202041830	10	22:29			X		X											X		X			X			
CCV04	1	22:33			X		X											X		X			X			
CCB04	1	22:36			X		X											X		X			X			

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS5
Start Date: 06–MAR–10 **End Date:** 07–MAR–10

Client Sdg: 10–1666
Method MS
Data File: 100306–8

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	09:07																						X		
S10	1	09:09																						X		
S100	1	09:10																						X		
ICV01	1	09:12																						X		
ICB01	1	09:13																						X		
CRDL01	1	09:15																						X		
ICSA01	1	09:17																						X		
ICSAB01	1	09:18																						X		
CCV01	1	09:20																						X		
CCB01	1	09:22																						X		
1202041828	2	09:24																						X		
1202041833	40	09:26																						X		
246557001	2	09:28																						X		
1202041829	2	09:29																						X		
1202041831	2	09:31																						X		
1202041832	2	09:33																						X		
1202041830	10	09:35																						X		
CCV02	1	09:36																						X		
CCB02	1	09:38																						X		

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: MER536
Start Date: 26–FEB–10 **End Date:** 26–FEB–10

Client Sdg: 10–1666
Method AV
Data File: 022610S1–9

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	09:58															X									
S0.2	1	10:00															X									
S0.5	1	10:02															X									
S2.0	1	10:04															X									
S5.0	1	10:06															X									
S10	1	10:08															X									
ICV01	1	10:10															X									
ICB01	1	10:12															X									
CRDL01	1	10:14															X									
CCV01	1	10:16															X									
CCB01	1	10:18															X									
1202039457	1	10:20															X									
1202039458	10	10:22															X									
246557001	1	10:24															X									
ZZZZZZ	1	10:26																								
1202039459	1	10:28															X									
1202039460	1	10:30															X									
1202039462	1	10:32															X									
1202039461	5	10:34															X									
ZZZZZZ	1	10:36																								
ZZZZZZ	1	10:38																								
CCV02	1	10:40															X									
CCB02	1	10:42															X									

Metals
-14-
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: OPTIMA1
Start Date: 26-FEB-10 **End Date:** 26-FEB-10

Client Sdg: 10-1666
Method P
Data File: 022610D-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	01:52	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S0.1	1	01:56		X		X		X		X	X	X		X		X			X		X				X	X
S0.5	1	01:59	X	X		X		X	X	X	X	X		X	X	X			X		X				X	X
SCAL	1	02:02	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S10	1	02:06	X						X				X		X							X				
ICV01	1	02:08	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICB01	1	02:12	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
PQL01	1	02:15	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSA01	1	02:19	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSAB01	1	02:22	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR01	1	02:25	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR02	1	02:27	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV01	1	02:31	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB01	1	02:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR03	1	03:38	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV02	1	03:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB02	1	03:45	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	5	03:49																								
CCV03	1	03:52	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB03	1	03:56	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	04:00																								
ZZZZZZ	1	04:03																								
ZZZZZZ	1	04:06																								
ZZZZZZ	1	04:10																								
ZZZZZZ	1	04:14																								
ZZZZZZ	1	04:17																								
ZZZZZZ	5	04:20																								
ZZZZZZ	1	04:23																								
ZZZZZZ	1	04:27																								
CCV04	1	04:31	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB04	1	04:34	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	04:38																								
ZZZZZZ	1	04:41																								
ZZZZZZ	1	04:45																								
ZZZZZZ	1	04:48																								
ZZZZZZ	1	04:52																								
ZZZZZZ	1	04:56																								
ZZZZZZ	1	04:59																								
ZZZZZZ	1	05:03																								
ZZZZZZ	1	05:07																								

Metals
–14–
Analysis Run Log

Samp No.	D/F	Run Time																								
CCV05	1	05:10	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB05	1	05:14	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	05:18																								
ZZZZZZ	1	05:21																								
ZZZZZZ	1	05:25																								
ZZZZZZ	1	05:29																								
ZZZZZZ	1	05:32																								
ZZZZZZ	1	05:36																								
ZZZZZZ	1	05:40																								
ZZZZZZ	1	05:43																								
CCV06	1	05:47	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB06	1	05:51	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	05:54																								
ZZZZZZ	1	05:58																								
ZZZZZZ	1	06:01																								
ZZZZZZ	1	06:05																								
ZZZZZZ	1	06:08																								
ZZZZZZ	1	06:12																								
ZZZZZZ	1	06:16																								
ZZZZZZ	5	06:19																								
ZZZZZZ	1	06:23																								
CCV07	1	06:27	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB07	1	06:30	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	06:43																								
ZZZZZZ	1	06:47																								
ZZZZZZ	1	06:50																								
ZZZZZZ	1	06:54																								
ZZZZZZ	1	06:58																								
ZZZZZZ	1	07:01																								
ZZZZZZ	5	07:05																								
CCV08	1	07:08	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB08	1	07:12	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	07:16																								
ZZZZZZ	1	07:19																								
ZZZZZZ	50	07:23																								
ZZZZZZ	50	07:27																								
ZZZZZZ	50	07:30																								
ZZZZZZ	250	07:34																								
ZZZZZZ	50	07:37																								
ZZZZZZ	5	07:41																								

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	5	07:45																								
CCV09	1	07:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB09	1	07:52	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202039771	1	08:04	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202039772	1	08:07	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	08:10																								
1202039773	1	08:14	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202039774	1	08:17	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202039776	1	08:21	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202039775	5	08:25	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
246557001	1	08:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV10	1	08:32	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB10	1	08:36	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X

Standards

METALS
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Instrument Detection Limits

SDG NO. 10-1666

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

ICP/MS	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
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. 10–1666

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 15–JUN–09

MERCURY	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
SOLID	Mercury		0.068	.2

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1666

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

ICP	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
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: GEL **GEL Job No:** 10–1666
Contract: LANL01004
Instrument: OPTIMA1 **Effective Dates:** 01–FEB–10
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
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	–0.05500	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	–0.28800	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
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	–0.04600	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: GEL
GEL Job No: 10-1666
Contract: LANL01004
Instrument: OPTIMA1
Effective Dates: 01-FEB-10
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Boron	Cadmium	Chromium	Cobalt	Copper
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	11.3250	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	-1.59900	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	-21.2250	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	1.68400
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	1.19100	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	105.59
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
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	3.36300	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	-2.30400	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.61100

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1666
Effective Dates: 01-FEB-10

Parmname	Wavelength	Iron	Lead	Magnesium	Manganese	Molybdenum
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	20.5430
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	-16.3320
Arsenic	188.979	-0.05800	0.00000	0.00000	0.00000	1.97700
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	0.13300	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	-0.90500
Copper	324.752	-0.13900	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.03800	-2.87600	0.00000	0.00000	0.00000
Magnesium	279.077	1.07300	0.00000	0.00000	0.00000	-16.8110
Manganese	257.61	-0.13900	0.00000	0.04000	0.00000	0.00000
Molybdenum	202.031	-0.03800	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	-0.01300	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.81200	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.88200	0.00000	0.28200	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	-0.06300	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.03900	0.00000	0.00000	-4.11700	0.00000
Tin	189.927	-0.09200	0.00000	-0.19600	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.07900	0.00000	0.00000
Uranium	409.014	0.13900	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	-0.05300	0.00000	0.00000	0.00000	-7.71400
Zinc	213.857	0.14460	0.00000	0.02030	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LAN1.01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1666
Effective Dates: 01-FEB-10

Parmname	Wavelength	Nickel	Phosphorous	Selenium	Silicon	Silver
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	-0.99900	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
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
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	4.41600	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1666
Effective Dates: 01-FEB-10

Parmname	Wavelength	Sulfur	Thallium	Tin	Titanium	Uranium
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	0.38100	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	2.08700	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	1.04000
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	-14.8110	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
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-8.68900	-1.22400
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	-1.03900
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1666
Effective Dates: 01-FEB-10

Parmname	Wavelength	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000
Antimony	206.836	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000
Barium	233.527	-1.80500	0.00000
Beryllium	313.107	0.00000	0.00000
Boron	249.677	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000
Chromium	267.716	-0.63000	0.00000
Cobalt	228.616	0.00000	0.00000
Copper	324.752	0.00000	0.00000
Iron	238.204	0.00000	0.00000
Lead	220.353	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000
Manganese	257.61	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000
Nickel	231.604	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000
Selenium	196.026	0.00000	0.00000
Silicon	251.611	0.00000	0.00000
Silver	328.068	-6.59800	0.00000
Sulfur	181.975	0.00000	0.00000
Thallium	190.801	0.00000	0.00000
Tin	189.927	0.00000	0.00000
Titanium	334.94	0.00000	0.00000
Uranium	409.014	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000
Zinc	213.857	0.00000	0.00000

METALS
–12–
Linear Ranges

SDG NO. 10–1666

Contract: LANL01004 **Lab Code: GEL**

Instrument ID ICPMS5

Analyte	Integration Time (msec)	LDR	Units	Effective Date
Aluminum	1	50000	ug/L	01–FEB–10
Antimony	1000	250	ug/L	01–FEB–10
Arsenic	1000	1000	ug/L	01–FEB–10
Barium	1000	1000	ug/L	01–FEB–10
Beryllium	1000	1000	ug/L	01–FEB–10
Cadmium	1000	1000	ug/L	01–FEB–10
Calcium	500	50000	ug/L	01–FEB–10
Chromium	1000	1000	ug/L	01–FEB–10
Cobalt	1000	1000	ug/L	01–FEB–10
Copper	1000	1000	ug/L	01–FEB–10
Iron	500	50000	ug/L	01–FEB–10
Lead	1000	5000	ug/L	01–FEB–10
Magnesium	1	50000	ug/L	01–FEB–10
Manganese	1000	1000	ug/L	01–FEB–10
Nickel	1000	1000	ug/L	01–FEB–10
Potassium	1	50000	ug/L	01–FEB–10
Selenium	1000	500	ug/L	01–FEB–10
Silver	1000	250	ug/L	01–FEB–10
Sodium	1	50000	ug/L	01–FEB–10
Thallium	1000	500	ug/L	01–FEB–10
Uranium	1000	5000	ug/L	01–FEB–10
Vanadium	1000	100	ug/L	01–FEB–10
Zinc	1000	2500	ug/L	01–FEB–10

METALS
-12-
Linear Ranges

SDG NO. 10-1666

Contract: LANL01004 **Lab Code: GEL**

Instrument ID OPTIMA1

Analyte	Integration Time (sec)	LDR	Units	Effective Date
Cadmium	20	10000	ug/L	01-FEB-10
Calcium	20	500000	ug/L	01-FEB-10
Chromium	20	25000	ug/L	01-FEB-10
Cobalt	20	10000	ug/L	01-FEB-10
Copper	20	20000	ug/L	01-FEB-10
Iron	20	500000	ug/L	01-FEB-10
Lead	20	25000	ug/L	01-FEB-10
Magnesium	20	500000	ug/L	01-FEB-10
Manganese	20	10000	ug/L	01-FEB-10
Nickel	20	10000	ug/L	01-FEB-10
Potassium	20	300000	ug/L	01-FEB-10
Selenium	20	10000	ug/L	01-FEB-10
Silver	20	1000	ug/L	01-FEB-10
Sodium	20	500000	ug/L	01-FEB-10
Thallium	20	10000	ug/L	01-FEB-10
Uranium	20	15000	ug/L	01-FEB-10
Vanadium	20	10000	ug/L	01-FEB-10
Zinc	20	15000	ug/L	01-FEB-10
Aluminum	20	500000	ug/L	01-FEB-10
Antimony	20	10000	ug/L	01-FEB-10
Arsenic	20	10000	ug/L	01-FEB-10
Barium	20	15000	ug/L	01-FEB-10
Beryllium	20	3000	ug/L	01-FEB-10

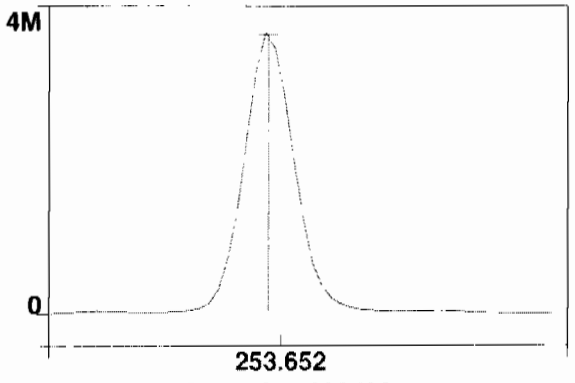
Raw Data

Method: Hg_ReAlign
Result: 030810

Sample ID: Hg_ReAlign

Hg 253.652

Rep: 1



Intensity: 3627087.5 cps
Conc:

1

Reprocessing Begun
Logged In Analyst: optima Technique: ICP Continuous

Results Data Set (original): 022610C
Results Library (original): c:\pe\optima1\Results\Results.mdb
Results Data Set (reprocessed): 022610D
Results Library (reprocessed): c:\pe\optima1\Results\Results.mdb

Sequence No.: 1 Autosampler Location: 8
Sample ID: S0 Date Collected: 2/26/2010 01:52:48
Analyst: Data Type: Reprocessed on 2/26/2010 03:24:58
Logged In Analyst (Original) : optima
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc 361.383	1661249.7	1661249.7	99.981	%	01:54:46
1	Sc RADIAL	110250.1	110250.1	99.7	%	01:53:24
1	Y 371.029	939026.7	939026.7	100.19	%	01:54:46
1	Ag 328.068†	-548.0	-548.1	[0.00]	µg/L	01:54:51
1	Al 396.153Radial†	-70.1	-70.3	[0.00]	µg/L	01:53:24
1	As 188.979†	-8.7	-8.7	[0.00]	µg/L	01:55:12
1	B 249.677†	160.4	160.5	[0.00]	µg/L	01:55:12
1	Ba 233.527†	-7.5	-7.5	[0.00]	µg/L	01:55:12
1	Be 313.107†	-1738.0	-1738.3	[0.00]	µg/L	01:54:51
1	Ca 317.933Radial†	470.6	472.2	[0.00]	µg/L	01:53:44
1	Cd 226.502†	-142.6	-142.7	[0.00]	µg/L	01:55:12
1	Co 228.616†	27.9	27.9	[0.00]	µg/L	01:55:12
1	Cr 267.716†	77.4	77.4	[0.00]	µg/L	01:55:12
1	Cu 324.752†	2637.8	2638.3	[0.00]	µg/L	01:54:51
1	Fe 238.204 Radial†	33.2	33.3	[0.00]	µg/L	01:53:44
1	K 766.490 Radial†	292.0	292.9	[0.00]	µg/L	01:53:24
1	Mg 279.077 IEC†	10.3	10.3	[0.00]	µg/L	01:53:44
1	Mn 257.610†	-578.5	-578.6	[0.00]	µg/L	01:55:12
1	Mo 202.031†	6.4	6.4	[0.00]	µg/L	01:55:12
1	Na 589.592 Radial†	309.9	310.9	[0.00]	µg/L	01:53:24
1	Ni 231.604†	295.7	295.8	[0.00]	µg/L	01:55:12
1	P 214.914†	240.4	240.5	[0.00]	µg/L	01:55:12
1	Pb 220.353†	38.3	38.4	[0.00]	µg/L	01:55:12
1	S 181.975 Axial†	20.2	20.2	[0.00]	µg/L	01:55:12
1	Sb 206.836†	16.8	16.8	[0.00]	µg/L	01:55:12
1	Se 196.026†	19.7	19.7	[0.00]	µg/L	01:55:12
1	SiO2†	1395.5	1395.7	[0.00]	µg/L	01:54:51
1	Si 251.611†	374.8	374.9	[0.00]	µg/L	01:55:12
1	Sn 189.927†	0.4	0.4	[0.00]	µg/L	01:55:12
1	Sr 421.552†	165.8	166.3	[0.00]	µg/L	01:53:24
1	Ti 334.940†	-5.9	-5.9	[0.00]	µg/L	01:54:51
1	Tl 190.801†	-26.1	-26.1	[0.00]	µg/L	01:55:12
1	U 409.014†	66.0	66.0	[0.00]	µg/L	01:54:51
1	V 292.402†	-124.6	-124.6	[0.00]	µg/L	01:54:51
1	Zn 213.857†	619.4	619.5	[0.00]	µg/L	01:55:12
2	Sc 361.383	1671751.9	1671751.9	100.61	%	01:55:18
2	Sc RADIAL	110971.1	110971.1	100	%	01:53:49
2	Y 371.029	940752.5	940752.5	100.37	%	01:55:18
2	Ag 328.068†	-504.9	-501.8	[0.00]	µg/L	01:55:23
2	Al 396.153Radial†	-69.0	-68.8	[0.00]	µg/L	01:53:49
2	As 188.979†	-6.5	-6.5	[0.00]	µg/L	01:55:44
2	B 249.677†	166.9	165.9	[0.00]	µg/L	01:55:44
2	Ba 233.527†	-10.0	-9.9	[0.00]	µg/L	01:55:44
2	Be 313.107†	-1627.2	-1617.3	[0.00]	µg/L	01:55:23
2	Ca 317.933Radial†	495.3	493.7	[0.00]	µg/L	01:54:10
2	Cd 226.502†	-134.1	-133.3	[0.00]	µg/L	01:55:44
2	Co 228.616†	26.2	26.0	[0.00]	µg/L	01:55:44
2	Cr 267.716†	62.0	61.7	[0.00]	µg/L	01:55:44
2	Cu 324.752†	2627.6	2611.6	[0.00]	µg/L	01:55:23

2	Fe 238.204 Radial†	34.9	34.8	[0.00]	µg/L	01:54:10
2	K 766.490 Radial†	229.6	228.8	[0.00]	µg/L	01:53:49
2	Mg 279.077 IEC†	15.6	15.5	[0.00]	µg/L	01:54:10
2	Mn 257.610†	-577.1	-573.6	[0.00]	µg/L	01:55:44
2	Mo 202.031†	6.1	6.0	[0.00]	µg/L	01:55:44
2	Na 589.592 Radial†	323.8	322.8	[0.00]	µg/L	01:53:49
2	Ni 231.604†	288.8	287.1	[0.00]	µg/L	01:55:44
2	P 214.914†	240.5	239.0	[0.00]	µg/L	01:55:44
2	Pb 220.353†	38.9	38.7	[0.00]	µg/L	01:55:44
2	S 181.975 Axial†	19.4	19.3	[0.00]	µg/L	01:55:44
2	Sb 206.836†	18.6	18.5	[0.00]	µg/L	01:55:44
2	Se 196.026†	8.2	8.2	[0.00]	µg/L	01:55:44
2	SiO2†	1405.5	1396.9	[0.00]	µg/L	01:55:23
2	Si 251.611†	380.4	378.1	[0.00]	µg/L	01:55:44
2	Sn 189.927†	1.1	1.1	[0.00]	µg/L	01:55:44
2	Sr 421.552†	140.5	140.0	[0.00]	µg/L	01:53:49
2	Ti 334.940†	10.4	10.3	[0.00]	µg/L	01:55:23
2	Tl 190.801†	-26.4	-26.3	[0.00]	µg/L	01:55:44
2	U 409.014†	144.6	143.7	[0.00]	µg/L	01:55:23
2	V 292.402†	-156.4	-155.4	[0.00]	µg/L	01:55:23
2	Zn 213.857†	606.2	602.5	[0.00]	µg/L	01:55:44
3	Sc 361.383	1651690.0	1651690.0	99.406	%	01:55:50
3	Sc RADIAL	110609.1	110609.1	100.0	%	01:54:15
3	Y 371.029	931941.9	931941.9	99.435	%	01:55:50
3	Ag 328.068†	-499.0	-501.9	[0.00]	µg/L	01:55:55
3	Al 396.153Radial†	-71.3	-71.3	[0.00]	µg/L	01:54:15
3	As 188.979†	-7.8	-7.8	[0.00]	µg/L	01:56:16
3	B 249.677†	173.3	174.3	[0.00]	µg/L	01:56:16
3	Ba 233.527†	-12.8	-12.9	[0.00]	µg/L	01:56:16
3	Be 313.107†	-1638.6	-1648.4	[0.00]	µg/L	01:55:55
3	Ca 317.933Radial†	503.6	503.6	[0.00]	µg/L	01:54:36
3	Cd 226.502†	-145.0	-145.9	[0.00]	µg/L	01:56:16
3	Co 228.616†	26.6	26.8	[0.00]	µg/L	01:56:16
3	Cr 267.716†	67.9	68.3	[0.00]	µg/L	01:56:16
3	Cu 324.752†	2625.7	2641.4	[0.00]	µg/L	01:55:55
3	Fe 238.204 Radial†	32.1	32.1	[0.00]	µg/L	01:54:36
3	K 766.490 Radial†	225.9	225.9	[0.00]	µg/L	01:54:15
3	Mg 279.077 IEC†	14.3	14.3	[0.00]	µg/L	01:54:36
3	Mn 257.610†	-572.6	-576.1	[0.00]	µg/L	01:56:16
3	Mo 202.031†	-5.2	-5.2	[0.00]	µg/L	01:56:16
3	Na 589.592 Radial†	321.4	321.4	[0.00]	µg/L	01:54:15
3	Ni 231.604†	301.2	303.0	[0.00]	µg/L	01:56:16
3	P 214.914†	242.9	244.4	[0.00]	µg/L	01:56:16
3	Pb 220.353†	27.1	27.3	[0.00]	µg/L	01:56:16
3	S 181.975 Axial†	22.2	22.3	[0.00]	µg/L	01:56:16
3	Sb 206.836†	22.0	22.2	[0.00]	µg/L	01:56:16
3	Se 196.026†	15.2	15.3	[0.00]	µg/L	01:56:16
3	SiO2†	1412.5	1420.9	[0.00]	µg/L	01:55:55
3	Si 251.611†	396.8	399.2	[0.00]	µg/L	01:56:16
3	Sn 189.927†	1.6	1.6	[0.00]	µg/L	01:56:16
3	Sr 421.552†	124.9	124.9	[0.00]	µg/L	01:54:15
3	Ti 334.940†	-21.2	-21.3	[0.00]	µg/L	01:55:55
3	Tl 190.801†	-27.0	-27.2	[0.00]	µg/L	01:56:16
3	U 409.014†	221.7	223.0	[0.00]	µg/L	01:55:55
3	V 292.402†	-152.1	-153.0	[0.00]	µg/L	01:55:55
3	Zn 213.857†	606.7	610.4	[0.00]	µg/L	01:56:16

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1661563.9	10034.63	0.60%	100.00	%
Sc RADIAL	110610.1	360.49	0.33%	100	%
Y 371.029	937240.4	4669.03	0.50%	100.00	%
Ag 328.068†	-517.3	26.70	5.16%	[0.00]	µg/L
Al 396.153Radial†	-70.1	1.27	1.81%	[0.00]	µg/L
As 188.979†	-7.7	1.10	14.41%	[0.00]	µg/L
B 249.677†	166.9	6.98	4.18%	[0.00]	µg/L
Ba 233.527†	-10.1	2.67	26.43%	[0.00]	µg/L
Be 313.107†	-1668.0	62.86	3.77%	[0.00]	µg/L
Ca 317.933Radial†	489.8	16.09	3.28%	[0.00]	µg/L

Cd 226.502†	-140.6	6.52	4.64%	[0.00]	µg/L
Co 228.616†	26.9	0.95	3.54%	[0.00]	µg/L
Cr 267.716†	69.1	7.91	11.45%	[0.00]	µg/L
Cu 324.752†	2630.4	16.40	0.62%	[0.00]	µg/L
Fe 238.204 Radial†	33.4	1.32	3.96%	[0.00]	µg/L
K 766.490 Radial†	249.2	37.88	15.20%	[0.00]	µg/L
Mg 279.077 IEC†	13.4	2.72	20.29%	[0.00]	µg/L
Mn 257.610†	-576.1	2.49	0.43%	[0.00]	µg/L
Mo 202.031†	2.4	6.60	274.86%	[0.00]	µg/L
Na 589.592 Radial†	318.3	6.48	2.04%	[0.00]	µg/L
Ni 231.604†	295.3	7.98	2.70%	[0.00]	µg/L
P 214.914†	241.3	2.75	1.14%	[0.00]	µg/L
Pb 220.353†	34.8	6.48	18.64%	[0.00]	µg/L
S 181.975 Axial†	20.6	1.58	7.66%	[0.00]	µg/L
Sb 206.836†	19.2	2.74	14.28%	[0.00]	µg/L
Se 196.026†	14.4	5.79	40.32%	[0.00]	µg/L
SiO2†	1404.5	14.20	1.01%	[0.00]	µg/L
Si 251.611†	384.0	13.23	3.44%	[0.00]	µg/L
Sn 189.927†	1.0	0.58	56.82%	[0.00]	µg/L
Sr 421.552†	143.8	20.95	14.57%	[0.00]	µg/L
Ti 334.940†	-5.6	15.82	281.36%	[0.00]	µg/L
Tl 190.801†	-26.5	0.57	2.14%	[0.00]	µg/L
U 409.014†	144.2	78.50	54.42%	[0.00]	µg/L
V 292.402†	-144.3	17.15	11.88%	[0.00]	µg/L
Zn 213.857†	610.8	8.50	1.39%	[0.00]	µg/L

Sequence No.: 2
Sample ID: S0.1
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/26/2010 01:56:25
Data Type: Reprocessed on 2/26/2010 03:26:10

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc 361.383	1664500.8	1664500.8	100.18	%	01:57:22
1	Sc RADIAL	110000.6	110000.6	99.4	%	01:57:00
1	Y 371.029	940896.0	940896.0	100.39	%	01:57:22
1	Ag 328.068†	10619.1	11117.7	[100]	µg/L	01:57:28
1	As 188.979†	55.7	63.2	[100]	µg/L	01:57:48
1	B 249.677†	2009.9	1839.4	[100]	µg/L	01:57:28
1	Ba 233.527†	3845.5	3848.8	[100]	µg/L	01:57:28
1	Be 313.107†	138284.1	139708.1	[100]	µg/L	01:57:22
1	Cd 226.502†	3350.1	3484.7	[100]	µg/L	01:57:28
1	Co 228.616†	1961.3	1931.0	[100]	µg/L	01:57:48
1	Cr 267.716†	4020.0	3943.8	[100]	µg/L	01:57:28
1	Cu 324.752†	16961.9	14301.5	[100]	µg/L	01:57:28
1	K 766.490 Radial†	1939.7	1701.2	[1000]	µg/L	01:57:00
1	Mn 257.610†	27695.8	28223.0	[100]	µg/L	01:57:28
1	Mo 202.031†	911.7	907.6	[100]	µg/L	01:57:48
1	Ni 231.604†	1798.5	1500.0	[100]	µg/L	01:57:48
1	P 214.914†	481.2	239.1	[500]	µg/L	01:57:48
1	Pb 220.353†	352.5	317.0	[100]	µg/L	01:57:48
1	S 181.975 Axial†	68.3	47.6	[200]	µg/L	01:57:48
1	Sb 206.836†	114.2	94.9	[100]	µg/L	01:57:48
1	Se 196.026†	93.5	78.9	[100]	µg/L	01:57:48
1	SiO2†	6150.9	4735.6	[1069.5]	µg/L	01:57:28
1	Si 251.611†	6295.4	5900.2	[500]	µg/L	01:57:28
1	Sn 189.927†	231.5	230.1	[100]	µg/L	01:57:48
1	Sr 421.552†	23711.7	23699.3	[100]	µg/L	01:57:00
1	Ti 334.940†	36439.2	36380.6	[100]	µg/L	01:57:28
1	Tl 190.801†	64.9	91.3	[100]	µg/L	01:57:48
1	U 409.014†	1197.4	1051.1	[100]	µg/L	01:57:28
1	V 292.402†	7773.3	7903.9	[100]	µg/L	01:57:28
1	Zn 213.857†	4476.0	3857.3	[100]	µg/L	01:57:28
2	Sc 361.383	1652346.2	1652346.2	99.445	%	01:57:54
2	Sc RADIAL	109141.4	109141.4	98.7	%	01:57:06
2	Y 371.029	931533.8	931533.8	99.391	%	01:57:54
2	Ag 328.068†	10615.8	11192.3	[100]	µg/L	01:58:00
2	As 188.979†	47.7	55.7	[100]	µg/L	01:58:21
2	B 249.677†	2001.2	1845.4	[100]	µg/L	01:58:00
2	Ba 233.527†	3886.2	3918.0	[100]	µg/L	01:58:00
2	Be 313.107†	138035.9	140474.0	[100]	µg/L	01:57:54
2	Cd 226.502†	3390.8	3550.3	[100]	µg/L	01:58:00
2	Co 228.616†	1970.4	1954.5	[100]	µg/L	01:58:21
2	Cr 267.716†	4093.2	4046.9	[100]	µg/L	01:58:00
2	Cu 324.752†	17075.5	14540.4	[100]	µg/L	01:58:00
2	K 766.490 Radial†	1881.6	1657.7	[1000]	µg/L	01:57:06
2	Mn 257.610†	27929.1	28661.0	[100]	µg/L	01:58:00
2	Mo 202.031†	915.4	918.1	[100]	µg/L	01:58:21
2	Ni 231.604†	1796.6	1511.3	[100]	µg/L	01:58:21
2	P 214.914†	479.6	240.9	[500]	µg/L	01:58:21
2	Pb 220.353†	366.7	334.0	[100]	µg/L	01:58:21
2	S 181.975 Axial†	78.0	57.9	[200]	µg/L	01:58:21
2	Sb 206.836†	114.6	96.0	[100]	µg/L	01:58:21
2	Se 196.026†	111.1	97.3	[100]	µg/L	01:58:21
2	SiO2†	6168.4	4798.2	[1069.5]	µg/L	01:58:00
2	Si 251.611†	6383.0	6034.6	[500]	µg/L	01:58:00
2	Sn 189.927†	225.0	225.2	[100]	µg/L	01:58:21
2	Sr 421.552†	23541.8	23714.8	[100]	µg/L	01:57:06
2	Ti 334.940†	36659.0	36869.1	[100]	µg/L	01:58:00
2	Tl 190.801†	60.7	87.5	[100]	µg/L	01:58:21
2	U 409.014†	1131.9	994.0	[100]	µg/L	01:58:00

2	V 292.402†	7800.1	7987.9	[100] µg/L	01:58:00
2	Zn 213.857†	4500.6	3915.0	[100] µg/L	01:58:00
3	Sc 361.383	1656039.4	1656039.4	99.668 %	01:58:27
3	Sc RADIAL	110310.0	110310.0	99.7 %	01:57:11
3	Y 371.029	937573.8	937573.8	100.04 %	01:58:27
3	Ag 328.068†	10648.2	11201.0	[100] µg/L	01:58:32
3	As 188.979†	54.6	62.5	[100] µg/L	01:58:53
3	B 249.677†	2048.8	1888.8	[100] µg/L	01:58:32
3	Ba 233.527†	3893.5	3916.6	[100] µg/L	01:58:32
3	Be 313.107†	138774.3	140905.3	[100] µg/L	01:58:27
3	Cd 226.502†	3415.1	3567.1	[100] µg/L	01:58:32
3	Co 228.616†	1963.9	1943.5	[100] µg/L	01:58:53
3	Cr 267.716†	4108.4	4053.0	[100] µg/L	01:58:32
3	Cu 324.752†	17118.0	14544.6	[100] µg/L	01:58:32
3	K 766.490 Radial†	2003.3	1759.6	[1000] µg/L	01:57:11
3	Mn 257.610†	27999.6	28669.1	[100] µg/L	01:58:32
3	Mo 202.031†	913.9	914.5	[100] µg/L	01:58:53
3	Ni 231.604†	1817.0	1527.7	[100] µg/L	01:58:53
3	P 214.914†	472.1	232.4	[500] µg/L	01:58:53
3	Pb 220.353†	354.4	320.8	[100] µg/L	01:58:53
3	S 181.975 Axial†	77.2	56.9	[200] µg/L	01:58:53
3	Sb 206.836†	115.8	97.0	[100] µg/L	01:58:53
3	Se 196.026†	100.5	86.5	[100] µg/L	01:58:53
3	SiO2†	6236.3	4852.6	[1069.5] µg/L	01:58:32
3	Si 251.611†	6436.1	6073.5	[500] µg/L	01:58:32
3	Sn 189.927†	225.8	225.5	[100] µg/L	01:58:53
3	Sr 421.552†	23723.2	23644.0	[100] µg/L	01:57:11
3	Ti 334.940†	36854.5	36983.0	[100] µg/L	01:58:32
3	Tl 190.801†	59.8	86.5	[100] µg/L	01:58:53
3	U 409.014†	1209.3	1069.1	[100] µg/L	01:58:32
3	V 292.402†	7793.0	7963.3	[100] µg/L	01:58:32
3	Zn 213.857†	4501.4	3905.6	[100] µg/L	01:58:32

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1657628.8	6231.27	0.38%	99.763	%
Sc RADIAL	109817.4	605.47	0.55%	99.3	%
Y 371.029	936667.9	4746.39	0.51%	99.939	%
Ag 328.068†	11170.3	45.80	0.41%	[100]	µg/L
As 188.979†	60.4	4.17	6.89%	[100]	µg/L
B 249.677†	1857.9	26.91	1.45%	[100]	µg/L
Ba 233.527†	3894.5	39.56	1.02%	[100]	µg/L
Be 313.107†	140362.5	606.30	0.43%	[100]	µg/L
Cd 226.502†	3534.0	43.50	1.23%	[100]	µg/L
Co 228.616†	1943.0	11.79	0.61%	[100]	µg/L
Cr 267.716†	4014.6	61.33	1.53%	[100]	µg/L
Cu 324.752†	14462.2	139.15	0.96%	[100]	µg/L
K 766.490 Radial†	1706.2	51.08	2.99%	[1000]	µg/L
Mn 257.610†	28517.7	255.24	0.90%	[100]	µg/L
Mo 202.031†	913.4	5.31	0.58%	[100]	µg/L
Ni 231.604†	1513.0	13.94	0.92%	[100]	µg/L
P 214.914†	237.5	4.51	1.90%	[500]	µg/L
Pb 220.353†	324.0	8.88	2.74%	[100]	µg/L
S 181.975 Axial†	54.1	5.66	10.45%	[200]	µg/L
Sb 206.836†	96.0	1.06	1.11%	[100]	µg/L
Se 196.026†	87.6	9.23	10.54%	[100]	µg/L
SiO2†	4795.5	58.57	1.22%	[1069.5]	µg/L
Si 251.611†	6002.8	90.91	1.51%	[500]	µg/L
Sn 189.927†	226.9	2.73	1.20%	[100]	µg/L
Sr 421.552†	23686.0	37.24	0.16%	[100]	µg/L
Ti 334.940†	36744.2	320.06	0.87%	[100]	µg/L
Tl 190.801†	88.4	2.51	2.83%	[100]	µg/L
U 409.014†	1038.1	39.20	3.78%	[100]	µg/L
V 292.402†	7951.7	43.18	0.54%	[100]	µg/L
Zn 213.857†	3892.6	30.96	0.80%	[100]	µg/L

Sequence No.: 3
Sample ID: S0.5
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/26/2010 01:59:03
Data Type: Reprocessed on 2/26/2010 03:27:11

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc 361.383	1649792.2	1649792.2	99.292	%	02:00:59
1	Sc RADIAL	109509.7	109509.7	99.0	%	01:59:36
1	Y 371.029	925592.9	925592.9	98.757	%	02:00:59
1	Ag 328.068†	55211.5	56122.8	[500]	µg/L	02:01:05
1	Al 396.153Radial†	9617.7	9784.4	[5000]	µg/L	01:59:36
1	As 188.979†	277.8	287.5	[500]	µg/L	02:01:25
1	B 249.677†	9582.8	9484.3	[500]	µg/L	02:01:05
1	Ba 233.527†	19471.2	19620.2	[500]	µg/L	02:01:05
1	Be 313.107†	698199.3	704849.2	[500]	µg/L	02:00:59
1	Ca 317.933Radial†	15837.4	15506.7	[5000]	µg/L	01:59:36
1	Cd 226.502†	17361.1	17625.6	[500]	µg/L	02:01:05
1	Co 228.616†	9815.8	9859.0	[500]	µg/L	02:01:05
1	Cr 267.716†	20043.8	20117.7	[500]	µg/L	02:01:05
1	Cu 324.752†	72219.2	70104.1	[500]	µg/L	02:01:05
1	K 766.490 Radial†	8598.1	8435.2	[5000]	µg/L	01:59:36
1	Mg 279.077 IEC†	553.0	545.2	[5000]	µg/L	01:59:56
1	Mn 257.610†	139755.9	141329.1	[500]	µg/L	02:01:05
1	Mo 202.031†	4530.7	4560.6	[500]	µg/L	02:01:25
1	Ni 231.604†	7874.1	7635.0	[500]	µg/L	02:01:05
1	P 214.914†	1431.5	1200.4	[2500]	µg/L	02:01:25
1	Pb 220.353†	1641.8	1618.7	[500]	µg/L	02:01:25
1	S 181.975 Axial†	277.9	259.3	[1000]	µg/L	02:01:25
1	Sb 206.836†	491.6	476.0	[500]	µg/L	02:01:25
1	Se 196.026†	437.4	426.1	[500]	µg/L	02:01:25
1	SiO2†	25898.1	24678.3	[5347.5]	µg/L	02:01:05
1	Si 251.611†	31053.7	30891.3	[2500]	µg/L	02:01:05
1	Sn 189.927†	1117.3	1124.3	[500]	µg/L	02:01:25
1	Sr 421.552†	119814.6	120874.7	[500]	µg/L	01:59:36
1	Ti 334.940†	186040.3	187373.4	[500]	µg/L	02:00:59
1	Tl 190.801†	406.7	436.1	[500]	µg/L	02:01:25
1	U 409.014†	5126.3	5018.6	[500]	µg/L	02:01:05
1	V 292.402†	39664.9	40092.3	[500]	µg/L	02:01:05
1	Zn 213.857†	19689.1	19218.8	[500]	µg/L	02:01:05
2	Sc 361.383	1650257.9	1650257.9	99.320	%	02:01:32
2	Sc RADIAL	109258.8	109258.8	98.8	%	02:00:02
2	Y 371.029	927816.2	927816.2	98.994	%	02:01:32
2	Ag 328.068†	54987.4	55881.4	[500]	µg/L	02:01:38
2	Al 396.153Radial†	9621.3	9810.4	[5000]	µg/L	02:00:02
2	As 188.979†	274.1	283.6	[500]	µg/L	02:01:58
2	B 249.677†	9558.0	9456.6	[500]	µg/L	02:01:38
2	Ba 233.527†	19433.3	19576.5	[500]	µg/L	02:01:38
2	Be 313.107†	696587.9	703028.3	[500]	µg/L	02:01:32
2	Ca 317.933Radial†	15854.2	15560.5	[5000]	µg/L	02:00:02
2	Cd 226.502†	17302.4	17561.5	[500]	µg/L	02:01:38
2	Co 228.616†	9753.1	9793.0	[500]	µg/L	02:01:38
2	Cr 267.716†	19938.1	20005.6	[500]	µg/L	02:01:38
2	Cu 324.752†	71933.0	69795.4	[500]	µg/L	02:01:38
2	K 766.490 Radial†	8616.5	8473.9	[5000]	µg/L	02:00:02
2	Mg 279.077 IEC†	554.0	547.4	[5000]	µg/L	02:00:22
2	Mn 257.610†	139145.5	140674.9	[500]	µg/L	02:01:38
2	Mo 202.031†	4481.7	4510.0	[500]	µg/L	02:01:58
2	Ni 231.604†	7823.6	7581.9	[500]	µg/L	02:01:38
2	P 214.914†	1412.1	1180.5	[2500]	µg/L	02:01:58
2	Pb 220.353†	1652.7	1629.2	[500]	µg/L	02:01:58
2	S 181.975 Axial†	285.9	267.3	[1000]	µg/L	02:01:58
2	Sb 206.836†	490.6	474.8	[500]	µg/L	02:01:58
2	Se 196.026†	430.3	418.8	[500]	µg/L	02:01:58
2	SiO2†	25938.3	24711.5	[5347.5]	µg/L	02:01:38

2	Si 251.611†	30962.9	30791.0	[2500]	µg/L	02:01:38
2	Sn 189.927†	1107.5	1114.1	[500]	µg/L	02:01:58
2	Sr 421.552†	119723.6	121060.6	[500]	µg/L	02:00:02
2	Ti 334.940†	185527.0	186803.7	[500]	µg/L	02:01:32
2	Tl 190.801†	403.9	433.2	[500]	µg/L	02:01:58
2	U 409.014†	5086.1	4976.7	[500]	µg/L	02:01:38
2	V 292.402†	39488.5	39903.4	[500]	µg/L	02:01:38
2	Zn 213.857†	19643.5	19167.3	[500]	µg/L	02:01:38
3	Sc 361.383	1649218.5	1649218.5	99.257	%	02:02:05
3	Sc RADIAL	109321.7	109321.7	98.8	%	02:00:28
3	Y 371.029	929937.8	929937.8	99.221	%	02:02:05
3	Ag 328.068†	51967.2	52873.5	[500]	µg/L	02:02:11
3	Al 396.153Radial†	9577.1	9760.1	[5000]	µg/L	02:00:28
3	As 188.979†	235.8	245.2	[500]	µg/L	02:02:31
3	B 249.677†	9007.1	8907.7	[500]	µg/L	02:02:11
3	Ba 233.527†	17866.4	18010.3	[500]	µg/L	02:02:11
3	Be 313.107†	655093.1	661664.8	[500]	µg/L	02:02:05
3	Ca 317.933Radial†	15786.7	15483.0	[5000]	µg/L	02:00:28
3	Cd 226.502†	15815.4	16074.4	[500]	µg/L	02:02:11
3	Co 228.616†	8908.1	8947.9	[500]	µg/L	02:02:11
3	Cr 267.716†	17693.7	17757.0	[500]	µg/L	02:02:11
3	Cu 324.752†	66400.8	64267.4	[500]	µg/L	02:02:11
3	K 766.490 Radial†	8639.4	8492.0	[5000]	µg/L	02:00:28
3	Mg 279.077 IEC†	552.2	545.3	[5000]	µg/L	02:00:48
3	Mn 257.610†	127030.7	128557.7	[500]	µg/L	02:02:11
3	Mo 202.031†	3809.0	3835.1	[500]	µg/L	02:02:31
3	Ni 231.604†	7167.2	6925.5	[500]	µg/L	02:02:11
3	P 214.914†	1259.1	1027.2	[2500]	µg/L	02:02:31
3	Pb 220.353†	1442.0	1418.1	[500]	µg/L	02:02:31
3	S 181.975 Axial†	247.9	229.2	[1000]	µg/L	02:02:31
3	Sb 206.836†	432.5	416.6	[500]	µg/L	02:02:31
3	Se 196.026†	381.5	369.9	[500]	µg/L	02:02:31
3	SiO2†	24353.4	23131.2	[5347.5]	µg/L	02:02:11
3	Si 251.611†	28911.0	28743.4	[2500]	µg/L	02:02:11
3	Sn 189.927†	924.1	930.0	[500]	µg/L	02:02:31
3	Sr 421.552†	119854.4	121123.3	[500]	µg/L	02:00:28
3	Ti 334.940†	173989.4	175297.4	[500]	µg/L	02:02:05
3	Tl 190.801†	367.8	397.0	[500]	µg/L	02:02:31
3	U 409.014†	4662.6	4553.2	[500]	µg/L	02:02:11
3	V 292.402†	35765.8	36177.9	[500]	µg/L	02:02:11
3	Zn 213.857†	17933.8	17457.3	[500]	µg/L	02:02:11

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1649756.2	520.59	0.03%	99.289	%
Sc RADIAL	109363.4	130.57	0.12%	98.9	%
Y 371.029	927782.3	2172.68	0.23%	98.991	%
Ag 328.068†	54959.2	1810.30	3.29%	[500]	µg/L
Al 396.153Radial†	9785.0	25.16	0.26%	[5000]	µg/L
As 188.979†	272.1	23.36	8.59%	[500]	µg/L
B 249.677†	9282.8	325.22	3.50%	[500]	µg/L
Ba 233.527†	19069.0	917.13	4.81%	[500]	µg/L
Be 313.107†	689847.4	24423.82	3.54%	[500]	µg/L
Ca 317.933Radial†	15516.7	39.71	0.26%	[5000]	µg/L
Cd 226.502†	17087.2	877.65	5.14%	[500]	µg/L
Co 228.616†	9533.3	508.06	5.33%	[500]	µg/L
Cr 267.716†	19293.4	1331.74	6.90%	[500]	µg/L
Cu 324.752†	68055.6	3284.36	4.83%	[500]	µg/L
K 766.490 Radial†	8467.0	29.00	0.34%	[5000]	µg/L
Mg 279.077 IEC†	546.0	1.27	0.23%	[5000]	µg/L
Mn 257.610†	136853.9	7192.14	5.26%	[500]	µg/L
Mo 202.031†	4301.9	405.03	9.42%	[500]	µg/L
Ni 231.604†	7380.8	395.15	5.35%	[500]	µg/L
P 214.914†	1136.0	94.76	8.34%	[2500]	µg/L
Pb 220.353†	1555.3	119.00	7.65%	[500]	µg/L
S 181.975 Axial†	251.9	20.09	7.97%	[1000]	µg/L
Sb 206.836†	455.8	33.92	7.44%	[500]	µg/L
Se 196.026†	405.0	30.56	7.55%	[500]	µg/L
SiO2†	24173.7	902.96	3.74%	[5347.5]	µg/L

Si 251.611†	30141.9	1212.17	4.02%	[2500]	µg/L
Sn 189.927†	1056.1	109.35	10.35%	[500]	µg/L
Sr 421.552†	121019.5	129.25	0.11%	[500]	µg/L
Ti 334.940†	183158.2	6813.54	3.72%	[500]	µg/L
Tl 190.801†	422.1	21.76	5.16%	[500]	µg/L
U 409.014†	4849.5	257.45	5.31%	[500]	µg/L
V 292.402†	38724.5	2207.49	5.70%	[500]	µg/L
Zn 213.857†	18614.5	1002.48	5.39%	[500]	µg/L

Sequence No.: 4
Sample ID: SCAL
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 2/26/2010 02:02:40
Data Type: Reprocessed on 2/26/2010 03:28:11

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc 361.383	1636557.3	1636557.3	98.495	%	02:04:38
1	Sc RADIAL	110315.1	110315.1	99.7	%	02:03:14
1	Y 371.029	924061.3	924061.3	98.594	%	02:04:38
1	Ag 328.068†	109675.3	111868.4	[1000]	µg/L	02:04:44
1	Al 396.153Radial†	19548.5	19671.0	[10000]	µg/L	02:03:14
1	As 188.979†	543.3	559.3	[1000]	µg/L	02:05:04
1	B 249.677†	18895.0	19016.8	[1000]	µg/L	02:04:44
1	Ba 233.527†	38571.6	39171.0	[1000]	µg/L	02:04:44
1	Be 313.107†	1378144.6	1400870.6	[1000]	µg/L	02:04:38
1	Ca 317.933Radial†	30464.5	30056.2	[10000]	µg/L	02:03:34
1	Cd 226.502†	34333.0	34998.2	[1000]	µg/L	02:04:44
1	Co 228.616†	19226.5	19493.4	[1000]	µg/L	02:04:44
1	Cr 267.716†	39613.0	40149.1	[1000]	µg/L	02:04:44
1	Cu 324.752†	140694.3	140213.6	[1000]	µg/L	02:04:44
1	Fe 238.204 Radial†	1524.6	1495.3	[10000]	µg/L	02:03:34
1	K 766.490 Radial†	16993.8	16790.0	[10000]	µg/L	02:03:14
1	Mg 279.077 IEC†	1082.0	1071.5	[10000]	µg/L	02:03:34
1	Mn 257.610†	276140.6	280936.1	[1000]	µg/L	02:04:44
1	Mo 202.031†	8876.1	9009.3	[1000]	µg/L	02:05:04
1	Na 589.592 Radial†	33443.4	33214.5	[10000]	µg/L	02:03:14
1	Ni 231.604†	14793.6	14724.3	[1000]	µg/L	02:05:04
1	P 214.914†	2595.8	2394.2	[5000]	µg/L	02:05:04
1	Pb 220.353†	3209.3	3223.6	[1000]	µg/L	02:05:04
1	S 181.975 Axial†	531.3	518.8	[2000]	µg/L	02:05:04
1	Sb 206.836†	957.2	952.6	[1000]	µg/L	02:05:04
1	Se 196.026†	825.1	823.4	[1000]	µg/L	02:05:04
1	SiO2†	49745.7	49101.3	[10695]	µg/L	02:04:44
1	Si 251.611†	60664.3	61207.2	[5000]	µg/L	02:04:44
1	Sn 189.927†	2183.7	2216.1	[1000]	µg/L	02:05:04
1	Sr 421.552†	239879.3	240377.1	[1000]	µg/L	02:03:14
1	Ti 334.940†	366946.6	372559.2	[1000]	µg/L	02:04:38
1	Tl 190.801†	832.9	872.1	[1000]	µg/L	02:05:04
1	U 409.014†	10291.0	10304.0	[1000]	µg/L	02:04:44
1	V 292.402†	78869.4	80218.9	[1000]	µg/L	02:04:44
1	Zn 213.857†	37626.6	37590.8	[1000]	µg/L	02:04:44
2	Sc 361.383	1685296.5	1685296.5	101.43	%	02:05:11
2	Sc RADIAL	110040.4	110040.4	99.5	%	02:03:40
2	Y 371.029	950881.7	950881.7	101.46	%	02:05:11
2	Ag 328.068†	107528.5	106531.6	[1000]	µg/L	02:05:17
2	Al 396.153Radial†	19403.5	19574.1	[10000]	µg/L	02:03:40
2	As 188.979†	537.0	537.1	[1000]	µg/L	02:05:37
2	B 249.677†	18480.1	18053.0	[1000]	µg/L	02:05:17
2	Ba 233.527†	37610.6	37091.0	[1000]	µg/L	02:05:17
2	Be 313.107†	1355908.1	1338482.0	[1000]	µg/L	02:05:11
2	Ca 317.933Radial†	30648.0	30316.8	[10000]	µg/L	02:04:00
2	Cd 226.502†	33436.8	33106.6	[1000]	µg/L	02:05:17
2	Co 228.616†	18758.8	18467.7	[1000]	µg/L	02:05:17
2	Cr 267.716†	38594.8	37982.2	[1000]	µg/L	02:05:17
2	Cu 324.752†	137491.9	132925.3	[1000]	µg/L	02:05:17
2	Fe 238.204 Radial†	1535.2	1509.8	[10000]	µg/L	02:04:00
2	K 766.490 Radial†	16977.1	16815.8	[10000]	µg/L	02:03:40
2	Mg 279.077 IEC†	1083.5	1075.7	[10000]	µg/L	02:04:00
2	Mn 257.610†	269503.2	266284.1	[1000]	µg/L	02:05:17
2	Mo 202.031†	8656.2	8531.9	[1000]	µg/L	02:05:37
2	Na 589.592 Radial†	33328.5	33182.7	[10000]	µg/L	02:03:40
2	Ni 231.604†	14443.3	13944.6	[1000]	µg/L	02:05:37
2	P 214.914†	2531.5	2254.6	[5000]	µg/L	02:05:37
2	Pb 220.353†	3149.7	3070.6	[1000]	µg/L	02:05:37

2	S 181.975 Axial†	519.8	491.9	[2000]	µg/L	02:05:37
2	Sb 206.836†	931.4	899.1	[1000]	µg/L	02:05:37
2	Se 196.026†	806.9	781.1	[1000]	µg/L	02:05:37
2	SiO2†	48896.1	46803.0	[10695]	µg/L	02:05:17
2	Si 251.611†	59564.4	58341.6	[5000]	µg/L	02:05:17
2	Sn 189.927†	2126.5	2095.5	[1000]	µg/L	02:05:37
2	Sr 421.552†	238943.0	240036.3	[1000]	µg/L	02:03:40
2	Ti 334.940†	361018.4	355940.1	[1000]	µg/L	02:05:11
2	Tl 190.801†	813.2	828.3	[1000]	µg/L	02:05:37
2	U 409.014†	10048.8	9763.0	[1000]	µg/L	02:05:17
2	V 292.402†	77083.8	76142.6	[1000]	µg/L	02:05:17
2	Zn 213.857†	36824.0	35694.7	[1000]	µg/L	02:05:17
3	Sc 361.383	1681129.1	1681129.1	101.18	%	02:05:44
3	Sc RADIAL	109840.1	109840.1	99.3	%	02:04:06
3	Y 371.029	943900.7	943900.7	100.71	%	02:05:44
3	Ag 328.068†	100702.7	100048.0	[1000]	µg/L	02:05:50
3	Al 396.153Radial†	19437.5	19643.9	[10000]	µg/L	02:04:06
3	As 188.979†	444.1	446.6	[1000]	µg/L	02:06:10
3	B 249.677†	17155.8	16789.2	[1000]	µg/L	02:05:50
3	Ba 233.527†	34080.6	33694.1	[1000]	µg/L	02:05:50
3	Be 313.107†	1256725.2	1243767.2	[1000]	µg/L	02:05:44
3	Ca 317.933Radial†	30691.8	30417.1	[10000]	µg/L	02:04:26
3	Cd 226.502†	30139.3	29929.1	[1000]	µg/L	02:05:50
3	Co 228.616†	16745.2	16523.5	[1000]	µg/L	02:05:50
3	Cr 267.716†	33566.1	33106.3	[1000]	µg/L	02:05:50
3	Cu 324.752†	123858.3	119786.3	[1000]	µg/L	02:05:50
3	Fe 238.204 Radial†	1534.4	1511.7	[10000]	µg/L	02:04:26
3	K 766.490 Radial†	16941.0	16810.5	[10000]	µg/L	02:04:06
3	Mg 279.077 IEC†	1084.7	1078.9	[10000]	µg/L	02:04:26
3	Mn 257.610†	240651.1	238426.4	[1000]	µg/L	02:05:50
3	Mo 202.031†	7145.0	7059.4	[1000]	µg/L	02:06:10
3	Na 589.592 Radial†	33375.9	33291.5	[10000]	µg/L	02:04:06
3	Ni 231.604†	11966.3	11531.7	[1000]	µg/L	02:06:10
3	P 214.914†	2166.4	1899.9	[5000]	µg/L	02:06:10
3	Pb 220.353†	2694.6	2628.5	[1000]	µg/L	02:06:10
3	S 181.975 Axial†	442.9	417.2	[2000]	µg/L	02:06:10
3	Sb 206.836†	794.1	765.7	[1000]	µg/L	02:06:10
3	Se 196.026†	705.0	682.5	[1000]	µg/L	02:06:10
3	SiO2†	45048.1	43119.3	[10695]	µg/L	02:05:50
3	Si 251.611†	54841.1	53818.8	[5000]	µg/L	02:05:50
3	Sn 189.927†	1735.4	1714.2	[1000]	µg/L	02:06:10
3	Sr 421.552†	238263.8	239790.2	[1000]	µg/L	02:04:06
3	Ti 334.940†	333363.0	329488.9	[1000]	µg/L	02:05:44
3	Tl 190.801†	719.2	737.3	[1000]	µg/L	02:06:10
3	U 409.014†	8949.7	8701.3	[1000]	µg/L	02:05:50
3	V 292.402†	68249.7	67599.7	[1000]	µg/L	02:05:50
3	Zn 213.857†	33035.3	32040.0	[1000]	µg/L	02:05:50

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1667661.0	27017.04	1.62%	100.37	%
Sc RADIAL	110065.2	238.43	0.22%	99.5	%
Y 371.029	939614.6	13914.43	1.48%	100.25	%
Ag 328.068†	106149.3	5919.48	5.58%	[1000]	µg/L
Al 396.153Radial†	19629.6	49.99	0.25%	[10000]	µg/L
As 188.979†	514.3	59.68	11.60%	[1000]	µg/L
B 249.677†	17953.0	1117.15	6.22%	[1000]	µg/L
Ba 233.527†	36652.1	2764.73	7.54%	[1000]	µg/L
Be 313.107†	1327706.6	79104.04	5.96%	[1000]	µg/L
Ca 317.933Radial†	30263.4	186.29	0.62%	[10000]	µg/L
Cd 226.502†	32678.0	2561.57	7.84%	[1000]	µg/L
Co 228.616†	18161.5	1508.46	8.31%	[1000]	µg/L
Cr 267.716†	37079.2	3607.19	9.73%	[1000]	µg/L
Cu 324.752†	130975.1	10352.34	7.90%	[1000]	µg/L
Fe 238.204 Radial†	1505.6	8.99	0.60%	[10000]	µg/L
K 766.490 Radial†	16805.5	13.64	0.08%	[10000]	µg/L
Mg 279.077 IEC†	1075.4	3.72	0.35%	[10000]	µg/L
Mn 257.610†	261882.2	21594.02	8.25%	[1000]	µg/L
Mo 202.031†	8200.2	1016.39	12.39%	[1000]	µg/L

Na 589.592 Radial†	33229.6	55.96	0.17%	[10000]	µg/L
Ni 231.604†	13400.2	1664.46	12.42%	[1000]	µg/L
P 214.914†	2182.9	254.82	11.67%	[5000]	µg/L
Pb 220.353†	2974.2	309.05	10.39%	[1000]	µg/L
S 181.975 Axial†	476.0	52.67	11.06%	[2000]	µg/L
Sb 206.836†	872.5	96.24	11.03%	[1000]	µg/L
Se 196.026†	762.3	72.32	9.49%	[1000]	µg/L
SiO2†	46341.2	3017.61	6.51%	[10695]	µg/L
Si 251.611†	57789.2	3725.04	6.45%	[5000]	µg/L
Sn 189.927†	2008.6	261.98	13.04%	[1000]	µg/L
Sr 421.552†	240067.9	294.69	0.12%	[1000]	µg/L
Ti 334.940†	352662.7	21721.39	6.16%	[1000]	µg/L
Tl 190.801†	812.6	68.77	8.46%	[1000]	µg/L
U 409.014†	9589.5	815.30	8.50%	[1000]	µg/L
V 292.402†	74653.7	6439.99	8.63%	[1000]	µg/L
Zn 213.857†	35108.5	2821.42	8.04%	[1000]	µg/L

Sequence No.: 5
Sample ID: S10
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 2/26/2010 02:06:20
Data Type: Reprocessed on 2/26/2010 03:28:27

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc 361.383	1683137.1	1683137.1	101.30	%	02:08:17
1	Sc RADIAL	111356.0	111356.0	101	%	02:06:53
1	Y 371.029	945311.4	945311.4	100.86	%	02:08:17
1	Al 396.153Radial†	94700.6	94136.4	[50000]	µg/L	02:06:53
1	Ca 317.933Radial†	147684.2	146205.2	[50000]	µg/L	02:06:53
1	Fe 238.204 Radial†	2891.7	2838.9	[20000]	µg/L	02:07:13
1	Mg 279.077 IEC†	5052.3	5005.0	[50000]	µg/L	02:07:13
1	Na 589.592 Radial†	65031.9	64277.9	[20000]	µg/L	02:06:53
2	Sc 361.383	1674367.6	1674367.6	100.77	%	02:08:25
2	Sc RADIAL	110163.8	110163.8	99.6	%	02:07:19
2	Y 371.029	937486.2	937486.2	100.03	%	02:08:25
2	Al 396.153Radial†	93449.3	93898.0	[50000]	µg/L	02:07:19
2	Ca 317.933Radial†	145292.1	145390.8	[50000]	µg/L	02:07:19
2	Fe 238.204 Radial†	2898.4	2876.7	[20000]	µg/L	02:07:39
2	Mg 279.077 IEC†	5048.7	5055.7	[50000]	µg/L	02:07:39
2	Na 589.592 Radial†	64256.2	64198.1	[20000]	µg/L	02:07:19
3	Sc 361.383	1681027.0	1681027.0	101.17	%	02:08:33
3	Sc RADIAL	110400.9	110400.9	99.8	%	02:07:44
3	Y 371.029	937860.0	937860.0	100.07	%	02:08:33
3	Al 396.153Radial†	94527.2	94776.4	[50000]	µg/L	02:07:44
3	Ca 317.933Radial†	147169.7	146958.7	[50000]	µg/L	02:07:44
3	Fe 238.204 Radial†	2887.7	2859.7	[20000]	µg/L	02:08:05
3	Mg 279.077 IEC†	5063.2	5059.4	[50000]	µg/L	02:08:05
3	Na 589.592 Radial†	64855.5	64660.0	[20000]	µg/L	02:07:44

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1679510.5	4577.20	0.27%	101.08	%
Sc RADIAL	110640.2	631.09	0.57%	100	%
Y 371.029	940219.2	4413.94	0.47%	100.32	%
Al 396.153Radial†	94270.3	454.24	0.48%	[50000]	µg/L
Ca 317.933Radial†	146184.9	784.13	0.54%	[50000]	µg/L
Fe 238.204 Radial†	2858.5	18.91	0.66%	[20000]	µg/L
Mg 279.077 IEC†	5040.0	30.38	0.60%	[50000]	µg/L
Na 589.592 Radial†	64378.7	246.87	0.38%	[20000]	µg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	106.9	0.00000	0.999893	
Al 396.153Radial	3	Lin Thru 0	0.0	1.889	0.00000	0.999963	
As 188.979	3	Lin Thru 0	0.0	0.5210	0.00000	0.999637	
B 249.677	3	Lin Thru 0	0.0	18.08	0.00000	0.999906	
Ba 233.527	3	Lin Thru 0	0.0	36.97	0.00000	0.999860	
Be 313.107	3	Lin Thru 0	0.0	1339	0.00000	0.999871	
Ca 317.933Radial	3	Lin Thru 0	0.0	2.929	0.00000	0.999961	
Cd 226.502	3	Lin Thru 0	0.0	33.00	0.00000	0.999817	
Co 228.616	3	Lin Thru 0	0.0	18.35	0.00000	0.999793	
Cr 267.716	3	Lin Thru 0	0.0	37.40	0.00000	0.999850	
Cu 324.752	3	Lin Thru 0	0.0	132.1	0.00000	0.999844	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.1445	0.00000	0.999777	
K 766.490 Radial	3	Lin Thru 0	0.0	1.683	0.00000	0.999995	
Mg 279.077 IEC	3	Lin Thru 0	0.0	0.1011	0.00000	0.999888	
Mn 257.610	3	Lin Thru 0	0.0	264.4	0.00000	0.999817	
Mo 202.031	3	Lin Thru 0	0.0	8.288	0.00000	0.999770	

Na 589.592 Radia	2	Lin Thru 0	0.0	3.240	0.00000	0.999918
Ni 231.604	3	Lin Thru 0	0.0	13.68	0.00000	0.999171
P 214.914	3	Lin Thru 0	0.0	0.4404	0.00000	0.999845
Pb 220.353	3	Lin Thru 0	0.0	3.003	0.00000	0.999812
S 181.975 Axial	3	Lin Thru 0	0.0	0.2410	0.00000	0.999675
Sb 206.836	3	Lin Thru 0	0.0	0.8809	0.00000	0.999812
Se 196.026	3	Lin Thru 0	0.0	0.7727	0.00000	0.999628
SiO2	3	Lin Thru 0	0.0	4.371	0.00000	0.999851
Si 251.611	3	Lin Thru 0	0.0	11.66	0.00000	0.999851
Sn 189.927	3	Lin Thru 0	0.0	2.031	0.00000	0.999739
Sr 421.552	3	Lin Thru 0	0.0	240.4	0.00000	0.999994
Ti 334.940	3	Lin Thru 0	0.0	355.5	0.00000	0.999878
Tl 190.801	3	Lin Thru 0	0.0	0.8194	0.00000	0.999857
U 409.014	3	Lin Thru 0	0.0	9.617	0.00000	0.999965
V 292.402	3	Lin Thru 0	0.0	75.25	0.00000	0.999878
Zn 213.857	3	Lin Thru 0	0.0	35.56	0.00000	0.999682

Sequence No.: 6
Sample ID: ICV
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/26/2010 02:08:42
Data Type: Reprocessed on 2/26/2010 03:29:09

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1675981.5	1675981.5	100.87	%			02:10:39
1	Sc RADIAL	112318.8	112318.8	102	%			02:09:15
1	Y 371.029	942746.8	942746.8	100.59	%			02:10:39
1	Ag 328.068†	26444.9	26734.7	253.97	µg/L	253.97	ppb	02:10:45
1	Al 396.153Radial†	9613.5	9537.4	5037.5	µg/L	5037.5	ppb	02:09:15
1	As 188.979†	256.5	262.0	501.81	µg/L	501.81	ppb	02:11:05
1	B 249.677†	9676.3	9426.2	519.56	µg/L	519.56	ppb	02:10:45
1	Ba 233.527†	19335.4	19179.1	519.76	µg/L	519.76	ppb	02:10:45
1	Be 313.107†	343569.8	342282.3	255.51	µg/L	255.51	ppb	02:10:39
1	Ca 317.933Radial†	15464.5	14739.4	5031.7	µg/L	5031.7	ppb	02:09:15
1	Cd 226.502†	16784.8	16781.0	508.52	µg/L	508.52	ppb	02:10:45
1	Co 228.616†	9695.4	9585.1	521.79	µg/L	521.79	ppb	02:10:45
1	Cr 267.716†	19211.1	18976.7	507.68	µg/L	507.68	ppb	02:10:45
1	Cu 324.752†	71901.3	68652.4	520.63	µg/L	520.63	ppb	02:10:45
1	Fe 238.204 Radial†	770.2	725.0	5030.4	µg/L	5030.4	ppb	02:09:36
1	K 766.490 Radial†	4330.0	4014.9	2385.1	µg/L	2385.1	ppb	02:09:15
1	Mg 279.077 IEC†	528.0	506.5	5012.1	µg/L	5012.1	ppb	02:09:36
1	Mn 257.610†	134570.7	133989.1	506.70	µg/L	506.70	ppb	02:10:45
1	Mo 202.031†	4600.6	4558.6	550.24	µg/L	550.24	ppb	02:11:05
1	Na 589.592 Radial†	8217.8	7774.4	2399.7	µg/L	2399.7	ppb	02:09:15
1	Ni 231.604†	7359.2	7000.6	511.03	µg/L	511.03	ppb	02:11:05
1	P 214.914†	1412.4	1159.0	2582.2	µg/L	2582.2	ppb	02:11:05
1	Pb 220.353†	1609.0	1560.3	519.82	µg/L	519.82	ppb	02:11:05
1	S 181.975 Axial†	637.0	611.0	2535.0	µg/L	2535.0	ppb	02:11:05
1	Sb 206.836†	470.3	447.1	510.69	µg/L	510.69	ppb	02:11:05
1	Se 196.026†	2019.7	1988.0	2585.7	µg/L	2585.7	ppb	02:11:05
1	SiO2†	45992.1	44191.9	10109	µg/L	10109	ppb	02:10:45
1	Si 251.611†	55943.6	55078.3	4723.5	µg/L	4723.5	ppb	02:10:45
1	Sn 189.927†	1132.8	1122.0	552.74	µg/L	552.74	ppb	02:11:05
1	Sr 421.552†	123383.7	121362.9	504.77	µg/L	504.77	ppb	02:09:15
1	Ti 334.940†	175959.3	174451.2	490.42	µg/L	490.42	ppb	02:10:39
1	Tl 190.801†	407.8	430.8	530.64	µg/L	530.64	ppb	02:11:05
1	U 409.014†	4722.1	4537.2	470.76	µg/L	470.76	ppb	02:10:45
1	V 292.402†	38162.9	37978.9	510.81	µg/L	510.81	ppb	02:10:45
1	Zn 213.857†	18483.1	17713.3	494.51	µg/L	494.51	ppb	02:10:45
2	Sc 361.383	1659386.0	1659386.0	99.869	%			02:11:12
2	Sc RADIAL	111289.5	111289.5	101	%			02:09:41
2	Y 371.029	931443.3	931443.3	99.381	%			02:11:12
2	Ag 328.068†	26718.1	27270.5	259.05	µg/L	259.05	ppb	02:11:18
2	Al 396.153Radial†	9569.1	9580.9	5060.4	µg/L	5060.4	ppb	02:09:41
2	As 188.979†	251.1	259.0	496.15	µg/L	496.15	ppb	02:11:38
2	B 249.677†	9723.6	9569.5	527.49	µg/L	527.49	ppb	02:11:18
2	Ba 233.527†	19488.2	19523.9	529.10	µg/L	529.10	ppb	02:11:18
2	Be 313.107†	342077.6	344194.6	256.94	µg/L	256.94	ppb	02:11:12
2	Ca 317.933Radial†	15354.0	14770.4	5042.3	µg/L	5042.3	ppb	02:09:41
2	Cd 226.502†	16873.9	17036.6	516.27	µg/L	516.27	ppb	02:11:18
2	Co 228.616†	9809.8	9795.8	533.27	µg/L	533.27	ppb	02:11:18
2	Cr 267.716†	19322.5	19278.7	515.76	µg/L	515.76	ppb	02:11:18
2	Cu 324.752†	72444.5	69909.1	530.15	µg/L	530.15	ppb	02:11:18
2	Fe 238.204 Radial†	768.4	730.3	5067.2	µg/L	5067.2	ppb	02:10:02
2	K 766.490 Radial†	4396.4	4120.3	2447.8	µg/L	2447.8	ppb	02:09:41
2	Mg 279.077 IEC†	528.5	511.9	5065.2	µg/L	5065.2	ppb	02:10:02
2	Mn 257.610†	135597.6	136351.6	515.63	µg/L	515.63	ppb	02:11:18
2	Mo 202.031†	4585.4	4589.0	553.91	µg/L	553.91	ppb	02:11:38
2	Na 589.592 Radial†	8247.4	7878.7	2431.9	µg/L	2431.9	ppb	02:09:41
2	Ni 231.604†	7350.4	7064.7	515.70	µg/L	515.70	ppb	02:11:38
2	P 214.914†	1397.6	1158.1	2579.3	µg/L	2579.3	ppb	02:11:38
2	Pb 220.353†	1611.0	1578.3	525.79	µg/L	525.79	ppb	02:11:38

2	S 181.975 Axial†	636.7	617.0	2559.8	µg/L	2559.8 ppb	02:11:38
2	Sb 206.836†	472.5	454.0	518.47	µg/L	518.47 ppb	02:11:38
2	Se 196.026†	2018.5	2006.8	2610.0	µg/L	2610.0 ppb	02:11:38
2	SiO2†	46398.1	45054.4	10307	µg/L	10307 ppb	02:11:18
2	Si 251.611†	56515.4	56205.5	4820.2	µg/L	4820.2 ppb	02:11:18
2	Sn 189.927†	1126.3	1126.7	555.08	µg/L	555.08 ppb	02:11:38
2	Sr 421.552†	122909.0	122014.9	507.48	µg/L	507.48 ppb	02:09:41
2	Ti 334.940†	175555.4	175791.4	494.19	µg/L	494.19 ppb	02:11:12
2	Tl 190.801†	410.8	437.9	539.35	µg/L	539.35 ppb	02:11:38
2	U 409.014†	4859.2	4721.4	489.91	µg/L	489.91 ppb	02:11:18
2	V 292.402†	38454.5	38649.3	519.79	µg/L	519.79 ppb	02:11:18
2	Zn 213.857†	18643.3	18057.0	504.14	µg/L	504.14 ppb	02:11:18
3	Sc 361.383	1664039.0	1664039.0	100.15	%		02:11:45
3	Sc RADIAL	112141.7	112141.7	101	%		02:10:08
3	Y 371.029	936129.5	936129.5	99.881	%		02:11:45
3	Ag 328.068†	25876.5	26355.3	250.26	µg/L	250.26 ppb	02:11:51
3	Al 396.153Radial†	9619.7	9558.4	5049.9	µg/L	5049.9 ppb	02:10:08
3	As 188.979†	227.7	235.1	450.23	µg/L	450.23 ppb	02:12:11
3	B 249.677†	9387.5	9206.6	507.39	µg/L	507.39 ppb	02:11:51
3	Ba 233.527†	18557.2	18539.7	502.41	µg/L	502.41 ppb	02:11:51
3	Be 313.107†	333314.3	334486.6	249.69	µg/L	249.69 ppb	02:11:45
3	Ca 317.933Radial†	15476.1	14774.9	5043.8	µg/L	5043.8 ppb	02:10:08
3	Cd 226.502†	16013.4	16130.2	488.75	µg/L	488.75 ppb	02:11:51
3	Co 228.616†	9250.3	9209.6	501.30	µg/L	501.30 ppb	02:11:51
3	Cr 267.716†	17953.1	17857.3	477.74	µg/L	477.74 ppb	02:11:51
3	Cu 324.752†	68669.0	65936.5	500.07	µg/L	500.07 ppb	02:11:51
3	Fe 238.204 Radial†	765.5	721.7	5006.5	µg/L	5006.5 ppb	02:10:28
3	K 766.490 Radial†	4358.5	4049.8	2405.9	µg/L	2405.9 ppb	02:10:08
3	Mg 279.077 IEC†	525.5	504.9	4995.0	µg/L	4995.0 ppb	02:10:28
3	Mn 257.610†	128062.6	128448.2	485.74	µg/L	485.74 ppb	02:11:51
3	Mo 202.031†	4074.2	4065.8	490.77	µg/L	490.77 ppb	02:12:11
3	Na 589.592 Radial†	8263.2	7832.0	2417.5	µg/L	2417.5 ppb	02:10:08
3	Ni 231.604†	6572.0	6266.9	457.44	µg/L	457.44 ppb	02:12:11
3	P 214.914†	1282.1	1038.9	2310.7	µg/L	2310.7 ppb	02:12:11
3	Pb 220.353†	1472.3	1435.3	478.08	µg/L	478.08 ppb	02:12:11
3	S 181.975 Axial†	586.4	564.9	2343.8	µg/L	2343.8 ppb	02:12:11
3	Sb 206.836†	427.6	407.8	465.48	µg/L	465.48 ppb	02:12:11
3	Se 196.026†	1867.5	1850.4	2407.5	µg/L	2407.5 ppb	02:12:11
3	SiO2†	44686.9	43216.0	9886.1	µg/L	9886.1 ppb	02:11:51
3	Si 251.611†	54407.8	53942.8	4626.2	µg/L	4626.2 ppb	02:11:51
3	Sn 189.927†	987.3	984.8	485.18	µg/L	485.18 ppb	02:12:11
3	Sr 421.552†	123908.4	122072.4	507.72	µg/L	507.72 ppb	02:10:08
3	Ti 334.940†	170328.9	170081.2	478.13	µg/L	478.13 ppb	02:11:45
3	Tl 190.801†	384.7	410.6	505.86	µg/L	505.86 ppb	02:12:11
3	U 409.014†	4498.3	4347.4	451.03	µg/L	451.03 ppb	02:11:51
3	V 292.402†	36069.2	36159.9	486.09	µg/L	486.09 ppb	02:11:51
3	Zn 213.857†	17619.6	16982.6	474.23	µg/L	474.23 ppb	02:11:51

Mean Data: ICV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1666468.8	100.30	%	0.515				0.51%
Sc RADIAL	111916.6	101	%	0.5				0.49%
Y 371.029	936773.2	99.950	%	0.6059				0.61%
Ag 328.068†	26786.8	254.43	µg/L	4.410	254.43	ppb	4.410	1.73%
QC value within limits for Ag 328.068 Recovery = 101.77%								
Al 396.153Radial†	9558.9	5049.3	µg/L	11.49	5049.3	ppb	11.49	0.23%
QC value within limits for Al 396.153Radial Recovery = 100.99%								
As 188.979†	252.0	482.73	µg/L	28.284	482.73	ppb	28.284	5.86%
QC value within limits for As 188.979 Recovery = 96.55%								
B 249.677†	9400.8	518.15	µg/L	10.125	518.15	ppb	10.125	1.95%
QC value within limits for B 249.677 Recovery = 103.63%								
Ba 233.527†	19080.9	517.09	µg/L	13.542	517.09	ppb	13.542	2.62%
QC value within limits for Ba 233.527 Recovery = 103.42%								
Be 313.107†	340321.1	254.05	µg/L	3.838	254.05	ppb	3.838	1.51%
QC value within limits for Be 313.107 Recovery = 101.62%								
Ca 317.933Radial†	14761.6	5039.3	µg/L	6.61	5039.3	ppb	6.61	0.13%
QC value within limits for Ca 317.933Radial Recovery = 100.79%								
Cd 226.502†	16649.3	504.51	µg/L	14.192	504.51	ppb	14.192	2.81%
QC value within limits for Cd 226.502 Recovery = 100.90%								

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Co 228.616†            9530.2      518.79 µg/L        16.192      518.79 ppb        16.192   3.12%
   QC value within limits for Co 228.616  Recovery = 103.76%
Cr 267.716†           18704.2      500.39 µg/L        20.033      500.39 ppb        20.033   4.00%
   QC value within limits for Cr 267.716  Recovery = 100.08%
Cu 324.752†           68166.0      516.95 µg/L        15.376      516.95 ppb        15.376   2.97%
   QC value within limits for Cu 324.752  Recovery = 103.39%
Fe 238.204 Radial†      725.7      5034.7 µg/L         30.58     5034.7 ppb         30.58   0.61%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.69%
K 766.490 Radial†      4061.7      2412.9 µg/L         31.91     2412.9 ppb         31.91   1.32%
   QC value within limits for K 766.490 Radial  Recovery = 96.52%
Mg 279.077 IEC†         507.8      5024.1 µg/L         36.60     5024.1 ppb         36.60   0.73%
   QC value within limits for Mg 279.077 IEC  Recovery = 100.48%
Mn 257.610†          132929.6      502.69 µg/L        15.342      502.69 ppb        15.342   3.05%
   QC value within limits for Mn 257.610  Recovery = 100.54%
Mo 202.031†            4404.5      531.64 µg/L        35.442      531.64 ppb        35.442   6.67%
   QC value within limits for Mo 202.031  Recovery = 106.33%
Na 589.592 Radial†     7828.4      2416.4 µg/L         16.12     2416.4 ppb         16.12   0.67%
   QC value within limits for Na 589.592 Radial  Recovery = 96.65%
Ni 231.604†            6777.4      494.73 µg/L        32.375      494.73 ppb        32.375   6.54%
   QC value within limits for Ni 231.604  Recovery = 98.95%
P 214.914†             1118.6      2490.7 µg/L        155.94      2490.7 ppb        155.94   6.26%
   QC value within limits for P 214.914  Recovery = 99.63%
Pb 220.353†            1524.6      507.90 µg/L        25.998      507.90 ppb        25.998   5.12%
   QC value within limits for Pb 220.353  Recovery = 101.58%
S 181.975 Axial†        597.6      2479.5 µg/L        118.21      2479.5 ppb        118.21   4.77%
   QC value within limits for S 181.975 Axial  Recovery = 99.18%
Sb 206.836†             436.3      498.22 µg/L        28.614      498.22 ppb        28.614   5.74%
   QC value within limits for Sb 206.836  Recovery = 99.64%
Se 196.026†            1948.4      2534.4 µg/L        110.56      2534.4 ppb        110.56   4.36%
   QC value within limits for Se 196.026  Recovery = 101.38%
SiO2†                 44154.1       10101 µg/L         210.4       10101 ppb         210.4   2.08%
   QC value within limits for SiO2  Recovery = 94.44%
Si 251.611†           55075.6      4723.3 µg/L         97.03      4723.3 ppb         97.03   2.05%
   QC value within limits for Si 251.611  Recovery = 94.47%
Sn 189.927†            1077.8      531.00 µg/L        39.697      531.00 ppb        39.697   7.48%
   QC value within limits for Sn 189.927  Recovery = 106.20%
Sr 421.552†          121816.7      506.65 µg/L         1.639      506.65 ppb         1.639   0.32%
   QC value within limits for Sr 421.552  Recovery = 101.33%
Ti 334.940†          173441.3      487.58 µg/L         8.397      487.58 ppb         8.397   1.72%
   QC value within limits for Ti 334.940  Recovery = 97.52%
Tl 190.801†             426.4      525.28 µg/L        17.378      525.28 ppb        17.378   3.31%
   QC value within limits for Tl 190.801  Recovery = 105.06%
U 409.014†             4535.3      470.57 µg/L        19.440      470.57 ppb        19.440   4.13%
   QC value within limits for U 409.014  Recovery = 94.11%
V 292.402†            37596.0      505.56 µg/L        17.452      505.56 ppb        17.452   3.45%
   QC value within limits for V 292.402  Recovery = 101.11%
Zn 213.857†           17584.3      490.96 µg/L        15.264      490.96 ppb        15.264   3.11%
   QC value within limits for Zn 213.857  Recovery = 98.19%
All analyte(s) passed QC.
```

Sequence No.: 7
Sample ID: ICB
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 2/26/2010 02:12:21
Data Type: Reprocessed on 2/26/2010 03:29:57

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1645072.0	1645072.0	99.007	%			02:14:16
1	Sc RADIAL	106904.6	106904.6	96.6	%			02:12:53
1	Y 371.029	926696.7	926696.7	98.875	%			02:14:16
1	Ag 328.068†	-495.8	16.6	0.1555	µg/L	0.1555	ppb	02:14:21
1	Al 396.153Radial†	-130.0	-64.4	-34.102	µg/L	-34.102	ppb	02:12:53
1	As 188.979†	-10.3	-2.8	-5.3603	µg/L	-5.3603	ppb	02:14:42
1	B 249.677†	185.4	20.3	1.1229	µg/L	1.1229	ppb	02:14:42
1	Ba 233.527†	-4.2	5.9	0.1595	µg/L	0.1595	ppb	02:14:42
1	Be 313.107†	-1616.6	35.2	0.0262	µg/L	0.0262	ppb	02:14:21
1	Ca 317.933Radial†	399.5	-76.5	-26.105	µg/L	-26.105	ppb	02:13:14
1	Cd 226.502†	-145.2	-6.0	-0.1825	µg/L	-0.1825	ppb	02:14:42
1	Co 228.616†	28.1	1.5	0.0831	µg/L	0.0831	ppb	02:14:42
1	Cr 267.716†	87.3	19.0	0.5090	µg/L	0.5090	ppb	02:14:21
1	Cu 324.752†	2613.1	8.9	0.0681	µg/L	0.0681	ppb	02:14:21
1	Fe 238.204 Radial†	33.0	0.7	5.1878	µg/L	5.1878	ppb	02:13:14
1	K 766.490 Radial†	269.6	29.7	17.660	µg/L	17.660	ppb	02:12:53
1	Mg 279.077 IEC†	15.4	2.5	24.597	µg/L	24.597	ppb	02:13:14
1	Mn 257.610†	-534.1	36.7	0.1373	µg/L	0.1373	ppb	02:14:42
1	Mo 202.031†	16.3	14.0	1.6938	µg/L	1.6938	ppb	02:14:42
1	Na 589.592 Radial†	295.1	-13.0	-4.0165	µg/L	-4.0165	ppb	02:12:53
1	Ni 231.604†	307.7	15.5	1.1321	µg/L	1.1321	ppb	02:14:42
1	P 214.914†	239.6	0.7	1.5301	µg/L	1.5301	ppb	02:14:42
1	Pb 220.353†	32.7	-1.8	-0.6043	µg/L	-0.6043	ppb	02:14:42
1	S 181.975 Axial†	25.0	4.7	19.432	µg/L	19.432	ppb	02:14:42
1	Sb 206.836†	22.4	3.5	3.9958	µg/L	3.9958	ppb	02:14:42
1	Se 196.026†	16.2	2.0	2.6419	µg/L	2.6419	ppb	02:14:42
1	SiO2†	1424.4	34.1	7.8035	µg/L	7.8035	ppb	02:14:21
1	Si 251.611†	417.9	38.0	3.2602	µg/L	3.2602	ppb	02:14:42
1	Sn 189.927†	5.4	4.5	2.2001	µg/L	2.2001	ppb	02:14:42
1	Sr 421.552†	190.7	53.6	0.2228	µg/L	0.2228	ppb	02:12:53
1	Ti 334.940†	74.4	80.8	0.2248	µg/L	0.2248	ppb	02:14:21
1	Tl 190.801†	-26.2	0.1	0.1298	µg/L	0.1298	ppb	02:14:42
1	U 409.014†	216.7	74.6	7.7621	µg/L	7.7621	ppb	02:14:21
1	V 292.402†	-141.9	1.0	0.0361	µg/L	0.0361	ppb	02:14:21
1	Zn 213.857†	581.8	-23.1	-0.6569	µg/L	-0.6569	ppb	02:14:42
2	Sc 361.383	1635703.9	1635703.9	98.444	%			02:14:48
2	Sc RADIAL	107647.1	107647.1	97.3	%			02:13:19
2	Y 371.029	924809.8	924809.8	98.674	%			02:14:48
2	Ag 328.068†	-495.9	13.5	0.1266	µg/L	0.1266	ppb	02:14:53
2	Al 396.153Radial†	-107.6	-40.4	-21.406	µg/L	-21.406	ppb	02:13:19
2	As 188.979†	-2.0	5.6	10.734	µg/L	10.734	ppb	02:15:14
2	B 249.677†	183.1	19.1	1.0652	µg/L	1.0652	ppb	02:15:14
2	Ba 233.527†	-16.1	-6.3	-0.1698	µg/L	-0.1698	ppb	02:15:14
2	Be 313.107†	-1518.3	125.7	0.0938	µg/L	0.0938	ppb	02:14:53
2	Ca 317.933Radial†	407.9	-70.7	-24.143	µg/L	-24.143	ppb	02:13:39
2	Cd 226.502†	-130.6	8.0	0.2441	µg/L	0.2441	ppb	02:15:14
2	Co 228.616†	27.2	0.8	0.0422	µg/L	0.0422	ppb	02:15:14
2	Cr 267.716†	101.0	33.4	0.8942	µg/L	0.8942	ppb	02:14:53
2	Cu 324.752†	2632.7	43.9	0.3308	µg/L	0.3308	ppb	02:14:53
2	Fe 238.204 Radial†	31.3	-1.3	-8.8389	µg/L	-8.8389	ppb	02:13:39
2	K 766.490 Radial†	301.5	60.6	35.995	µg/L	35.995	ppb	02:13:19
2	Mg 279.077 IEC†	12.7	-0.4	-3.7510	µg/L	-3.7510	ppb	02:13:39
2	Mn 257.610†	-498.2	70.0	0.2644	µg/L	0.2644	ppb	02:15:14
2	Mo 202.031†	10.2	8.0	0.9605	µg/L	0.9605	ppb	02:15:14
2	Na 589.592 Radial†	304.8	-5.2	-1.5956	µg/L	-1.5956	ppb	02:13:19
2	Ni 231.604†	307.4	17.0	1.2405	µg/L	1.2405	ppb	02:15:14
2	P 214.914†	239.4	1.9	4.3919	µg/L	4.3919	ppb	02:15:14
2	Pb 220.353†	32.8	-1.5	-0.4922	µg/L	-0.4922	ppb	02:15:14

2	S 181.975 Axial†	22.9	2.7	11.103	µg/L	11.103 ppb	02:15:14
2	Sb 206.836†	24.1	5.3	6.0301	µg/L	6.0301 ppb	02:15:14
2	Se 196.026†	15.1	1.0	1.2206	µg/L	1.2206 ppb	02:15:14
2	SiO2†	1438.5	56.8	12.986	µg/L	12.986 ppb	02:14:53
2	Si 251.611†	405.0	27.4	2.3476	µg/L	2.3476 ppb	02:15:14
2	Sn 189.927†	8.9	8.0	3.9586	µg/L	3.9586 ppb	02:15:14
2	Sr 421.552†	193.9	55.4	0.2305	µg/L	0.2305 ppb	02:13:19
2	Ti 334.940†	86.9	93.9	0.2640	µg/L	0.2640 ppb	02:14:53
2	Tl 190.801†	-20.0	6.2	7.5991	µg/L	7.5991 ppb	02:15:14
2	U 409.014†	167.9	26.3	2.7405	µg/L	2.7405 ppb	02:14:53
2	V 292.402†	-129.0	13.3	0.1887	µg/L	0.1887 ppb	02:14:53
2	Zn 213.857†	592.1	-9.3	-0.2676	µg/L	-0.2676 ppb	02:15:14
3	Sc 361.383	1646392.9	1646392.9	99.087	%		02:15:20
3	Sc RADIAL	108026.5	108026.5	97.7	%		02:13:45
3	Y 371.029	926937.9	926937.9	98.901	%		02:15:20
3	Ag 328.068†	-423.6	89.8	0.8417	µg/L	0.8417 ppb	02:15:25
3	Al 396.153Radial†	-137.6	-70.8	-37.477	µg/L	-37.477 ppb	02:13:45
3	As 188.979†	-5.6	2.0	3.8310	µg/L	3.8310 ppb	02:15:46
3	B 249.677†	183.8	18.6	1.0261	µg/L	1.0261 ppb	02:15:46
3	Ba 233.527†	-6.7	3.4	0.0922	µg/L	0.0922 ppb	02:15:46
3	Be 313.107†	-1500.7	153.5	0.1145	µg/L	0.1145 ppb	02:15:25
3	Ca 317.933Radial†	411.3	-68.7	-23.436	µg/L	-23.436 ppb	02:14:05
3	Cd 226.502†	-137.6	1.8	0.0542	µg/L	0.0542 ppb	02:15:46
3	Co 228.616†	27.7	1.0	0.0569	µg/L	0.0569 ppb	02:15:46
3	Cr 267.716†	102.5	34.3	0.9165	µg/L	0.9165 ppb	02:15:25
3	Cu 324.752†	2609.0	2.7	0.0214	µg/L	0.0214 ppb	02:15:25
3	Fe 238.204 Radial†	33.6	1.0	6.9022	µg/L	6.9022 ppb	02:14:05
3	K 766.490 Radial†	311.7	69.9	41.552	µg/L	41.552 ppb	02:13:45
3	Mg 279.077 IEC†	7.5	-5.7	-56.819	µg/L	-56.819 ppb	02:14:05
3	Mn 257.610†	-484.2	87.4	0.3347	µg/L	0.3347 ppb	02:15:46
3	Mo 202.031†	10.5	8.2	0.9926	µg/L	0.9926 ppb	02:15:46
3	Na 589.592 Radial†	311.0	0.1	0.0156	µg/L	0.0156 ppb	02:13:45
3	Ni 231.604†	314.0	21.6	1.5799	µg/L	1.5799 ppb	02:15:46
3	P 214.914†	235.3	-3.8	-8.6756	µg/L	-8.6756 ppb	02:15:46
3	Pb 220.353†	39.7	5.3	1.7655	µg/L	1.7655 ppb	02:15:46
3	S 181.975 Axial†	22.9	2.6	10.639	µg/L	10.639 ppb	02:15:46
3	Sb 206.836†	19.2	0.2	0.1938	µg/L	0.1938 ppb	02:15:46
3	Se 196.026†	15.9	1.7	2.2473	µg/L	2.2473 ppb	02:15:46
3	SiO2†	1446.3	55.1	12.616	µg/L	12.616 ppb	02:15:25
3	Si 251.611†	438.5	58.5	5.0130	µg/L	5.0130 ppb	02:15:46
3	Sn 189.927†	3.5	2.5	1.2244	µg/L	1.2244 ppb	02:15:46
3	Sr 421.552†	197.3	58.2	0.2421	µg/L	0.2421 ppb	02:13:45
3	Ti 334.940†	101.6	108.2	0.3085	µg/L	0.3085 ppb	02:15:25
3	Tl 190.801†	-30.6	-4.4	-5.3413	µg/L	-5.3413 ppb	02:15:46
3	U 409.014†	229.6	87.5	9.0958	µg/L	9.0958 ppb	02:15:25
3	V 292.402†	-128.1	15.0	0.2194	µg/L	0.2194 ppb	02:15:25
3	Zn 213.857†	575.7	-29.8	-0.8408	µg/L	-0.8408 ppb	02:15:46

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1642389.6	98.846	%	0.3507				0.35%
Sc RADIAL	107526.0	97.2	%	0.52				0.53%
Y 371.029	926148.1	98.816	%	0.1243				0.13%
Ag 328.068†	40.0	0.3746	µg/L	0.40475	0.3746	ppb	0.40475	108.05%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-58.5	-30.995	µg/L	8.4742	-30.995	ppb	8.4742	27.34%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	1.6	3.0682	µg/L	8.07422	3.0682	ppb	8.07422	263.16%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	19.4	1.0714	µg/L	0.04869	1.0714	ppb	0.04869	4.54%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	1.0	0.0273	µg/L	0.17395	0.0273	ppb	0.17395	637.75%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	104.8	0.0782	µg/L	0.04618	0.0782	ppb	0.04618	59.07%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-71.9	-24.562	µg/L	1.3828	-24.562	ppb	1.3828	5.63%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	1.2	0.0386	µg/L	0.21373	0.0386	ppb	0.21373	553.42%
QC value within limits for Cd 226.502 Recovery = Not calculated								

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Co 228.616†                1.1      0.0607 µg/L       0.02072      0.0607 ppb        0.02072  34.11%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               28.9      0.7732 µg/L       0.22911      0.7732 ppb        0.22911  29.63%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               18.5      0.1401 µg/L       0.16682      0.1401 ppb        0.16682 119.09%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†         0.2      1.0837 µg/L       8.63586      1.0837 ppb        8.63586 796.88%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         53.4     31.736 µg/L       12.5025     31.736 ppb        12.5025  39.40%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           -1.2    -11.991 µg/L       41.3291    -11.991 ppb        41.3291 344.67%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               64.7      0.2455 µg/L       0.10005      0.2455 ppb        0.10005  40.76%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               10.1      1.2156 µg/L       0.41438      1.2156 ppb        0.41438  34.09%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -6.0     -1.8655 µg/L       2.02955     -1.8655 ppb        2.02955 108.80%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               18.0      1.3175 µg/L       0.23362      1.3175 ppb        0.23362  17.73%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -0.4     -0.9179 µg/L       6.86907     -0.9179 ppb        6.86907 748.36%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                0.7      0.2230 µg/L       1.33704      0.2230 ppb        1.33704 599.54%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           3.3     13.725 µg/L        4.9483     13.725 ppb         4.9483  36.05%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                3.0      3.4066 µg/L       2.96242      3.4066 ppb        2.96242  86.96%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                1.6      2.0366 µg/L       0.73369      2.0366 ppb        0.73369  36.03%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     48.7     11.135 µg/L        2.8913     11.135 ppb         2.8913  25.97%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               41.3      3.5403 µg/L       1.35460      3.5403 ppb        1.35460  38.26%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                5.0      2.4610 µg/L       1.38561      2.4610 ppb        1.38561  56.30%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†               55.7      0.2318 µg/L       0.00973      0.2318 ppb        0.00973   4.20%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               94.3      0.2658 µg/L       0.04186      0.2658 ppb        0.04186  15.75%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                0.6      0.7959 µg/L       6.49583      0.7959 ppb        6.49583 816.19%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                62.8      6.5328 µg/L       3.35122      6.5328 ppb        3.35122  51.30%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 9.8      0.1481 µg/L       0.09819      0.1481 ppb        0.09819  66.31%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              -20.7     -0.5884 µg/L       0.29269     -0.5884 ppb        0.29269  49.74%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 8
Sample ID: PQL
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 101
Date Collected: 2/26/2010 02:15:56
Data Type: Reprocessed on 2/26/2010 03:30:39

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1638153.3	1638153.3	98.591	%			02:17:51
1	Sc RADIAL	108740.5	108740.5	98.3	%			02:16:28
1	Y 371.029	922286.5	922286.5	98.404	%			02:17:51
1	Ag 328.068†	18.7	536.2	5.0625	µg/L	5.0625	ppb	02:17:56
1	Al 396.153Radial†	278.8	353.8	187.04	µg/L	187.04	ppb	02:16:28
1	As 188.979†	9.4	17.2	33.016	µg/L	33.016	ppb	02:18:17
1	B 249.677†	1120.2	969.4	53.581	µg/L	53.581	ppb	02:17:56
1	Ba 233.527†	180.1	192.8	5.2261	µg/L	5.2261	ppb	02:18:17
1	Be 313.107†	5171.8	6913.7	5.1628	µg/L	5.1628	ppb	02:17:56
1	Ca 317.933Radial†	995.0	522.3	178.29	µg/L	178.29	ppb	02:16:49
1	Cd 226.502†	36.2	177.3	5.3704	µg/L	5.3704	ppb	02:18:17
1	Co 228.616†	109.5	84.2	4.5871	µg/L	4.5871	ppb	02:18:17
1	Cr 267.716†	274.6	209.4	5.6020	µg/L	5.6020	ppb	02:17:56
1	Cu 324.752†	4054.6	1482.1	11.236	µg/L	11.236	ppb	02:17:56
1	Fe 238.204 Radial†	45.0	12.3	85.325	µg/L	85.325	ppb	02:16:49
1	K 766.490 Radial†	528.4	288.3	171.25	µg/L	171.25	ppb	02:16:28
1	Mg 279.077 IEC†	40.7	28.0	276.49	µg/L	276.49	ppb	02:16:49
1	Mn 257.610†	2248.5	2856.7	10.790	µg/L	10.790	ppb	02:17:56
1	Mo 202.031†	93.0	91.9	11.094	µg/L	11.094	ppb	02:18:17
1	Na 589.592 Radial†	1311.4	1015.6	313.48	µg/L	313.48	ppb	02:16:28
1	Ni 231.604†	372.5	82.6	6.0303	µg/L	6.0303	ppb	02:18:17
1	P 214.914†	305.6	68.6	154.84	µg/L	154.84	ppb	02:18:17
1	Pb 220.353†	69.7	35.9	11.914	µg/L	11.914	ppb	02:18:17
1	S 181.975 Axial†	46.7	26.8	111.20	µg/L	111.20	ppb	02:18:17
1	Sb 206.836†	31.6	12.9	14.715	µg/L	14.715	ppb	02:18:17
1	Se 196.026†	39.4	25.6	33.155	µg/L	33.155	ppb	02:18:17
1	SiO2†	2337.0	965.9	220.96	µg/L	220.96	ppb	02:17:56
1	Si 251.611†	1521.2	1158.9	99.391	µg/L	99.391	ppb	02:18:17
1	Sn 189.927†	24.3	23.6	11.651	µg/L	11.651	ppb	02:18:17
1	Sr 421.552†	1321.5	1200.5	4.9931	µg/L	4.9931	ppb	02:16:28
1	Ti 334.940†	1846.4	1878.4	5.2651	µg/L	5.2651	ppb	02:17:56
1	Tl 190.801†	-7.7	18.7	22.967	µg/L	22.967	ppb	02:18:17
1	U 409.014†	746.9	613.4	63.755	µg/L	63.755	ppb	02:17:56
1	V 292.402†	274.6	422.9	5.7877	µg/L	5.7877	ppb	02:17:56
1	Zn 213.857†	937.5	340.2	9.5015	µg/L	9.5015	ppb	02:18:17
2	Sc 361.383	1648442.4	1648442.4	99.210	%			02:18:23
2	Sc RADIAL	108933.3	108933.3	98.5	%			02:16:54
2	Y 371.029	932362.4	932362.4	99.480	%			02:18:23
2	Ag 328.068†	44.3	562.0	5.2979	µg/L	5.2979	ppb	02:18:29
2	Al 396.153Radial†	260.1	334.3	176.73	µg/L	176.73	ppb	02:16:54
2	As 188.979†	7.6	15.3	29.337	µg/L	29.337	ppb	02:18:49
2	B 249.677†	1043.6	885.1	48.913	µg/L	48.913	ppb	02:18:29
2	Ba 233.527†	188.6	200.2	5.4248	µg/L	5.4248	ppb	02:18:49
2	Be 313.107†	5039.2	6747.3	5.0386	µg/L	5.0386	ppb	02:18:29
2	Ca 317.933Radial†	996.6	522.2	178.26	µg/L	178.26	ppb	02:17:15
2	Cd 226.502†	24.9	165.7	5.0163	µg/L	5.0163	ppb	02:18:49
2	Co 228.616†	119.5	93.6	5.0981	µg/L	5.0981	ppb	02:18:49
2	Cr 267.716†	280.3	213.4	5.7088	µg/L	5.7088	ppb	02:18:29
2	Cu 324.752†	4005.7	1407.1	10.669	µg/L	10.669	ppb	02:18:29
2	Fe 238.204 Radial†	46.4	13.7	94.727	µg/L	94.727	ppb	02:17:15
2	K 766.490 Radial†	519.3	278.1	165.19	µg/L	165.19	ppb	02:16:54
2	Mg 279.077 IEC†	43.6	30.9	305.52	µg/L	305.52	ppb	02:17:15
2	Mn 257.610†	2232.0	2825.8	10.672	µg/L	10.672	ppb	02:18:29
2	Mo 202.031†	96.7	95.1	11.477	µg/L	11.477	ppb	02:18:49
2	Na 589.592 Radial†	1266.6	967.7	298.70	µg/L	298.70	ppb	02:16:54
2	Ni 231.604†	368.7	76.3	5.5740	µg/L	5.5740	ppb	02:18:49
2	P 214.914†	299.4	60.5	136.36	µg/L	136.36	ppb	02:18:49
2	Pb 220.353†	60.3	25.9	8.5954	µg/L	8.5954	ppb	02:18:49

2	S 181.975 Axial†	45.1	24.8	103.09 µg/L	103.09 ppb	02:18:49
2	Sb 206.836†	27.3	8.4	9.6216 µg/L	9.6216 ppb	02:18:49
2	Se 196.026†	44.1	30.1	38.995 µg/L	38.995 ppb	02:18:49
2	SiO2†	2296.0	909.8	208.12 µg/L	208.12 ppb	02:18:29
2	Si 251.611†	1511.2	1139.2	97.697 µg/L	97.697 ppb	02:18:49
2	Sn 189.927†	22.7	21.9	10.802 µg/L	10.802 ppb	02:18:49
2	Sr 421.552†	1373.9	1251.3	5.2044 µg/L	5.2044 ppb	02:16:54
2	Ti 334.940†	1788.8	1808.7	5.0667 µg/L	5.0667 ppb	02:18:29
2	Tl 190.801†	-10.1	16.3	20.057 µg/L	20.057 ppb	02:18:49
2	U 409.014†	728.8	590.4	61.365 µg/L	61.365 ppb	02:18:29
2	V 292.402†	204.4	350.4	4.8251 µg/L	4.8251 ppb	02:18:29
2	Zn 213.857†	945.8	342.6	9.5698 µg/L	9.5698 ppb	02:18:49
3	Sc 361.383	1655341.2	1655341.2	99.625 %		02:18:55
3	Sc RADIAL	107648.8	107648.8	97.3 %		02:17:20
3	Y 371.029	937374.4	937374.4	100.01 %		02:18:55
3	Ag 328.068†	-23.9	493.3	4.6567 µg/L	4.6567 ppb	02:19:01
3	Al 396.153Radial†	240.3	317.0	167.64 µg/L	167.64 ppb	02:17:20
3	As 188.979†	12.9	20.6	39.436 µg/L	39.436 ppb	02:19:21
3	B 249.677†	1039.5	876.6	48.431 µg/L	48.431 ppb	02:19:01
3	Ba 233.527†	166.0	176.7	4.7886 µg/L	4.7886 ppb	02:19:21
3	Be 313.107†	4719.4	6405.2	4.7830 µg/L	4.7830 ppb	02:19:01
3	Ca 317.933Radial†	986.0	523.3	178.65 µg/L	178.65 ppb	02:17:41
3	Cd 226.502†	0.2	140.8	4.2594 µg/L	4.2594 ppb	02:19:21
3	Co 228.616†	97.7	71.1	3.8748 µg/L	3.8748 ppb	02:19:21
3	Cr 267.716†	264.4	196.3	5.2505 µg/L	5.2505 ppb	02:19:01
3	Cu 324.752†	3917.3	1301.6	9.8749 µg/L	9.8749 ppb	02:19:01
3	Fe 238.204 Radial†	48.8	16.8	116.07 µg/L	116.07 ppb	02:17:41
3	K 766.490 Radial†	519.0	284.1	168.77 µg/L	168.77 ppb	02:17:20
3	Mg 279.077 IEC†	43.8	31.6	312.73 µg/L	312.73 ppb	02:17:41
3	Mn 257.610†	2154.8	2739.0	10.344 µg/L	10.344 ppb	02:19:01
3	Mo 202.031†	78.3	76.2	9.1968 µg/L	9.1968 ppb	02:19:21
3	Na 589.592 Radial†	1232.2	947.7	292.53 µg/L	292.53 ppb	02:17:20
3	Ni 231.604†	371.7	77.8	5.6797 µg/L	5.6797 ppb	02:19:21
3	P 214.914†	292.0	51.8	116.65 µg/L	116.65 ppb	02:19:21
3	Pb 220.353†	63.8	29.3	9.7139 µg/L	9.7139 ppb	02:19:21
3	S 181.975 Axial†	42.6	22.2	91.909 µg/L	91.909 ppb	02:19:21
3	Sb 206.836†	26.3	7.2	8.2829 µg/L	8.2829 ppb	02:19:21
3	Se 196.026†	40.3	26.1	33.934 µg/L	33.934 ppb	02:19:21
3	SiO2†	2320.9	925.1	211.63 µg/L	211.63 ppb	02:19:01
3	Si 251.611†	1420.3	1041.6	89.324 µg/L	89.324 ppb	02:19:21
3	Sn 189.927†	23.7	22.8	11.259 µg/L	11.259 ppb	02:19:21
3	Sr 421.552†	1343.6	1236.8	5.1440 µg/L	5.1440 ppb	02:17:20
3	Ti 334.940†	1726.1	1738.2	4.8677 µg/L	4.8677 ppb	02:19:01
3	Tl 190.801†	-9.1	17.4	21.323 µg/L	21.323 ppb	02:19:21
3	U 409.014†	654.6	512.8	53.297 µg/L	53.297 ppb	02:19:01
3	V 292.402†	184.0	329.1	4.5156 µg/L	4.5156 ppb	02:19:01
3	Zn 213.857†	893.5	286.1	7.9805 µg/L	7.9805 ppb	02:19:21

Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1647312.3	99.142	%	0.5206				0.53%
Sc RADIAL	108440.9	98.0	%	0.63				0.64%
Y 371.029	930674.4	99.299	%	0.8199				0.83%
Ag 328.068†	530.5	5.0057	µg/L	0.32434	5.0057	ppb	0.32434	6.48%
QC value within limits for Ag 328.068 Recovery = 100.11%								
Al 396.153Radial†	335.0	177.14	µg/L	9.709	177.14	ppb	9.709	5.48%
QC value within limits for Al 396.153Radial Recovery = 88.57%								
As 188.979†	17.7	33.929	µg/L	5.1111	33.929	ppb	5.1111	15.06%
QC value within limits for As 188.979 Recovery = 113.10%								
B 249.677†	910.3	50.308	µg/L	2.8442	50.308	ppb	2.8442	5.65%
QC value within limits for B 249.677 Recovery = 100.62%								
Ba 233.527†	189.9	5.1465	µg/L	0.32546	5.1465	ppb	0.32546	6.32%
QC value within limits for Ba 233.527 Recovery = 102.93%								
Be 313.107†	6688.7	4.9948	µg/L	0.19362	4.9948	ppb	0.19362	3.88%
QC value within limits for Be 313.107 Recovery = 99.90%								
Ca 317.933Radial†	522.6	178.40	µg/L	0.221	178.40	ppb	0.221	0.12%
QC value within limits for Ca 317.933Radial Recovery = 89.20%								
Cd 226.502†	161.3	4.8820	µg/L	0.56757	4.8820	ppb	0.56757	11.63%
QC value within limits for Cd 226.502 Recovery = 97.64%								

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Co 228.616†                83.0      4.5200 µg/L       0.61441      4.5200 ppb        0.61441  13.59%
   QC value within limits for Co 228.616  Recovery = 90.40%
Cr 267.716†               206.4      5.5204 µg/L       0.23981      5.5204 ppb        0.23981   4.34%
   QC value within limits for Cr 267.716  Recovery = 110.41%
Cu 324.752†              1397.0      10.593 µg/L        0.6836      10.593 ppb         0.6836   6.45%
   QC value within limits for Cu 324.752  Recovery = 105.93%
Fe 238.204 Radial†         14.2      98.706 µg/L       15.7521      98.706 ppb        15.7521  15.96%
   QC value within limits for Fe 238.204 Radial  Recovery = 98.71%
K 766.490 Radial†         283.5      168.40 µg/L         3.048      168.40 ppb          3.048   1.81%
   QC value within limits for K 766.490 Radial  Recovery = 112.27%
Mg 279.077 IEC†            30.2      298.25 µg/L        19.185      298.25 ppb         19.185   6.43%
   QC value within limits for Mg 279.077 IEC  Recovery = 99.42%
Mn 257.610†              2807.2      10.602 µg/L        0.2310      10.602 ppb         0.2310   2.18%
   QC value within limits for Mn 257.610  Recovery = 106.02%
Mo 202.031†                87.7      10.589 µg/L        1.2209      10.589 ppb         1.2209  11.53%
   QC value within limits for Mo 202.031  Recovery = 105.89%
Na 589.592 Radial†        977.0      301.57 µg/L        10.768      301.57 ppb         10.768   3.57%
   QC value within limits for Na 589.592 Radial  Recovery = 100.52%
Ni 231.604†                78.9      5.7614 µg/L       0.23882      5.7614 ppb        0.23882   4.15%
   QC value within limits for Ni 231.604  Recovery = 115.23%
P 214.914†                 60.3      135.95 µg/L        19.097      135.95 ppb         19.097  14.05%
   QC value within limits for P 214.914  Recovery = 90.63%
Pb 220.353†                30.4      10.074 µg/L        1.6885      10.074 ppb         1.6885  16.76%
   QC value within limits for Pb 220.353  Recovery = 100.74%
S 181.975 Axial†           24.6      102.07 µg/L         9.684      102.07 ppb          9.684   9.49%
   QC value within limits for S 181.975 Axial  Recovery = 102.07%
Sb 206.836†                 9.5      10.873 µg/L        3.3935      10.873 ppb         3.3935  31.21%
   QC value within limits for Sb 206.836  Recovery = 108.73%
Se 196.026†                27.2      35.361 µg/L        3.1707      35.361 ppb         3.1707   8.97%
   QC value within limits for Se 196.026  Recovery = 117.87%
SiO2†                     933.6      213.57 µg/L         6.634      213.57 ppb          6.634   3.11%
   QC value within limits for SiO2  Recovery = 100.27%
Si 251.611†              1113.2      95.471 µg/L        5.3902      95.471 ppb         5.3902   5.65%
   QC value within limits for Si 251.611  Recovery = 95.47%
Sn 189.927†                22.8      11.237 µg/L        0.4252      11.237 ppb         0.4252   3.78%
   QC value within limits for Sn 189.927  Recovery = 112.37%
Sr 421.552†              1229.5      5.1138 µg/L       0.10883      5.1138 ppb        0.10883   2.13%
   QC value within limits for Sr 421.552  Recovery = 102.28%
Ti 334.940†              1808.5      5.0665 µg/L       0.19870      5.0665 ppb        0.19870   3.92%
   QC value within limits for Ti 334.940  Recovery = 101.33%
Tl 190.801†                17.5      21.449 µg/L        1.4590      21.449 ppb         1.4590   6.80%
   QC value within limits for Tl 190.801  Recovery = 107.24%
U 409.014†                572.2      59.472 µg/L        5.4800      59.472 ppb         5.4800   9.21%
   QC value within limits for U 409.014  Recovery = 118.94%
V 292.402†                367.4      5.0428 µg/L       0.66339      5.0428 ppb        0.66339  13.16%
   QC value within limits for V 292.402  Recovery = 100.86%
Zn 213.857†               322.9      9.0173 µg/L       0.89854      9.0173 ppb        0.89854   9.96%
   QC value within limits for Zn 213.857  Recovery = 90.17%
All analyte(s) passed QC.
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Sequence No.: 9
Sample ID: ICSA
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 103
Date Collected: 2/26/2010 02:19:31
Data Type: Reprocessed on 2/26/2010 03:31:25

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1528130.1	1528130.1	91.969	%			02:20:46
1	Sc RADIAL	106034.4	106034.4	95.9	%			02:20:13
1	Y 371.029	862043.3	862043.3	91.977	%			02:20:46
1	Ag 328.068†	-2865.0	-2597.9	0.2000	µg/L	0.2000	ppb	02:20:51
1	Al 396.153Radial†	947937.4	988914.3	523500	µg/L	523500	ppb	02:20:07
1	As 188.979†	15.5	24.5	32.464	µg/L	32.464	ppb	02:21:12
1	B 249.677†	1442.0	1401.1	-21.547	µg/L	-21.547	ppb	02:20:51
1	Ba 233.527†	246.2	277.8	7.5017	µg/L	7.5017	ppb	02:21:12
1	Be 313.107†	-2147.8	-667.3	-0.5072	µg/L	-0.5072	ppb	02:20:51
1	Ca 317.933Radial†	1383149.4	1442347.2	492380	µg/L	492380	ppb	02:20:07
1	Cd 226.502†	696.9	898.4	5.7771	µg/L	5.7771	ppb	02:21:12
1	Co 228.616†	80.6	60.7	3.2548	µg/L	3.2548	ppb	02:21:12
1	Cr 267.716†	-39.9	-112.5	-3.0136	µg/L	-3.0136	ppb	02:21:12
1	Cu 324.752†	-1888.6	-4684.0	0.2250	µg/L	0.2250	ppb	02:20:51
1	Fe 238.204 Radial†	26314.3	27416.4	189800	µg/L	189800	ppb	02:20:13
1	K 766.490 Radial†	148.7	-94.1	-55.907	µg/L	-55.907	ppb	02:20:13
1	Mg 279.077 IEC†	48999.6	51100.7	505060	µg/L	505060	ppb	02:20:13
1	Mn 257.610†	4969.6	5979.7	-0.2037	µg/L	-0.2037	ppb	02:20:51
1	Mo 202.031†	-58.6	-66.1	-0.7682	µg/L	-0.7682	ppb	02:21:12
1	Na 589.592 Radial†	271.3	-35.3	-10.892	µg/L	-10.892	ppb	02:20:13
1	Ni 231.604†	246.2	-27.6	0.4447	µg/L	0.4447	ppb	02:21:12
1	P 214.914†	230.0	8.8	19.435	µg/L	19.435	ppb	02:21:12
1	Pb 220.353†	-71.1	-112.1	-15.786	µg/L	-15.786	ppb	02:21:12
1	S 181.975 Axial†	-34.3	-57.9	-240.34	µg/L	-240.34	ppb	02:21:12
1	Sb 206.836†	27.0	10.2	4.1424	µg/L	4.1424	ppb	02:21:12
1	Se 196.026†	-160.6	-188.9	3.7779	µg/L	3.7779	ppb	02:21:12
1	SiO2†	1159.0	-144.3	-33.017	µg/L	-33.017	ppb	02:21:12
1	Si 251.611†	370.7	19.0	1.6289	µg/L	1.6289	ppb	02:21:12
1	Sn 189.927†	-110.9	-121.6	-1.3167	µg/L	-1.3167	ppb	02:21:12
1	Sr 421.552†	968.6	866.6	3.6045	µg/L	3.6045	ppb	02:20:13
1	Ti 334.940†	7434.4	8089.1	-9.2826	µg/L	-9.2826	ppb	02:20:51
1	Tl 190.801†	13.8	41.6	-17.764	µg/L	-17.764	ppb	02:21:12
1	U 409.014†	685.9	601.6	6.1331	µg/L	6.1331	ppb	02:20:51
1	V 292.402†	-641.0	-552.6	-0.3821	µg/L	-0.3821	ppb	02:21:12
1	Zn 213.857†	1789.9	1335.4	-0.0426	µg/L	-0.0426	ppb	02:21:12
2	Sc 361.383	1533580.5	1533580.5	92.297	%			02:21:18
2	Sc RADIAL	104575.7	104575.7	94.5	%			02:20:24
2	Y 371.029	864294.6	864294.6	92.217	%			02:21:18
2	Ag 328.068†	-2939.7	-2667.8	-0.3858	µg/L	-0.3858	ppb	02:21:24
2	Al 396.153Radial†	944217.5	998772.7	528720	µg/L	528720	ppb	02:20:18
2	As 188.979†	27.6	37.6	57.426	µg/L	57.426	ppb	02:21:44
2	B 249.677†	1391.3	1340.6	-25.154	µg/L	-25.154	ppb	02:21:24
2	Ba 233.527†	242.3	272.6	7.3620	µg/L	7.3620	ppb	02:21:44
2	Be 313.107†	-2156.7	-668.7	-0.5081	µg/L	-0.5081	ppb	02:21:24
2	Ca 317.933Radial†	1374971.4	1453822.8	496300	µg/L	496300	ppb	02:20:18
2	Cd 226.502†	714.7	914.9	6.2240	µg/L	6.2240	ppb	02:21:44
2	Co 228.616†	74.5	53.9	2.8804	µg/L	2.8804	ppb	02:21:44
2	Cr 267.716†	-25.7	-96.9	-2.5956	µg/L	-2.5956	ppb	02:21:44
2	Cu 324.752†	-1899.4	-4688.3	0.2860	µg/L	0.2860	ppb	02:21:24
2	Fe 238.204 Radial†	26020.5	27488.6	190300	µg/L	190300	ppb	02:20:24
2	K 766.490 Radial†	94.6	-149.1	-88.576	µg/L	-88.576	ppb	02:20:24
2	Mg 279.077 IEC†	48331.0	51106.5	505110	µg/L	505110	ppb	02:20:24
2	Mn 257.610†	4959.7	5949.7	-0.2914	µg/L	-0.2914	ppb	02:21:24
2	Mo 202.031†	-60.3	-67.7	-0.9382	µg/L	-0.9382	ppb	02:21:44
2	Na 589.592 Radial†	328.3	28.9	8.9078	µg/L	8.9078	ppb	02:20:24
2	Ni 231.604†	270.8	-1.9	2.3286	µg/L	2.3286	ppb	02:21:44
2	P 214.914†	231.0	9.0	21.028	µg/L	21.028	ppb	02:21:44
2	Pb 220.353†	-81.5	-123.1	-19.155	µg/L	-19.155	ppb	02:21:44

2	S 181.975 Axial†	-18.1	-40.2	-166.87 µg/L	-166.87 ppb	02:21:44
2	Sb 206.836†	27.9	11.1	5.0379 µg/L	5.0379 ppb	02:21:44
2	Se 196.026†	-158.1	-185.7	9.3574 µg/L	9.3574 ppb	02:21:44
2	SiO2†	1143.9	-165.1	-37.770 µg/L	-37.770 ppb	02:21:44
2	Si 251.611†	392.5	41.2	3.5299 µg/L	3.5299 ppb	02:21:44
2	Sn 189.927†	-111.4	-121.8	-1.4036 µg/L	-1.4036 ppb	02:21:44
2	Sr 421.552†	881.0	788.1	3.2778 µg/L	3.2778 ppb	02:20:24
2	Ti 334.940†	7365.0	7985.2	-9.5167 µg/L	-9.5167 ppb	02:21:24
2	Tl 190.801†	16.7	44.6	-14.761 µg/L	-14.761 ppb	02:21:44
2	U 409.014†	605.5	511.8	-3.5078 µg/L	-3.5078 ppb	02:21:24
2	V 292.402†	-611.8	-518.5	0.0793 µg/L	0.0793 ppb	02:21:44
2	Zn 213.857†	1780.7	1318.5	-0.5545 µg/L	-0.5545 ppb	02:21:44
3	Sc 361.383	1542416.7	1542416.7	92.829 %		02:21:50
3	Sc RADIAL	105620.8	105620.8	95.5 %		02:20:35
3	Y 371.029	864590.0	864590.0	92.248 %		02:21:50
3	Ag 328.068†	-2846.6	-2549.2	0.8352 µg/L	0.8352 ppb	02:21:56
3	Al 396.153Radial†	942640.1	987238.1	522610 µg/L	522610 ppb	02:20:30
3	As 188.979†	19.4	28.5	40.336 µg/L	40.336 ppb	02:22:17
3	B 249.677†	1386.9	1327.1	-26.341 µg/L	-26.341 ppb	02:21:56
3	Ba 233.527†	242.0	270.7	7.3125 µg/L	7.3125 ppb	02:22:17
3	Be 313.107†	-2106.6	-601.3	-0.4579 µg/L	-0.4579 ppb	02:21:56
3	Ca 317.933Radial†	1373627.0	1438023.8	490910 µg/L	490910 ppb	02:20:30
3	Cd 226.502†	709.4	904.8	5.8197 µg/L	5.8197 ppb	02:22:17
3	Co 228.616†	65.3	43.5	2.3156 µg/L	2.3156 ppb	02:22:17
3	Cr 267.716†	2.0	-66.9	-1.7938 µg/L	-1.7938 ppb	02:22:17
3	Cu 324.752†	-1886.4	-4662.6	0.6412 µg/L	0.6412 ppb	02:21:56
3	Fe 238.204 Radial†	26398.3	27611.9	191150 µg/L	191150 ppb	02:20:35
3	K 766.490 Radial†	184.0	-56.5	-33.592 µg/L	-33.592 ppb	02:20:35
3	Mg 279.077 IEC†	49084.2	51389.4	507910 µg/L	507910 ppb	02:20:35
3	Mn 257.610†	4945.4	5903.6	-0.6038 µg/L	-0.6038 ppb	02:21:56
3	Mo 202.031†	-56.5	-63.3	-0.3753 µg/L	-0.3753 ppb	02:22:17
3	Na 589.592 Radial†	313.0	9.4	2.8997 µg/L	2.8997 ppb	02:20:35
3	Ni 231.604†	246.1	-30.1	0.2796 µg/L	0.2796 ppb	02:22:17
3	P 214.914†	258.6	37.2	82.706 µg/L	82.706 ppb	02:22:17
3	Pb 220.353†	-66.5	-106.4	-13.977 µg/L	-13.977 ppb	02:22:17
3	S 181.975 Axial†	-18.2	-40.2	-166.92 µg/L	-166.92 ppb	02:22:17
3	Sb 206.836†	16.4	-1.5	-9.1151 µg/L	-9.1151 ppb	02:22:17
3	Se 196.026†	-156.5	-183.0	14.088 µg/L	14.088 ppb	02:22:17
3	SiO2†	1163.3	-151.3	-34.616 µg/L	-34.616 ppb	02:22:17
3	Si 251.611†	410.0	57.7	4.9457 µg/L	4.9457 ppb	02:22:17
3	Sn 189.927†	-113.1	-122.8	-1.6599 µg/L	-1.6599 ppb	02:22:17
3	Sr 421.552†	941.6	842.3	3.5032 µg/L	3.5032 ppb	02:20:35
3	Ti 334.940†	7544.1	8132.5	-9.4097 µg/L	-9.4097 ppb	02:21:56
3	Tl 190.801†	9.7	37.0	-22.862 µg/L	-22.862 ppb	02:22:17
3	U 409.014†	600.0	502.1	-4.3113 µg/L	-4.3113 ppb	02:21:56
3	V 292.402†	-592.3	-493.7	0.4448 µg/L	0.4448 ppb	02:22:17
3	Zn 213.857†	1787.5	1314.8	-0.8479 µg/L	-0.8479 ppb	02:22:17

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1534709.1	92.365	%	0.4339				0.47%
Sc RADIAL	105410.3	95.3	%	0.68				0.71%
Y 371.029	863642.6	92.147	%	0.1486				0.16%
Ag 328.068†	-2604.9	0.2165	µg/L	0.61069	0.2165	ppb	0.61069	282.12%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	991641.7	524940	µg/L	3299.2	524940	ppb	3299.2	0.63%
QC value within limits for Al 396.153Radial Recovery = 104.99%								
As 188.979†	30.2	43.409	µg/L	12.7618	43.409	ppb	12.7618	29.40%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	1356.3	-24.347	µg/L	2.4967	-24.347	ppb	2.4967	10.25%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	273.7	7.3921	µg/L	0.09809	7.3921	ppb	0.09809	1.33%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-645.7	-0.4910	µg/L	0.02871	-0.4910	ppb	0.02871	5.85%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	1444731.2	493200	µg/L	2787.3	493200	ppb	2787.3	0.57%
QC value within limits for Ca 317.933Radial Recovery = 98.64%								
Cd 226.502†	906.0	5.9403	µg/L	0.24664	5.9403	ppb	0.24664	4.15%
QC value within limits for Cd 226.502 Recovery = Not calculated								

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Co 228.616†                52.7      2.8169 µg/L       0.47280      2.8169 ppb        0.47280  16.78%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -92.1     -2.4677 µg/L       0.61989     -2.4677 ppb        0.61989  25.12%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             -4678.3      0.3841 µg/L       0.22475      0.3841 ppb        0.22475  58.52%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†      27505.6      190420 µg/L         684.3      190420 ppb          684.3   0.36%
   QC value within limits for Fe 238.204 Radial  Recovery = 95.21%
K 766.490 Radial†         -99.9     -59.358 µg/L       27.6538     -59.358 ppb        27.6538  46.59%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†         51198.9      506030 µg/L        1631.3      506030 ppb         1631.3   0.32%
   QC value within limits for Mg 279.077 IEC  Recovery = 101.21%
Mn 257.610†              5944.3     -0.3663 µg/L       0.21034     -0.3663 ppb        0.21034  57.42%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               -65.7     -0.6939 µg/L       0.28870     -0.6939 ppb        0.28870  41.60%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†          1.0      0.3050 µg/L      10.15193      0.3050 ppb       10.15193 >999.9%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               -19.9      1.0177 µg/L       1.13830      1.0177 ppb        1.13830 111.85%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 18.3      41.056 µg/L       36.0786      41.056 ppb        36.0786  87.88%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              -113.9     -16.306 µg/L        2.6276     -16.306 ppb         2.6276  16.11%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          -46.1     -191.38 µg/L        42.403     -191.38 ppb         42.403  22.16%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 6.6      0.0218 µg/L       7.92539      0.0218 ppb        7.92539 >999.9%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -185.9      9.0746 µg/L       5.16101      9.0746 ppb        5.16101  56.87%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    -153.6     -35.135 µg/L        2.4188     -35.135 ppb         2.4188   6.88%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†                39.3      3.3682 µg/L       1.66430      3.3682 ppb        1.66430  49.41%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              -122.1     -1.4601 µg/L       0.17840     -1.4601 ppb        0.17840  12.22%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†               832.3      3.4618 µg/L       0.16719      3.4618 ppb        0.16719   4.83%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              8069.0     -9.4030 µg/L       0.11721     -9.4030 ppb        0.11721   1.25%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                41.0     -18.462 µg/L        4.0954     -18.462 ppb         4.0954  22.18%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                538.5     -0.5620 µg/L       5.81206     -0.5620 ppb        5.81206 >999.9%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†               -521.6      0.0474 µg/L       0.41438      0.0474 ppb        0.41438 874.98%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              1322.9     -0.4817 µg/L       0.40754     -0.4817 ppb        0.40754  84.61%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
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Sequence No.: 10
Sample ID: ICSAB
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 104
Date Collected: 2/26/2010 02:22:26
Data Type: Reprocessed on 2/26/2010 03:32:16

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1524979.2	1524979.2	91.780	%			02:23:42
1	Sc RADIAL	104116.9	104116.9	94.1	%			02:23:06
1	Y 371.029	856716.6	856716.6	91.408	%			02:23:42
1	Ag 328.068†	22955.8	25529.1	266.60	µg/L	266.60	ppb	02:24:03
1	Al 396.153Radial†	950510.3	1009858.8	534580	µg/L	534580	ppb	02:23:00
1	As 188.979†	279.0	311.6	581.98	µg/L	581.98	ppb	02:24:03
1	B 249.677†	10085.6	10822.0	500.49	µg/L	500.49	ppb	02:23:42
1	Ba 233.527†	17160.5	18707.5	507.01	µg/L	507.01	ppb	02:24:03
1	Be 313.107†	302686.2	331464.3	247.41	µg/L	247.41	ppb	02:23:42
1	Ca 317.933Radial†	1386462.8	1472439.4	502660	µg/L	502660	ppb	02:23:00
1	Cd 226.502†	15024.1	16510.4	479.43	µg/L	479.43	ppb	02:24:03
1	Co 228.616†	7694.0	8356.2	454.69	µg/L	454.69	ppb	02:24:03
1	Cr 267.716†	16881.0	18323.8	490.23	µg/L	490.23	ppb	02:24:03
1	Cu 324.752†	65797.7	69060.4	558.40	µg/L	558.40	ppb	02:23:42
1	Fe 238.204 Radial†	25795.6	27371.0	189490	µg/L	189490	ppb	02:23:06
1	K 766.490 Radial†	8654.9	8945.4	5314.2	µg/L	5314.2	ppb	02:23:06
1	Mg 279.077 IEC†	48208.4	51201.5	506060	µg/L	506060	ppb	02:23:06
1	Mn 257.610†	123452.8	135086.0	487.98	µg/L	487.98	ppb	02:23:42
1	Mo 202.031†	3926.7	4276.0	523.15	µg/L	523.15	ppb	02:24:03
1	Na 589.592 Radial†	16004.3	16684.1	5149.8	µg/L	5149.8	ppb	02:23:06
1	Ni 231.604†	6191.6	6450.9	473.34	µg/L	473.34	ppb	02:24:03
1	P 214.914†	1317.2	1193.9	2662.5	µg/L	2662.5	ppb	02:24:03
1	Pb 220.353†	1280.0	1359.9	475.09	µg/L	475.09	ppb	02:24:03
1	S 181.975 Axial†	590.7	623.1	2585.2	µg/L	2585.2	ppb	02:24:03
1	Sb 206.836†	454.0	475.5	535.10	µg/L	535.10	ppb	02:24:03
1	Se 196.026†	1608.0	1737.7	2494.9	µg/L	2494.9	ppb	02:24:03
1	SiO2†	45483.4	48152.6	11015	µg/L	11015	ppb	02:23:42
1	Si 251.611†	55988.8	60619.4	5198.7	µg/L	5198.7	ppb	02:23:42
1	Sn 189.927†	859.4	935.3	519.26	µg/L	519.26	ppb	02:24:03
1	Sr 421.552†	111729.0	118553.2	493.08	µg/L	493.08	ppb	02:23:06
1	Ti 334.940†	176588.8	192410.6	509.30	µg/L	509.30	ppb	02:23:42
1	Tl 190.801†	365.6	424.8	453.46	µg/L	453.46	ppb	02:24:03
1	U 409.014†	4403.9	4654.1	426.92	µg/L	426.92	ppb	02:23:42
1	V 292.402†	35254.0	38555.9	524.96	µg/L	524.96	ppb	02:24:03
1	Zn 213.857†	17533.8	18493.4	479.44	µg/L	479.44	ppb	02:24:03
2	Sc 361.383	1537851.2	1537851.2	92.554	%			02:24:12
2	Sc RADIAL	104026.3	104026.3	94.0	%			02:23:17
2	Y 371.029	867663.6	867663.6	92.576	%			02:24:12
2	Ag 328.068†	23065.8	25438.6	265.63	µg/L	265.63	ppb	02:24:33
2	Al 396.153Radial†	949171.6	1009314.8	534290	µg/L	534290	ppb	02:23:12
2	As 188.979†	275.6	305.4	570.01	µg/L	570.01	ppb	02:24:33
2	B 249.677†	10124.7	10772.3	498.13	µg/L	498.13	ppb	02:24:12
2	Ba 233.527†	17153.6	18543.6	502.57	µg/L	502.57	ppb	02:24:33
2	Be 313.107†	304637.5	330812.1	246.92	µg/L	246.92	ppb	02:24:12
2	Ca 317.933Radial†	1387971.0	1475325.9	503640	µg/L	503640	ppb	02:23:12
2	Cd 226.502†	15079.7	16433.4	477.18	µg/L	477.18	ppb	02:24:33
2	Co 228.616†	7702.4	8295.1	451.36	µg/L	451.36	ppb	02:24:33
2	Cr 267.716†	16935.1	18228.3	487.67	µg/L	487.67	ppb	02:24:33
2	Cu 324.752†	65961.2	68637.1	555.06	µg/L	555.06	ppb	02:24:12
2	Fe 238.204 Radial†	25670.8	27262.1	188740	µg/L	188740	ppb	02:23:17
2	K 766.490 Radial†	8597.1	8892.0	5282.5	µg/L	5282.5	ppb	02:23:17
2	Mg 279.077 IEC†	47998.0	51022.4	504290	µg/L	504290	ppb	02:23:17
2	Mn 257.610†	124120.7	134681.7	486.53	µg/L	486.53	ppb	02:24:12
2	Mo 202.031†	3922.6	4235.8	518.26	µg/L	518.26	ppb	02:24:33
2	Na 589.592 Radial†	16020.2	16715.8	5159.6	µg/L	5159.6	ppb	02:23:17
2	Ni 231.604†	6212.9	6417.4	470.88	µg/L	470.88	ppb	02:24:33
2	P 214.914†	1312.9	1177.2	2625.5	µg/L	2625.5	ppb	02:24:33
2	Pb 220.353†	1293.6	1362.9	476.10	µg/L	476.10	ppb	02:24:33

2	S 181.975 Axial†	603.7	631.7	2620.9 µg/L	2620.9 ppb	02:24:33
2	Sb 206.836†	448.6	465.5	523.72 µg/L	523.72 ppb	02:24:33
2	Se 196.026†	1632.9	1749.9	2509.3 µg/L	2509.3 ppb	02:24:33
2	SiO2†	45877.2	48163.3	11018 µg/L	11018 ppb	02:24:12
2	Si 251.611†	56417.0	60571.4	5194.6 µg/L	5194.6 ppb	02:24:12
2	Sn 189.927†	866.4	935.1	518.98 µg/L	518.98 ppb	02:24:33
2	Sr 421.552†	111412.7	118320.3	492.11 µg/L	492.11 ppb	02:23:17
2	Ti 334.940†	177032.1	191279.1	506.28 µg/L	506.28 ppb	02:24:12
2	Tl 190.801†	367.7	423.8	451.82 µg/L	451.82 ppb	02:24:33
2	U 409.014†	4426.4	4638.3	425.32 µg/L	425.32 ppb	02:24:12
2	V 292.402†	35259.3	38240.1	520.69 µg/L	520.69 ppb	02:24:33
2	Zn 213.857†	17587.0	18391.0	476.71 µg/L	476.71 ppb	02:24:33
3	Sc 361.383	1529704.1	1529704.1	92.064 %		02:24:41
3	Sc RADIAL	104261.1	104261.1	94.3 %		02:23:29
3	Y 371.029	862181.6	862181.6	91.992 %		02:24:41
3	Ag 328.068†	22994.3	25493.6	266.07 µg/L	266.07 ppb	02:25:02
3	Al 396.153Radial†	943912.4	1001462.1	530130 µg/L	530130 ppb	02:23:23
3	As 188.979†	280.5	312.3	583.38 µg/L	583.38 ppb	02:25:02
3	B 249.677†	10148.8	10856.7	503.11 µg/L	503.11 ppb	02:24:41
3	Ba 233.527†	17087.5	18570.5	503.30 µg/L	503.30 ppb	02:25:02
3	Be 313.107†	302966.0	330749.6	246.88 µg/L	246.88 ppb	02:24:41
3	Ca 317.933Radial†	1377362.0	1460746.5	498660 µg/L	498660 ppb	02:23:23
3	Cd 226.502†	15019.2	16454.4	477.89 µg/L	477.89 ppb	02:25:02
3	Co 228.616†	7659.1	8292.4	451.21 µg/L	451.21 ppb	02:25:02
3	Cr 267.716†	16866.6	18251.4	488.29 µg/L	488.29 ppb	02:25:02
3	Cu 324.752†	65903.5	68953.9	557.34 µg/L	557.34 ppb	02:24:41
3	Fe 238.204 Radial†	25647.6	27176.0	188140 µg/L	188140 ppb	02:23:29
3	K 766.490 Radial†	8605.9	8880.7	5275.8 µg/L	5275.8 ppb	02:23:29
3	Mg 279.077 IEC†	48070.3	50984.2	503920 µg/L	503920 ppb	02:23:29
3	Mn 257.610†	123722.0	134962.8	487.58 µg/L	487.58 ppb	02:24:41
3	Mo 202.031†	3904.9	4239.1	518.65 µg/L	518.65 ppb	02:25:02
3	Na 589.592 Radial†	15967.2	16621.1	5130.4 µg/L	5130.4 ppb	02:23:29
3	Ni 231.604†	6203.0	6442.4	472.70 µg/L	472.70 ppb	02:25:02
3	P 214.914†	1301.5	1172.4	2613.7 µg/L	2613.7 ppb	02:25:02
3	Pb 220.353†	1304.6	1382.3	482.33 µg/L	482.33 ppb	02:25:02
3	S 181.975 Axial†	592.9	623.5	2586.9 µg/L	2586.9 ppb	02:25:02
3	Sb 206.836†	458.0	478.3	538.35 µg/L	538.35 ppb	02:25:02
3	Se 196.026†	1619.8	1745.1	2501.8 µg/L	2501.8 ppb	02:25:02
3	SiO2†	45543.6	48065.0	10995 µg/L	10995 ppb	02:24:41
3	Si 251.611†	55955.5	60394.8	5179.5 µg/L	5179.5 ppb	02:24:41
3	Sn 189.927†	872.5	946.7	524.64 µg/L	524.64 ppb	02:25:02
3	Sr 421.552†	111561.7	118211.5	491.66 µg/L	491.66 ppb	02:23:29
3	Ti 334.940†	176528.9	191751.2	507.56 µg/L	507.56 ppb	02:24:41
3	Tl 190.801†	367.0	425.1	454.38 µg/L	454.38 ppb	02:25:02
3	U 409.014†	4392.6	4627.0	424.54 µg/L	424.54 ppb	02:24:41
3	V 292.402†	35102.6	38272.8	521.10 µg/L	521.10 ppb	02:25:02
3	Zn 213.857†	17526.0	18426.0	477.73 µg/L	477.73 ppb	02:25:02

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1530844.8	92.133	%	0.3919				0.43%
Sc RADIAL	104134.8	94.1	%	0.11				0.11%
Y 371.029	862187.3	91.992	%	0.5840				0.63%
Ag 328.068†	25487.1	266.10	µg/L	0.486	266.10	ppb	0.486	0.18%
QC value within limits for Ag 328.068 Recovery = 106.44%								
Al 396.153Radial†	1006878.5	533000	µg/L	2487.3	533000	ppb	2487.3	0.47%
QC value within limits for Al 396.153Radial Recovery = 106.60%								
As 188.979†	309.8	578.46	µg/L	7.349	578.46	ppb	7.349	1.27%
QC value within limits for As 188.979 Recovery = 115.69%								
B 249.677†	10817.0	500.57	µg/L	2.492	500.57	ppb	2.492	0.50%
QC value within limits for B 249.677 Recovery = 100.11%								
Ba 233.527†	18607.2	504.29	µg/L	2.382	504.29	ppb	2.382	0.47%
QC value within limits for Ba 233.527 Recovery = 100.86%								
Be 313.107†	331008.7	247.07	µg/L	0.295	247.07	ppb	0.295	0.12%
QC value within limits for Be 313.107 Recovery = 98.83%								
Ca 317.933Radial†	1469504.0	501650	µg/L	2635.5	501650	ppb	2635.5	0.53%
QC value within limits for Ca 317.933Radial Recovery = 100.33%								
Cd 226.502†	16466.1	478.17	µg/L	1.151	478.17	ppb	1.151	0.24%
QC value within limits for Cd 226.502 Recovery = 95.63%								

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Co 228.616†            8314.6      452.42 µg/L        1.967      452.42 ppb        1.967   0.43%
   QC value within limits for Co 228.616  Recovery = 90.48%
Cr 267.716†           18267.8      488.73 µg/L        1.333      488.73 ppb        1.333   0.27%
   QC value within limits for Cr 267.716  Recovery = 97.75%
Cu 324.752†           68883.8      556.93 µg/L        1.710      556.93 ppb        1.710   0.31%
   QC value within limits for Cu 324.752  Recovery = 111.39%
Fe 238.204 Radial†    27269.7      188790 µg/L        676.5      188790 ppb        676.5   0.36%
   QC value within limits for Fe 238.204 Radial  Recovery = 94.40%
K 766.490 Radial†      8906.0      5290.8 µg/L        20.54      5290.8 ppb        20.54   0.39%
   QC value within limits for K 766.490 Radial  Recovery = 105.82%
Mg 279.077 IEC†       51069.4      504760 µg/L       1146.7      504760 ppb       1146.7   0.23%
   QC value within limits for Mg 279.077 IEC  Recovery = 100.95%
Mn 257.610†          134910.2      487.37 µg/L        0.751      487.37 ppb        0.751   0.15%
   QC value within limits for Mn 257.610  Recovery = 97.47%
Mo 202.031†            4250.3      520.02 µg/L        2.718      520.02 ppb        2.718   0.52%
   QC value within limits for Mo 202.031  Recovery = 104.00%
Na 589.592 Radial†    16673.7      5146.6 µg/L        14.87      5146.6 ppb        14.87   0.29%
   QC value within limits for Na 589.592 Radial  Recovery = 102.93%
Ni 231.604†            6436.9      472.31 µg/L        1.273      472.31 ppb        1.273   0.27%
   QC value within limits for Ni 231.604  Recovery = 94.46%
P 214.914†             1181.2      2633.9 µg/L        25.48      2633.9 ppb        25.48   0.97%
   QC value within limits for P 214.914  Recovery = 105.36%
Pb 220.353†            1368.4      477.84 µg/L        3.923      477.84 ppb        3.923   0.82%
   QC value within limits for Pb 220.353  Recovery = 95.57%
S 181.975 Axial†        626.1      2597.6 µg/L        20.18      2597.6 ppb        20.18   0.78%
   QC value within limits for S 181.975 Axial  Recovery = 103.91%
Sb 206.836†             473.1      532.39 µg/L        7.683      532.39 ppb        7.683   1.44%
   QC value within limits for Sb 206.836  Recovery = 106.48%
Se 196.026†            1744.2      2502.0 µg/L         7.22      2502.0 ppb         7.22   0.29%
   QC value within limits for Se 196.026  Recovery = 100.08%
SiO2†                 48126.9       11010 µg/L         12.3       11010 ppb         12.3   0.11%
   QC value within limits for SiO2  Recovery = 102.94%
Si 251.611†           60528.5      5191.0 µg/L        10.14      5191.0 ppb        10.14   0.20%
   QC value within limits for Si 251.611  Recovery = 103.82%
Sn 189.927†             939.1      520.96 µg/L        3.192      520.96 ppb        3.192   0.61%
   QC value within limits for Sn 189.927  Recovery = 104.19%
Sr 421.552†          118361.7      492.28 µg/L        0.726      492.28 ppb        0.726   0.15%
   QC value within limits for Sr 421.552  Recovery = 98.46%
Ti 334.940†          191813.7      507.71 µg/L        1.520      507.71 ppb        1.520   0.30%
   QC value within limits for Ti 334.940  Recovery = 101.54%
Tl 190.801†             424.6      453.22 µg/L        1.297      453.22 ppb        1.297   0.29%
   QC value within limits for Tl 190.801  Recovery = 90.64%
U 409.014†             4639.8      425.59 µg/L        1.213      425.59 ppb        1.213   0.28%
   QC value within limits for U 409.014  Recovery = 85.12%
V 292.402†            38356.2      522.25 µg/L        2.354      522.25 ppb        2.354   0.45%
   QC value within limits for V 292.402  Recovery = 104.45%
Zn 213.857†           18436.8      477.96 µg/L        1.379      477.96 ppb        1.379   0.29%
   QC value within limits for Zn 213.857  Recovery = 95.59%
All analyte(s) passed QC.
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Sequence No.: 11
Sample ID: LR1
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 105
Date Collected: 2/26/2010 02:25:11
Data Type: Reprocessed on 2/26/2010 03:33:07

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1524543.2	1524543.2	91.754	%			02:26:26
1	Sc RADIAL	106319.8	106319.8	96.1	%			02:25:52
1	Y 371.029	846969.2	846969.2	90.368	%			02:26:26
1	Ag 328.068†	-5670.0	-5662.3	5.0547	µg/L	5.0547	ppb	02:26:47
1	Al 396.153Radial†	923467.6	960802.6	508620	µg/L	508620	ppb	02:25:46
1	As 188.979†	-11.2	-4.6	-7.6952	µg/L	-7.6952	ppb	02:26:47
1	B 249.677†	2927.3	3023.5	-67.654	µg/L	-67.654	ppb	02:26:26
1	Ba 233.527†	558.1	618.3	16.671	µg/L	16.671	ppb	02:26:47
1	Be 313.107†	-7906.1	-6948.7	-5.2079	µg/L	-5.2079	ppb	02:26:26
1	Ca 317.933Radial†	1355180.4	1409376.5	481130	µg/L	481130	ppb	02:25:46
1	Cd 226.502†	1837.3	2143.1	14.076	µg/L	14.076	ppb	02:26:47
1	Co 228.616†	207.0	198.7	10.716	µg/L	10.716	ppb	02:26:47
1	Cr 267.716†	305.4	263.7	7.0299	µg/L	7.0299	ppb	02:26:47
1	Cu 324.752†	-6769.6	-10008.5	8.8687	µg/L	8.8687	ppb	02:26:47
1	Fe 238.204 Radial†	62536.7	65026.8	450170	µg/L	450170	ppb	02:25:52
1	K 766.490 Radial†	191.0	-50.5	-30.021	µg/L	-30.021	ppb	02:25:52
1	Mg 279.077 IEC†	47719.9	49632.1	490260	µg/L	490260	ppb	02:25:52
1	Mn 257.610†	5653.2	6737.3	19.054	µg/L	19.054	ppb	02:26:26
1	Mo 202.031†	-150.3	-166.2	-2.9526	µg/L	-2.9526	ppb	02:26:47
1	Na 589.592 Radial†	1500976.9	1561227.8	481900	µg/L	481900	ppb	02:25:46
1	Ni 231.604†	224.7	-50.4	2.1530	µg/L	2.1530	ppb	02:26:47
1	P 214.914†	368.0	159.8	150.94	µg/L	150.94	ppb	02:26:47
1	Pb 220.353†	-17.7	-54.1	-22.643	µg/L	-22.643	ppb	02:26:47
1	S 181.975 Axial†	-27.6	-50.7	-210.33	µg/L	-210.33	ppb	02:26:47
1	Sb 206.836†	14.2	-3.7	-11.825	µg/L	-11.825	ppb	02:26:47
1	Se 196.026†	-344.1	-389.4	612.19	µg/L	612.19	ppb	02:26:47
1	SiO2†	1216.0	-79.3	-18.133	µg/L	-18.133	ppb	02:26:47
1	Si 251.611†	-92.0	-484.3	-41.535	µg/L	-41.535	ppb	02:26:47
1	Sn 189.927†	-102.4	-112.6	-16.906	µg/L	-16.906	ppb	02:26:47
1	Sr 421.552†	1283.9	1191.9	4.9573	µg/L	4.9573	ppb	02:25:52
1	Ti 334.940†	14558.9	15873.0	13.581	µg/L	13.581	ppb	02:26:26
1	Tl 190.801†	5.2	32.1	28.008	µg/L	28.008	ppb	02:26:47
1	U 409.014†	132272.1	144016.1	14882	µg/L	14882	ppb	02:26:26
1	V 292.402†	-2273.9	-2333.9	0.9246	µg/L	0.9246	ppb	02:26:47
1	Zn 213.857†	3057.6	2721.6	27.468	µg/L	27.468	ppb	02:26:47
2	Sc 361.383	1508073.3	1508073.3	90.762	%			02:26:54
2	Sc RADIAL	106199.5	106199.5	96.0	%			02:26:04
2	Y 371.029	840513.0	840513.0	89.680	%			02:26:54
2	Ag 328.068†	-5688.1	-5749.8	4.6807	µg/L	4.6807	ppb	02:27:14
2	Al 396.153Radial†	935549.1	974473.4	515860	µg/L	515860	ppb	02:25:58
2	As 188.979†	-5.6	1.5	3.7958	µg/L	3.7958	ppb	02:27:14
2	B 249.677†	2892.2	3019.6	-69.699	µg/L	-69.699	ppb	02:26:54
2	Ba 233.527†	571.8	640.1	17.257	µg/L	17.257	ppb	02:27:14
2	Be 313.107†	-7972.4	-7115.8	-5.3310	µg/L	-5.3310	ppb	02:26:54
2	Ca 317.933Radial†	1375996.2	1432652.7	489070	µg/L	489070	ppb	02:25:58
2	Cd 226.502†	1835.8	2163.2	14.292	µg/L	14.292	ppb	02:27:14
2	Co 228.616†	202.8	196.6	10.609	µg/L	10.609	ppb	02:27:14
2	Cr 267.716†	293.5	254.2	6.7757	µg/L	6.7757	ppb	02:27:14
2	Cu 324.752†	-6826.8	-10152.0	8.4416	µg/L	8.4416	ppb	02:27:14
2	Fe 238.204 Radial†	62952.6	65533.7	453680	µg/L	453680	ppb	02:26:04
2	K 766.490 Radial†	209.1	-31.5	-18.688	µg/L	-18.688	ppb	02:26:04
2	Mg 279.077 IEC†	47868.7	49843.3	492340	µg/L	492340	ppb	02:26:04
2	Mn 257.610†	6097.2	7293.8	21.226	µg/L	21.226	ppb	02:26:54
2	Mo 202.031†	-158.7	-177.2	-4.1442	µg/L	-4.1442	ppb	02:27:14
2	Na 589.592 Radial†	1522154.3	1585052.3	489250	µg/L	489250	ppb	02:25:58
2	Ni 231.604†	227.1	-45.1	2.5869	µg/L	2.5869	ppb	02:27:14
2	P 214.914†	375.8	172.8	179.77	µg/L	179.77	ppb	02:27:14
2	Pb 220.353†	-37.3	-75.9	-29.808	µg/L	-29.808	ppb	02:27:14

2	S 181.975 Axial†	-23.0	-45.9	-190.38 µg/L	-190.38 ppb		02:27:14
2	Sb 206.836†	20.3	3.2	-4.1418 µg/L	-4.1418 ppb		02:27:14
2	Se 196.026†	-337.2	-385.9	626.29 µg/L	626.29 ppb		02:27:14
2	SiO2†	1237.2	-41.4	-9.4735 µg/L	-9.4735 ppb		02:27:14
2	Si 251.611†	-75.2	-466.9	-40.039 µg/L	-40.039 ppb		02:27:14
2	Sn 189.927†	-97.2	-108.1	-14.581 µg/L	-14.581 ppb		02:27:14
2	Sr 421.552†	1335.3	1247.0	5.1866 µg/L	5.1866 ppb		02:26:04
2	Ti 334.940†	12911.5	14231.3	8.9247 µg/L	8.9247 ppb		02:26:54
2	Tl 190.801†	8.3	35.7	31.419 µg/L	31.419 ppb		02:27:14
2	U 409.014†	132248.7	145564.6	15043 µg/L	15043 ppb		02:26:54
2	V 292.402†	-2348.0	-2442.7	-0.2360 µg/L	-0.2360 ppb		02:27:14
2	Zn 213.857†	3063.6	2764.6	28.391 µg/L	28.391 ppb		02:27:14
3	Sc 361.383	1515955.4	1515955.4	91.237 %			02:27:21
3	Sc RADIAL	106011.8	106011.8	95.8 %			02:26:16
3	Y 371.029	842161.7	842161.7	89.855 %			02:27:21
3	Ag 328.068†	-5715.6	-5747.3	4.5484 µg/L	4.5484 ppb		02:27:42
3	Al 396.153Radial†	929547.3	969937.0	513450 µg/L	513450 ppb		02:26:10
3	As 188.979†	-9.1	-2.3	-3.5182 µg/L	-3.5182 ppb		02:27:42
3	B 249.677†	2951.5	3068.1	-66.391 µg/L	-66.391 ppb		02:27:21
3	Ba 233.527†	571.6	636.6	17.163 µg/L	17.163 ppb		02:27:42
3	Be 313.107†	-8031.4	-7134.8	-5.3454 µg/L	-5.3454 ppb		02:27:21
3	Ca 317.933Radial†	1370342.9	1429292.3	487930 µg/L	487930 ppb		02:26:10
3	Cd 226.502†	1843.8	2161.5	14.376 µg/L	14.376 ppb		02:27:42
3	Co 228.616†	202.4	194.9	10.517 µg/L	10.517 ppb		02:27:42
3	Cr 267.716†	297.8	257.3	6.8581 µg/L	6.8581 ppb		02:27:42
3	Cu 324.752†	-6850.6	-10139.0	8.3150 µg/L	8.3150 ppb		02:27:42
3	Fe 238.204 Radial†	62675.3	65360.5	452480 µg/L	452480 ppb		02:26:16
3	K 766.490 Radial†	170.7	-71.1	-42.222 µg/L	-42.222 ppb		02:26:16
3	Mg 279.077 IEC†	47822.2	49883.1	492740 µg/L	492740 ppb		02:26:16
3	Mn 257.610†	5803.3	6936.8	19.778 µg/L	19.778 ppb		02:27:21
3	Mo 202.031†	-156.6	-174.0	-3.8048 µg/L	-3.8048 ppb		02:27:42
3	Na 589.592 Radial†	1517257.5	1582750.9	488540 µg/L	488540 ppb		02:26:10
3	Ni 231.604†	230.6	-42.6	2.7573 µg/L	2.7573 ppb		02:27:42
3	P 214.914†	347.1	139.1	103.64 µg/L	103.64 ppb		02:27:42
3	Pb 220.353†	-34.7	-72.8	-29.045 µg/L	-29.045 ppb		02:27:42
3	S 181.975 Axial†	-29.0	-52.4	-217.41 µg/L	-217.41 ppb		02:27:42
3	Sb 206.836†	14.1	-3.7	-11.934 µg/L	-11.934 ppb		02:27:42
3	Se 196.026†	-331.3	-377.5	633.09 µg/L	633.09 ppb		02:27:42
3	SiO2†	1241.1	-44.2	-10.115 µg/L	-10.115 ppb		02:27:42
3	Si 251.611†	-130.6	-527.2	-45.213 µg/L	-45.213 ppb		02:27:42
3	Sn 189.927†	-101.5	-112.3	-16.513 µg/L	-16.513 ppb		02:27:42
3	Sr 421.552†	1328.3	1242.1	5.1662 µg/L	5.1662 ppb		02:26:16
3	Ti 334.940†	13153.0	14422.0	9.4117 µg/L	9.4117 ppb		02:27:21
3	Tl 190.801†	1.7	28.4	22.730 µg/L	22.730 ppb		02:27:42
3	U 409.014†	134435.4	147203.8	15213 µg/L	15213 ppb		02:27:21
3	V 292.402†	-2367.0	-2450.0	-0.1966 µg/L	-0.1966 ppb		02:27:42
3	Zn 213.857†	3078.0	2762.9	28.376 µg/L	28.376 ppb		02:27:42

Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1516190.7	91.251	%	0.4958				0.54%
Sc RADIAL	106177.0	96.0	%	0.14				0.15%
Y 371.029	843214.6	89.968	%	0.3579				0.40%
Ag 328.068†	-5719.8	4.7613	µg/L	0.26259	4.7613	ppb	0.26259	5.52%
Al 396.153Radial†	968404.3	512640	µg/L	3686.0	512640	ppb	3686.0	0.72%
QC value within limits for Al 396.153Radial Recovery = 102.53%								
As 188.979†	-1.8	-2.4725	µg/L	5.81646	-2.4725	ppb	5.81646	235.24%
B 249.677†	3037.1	-67.915	µg/L	1.6691	-67.915	ppb	1.6691	2.46%
Ba 233.527†	631.7	17.030	µg/L	0.3146	17.030	ppb	0.3146	1.85%
Be 313.107†	-7066.5	-5.2948	µg/L	0.07557	-5.2948	ppb	0.07557	1.43%
Ca 317.933Radial†	1423773.8	486040	µg/L	4294.9	486040	ppb	4294.9	0.88%
QC value within limits for Ca 317.933Radial Recovery = 97.21%								
Cd 226.502†	2155.9	14.248	µg/L	0.1545	14.248	ppb	0.1545	1.08%
Co 228.616†	196.7	10.614	µg/L	0.0993	10.614	ppb	0.0993	0.94%
Cr 267.716†	258.4	6.8879	µg/L	0.12972	6.8879	ppb	0.12972	1.88%
Cu 324.752†	-10099.8	8.5418	µg/L	0.29014	8.5418	ppb	0.29014	3.40%
Fe 238.204 Radial†	65307.0	452110	µg/L	1783.5	452110	ppb	1783.5	0.39%
QC value within limits for Fe 238.204 Radial Recovery = 90.42%								
K 766.490 Radial†	-51.0	-30.310	µg/L	11.7693	-30.310	ppb	11.7693	38.83%

Mg 279.077 IEC†	49786.2	491780	µg/L	1332.0	491780	ppb	1332.0	0.27%
QC value within limits for Mg 279.077 IEC Recovery = 98.36%								
Mn 257.610†	6989.3	20.019	µg/L	1.1057	20.019	ppb	1.1057	5.52%
Mo 202.031†	-172.5	-3.6339	µg/L	0.61392	-3.6339	ppb	0.61392	16.89%
Na 589.592 Radial†	1576343.7	486570	µg/L	4056.3	486570	ppb	4056.3	0.83%
QC value within limits for Na 589.592 Radial Recovery = 97.31%								
Ni 231.604†	-46.1	2.4990	µg/L	0.31155	2.4990	ppb	0.31155	12.47%
P 214.914†	157.2	144.78	µg/L	38.435	144.78	ppb	38.435	26.55%
Pb 220.353†	-67.6	-27.165	µg/L	3.9350	-27.165	ppb	3.9350	14.49%
S 181.975 Axial†	-49.7	-206.04	µg/L	14.019	-206.04	ppb	14.019	6.80%
Sb 206.836†	-1.4	-9.3002	µg/L	4.46762	-9.3002	ppb	4.46762	48.04%
Se 196.026†	-384.2	623.86	µg/L	10.657	623.86	ppb	10.657	1.71%
SiO2†	-55.0	-12.574	µg/L	4.8252	-12.574	ppb	4.8252	38.37%
Si 251.611†	-492.8	-42.263	µg/L	2.6625	-42.263	ppb	2.6625	6.30%
Sn 189.927†	-111.0	-16.000	µg/L	1.2443	-16.000	ppb	1.2443	7.78%
Sr 421.552†	1227.0	5.1034	µg/L	0.12693	5.1034	ppb	0.12693	2.49%
Ti 334.940†	14842.1	10.639	µg/L	2.5592	10.639	ppb	2.5592	24.05%
Tl 190.801†	32.1	27.386	µg/L	4.3779	27.386	ppb	4.3779	15.99%
U 409.014†	145594.8	15046	µg/L	165.4	15046	ppb	165.4	1.10%
QC value within limits for U 409.014 Recovery = 100.31%								
V 292.402†	-2408.9	0.1640	µg/L	0.65900	0.1640	ppb	0.65900	401.76%
Zn 213.857†	2749.7	28.078	µg/L	0.5285	28.078	ppb	0.5285	1.88%

All analyte(s) passed QC.

Sequence No.: 12
Sample ID: LR2
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 108
Date Collected: 2/26/2010 02:27:52
Data Type: Reprocessed on 2/26/2010 03:33:59

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc 361.383	1689181.6	1689181.6	101.66	%			02:30:25
1	Sc RADIAL	110699.3	110699.3	100	%			02:28:35
1	Y 371.029	941031.4	941031.4	100.40	%			02:30:25
1	Ag 328.068†	-5961.9	-5347.1	16.797	µg/L	16.797	ppb	02:30:30
1	Al 396.153Radial†	695.1	764.7	197.29	µg/L	197.29	ppb	02:28:35
1	As 188.979†	5223.2	5145.4	9856.5	µg/L	9856.5	ppb	02:30:30
1	B 249.677†	90191.0	88549.5	4936.8	µg/L	4936.8	ppb	02:30:25
1	Ba 233.527†	438270.4	431114.9	11681	µg/L	11681	ppb	02:30:25
1	Be 313.107†	3931211.8	3868605.4	2886.2	µg/L	2886.2	ppb	02:30:25
1	Ca 317.933Radial†	615.8	125.5	42.831	µg/L	42.831	ppb	02:28:55
1	Cd 226.502†	323439.8	318292.2	9656.4	µg/L	9656.4	ppb	02:30:25
1	Co 228.616†	177554.0	174624.2	9504.3	µg/L	9504.3	ppb	02:30:25
1	Cr 267.716†	927471.9	912238.8	24396	µg/L	24396	ppb	02:30:25
1	Cu 324.752†	2753441.4	2705792.9	20483	µg/L	20483	ppb	02:30:25
1	Fe 238.204 Radial†	28.2	-5.3	165.41	µg/L	165.41	ppb	02:28:55
1	K 766.490 Radial†	499186.0	498534.4	296160	µg/L	296160	ppb	02:28:29
1	Mg 279.077 IEC†	5.6	-7.8	92.785	µg/L	92.785	ppb	02:28:55
1	Mn 257.610†	2593648.9	2551819.4	9650.9	µg/L	9650.9	ppb	02:30:25
1	Mo 202.031†	85109.2	83715.3	10101	µg/L	10101	ppb	02:30:25
1	Na 589.592 Radial†	900.0	580.9	179.31	µg/L	179.31	ppb	02:28:35
1	Ni 231.604†	140273.2	137684.5	10050	µg/L	10050	ppb	02:30:25
1	P 214.914†	9065.5	8676.0	17694	µg/L	17694	ppb	02:30:30
1	Pb 220.353†	75021.0	73759.6	24554	µg/L	24554	ppb	02:30:30
1	S 181.975 Axial†	13170.2	12934.3	53665	µg/L	53665	ppb	02:30:30
1	Sb 206.836†	9449.9	9276.2	10419	µg/L	10419	ppb	02:30:30
1	Se 196.026†	7929.8	7785.7	10076	µg/L	10076	ppb	02:30:30
1	SiO2†	447846.1	439119.4	100450	µg/L	100450	ppb	02:30:25
1	Si 251.611†	556908.5	547419.1	46947	µg/L	46947	ppb	02:30:25
1	Sn 189.927†	21833.7	21475.6	10573	µg/L	10573	ppb	02:30:30
1	Sr 421.552†	2237795.7	2235848.0	9299.2	µg/L	9299.2	ppb	02:28:29
1	Ti 334.940†	3563440.6	3505184.8	9860.2	µg/L	9860.2	ppb	02:30:25
1	Tl 190.801†	7868.7	7766.5	9570.6	µg/L	9570.6	ppb	02:30:30
1	U 409.014†	-7594.9	-7615.0	-791.78	µg/L	-791.78	ppb	02:30:25
1	V 292.402†	774358.3	761842.1	10258	µg/L	10258	ppb	02:30:25
1	Zn 213.857†	522795.9	513637.5	14367	µg/L	14367	ppb	02:30:25
2	Sc 361.383	1673837.0	1673837.0	100.74	%			02:30:46
2	Sc RADIAL	111220.5	111220.5	101	%			02:29:07
2	Y 371.029	931694.9	931694.9	99.408	%			02:30:46
2	Ag 328.068†	-5770.8	-5211.2	18.346	µg/L	18.346	ppb	02:30:52
2	Al 396.153Radial†	719.0	785.2	206.75	µg/L	206.75	ppb	02:29:07
2	As 188.979†	5104.9	5075.2	9721.5	µg/L	9721.5	ppb	02:30:52
2	B 249.677†	90180.2	89352.1	4981.4	µg/L	4981.4	ppb	02:30:46
2	Ba 233.527†	436681.5	433489.7	11745	µg/L	11745	ppb	02:30:46
2	Be 313.107†	3914953.6	3887915.8	2900.6	µg/L	2900.6	ppb	02:30:46
2	Ca 317.933Radial†	683.7	190.1	64.898	µg/L	64.898	ppb	02:29:28
2	Cd 226.502†	322919.8	320692.6	9729.2	µg/L	9729.2	ppb	02:30:46
2	Co 228.616†	176774.0	175450.9	9549.2	µg/L	9549.2	ppb	02:30:46
2	Cr 267.716†	925333.3	918479.3	24563	µg/L	24563	ppb	02:30:46
2	Cu 324.752†	2747570.4	2724793.9	20626	µg/L	20626	ppb	02:30:46
2	Fe 238.204 Radial†	31.7	-1.9	190.11	µg/L	190.11	ppb	02:29:28
2	K 766.490 Radial†	507044.0	504011.9	299420	µg/L	299420	ppb	02:29:02
2	Mg 279.077 IEC†	4.6	-8.8	83.930	µg/L	83.930	ppb	02:29:28
2	Mn 257.610†	2586229.9	2567842.8	9711.5	µg/L	9711.5	ppb	02:30:46
2	Mo 202.031†	84901.2	84276.3	10169	µg/L	10169	ppb	02:30:46
2	Na 589.592 Radial†	835.3	512.4	158.17	µg/L	158.17	ppb	02:29:07
2	Ni 231.604†	139402.9	138085.5	10080	µg/L	10080	ppb	02:30:46
2	P 214.914†	8791.0	8485.2	17241	µg/L	17241	ppb	02:30:52
2	Pb 220.353†	73194.4	72622.9	24176	µg/L	24176	ppb	02:30:52

2	S 181.975 Axial†	12833.0	12718.3	52769 µg/L	52769 ppb	02:30:52
2	Sb 206.836†	9176.4	9090.0	10207 µg/L	10207 ppb	02:30:52
2	Se 196.026†	7745.9	7674.7	9932.7 µg/L	9932.7 ppb	02:30:52
2	SiO2†	449049.7	444352.6	101650 µg/L	101650 ppb	02:30:46
2	Si 251.611†	557643.4	553170.6	47440 µg/L	47440 ppb	02:30:46
2	Sn 189.927†	21091.0	20935.4	10307 µg/L	10307 ppb	02:30:52
2	Sr 421.552†	2280912.7	2268250.2	9434.0 µg/L	9434.0 ppb	02:29:02
2	Ti 334.940†	3553236.8	3527188.9	9922.1 µg/L	9922.1 ppb	02:30:46
2	Tl 190.801†	7783.4	7752.9	9554.6 µg/L	9554.6 ppb	02:30:52
2	U 409.014†	-7499.2	-7588.4	-789.03 µg/L	-789.03 ppb	02:30:46
2	V 292.402†	770491.1	764985.9	10301 µg/L	10301 ppb	02:30:46
2	Zn 213.857†	520947.6	516517.1	14448 µg/L	14448 ppb	02:30:46
3	Sc 361.383	1672181.9	1672181.9	100.64 %		02:31:08
3	Sc RADIAL	111617.3	111617.3	101 %		02:29:40
3	Y 371.029	928904.5	928904.5	99.111 %		02:31:08
3	Ag 328.068†	-5113.4	-4563.7	19.257 µg/L	19.257 ppb	02:31:13
3	Al 396.153Radial†	777.2	840.3	251.51 µg/L	251.51 ppb	02:29:40
3	As 188.979†	4651.5	4629.7	8867.8 µg/L	8867.8 ppb	02:31:13
3	B 249.677†	85911.4	85199.0	4748.0 µg/L	4748.0 ppb	02:31:08
3	Ba 233.527†	407274.4	404698.4	10965 µg/L	10965 ppb	02:31:08
3	Be 313.107†	3621614.0	3600285.5	2686.0 µg/L	2686.0 ppb	02:31:08
3	Ca 317.933Radial†	714.9	218.6	74.626 µg/L	74.626 ppb	02:30:00
3	Cd 226.502†	299807.9	298044.8	9042.1 µg/L	9042.1 ppb	02:31:08
3	Co 228.616†	163065.2	162002.9	8817.2 µg/L	8817.2 ppb	02:31:08
3	Cr 267.716†	837323.4	831937.5	22249 µg/L	22249 ppb	02:31:08
3	Cu 324.752†	2543645.2	2524863.2	19113 µg/L	19113 ppb	02:31:08
3	Fe 238.204 Radial†	34.8	1.1	194.99 µg/L	194.99 ppb	02:30:00
3	K 766.490 Radial†	504262.9	499463.4	296720 µg/L	296720 ppb	02:29:35
3	Mg 279.077 IEC†	2.8	-10.6	53.115 µg/L	53.115 ppb	02:30:00
3	Mn 257.610†	2395631.0	2380995.4	9004.8 µg/L	9004.8 ppb	02:31:08
3	Mo 202.031†	78500.3	77999.4	9411.4 µg/L	9411.4 ppb	02:31:08
3	Na 589.592 Radial†	792.8	467.3	144.24 µg/L	144.24 ppb	02:29:40
3	Ni 231.604†	128828.7	127715.4	9322.6 µg/L	9322.6 ppb	02:31:08
3	P 214.914†	7837.8	7546.7	15252 µg/L	15252 ppb	02:31:13
3	Pb 220.353†	66129.2	65674.5	21862 µg/L	21862 ppb	02:31:13
3	S 181.975 Axial†	11810.1	11714.5	48604 µg/L	48604 ppb	02:31:13
3	Sb 206.836†	8314.2	8242.3	9258.2 µg/L	9258.2 ppb	02:31:13
3	Se 196.026†	7062.7	7003.5	9064.0 µg/L	9064.0 ppb	02:31:13
3	SiO2†	425600.3	421493.3	96421 µg/L	96421 ppb	02:31:08
3	Si 251.611†	528907.0	525164.6	45038 µg/L	45038 ppb	02:31:08
3	Sn 189.927†	18526.9	18408.3	9062.6 µg/L	9062.6 ppb	02:31:13
3	Sr 421.552†	2264857.8	2244277.0	9334.3 µg/L	9334.3 ppb	02:29:35
3	Ti 334.940†	3292060.8	3271162.5	9201.9 µg/L	9201.9 ppb	02:31:08
3	Tl 190.801†	7269.8	7250.2	8934.5 µg/L	8934.5 ppb	02:31:13
3	U 409.014†	-6965.5	-7065.5	-734.65 µg/L	-734.65 ppb	02:31:08
3	V 292.402†	710653.3	706285.2	9509.3 µg/L	9509.3 ppb	02:31:08
3	Zn 213.857†	482698.7	479022.9	13399 µg/L	13399 ppb	02:31:08

Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1678400.2	101.01	%	0.564				0.56%
Sc RADIAL	111179.0	101	%	0.4				0.41%
Y 371.029	933876.9	99.641	%	0.6776				0.68%
Ag 328.068†	-5040.7	18.133	µg/L	1.2437	18.133	ppb	1.2437	6.86%
Al 396.153Radial†	796.7	218.52	µg/L	28.960	218.52	ppb	28.960	13.25%
As 188.979†	4950.1	9481.9	µg/L	536.09	9481.9	ppb	536.09	5.65%
QC value within limits for As 188.979 Recovery = 94.82%								
B 249.677†	87700.2	4888.8	µg/L	123.91	4888.8	ppb	123.91	2.53%
QC value within limits for B 249.677 Recovery = 97.78%								
Ba 233.527†	423101.0	11464	µg/L	433.1	11464	ppb	433.1	3.78%
QC value less than the lower limit for Ba 233.527 Recovery = 76.43%								
Be 313.107†	3785602.3	2824.3	µg/L	119.96	2824.3	ppb	119.96	4.25%
QC value within limits for Be 313.107 Recovery = 94.14%								
Ca 317.933Radial†	178.1	60.785	µg/L	16.2912	60.785	ppb	16.2912	26.80%
Cd 226.502†	312343.2	9475.9	µg/L	377.47	9475.9	ppb	377.47	3.98%
QC value within limits for Cd 226.502 Recovery = 94.76%								
Co 228.616†	170692.7	9290.3	µg/L	410.25	9290.3	ppb	410.25	4.42%
QC value within limits for Co 228.616 Recovery = 92.90%								
Cr 267.716†	887551.9	23736	µg/L	1290.7	23736	ppb	1290.7	5.44%

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   QC value within limits for Cr 267.716  Recovery = 94.94%
Cu 324.752†          2651816.6       20074 µg/L        835.4       20074 ppb          835.4   4.16%
   QC value within limits for Cu 324.752  Recovery = 100.37%
Fe 238.204 Radial†        -2.0      183.50 µg/L       15.855      183.50 ppb         15.855   8.64%
K 766.490 Radial†     500669.9      297430 µg/L       1741.4      297430 ppb         1741.4   0.59%
   QC value within limits for K 766.490 Radial  Recovery = 99.14%
Mg 279.077 IEC†           -9.1      76.610 µg/L      20.8238      76.610 ppb        20.8238  27.18%
Mn 257.610†          2500219.2      9455.7 µg/L       391.66      9455.7 ppb         391.66   4.14%
   QC value within limits for Mn 257.610  Recovery = 94.56%
Mo 202.031†            81997.0      9893.8 µg/L       419.09      9893.8 ppb         419.09   4.24%
   QC value within limits for Mo 202.031  Recovery = 98.94%
Na 589.592 Radial†       520.2      160.57 µg/L       17.659      160.57 ppb         17.659  11.00%
Ni 231.604†           134495.1      9817.5 µg/L       428.83      9817.5 ppb         428.83   4.37%
   QC value within limits for Ni 231.604  Recovery = 98.18%
P 214.914†              8236.0      16729 µg/L       1299.1       16729 ppb         1299.1   7.77%
   QC value greater than the upper limit for P 214.914  Recovery = 111.53%
Pb 220.353†            70685.7      23531 µg/L       1457.1       23531 ppb         1457.1   6.19%
   QC value within limits for Pb 220.353  Recovery = 94.12%
S 181.975 Axial†       12455.7      51680 µg/L       2700.8       51680 ppb         2700.8   5.23%
   QC value within limits for S 181.975 Axial  Recovery = 103.36%
Sb 206.836†             8869.5      9961.2 µg/L       618.01      9961.2 ppb         618.01   6.20%
   QC value within limits for Sb 206.836  Recovery = 99.61%
Se 196.026†             7488.0      9691.0 µg/L       547.70      9691.0 ppb         547.70   5.65%
   QC value within limits for Se 196.026  Recovery = 96.91%
SiO2†                 434988.4      99508 µg/L       2739.7       99508 ppb         2739.7   2.75%
   QC value within limits for SiO2  Recovery = 93.00%
Si 251.611†           541918.1      46475 µg/L       1268.5       46475 ppb         1268.5   2.73%
   QC value within limits for Si 251.611  Recovery = 92.95%
Sn 189.927†            20273.1      9980.7 µg/L       806.13      9980.7 ppb         806.13   8.08%
   QC value within limits for Sn 189.927  Recovery = 99.81%
Sr 421.552†          2249458.4      9355.8 µg/L        69.92      9355.8 ppb          69.92   0.75%
   QC value within limits for Sr 421.552  Recovery = 93.56%
Ti 334.940†          3434512.0      9661.4 µg/L       399.14      9661.4 ppb         399.14   4.13%
   QC value within limits for Ti 334.940  Recovery = 96.61%
Tl 190.801†             7589.8      9353.2 µg/L       362.75      9353.2 ppb         362.75   3.88%
   QC value within limits for Tl 190.801  Recovery = 93.53%
U 409.014†             -7422.9     -771.82 µg/L       32.217     -771.82 ppb         32.217   4.17%
V 292.402†            744371.1      10023 µg/L        445.0       10023 ppb          445.0   4.44%
   QC value within limits for V 292.402  Recovery = 100.23%
Zn 213.857†           503059.1      14071 µg/L        583.5       14071 ppb          583.5   4.15%
   QC value within limits for Zn 213.857  Recovery = 93.81%
QC Failed.  Continue with analysis.
```

Sequence No.: 13
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 02:31:22
Data Type: Reprocessed on 2/26/2010 03:34:54

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1678635.6	1678635.6	101.03	%			02:33:24
1	Sc RADIAL	112081.7	112081.7	101	%			02:32:00
1	Y 371.029	942353.3	942353.3	100.55	%			02:33:24
1	Ag 328.068†	55149.6	55106.0	519.42	µg/L	519.42	ppb	02:33:30
1	Al 396.153Radial†	9787.6	9729.3	5139.0	µg/L	5139.0	ppb	02:32:00
1	As 188.979†	280.9	285.7	547.40	µg/L	547.40	ppb	02:33:50
1	B 249.677†	9728.0	9462.2	521.58	µg/L	521.58	ppb	02:33:30
1	Ba 233.527†	19684.2	19494.1	528.32	µg/L	528.32	ppb	02:33:30
1	Be 313.107†	703242.7	697758.7	521.05	µg/L	521.05	ppb	02:33:24
1	Ca 317.933Radial†	15918.7	15219.9	5195.7	µg/L	5195.7	ppb	02:32:00
1	Cd 226.502†	17513.9	17476.4	529.63	µg/L	529.63	ppb	02:33:30
1	Co 228.616†	9882.4	9755.0	530.98	µg/L	530.98	ppb	02:33:30
1	Cr 267.716†	20214.4	19939.7	533.44	µg/L	533.44	ppb	02:33:30
1	Cu 324.752†	72801.8	69431.0	526.54	µg/L	526.54	ppb	02:33:30
1	Fe 238.204 Radial†	774.5	730.9	5071.0	µg/L	5071.0	ppb	02:32:21
1	K 766.490 Radial†	9218.5	8848.3	5256.5	µg/L	5256.5	ppb	02:32:00
1	Mg 279.077 IEC†	545.6	525.0	5194.7	µg/L	5194.7	ppb	02:32:21
1	Mn 257.610†	141603.0	140739.0	532.22	µg/L	532.22	ppb	02:33:24
1	Mo 202.031†	4635.8	4586.3	553.58	µg/L	553.58	ppb	02:33:50
1	Na 589.592 Radial†	32752.1	32003.7	9878.5	µg/L	9878.5	ppb	02:32:00
1	Ni 231.604†	7962.3	7586.0	553.80	µg/L	553.80	ppb	02:33:30
1	P 214.914†	1442.4	1186.4	2643.8	µg/L	2643.8	ppb	02:33:50
1	Pb 220.353†	1702.6	1650.5	549.79	µg/L	549.79	ppb	02:33:50
1	S 181.975 Axial†	281.0	257.6	1068.8	µg/L	1068.8	ppb	02:33:50
1	Sb 206.836†	513.6	489.2	558.27	µg/L	558.27	ppb	02:33:50
1	Se 196.026†	437.8	419.0	554.99	µg/L	554.99	ppb	02:33:50
1	SiO2†	26428.8	24755.5	5663.1	µg/L	5663.1	ppb	02:33:30
1	Si 251.611†	31635.5	30929.7	2652.5	µg/L	2652.5	ppb	02:33:30
1	Sn 189.927†	1130.2	1117.7	550.62	µg/L	550.62	ppb	02:33:50
1	Sr 421.552†	118526.6	116826.6	485.90	µg/L	485.90	ppb	02:32:00
1	Ti 334.940†	188432.0	186521.3	524.36	µg/L	524.36	ppb	02:33:24
1	Tl 190.801†	413.0	435.3	536.51	µg/L	536.51	ppb	02:33:50
1	U 409.014†	5226.5	5029.1	521.89	µg/L	521.89	ppb	02:33:30
1	V 292.402†	39882.4	39621.1	532.77	µg/L	532.77	ppb	02:33:30
1	Zn 213.857†	19964.1	19150.3	534.71	µg/L	534.71	ppb	02:33:30
2	Sc 361.383	1695325.9	1695325.9	102.03	%			02:33:57
2	Sc RADIAL	112213.5	112213.5	101	%			02:32:26
2	Y 371.029	955537.6	955537.6	101.95	%			02:33:57
2	Ag 328.068†	55240.9	54658.1	515.21	µg/L	515.21	ppb	02:34:03
2	Al 396.153Radial†	9832.2	9761.8	5156.4	µg/L	5156.4	ppb	02:32:26
2	As 188.979†	279.8	281.9	540.03	µg/L	540.03	ppb	02:34:23
2	B 249.677†	9724.5	9363.9	516.09	µg/L	516.09	ppb	02:34:03
2	Ba 233.527†	19640.1	19259.1	521.95	µg/L	521.95	ppb	02:34:03
2	Be 313.107†	714282.8	701726.0	524.01	µg/L	524.01	ppb	02:33:57
2	Ca 317.933Radial†	16029.4	15310.6	5226.7	µg/L	5226.7	ppb	02:32:26
2	Cd 226.502†	17533.7	17325.1	525.03	µg/L	525.03	ppb	02:34:03
2	Co 228.616†	9841.5	9618.6	523.54	µg/L	523.54	ppb	02:34:03
2	Cr 267.716†	20270.2	19797.4	529.63	µg/L	529.63	ppb	02:34:03
2	Cu 324.752†	72687.1	68609.1	520.33	µg/L	520.33	ppb	02:34:03
2	Fe 238.204 Radial†	789.1	744.4	5164.3	µg/L	5164.3	ppb	02:32:47
2	K 766.490 Radial†	9220.6	8839.7	5251.4	µg/L	5251.4	ppb	02:32:26
2	Mg 279.077 IEC†	562.7	541.3	5355.6	µg/L	5355.6	ppb	02:32:47
2	Mn 257.610†	144062.8	141769.9	536.11	µg/L	536.11	ppb	02:33:57
2	Mo 202.031†	4612.4	4518.1	545.36	µg/L	545.36	ppb	02:34:23
2	Na 589.592 Radial†	32993.7	32204.0	9940.3	µg/L	9940.3	ppb	02:32:26
2	Ni 231.604†	7950.8	7497.2	547.32	µg/L	547.32	ppb	02:34:03
2	P 214.914†	1447.6	1177.5	2624.1	µg/L	2624.1	ppb	02:34:23
2	Pb 220.353†	1683.9	1615.5	538.17	µg/L	538.17	ppb	02:34:23

2	S 181.975 Axial†	282.8	256.5	1064.4 µg/L	1064.4 ppb	02:34:23
2	Sb 206.836†	508.6	479.3	546.88 µg/L	546.88 ppb	02:34:23
2	Se 196.026†	437.6	414.5	549.47 µg/L	549.47 ppb	02:34:23
2	SiO2†	26364.0	24434.4	5589.6 µg/L	5589.6 ppb	02:34:03
2	Si 251.611†	31617.1	30603.4	2624.6 µg/L	2624.6 ppb	02:34:03
2	Sn 189.927†	1135.0	1111.3	547.53 µg/L	547.53 ppb	02:34:23
2	Sr 421.552†	119320.6	117471.9	488.58 µg/L	488.58 ppb	02:32:26
2	Ti 334.940†	191147.8	187346.8	526.67 µg/L	526.67 ppb	02:33:57
2	Tl 190.801†	419.8	438.0	539.82 µg/L	539.82 ppb	02:34:23
2	U 409.014†	5014.4	4770.3	494.97 µg/L	494.97 ppb	02:34:03
2	V 292.402†	39832.6	39183.7	526.86 µg/L	526.86 ppb	02:34:03
2	Zn 213.857†	19938.1	18930.3	528.55 µg/L	528.55 ppb	02:34:03
3	Sc 361.383	1673040.2	1673040.2	100.69 %		02:34:31
3	Sc RADIAL	112862.2	112862.2	102 %		02:32:52
3	Y 371.029	940482.4	940482.4	100.35 %		02:34:31
3	Ag 328.068†	52928.6	53082.8	500.25 µg/L	500.25 ppb	02:34:36
3	Al 396.153Radial†	9867.5	9740.7	5146.7 µg/L	5146.7 ppb	02:32:52
3	As 188.979†	238.3	244.4	468.12 µg/L	468.12 ppb	02:34:57
3	B 249.677†	9306.2	9075.5	500.10 µg/L	500.10 ppb	02:34:36
3	Ba 233.527†	18565.7	18448.5	499.96 µg/L	499.96 ppb	02:34:36
3	Be 313.107†	668805.1	665885.4	497.25 µg/L	497.25 ppb	02:34:31
3	Ca 317.933Radial†	16138.9	15327.0	5232.3 µg/L	5232.3 ppb	02:32:52
3	Cd 226.502†	16462.9	16490.6	499.71 µg/L	499.71 ppb	02:34:36
3	Co 228.616†	9215.9	9125.8	496.67 µg/L	496.67 ppb	02:34:36
3	Cr 267.716†	18564.1	18367.6	491.38 µg/L	491.38 ppb	02:34:36
3	Cu 324.752†	68166.9	65068.8	493.52 µg/L	493.52 ppb	02:34:36
3	Fe 238.204 Radial†	784.3	735.3	5100.7 µg/L	5100.7 ppb	02:33:13
3	K 766.490 Radial†	9259.1	8825.2	5242.8 µg/L	5242.8 ppb	02:32:52
3	Mg 279.077 IEC†	557.4	532.9	5271.4 µg/L	5271.4 ppb	02:33:13
3	Mn 257.610†	135292.3	134940.3	510.28 µg/L	510.28 ppb	02:34:31
3	Mo 202.031†	3953.5	3924.0	473.67 µg/L	473.67 ppb	02:34:57
3	Na 589.592 Radial†	33149.4	32169.6	9929.7 µg/L	9929.7 ppb	02:32:52
3	Ni 231.604†	7385.3	7039.3	513.89 µg/L	513.89 ppb	02:34:36
3	P 214.914†	1275.8	1025.7	2281.2 µg/L	2281.2 ppb	02:34:57
3	Pb 220.353†	1501.4	1456.3	485.01 µg/L	485.01 ppb	02:34:57
3	S 181.975 Axial†	259.4	237.1	983.66 µg/L	983.66 ppb	02:34:57
3	Sb 206.836†	454.6	432.3	492.86 µg/L	492.86 ppb	02:34:57
3	Se 196.026†	394.6	377.5	501.38 µg/L	501.38 ppb	02:34:57
3	SiO2†	25247.6	23669.9	5414.7 µg/L	5414.7 ppb	02:34:36
3	Si 251.611†	30153.4	29562.6	2535.3 µg/L	2535.3 ppb	02:34:36
3	Sn 189.927†	950.2	942.7	464.50 µg/L	464.50 ppb	02:34:57
3	Sr 421.552†	119843.3	117308.1	487.90 µg/L	487.90 ppb	02:32:52
3	Ti 334.940†	178907.6	177686.0	499.50 µg/L	499.50 ppb	02:34:31
3	Tl 190.801†	385.4	409.3	504.51 µg/L	504.51 ppb	02:34:57
3	U 409.014†	4685.4	4509.1	467.81 µg/L	467.81 ppb	02:34:36
3	V 292.402†	36821.5	36713.2	493.36 µg/L	493.36 ppb	02:34:36
3	Zn 213.857†	18630.7	17892.2	499.56 µg/L	499.56 ppb	02:34:36

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1682333.9	101.25	%	0.698				0.69%
Sc RADIAL	112385.8	102	%	0.4				0.37%
Y 371.029	946124.4	100.95	%	0.875				0.87%
Ag 328.068†	54282.3	511.63	µg/L	10.074	511.63	ppb	10.074	1.97%
QC value within limits for Ag 328.068 Recovery = 102.33%								
Al 396.153Radial†	9744.0	5147.4	µg/L	8.73	5147.4	ppb	8.73	0.17%
QC value within limits for Al 396.153Radial Recovery = 102.95%								
As 188.979†	270.7	518.52	µg/L	43.796	518.52	ppb	43.796	8.45%
QC value within limits for As 188.979 Recovery = 103.70%								
B 249.677†	9300.5	512.59	µg/L	11.156	512.59	ppb	11.156	2.18%
QC value within limits for B 249.677 Recovery = 102.52%								
Ba 233.527†	19067.2	516.74	µg/L	14.878	516.74	ppb	14.878	2.88%
QC value within limits for Ba 233.527 Recovery = 103.35%								
Be 313.107†	688456.7	514.10	µg/L	14.672	514.10	ppb	14.672	2.85%
QC value within limits for Be 313.107 Recovery = 102.82%								
Ca 317.933Radial†	15285.9	5218.2	µg/L	19.69	5218.2	ppb	19.69	0.38%
QC value within limits for Ca 317.933Radial Recovery = 104.36%								
Cd 226.502†	17097.4	518.13	µg/L	16.112	518.13	ppb	16.112	3.11%
QC value within limits for Cd 226.502 Recovery = 103.63%								

Co 228.616†	9499.8	517.06 µg/L	18.046	517.06 ppb	18.046	3.49%
QC value within limits for Co 228.616 Recovery = 103.41%						
Cr 267.716†	19368.3	518.15 µg/L	23.260	518.15 ppb	23.260	4.49%
QC value within limits for Cr 267.716 Recovery = 103.63%						
Cu 324.752†	67703.0	513.46 µg/L	17.547	513.46 ppb	17.547	3.42%
QC value within limits for Cu 324.752 Recovery = 102.69%						
Fe 238.204 Radial†	736.8	5112.0 µg/L	47.65	5112.0 ppb	47.65	0.93%
QC value within limits for Fe 238.204 Radial Recovery = 102.24%						
K 766.490 Radial†	8837.7	5250.2 µg/L	6.94	5250.2 ppb	6.94	0.13%
QC value within limits for K 766.490 Radial Recovery = 105.00%						
Mg 279.077 IEC†	533.1	5273.9 µg/L	80.47	5273.9 ppb	80.47	1.53%
QC value within limits for Mg 279.077 IEC Recovery = 105.48%						
Mn 257.610†	139149.8	526.20 µg/L	13.924	526.20 ppb	13.924	2.65%
QC value within limits for Mn 257.610 Recovery = 105.24%						
Mo 202.031†	4342.8	524.20 µg/L	43.954	524.20 ppb	43.954	8.39%
QC value within limits for Mo 202.031 Recovery = 104.84%						
Na 589.592 Radial†	32125.7	9916.2 µg/L	33.05	9916.2 ppb	33.05	0.33%
QC value within limits for Na 589.592 Radial Recovery = 99.16%						
Ni 231.604†	7374.2	538.34 µg/L	21.419	538.34 ppb	21.419	3.98%
QC value within limits for Ni 231.604 Recovery = 107.67%						
P 214.914†	1129.9	2516.4 µg/L	203.90	2516.4 ppb	203.90	8.10%
QC value within limits for P 214.914 Recovery = 100.66%						
Pb 220.353†	1574.1	524.32 µg/L	34.537	524.32 ppb	34.537	6.59%
QC value within limits for Pb 220.353 Recovery = 104.86%						
S 181.975 Axial†	250.4	1039.0 µg/L	47.95	1039.0 ppb	47.95	4.62%
QC value within limits for S 181.975 Axial Recovery = 103.90%						
Sb 206.836†	466.9	532.67 µg/L	34.942	532.67 ppb	34.942	6.56%
QC value within limits for Sb 206.836 Recovery = 106.53%						
Se 196.026†	403.7	535.28 µg/L	29.490	535.28 ppb	29.490	5.51%
QC value within limits for Se 196.026 Recovery = 107.06%						
SiO2†	24286.6	5555.8 µg/L	127.58	5555.8 ppb	127.58	2.30%
QC value within limits for SiO2 Recovery = 103.90%						
Si 251.611†	30365.2	2604.1 µg/L	61.23	2604.1 ppb	61.23	2.35%
QC value within limits for Si 251.611 Recovery = 104.17%						
Sn 189.927†	1057.2	520.88 µg/L	48.853	520.88 ppb	48.853	9.38%
QC value within limits for Sn 189.927 Recovery = 104.18%						
Sr 421.552†	117202.2	487.46 µg/L	1.395	487.46 ppb	1.395	0.29%
QC value within limits for Sr 421.552 Recovery = 97.49%						
Ti 334.940†	183851.3	516.85 µg/L	15.064	516.85 ppb	15.064	2.91%
QC value within limits for Ti 334.940 Recovery = 103.37%						
Tl 190.801†	427.5	526.95 µg/L	19.500	526.95 ppb	19.500	3.70%
QC value within limits for Tl 190.801 Recovery = 105.39%						
U 409.014†	4769.5	494.89 µg/L	27.037	494.89 ppb	27.037	5.46%
QC value within limits for U 409.014 Recovery = 98.98%						
V 292.402†	38506.0	517.67 µg/L	21.255	517.67 ppb	21.255	4.11%
QC value within limits for V 292.402 Recovery = 103.53%						
Zn 213.857†	18657.6	520.94 µg/L	18.774	520.94 ppb	18.774	3.60%
QC value within limits for Zn 213.857 Recovery = 104.19%						

All analyte(s) passed QC.

Sequence No.: 14
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : optima
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 02:35:07
Data Type: Reprocessed on 2/26/2010 03:35:42

Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc 361.383	1686355.0	1686355.0	101.49	%			02:37:02
1	Sc RADIAL	111373.8	111373.8	101	%			02:35:39
1	Y 371.029	948939.7	948939.7	101.25	%			02:37:02
1	Ag 328.068†	-441.3	82.5	0.7707	µg/L	0.7707	ppb	02:37:08
1	Al 396.153Radial†	-99.7	-28.9	-15.327	µg/L	-15.327	ppb	02:35:39
1	As 188.979†	-5.4	2.3	4.3865	µg/L	4.3865	ppb	02:37:28
1	B 249.677†	222.3	52.2	2.8859	µg/L	2.8859	ppb	02:37:28
1	Ba 233.527†	-0.2	9.9	0.2685	µg/L	0.2685	ppb	02:37:28
1	Be 313.107†	-1510.8	179.4	0.1338	µg/L	0.1338	ppb	02:37:08
1	Ca 317.933Radial†	437.7	-55.2	-18.834	µg/L	-18.834	ppb	02:36:00
1	Cd 226.502†	-124.9	17.6	0.5333	µg/L	0.5333	ppb	02:37:28
1	Co 228.616†	30.4	3.1	0.1680	µg/L	0.1680	ppb	02:37:28
1	Cr 267.716†	96.1	25.6	0.6842	µg/L	0.6842	ppb	02:37:08
1	Cu 324.752†	2676.7	6.9	0.0530	µg/L	0.0530	ppb	02:37:08
1	Fe 238.204 Radial†	34.1	0.4	3.0549	µg/L	3.0549	ppb	02:36:00
1	K 766.490 Radial†	456.6	204.3	121.35	µg/L	121.35	ppb	02:35:39
1	Mg 279.077 IEC†	12.3	-1.1	-11.281	µg/L	-11.281	ppb	02:36:00
1	Mn 257.610†	-463.0	119.9	0.4542	µg/L	0.4542	ppb	02:37:28
1	Mo 202.031†	21.8	19.1	2.2994	µg/L	2.2994	ppb	02:37:28
1	Na 589.592 Radial†	386.9	65.9	20.352	µg/L	20.352	ppb	02:35:39
1	Ni 231.604†	319.9	19.9	1.4566	µg/L	1.4566	ppb	02:37:28
1	P 214.914†	239.6	-5.2	-11.843	µg/L	-11.843	ppb	02:37:28
1	Pb 220.353†	45.5	10.0	3.3453	µg/L	3.3453	ppb	02:37:28
1	S 181.975 Axial†	18.2	-2.7	-11.130	µg/L	-11.130	ppb	02:37:28
1	Sb 206.836†	24.3	4.8	5.4345	µg/L	5.4345	ppb	02:37:28
1	Se 196.026†	16.5	1.9	2.4339	µg/L	2.4339	ppb	02:37:28
1	SiO2†	1494.1	67.6	15.457	µg/L	15.457	ppb	02:37:08
1	Si 251.611†	492.9	101.6	8.7137	µg/L	8.7137	ppb	02:37:28
1	Sn 189.927†	4.0	2.9	1.4423	µg/L	1.4423	ppb	02:37:28
1	Sr 421.552†	175.1	30.1	0.1252	µg/L	0.1252	ppb	02:35:39
1	Ti 334.940†	167.0	170.2	0.4793	µg/L	0.4793	ppb	02:37:08
1	Tl 190.801†	-24.0	2.9	3.5043	µg/L	3.5043	ppb	02:37:28
1	U 409.014†	70.8	-74.5	-7.7436	µg/L	-7.7436	ppb	02:37:08
1	V 292.402†	-157.3	-10.7	-0.1309	µg/L	-0.1309	ppb	02:37:08
1	Zn 213.857†	661.4	40.9	1.1440	µg/L	1.1440	ppb	02:37:28
2	Sc 361.383	1669861.7	1669861.7	100.50	%			02:37:34
2	Sc RADIAL	110689.1	110689.1	100	%			02:36:05
2	Y 371.029	940305.2	940305.2	100.33	%			02:37:34
2	Ag 328.068†	-495.8	23.9	0.2262	µg/L	0.2262	ppb	02:37:40
2	Al 396.153Radial†	-123.1	-52.8	-28.009	µg/L	-28.009	ppb	02:36:05
2	As 188.979†	-7.2	0.5	1.0147	µg/L	1.0147	ppb	02:38:00
2	B 249.677†	217.8	49.8	2.7552	µg/L	2.7552	ppb	02:38:00
2	Ba 233.527†	5.5	15.6	0.4218	µg/L	0.4218	ppb	02:38:00
2	Be 313.107†	-1444.2	230.9	0.1723	µg/L	0.1723	ppb	02:37:40
2	Ca 317.933Radial†	440.9	-49.3	-16.819	µg/L	-16.819	ppb	02:36:26
2	Cd 226.502†	-128.9	12.3	0.3740	µg/L	0.3740	ppb	02:38:00
2	Co 228.616†	28.4	1.4	0.0739	µg/L	0.0739	ppb	02:38:00
2	Cr 267.716†	104.6	35.0	0.9350	µg/L	0.9350	ppb	02:37:40
2	Cu 324.752†	2702.2	58.4	0.4419	µg/L	0.4419	ppb	02:37:40
2	Fe 238.204 Radial†	33.6	0.1	0.8729	µg/L	0.8729	ppb	02:36:26
2	K 766.490 Radial†	477.9	228.3	135.65	µg/L	135.65	ppb	02:36:05
2	Mg 279.077 IEC†	13.3	-0.1	-1.0946	µg/L	-1.0946	ppb	02:36:26
2	Mn 257.610†	-454.1	124.3	0.4701	µg/L	0.4701	ppb	02:38:00
2	Mo 202.031†	16.9	14.4	1.7400	µg/L	1.7400	ppb	02:38:00
2	Na 589.592 Radial†	355.7	37.1	11.437	µg/L	11.437	ppb	02:36:05
2	Ni 231.604†	298.8	2.0	0.1460	µg/L	0.1460	ppb	02:38:00
2	P 214.914†	247.2	4.7	10.616	µg/L	10.616	ppb	02:38:00
2	Pb 220.353†	27.1	-7.8	-2.5874	µg/L	-2.5874	ppb	02:38:00

2	S 181.975 Axial†	19.8	-0.9	-3.6657 µg/L	-3.6657 ppb		02:38:00
2	Sb 206.836†	23.8	4.6	5.1985 µg/L	5.1985 ppb		02:38:00
2	Se 196.026†	20.6	6.1	7.8875 µg/L	7.8875 ppb		02:38:00
2	SiO2†	1518.8	106.7	24.418 µg/L	24.418 ppb		02:37:40
2	Si 251.611†	503.3	116.8	10.017 µg/L	10.017 ppb		02:38:00
2	Sn 189.927†	5.6	4.5	2.2229 µg/L	2.2229 ppb		02:38:00
2	Sr 421.552†	189.2	45.3	0.1883 µg/L	0.1883 ppb		02:36:05
2	Ti 334.940†	216.2	220.7	0.6208 µg/L	0.6208 ppb		02:37:40
2	Tl 190.801†	-22.5	4.1	5.0440 µg/L	5.0440 ppb		02:38:00
2	U 409.014†	126.6	-18.3	-1.9014 µg/L	-1.9014 ppb		02:37:40
2	V 292.402†	-119.8	25.1	0.3474 µg/L	0.3474 ppb		02:37:40
2	Zn 213.857†	672.6	58.5	1.6446 µg/L	1.6446 ppb		02:38:00
3	Sc 361.383	1662262.3	1662262.3	100.04 %			02:38:06
3	Sc RADIAL	110742.7	110742.7	100 %			02:36:31
3	Y 371.029	935783.5	935783.5	99.845 %			02:38:06
3	Ag 328.068†	-455.9	61.5	0.5743 µg/L	0.5743 ppb		02:38:12
3	Al 396.153Radial†	-107.0	-36.7	-19.455 µg/L	-19.455 ppb		02:36:31
3	As 188.979†	-2.2	5.5	10.468 µg/L	10.468 ppb		02:38:32
3	B 249.677†	219.4	52.5	2.9107 µg/L	2.9107 ppb		02:38:32
3	Ba 233.527†	7.1	17.2	0.4667 µg/L	0.4667 ppb		02:38:32
3	Be 313.107†	-1421.6	247.0	0.1842 µg/L	0.1842 ppb		02:38:12
3	Ca 317.933Radial†	443.1	-47.2	-16.116 µg/L	-16.116 ppb		02:36:52
3	Cd 226.502†	-128.4	12.3	0.3746 µg/L	0.3746 ppb		02:38:32
3	Co 228.616†	43.1	16.2	0.8808 µg/L	0.8808 ppb		02:38:32
3	Cr 267.716†	122.5	53.4	1.4266 µg/L	1.4266 ppb		02:38:12
3	Cu 324.752†	2735.4	103.8	0.7835 µg/L	0.7835 ppb		02:38:12
3	Fe 238.204 Radial†	31.5	-1.9	-13.362 µg/L	-13.362 ppb		02:36:52
3	K 766.490 Radial†	439.8	190.1	112.91 µg/L	112.91 ppb		02:36:31
3	Mg 279.077 IEC†	9.3	-4.1	-40.853 µg/L	-40.853 ppb		02:36:52
3	Mn 257.610†	-462.6	113.7	0.4319 µg/L	0.4319 ppb		02:38:32
3	Mo 202.031†	14.1	11.6	1.4049 µg/L	1.4049 ppb		02:38:32
3	Na 589.592 Radial†	396.3	77.5	23.921 µg/L	23.921 ppb		02:36:31
3	Ni 231.604†	309.0	13.6	0.9907 µg/L	0.9907 ppb		02:38:32
3	P 214.914†	245.3	3.9	8.8474 µg/L	8.8474 ppb		02:38:32
3	Pb 220.353†	38.2	3.4	1.1220 µg/L	1.1220 ppb		02:38:32
3	S 181.975 Axial†	21.3	0.7	2.8203 µg/L	2.8203 ppb		02:38:32
3	Sb 206.836†	25.0	5.8	6.5839 µg/L	6.5839 ppb		02:38:32
3	Se 196.026†	12.8	-1.6	-2.0645 µg/L	-2.0645 ppb		02:38:32
3	SiO2†	1505.0	99.9	22.851 µg/L	22.851 ppb		02:38:12
3	Si 251.611†	508.7	124.5	10.675 µg/L	10.675 ppb		02:38:32
3	Sn 189.927†	11.0	10.0	4.9173 µg/L	4.9173 ppb		02:38:32
3	Sr 421.552†	236.9	92.9	0.3862 µg/L	0.3862 ppb		02:36:31
3	Ti 334.940†	222.6	228.2	0.6448 µg/L	0.6448 ppb		02:38:12
3	Tl 190.801†	-25.8	0.7	0.9053 µg/L	0.9053 ppb		02:38:32
3	U 409.014†	172.7	28.4	2.9596 µg/L	2.9596 ppb		02:38:12
3	V 292.402†	-137.2	7.2	0.1124 µg/L	0.1124 ppb		02:38:12
3	Zn 213.857†	649.0	38.0	1.0651 µg/L	1.0651 ppb		02:38:32

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1672826.3	100.68	%	0.741				0.74%
Sc RADIAL	110935.2	100	%	0.3				0.34%
Y 371.029	941676.1	100.47	%	0.713				0.71%
Ag 328.068†	56.0	0.5237	µg/L	0.27574	0.5237	ppb	0.27574	52.65%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-39.5	-20.931	µg/L	6.4684	-20.931	ppb	6.4684	30.90%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	2.8	5.2896	µg/L	4.79077	5.2896	ppb	4.79077	90.57%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	51.5	2.8506	µg/L	0.08354	2.8506	ppb	0.08354	2.93%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	14.2	0.3857	µg/L	0.10390	0.3857	ppb	0.10390	26.94%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	219.1	0.1635	µg/L	0.02634	0.1635	ppb	0.02634	16.12%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-50.5	-17.256	µg/L	1.4107	-17.256	ppb	1.4107	8.17%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	14.1	0.4273	µg/L	0.09179	0.4273	ppb	0.09179	21.48%
QC value within limits for Cd 226.502 Recovery = Not calculated								

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Co 228.616†                 6.9      0.3742 µg/L       0.44120      0.3742 ppb        0.44120 117.89%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                38.0      1.0152 µg/L       0.37765      1.0152 ppb        0.37765  37.20%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                56.4      0.4262 µg/L       0.36549      0.4262 ppb        0.36549  85.76%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†         -0.5     -3.1446 µg/L       8.91524     -3.1446 ppb        8.91524 283.51%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         207.6      123.30 µg/L        11.494      123.30 ppb         11.494   9.32%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -1.8     -17.743 µg/L       20.6517     -17.743 ppb        20.6517 116.39%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               119.3      0.4521 µg/L       0.01921      0.4521 ppb        0.01921   4.25%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                15.0      1.8147 µg/L       0.45194      1.8147 ppb        0.45194  24.90%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†         60.2      18.570 µg/L        6.4298      18.570 ppb         6.4298  34.63%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                11.8      0.8644 µg/L       0.66437      0.8644 ppb        0.66437  76.86%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                  1.1      2.5401 µg/L      12.48733      2.5401 ppb       12.48733 491.60%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 1.9      0.6266 µg/L       2.99719      0.6266 ppb        2.99719 478.29%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           -1.0     -3.9916 µg/L       6.98063     -3.9916 ppb        6.98063 174.88%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 5.0      5.7390 µg/L       0.74119      5.7390 ppb        0.74119  12.92%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 2.1      2.7523 µg/L       4.98361      2.7523 ppb        4.98361 181.07%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                      91.4      20.909 µg/L        4.7858      20.909 ppb         4.7858  22.89%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               114.3      9.8017 µg/L       0.99795      9.8017 ppb        0.99795  10.18%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 5.8      2.8608 µg/L       1.82322      2.8608 ppb        1.82322  63.73%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                56.1      0.2332 µg/L       0.13617      0.2332 ppb        0.13617  58.38%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               206.4      0.5816 µg/L       0.08939      0.5816 ppb        0.08939  15.37%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 2.6      3.1512 µg/L       2.09182      3.1512 ppb        2.09182  66.38%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                -21.4     -2.2285 µg/L       5.35913     -2.2285 ppb        5.35913 240.49%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                  7.2      0.1096 µg/L       0.23914      0.1096 ppb        0.23914 218.13%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                45.8      1.2846 µg/L       0.31426      1.2846 ppb        0.31426  24.46%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Analysis Begun

Start Time: 2/26/2010 03:38:23 **Plasma On Time: 2/8/2010 03:37:33**
Logged In Analyst: optima **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N1030502Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\022610.SIF
Batch ID:
Results Data Set: 022610D
Results Library: c:\pe\optima1\Results\Results.mdb

Method Loaded
Method Name: Gen Eng fast_new Si **Method Last Saved: 2/26/2010 01:51:42**
IEC File: 011510.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	No
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	No
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
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
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

Sequence No.: 1 **Autosampler Location: 113**
Sample ID: LR2 **Date Collected: 2/26/2010 03:38:25**
Analyst: JWJ **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113613.7	113613.7	103	%			03:39:00
1	Al 396.153Radial†	-130.3	-56.7	-30.015	µg/L	-30.015	ppb	03:39:00
1	Ca 317.933Radial†	432.3	-68.9	-23.536	µg/L	-23.536	ppb	03:39:20
1	Fe 238.204 Radial†	29.9	-4.3	-30.386	µg/L	-30.386	ppb	03:39:20

1	K 766.490 Radial†	386.6	127.2	75.562 µg/L	75.562 ppb	03:39:00
1	Mg 279.077 IEC†	13.5	-0.3	-2.6531 µg/L	-2.6531 ppb	03:39:20
1	Na 589.592 Radial†	301.8	-24.5	-7.5724 µg/L	-7.5724 ppb	03:39:00
1	Sr 421.552†	176.2	27.7	0.1154 µg/L	0.1154 ppb	03:39:00
1	Sc 361.383	1706646.3	1706646.3	102.71 %		03:40:23
1	Y 371.029	955965.8	955965.8	102.00 %		03:40:23
1	Ag 328.068†	-515.3	15.6	0.1445 µg/L	0.1445 ppb	03:40:28
1	As 188.979†	-4.0	3.8	7.2708 µg/L	7.2708 ppb	03:40:49
1	B 249.677†	151.5	-19.4	-1.0568 µg/L	-1.0568 ppb	03:40:49
1	Ba 233.527†	391445.4	381115.1	10310 µg/L	10310 ppb	03:40:23
1	Be 313.107†	-1726.9	-13.3	-0.0099 µg/L	-0.0099 ppb	03:40:28
1	Cd 226.502†	-149.4	-4.9	-0.1447 µg/L	-0.1447 ppb	03:40:49
1	Co 228.616†	-240.8	-261.4	-14.242 µg/L	-14.242 ppb	03:40:49
1	Cr 267.716†	98.2	26.5	0.7082 µg/L	0.7082 ppb	03:40:28
1	Cu 324.752†	2676.6	-24.5	-0.1911 µg/L	-0.1911 ppb	03:40:28
1	Mn 257.610†	-573.8	17.4	0.0643 µg/L	0.0643 ppb	03:40:49
1	Mo 202.031†	2.7	0.2	0.0242 µg/L	0.0242 ppb	03:40:49
1	Ni 231.604†	299.8	-3.4	-0.2322 µg/L	-0.2322 ppb	03:40:49
1	P 214.914†	4758.6	4391.6	9971.6 µg/L	9971.6 ppb	03:40:28
1	Pb 220.353†	38.4	2.6	0.8394 µg/L	0.8394 ppb	03:40:49
1	S 181.975 Axial†	20.3	-0.8	-3.4723 µg/L	-3.4723 ppb	03:40:49
1	Sb 206.836†	20.5	0.8	0.9405 µg/L	0.9405 ppb	03:40:49
1	Se 196.026†	11.4	-3.2	-4.2949 µg/L	-4.2949 ppb	03:40:49
1	SiO2†	1444.5	1.9	0.4256 µg/L	0.4256 ppb	03:40:28
1	Si 251.611†	403.5	8.8	0.7553 µg/L	0.7553 ppb	03:40:49
1	Sn 189.927†	-0.7	-1.7	-0.8573 µg/L	-0.8573 ppb	03:40:49
1	Ti 334.940†	2.8	8.3	0.0232 µg/L	0.0232 ppb	03:40:28
1	Tl 190.801†	-24.2	3.0	3.6744 µg/L	3.6744 ppb	03:40:49
1	U 409.014†	259.6	108.5	11.284 µg/L	11.284 ppb	03:40:28
1	V 292.402†	-123.3	24.3	0.3351 µg/L	0.3351 ppb	03:40:28
1	Zn 213.857†	574.6	-51.4	-1.4426 µg/L	-1.4426 ppb	03:40:49
2	Sc RADIAL	112922.5	112922.5	102 %		03:39:25
2	Al 396.153Radial†	-127.5	-54.8	-29.019 µg/L	-29.019 ppb	03:39:25
2	Ca 317.933Radial†	442.8	-56.0	-19.130 µg/L	-19.130 ppb	03:39:46
2	Fe 238.204 Radial†	30.8	-3.2	-22.729 µg/L	-22.729 ppb	03:39:46
2	K 766.490 Radial†	271.7	17.0	10.081 µg/L	10.081 ppb	03:39:25
2	Mg 279.077 IEC†	10.1	-3.5	-34.245 µg/L	-34.245 ppb	03:39:46
2	Na 589.592 Radial†	307.6	-17.0	-5.2560 µg/L	-5.2560 ppb	03:39:25
2	Sr 421.552†	154.5	7.6	0.0315 µg/L	0.0315 ppb	03:39:25
2	Sc 361.383	1719708.7	1719708.7	103.50 %		03:40:55
2	Y 371.029	961198.8	961198.8	102.56 %		03:40:55
2	Ag 328.068†	-543.6	-7.9	-0.0754 µg/L	-0.0754 ppb	03:41:01
2	As 188.979†	1.3	8.9	17.025 µg/L	17.025 ppb	03:41:21
2	B 249.677†	166.0	-6.5	-0.3483 µg/L	-0.3483 ppb	03:41:21
2	Ba 233.527†	396349.2	382958.4	10360 µg/L	10360 ppb	03:40:55
2	Be 313.107†	-1699.9	25.6	0.0191 µg/L	0.0191 ppb	03:41:01
2	Cd 226.502†	-140.6	4.8	0.1464 µg/L	0.1464 ppb	03:41:21
2	Co 228.616†	-234.3	-253.2	-13.798 µg/L	-13.798 ppb	03:41:21
2	Cr 267.716†	81.1	9.3	0.2479 µg/L	0.2479 ppb	03:41:01
2	Cu 324.752†	2714.3	-7.9	-0.0638 µg/L	-0.0638 ppb	03:41:01
2	Mn 257.610†	-563.9	31.2	0.1190 µg/L	0.1190 ppb	03:41:21
2	Mo 202.031†	12.7	9.9	1.1949 µg/L	1.1949 ppb	03:41:21
2	Ni 231.604†	296.1	-9.2	-0.6575 µg/L	-0.6575 ppb	03:41:21
2	P 214.914†	4752.6	4350.7	9878.5 µg/L	9878.5 ppb	03:41:01
2	Pb 220.353†	39.7	3.6	1.2036 µg/L	1.2036 ppb	03:41:21
2	S 181.975 Axial†	23.4	2.1	8.5960 µg/L	8.5960 ppb	03:41:21
2	Sb 206.836†	22.2	2.2	2.5622 µg/L	2.5622 ppb	03:41:21
2	Se 196.026†	14.9	0.0	-0.0015 µg/L	-0.0015 ppb	03:41:21
2	SiO2†	1435.3	-17.8	-4.0719 µg/L	-4.0719 ppb	03:41:01
2	Si 251.611†	421.8	23.5	2.0132 µg/L	2.0132 ppb	03:41:21
2	Sn 189.927†	2.9	1.8	0.8877 µg/L	0.8877 ppb	03:41:21
2	Ti 334.940†	35.2	39.7	0.1140 µg/L	0.1140 ppb	03:41:01
2	Tl 190.801†	-29.9	-2.4	-2.8943 µg/L	-2.8943 ppb	03:41:21
2	U 409.014†	63.1	-83.3	-8.6578 µg/L	-8.6578 ppb	03:41:01
2	V 292.402†	-127.9	20.7	0.2751 µg/L	0.2751 ppb	03:41:01
2	Zn 213.857†	579.0	-51.3	-1.4379 µg/L	-1.4379 ppb	03:41:21
3	Sc RADIAL	111746.1	111746.1	101 %		03:39:51
3	Al 396.153Radial†	-123.9	-52.5	-27.807 µg/L	-27.807 ppb	03:39:51
3	Ca 317.933Radial†	443.5	-50.9	-17.368 µg/L	-17.368 ppb	03:40:12
3	Fe 238.204 Radial†	30.0	-3.7	-26.197 µg/L	-26.197 ppb	03:40:12
3	K 766.490 Radial†	322.2	69.7	41.426 µg/L	41.426 ppb	03:39:51

3	Mg 279.077 IEC†	13.2	-0.4	-3.7340 µg/L	-3.7340 ppb	03:40:12
3	Na 589.592 Radial†	307.0	-14.5	-4.4631 µg/L	-4.4631 ppb	03:39:51
3	Sr 421.552†	177.7	32.1	0.1335 µg/L	0.1335 ppb	03:39:51
3	Sc 361.383	1712143.2	1712143.2	103.04 %		03:41:27
3	Y 371.029	954129.6	954129.6	101.80 %		03:41:27
3	Ag 328.068†	-518.2	14.4	0.1340 µg/L	0.1340 ppb	03:41:33
3	As 188.979†	-6.1	1.7	3.3499 µg/L	3.3499 ppb	03:41:53
3	B 249.677†	175.8	3.8	0.2222 µg/L	0.2222 ppb	03:41:53
3	Ba 233.527†	382869.6	371569.2	10052 µg/L	10052 ppb	03:41:27
3	Be 313.107†	-1806.3	-84.9	-0.0635 µg/L	-0.0635 ppb	03:41:33
3	Cd 226.502†	-140.8	4.0	0.1232 µg/L	0.1232 ppb	03:41:53
3	Co 228.616†	-222.8	-243.1	-13.249 µg/L	-13.249 ppb	03:41:53
3	Cr 267.716†	98.1	26.0	0.6967 µg/L	0.6967 ppb	03:41:33
3	Cu 324.752†	2688.3	-21.5	-0.1679 µg/L	-0.1679 ppb	03:41:33
3	Mn 257.610†	-561.8	30.9	0.1155 µg/L	0.1155 ppb	03:41:53
3	Mo 202.031†	10.2	7.5	0.8996 µg/L	0.8996 ppb	03:41:53
3	Ni 231.604†	308.9	4.5	0.3461 µg/L	0.3461 ppb	03:41:53
3	P 214.914†	4532.8	4157.6	9440.2 µg/L	9440.2 ppb	03:41:33
3	Pb 220.353†	32.1	-3.6	-1.2010 µg/L	-1.2010 ppb	03:41:53
3	S 181.975 Axial†	23.0	1.8	7.3449 µg/L	7.3449 ppb	03:41:53
3	Sb 206.836†	23.2	3.4	3.8175 µg/L	3.8175 ppb	03:41:53
3	Se 196.026†	14.0	-0.8	-1.1176 µg/L	-1.1176 ppb	03:41:53
3	SiO2†	1467.6	19.7	4.5024 µg/L	4.5024 ppb	03:41:33
3	Si 251.611†	434.8	38.0	3.2549 µg/L	3.2549 ppb	03:41:53
3	Sn 189.927†	3.0	1.8	0.9112 µg/L	0.9112 ppb	03:41:53
3	Ti 334.940†	53.2	57.2	0.1609 µg/L	0.1609 ppb	03:41:33
3	Tl 190.801†	-26.2	1.1	1.3912 µg/L	1.3912 ppb	03:41:53
3	U 409.014†	60.9	-85.2	-8.8511 µg/L	-8.8511 ppb	03:41:33
3	V 292.402†	-119.8	28.1	0.3719 µg/L	0.3719 ppb	03:41:33
3	Zn 213.857†	573.7	-54.0	-1.5184 µg/L	-1.5184 ppb	03:41:53

Mean Data: LR2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1712832.7	103.09	%	0.395				0.38%
Sc RADIAL	112760.8	102	%	0.9				0.84%
Y 371.029	957098.1	102.12	%	0.391				0.38%
Ag 328.068†	7.4	0.0677	µg/L	0.12405	0.0677	ppb	0.12405	183.24%
Al 396.153Radial†	-54.7	-28.947	µg/L	1.1059	-28.947	ppb	1.1059	3.82%
As 188.979†	4.8	9.2154	µg/L	7.04210	9.2154	ppb	7.04210	76.42%
B 249.677†	-7.4	-0.3943	µg/L	0.64075	-0.3943	ppb	0.64075	162.51%
Ba 233.527†	378547.6	10241	µg/L	165.4	10241	ppb	165.4	1.61%
Be 313.107†	-24.2	-0.0181	µg/L	0.04188	-0.0181	ppb	0.04188	231.24%
Ca 317.933Radial†	-58.6	-20.012	µg/L	3.1773	-20.012	ppb	3.1773	15.88%
Cd 226.502†	1.3	0.0416	µg/L	0.16180	0.0416	ppb	0.16180	388.88%
Co 228.616†	-252.6	-13.763	µg/L	0.4975	-13.763	ppb	0.4975	3.61%
Cr 267.716†	20.6	0.5509	µg/L	0.26252	0.5509	ppb	0.26252	47.65%
Cu 324.752†	-18.0	-0.1409	µg/L	0.06780	-0.1409	ppb	0.06780	48.11%
Fe 238.204 Radial†	-3.8	-26.437	µg/L	3.8339	-26.437	ppb	3.8339	14.50%
K 766.490 Radial†	71.3	42.356	µg/L	32.7505	42.356	ppb	32.7505	77.32%
Mg 279.077 IEC†	-1.4	-13.544	µg/L	17.9359	-13.544	ppb	17.9359	132.43%
Mn 257.610†	26.5	0.0996	µg/L	0.03062	0.0996	ppb	0.03062	30.74%
Mo 202.031†	5.9	0.7062	µg/L	0.60883	0.7062	ppb	0.60883	86.21%
Na 589.592 Radial†	-18.7	-5.7638	µg/L	1.61569	-5.7638	ppb	1.61569	28.03%
Ni 231.604†	-2.7	-0.1812	µg/L	0.50376	-0.1812	ppb	0.50376	278.00%
P 214.914†	4300.0	9763.4	µg/L	283.79	9763.4	ppb	283.79	2.91%
Pb 220.353†	0.8	0.2807	µg/L	1.29600	0.2807	ppb	1.29600	461.76%
S 181.975 Axial†	1.0	4.1562	µg/L	6.63599	4.1562	ppb	6.63599	159.66%
Sb 206.836†	2.1	2.4400	µg/L	1.44240	2.4400	ppb	1.44240	59.11%
Se 196.026†	-1.3	-1.8047	µg/L	2.22762	-1.8047	ppb	2.22762	123.44%
SiO2†	1.2	0.2854	µg/L	4.28884	0.2854	ppb	4.28884	>999.9%
Si 251.611†	23.4	2.0078	µg/L	1.24983	2.0078	ppb	1.24983	62.25%
Sn 189.927†	0.6	0.3138	µg/L	1.01431	0.3138	ppb	1.01431	323.20%
Sr 421.552†	22.5	0.0934	µg/L	0.05444	0.0934	ppb	0.05444	58.26%
Ti 334.940†	35.1	0.0994	µg/L	0.07002	0.0994	ppb	0.07002	70.45%
Tl 190.801†	0.6	0.7237	µg/L	3.33484	0.7237	ppb	3.33484	460.78%
U 409.014†	-20.0	-2.0749	µg/L	11.56967	-2.0749	ppb	11.56967	557.59%
V 292.402†	24.4	0.3274	µg/L	0.04887	0.3274	ppb	0.04887	14.93%
Zn 213.857†	-52.3	-1.4663	µg/L	0.04518	-1.4663	ppb	0.04518	3.08%

Sequence No.: 2
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 03:42:02
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	114562.5	114562.5	104	%			03:42:38
1	Al 396.153Radial†	9666.7	9403.4	4967.0	µg/L	4967.0	ppb	03:42:38
1	Ca 317.933Radial†	16067.3	15023.1	5128.5	µg/L	5128.5	ppb	03:42:38
1	Fe 238.204 Radial†	790.9	730.2	5065.9	µg/L	5065.9	ppb	03:42:58
1	K 766.490 Radial†	8764.8	8213.2	4879.2	µg/L	4879.2	ppb	03:42:38
1	Mg 279.077 IEC†	557.5	524.8	5192.8	µg/L	5192.8	ppb	03:42:58
1	Na 589.592 Radial†	34003.5	32512.0	10035	µg/L	10035	ppb	03:42:38
1	Sr 421.552†	121118.0	116795.7	485.77	µg/L	485.77	ppb	03:42:38
1	Sc 361.383	1704125.9	1704125.9	102.56	%			03:44:02
1	Y 371.029	951376.6	951376.6	101.51	%			03:44:02
1	Ag 328.068†	54516.6	53672.3	505.91	µg/L	505.91	ppb	03:44:07
1	As 188.979†	266.6	267.6	512.70	µg/L	512.70	ppb	03:44:28
1	B 249.677†	9524.6	9119.9	502.61	µg/L	502.61	ppb	03:44:07
1	Ba 233.527†	19486.0	19009.4	515.18	µg/L	515.18	ppb	03:44:07
1	Be 313.107†	687045.4	671553.9	501.48	µg/L	501.48	ppb	03:44:02
1	Cd 226.502†	17248.7	16958.5	513.92	µg/L	513.92	ppb	03:44:07
1	Co 228.616†	9760.1	9489.4	516.53	µg/L	516.53	ppb	03:44:07
1	Cr 267.716†	19771.7	19208.8	513.89	µg/L	513.89	ppb	03:44:07
1	Cu 324.752†	71633.5	67214.0	509.75	µg/L	509.75	ppb	03:44:07
1	Mn 257.610†	138668.5	135781.2	513.47	µg/L	513.47	ppb	03:44:07
1	Mo 202.031†	4510.6	4395.5	530.55	µg/L	530.55	ppb	03:44:28
1	Ni 231.604†	7813.2	7322.7	534.58	µg/L	534.58	ppb	03:44:07
1	P 214.914†	1423.4	1146.6	2554.9	µg/L	2554.9	ppb	03:44:28
1	Pb 220.353†	1656.3	1580.1	526.35	µg/L	526.35	ppb	03:44:28
1	S 181.975 Axial†	278.3	250.7	1040.3	µg/L	1040.3	ppb	03:44:28
1	Sb 206.836†	490.0	458.6	523.36	µg/L	523.36	ppb	03:44:28
1	Se 196.026†	432.2	407.0	539.54	µg/L	539.54	ppb	03:44:28
1	SiO2†	25876.2	23825.3	5450.3	µg/L	5450.3	ppb	03:44:07
1	Si 251.611†	30958.3	29801.0	2555.7	µg/L	2555.7	ppb	03:44:07
1	Sn 189.927†	1118.9	1089.9	536.95	µg/L	536.95	ppb	03:44:28
1	Ti 334.940†	182973.2	178408.9	501.54	µg/L	501.54	ppb	03:44:02
1	Tl 190.801†	412.0	428.2	527.62	µg/L	527.62	ppb	03:44:28
1	U 409.014†	5069.6	4798.8	497.95	µg/L	497.95	ppb	03:44:07
1	V 292.402†	39312.5	38475.0	517.29	µg/L	517.29	ppb	03:44:07
1	Zn 213.857†	19513.8	18415.6	514.16	µg/L	514.16	ppb	03:44:07
2	Sc RADIAL	115024.8	115024.8	104	%			03:43:04
2	Al 396.153Radial†	9658.7	9358.1	4943.1	µg/L	4943.1	ppb	03:43:04
2	Ca 317.933Radial†	15944.9	14843.1	5067.1	µg/L	5067.1	ppb	03:43:04
2	Fe 238.204 Radial†	788.1	724.5	5026.4	µg/L	5026.4	ppb	03:43:24
2	K 766.490 Radial†	8740.7	8156.1	4845.3	µg/L	4845.3	ppb	03:43:04
2	Mg 279.077 IEC†	557.1	522.3	5167.6	µg/L	5167.6	ppb	03:43:24
2	Na 589.592 Radial†	33986.5	32363.7	9989.6	µg/L	9989.6	ppb	03:43:04
2	Sr 421.552†	120832.2	116050.9	482.67	µg/L	482.67	ppb	03:43:04
2	Sc 361.383	1698725.2	1698725.2	102.24	%			03:44:34
2	Y 371.029	946319.0	946319.0	100.97	%			03:44:34
2	Ag 328.068†	54456.2	53782.2	506.95	µg/L	506.95	ppb	03:44:40
2	As 188.979†	270.5	272.3	521.58	µg/L	521.58	ppb	03:45:00
2	B 249.677†	9464.4	9090.5	501.01	µg/L	501.01	ppb	03:44:40
2	Ba 233.527†	19475.4	19059.4	516.53	µg/L	516.53	ppb	03:44:40
2	Be 313.107†	698191.8	684586.2	511.22	µg/L	511.22	ppb	03:44:34
2	Cd 226.502†	17262.0	17025.0	515.94	µg/L	515.94	ppb	03:44:40
2	Co 228.616†	9750.1	9510.0	517.63	µg/L	517.63	ppb	03:44:40
2	Cr 267.716†	19775.5	19273.8	515.63	µg/L	515.63	ppb	03:44:40
2	Cu 324.752†	71372.4	67180.6	509.49	µg/L	509.49	ppb	03:44:40
2	Mn 257.610†	138456.7	136003.9	514.31	µg/L	514.31	ppb	03:44:40
2	Mo 202.031†	4454.9	4355.0	525.67	µg/L	525.67	ppb	03:45:00
2	Ni 231.604†	7825.2	7358.7	537.21	µg/L	537.21	ppb	03:44:40
2	P 214.914†	1420.2	1147.9	2557.9	µg/L	2557.9	ppb	03:45:00
2	Pb 220.353†	1646.8	1576.0	524.95	µg/L	524.95	ppb	03:45:00

2	S 181.975 Axial†	278.0	251.3	1042.9 µg/L	1042.9 ppb	03:45:00
2	Sb 206.836†	489.1	459.2	523.98 µg/L	523.98 ppb	03:45:00
2	Se 196.026†	424.1	400.5	530.97 µg/L	530.97 ppb	03:45:00
2	SiO2†	25856.4	23886.2	5464.2 µg/L	5464.2 ppb	03:44:40
2	Si 251.611†	30964.2	29902.7	2564.5 µg/L	2564.5 ppb	03:44:40
2	Sn 189.927†	1103.7	1078.5	531.36 µg/L	531.36 ppb	03:45:00
2	Ti 334.940†	185856.5	181796.4	511.07 µg/L	511.07 ppb	03:44:34
2	Tl 190.801†	400.6	418.3	515.64 µg/L	515.64 ppb	03:45:00
2	U 409.014†	5109.9	4853.9	503.69 µg/L	503.69 ppb	03:44:40
2	V 292.402†	39315.9	38600.2	518.93 µg/L	518.93 ppb	03:44:40
2	Zn 213.857†	19542.3	18504.0	516.64 µg/L	516.64 ppb	03:44:40
3	Sc RADIAL	115575.0	115575.0	104 %		03:43:30
3	Al 396.153Radial†	9538.3	9198.7	4860.0 µg/L	4860.0 ppb	03:43:30
3	Ca 317.933Radial†	15894.8	14722.2	5025.8 µg/L	5025.8 ppb	03:43:30
3	Fe 238.204 Radial†	792.1	724.7	5027.2 µg/L	5027.2 ppb	03:43:50
3	K 766.490 Radial†	8741.3	8116.5	4821.8 µg/L	4821.8 ppb	03:43:30
3	Mg 279.077 IEC†	554.5	517.3	5117.2 µg/L	5117.2 ppb	03:43:50
3	Na 589.592 Radial†	33791.6	32021.6	9884.0 µg/L	9884.0 ppb	03:43:30
3	Sr 421.552†	119951.1	114654.4	476.87 µg/L	476.87 ppb	03:43:30
3	Sc 361.383	1686132.9	1686132.9	101.48 %		03:45:07
3	Y 371.029	940085.3	940085.3	100.30 %		03:45:07
3	Ag 328.068†	52306.9	52062.0	490.62 µg/L	490.62 ppb	03:45:13
3	As 188.979†	251.8	255.8	490.16 µg/L	490.16 ppb	03:45:34
3	B 249.677†	9063.8	8764.8	482.93 µg/L	482.93 ppb	03:45:13
3	Ba 233.527†	18367.9	18110.4	490.79 µg/L	490.79 ppb	03:45:13
3	Be 313.107†	668426.8	660355.0	493.12 µg/L	493.12 ppb	03:45:07
3	Cd 226.502†	16193.6	16098.2	487.82 µg/L	487.82 ppb	03:45:13
3	Co 228.616†	9076.5	8917.3	485.32 µg/L	485.32 ppb	03:45:13
3	Cr 267.716†	18030.1	17698.3	473.48 µg/L	473.48 ppb	03:45:13
3	Cu 324.752†	66836.8	63232.5	479.61 µg/L	479.61 ppb	03:45:13
3	Mn 257.610†	128914.6	127612.2	482.58 µg/L	482.58 ppb	03:45:13
3	Mo 202.031†	3884.2	3825.2	461.74 µg/L	461.74 ppb	03:45:34
3	Ni 231.604†	7287.0	6885.5	502.66 µg/L	502.66 ppb	03:45:13
3	P 214.914†	1284.1	1024.1	2278.9 µg/L	2278.9 ppb	03:45:34
3	Pb 220.353†	1480.3	1423.9	474.23 µg/L	474.23 ppb	03:45:34
3	S 181.975 Axial†	252.6	228.4	947.51 µg/L	947.51 ppb	03:45:34
3	Sb 206.836†	434.5	409.0	466.40 µg/L	466.40 ppb	03:45:34
3	Se 196.026†	388.2	368.2	489.23 µg/L	489.23 ppb	03:45:34
3	SiO2†	24577.7	22815.1	5219.2 µg/L	5219.2 ppb	03:45:13
3	Si 251.611†	29398.9	28586.5	2451.6 µg/L	2451.6 ppb	03:45:13
3	Sn 189.927†	937.1	922.5	454.52 µg/L	454.52 ppb	03:45:34
3	Ti 334.940†	177115.5	174540.3	490.66 µg/L	490.66 ppb	03:45:07
3	Tl 190.801†	376.8	397.8	490.36 µg/L	490.36 ppb	03:45:34
3	U 409.014†	4665.1	4452.9	462.00 µg/L	462.00 ppb	03:45:13
3	V 292.402†	36280.3	35896.0	482.36 µg/L	482.36 ppb	03:45:13
3	Zn 213.857†	18189.6	17313.8	483.37 µg/L	483.37 ppb	03:45:13

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1696328.0	102.09	%	0.556				0.54%
Sc RADIAL	115054.1	104	%	0.5				0.44%
Y 371.029	945927.0	100.93	%	0.603				0.60%
Ag 328.068†	53172.2	501.16	µg/L	9.140	501.16	ppb	9.140	1.82%
QC value within limits for Ag 328.068 Recovery = 100.23%								
Al 396.153Radial†	9320.1	4923.4	µg/L	56.14	4923.4	ppb	56.14	1.14%
QC value within limits for Al 396.153Radial Recovery = 98.47%								
As 188.979†	265.2	508.15	µg/L	16.201	508.15	ppb	16.201	3.19%
QC value within limits for As 188.979 Recovery = 101.63%								
B 249.677†	8991.7	495.52	µg/L	10.931	495.52	ppb	10.931	2.21%
QC value within limits for B 249.677 Recovery = 99.10%								
Ba 233.527†	18726.4	507.50	µg/L	14.485	507.50	ppb	14.485	2.85%
QC value within limits for Ba 233.527 Recovery = 101.50%								
Be 313.107†	672165.0	501.94	µg/L	9.056	501.94	ppb	9.056	1.80%
QC value within limits for Be 313.107 Recovery = 100.39%								
Ca 317.933Radial†	14862.8	5073.8	µg/L	51.70	5073.8	ppb	51.70	1.02%
QC value within limits for Ca 317.933Radial Recovery = 101.48%								
Cd 226.502†	16693.9	505.89	µg/L	15.685	505.89	ppb	15.685	3.10%
QC value within limits for Cd 226.502 Recovery = 101.18%								
Co 228.616†	9305.6	506.49	µg/L	18.345	506.49	ppb	18.345	3.62%

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   QC value within limits for Co 228.616  Recovery = 101.30%
Cr 267.716†            18727.0      501.00 µg/L        23.846      501.00 ppb        23.846   4.76%
   QC value within limits for Cr 267.716  Recovery = 100.20%
Cu 324.752†            65875.7      499.62 µg/L        17.330      499.62 ppb        17.330   3.47%
   QC value within limits for Cu 324.752  Recovery = 99.92%
Fe 238.204 Radial†       726.4      5039.8 µg/L         22.55      5039.8 ppb         22.55   0.45%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.80%
K 766.490 Radial†       8161.9      4848.8 µg/L         28.88      4848.8 ppb         28.88   0.60%
   QC value within limits for K 766.490 Radial  Recovery = 96.98%
Mg 279.077 IEC†          521.5      5159.2 µg/L         38.46      5159.2 ppb         38.46   0.75%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.18%
Mn 257.610†           133132.4      503.45 µg/L        18.083      503.45 ppb        18.083   3.59%
   QC value within limits for Mn 257.610  Recovery = 100.69%
Mo 202.031†             4191.9      505.99 µg/L        38.397      505.99 ppb        38.397   7.59%
   QC value within limits for Mo 202.031  Recovery = 101.20%
Na 589.592 Radial†     32299.1      9969.7 µg/L         77.63      9969.7 ppb         77.63   0.78%
   QC value within limits for Na 589.592 Radial  Recovery = 99.70%
Ni 231.604†             7189.0      524.82 µg/L        19.229      524.82 ppb        19.229   3.66%
   QC value within limits for Ni 231.604  Recovery = 104.96%
P 214.914†              1106.2      2463.9 µg/L        160.21      2463.9 ppb        160.21   6.50%
   QC value within limits for P 214.914  Recovery = 98.56%
Pb 220.353†             1526.7      508.51 µg/L        29.696      508.51 ppb        29.696   5.84%
   QC value within limits for Pb 220.353  Recovery = 101.70%
S 181.975 Axial†         243.5      1010.2 µg/L         54.33      1010.2 ppb         54.33   5.38%
   QC value within limits for S 181.975 Axial  Recovery = 101.02%
Sb 206.836†              442.3      504.58 µg/L        33.067      504.58 ppb        33.067   6.55%
   QC value within limits for Sb 206.836  Recovery = 100.92%
Se 196.026†              391.9      519.91 µg/L        26.915      519.91 ppb        26.915   5.18%
   QC value within limits for Se 196.026  Recovery = 103.98%
SiO2†                  23508.9      5377.9 µg/L        137.63      5377.9 ppb        137.63   2.56%
   QC value within limits for SiO2  Recovery = 100.57%
Si 251.611†            29430.1      2523.9 µg/L         62.81      2523.9 ppb         62.81   2.49%
   QC value within limits for Si 251.611  Recovery = 100.96%
Sn 189.927†             1030.3      507.61 µg/L        46.065      507.61 ppb        46.065   9.07%
   QC value within limits for Sn 189.927  Recovery = 101.52%
Sr 421.552†           115833.6      481.77 µg/L         4.521      481.77 ppb         4.521   0.94%
   QC value within limits for Sr 421.552  Recovery = 96.35%
Ti 334.940†           178248.5      501.09 µg/L        10.211      501.09 ppb        10.211   2.04%
   QC value within limits for Ti 334.940  Recovery = 100.22%
Tl 190.801†              414.8      511.21 µg/L        19.020      511.21 ppb        19.020   3.72%
   QC value within limits for Tl 190.801  Recovery = 102.24%
U 409.014†              4701.9      487.88 µg/L        22.595      487.88 ppb        22.595   4.63%
   QC value within limits for U 409.014  Recovery = 97.58%
V 292.402†             37657.0      506.19 µg/L        20.658      506.19 ppb        20.658   4.08%
   QC value within limits for V 292.402  Recovery = 101.24%
Zn 213.857†            18077.8      504.73 µg/L        18.533      504.73 ppb        18.533   3.67%
   QC value within limits for Zn 213.857  Recovery = 100.95%
All analyte(s) passed QC.
```

Sequence No.: 3
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 03:45:43
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	111174.0	111174.0	101	%			03:46:16
1	Al 396.153Radial†	-131.2	-60.4	-32.002	µg/L	-32.002	ppb	03:46:16
1	Ca 317.933Radial†	418.5	-73.4	-25.061	µg/L	-25.061	ppb	03:46:37
1	Fe 238.204 Radial†	34.5	0.9	6.1402	µg/L	6.1402	ppb	03:46:37
1	K 766.490 Radial†	237.4	-13.0	-7.7377	µg/L	-7.7377	ppb	03:46:16
1	Mg 279.077 IEC†	11.7	-1.7	-17.062	µg/L	-17.062	ppb	03:46:37
1	Na 589.592 Radial†	280.9	-38.9	-12.009	µg/L	-12.009	ppb	03:46:16
1	Sr 421.552†	213.8	69.0	0.2869	µg/L	0.2869	ppb	03:46:16
1	Sc 361.383	1705193.0	1705193.0	102.63	%			03:47:39
1	Y 371.029	953742.6	953742.6	101.76	%			03:47:39
1	Ag 328.068†	-505.3	24.9	0.2357	µg/L	0.2357	ppb	03:47:44
1	As 188.979†	-0.4	7.3	13.989	µg/L	13.989	ppb	03:48:05
1	B 249.677†	184.7	13.1	0.7205	µg/L	0.7205	ppb	03:48:05
1	Ba 233.527†	12.7	22.5	0.6097	µg/L	0.6097	ppb	03:48:05
1	Be 313.107†	-1740.0	-27.5	-0.0207	µg/L	-0.0207	ppb	03:47:44
1	Cd 226.502†	-135.0	9.1	0.2757	µg/L	0.2757	ppb	03:48:05
1	Co 228.616†	27.3	-0.3	-0.0172	µg/L	-0.0172	ppb	03:48:05
1	Cr 267.716†	111.1	39.1	1.0460	µg/L	1.0460	ppb	03:47:44
1	Cu 324.752†	2692.5	-6.8	-0.0502	µg/L	-0.0502	ppb	03:47:44
1	Mn 257.610†	-499.1	89.7	0.3409	µg/L	0.3409	ppb	03:48:05
1	Mo 202.031†	11.9	9.2	1.1132	µg/L	1.1132	ppb	03:48:05
1	Ni 231.604†	314.1	10.8	0.7889	µg/L	0.7889	ppb	03:48:05
1	P 214.914†	241.9	-5.6	-12.743	µg/L	-12.743	ppb	03:48:05
1	Pb 220.353†	34.9	-0.8	-0.2743	µg/L	-0.2743	ppb	03:48:05
1	S 181.975 Axial†	21.4	0.2	0.9924	µg/L	0.9924	ppb	03:48:05
1	Sb 206.836†	23.8	4.1	4.6128	µg/L	4.6128	ppb	03:48:05
1	Se 196.026†	17.5	2.7	3.5055	µg/L	3.5055	ppb	03:48:05
1	SiO2†	1458.0	16.2	3.7039	µg/L	3.7039	ppb	03:47:44
1	Si 251.611†	389.3	-4.7	-0.4050	µg/L	-0.4050	ppb	03:48:05
1	Sn 189.927†	2.4	1.3	0.6234	µg/L	0.6234	ppb	03:48:05
1	Ti 334.940†	84.1	87.6	0.2472	µg/L	0.2472	ppb	03:47:44
1	Tl 190.801†	-29.0	-1.8	-2.1626	µg/L	-2.1626	ppb	03:48:05
1	U 409.014†	185.8	36.8	3.8282	µg/L	3.8282	ppb	03:47:44
1	V 292.402†	-129.1	18.5	0.2608	µg/L	0.2608	ppb	03:47:44
1	Zn 213.857†	612.6	-13.9	-0.3929	µg/L	-0.3929	ppb	03:48:05
2	Sc RADIAL	107914.4	107914.4	97.6	%			03:46:42
2	Al 396.153Radial†	-108.7	-41.3	-21.887	µg/L	-21.887	ppb	03:46:42
2	Ca 317.933Radial†	411.8	-67.7	-23.128	µg/L	-23.128	ppb	03:47:03
2	Fe 238.204 Radial†	34.4	1.8	12.434	µg/L	12.434	ppb	03:47:03
2	K 766.490 Radial†	289.0	47.0	27.936	µg/L	27.936	ppb	03:46:42
2	Mg 279.077 IEC†	9.9	-3.3	-32.631	µg/L	-32.631	ppb	03:47:03
2	Na 589.592 Radial†	259.1	-52.8	-16.285	µg/L	-16.285	ppb	03:46:42
2	Sr 421.552†	139.3	-1.0	-0.0042	µg/L	-0.0042	ppb	03:46:42
2	Sc 361.383	1714560.6	1714560.6	103.19	%			03:48:11
2	Y 371.029	963582.0	963582.0	102.81	%			03:48:11
2	Ag 328.068†	-526.5	7.1	0.0678	µg/L	0.0678	ppb	03:48:16
2	As 188.979†	-7.1	0.8	1.4469	µg/L	1.4469	ppb	03:48:37
2	B 249.677†	181.9	9.4	0.5131	µg/L	0.5131	ppb	03:48:37
2	Ba 233.527†	16.3	25.9	0.7002	µg/L	0.7002	ppb	03:48:37
2	Be 313.107†	-1642.3	76.5	0.0571	µg/L	0.0571	ppb	03:48:16
2	Cd 226.502†	-142.5	2.5	0.0751	µg/L	0.0751	ppb	03:48:37
2	Co 228.616†	17.5	-9.9	-0.5396	µg/L	-0.5396	ppb	03:48:37
2	Cr 267.716†	123.6	50.6	1.3531	µg/L	1.3531	ppb	03:48:16
2	Cu 324.752†	2656.0	-56.5	-0.4253	µg/L	-0.4253	ppb	03:48:16
2	Mn 257.610†	-486.5	104.6	0.3986	µg/L	0.3986	ppb	03:48:37
2	Mo 202.031†	18.0	15.0	1.8132	µg/L	1.8132	ppb	03:48:37
2	Ni 231.604†	319.6	14.5	1.0582	µg/L	1.0582	ppb	03:48:37
2	P 214.914†	242.9	-5.9	-13.464	µg/L	-13.464	ppb	03:48:37
2	Pb 220.353†	29.2	-6.5	-2.1366	µg/L	-2.1366	ppb	03:48:37

2	S 181.975 Axial†	24.4	3.1	12.680	µg/L	12.680 ppb	03:48:37
2	Sb 206.836†	21.2	1.4	1.5778	µg/L	1.5778 ppb	03:48:37
2	Se 196.026†	13.8	-1.0	-1.1731	µg/L	-1.1731 ppb	03:48:37
2	SiO2†	1419.0	-29.4	-6.7178	µg/L	-6.7178 ppb	03:48:16
2	Si 251.611†	405.1	8.5	0.7292	µg/L	0.7292 ppb	03:48:37
2	Sn 189.927†	-1.9	-2.8	-1.4060	µg/L	-1.4060 ppb	03:48:37
2	Ti 334.940†	-17.4	-11.3	-0.0294	µg/L	-0.0294 ppb	03:48:16
2	Tl 190.801†	-28.3	-0.9	-1.1233	µg/L	-1.1233 ppb	03:48:37
2	U 409.014†	83.6	-63.2	-6.5683	µg/L	-6.5683 ppb	03:48:16
2	V 292.402†	-147.0	1.9	0.0355	µg/L	0.0355 ppb	03:48:16
2	Zn 213.857†	603.5	-25.9	-0.7313	µg/L	-0.7313 ppb	03:48:37
3	Sc RADIAL	112357.2	112357.2	102	%		03:47:08
3	Al 396.153Radial†	-107.5	-35.7	-18.923	µg/L	-18.923 ppb	03:47:08
3	Ca 317.933Radial†	415.5	-80.8	-27.569	µg/L	-27.569 ppb	03:47:28
3	Fe 238.204 Radial†	33.2	-0.7	-5.1084	µg/L	-5.1084 ppb	03:47:28
3	K 766.490 Radial†	263.4	10.1	5.9835	µg/L	5.9835 ppb	03:47:08
3	Mg 279.077 IEC†	11.3	-2.3	-22.321	µg/L	-22.321 ppb	03:47:28
3	Na 589.592 Radial†	259.2	-63.1	-19.488	µg/L	-19.488 ppb	03:47:08
3	Sr 421.552†	213.8	66.7	0.2775	µg/L	0.2775 ppb	03:47:08
3	Sc 361.383	1712793.1	1712793.1	103.08	%		03:48:43
3	Y 371.029	962629.0	962629.0	102.71	%		03:48:43
3	Ag 328.068†	-541.8	-8.3	-0.0731	µg/L	-0.0731 ppb	03:48:48
3	As 188.979†	1.0	8.6	16.478	µg/L	16.478 ppb	03:49:09
3	B 249.677†	165.0	-6.8	-0.3732	µg/L	-0.3732 ppb	03:49:09
3	Ba 233.527†	18.9	28.4	0.7705	µg/L	0.7705 ppb	03:49:09
3	Be 313.107†	-1556.4	158.1	0.1180	µg/L	0.1180 ppb	03:48:48
3	Cd 226.502†	-138.0	6.7	0.2059	µg/L	0.2059 ppb	03:49:09
3	Co 228.616†	27.5	-0.3	-0.0140	µg/L	-0.0140 ppb	03:49:09
3	Cr 267.716†	85.6	13.9	0.3715	µg/L	0.3715 ppb	03:48:48
3	Cu 324.752†	2646.1	-63.5	-0.4817	µg/L	-0.4817 ppb	03:48:48
3	Mn 257.610†	-492.3	98.5	0.3739	µg/L	0.3739 ppb	03:49:09
3	Mo 202.031†	10.8	8.0	0.9695	µg/L	0.9695 ppb	03:49:09
3	Ni 231.604†	316.7	11.9	0.8694	µg/L	0.8694 ppb	03:49:09
3	P 214.914†	243.1	-5.4	-12.262	µg/L	-12.262 ppb	03:49:09
3	Pb 220.353†	36.3	0.5	0.1437	µg/L	0.1437 ppb	03:49:09
3	S 181.975 Axial†	23.3	2.0	8.4543	µg/L	8.4543 ppb	03:49:09
3	Sb 206.836†	22.7	2.8	3.2095	µg/L	3.2095 ppb	03:49:09
3	Se 196.026†	4.9	-9.6	-12.449	µg/L	-12.449 ppb	03:49:09
3	SiO2†	1448.2	0.4	0.0861	µg/L	0.0861 ppb	03:48:48
3	Si 251.611†	393.3	-2.6	-0.2194	µg/L	-0.2194 ppb	03:49:09
3	Sn 189.927†	3.8	2.7	1.3036	µg/L	1.3036 ppb	03:49:09
3	Ti 334.940†	158.7	159.6	0.4502	µg/L	0.4502 ppb	03:48:48
3	Tl 190.801†	-25.0	2.2	2.7625	µg/L	2.7625 ppb	03:49:09
3	U 409.014†	244.4	92.9	9.6579	µg/L	9.6579 ppb	03:48:48
3	V 292.402†	-91.9	55.1	0.7511	µg/L	0.7511 ppb	03:48:48
3	Zn 213.857†	605.8	-23.1	-0.6517	µg/L	-0.6517 ppb	03:49:09

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1710848.9	102.97	%	0.300				0.29%
Sc RADIAL	110481.9	99.9	%	2.08				2.08%
Y 371.029	959984.6	102.43	%	0.579				0.57%
Ag 328.068†	7.9	0.0768	µg/L	0.15458	0.0768	ppb	0.15458	201.30%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-45.8	-24.271	µg/L	6.8572	-24.271	ppb	6.8572	28.25%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	5.5	10.638	µg/L	8.0564	10.638	ppb	8.0564	75.73%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	5.2	0.2868	µg/L	0.58089	0.2868	ppb	0.58089	202.53%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	25.6	0.6934	µg/L	0.08061	0.6934	ppb	0.08061	11.62%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	69.0	0.0515	µg/L	0.06948	0.0515	ppb	0.06948	134.96%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-74.0	-25.253	µg/L	2.2268	-25.253	ppb	2.2268	8.82%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	6.1	0.1856	µg/L	0.10181	0.1856	ppb	0.10181	54.86%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-3.5	-0.1902	µg/L	0.30252	-0.1902	ppb	0.30252	159.02%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              34.5      0.9235 µg/L       0.50214      0.9235 ppb        0.50214  54.37%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             -42.3     -0.3190 µg/L       0.23456     -0.3190 ppb        0.23456  73.52%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        0.6      4.4887 µg/L       8.88723      4.4887 ppb        8.88723 197.99%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†        14.7      8.7273 µg/L      17.99446      8.7273 ppb       17.99446 206.19%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          -2.4     -24.004 µg/L        7.9201     -24.004 ppb         7.9201  32.99%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              97.6      0.3712 µg/L       0.02895      0.3712 ppb        0.02895   7.80%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              10.8      1.2986 µg/L       0.45138      1.2986 ppb        0.45138  34.76%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†      -51.6     -15.927 µg/L        3.7526     -15.927 ppb         3.7526  23.56%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              12.4      0.9055 µg/L       0.13820      0.9055 ppb        0.13820  15.26%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               -5.7     -12.823 µg/L        0.6047     -12.823 ppb         0.6047   4.72%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              -2.3     -0.7557 µg/L       1.21403     -0.7557 ppb        1.21403 160.64%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          1.8      7.3755 µg/L       5.91793      7.3755 ppb        5.91793  80.24%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               2.8      3.1334 µg/L       1.51891      3.1334 ppb        1.51891  48.48%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -2.6     -3.3722 µg/L       8.20142     -3.3722 ppb        8.20142 243.21%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    -4.3     -0.9759 µg/L       5.29144     -0.9759 ppb        5.29144 542.20%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               0.4      0.0349 µg/L       0.60835      0.0349 ppb        0.60835 >999.9%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               0.4      0.1736 µg/L       1.40969      0.1736 ppb        1.40969 811.82%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              44.9      0.1867 µg/L       0.16543      0.1867 ppb        0.16543  88.59%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              78.6      0.2227 µg/L       0.24076      0.2227 ppb        0.24076 108.13%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -0.2     -0.1745 µg/L       2.59604     -0.1745 ppb        2.59604 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               22.2      2.3059 µg/L       8.21955      2.3059 ppb        8.21955 356.45%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†               25.2      0.3491 µg/L       0.36585      0.3491 ppb        0.36585 104.78%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             -21.0     -0.5919 µg/L       0.17692     -0.5919 ppb        0.17692  29.89%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 5
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 03:52:59
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	115351.2	115351.2	104	%			03:53:35
1	Al 396.153Radial†	9655.0	9328.3	4927.5	µg/L	4927.5	ppb	03:53:35
1	Ca 317.933Radial†	15926.6	14782.2	5046.3	µg/L	5046.3	ppb	03:53:35
1	Fe 238.204 Radial†	768.3	703.3	4879.5	µg/L	4879.5	ppb	03:53:55
1	K 766.490 Radial†	8778.8	8168.7	4852.8	µg/L	4852.8	ppb	03:53:35
1	Mg 279.077 IEC†	537.0	501.5	4962.0	µg/L	4962.0	ppb	03:53:55
1	Na 589.592 Radial†	31979.1	30346.3	9366.9	µg/L	9366.9	ppb	03:53:35
1	Sr 421.552†	116678.8	111739.4	464.74	µg/L	464.74	ppb	03:53:35
1	Sc 361.383	1737578.1	1737578.1	104.57	%			03:54:59
1	Y 371.029	977179.1	977179.1	104.26	%			03:54:59
1	Ag 328.068†	53968.5	52124.8	491.31	µg/L	491.31	ppb	03:55:04
1	As 188.979†	271.6	267.4	512.27	µg/L	512.27	ppb	03:55:25
1	B 249.677†	9385.7	8808.2	485.45	µg/L	485.45	ppb	03:55:04
1	Ba 233.527†	19232.9	18401.6	498.71	µg/L	498.71	ppb	03:55:04
1	Be 313.107†	695972.2	667193.3	498.23	µg/L	498.23	ppb	03:54:59
1	Cd 226.502†	17116.5	16508.3	500.28	µg/L	500.28	ppb	03:55:04
1	Co 228.616†	9684.0	9233.4	502.58	µg/L	502.58	ppb	03:55:04
1	Cr 267.716†	19608.4	18681.5	499.78	µg/L	499.78	ppb	03:55:04
1	Cu 324.752†	70630.5	64910.2	492.28	µg/L	492.28	ppb	03:55:04
1	Mn 257.610†	137325.1	131893.5	498.77	µg/L	498.77	ppb	03:55:04
1	Mo 202.031†	4488.3	4289.6	517.77	µg/L	517.77	ppb	03:55:25
1	Ni 231.604†	7715.5	7082.7	517.05	µg/L	517.05	ppb	03:55:25
1	P 214.914†	1421.9	1118.4	2492.7	µg/L	2492.7	ppb	03:55:25
1	Pb 220.353†	1652.5	1545.5	514.82	µg/L	514.82	ppb	03:55:25
1	S 181.975 Axial†	286.8	253.7	1052.5	µg/L	1052.5	ppb	03:55:25
1	Sb 206.836†	495.1	454.3	518.43	µg/L	518.43	ppb	03:55:25
1	Se 196.026†	432.4	399.1	528.85	µg/L	528.85	ppb	03:55:25
1	SiO2†	25537.4	23015.7	5265.1	µg/L	5265.1	ppb	03:55:04
1	Si 251.611†	30512.8	28793.9	2469.4	µg/L	2469.4	ppb	03:55:04
1	Sn 189.927†	1112.6	1062.9	523.66	µg/L	523.66	ppb	03:55:25
1	Ti 334.940†	184926.3	176841.9	497.15	µg/L	497.15	ppb	03:54:59
1	Tl 190.801†	410.2	418.7	515.98	µg/L	515.98	ppb	03:55:25
1	U 409.014†	4970.8	4609.1	478.26	µg/L	478.26	ppb	03:55:04
1	V 292.402†	38840.1	37285.3	501.33	µg/L	501.33	ppb	03:55:04
1	Zn 213.857†	19301.5	17846.4	498.28	µg/L	498.28	ppb	03:55:04
2	Sc RADIAL	115817.6	115817.6	105	%			03:54:01
2	Al 396.153Radial†	9646.3	9282.7	4903.3	µg/L	4903.3	ppb	03:54:01
2	Ca 317.933Radial†	15911.3	14706.1	5020.3	µg/L	5020.3	ppb	03:54:01
2	Fe 238.204 Radial†	762.2	694.5	4818.9	µg/L	4818.9	ppb	03:54:21
2	K 766.490 Radial†	8804.1	8159.1	4847.1	µg/L	4847.1	ppb	03:54:01
2	Mg 279.077 IEC†	537.6	500.0	4947.4	µg/L	4947.4	ppb	03:54:21
2	Na 589.592 Radial†	31881.8	30130.0	9300.1	µg/L	9300.1	ppb	03:54:01
2	Sr 421.552†	115893.3	110538.6	459.75	µg/L	459.75	ppb	03:54:01
2	Sc 361.383	1713842.0	1713842.0	103.15	%			03:55:31
2	Y 371.029	963799.5	963799.5	102.83	%			03:55:31
2	Ag 328.068†	54239.9	53102.7	500.51	µg/L	500.51	ppb	03:55:37
2	As 188.979†	269.8	269.2	515.72	µg/L	515.72	ppb	03:55:57
2	B 249.677†	9449.5	8994.4	495.80	µg/L	495.80	ppb	03:55:37
2	Ba 233.527†	19375.1	18794.2	509.34	µg/L	509.34	ppb	03:55:37
2	Be 313.107†	700260.6	680568.3	508.22	µg/L	508.22	ppb	03:55:31
2	Cd 226.502†	17278.5	16892.0	511.92	µg/L	511.92	ppb	03:55:37
2	Co 228.616†	9713.0	9389.8	511.09	µg/L	511.09	ppb	03:55:37
2	Cr 267.716†	19785.8	19113.2	511.33	µg/L	511.33	ppb	03:55:37
2	Cu 324.752†	70947.4	66152.8	501.67	µg/L	501.67	ppb	03:55:37
2	Mn 257.610†	138146.1	134508.2	508.66	µg/L	508.66	ppb	03:55:37
2	Mo 202.031†	4467.7	4329.0	522.52	µg/L	522.52	ppb	03:55:57
2	Ni 231.604†	7707.2	7176.8	523.92	µg/L	523.92	ppb	03:55:57
2	P 214.914†	1427.8	1143.0	2547.6	µg/L	2547.6	ppb	03:55:57
2	Pb 220.353†	1653.3	1568.1	522.35	µg/L	522.35	ppb	03:55:57

2	S 181.975 Axial†	281.4	252.3	1046.7 µg/L	1046.7 ppb	03:55:57
2	Sb 206.836†	487.6	453.6	517.54 µg/L	517.54 ppb	03:55:57
2	Se 196.026†	429.5	402.0	532.41 µg/L	532.41 ppb	03:55:57
2	SiO2†	25751.7	23561.6	5390.0 µg/L	5390.0 ppb	03:55:37
2	Si 251.611†	30709.6	29388.8	2520.4 µg/L	2520.4 ppb	03:55:37
2	Sn 189.927†	1105.6	1070.9	527.58 µg/L	527.58 ppb	03:55:57
2	Ti 334.940†	185782.1	180120.7	506.37 µg/L	506.37 ppb	03:55:31
2	Tl 190.801†	410.5	424.5	523.13 µg/L	523.13 ppb	03:55:57
2	U 409.014†	4967.7	4671.9	484.80 µg/L	484.80 ppb	03:55:37
2	V 292.402†	39032.6	37986.3	510.71 µg/L	510.71 ppb	03:55:37
2	Zn 213.857†	19498.8	18293.2	510.81 µg/L	510.81 ppb	03:55:37
3	Sc RADIAL	115610.1	115610.1	105 %		03:54:27
3	Al 396.153Radial†	9518.9	9177.4	4849.0 µg/L	4849.0 ppb	03:54:27
3	Ca 317.933Radial†	15709.8	14540.5	4963.8 µg/L	4963.8 ppb	03:54:27
3	Fe 238.204 Radial†	764.7	698.2	4843.9 µg/L	4843.9 ppb	03:54:47
3	K 766.490 Radial†	8761.8	8133.6	4831.9 µg/L	4831.9 ppb	03:54:27
3	Mg 279.077 IEC†	540.2	503.5	4980.6 µg/L	4980.6 ppb	03:54:47
3	Na 589.592 Radial†	31679.8	29991.3	9257.3 µg/L	9257.3 ppb	03:54:27
3	Sr 421.552†	115267.4	110138.4	458.08 µg/L	458.08 ppb	03:54:27
3	Sc 361.383	1720161.2	1720161.2	103.53 %		03:56:04
3	Y 371.029	966009.5	966009.5	103.07 %		03:56:04
3	Ag 328.068†	52615.0	51340.0	483.81 µg/L	483.81 ppb	03:56:10
3	As 188.979†	243.8	243.1	465.79 µg/L	465.79 ppb	03:56:30
3	B 249.677†	9152.1	8673.5	477.96 µg/L	477.96 ppb	03:56:10
3	Ba 233.527†	18410.0	17793.0	482.19 µg/L	482.19 ppb	03:56:10
3	Be 313.107†	676502.7	655125.6	489.22 µg/L	489.22 ppb	03:56:04
3	Cd 226.502†	16379.4	15962.1	483.66 µg/L	483.66 ppb	03:56:10
3	Co 228.616†	9171.7	8832.4	480.69 µg/L	480.69 ppb	03:56:10
3	Cr 267.716†	18183.3	17494.8	468.04 µg/L	468.04 ppb	03:56:10
3	Cu 324.752†	66877.5	61968.9	470.01 µg/L	470.01 ppb	03:56:10
3	Mn 257.610†	130011.1	126158.4	477.08 µg/L	477.08 ppb	03:56:10
3	Mo 202.031†	3873.9	3739.5	451.40 µg/L	451.40 ppb	03:56:30
3	Ni 231.604†	6715.9	6191.8	451.97 µg/L	451.97 ppb	03:56:30
3	P 214.914†	1282.6	997.6	2219.6 µg/L	2219.6 ppb	03:56:30
3	Pb 220.353†	1480.3	1395.1	464.61 µg/L	464.61 ppb	03:56:30
3	S 181.975 Axial†	258.3	228.9	949.81 µg/L	949.81 ppb	03:56:30
3	Sb 206.836†	436.0	402.0	458.36 µg/L	458.36 ppb	03:56:30
3	Se 196.026†	386.6	359.0	476.83 µg/L	476.83 ppb	03:56:30
3	SiO2†	24716.6	22470.1	5140.3 µg/L	5140.3 ppb	03:56:10
3	Si 251.611†	29539.8	28149.5	2414.1 µg/L	2414.1 ppb	03:56:10
3	Sn 189.927†	933.7	900.9	443.88 µg/L	443.88 ppb	03:56:30
3	Ti 334.940†	178876.5	172788.7	485.75 µg/L	485.75 ppb	03:56:04
3	Tl 190.801†	372.0	385.9	475.74 µg/L	475.74 ppb	03:56:30
3	U 409.014†	4697.7	4393.5	455.85 µg/L	455.85 ppb	03:56:10
3	V 292.402†	36512.2	35412.8	475.83 µg/L	475.83 ppb	03:56:10
3	Zn 213.857†	18327.0	17091.9	477.39 µg/L	477.39 ppb	03:56:10

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1723860.4	103.75	%	0.740				0.71%
Sc RADIAL	115593.0	105	%	0.2				0.20%
Y 371.029	968996.0	103.39	%	0.765				0.74%
Ag 328.068†	52189.2	491.88	µg/L	8.367	491.88	ppb	8.367	1.70%
QC value within limits for Ag 328.068 Recovery = 98.38%								
Al 396.153Radial†	9262.8	4893.2	µg/L	40.22	4893.2	ppb	40.22	0.82%
QC value within limits for Al 396.153Radial Recovery = 97.86%								
As 188.979†	259.9	497.93	µg/L	27.887	497.93	ppb	27.887	5.60%
QC value within limits for As 188.979 Recovery = 99.59%								
B 249.677†	8825.3	486.40	µg/L	8.955	486.40	ppb	8.955	1.84%
QC value within limits for B 249.677 Recovery = 97.28%								
Ba 233.527†	18329.6	496.75	µg/L	13.679	496.75	ppb	13.679	2.75%
QC value within limits for Ba 233.527 Recovery = 99.35%								
Be 313.107†	667629.1	498.55	µg/L	9.504	498.55	ppb	9.504	1.91%
QC value within limits for Be 313.107 Recovery = 99.71%								
Ca 317.933Radial†	14676.3	5010.1	µg/L	42.17	5010.1	ppb	42.17	0.84%
QC value within limits for Ca 317.933Radial Recovery = 100.20%								
Cd 226.502†	16454.1	498.62	µg/L	14.203	498.62	ppb	14.203	2.85%
QC value within limits for Cd 226.502 Recovery = 99.72%								
Co 228.616†	9151.9	498.12	µg/L	15.682	498.12	ppb	15.682	3.15%

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   QC value within limits for Co 228.616  Recovery = 99.62%
Cr 267.716†            18429.8      493.05 µg/L        22.417      493.05 ppb        22.417   4.55%
   QC value within limits for Cr 267.716  Recovery = 98.61%
Cu 324.752†            64344.0      487.99 µg/L        16.264      487.99 ppb        16.264   3.33%
   QC value within limits for Cu 324.752  Recovery = 97.60%
Fe 238.204 Radial†       698.7      4847.4 µg/L         30.45      4847.4 ppb         30.45   0.63%
   QC value within limits for Fe 238.204 Radial  Recovery = 96.95%
K 766.490 Radial†       8153.8      4843.9 µg/L         10.78      4843.9 ppb         10.78   0.22%
   QC value within limits for K 766.490 Radial  Recovery = 96.88%
Mg 279.077 IEC†          501.7      4963.3 µg/L         16.63      4963.3 ppb         16.63   0.34%
   QC value within limits for Mg 279.077 IEC  Recovery = 99.27%
Mn 257.610†           130853.4      494.83 µg/L        16.153      494.83 ppb        16.153   3.26%
   QC value within limits for Mn 257.610  Recovery = 98.97%
Mo 202.031†             4119.4      497.23 µg/L        39.765      497.23 ppb        39.765   8.00%
   QC value within limits for Mo 202.031  Recovery = 99.45%
Na 589.592 Radial†     30155.9      9308.1 µg/L         55.23      9308.1 ppb         55.23   0.59%
   QC value within limits for Na 589.592 Radial  Recovery = 93.08%
Ni 231.604†             6817.1      497.65 µg/L        39.703      497.65 ppb        39.703   7.98%
   QC value within limits for Ni 231.604  Recovery = 99.53%
P 214.914†              1086.3      2420.0 µg/L        175.70      2420.0 ppb        175.70   7.26%
   QC value within limits for P 214.914  Recovery = 96.80%
Pb 220.353†             1502.9      500.60 µg/L        31.388      500.60 ppb        31.388   6.27%
   QC value within limits for Pb 220.353  Recovery = 100.12%
S 181.975 Axial†         244.9      1016.3 µg/L         57.67      1016.3 ppb         57.67   5.67%
   QC value within limits for S 181.975 Axial  Recovery = 101.63%
Sb 206.836†              436.6      498.11 µg/L        34.427      498.11 ppb        34.427   6.91%
   QC value within limits for Sb 206.836  Recovery = 99.62%
Se 196.026†              386.7      512.70 µg/L        31.111      512.70 ppb        31.111   6.07%
   QC value within limits for Se 196.026  Recovery = 102.54%
SiO2†                  23015.8      5265.1 µg/L        124.85      5265.1 ppb        124.85   2.37%
   QC value within limits for SiO2  Recovery = 98.46%
Si 251.611†            28777.4      2468.0 µg/L         53.15      2468.0 ppb         53.15   2.15%
   QC value within limits for Si 251.611  Recovery = 98.72%
Sn 189.927†             1011.6      498.37 µg/L        47.231      498.37 ppb        47.231   9.48%
   QC value within limits for Sn 189.927  Recovery = 99.67%
Sr 421.552†           110805.5      460.86 µg/L         3.465      460.86 ppb         3.465   0.75%
   QC value within limits for Sr 421.552  Recovery = 92.17%
Ti 334.940†           176583.7      496.42 µg/L        10.334      496.42 ppb        10.334   2.08%
   QC value within limits for Ti 334.940  Recovery = 99.28%
Tl 190.801†              409.7      504.95 µg/L        25.550      504.95 ppb        25.550   5.06%
   QC value within limits for Tl 190.801  Recovery = 100.99%
U 409.014†              4558.2      472.97 µg/L        15.183      472.97 ppb        15.183   3.21%
   QC value within limits for U 409.014  Recovery = 94.59%
V 292.402†             36894.8      495.96 µg/L        18.049      495.96 ppb        18.049   3.64%
   QC value within limits for V 292.402  Recovery = 99.19%
Zn 213.857†            17743.8      495.49 µg/L        16.883      495.49 ppb        16.883   3.41%
   QC value within limits for Zn 213.857  Recovery = 99.10%
All analyte(s) passed QC.
```

Sequence No.: 6
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 03:56:41
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	112962.5	112962.5	102	%			03:57:13
1	Al 396.153Radial†	-135.1	-62.1	-32.929	µg/L	-32.929	ppb	03:57:13
1	Ca 317.933Radial†	420.6	-78.0	-26.632	µg/L	-26.632	ppb	03:57:34
1	Fe 238.204 Radial†	34.2	0.1	0.5353	µg/L	0.5353	ppb	03:57:34
1	K 766.490 Radial†	297.6	42.2	25.079	µg/L	25.079	ppb	03:57:13
1	Mg 279.077 IEC†	10.4	-3.3	-32.240	µg/L	-32.240	ppb	03:57:34
1	Na 589.592 Radial†	298.8	-25.8	-7.9626	µg/L	-7.9626	ppb	03:57:13
1	Sr 421.552†	155.1	8.1	0.0336	µg/L	0.0336	ppb	03:57:13
1	Sc 361.383	1715288.7	1715288.7	103.23	%			03:58:36
1	Y 371.029	967768.4	967768.4	103.26	%			03:58:36
1	Ag 328.068†	-513.1	20.3	0.1904	µg/L	0.1904	ppb	03:58:41
1	As 188.979†	-3.1	4.6	8.9164	µg/L	8.9164	ppb	03:59:02
1	B 249.677†	196.4	23.3	1.2923	µg/L	1.2923	ppb	03:59:02
1	Ba 233.527†	-4.3	5.9	0.1596	µg/L	0.1596	ppb	03:59:02
1	Be 313.107†	-1695.4	25.7	0.0191	µg/L	0.0191	ppb	03:58:41
1	Cd 226.502†	-152.7	-7.3	-0.2222	µg/L	-0.2222	ppb	03:59:02
1	Co 228.616†	27.1	-0.6	-0.0344	µg/L	-0.0344	ppb	03:59:02
1	Cr 267.716†	102.3	29.9	0.8005	µg/L	0.8005	ppb	03:58:41
1	Cu 324.752†	2686.7	-27.9	-0.2109	µg/L	-0.2109	ppb	03:58:41
1	Mn 257.610†	-553.0	40.4	0.1551	µg/L	0.1551	ppb	03:59:02
1	Mo 202.031†	14.8	11.9	1.4387	µg/L	1.4387	ppb	03:59:02
1	Ni 231.604†	291.1	-13.3	-0.9730	µg/L	-0.9730	ppb	03:59:02
1	P 214.914†	249.3	0.2	0.4525	µg/L	0.4525	ppb	03:59:02
1	Pb 220.353†	39.6	3.6	1.1825	µg/L	1.1825	ppb	03:59:02
1	S 181.975 Axial†	27.3	5.9	24.291	µg/L	24.291	ppb	03:59:02
1	Sb 206.836†	24.8	4.8	5.5081	µg/L	5.5081	ppb	03:59:02
1	Se 196.026†	24.3	9.2	11.890	µg/L	11.890	ppb	03:59:02
1	SiO2†	1450.5	0.5	0.1169	µg/L	0.1169	ppb	03:58:41
1	Si 251.611†	396.1	-0.3	-0.0280	µg/L	-0.0280	ppb	03:59:02
1	Sn 189.927†	1.7	0.6	0.3075	µg/L	0.3075	ppb	03:59:02
1	Ti 334.940†	92.6	95.3	0.2702	µg/L	0.2702	ppb	03:58:41
1	Tl 190.801†	-25.5	1.8	2.1983	µg/L	2.1983	ppb	03:59:02
1	U 409.014†	196.3	45.9	4.7741	µg/L	4.7741	ppb	03:58:41
1	V 292.402†	-144.0	4.9	0.0828	µg/L	0.0828	ppb	03:58:41
1	Zn 213.857†	609.2	-20.7	-0.5757	µg/L	-0.5757	ppb	03:59:02
2	Sc RADIAL	113391.6	113391.6	103	%			03:57:39
2	Al 396.153Radial†	-137.8	-64.3	-34.075	µg/L	-34.075	ppb	03:57:39
2	Ca 317.933Radial†	422.8	-77.4	-26.426	µg/L	-26.426	ppb	03:58:00
2	Fe 238.204 Radial†	35.1	0.8	5.5331	µg/L	5.5331	ppb	03:58:00
2	K 766.490 Radial†	328.4	71.2	42.270	µg/L	42.270	ppb	03:57:39
2	Mg 279.077 IEC†	13.1	-0.6	-6.1413	µg/L	-6.1413	ppb	03:58:00
2	Na 589.592 Radial†	245.5	-78.8	-24.336	µg/L	-24.336	ppb	03:57:39
2	Sr 421.552†	178.8	30.6	0.1273	µg/L	0.1273	ppb	03:57:39
2	Sc 361.383	1707571.8	1707571.8	102.77	%			03:59:08
2	Y 371.029	962740.8	962740.8	102.72	%			03:59:08
2	Ag 328.068†	-555.3	-23.1	-0.2149	µg/L	-0.2149	ppb	03:59:14
2	As 188.979†	-2.0	5.7	10.944	µg/L	10.944	ppb	03:59:34
2	B 249.677†	184.4	12.5	0.6894	µg/L	0.6894	ppb	03:59:34
2	Ba 233.527†	-13.4	-2.9	-0.0783	µg/L	-0.0783	ppb	03:59:34
2	Be 313.107†	-1660.2	52.6	0.0392	µg/L	0.0392	ppb	03:59:14
2	Cd 226.502†	-137.7	6.6	0.2009	µg/L	0.2009	ppb	03:59:34
2	Co 228.616†	21.2	-6.3	-0.3400	µg/L	-0.3400	ppb	03:59:34
2	Cr 267.716†	92.1	20.4	0.5466	µg/L	0.5466	ppb	03:59:14
2	Cu 324.752†	2619.5	-81.5	-0.6159	µg/L	-0.6159	ppb	03:59:14
2	Mn 257.610†	-536.9	53.7	0.2038	µg/L	0.2038	ppb	03:59:34
2	Mo 202.031†	16.0	13.2	1.5919	µg/L	1.5919	ppb	03:59:34
2	Ni 231.604†	322.6	18.6	1.3579	µg/L	1.3579	ppb	03:59:34
2	P 214.914†	243.6	-4.3	-9.6497	µg/L	-9.6497	ppb	03:59:34
2	Pb 220.353†	43.4	7.5	2.4858	µg/L	2.4858	ppb	03:59:34

2	S 181.975 Axial†	17.1	-3.9	-16.279 µg/L	-16.279 ppb	03:59:34
2	Sb 206.836†	21.8	2.1	2.3500 µg/L	2.3500 ppb	03:59:34
2	Se 196.026†	17.0	2.2	2.8512 µg/L	2.8512 ppb	03:59:34
2	SiO2†	1431.1	-12.0	-2.7521 µg/L	-2.7521 ppb	03:59:14
2	Si 251.611†	387.3	-7.2	-0.6173 µg/L	-0.6173 ppb	03:59:34
2	Sn 189.927†	3.2	2.1	1.0236 µg/L	1.0236 ppb	03:59:34
2	Ti 334.940†	80.6	84.0	0.2365 µg/L	0.2365 ppb	03:59:14
2	Tl 190.801†	-23.2	3.9	4.7699 µg/L	4.7699 ppb	03:59:34
2	U 409.014†	187.2	37.9	3.9422 µg/L	3.9422 ppb	03:59:14
2	V 292.402†	-149.4	-1.0	0.0043 µg/L	0.0043 ppb	03:59:14
2	Zn 213.857†	614.0	-13.3	-0.3794 µg/L	-0.3794 ppb	03:59:34
3	Sc RADIAL	113653.2	113653.2	103 %		03:58:05
3	Al 396.153Radial†	-121.1	-47.7	-25.277 µg/L	-25.277 ppb	03:58:05
3	Ca 317.933Radial†	413.8	-87.1	-29.723 µg/L	-29.723 ppb	03:58:26
3	Fe 238.204 Radial†	34.8	0.4	3.0880 µg/L	3.0880 ppb	03:58:26
3	K 766.490 Radial†	239.0	-16.6	-9.8571 µg/L	-9.8571 ppb	03:58:05
3	Mg 279.077 IEC†	10.3	-3.3	-32.950 µg/L	-32.950 ppb	03:58:26
3	Na 589.592 Radial†	249.6	-75.4	-23.277 µg/L	-23.277 ppb	03:58:05
3	Sr 421.552†	179.1	30.5	0.1270 µg/L	0.1270 ppb	03:58:05
3	Sc 361.383	1700079.8	1700079.8	102.32 %		03:59:40
3	Y 371.029	958799.9	958799.9	102.30 %		03:59:40
3	Ag 328.068†	-535.5	-6.0	-0.0538 µg/L	-0.0538 ppb	03:59:46
3	As 188.979†	-1.5	6.2	11.906 µg/L	11.906 ppb	04:00:06
3	B 249.677†	182.8	11.7	0.6484 µg/L	0.6484 ppb	04:00:06
3	Ba 233.527†	-12.5	-2.1	-0.0554 µg/L	-0.0554 ppb	04:00:06
3	Be 313.107†	-1664.7	41.0	0.0305 µg/L	0.0305 ppb	03:59:46
3	Cd 226.502†	-143.9	-0.1	-0.0021 µg/L	-0.0021 ppb	04:00:06
3	Co 228.616†	18.1	-9.2	-0.5013 µg/L	-0.5013 ppb	04:00:06
3	Cr 267.716†	97.5	26.2	0.7004 µg/L	0.7004 ppb	03:59:46
3	Cu 324.752†	2650.2	-40.3	-0.3047 µg/L	-0.3047 ppb	03:59:46
3	Mn 257.610†	-530.3	57.8	0.2211 µg/L	0.2211 ppb	04:00:06
3	Mo 202.031†	9.3	6.7	0.8083 µg/L	0.8083 ppb	04:00:06
3	Ni 231.604†	306.0	3.8	0.2760 µg/L	0.2760 ppb	04:00:06
3	P 214.914†	237.6	-9.1	-20.629 µg/L	-20.629 ppb	04:00:06
3	Pb 220.353†	41.8	6.1	2.0304 µg/L	2.0304 ppb	04:00:06
3	S 181.975 Axial†	20.4	-0.7	-2.7222 µg/L	-2.7222 ppb	04:00:06
3	Sb 206.836†	21.9	2.2	2.5550 µg/L	2.5550 ppb	04:00:06
3	Se 196.026†	10.8	-3.8	-4.8881 µg/L	-4.8881 ppb	04:00:06
3	SiO2†	1442.3	5.1	1.1649 µg/L	1.1649 ppb	03:59:46
3	Si 251.611†	410.3	17.0	1.4558 µg/L	1.4558 ppb	04:00:06
3	Sn 189.927†	1.3	0.2	0.1034 µg/L	0.1034 ppb	04:00:06
3	Ti 334.940†	146.3	148.6	0.4201 µg/L	0.4201 ppb	03:59:46
3	Tl 190.801†	-26.6	0.5	0.6017 µg/L	0.6017 ppb	04:00:06
3	U 409.014†	148.9	1.3	0.1407 µg/L	0.1407 ppb	03:59:46
3	V 292.402†	-120.0	27.0	0.3674 µg/L	0.3674 ppb	03:59:46
3	Zn 213.857†	610.4	-14.2	-0.3980 µg/L	-0.3980 ppb	04:00:06

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1707646.7	102.77	%	0.458				0.45%
Sc RADIAL	113335.8	102	%	0.3				0.31%
Y 371.029	963103.0	102.76	%	0.480				0.47%
Ag 328.068†	-2.9	-0.0261	µg/L	0.20407	-0.0261	ppb	0.20407	781.38%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-58.1	-30.760	µg/L	4.7830	-30.760	ppb	4.7830	15.55%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	5.5	10.589	µg/L	1.5264	10.589	ppb	1.5264	14.41%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	15.9	0.8767	µg/L	0.36048	0.8767	ppb	0.36048	41.12%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	0.3	0.0086	µg/L	0.13125	0.0086	ppb	0.13125	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	39.7	0.0296	µg/L	0.01007	0.0296	ppb	0.01007	34.06%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-80.8	-27.594	µg/L	1.8469	-27.594	ppb	1.8469	6.69%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	-0.3	-0.0078	µg/L	0.21162	-0.0078	ppb	0.21162	>999.9%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-5.4	-0.2919	µg/L	0.23713	-0.2919	ppb	0.23713	81.24%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                25.5      0.6825 µg/L       0.12788      0.6825 ppb        0.12788  18.74%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               -49.9     -0.3772 µg/L       0.21203     -0.3772 ppb        0.21203  56.22%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.4      3.0522 µg/L       2.49911      3.0522 ppb        2.49911  81.88%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          32.3      19.164 µg/L       26.5622      19.164 ppb        26.5622 138.60%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -2.4     -23.777 µg/L       15.2773     -23.777 ppb        15.2773  64.25%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                50.7      0.1934 µg/L       0.03424      0.1934 ppb        0.03424  17.71%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                10.6      1.2796 µg/L       0.41533      1.2796 ppb        0.41533  32.46%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -60.0     -18.525 µg/L        9.1627     -18.525 ppb         9.1627  49.46%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 3.0      0.2203 µg/L       1.16646      0.2203 ppb        1.16646 529.43%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 -4.4     -9.9422 µg/L      10.54398     -9.9422 ppb       10.54398 106.05%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 5.7      1.8995 µg/L       0.66143      1.8995 ppb        0.66143  34.82%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            0.4      1.7634 µg/L      20.65369      1.7634 ppb       20.65369 >999.9%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 3.0      3.4711 µg/L       1.76712      3.4711 ppb        1.76712  50.91%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 2.5      3.2844 µg/L       8.39757      3.2844 ppb        8.39757 255.68%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                      -2.1     -0.4901 µg/L       2.02781     -0.4901 ppb        2.02781 413.73%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†                 3.1      0.2701 µg/L       1.06825      0.2701 ppb        1.06825 395.44%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 1.0      0.4782 µg/L       0.48323      0.4782 ppb        0.48323 101.06%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                23.1      0.0960 µg/L       0.05404      0.0960 ppb        0.05404  56.31%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               109.3      0.3089 µg/L       0.09776      0.3089 ppb        0.09776  31.64%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 2.1      2.5233 µg/L       2.10304      2.5233 ppb        2.10304  83.34%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                 28.4      2.9523 µg/L       2.47023      2.9523 ppb        2.47023  83.67%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 10.3      0.1515 µg/L       0.19109      0.1515 ppb        0.19109 126.13%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -16.1     -0.4511 µg/L       0.10837     -0.4511 ppb        0.10837  24.03%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 16
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 04:31:02
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	114394.7	114394.7	103	%			04:31:41
1	Al 396.153Radial†	9771.0	9517.9	5027.7	µg/L	5027.7	ppb	04:31:41
1	Ca 317.933Radial†	15812.1	14799.2	5052.1	µg/L	5052.1	ppb	04:31:41
1	Fe 238.204 Radial†	754.4	696.0	4829.2	µg/L	4829.2	ppb	04:32:02
1	K 766.490 Radial†	8879.0	8336.0	4952.2	µg/L	4952.2	ppb	04:31:41
1	Mg 279.077 IEC†	536.7	505.6	5002.7	µg/L	5002.7	ppb	04:32:02
1	Na 589.592 Radial†	31700.1	30333.0	9362.8	µg/L	9362.8	ppb	04:31:41
1	Sr 421.552†	115889.6	111911.7	465.46	µg/L	465.46	ppb	04:31:41
1	Sc 361.383	1709971.6	1709971.6	102.91	%			04:33:05
1	Y 371.029	959827.8	959827.8	102.41	%			04:33:05
1	Ag 328.068†	54192.7	53175.8	501.18	µg/L	501.18	ppb	04:33:11
1	As 188.979†	273.0	272.9	522.79	µg/L	522.79	ppb	04:33:31
1	B 249.677†	9408.7	8975.5	494.74	µg/L	494.74	ppb	04:33:11
1	Ba 233.527†	19155.9	18623.7	504.73	µg/L	504.73	ppb	04:33:11
1	Be 313.107†	690116.9	672248.3	502.00	µg/L	502.00	ppb	04:33:05
1	Cd 226.502†	17033.3	16691.7	505.85	µg/L	505.85	ppb	04:33:11
1	Co 228.616†	9641.6	9341.7	508.48	µg/L	508.48	ppb	04:33:11
1	Cr 267.716†	19609.1	18984.9	507.90	µg/L	507.90	ppb	04:33:11
1	Cu 324.752†	70595.0	65966.1	500.26	µg/L	500.26	ppb	04:33:11
1	Mn 257.610†	136897.0	133597.6	505.21	µg/L	505.21	ppb	04:33:11
1	Mo 202.031†	4483.2	4353.8	525.52	µg/L	525.52	ppb	04:33:31
1	Ni 231.604†	7763.7	7248.6	529.17	µg/L	529.17	ppb	04:33:11
1	P 214.914†	1422.4	1140.8	2543.1	µg/L	2543.1	ppb	04:33:31
1	Pb 220.353†	1655.1	1573.4	524.13	µg/L	524.13	ppb	04:33:31
1	S 181.975 Axial†	290.5	261.7	1085.7	µg/L	1085.7	ppb	04:33:31
1	Sb 206.836†	489.1	456.1	520.54	µg/L	520.54	ppb	04:33:31
1	Se 196.026†	433.9	407.2	539.15	µg/L	539.15	ppb	04:33:31
1	SiO2†	25960.0	23820.6	5449.2	µg/L	5449.2	ppb	04:33:11
1	Si 251.611†	31125.1	29860.0	2560.8	µg/L	2560.8	ppb	04:33:11
1	Sn 189.927†	1111.8	1079.3	531.75	µg/L	531.75	ppb	04:33:31
1	Ti 334.940†	184209.7	179000.5	503.22	µg/L	503.22	ppb	04:33:05
1	Tl 190.801†	408.1	423.1	521.37	µg/L	521.37	ppb	04:33:31
1	U 409.014†	4982.6	4697.3	487.44	µg/L	487.44	ppb	04:33:11
1	V 292.402†	38745.9	37793.4	508.16	µg/L	508.16	ppb	04:33:11
1	Zn 213.857†	19334.7	18176.6	507.50	µg/L	507.50	ppb	04:33:11
2	Sc RADIAL	114688.7	114688.7	104	%			04:32:07
2	Al 396.153Radial†	9631.4	9359.0	4943.5	µg/L	4943.5	ppb	04:32:07
2	Ca 317.933Radial†	15738.6	14689.1	5014.5	µg/L	5014.5	ppb	04:32:07
2	Fe 238.204 Radial†	759.7	699.3	4851.9	µg/L	4851.9	ppb	04:32:28
2	K 766.490 Radial†	8778.6	8217.2	4881.6	µg/L	4881.6	ppb	04:32:07
2	Mg 279.077 IEC†	532.4	500.1	4948.0	µg/L	4948.0	ppb	04:32:28
2	Na 589.592 Radial†	31668.0	30223.5	9329.0	µg/L	9329.0	ppb	04:32:07
2	Sr 421.552†	115661.0	111404.0	463.35	µg/L	463.35	ppb	04:32:07
2	Sc 361.383	1709920.3	1709920.3	102.91	%			04:33:38
2	Y 371.029	960714.1	960714.1	102.50	%			04:33:38
2	Ag 328.068†	54413.5	53392.0	503.23	µg/L	503.23	ppb	04:33:44
2	As 188.979†	273.1	273.0	523.00	µg/L	523.00	ppb	04:34:04
2	B 249.677†	9441.4	9007.5	496.51	µg/L	496.51	ppb	04:33:44
2	Ba 233.527†	19334.8	18798.1	509.45	µg/L	509.45	ppb	04:33:44
2	Be 313.107†	689185.2	671363.1	501.34	µg/L	501.34	ppb	04:33:38
2	Cd 226.502†	17201.4	16855.5	510.82	µg/L	510.82	ppb	04:33:44
2	Co 228.616†	9715.3	9413.7	512.40	µg/L	512.40	ppb	04:33:44
2	Cr 267.716†	19726.5	19099.6	510.97	µg/L	510.97	ppb	04:33:44
2	Cu 324.752†	71089.6	66448.8	503.92	µg/L	503.92	ppb	04:33:44
2	Mn 257.610†	138035.2	134707.6	509.41	µg/L	509.41	ppb	04:33:44
2	Mo 202.031†	4496.3	4366.7	527.07	µg/L	527.07	ppb	04:34:04
2	Ni 231.604†	7806.2	7290.1	532.20	µg/L	532.20	ppb	04:33:44
2	P 214.914†	1427.9	1146.2	2554.8	µg/L	2554.8	ppb	04:34:04
2	Pb 220.353†	1659.1	1577.4	525.43	µg/L	525.43	ppb	04:34:04

2	S 181.975 Axial†	285.1	256.4	1063.9 µg/L	1063.9 ppb	04:34:04
2	Sb 206.836†	490.4	457.4	521.97 µg/L	521.97 ppb	04:34:04
2	Se 196.026†	427.2	400.7	530.86 µg/L	530.86 ppb	04:34:04
2	SiO2†	26317.1	24168.3	5528.7 µg/L	5528.7 ppb	04:33:44
2	Si 251.611†	31433.8	30160.8	2586.6 µg/L	2586.6 ppb	04:33:44
2	Sn 189.927†	1106.3	1074.0	529.13 µg/L	529.13 ppb	04:34:04
2	Ti 334.940†	184296.9	179090.6	503.48 µg/L	503.48 ppb	04:33:38
2	Tl 190.801†	405.0	420.0	517.66 µg/L	517.66 ppb	04:34:04
2	U 409.014†	5057.8	4770.5	495.05 µg/L	495.05 ppb	04:33:44
2	V 292.402†	39043.8	38084.0	512.05 µg/L	512.05 ppb	04:33:44
2	Zn 213.857†	19443.6	18283.0	510.48 µg/L	510.48 ppb	04:33:44
3	Sc RADIAL	114638.6	114638.6	104 %		04:32:33
3	Al 396.153Radial†	9592.2	9325.3	4927.2 µg/L	4927.2 ppb	04:32:33
3	Ca 317.933Radial†	15633.4	14594.2	4982.1 µg/L	4982.1 ppb	04:32:33
3	Fe 238.204 Radial†	753.7	693.8	4813.0 µg/L	4813.0 ppb	04:32:54
3	K 766.490 Radial†	8770.6	8213.2	4879.2 µg/L	4879.2 ppb	04:32:33
3	Mg 279.077 IEC†	536.5	504.3	4988.4 µg/L	4988.4 ppb	04:32:54
3	Na 589.592 Radial†	31335.5	29916.0	9234.1 µg/L	9234.1 ppb	04:32:33
3	Sr 421.552†	114594.1	110423.4	459.27 µg/L	459.27 ppb	04:32:33
3	Sc 361.383	1714696.9	1714696.9	103.20 %		04:34:11
3	Y 371.029	958685.9	958685.9	102.29 %		04:34:11
3	Ag 328.068†	52201.9	51101.7	481.56 µg/L	481.56 ppb	04:34:16
3	As 188.979†	240.7	240.9	461.44 µg/L	461.44 ppb	04:34:37
3	B 249.677†	9114.4	8665.0	477.51 µg/L	477.51 ppb	04:34:16
3	Ba 233.527†	18189.9	17636.3	477.95 µg/L	477.95 ppb	04:34:16
3	Be 313.107†	664115.6	645204.8	481.81 µg/L	481.81 ppb	04:34:11
3	Cd 226.502†	16079.6	15721.9	476.43 µg/L	476.43 ppb	04:34:16
3	Co 228.616†	9045.9	8738.7	475.60 µg/L	475.60 ppb	04:34:16
3	Cr 267.716†	17967.4	17341.6	463.94 µg/L	463.94 ppb	04:34:16
3	Cu 324.752†	66548.5	61855.9	469.14 µg/L	469.14 ppb	04:34:16
3	Mn 257.610†	128408.1	125005.2	472.71 µg/L	472.71 ppb	04:34:16
3	Mo 202.031†	3874.7	3752.3	452.93 µg/L	452.93 ppb	04:34:37
3	Ni 231.604†	7280.7	6759.8	493.49 µg/L	493.49 ppb	04:34:16
3	P 214.914†	1281.5	1000.5	2226.4 µg/L	2226.4 ppb	04:34:37
3	Pb 220.353†	1482.2	1401.5	466.76 µg/L	466.76 ppb	04:34:37
3	S 181.975 Axial†	258.5	229.9	953.96 µg/L	953.96 ppb	04:34:37
3	Sb 206.836†	436.2	403.5	460.10 µg/L	460.10 ppb	04:34:37
3	Se 196.026†	395.2	368.6	489.17 µg/L	489.17 ppb	04:34:37
3	SiO2†	25087.5	22905.6	5239.9 µg/L	5239.9 ppb	04:34:16
3	Si 251.611†	29959.1	28646.7	2456.8 µg/L	2456.8 ppb	04:34:16
3	Sn 189.927†	936.1	906.1	446.46 µg/L	446.46 ppb	04:34:37
3	Ti 334.940†	177194.8	171709.8	482.71 µg/L	482.71 ppb	04:34:11
3	Tl 190.801†	382.8	397.4	489.82 µg/L	489.82 ppb	04:34:37
3	U 409.014†	4686.3	4396.9	456.20 µg/L	456.20 ppb	04:34:16
3	V 292.402†	36182.9	35206.0	473.08 µg/L	473.08 ppb	04:34:16
3	Zn 213.857†	18177.4	17003.3	474.72 µg/L	474.72 ppb	04:34:16

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1711529.6	103.01	%	0.165				0.16%
Sc RADIAL	114574.0	104	%	0.1				0.14%
Y 371.029	959742.6	102.40	%	0.108				0.11%
Ag 328.068†	52556.5	495.32	µg/L	11.966	495.32	ppb	11.966	2.42%
QC value within limits for Ag 328.068 Recovery = 99.06%								
Al 396.153Radial†	9400.7	4966.2	µg/L	53.92	4966.2	ppb	53.92	1.09%
QC value within limits for Al 396.153Radial Recovery = 99.32%								
As 188.979†	262.3	502.41	µg/L	35.483	502.41	ppb	35.483	7.06%
QC value within limits for As 188.979 Recovery = 100.48%								
B 249.677†	8882.7	489.59	µg/L	10.496	489.59	ppb	10.496	2.14%
QC value within limits for B 249.677 Recovery = 97.92%								
Ba 233.527†	18352.7	497.38	µg/L	16.986	497.38	ppb	16.986	3.42%
QC value within limits for Ba 233.527 Recovery = 99.48%								
Be 313.107†	662938.7	495.05	µg/L	11.473	495.05	ppb	11.473	2.32%
QC value within limits for Be 313.107 Recovery = 99.01%								
Ca 317.933Radial†	14694.1	5016.2	µg/L	35.02	5016.2	ppb	35.02	0.70%
QC value within limits for Ca 317.933Radial Recovery = 100.32%								
Cd 226.502†	16423.0	497.70	µg/L	18.588	497.70	ppb	18.588	3.73%
QC value within limits for Cd 226.502 Recovery = 99.54%								
Co 228.616†	9164.7	498.83	µg/L	20.211	498.83	ppb	20.211	4.05%

```
   QC value within limits for Co 228.616  Recovery = 99.77%
Cr 267.716†            18475.3      494.27 µg/L        26.309      494.27 ppb        26.309   5.32%
   QC value within limits for Cr 267.716  Recovery = 98.85%
Cu 324.752†            64756.9      491.11 µg/L        19.109      491.11 ppb        19.109   3.89%
   QC value within limits for Cu 324.752  Recovery = 98.22%
Fe 238.204 Radial†       696.4      4831.3 µg/L         19.55      4831.3 ppb         19.55   0.40%
   QC value within limits for Fe 238.204 Radial  Recovery = 96.63%
K 766.490 Radial†       8255.5      4904.3 µg/L         41.45      4904.3 ppb         41.45   0.85%
   QC value within limits for K 766.490 Radial  Recovery = 98.09%
Mg 279.077 IEC†          503.3      4979.7 µg/L         28.35      4979.7 ppb         28.35   0.57%
   QC value within limits for Mg 279.077 IEC  Recovery = 99.59%
Mn 257.610†           131103.5      495.78 µg/L        20.085      495.78 ppb        20.085   4.05%
   QC value within limits for Mn 257.610  Recovery = 99.16%
Mo 202.031†            4157.6      501.84 µg/L        42.364      501.84 ppb        42.364   8.44%
   QC value within limits for Mo 202.031  Recovery = 100.37%
Na 589.592 Radial†    30157.5      9308.6 µg/L         66.73      9308.6 ppb         66.73   0.72%
   QC value within limits for Na 589.592 Radial  Recovery = 93.09%
Ni 231.604†            7099.5      518.28 µg/L        21.527      518.28 ppb        21.527   4.15%
   QC value within limits for Ni 231.604  Recovery = 103.66%
P 214.914†             1095.9      2441.4 µg/L        186.27      2441.4 ppb        186.27   7.63%
   QC value within limits for P 214.914  Recovery = 97.66%
Pb 220.353†            1517.4      505.44 µg/L        33.507      505.44 ppb        33.507   6.63%
   QC value within limits for Pb 220.353  Recovery = 101.09%
S 181.975 Axial†        249.3      1034.5 µg/L         70.61      1034.5 ppb         70.61   6.83%
   QC value within limits for S 181.975 Axial  Recovery = 103.45%
Sb 206.836†             439.0      500.87 µg/L        35.314      500.87 ppb        35.314   7.05%
   QC value within limits for Sb 206.836  Recovery = 100.17%
Se 196.026†             392.2      519.73 µg/L        26.784      519.73 ppb        26.784   5.15%
   QC value within limits for Se 196.026  Recovery = 103.95%
SiO2†                  23631.5      5405.9 µg/L        149.22      5405.9 ppb        149.22   2.76%
   QC value within limits for SiO2  Recovery = 101.09%
Si 251.611†            29555.8      2534.7 µg/L         68.74      2534.7 ppb         68.74   2.71%
   QC value within limits for Si 251.611  Recovery = 101.39%
Sn 189.927†            1019.8      502.45 µg/L        48.506      502.45 ppb        48.506   9.65%
   QC value within limits for Sn 189.927  Recovery = 100.49%
Sr 421.552†           111246.4      462.69 µg/L         3.147      462.69 ppb         3.147   0.68%
   QC value within limits for Sr 421.552  Recovery = 92.54%
Ti 334.940†           176600.3      496.47 µg/L        11.916      496.47 ppb        11.916   2.40%
   QC value within limits for Ti 334.940  Recovery = 99.29%
Tl 190.801†             413.5      509.62 µg/L        17.248      509.62 ppb        17.248   3.38%
   QC value within limits for Tl 190.801  Recovery = 101.92%
U 409.014†             4621.6      479.56 µg/L        20.586      479.56 ppb        20.586   4.29%
   QC value within limits for U 409.014  Recovery = 95.91%
V 292.402†            37027.8      497.77 µg/L        21.464      497.77 ppb        21.464   4.31%
   QC value within limits for V 292.402  Recovery = 99.55%
Zn 213.857†           17821.0      497.57 µg/L        19.843      497.57 ppb        19.843   3.99%
   QC value within limits for Zn 213.857  Recovery = 99.51%
All analyte(s) passed QC.
```

Sequence No.: 17
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 04:34:46
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	110701.4	110701.4	100	%			04:35:19
1	Al 396.153Radial†	-124.0	-53.7	-28.446	µg/L	-28.446	ppb	04:35:19
1	Ca 317.933Radial†	403.2	-86.9	-29.668	µg/L	-29.668	ppb	04:35:39
1	Fe 238.204 Radial†	32.5	-1.0	-6.6694	µg/L	-6.6694	ppb	04:35:39
1	K 766.490 Radial†	304.7	55.2	32.803	µg/L	32.803	ppb	04:35:19
1	Mg 279.077 IEC†	13.2	-0.2	-2.2144	µg/L	-2.2144	ppb	04:35:39
1	Na 589.592 Radial†	319.3	0.7	0.2041	µg/L	0.2041	ppb	04:35:19
1	Sr 421.552†	180.0	36.1	0.1502	µg/L	0.1502	ppb	04:35:19
1	Sc 361.383	1687142.3	1687142.3	101.54	%			04:36:41
1	Y 371.029	950803.4	950803.4	101.45	%			04:36:41
1	Ag 328.068†	-499.7	25.2	0.2347	µg/L	0.2347	ppb	04:36:47
1	As 188.979†	-5.3	2.4	4.6692	µg/L	4.6692	ppb	04:37:07
1	B 249.677†	186.9	17.2	0.9529	µg/L	0.9529	ppb	04:37:07
1	Ba 233.527†	-7.4	2.8	0.0768	µg/L	0.0768	ppb	04:37:07
1	Be 313.107†	-1798.4	-103.1	-0.0772	µg/L	-0.0772	ppb	04:36:47
1	Cd 226.502†	-148.0	-5.2	-0.1548	µg/L	-0.1548	ppb	04:37:07
1	Co 228.616†	25.8	-1.5	-0.0803	µg/L	-0.0803	ppb	04:37:07
1	Cr 267.716†	82.7	12.3	0.3300	µg/L	0.3300	ppb	04:36:47
1	Cu 324.752†	2671.1	0.2	0.0001	µg/L	0.0001	ppb	04:36:47
1	Mn 257.610†	-508.7	75.1	0.2838	µg/L	0.2838	ppb	04:37:07
1	Mo 202.031†	7.5	5.0	0.5976	µg/L	0.5976	ppb	04:37:07
1	Ni 231.604†	308.2	8.3	0.6037	µg/L	0.6037	ppb	04:37:07
1	P 214.914†	243.7	-1.3	-2.9624	µg/L	-2.9624	ppb	04:37:07
1	Pb 220.353†	37.8	2.5	0.8260	µg/L	0.8260	ppb	04:37:07
1	S 181.975 Axial†	21.6	0.7	2.9982	µg/L	2.9982	ppb	04:37:07
1	Sb 206.836†	21.6	2.1	2.3501	µg/L	2.3501	ppb	04:37:07
1	Se 196.026†	24.2	9.5	12.244	µg/L	12.244	ppb	04:37:07
1	SiO2†	1562.6	134.4	30.753	µg/L	30.753	ppb	04:36:47
1	Si 251.611†	557.1	164.6	14.116	µg/L	14.116	ppb	04:37:07
1	Sn 189.927†	5.5	4.4	2.1848	µg/L	2.1848	ppb	04:37:07
1	Ti 334.940†	170.7	173.7	0.4883	µg/L	0.4883	ppb	04:36:47
1	Tl 190.801†	-27.4	-0.5	-0.5757	µg/L	-0.5757	ppb	04:37:07
1	U 409.014†	154.7	8.2	0.8507	µg/L	0.8507	ppb	04:36:47
1	V 292.402†	-148.8	-2.2	-0.0230	µg/L	-0.0230	ppb	04:36:47
1	Zn 213.857†	615.2	-4.9	-0.1397	µg/L	-0.1397	ppb	04:37:07
2	Sc RADIAL	110256.2	110256.2	99.7	%			04:35:45
2	Al 396.153Radial†	-143.4	-73.7	-39.049	µg/L	-39.049	ppb	04:35:45
2	Ca 317.933Radial†	415.4	-73.1	-24.941	µg/L	-24.941	ppb	04:36:05
2	Fe 238.204 Radial†	34.2	0.9	6.2318	µg/L	6.2318	ppb	04:36:05
2	K 766.490 Radial†	306.9	58.7	34.858	µg/L	34.858	ppb	04:35:45
2	Mg 279.077 IEC†	10.8	-2.6	-25.333	µg/L	-25.333	ppb	04:36:05
2	Na 589.592 Radial†	292.5	-24.9	-7.6802	µg/L	-7.6802	ppb	04:35:45
2	Sr 421.552†	145.2	1.9	0.0078	µg/L	0.0078	ppb	04:35:45
2	Sc 361.383	1684664.7	1684664.7	101.39	%			04:37:13
2	Y 371.029	946772.2	946772.2	101.02	%			04:37:13
2	Ag 328.068†	-519.9	4.6	0.0449	µg/L	0.0449	ppb	04:37:19
2	As 188.979†	-4.7	3.1	5.8778	µg/L	5.8778	ppb	04:37:39
2	B 249.677†	179.6	10.3	0.5640	µg/L	0.5640	ppb	04:37:39
2	Ba 233.527†	-4.6	5.6	0.1522	µg/L	0.1522	ppb	04:37:39
2	Be 313.107†	-1629.1	61.2	0.0456	µg/L	0.0456	ppb	04:37:19
2	Cd 226.502†	-144.6	-2.0	-0.0608	µg/L	-0.0608	ppb	04:37:39
2	Co 228.616†	31.0	3.7	0.2028	µg/L	0.2028	ppb	04:37:39
2	Cr 267.716†	75.4	5.2	0.1401	µg/L	0.1401	ppb	04:37:19
2	Cu 324.752†	2703.1	35.6	0.2705	µg/L	0.2705	ppb	04:37:19
2	Mn 257.610†	-498.9	84.0	0.3197	µg/L	0.3197	ppb	04:37:39
2	Mo 202.031†	12.3	9.8	1.1784	µg/L	1.1784	ppb	04:37:39
2	Ni 231.604†	307.5	8.0	0.5839	µg/L	0.5839	ppb	04:37:39
2	P 214.914†	241.6	-3.0	-6.9383	µg/L	-6.9383	ppb	04:37:39
2	Pb 220.353†	45.7	10.3	3.4312	µg/L	3.4312	ppb	04:37:39

2	S 181.975 Axial†	20.8	-0.0	-0.1270 µg/L	-0.1270 ppb	04:37:39
2	Sb 206.836†	22.7	3.2	3.6586 µg/L	3.6586 ppb	04:37:39
2	Se 196.026†	21.7	7.1	9.1811 µg/L	9.1811 ppb	04:37:39
2	SiO2†	1591.3	165.0	37.739 µg/L	37.739 ppb	04:37:19
2	Si 251.611†	591.4	199.3	17.088 µg/L	17.088 ppb	04:37:39
2	Sn 189.927†	1.0	-0.0	-0.0152 µg/L	-0.0152 ppb	04:37:39
2	Ti 334.940†	146.8	150.4	0.4246 µg/L	0.4246 ppb	04:37:19
2	Tl 190.801†	-24.6	2.2	2.6856 µg/L	2.6856 ppb	04:37:39
2	U 409.014†	67.6	-77.5	-8.0617 µg/L	-8.0617 ppb	04:37:19
2	V 292.402†	-129.8	16.3	0.2178 µg/L	0.2178 ppb	04:37:19
2	Zn 213.857†	623.4	4.0	0.1115 µg/L	0.1115 ppb	04:37:39
3	Sc RADIAL	110826.9	110826.9	100 %		04:36:11
3	Al 396.153Radial†	-122.9	-52.5	-27.823 µg/L	-27.823 ppb	04:36:11
3	Ca 317.933Radial†	411.0	-79.6	-27.184 µg/L	-27.184 ppb	04:36:31
3	Fe 238.204 Radial†	33.2	-0.2	-1.6334 µg/L	-1.6334 ppb	04:36:31
3	K 766.490 Radial†	305.3	55.5	32.985 µg/L	32.985 ppb	04:36:11
3	Mg 279.077 IEC†	12.8	-0.6	-5.9383 µg/L	-5.9383 ppb	04:36:31
3	Na 589.592 Radial†	271.2	-47.7	-14.731 µg/L	-14.731 ppb	04:36:11
3	Sr 421.552†	164.8	20.7	0.0861 µg/L	0.0861 ppb	04:36:11
3	Sc 361.383	1677188.8	1677188.8	100.94 %		04:37:45
3	Y 371.029	942465.0	942465.0	100.56 %		04:37:45
3	Ag 328.068†	-492.6	29.3	0.2753 µg/L	0.2753 ppb	04:37:51
3	As 188.979†	-2.2	5.4	10.451 µg/L	10.451 ppb	04:38:11
3	B 249.677†	170.7	2.3	0.1270 µg/L	0.1270 ppb	04:38:11
3	Ba 233.527†	-7.1	3.1	0.0845 µg/L	0.0845 ppb	04:38:11
3	Be 313.107†	-1459.1	222.5	0.1660 µg/L	0.1660 ppb	04:37:51
3	Cd 226.502†	-131.3	10.5	0.3199 µg/L	0.3199 ppb	04:38:11
3	Co 228.616†	21.9	-5.2	-0.2826 µg/L	-0.2826 ppb	04:38:11
3	Cr 267.716†	92.6	22.6	0.6056 µg/L	0.6056 ppb	04:37:51
3	Cu 324.752†	2680.9	25.5	0.1924 µg/L	0.1924 ppb	04:37:51
3	Mn 257.610†	-468.7	111.7	0.4229 µg/L	0.4229 ppb	04:38:11
3	Mo 202.031†	9.0	6.5	0.7803 µg/L	0.7803 ppb	04:38:11
3	Ni 231.604†	310.1	11.9	0.8684 µg/L	0.8684 ppb	04:38:11
3	P 214.914†	250.7	7.1	16.157 µg/L	16.157 ppb	04:38:11
3	Pb 220.353†	39.6	4.4	1.4565 µg/L	1.4565 ppb	04:38:11
3	S 181.975 Axial†	23.6	2.8	11.523 µg/L	11.523 ppb	04:38:11
3	Sb 206.836†	22.4	3.1	3.4949 µg/L	3.4949 ppb	04:38:11
3	Se 196.026†	22.8	8.2	10.628 µg/L	10.628 ppb	04:38:11
3	SiO2†	1595.0	175.7	40.184 µg/L	40.184 ppb	04:37:51
3	Si 251.611†	604.5	214.8	18.420 µg/L	18.420 ppb	04:38:11
3	Sn 189.927†	3.0	1.9	0.9562 µg/L	0.9562 ppb	04:38:11
3	Ti 334.940†	215.7	219.3	0.6170 µg/L	0.6170 ppb	04:37:51
3	Tl 190.801†	-24.5	2.2	2.7121 µg/L	2.7121 ppb	04:38:11
3	U 409.014†	216.8	70.5	7.3372 µg/L	7.3372 ppb	04:37:51
3	V 292.402†	-125.9	19.6	0.2751 µg/L	0.2751 ppb	04:37:51
3	Zn 213.857†	616.1	-0.4	-0.0145 µg/L	-0.0145 ppb	04:38:11

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1682998.6	101.29	%	0.312				0.31%
Sc RADIAL	110594.8	100.0	%	0.27				0.27%
Y 371.029	946680.2	101.01	%	0.445				0.44%
Ag 328.068†	19.7	0.1850	µg/L	0.12298	0.1850	ppb	0.12298	66.48%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-60.0	-31.773	µg/L	6.3089	-31.773	ppb	6.3089	19.86%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	3.6	6.9992	µg/L	3.04954	6.9992	ppb	3.04954	43.57%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	9.9	0.5480	µg/L	0.41319	0.5480	ppb	0.41319	75.40%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	3.9	0.1045	µg/L	0.04151	0.1045	ppb	0.04151	39.71%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	60.2	0.0448	µg/L	0.12160	0.0448	ppb	0.12160	271.51%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-79.9	-27.264	µg/L	2.3645	-27.264	ppb	2.3645	8.67%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	1.1	0.0347	µg/L	0.25134	0.0347	ppb	0.25134	723.42%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-1.0	-0.0534	µg/L	0.24383	-0.0534	ppb	0.24383	456.67%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                13.4      0.3586 µg/L       0.23409      0.3586 ppb        0.23409  65.28%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                20.4      0.1543 µg/L       0.13915      0.1543 ppb        0.13915  90.16%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†         -0.1     -0.6903 µg/L       6.50213     -0.6903 ppb        6.50213 941.88%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          56.5      33.549 µg/L        1.1376      33.549 ppb         1.1376   3.39%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -1.1     -11.162 µg/L       12.4128     -11.162 ppb        12.4128 111.21%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                90.3      0.3422 µg/L       0.07218      0.3422 ppb        0.07218  21.10%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 7.1      0.8521 µg/L       0.29698      0.8521 ppb        0.29698  34.85%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -24.0     -7.4022 µg/L       7.47126     -7.4022 ppb        7.47126 100.93%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 9.4      0.6853 µg/L       0.15884      0.6853 ppb        0.15884  23.18%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                  0.9      2.0855 µg/L      12.34749      2.0855 ppb       12.34749 592.08%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 5.7      1.9046 µg/L       1.35919      1.9046 ppb        1.35919  71.36%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            1.2      4.7980 µg/L       6.02992      4.7980 ppb        6.02992 125.68%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 2.8      3.1679 µg/L       0.71293      3.1679 ppb        0.71293  22.51%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 8.3      10.684 µg/L        1.5320      10.684 ppb         1.5320  14.34%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     158.4      36.225 µg/L        4.8945      36.225 ppb         4.8945  13.51%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               192.9      16.541 µg/L        2.2038      16.541 ppb         2.2038  13.32%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 2.1      1.0419 µg/L       1.10248      1.0419 ppb        1.10248 105.81%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                19.6      0.0814 µg/L       0.07130      0.0814 ppb        0.07130  87.62%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               181.1      0.5100 µg/L       0.09802      0.5100 ppb        0.09802  19.22%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 1.3      1.6073 µg/L       1.89064      1.6073 ppb        1.89064 117.63%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                  0.4      0.0421 µg/L       7.73127      0.0421 ppb        7.73127 >999.9%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 11.2      0.1566 µg/L       0.15819      0.1566 ppb        0.15819 101.01%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                -0.4     -0.0143 µg/L       0.12562     -0.0143 ppb        0.12562 881.26%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 27
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/26/2010 05:10:49
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	111573.6	111573.6	101	%			05:11:28
1	Al 396.153Radial†	9804.6	9790.1	5171.5	µg/L	5171.5	ppb	05:11:28
1	Ca 317.933Radial†	16035.4	15407.1	5259.6	µg/L	5259.6	ppb	05:11:28
1	Fe 238.204 Radial†	763.8	723.8	5022.0	µg/L	5022.0	ppb	05:11:48
1	K 766.490 Radial†	8916.4	8590.2	5103.2	µg/L	5103.2	ppb	05:11:28
1	Mg 279.077 IEC†	546.2	528.1	5225.4	µg/L	5225.4	ppb	05:11:48
1	Na 589.592 Radial†	31325.6	30736.8	9487.4	µg/L	9487.4	ppb	05:11:28
1	Sr 421.552†	115280.1	114140.8	474.73	µg/L	474.73	ppb	05:11:28
1	Sc 361.383	1690180.7	1690180.7	101.72	%			05:12:51
1	Y 371.029	947873.9	947873.9	101.13	%			05:12:51
1	Ag 328.068†	54961.7	54548.5	514.16	µg/L	514.16	ppb	05:12:57
1	As 188.979†	274.6	277.6	531.88	µg/L	531.88	ppb	05:13:17
1	B 249.677†	9556.9	9228.2	508.65	µg/L	508.65	ppb	05:12:57
1	Ba 233.527†	19672.0	19349.0	524.38	µg/L	524.38	ppb	05:12:57
1	Be 313.107†	704420.6	694161.8	518.37	µg/L	518.37	ppb	05:12:51
1	Cd 226.502†	17552.8	17396.3	527.20	µg/L	527.20	ppb	05:12:57
1	Co 228.616†	9893.7	9699.3	527.94	µg/L	527.94	ppb	05:12:57
1	Cr 267.716†	20007.1	19599.2	524.33	µg/L	524.33	ppb	05:12:57
1	Cu 324.752†	71863.9	68016.7	515.82	µg/L	515.82	ppb	05:12:57
1	Mn 257.610†	140734.0	138927.3	525.36	µg/L	525.36	ppb	05:12:57
1	Mo 202.031†	4537.0	4457.8	538.07	µg/L	538.07	ppb	05:13:17
1	Ni 231.604†	7910.1	7480.9	546.12	µg/L	546.12	ppb	05:12:57
1	P 214.914†	1430.8	1165.3	2596.9	µg/L	2596.9	ppb	05:13:17
1	Pb 220.353†	1682.3	1619.0	539.32	µg/L	539.32	ppb	05:13:17
1	S 181.975 Axial†	290.2	264.7	1098.1	µg/L	1098.1	ppb	05:13:17
1	Sb 206.836†	486.9	459.5	524.36	µg/L	524.36	ppb	05:13:17
1	Se 196.026†	434.2	412.5	546.40	µg/L	546.40	ppb	05:13:17
1	SiO2†	26607.6	24752.5	5662.4	µg/L	5662.4	ppb	05:12:57
1	Si 251.611†	31781.6	30859.4	2646.5	µg/L	2646.5	ppb	05:12:57
1	Sn 189.927†	1123.0	1102.9	543.38	µg/L	543.38	ppb	05:13:17
1	Ti 334.940†	188164.5	184984.2	520.04	µg/L	520.04	ppb	05:12:51
1	Tl 190.801†	412.1	431.6	531.90	µg/L	531.90	ppb	05:13:17
1	U 409.014†	5106.8	4876.1	505.98	µg/L	505.98	ppb	05:12:57
1	V 292.402†	39628.4	39101.8	525.71	µg/L	525.71	ppb	05:12:57
1	Zn 213.857†	19815.2	18868.9	526.85	µg/L	526.85	ppb	05:12:57
2	Sc RADIAL	111834.6	111834.6	101	%			05:11:53
2	Al 396.153Radial†	9789.5	9752.4	5151.8	µg/L	5151.8	ppb	05:11:53
2	Ca 317.933Radial†	15890.3	15226.5	5198.0	µg/L	5198.0	ppb	05:11:53
2	Fe 238.204 Radial†	762.5	720.7	5000.2	µg/L	5000.2	ppb	05:12:14
2	K 766.490 Radial†	8886.7	8540.2	5073.5	µg/L	5073.5	ppb	05:11:53
2	Mg 279.077 IEC†	541.0	521.7	5161.7	µg/L	5161.7	ppb	05:12:14
2	Na 589.592 Radial†	31282.5	30621.6	9451.9	µg/L	9451.9	ppb	05:11:53
2	Sr 421.552†	115102.0	113697.9	472.89	µg/L	472.89	ppb	05:11:53
2	Sc 361.383	1708478.5	1708478.5	102.82	%			05:13:24
2	Y 371.029	961661.2	961661.2	102.61	%			05:13:24
2	Ag 328.068†	54644.4	53661.2	505.79	µg/L	505.79	ppb	05:13:30
2	As 188.979†	269.8	270.1	517.34	µg/L	517.34	ppb	05:13:50
2	B 249.677†	9552.2	9123.0	502.83	µg/L	502.83	ppb	05:13:30
2	Ba 233.527†	19562.3	19035.3	515.87	µg/L	515.87	ppb	05:13:30
2	Be 313.107†	704841.5	687154.7	513.13	µg/L	513.13	ppb	05:13:24
2	Cd 226.502†	17497.4	17157.5	519.96	µg/L	519.96	ppb	05:13:30
2	Co 228.616†	9821.4	9524.8	518.44	µg/L	518.44	ppb	05:13:30
2	Cr 267.716†	20029.3	19410.1	519.27	µg/L	519.27	ppb	05:13:30
2	Cu 324.752†	71334.7	66745.4	506.19	µg/L	506.19	ppb	05:13:30
2	Mn 257.610†	139965.4	136698.0	516.93	µg/L	516.93	ppb	05:13:30
2	Mo 202.031†	4509.6	4383.4	529.09	µg/L	529.09	ppb	05:13:50
2	Ni 231.604†	7864.0	7352.7	536.77	µg/L	536.77	ppb	05:13:30
2	P 214.914†	1440.1	1159.2	2584.1	µg/L	2584.1	ppb	05:13:50
2	Pb 220.353†	1667.7	1587.2	528.71	µg/L	528.71	ppb	05:13:50

2	S 181.975 Axial†	285.3	256.8	1065.7 µg/L	1065.7 ppb	05:13:50
2	Sb 206.836†	490.1	457.5	521.99 µg/L	521.99 ppb	05:13:50
2	Se 196.026†	432.5	406.2	538.32 µg/L	538.32 ppb	05:13:50
2	SiO2†	26512.1	24379.5	5577.1 µg/L	5577.1 ppb	05:13:30
2	Si 251.611†	31722.2	30467.0	2612.9 µg/L	2612.9 ppb	05:13:30
2	Sn 189.927†	1119.0	1087.3	535.67 µg/L	535.67 ppb	05:13:50
2	Ti 334.940†	187862.1	182709.1	513.64 µg/L	513.64 ppb	05:13:24
2	Tl 190.801†	409.2	424.5	523.16 µg/L	523.16 ppb	05:13:50
2	U 409.014†	5035.6	4753.1	493.20 µg/L	493.20 ppb	05:13:30
2	V 292.402†	39325.7	38390.1	516.16 µg/L	516.16 ppb	05:13:30
2	Zn 213.857†	19610.3	18461.1	515.44 µg/L	515.44 ppb	05:13:30
3	Sc RADIAL	112165.1	112165.1	101 %		05:12:19
3	Al 396.153Radial†	9800.4	9734.7	5143.8 µg/L	5143.8 ppb	05:12:19
3	Ca 317.933Radial†	16007.3	15295.6	5221.5 µg/L	5221.5 ppb	05:12:19
3	Fe 238.204 Radial†	768.1	724.0	5022.7 µg/L	5022.7 ppb	05:12:40
3	K 766.490 Radial†	8947.3	8574.0	5093.6 µg/L	5093.6 ppb	05:12:19
3	Mg 279.077 IEC†	543.6	522.6	5169.9 µg/L	5169.9 ppb	05:12:40
3	Na 589.592 Radial†	31349.3	30596.4	9444.1 µg/L	9444.1 ppb	05:12:19
3	Sr 421.552†	115684.2	113936.6	473.88 µg/L	473.88 ppb	05:12:19
3	Sc 361.383	1708888.7	1708888.7	102.85 %		05:13:57
3	Y 371.029	960504.0	960504.0	102.48 %		05:13:57
3	Ag 328.068†	52388.4	51454.9	484.92 µg/L	484.92 ppb	05:14:03
3	As 188.979†	254.6	255.2	488.95 µg/L	488.95 ppb	05:14:23
3	B 249.677†	9144.5	8724.4	480.69 µg/L	480.69 ppb	05:14:03
3	Ba 233.527†	18467.5	17966.2	486.89 µg/L	486.89 ppb	05:14:03
3	Be 313.107†	677213.2	660126.9	492.95 µg/L	492.95 ppb	05:13:57
3	Cd 226.502†	16320.6	16009.2	485.12 µg/L	485.12 ppb	05:14:03
3	Co 228.616†	9209.4	8927.4	485.86 µg/L	485.86 ppb	05:14:03
3	Cr 267.716†	18162.3	17590.2	470.59 µg/L	470.59 ppb	05:14:03
3	Cu 324.752†	67043.8	62556.7	474.49 µg/L	474.49 ppb	05:14:03
3	Mn 257.610†	130900.2	127851.3	483.48 µg/L	483.48 ppb	05:14:03
3	Mo 202.031†	3896.3	3786.0	457.01 µg/L	457.01 ppb	05:14:23
3	Ni 231.604†	7357.7	6858.7	500.70 µg/L	500.70 ppb	05:14:03
3	P 214.914†	1297.0	1019.8	2269.6 µg/L	2269.6 ppb	05:14:23
3	Pb 220.353†	1506.2	1429.7	476.17 µg/L	476.17 ppb	05:14:23
3	S 181.975 Axial†	260.9	233.1	967.24 µg/L	967.24 ppb	05:14:23
3	Sb 206.836†	432.3	401.1	457.41 µg/L	457.41 ppb	05:14:23
3	Se 196.026†	394.9	369.6	490.99 µg/L	490.99 ppb	05:14:23
3	SiO2†	25483.6	23373.4	5346.9 µg/L	5346.9 ppb	05:14:03
3	Si 251.611†	30442.4	29215.3	2505.5 µg/L	2505.5 ppb	05:14:03
3	Sn 189.927†	946.8	919.6	453.12 µg/L	453.12 ppb	05:14:23
3	Ti 334.940†	180623.5	175627.1	493.72 µg/L	493.72 ppb	05:13:57
3	Tl 190.801†	380.5	396.5	488.76 µg/L	488.76 ppb	05:14:23
3	U 409.014†	4616.2	4344.1	450.67 µg/L	450.67 ppb	05:14:03
3	V 292.402†	36515.0	35648.1	479.01 µg/L	479.01 ppb	05:14:03
3	Zn 213.857†	18368.1	17248.6	481.56 µg/L	481.56 ppb	05:14:03

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1702516.0	102.46	%	0.643				0.63%
Sc RADIAL	111857.8	101	%	0.3				0.27%
Y 371.029	956679.7	102.07	%	0.816				0.80%
Ag 328.068†	53221.5	501.62	µg/L	15.055	501.62	ppb	15.055	3.00%
QC value within limits for Ag 328.068 Recovery = 100.32%								
Al 396.153Radial†	9759.1	5155.7	µg/L	14.24	5155.7	ppb	14.24	0.28%
QC value within limits for Al 396.153Radial Recovery = 103.11%								
As 188.979†	267.6	512.72	µg/L	21.833	512.72	ppb	21.833	4.26%
QC value within limits for As 188.979 Recovery = 102.54%								
B 249.677†	9025.2	497.39	µg/L	14.750	497.39	ppb	14.750	2.97%
QC value within limits for B 249.677 Recovery = 99.48%								
Ba 233.527†	18783.5	509.05	µg/L	19.656	509.05	ppb	19.656	3.86%
QC value within limits for Ba 233.527 Recovery = 101.81%								
Be 313.107†	680481.1	508.15	µg/L	13.421	508.15	ppb	13.421	2.64%
QC value within limits for Be 313.107 Recovery = 101.63%								
Ca 317.933Radial†	15309.7	5226.4	µg/L	31.12	5226.4	ppb	31.12	0.60%
QC value within limits for Ca 317.933Radial Recovery = 104.53%								
Cd 226.502†	16854.3	510.76	µg/L	22.499	510.76	ppb	22.499	4.41%
QC value within limits for Cd 226.502 Recovery = 102.15%								
Co 228.616†	9383.8	510.75	µg/L	22.068	510.75	ppb	22.068	4.32%

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   QC value within limits for Co 228.616  Recovery = 102.15%
Cr 267.716†            18866.5      504.73 µg/L        29.675      504.73 ppb         29.675   5.88%
   QC value within limits for Cr 267.716  Recovery = 100.95%
Cu 324.752†            65772.9      498.83 µg/L        21.626      498.83 ppb         21.626   4.34%
   QC value within limits for Cu 324.752  Recovery = 99.77%
Fe 238.204 Radial†       722.8      5014.9 µg/L         12.75      5014.9 ppb          12.75   0.25%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.30%
K 766.490 Radial†       8568.1      5090.1 µg/L         15.15      5090.1 ppb          15.15   0.30%
   QC value within limits for K 766.490 Radial  Recovery = 101.80%
Mg 279.077 IEC†          524.1      5185.6 µg/L         34.63      5185.6 ppb          34.63   0.67%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.71%
Mn 257.610†           134492.2      508.59 µg/L        22.154      508.59 ppb         22.154   4.36%
   QC value within limits for Mn 257.610  Recovery = 101.72%
Mo 202.031†             4209.1      508.06 µg/L        44.437      508.06 ppb         44.437   8.75%
   QC value within limits for Mo 202.031  Recovery = 101.61%
Na 589.592 Radial†     30651.6      9461.1 µg/L         23.10      9461.1 ppb          23.10   0.24%
   QC value within limits for Na 589.592 Radial  Recovery = 94.61%
Ni 231.604†             7230.8      527.86 µg/L        23.984      527.86 ppb         23.984   4.54%
   QC value within limits for Ni 231.604  Recovery = 105.57%
P 214.914†              1114.8      2483.6 µg/L        185.38      2483.6 ppb         185.38   7.46%
   QC value within limits for P 214.914  Recovery = 99.34%
Pb 220.353†             1545.3      514.73 µg/L        33.813      514.73 ppb         33.813   6.57%
   QC value within limits for Pb 220.353  Recovery = 102.95%
S 181.975 Axial†         251.5      1043.7 µg/L         68.15      1043.7 ppb          68.15   6.53%
   QC value within limits for S 181.975 Axial  Recovery = 104.37%
Sb 206.836†              439.4      501.26 µg/L        37.988      501.26 ppb         37.988   7.58%
   QC value within limits for Sb 206.836  Recovery = 100.25%
Se 196.026†              396.1      525.24 µg/L        29.933      525.24 ppb         29.933   5.70%
   QC value within limits for Se 196.026  Recovery = 105.05%
SiO2†                  24168.5      5528.8 µg/L        163.20      5528.8 ppb         163.20   2.95%
   QC value within limits for SiO2  Recovery = 103.39%
Si 251.611†            30180.6      2588.3 µg/L         73.64      2588.3 ppb          73.64   2.85%
   QC value within limits for Si 251.611  Recovery = 103.53%
Sn 189.927†             1036.6      510.72 µg/L        50.034      510.72 ppb         50.034   9.80%
   QC value within limits for Sn 189.927  Recovery = 102.14%
Sr 421.552†           113925.1      473.83 µg/L         0.922      473.83 ppb          0.922   0.19%
   QC value within limits for Sr 421.552  Recovery = 94.77%
Ti 334.940†           181106.8      509.13 µg/L        13.726      509.13 ppb         13.726   2.70%
   QC value within limits for Ti 334.940  Recovery = 101.83%
Tl 190.801†              417.5      514.61 µg/L        22.810      514.61 ppb         22.810   4.43%
   QC value within limits for Tl 190.801  Recovery = 102.92%
U 409.014†              4657.8      483.29 µg/L        28.957      483.29 ppb         28.957   5.99%
   QC value within limits for U 409.014  Recovery = 96.66%
V 292.402†             37713.3      506.96 µg/L        24.674      506.96 ppb         24.674   4.87%
   QC value within limits for V 292.402  Recovery = 101.39%
Zn 213.857†            18192.8      507.95 µg/L        23.559      507.95 ppb         23.559   4.64%
   QC value within limits for Zn 213.857  Recovery = 101.59%
All analyte(s) passed QC.
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Sequence No.: 28
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/26/2010 05:14:33
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	111413.6	111413.6	101	%			05:15:07
1	Al 396.153Radial†	-110.3	-39.3	-20.853	µg/L	-20.853	ppb	05:15:07
1	Ca 317.933Radial†	421.9	-70.9	-24.219	µg/L	-24.219	ppb	05:15:28
1	Fe 238.204 Radial†	33.0	-0.6	-4.2711	µg/L	-4.2711	ppb	05:15:28
1	K 766.490 Radial†	359.0	107.2	63.679	µg/L	63.679	ppb	05:15:07
1	Mg 279.077 IEC†	10.1	-3.4	-33.443	µg/L	-33.443	ppb	05:15:28
1	Na 589.592 Radial†	263.2	-57.1	-17.613	µg/L	-17.613	ppb	05:15:07
1	Sr 421.552†	139.8	-5.0	-0.0207	µg/L	-0.0207	ppb	05:15:07
1	Sc 361.383	1702441.3	1702441.3	102.46	%			05:16:29
1	Y 371.029	958639.6	958639.6	102.28	%			05:16:29
1	Ag 328.068†	-606.4	-74.6	-0.6944	µg/L	-0.6944	ppb	05:16:35
1	As 188.979†	-2.5	5.2	10.029	µg/L	10.029	ppb	05:16:56
1	B 249.677†	187.8	16.4	0.9085	µg/L	0.9085	ppb	05:16:56
1	Ba 233.527†	-1.8	8.4	0.2272	µg/L	0.2272	ppb	05:16:56
1	Be 313.107†	-1708.8	0.3	-0.0001	µg/L	-0.0001	ppb	05:16:35
1	Cd 226.502†	-146.3	-2.1	-0.0642	µg/L	-0.0642	ppb	05:16:56
1	Co 228.616†	28.9	1.3	0.0710	µg/L	0.0710	ppb	05:16:56
1	Cr 267.716†	56.0	-14.5	-0.3871	µg/L	-0.3871	ppb	05:16:35
1	Cu 324.752†	2703.3	8.0	0.0596	µg/L	0.0596	ppb	05:16:35
1	Mn 257.610†	-482.3	105.4	0.4006	µg/L	0.4006	ppb	05:16:56
1	Mo 202.031†	13.5	10.8	1.2992	µg/L	1.2992	ppb	05:16:56
1	Ni 231.604†	306.8	4.1	0.3030	µg/L	0.3030	ppb	05:16:56
1	P 214.914†	240.2	-6.9	-15.658	µg/L	-15.658	ppb	05:16:56
1	Pb 220.353†	32.9	-2.7	-0.8964	µg/L	-0.8964	ppb	05:16:56
1	S 181.975 Axial†	23.5	2.3	9.7273	µg/L	9.7273	ppb	05:16:56
1	Sb 206.836†	21.5	1.8	2.1201	µg/L	2.1201	ppb	05:16:56
1	Se 196.026†	12.0	-2.7	-3.4595	µg/L	-3.4595	ppb	05:16:56
1	SiO2†	1583.8	141.2	32.312	µg/L	32.312	ppb	05:16:35
1	Si 251.611†	615.2	216.4	18.559	µg/L	18.559	ppb	05:16:56
1	Sn 189.927†	2.9	1.8	0.8898	µg/L	0.8898	ppb	05:16:56
1	Ti 334.940†	310.7	308.9	0.8712	µg/L	0.8712	ppb	05:16:35
1	Tl 190.801†	-26.8	0.3	0.3897	µg/L	0.3897	ppb	05:16:56
1	U 409.014†	124.5	-22.7	-2.3596	µg/L	-2.3596	ppb	05:16:35
1	V 292.402†	-107.3	39.6	0.5326	µg/L	0.5326	ppb	05:16:35
1	Zn 213.857†	588.3	-36.6	-1.0282	µg/L	-1.0282	ppb	05:16:56
2	Sc RADIAL	112124.7	112124.7	101	%			05:15:33
2	Al 396.153Radial†	-126.2	-54.4	-28.808	µg/L	-28.808	ppb	05:15:33
2	Ca 317.933Radial†	417.7	-77.8	-26.551	µg/L	-26.551	ppb	05:15:54
2	Fe 238.204 Radial†	33.4	-0.5	-3.5522	µg/L	-3.5522	ppb	05:15:54
2	K 766.490 Radial†	264.5	11.8	6.9882	µg/L	6.9882	ppb	05:15:33
2	Mg 279.077 IEC†	11.5	-2.1	-20.317	µg/L	-20.317	ppb	05:15:54
2	Na 589.592 Radial†	290.0	-32.3	-9.9737	µg/L	-9.9737	ppb	05:15:33
2	Sr 421.552†	196.5	50.1	0.2083	µg/L	0.2083	ppb	05:15:33
2	Sc 361.383	1719335.7	1719335.7	103.48	%			05:17:02
2	Y 371.029	969525.1	969525.1	103.44	%			05:17:02
2	Ag 328.068†	-501.0	33.2	0.3065	µg/L	0.3065	ppb	05:17:07
2	As 188.979†	-0.4	7.2	13.858	µg/L	13.858	ppb	05:17:28
2	B 249.677†	176.0	3.2	0.1757	µg/L	0.1757	ppb	05:17:28
2	Ba 233.527†	-7.8	2.5	0.0680	µg/L	0.0680	ppb	05:17:28
2	Be 313.107†	-1737.9	-11.5	-0.0089	µg/L	-0.0089	ppb	05:17:07
2	Cd 226.502†	-151.9	-6.2	-0.1885	µg/L	-0.1885	ppb	05:17:28
2	Co 228.616†	21.7	-5.9	-0.3240	µg/L	-0.3240	ppb	05:17:28
2	Cr 267.716†	49.3	-21.4	-0.5736	µg/L	-0.5736	ppb	05:17:07
2	Cu 324.752†	2656.8	-62.9	-0.4767	µg/L	-0.4767	ppb	05:17:07
2	Mn 257.610†	-483.8	108.6	0.4118	µg/L	0.4118	ppb	05:17:28
2	Mo 202.031†	9.7	6.9	0.8375	µg/L	0.8375	ppb	05:17:28
2	Ni 231.604†	305.6	0.0	0.0017	µg/L	0.0017	ppb	05:17:28
2	P 214.914†	237.1	-12.2	-27.606	µg/L	-27.606	ppb	05:17:28
2	Pb 220.353†	36.4	0.4	0.1282	µg/L	0.1282	ppb	05:17:28

2	S 181.975 Axial†	23.7	2.4	9.7722 µg/L	9.7722 ppb	05:17:28
2	Sb 206.836†	21.1	1.2	1.3575 µg/L	1.3575 ppb	05:17:28
2	Se 196.026†	2.4	-12.0	-15.578 µg/L	-15.578 ppb	05:17:28
2	SiO2†	1655.6	195.4	44.700 µg/L	44.700 ppb	05:17:07
2	Si 251.611†	628.9	223.7	19.188 µg/L	19.188 ppb	05:17:28
2	Sn 189.927†	0.7	-0.4	-0.1817 µg/L	-0.1817 ppb	05:17:28
2	Ti 334.940†	348.3	342.3	0.9640 µg/L	0.9640 ppb	05:17:07
2	Tl 190.801†	-20.4	6.8	8.3082 µg/L	8.3082 ppb	05:17:28
2	U 409.014†	133.9	-14.8	-1.5378 µg/L	-1.5378 ppb	05:17:07
2	V 292.402†	-185.0	-34.5	-0.4549 µg/L	-0.4549 ppb	05:17:07
2	Zn 213.857†	576.9	-53.3	-1.4965 µg/L	-1.4965 ppb	05:17:28
3	Sc RADIAL	111885.1	111885.1	101 %		05:15:59
3	Al 396.153Radial†	-112.0	-40.5	-21.484 µg/L	-21.484 ppb	05:15:59
3	Ca 317.933Radial†	413.5	-81.1	-27.671 µg/L	-27.671 ppb	05:16:19
3	Fe 238.204 Radial†	33.6	-0.2	-1.5802 µg/L	-1.5802 ppb	05:16:19
3	K 766.490 Radial†	239.8	-12.1	-7.2047 µg/L	-7.2047 ppb	05:15:59
3	Mg 279.077 IEC†	9.7	-3.9	-38.095 µg/L	-38.095 ppb	05:16:19
3	Na 589.592 Radial†	301.1	-20.7	-6.3763 µg/L	-6.3763 ppb	05:15:59
3	Sr 421.552†	177.4	31.6	0.1315 µg/L	0.1315 ppb	05:15:59
3	Sc 361.383	1713071.9	1713071.9	103.10 %		05:17:34
3	Y 371.029	969517.1	969517.1	103.44 %		05:17:34
3	Ag 328.068†	-446.9	83.8	0.7795 µg/L	0.7795 ppb	05:17:39
3	As 188.979†	-5.2	2.6	5.0201 µg/L	5.0201 ppb	05:18:00
3	B 249.677†	165.7	-6.1	-0.3378 µg/L	-0.3378 ppb	05:18:00
3	Ba 233.527†	1.1	11.2	0.3008 µg/L	0.3008 ppb	05:18:00
3	Be 313.107†	-1637.6	79.6	0.0592 µg/L	0.0592 ppb	05:17:39
3	Cd 226.502†	-141.0	3.8	0.1154 µg/L	0.1154 ppb	05:18:00
3	Co 228.616†	30.6	2.8	0.1500 µg/L	0.1500 ppb	05:18:00
3	Cr 267.716†	100.0	27.9	0.7456 µg/L	0.7456 ppb	05:17:39
3	Cu 324.752†	2699.7	-11.9	-0.0905 µg/L	-0.0905 ppb	05:17:39
3	Mn 257.610†	-470.6	119.7	0.4550 µg/L	0.4550 ppb	05:18:00
3	Mo 202.031†	10.3	7.6	0.9162 µg/L	0.9162 ppb	05:18:00
3	Ni 231.604†	304.6	0.1	0.0076 µg/L	0.0076 ppb	05:18:00
3	P 214.914†	239.4	-9.1	-20.672 µg/L	-20.672 ppb	05:18:00
3	Pb 220.353†	34.7	-1.1	-0.3856 µg/L	-0.3856 ppb	05:18:00
3	S 181.975 Axial†	18.6	-2.5	-10.344 µg/L	-10.344 ppb	05:18:00
3	Sb 206.836†	19.5	-0.3	-0.3315 µg/L	-0.3315 ppb	05:18:00
3	Se 196.026†	17.2	2.3	2.9601 µg/L	2.9601 ppb	05:18:00
3	SiO2†	1671.6	216.8	49.588 µg/L	49.588 ppb	05:17:39
3	Si 251.611†	664.0	260.0	22.294 µg/L	22.294 ppb	05:18:00
3	Sn 189.927†	3.7	2.6	1.2776 µg/L	1.2776 ppb	05:18:00
3	Ti 334.940†	286.3	283.3	0.7995 µg/L	0.7995 ppb	05:17:39
3	Tl 190.801†	-27.6	-0.3	-0.3086 µg/L	-0.3086 ppb	05:18:00
3	U 409.014†	223.3	72.3	7.5211 µg/L	7.5211 ppb	05:17:39
3	V 292.402†	-198.6	-48.3	-0.6259 µg/L	-0.6259 ppb	05:17:39
3	Zn 213.857†	598.3	-30.5	-0.8551 µg/L	-0.8551 ppb	05:18:00

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1711616.3	103.01	%	0.514				0.50%
Sc RADIAL	111807.8	101	%	0.3				0.32%
Y 371.029	965893.9	103.06	%	0.670				0.65%
Ag 328.068†	14.1	0.1305	µg/L	0.75256	0.1305	ppb	0.75256	576.57%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-44.8	-23.715	µg/L	4.4217	-23.715	ppb	4.4217	18.65%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	5.0	9.6357	µg/L	4.43217	9.6357	ppb	4.43217	46.00%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	4.5	0.2488	µg/L	0.62634	0.2488	ppb	0.62634	251.76%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	7.4	0.1987	µg/L	0.11900	0.1987	ppb	0.11900	59.90%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	22.8	0.0167	µg/L	0.03705	0.0167	ppb	0.03705	221.78%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-76.6	-26.147	µg/L	1.7614	-26.147	ppb	1.7614	6.74%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	-1.5	-0.0458	µg/L	0.15279	-0.0458	ppb	0.15279	333.67%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-0.6	-0.0343	µg/L	0.25396	-0.0343	ppb	0.25396	739.90%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -2.7     -0.0717 µg/L       0.71387     -0.0717 ppb        0.71387 995.79%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             -22.3     -0.1692 µg/L       0.27670     -0.1692 ppb        0.27670 163.53%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†       -0.5     -3.1345 µg/L       1.39320     -3.1345 ppb        1.39320  44.45%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†        35.6      21.154 µg/L       37.5050      21.154 ppb        37.5050 177.29%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          -3.1     -30.618 µg/L        9.2197     -30.618 ppb         9.2197  30.11%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†             111.2      0.4225 µg/L       0.02872      0.4225 ppb        0.02872   6.80%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               8.4      1.0176 µg/L       0.24703      1.0176 ppb        0.24703  24.27%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†      -36.7     -11.321 µg/L        5.7381     -11.321 ppb         5.7381  50.69%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               1.4      0.1041 µg/L       0.17227      0.1041 ppb        0.17227 165.46%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               -9.4     -21.312 µg/L        5.9994     -21.312 ppb         5.9994  28.15%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              -1.2     -0.3846 µg/L       0.51230     -0.3846 ppb        0.51230 133.19%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          0.7      3.0519 µg/L      11.60111      3.0519 ppb       11.60111 380.13%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               0.9      1.0487 µg/L       1.25464      1.0487 ppb        1.25464 119.63%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -4.2     -5.3591 µg/L       9.41377     -5.3591 ppb        9.41377 175.66%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                   184.5      42.200 µg/L        8.9052      42.200 ppb         8.9052  21.10%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             233.4      20.013 µg/L        1.9999      20.013 ppb         1.9999   9.99%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               1.4      0.6619 µg/L       0.75588      0.6619 ppb        0.75588 114.20%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              25.6      0.1064 µg/L       0.11653      0.1064 ppb        0.11653 109.54%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             311.5      0.8782 µg/L       0.08245      0.8782 ppb        0.08245   9.39%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               2.3      2.7965 µg/L       4.78607      2.7965 ppb        4.78607 171.15%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               11.6      1.2079 µg/L       5.48279      1.2079 ppb        5.48279 453.91%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†              -14.4     -0.1827 µg/L       0.62537     -0.1827 ppb        0.62537 342.21%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             -40.1     -1.1266 µg/L       0.33184     -1.1266 ppb        0.33184  29.45%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
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Sequence No.: 37
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/26/2010 05:47:36
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	111313.9	111313.9	101	%			05:48:13
1	Al 396.153Radial†	10092.8	10099.1	5334.9	µg/L	5334.9	ppb	05:48:13
1	Ca 317.933Radial†	16535.2	15940.8	5441.8	µg/L	5441.8	ppb	05:48:13
1	Fe 238.204 Radial†	777.6	739.2	5128.8	µg/L	5128.8	ppb	05:48:34
1	K 766.490 Radial†	9137.3	8830.4	5245.9	µg/L	5245.9	ppb	05:48:13
1	Mg 279.077 IEC†	556.2	539.2	5335.4	µg/L	5335.4	ppb	05:48:34
1	Na 589.592 Radial†	31779.1	31259.8	9648.9	µg/L	9648.9	ppb	05:48:13
1	Sr 421.552†	118206.0	117314.8	487.93	µg/L	487.93	ppb	05:48:13
1	Sc 361.383	1692940.7	1692940.7	101.89	%			05:49:37
1	Y 371.029	951942.1	951942.1	101.57	%			05:49:37
1	Ag 328.068†	55396.8	54887.3	517.37	µg/L	517.37	ppb	05:49:43
1	As 188.979†	283.7	286.0	547.99	µg/L	547.99	ppb	05:50:04
1	B 249.677†	9665.9	9319.9	513.67	µg/L	513.67	ppb	05:49:43
1	Ba 233.527†	19847.5	19489.7	528.19	µg/L	528.19	ppb	05:49:43
1	Be 313.107†	716554.5	704941.9	526.42	µg/L	526.42	ppb	05:49:37
1	Cd 226.502†	17705.9	17518.4	530.90	µg/L	530.90	ppb	05:49:43
1	Co 228.616†	10012.8	9800.3	533.44	µg/L	533.44	ppb	05:49:43
1	Cr 267.716†	20242.4	19798.1	529.65	µg/L	529.65	ppb	05:49:43
1	Cu 324.752†	72299.5	68329.0	518.20	µg/L	518.20	ppb	05:49:43
1	Mn 257.610†	144261.8	142164.2	537.60	µg/L	537.60	ppb	05:49:37
1	Mo 202.031†	4621.9	4533.9	547.25	µg/L	547.25	ppb	05:50:04
1	Ni 231.604†	8032.0	7587.8	553.93	µg/L	553.93	ppb	05:49:43
1	P 214.914†	1468.2	1199.7	2675.1	µg/L	2675.1	ppb	05:50:04
1	Pb 220.353†	1717.1	1650.5	549.83	µg/L	549.83	ppb	05:50:04
1	S 181.975 Axial†	290.2	264.2	1096.4	µg/L	1096.4	ppb	05:50:04
1	Sb 206.836†	495.8	467.5	533.51	µg/L	533.51	ppb	05:50:04
1	Se 196.026†	436.1	413.7	548.23	µg/L	548.23	ppb	05:50:04
1	SiO2†	26731.2	24831.2	5680.4	µg/L	5680.4	ppb	05:49:43
1	Si 251.611†	31937.6	30961.6	2655.3	µg/L	2655.3	ppb	05:49:43
1	Sn 189.927†	1154.0	1131.5	557.48	µg/L	557.48	ppb	05:50:04
1	Ti 334.940†	190188.3	186669.0	524.77	µg/L	524.77	ppb	05:49:37
1	Tl 190.801†	419.2	437.9	539.64	µg/L	539.64	ppb	05:50:04
1	U 409.014†	5062.3	4824.3	500.57	µg/L	500.57	ppb	05:49:43
1	V 292.402†	40037.8	39440.1	530.29	µg/L	530.29	ppb	05:49:43
1	Zn 213.857†	19897.9	18918.3	528.19	µg/L	528.19	ppb	05:49:43
2	Sc RADIAL	112160.1	112160.1	101	%			05:48:39
2	Al 396.153Radial†	10024.8	9956.5	5259.5	µg/L	5259.5	ppb	05:48:39
2	Ca 317.933Radial†	16500.2	15782.3	5387.7	µg/L	5387.7	ppb	05:48:39
2	Fe 238.204 Radial†	776.9	732.7	5083.8	µg/L	5083.8	ppb	05:49:00
2	K 766.490 Radial†	9093.3	8718.4	5179.3	µg/L	5179.3	ppb	05:48:39
2	Mg 279.077 IEC†	552.7	531.7	5260.8	µg/L	5260.8	ppb	05:49:00
2	Na 589.592 Radial†	31767.0	31009.7	9571.7	µg/L	9571.7	ppb	05:48:39
2	Sr 421.552†	117788.1	116016.6	482.53	µg/L	482.53	ppb	05:48:39
2	Sc 361.383	1693221.9	1693221.9	101.91	%			05:50:11
2	Y 371.029	950895.0	950895.0	101.46	%			05:50:11
2	Ag 328.068†	55859.4	55332.3	521.54	µg/L	521.54	ppb	05:50:16
2	As 188.979†	280.1	282.6	541.30	µg/L	541.30	ppb	05:50:37
2	B 249.677†	9739.9	9390.9	517.62	µg/L	517.62	ppb	05:50:16
2	Ba 233.527†	20022.9	19658.7	532.77	µg/L	532.77	ppb	05:50:16
2	Be 313.107†	709383.1	697787.8	521.07	µg/L	521.07	ppb	05:50:11
2	Cd 226.502†	17797.9	17605.8	533.55	µg/L	533.55	ppb	05:50:16
2	Co 228.616†	10051.1	9836.3	535.41	µg/L	535.41	ppb	05:50:16
2	Cr 267.716†	20360.5	19910.7	532.67	µg/L	532.67	ppb	05:50:16
2	Cu 324.752†	72994.7	68999.5	523.27	µg/L	523.27	ppb	05:50:16
2	Mn 257.610†	142983.6	140886.3	532.77	µg/L	532.77	ppb	05:50:11
2	Mo 202.031†	4561.5	4473.9	540.01	µg/L	540.01	ppb	05:50:37
2	Ni 231.604†	8057.3	7611.3	555.65	µg/L	555.65	ppb	05:50:16
2	P 214.914†	1455.3	1186.8	2645.2	µg/L	2645.2	ppb	05:50:37
2	Pb 220.353†	1682.1	1615.9	538.25	µg/L	538.25	ppb	05:50:37

2	S 181.975 Axial†	288.8	262.9	1090.6 µg/L	1090.6 ppb	05:50:37
2	Sb 206.836†	494.1	465.7	531.40 µg/L	531.40 ppb	05:50:37
2	Se 196.026†	436.8	414.3	548.95 µg/L	548.95 ppb	05:50:37
2	SiO2†	27026.3	25116.5	5745.6 µg/L	5745.6 ppb	05:50:16
2	Si 251.611†	32358.3	31369.3	2690.2 µg/L	2690.2 ppb	05:50:16
2	Sn 189.927†	1136.7	1114.5	549.06 µg/L	549.06 ppb	05:50:37
2	Ti 334.940†	188677.7	185155.6	520.52 µg/L	520.52 ppb	05:50:11
2	Tl 190.801†	415.9	434.6	535.64 µg/L	535.64 ppb	05:50:37
2	U 409.014†	5165.5	4924.7	511.02 µg/L	511.02 ppb	05:50:16
2	V 292.402†	40204.3	39596.9	532.33 µg/L	532.33 ppb	05:50:16
2	Zn 213.857†	20088.1	19101.7	533.34 µg/L	533.34 ppb	05:50:16
3	Sc RADIAL	111291.8	111291.8	101 %		05:49:05
3	Al 396.153Radial†	9858.9	9868.6	5214.6 µg/L	5214.6 ppb	05:49:05
3	Ca 317.933Radial†	16136.2	15547.6	5307.6 µg/L	5307.6 ppb	05:49:05
3	Fe 238.204 Radial†	776.9	738.7	5124.7 µg/L	5124.7 ppb	05:49:26
3	K 766.490 Radial†	9016.2	8711.7	5175.4 µg/L	5175.4 ppb	05:49:05
3	Mg 279.077 IEC†	549.9	533.1	5273.3 µg/L	5273.3 ppb	05:49:26
3	Na 589.592 Radial†	31246.2	30736.5	9487.3 µg/L	9487.3 ppb	05:49:05
3	Sr 421.552†	115620.0	114768.0	477.34 µg/L	477.34 ppb	05:49:05
3	Sc 361.383	1689293.3	1689293.3	101.67 %		05:50:44
3	Y 371.029	945291.4	945291.4	100.86 %		05:50:44
3	Ag 328.068†	52996.8	52644.2	496.13 µg/L	496.13 ppb	05:50:50
3	As 188.979†	248.2	251.8	482.40 µg/L	482.40 ppb	05:51:10
3	B 249.677†	9194.6	8876.7	489.08 µg/L	489.08 ppb	05:50:50
3	Ba 233.527†	18621.0	18325.4	496.62 µg/L	496.62 ppb	05:50:50
3	Be 313.107†	675565.9	666144.6	497.44 µg/L	497.44 ppb	05:50:44
3	Cd 226.502†	16574.5	16443.0	498.27 µg/L	498.27 ppb	05:50:50
3	Co 228.616†	9261.4	9082.5	494.31 µg/L	494.31 ppb	05:50:50
3	Cr 267.716†	18395.4	18024.4	482.21 µg/L	482.21 ppb	05:50:50
3	Cu 324.752†	67617.4	63877.1	484.50 µg/L	484.50 ppb	05:50:50
3	Mn 257.610†	136778.9	135109.8	510.93 µg/L	510.93 ppb	05:50:44
3	Mo 202.031†	3915.1	3848.4	464.55 µg/L	464.55 ppb	05:51:10
3	Ni 231.604†	7438.0	7020.6	512.53 µg/L	512.53 ppb	05:50:50
3	P 214.914†	1302.6	1039.9	2314.4 µg/L	2314.4 ppb	05:51:10
3	Pb 220.353†	1492.4	1433.1	477.28 µg/L	477.28 ppb	05:51:10
3	S 181.975 Axial†	259.9	235.0	975.24 µg/L	975.24 ppb	05:51:10
3	Sb 206.836†	442.0	415.6	473.82 µg/L	473.82 ppb	05:51:10
3	Se 196.026†	395.7	374.9	498.07 µg/L	498.07 ppb	05:51:10
3	SiO2†	25650.6	23825.0	5450.2 µg/L	5450.2 ppb	05:50:50
3	Si 251.611†	30547.9	29662.4	2543.9 µg/L	2543.9 ppb	05:50:50
3	Sn 189.927†	960.4	943.6	464.96 µg/L	464.96 ppb	05:51:10
3	Ti 334.940†	179272.7	176335.6	495.71 µg/L	495.71 ppb	05:50:44
3	Tl 190.801†	376.8	397.1	489.60 µg/L	489.60 ppb	05:51:10
3	U 409.014†	4673.8	4452.9	461.96 µg/L	461.96 ppb	05:50:50
3	V 292.402†	36924.6	36462.8	489.94 µg/L	489.94 ppb	05:50:50
3	Zn 213.857†	18581.1	17665.3	493.19 µg/L	493.19 ppb	05:50:50

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1691818.7	101.82	%	0.132				0.13%
Sc RADIAL	111588.6	101	%	0.4				0.44%
Y 371.029	949376.2	101.29	%	0.382				0.38%
Ag 328.068†	54287.9	511.68	µg/L	13.625	511.68	ppb	13.625	2.66%
QC value within limits for Ag 328.068 Recovery = 102.34%								
Al 396.153Radial†	9974.7	5269.7	µg/L	60.79	5269.7	ppb	60.79	1.15%
QC value within limits for Al 396.153Radial Recovery = 105.39%								
As 188.979†	273.5	523.90	µg/L	36.094	523.90	ppb	36.094	6.89%
QC value within limits for As 188.979 Recovery = 104.78%								
B 249.677†	9195.8	506.79	µg/L	15.462	506.79	ppb	15.462	3.05%
QC value within limits for B 249.677 Recovery = 101.36%								
Ba 233.527†	19157.9	519.19	µg/L	19.680	519.19	ppb	19.680	3.79%
QC value within limits for Ba 233.527 Recovery = 103.84%								
Be 313.107†	689624.8	514.98	µg/L	15.418	514.98	ppb	15.418	2.99%
QC value within limits for Be 313.107 Recovery = 103.00%								
Ca 317.933Radial†	15756.9	5379.0	µg/L	67.55	5379.0	ppb	67.55	1.26%
QC value within limits for Ca 317.933Radial Recovery = 107.58%								
Cd 226.502†	17189.0	520.91	µg/L	19.651	520.91	ppb	19.651	3.77%
QC value within limits for Cd 226.502 Recovery = 104.18%								
Co 228.616†	9573.0	521.05	µg/L	23.180	521.05	ppb	23.180	4.45%

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   QC value within limits for Co 228.616  Recovery = 104.21%
Cr 267.716†            19244.4      514.84 µg/L        28.303      514.84 ppb         28.303   5.50%
   QC value within limits for Cr 267.716  Recovery = 102.97%
Cu 324.752†            67068.5      508.66 µg/L        21.073      508.66 ppb         21.073   4.14%
   QC value within limits for Cu 324.752  Recovery = 101.73%
Fe 238.204 Radial†       736.9      5112.4 µg/L         24.88      5112.4 ppb          24.88   0.49%
   QC value within limits for Fe 238.204 Radial  Recovery = 102.25%
K 766.490 Radial†       8753.5      5200.2 µg/L         39.60      5200.2 ppb          39.60   0.76%
   QC value within limits for K 766.490 Radial  Recovery = 104.00%
Mg 279.077 IEC†          534.7      5289.9 µg/L         39.96      5289.9 ppb          39.96   0.76%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.80%
Mn 257.610†           139386.8      527.10 µg/L        14.213      527.10 ppb         14.213   2.70%
   QC value within limits for Mn 257.610  Recovery = 105.42%
Mo 202.031†             4285.4      517.27 µg/L        45.804      517.27 ppb         45.804   8.86%
   QC value within limits for Mo 202.031  Recovery = 103.45%
Na 589.592 Radial†     31002.0      9569.3 µg/L         80.79      9569.3 ppb          80.79   0.84%
   QC value within limits for Na 589.592 Radial  Recovery = 95.69%
Ni 231.604†             7406.6      540.70 µg/L        24.415      540.70 ppb         24.415   4.52%
   QC value within limits for Ni 231.604  Recovery = 108.14%
P 214.914†              1142.2      2544.9 µg/L        200.20      2544.9 ppb         200.20   7.87%
   QC value within limits for P 214.914  Recovery = 101.79%
Pb 220.353†             1566.5      521.79 µg/L        38.974      521.79 ppb         38.974   7.47%
   QC value within limits for Pb 220.353  Recovery = 104.36%
S 181.975 Axial†         254.0      1054.1 µg/L         68.32      1054.1 ppb          68.32   6.48%
   QC value within limits for S 181.975 Axial  Recovery = 105.41%
Sb 206.836†              449.6      512.91 µg/L        33.870      512.91 ppb         33.870   6.60%
   QC value within limits for Sb 206.836  Recovery = 102.58%
Se 196.026†              400.9      531.75 µg/L        29.172      531.75 ppb         29.172   5.49%
   QC value within limits for Se 196.026  Recovery = 106.35%
SiO2†                  24590.9      5625.4 µg/L        155.21      5625.4 ppb         155.21   2.76%
   QC value within limits for SiO2  Recovery = 105.20%
Si 251.611†            30664.4      2629.8 µg/L         76.45      2629.8 ppb          76.45   2.91%
   QC value within limits for Si 251.611  Recovery = 105.19%
Sn 189.927†             1063.2      523.83 µg/L        51.157      523.83 ppb         51.157   9.77%
   QC value within limits for Sn 189.927  Recovery = 104.77%
Sr 421.552†           116033.2      482.60 µg/L         5.297      482.60 ppb          5.297   1.10%
   QC value within limits for Sr 421.552  Recovery = 96.52%
Ti 334.940†           182720.1      513.66 µg/L        15.698      513.66 ppb         15.698   3.06%
   QC value within limits for Ti 334.940  Recovery = 102.73%
Tl 190.801†              423.2      521.63 µg/L        27.806      521.63 ppb         27.806   5.33%
   QC value within limits for Tl 190.801  Recovery = 104.33%
U 409.014†              4733.9      491.19 µg/L        25.840      491.19 ppb         25.840   5.26%
   QC value within limits for U 409.014  Recovery = 98.24%
V 292.402†             38499.9      517.52 µg/L        23.911      517.52 ppb         23.911   4.62%
   QC value within limits for V 292.402  Recovery = 103.50%
Zn 213.857†            18561.8      518.24 µg/L        21.844      518.24 ppb         21.844   4.22%
   QC value within limits for Zn 213.857  Recovery = 103.65%
All analyte(s) passed QC.
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Sequence No.: 38
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/26/2010 05:51:19
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	111828.7	111828.7	101	%			05:51:55
1	Al 396.153Radial†	-131.6	-60.0	-31.766	µg/L	-31.766	ppb	05:51:55
1	Ca 317.933Radial†	414.9	-79.5	-27.135	µg/L	-27.135	ppb	05:52:15
1	Fe 238.204 Radial†	32.8	-0.9	-6.5486	µg/L	-6.5486	ppb	05:52:15
1	K 766.490 Radial†	291.4	39.0	23.150	µg/L	23.150	ppb	05:51:55
1	Mg 279.077 IEC†	14.0	0.4	3.9691	µg/L	3.9691	ppb	05:52:15
1	Na 589.592 Radial†	225.1	-95.7	-29.541	µg/L	-29.541	ppb	05:51:55
1	Sr 421.552†	160.9	15.3	0.0638	µg/L	0.0638	ppb	05:51:55
1	Sc 361.383	1700322.7	1700322.7	102.33	%			05:53:17
1	Y 371.029	957500.3	957500.3	102.16	%			05:53:17
1	Ag 328.068†	-473.7	54.4	0.5069	µg/L	0.5069	ppb	05:53:22
1	As 188.979†	-2.3	5.4	10.311	µg/L	10.311	ppb	05:53:43
1	B 249.677†	177.9	7.0	0.3885	µg/L	0.3885	ppb	05:53:43
1	Ba 233.527†	-3.3	6.9	0.1857	µg/L	0.1857	ppb	05:53:43
1	Be 313.107†	-1808.5	-99.2	-0.0743	µg/L	-0.0743	ppb	05:53:22
1	Cd 226.502†	-148.9	-4.9	-0.1463	µg/L	-0.1463	ppb	05:53:43
1	Co 228.616†	35.2	7.5	0.4096	µg/L	0.4096	ppb	05:53:43
1	Cr 267.716†	75.5	4.6	0.1234	µg/L	0.1234	ppb	05:53:22
1	Cu 324.752†	2700.8	8.8	0.0657	µg/L	0.0657	ppb	05:53:22
1	Mn 257.610†	-491.8	95.5	0.3606	µg/L	0.3606	ppb	05:53:43
1	Mo 202.031†	9.1	6.4	0.7777	µg/L	0.7777	ppb	05:53:43
1	Ni 231.604†	302.3	0.2	0.0109	µg/L	0.0109	ppb	05:53:43
1	P 214.914†	241.8	-5.0	-11.290	µg/L	-11.290	ppb	05:53:43
1	Pb 220.353†	33.1	-2.5	-0.8239	µg/L	-0.8239	ppb	05:53:43
1	S 181.975 Axial†	18.5	-2.5	-10.572	µg/L	-10.572	ppb	05:53:43
1	Sb 206.836†	24.1	4.4	4.9917	µg/L	4.9917	ppb	05:53:43
1	Se 196.026†	14.1	-0.6	-0.7604	µg/L	-0.7604	ppb	05:53:43
1	SiO2†	1519.0	79.9	18.275	µg/L	18.275	ppb	05:53:22
1	Si 251.611†	559.9	163.1	13.985	µg/L	13.985	ppb	05:53:43
1	Sn 189.927†	-2.4	-3.4	-1.6673	µg/L	-1.6673	ppb	05:53:43
1	Ti 334.940†	135.5	138.0	0.3875	µg/L	0.3875	ppb	05:53:22
1	Tl 190.801†	-28.0	-0.8	-1.0006	µg/L	-1.0006	ppb	05:53:43
1	U 409.014†	135.3	-12.0	-1.2473	µg/L	-1.2473	ppb	05:53:22
1	V 292.402†	-158.1	-10.2	-0.1302	µg/L	-0.1302	ppb	05:53:22
1	Zn 213.857†	600.9	-23.5	-0.6623	µg/L	-0.6623	ppb	05:53:43
2	Sc RADIAL	111656.6	111656.6	101	%			05:52:20
2	Al 396.153Radial†	-110.1	-38.9	-20.635	µg/L	-20.635	ppb	05:52:20
2	Ca 317.933Radial†	412.7	-81.0	-27.653	µg/L	-27.653	ppb	05:52:41
2	Fe 238.204 Radial†	31.4	-2.3	-16.132	µg/L	-16.132	ppb	05:52:41
2	K 766.490 Radial†	203.2	-47.9	-28.460	µg/L	-28.460	ppb	05:52:20
2	Mg 279.077 IEC†	7.0	-6.5	-63.767	µg/L	-63.767	ppb	05:52:41
2	Na 589.592 Radial†	236.1	-84.4	-26.059	µg/L	-26.059	ppb	05:52:20
2	Sr 421.552†	126.1	-18.8	-0.0782	µg/L	-0.0782	ppb	05:52:20
2	Sc 361.383	1689602.3	1689602.3	101.69	%			05:53:49
2	Y 371.029	954297.3	954297.3	101.82	%			05:53:49
2	Ag 328.068†	-501.8	23.9	0.2227	µg/L	0.2227	ppb	05:53:55
2	As 188.979†	-4.8	2.9	5.5509	µg/L	5.5509	ppb	05:54:15
2	B 249.677†	186.5	16.5	0.9205	µg/L	0.9205	ppb	05:54:15
2	Ba 233.527†	0.5	10.6	0.2866	µg/L	0.2866	ppb	05:54:15
2	Be 313.107†	-1733.7	-36.9	-0.0278	µg/L	-0.0278	ppb	05:53:55
2	Cd 226.502†	-142.1	0.9	0.0281	µg/L	0.0281	ppb	05:54:15
2	Co 228.616†	29.7	2.3	0.1264	µg/L	0.1264	ppb	05:54:15
2	Cr 267.716†	81.5	11.0	0.2951	µg/L	0.2951	ppb	05:53:55
2	Cu 324.752†	2702.4	27.1	0.2022	µg/L	0.2022	ppb	05:53:55
2	Mn 257.610†	-469.0	114.9	0.4379	µg/L	0.4379	ppb	05:54:15
2	Mo 202.031†	17.8	15.1	1.8179	µg/L	1.8179	ppb	05:54:15
2	Ni 231.604†	293.7	-6.5	-0.4753	µg/L	-0.4753	ppb	05:54:15
2	P 214.914†	246.0	0.6	1.4226	µg/L	1.4226	ppb	05:54:15
2	Pb 220.353†	27.5	-7.7	-2.5497	µg/L	-2.5497	ppb	05:54:15

2	S 181.975 Axial†	25.6	4.6	18.951	µg/L	18.951 ppb	05:54:15
2	Sb 206.836†	19.6	0.1	0.1665	µg/L	0.1665 ppb	05:54:15
2	Se 196.026†	12.8	-1.7	-2.2549	µg/L	-2.2549 ppb	05:54:15
2	SiO2†	1582.6	151.8	34.725	µg/L	34.725 ppb	05:53:55
2	Si 251.611†	585.8	192.1	16.472	µg/L	16.472 ppb	05:54:15
2	Sn 189.927†	4.6	3.5	1.7309	µg/L	1.7309 ppb	05:54:15
2	Ti 334.940†	186.6	189.1	0.5365	µg/L	0.5365 ppb	05:53:55
2	Tl 190.801†	-27.4	-0.5	-0.5948	µg/L	-0.5948 ppb	05:54:15
2	U 409.014†	61.7	-83.6	-8.6884	µg/L	-8.6884 ppb	05:53:55
2	V 292.402†	-127.1	19.4	0.2625	µg/L	0.2625 ppb	05:53:55
2	Zn 213.857†	599.6	-21.2	-0.5893	µg/L	-0.5893 ppb	05:54:15
3	Sc RADIAL	111006.1	111006.1	100	%		05:52:46
3	Al 396.153Radial†	-138.1	-67.5	-35.758	µg/L	-35.758 ppb	05:52:46
3	Ca 317.933Radial†	422.1	-69.3	-23.647	µg/L	-23.647 ppb	05:53:07
3	Fe 238.204 Radial†	32.2	-1.3	-9.1086	µg/L	-9.1086 ppb	05:53:07
3	K 766.490 Radial†	340.4	90.0	53.453	µg/L	53.453 ppb	05:52:46
3	Mg 279.077 IEC†	13.1	-0.3	-3.2033	µg/L	-3.2033 ppb	05:53:07
3	Na 589.592 Radial†	270.5	-48.8	-15.076	µg/L	-15.076 ppb	05:52:46
3	Sr 421.552†	157.5	13.2	0.0550	µg/L	0.0550 ppb	05:52:46
3	Sc 361.383	1708669.2	1708669.2	102.84	%		05:54:21
3	Y 371.029	966086.0	966086.0	103.08	%		05:54:21
3	Ag 328.068†	-558.7	-26.0	-0.2405	µg/L	-0.2405 ppb	05:54:27
3	As 188.979†	-2.8	5.0	9.5134	µg/L	9.5134 ppb	05:54:47
3	B 249.677†	167.1	-4.4	-0.2408	µg/L	-0.2408 ppb	05:54:47
3	Ba 233.527†	0.6	10.7	0.2897	µg/L	0.2897 ppb	05:54:47
3	Be 313.107†	-1644.3	69.1	0.0514	µg/L	0.0514 ppb	05:54:27
3	Cd 226.502†	-146.2	-1.6	-0.0476	µg/L	-0.0476 ppb	05:54:47
3	Co 228.616†	27.6	-0.0	-0.0015	µg/L	-0.0015 ppb	05:54:47
3	Cr 267.716†	63.9	-7.0	-0.1875	µg/L	-0.1875 ppb	05:54:27
3	Cu 324.752†	2730.6	24.9	0.1867	µg/L	0.1867 ppb	05:54:27
3	Mn 257.610†	-494.5	95.2	0.3599	µg/L	0.3599 ppb	05:54:47
3	Mo 202.031†	15.5	12.6	1.5231	µg/L	1.5231 ppb	05:54:47
3	Ni 231.604†	306.4	2.7	0.1974	µg/L	0.1974 ppb	05:54:47
3	P 214.914†	245.7	-2.3	-5.2839	µg/L	-5.2839 ppb	05:54:47
3	Pb 220.353†	29.9	-5.7	-1.8787	µg/L	-1.8787 ppb	05:54:47
3	S 181.975 Axial†	25.5	4.3	17.640	µg/L	17.640 ppb	05:54:47
3	Sb 206.836†	23.1	3.3	3.7899	µg/L	3.7899 ppb	05:54:47
3	Se 196.026†	15.7	0.9	1.0790	µg/L	1.0790 ppb	05:54:47
3	SiO2†	1641.6	191.8	43.875	µg/L	43.875 ppb	05:54:27
3	Si 251.611†	597.8	197.3	16.918	µg/L	16.918 ppb	05:54:47
3	Sn 189.927†	4.1	3.0	1.4750	µg/L	1.4750 ppb	05:54:47
3	Ti 334.940†	216.6	216.3	0.6082	µg/L	0.6082 ppb	05:54:27
3	Tl 190.801†	-26.9	0.3	0.3834	µg/L	0.3834 ppb	05:54:47
3	U 409.014†	97.5	-49.4	-5.1333	µg/L	-5.1333 ppb	05:54:27
3	V 292.402†	-107.3	40.0	0.5376	µg/L	0.5376 ppb	05:54:27
3	Zn 213.857†	595.4	-31.8	-0.8942	µg/L	-0.8942 ppb	05:54:47

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1699531.4	102.29	%	0.575				0.56%
Sc RADIAL	111497.2	101	%	0.4				0.39%
Y 371.029	959294.5	102.35	%	0.650				0.64%
Ag 328.068†	17.4	0.1630	µg/L	0.37726	0.1630	ppb	0.37726	231.44%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-55.5	-29.386	µg/L	7.8377	-29.386	ppb	7.8377	26.67%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	4.4	8.4585	µg/L	2.54940	8.4585	ppb	2.54940	30.14%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	6.3	0.3561	µg/L	0.58135	0.3561	ppb	0.58135	163.26%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	9.4	0.2540	µg/L	0.05918	0.2540	ppb	0.05918	23.30%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-22.4	-0.0169	µg/L	0.06352	-0.0169	ppb	0.06352	375.84%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-76.6	-26.145	µg/L	2.1785	-26.145	ppb	2.1785	8.33%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	-1.9	-0.0553	µg/L	0.08743	-0.0553	ppb	0.08743	158.24%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	3.3	0.1782	µg/L	0.21039	0.1782	ppb	0.21039	118.09%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 2.9      0.0770 µg/L       0.24464      0.0770 ppb        0.24464 317.84%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                20.3      0.1515 µg/L       0.07474      0.1515 ppb        0.07474  49.32%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†         -1.5     -10.597 µg/L        4.9621     -10.597 ppb         4.9621  46.83%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          27.0      16.048 µg/L       41.4163      16.048 ppb        41.4163 258.08%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -2.1     -21.001 µg/L       37.2104     -21.001 ppb        37.2104 177.19%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               101.9      0.3861 µg/L       0.04482      0.3861 ppb        0.04482  11.61%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                11.4      1.3729 µg/L       0.53613      1.3729 ppb        0.53613  39.05%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -76.3     -23.559 µg/L        7.5496     -23.559 ppb         7.5496  32.05%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                -1.2     -0.0890 µg/L       0.34727     -0.0890 ppb        0.34727 390.17%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 -2.2     -5.0506 µg/L       6.35976     -5.0506 ppb        6.35976 125.92%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                -5.3     -1.7508 µg/L       0.86996     -1.7508 ppb        0.86996  49.69%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            2.1      8.6733 µg/L      16.67970      8.6733 ppb       16.67970 192.31%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 2.6      2.9827 µg/L       2.51180      2.9827 ppb        2.51180  84.21%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -0.5     -0.6454 µg/L       1.66990     -0.6454 ppb        1.66990 258.73%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     141.2      32.292 µg/L       12.9723      32.292 ppb        12.9723  40.17%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               184.1      15.791 µg/L        1.5806      15.791 ppb         1.5806  10.01%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 1.0      0.5129 µg/L       1.89241      0.5129 ppb        1.89241 368.99%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                 3.2      0.0135 µg/L       0.07955      0.0135 ppb        0.07955 588.91%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               181.1      0.5108 µg/L       0.11259      0.5108 ppb        0.11259  22.04%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -0.3     -0.4040 µg/L       0.71146     -0.4040 ppb        0.71146 176.11%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                -48.3     -5.0230 µg/L       3.72178     -5.0230 ppb        3.72178  74.09%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 16.4      0.2233 µg/L       0.33560      0.2233 ppb        0.33560 150.29%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -25.5     -0.7153 µg/L       0.15920     -0.7153 ppb        0.15920  22.26%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 48
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 06:27:00
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113469.5	113469.5	103	%			06:27:34
1	Al 396.153Radial†	10381.5	10190.0	5383.2	µg/L	5383.2	ppb	06:27:34
1	Ca 317.933Radial†	16737.4	15825.8	5402.5	µg/L	5402.5	ppb	06:27:34
1	Fe 238.204 Radial†	789.1	735.8	5105.0	µg/L	5105.0	ppb	06:27:55
1	K 766.490 Radial†	9431.8	8944.9	5313.9	µg/L	5313.9	ppb	06:27:34
1	Mg 279.077 IEC†	565.2	537.5	5318.6	µg/L	5318.6	ppb	06:27:55
1	Na 589.592 Radial†	32314.8	31182.1	9624.9	µg/L	9624.9	ppb	06:27:34
1	Sr 421.552†	120457.3	117278.1	487.78	µg/L	487.78	ppb	06:27:34
1	Sc 361.383	1717032.9	1717032.9	103.34	%			06:28:58
1	Y 371.029	969738.0	969738.0	103.47	%			06:28:58
1	Ag 328.068†	55915.4	54626.3	514.88	µg/L	514.88	ppb	06:29:04
1	As 188.979†	285.1	283.6	543.28	µg/L	543.28	ppb	06:29:25
1	B 249.677†	9739.8	9258.3	510.26	µg/L	510.26	ppb	06:29:04
1	Ba 233.527†	19929.7	19296.0	522.94	µg/L	522.94	ppb	06:29:04
1	Be 313.107†	717839.0	696317.1	519.97	µg/L	519.97	ppb	06:28:58
1	Cd 226.502†	17676.4	17245.9	522.63	µg/L	522.63	ppb	06:29:04
1	Co 228.616†	9976.2	9627.0	524.00	µg/L	524.00	ppb	06:29:04
1	Cr 267.716†	20250.3	19527.0	522.40	µg/L	522.40	ppb	06:29:04
1	Cu 324.752†	73120.6	68128.0	516.68	µg/L	516.68	ppb	06:29:04
1	Mn 257.610†	145479.1	141355.5	534.54	µg/L	534.54	ppb	06:28:58
1	Mo 202.031†	4633.2	4481.1	540.89	µg/L	540.89	ppb	06:29:25
1	Ni 231.604†	7978.2	7425.1	542.05	µg/L	542.05	ppb	06:29:04
1	P 214.914†	1460.9	1172.5	2613.2	µg/L	2613.2	ppb	06:29:25
1	Pb 220.353†	1691.3	1601.9	533.61	µg/L	533.61	ppb	06:29:25
1	S 181.975 Axial†	289.7	259.8	1077.8	µg/L	1077.8	ppb	06:29:25
1	Sb 206.836†	513.6	477.9	545.29	µg/L	545.29	ppb	06:29:25
1	Se 196.026†	445.1	416.3	551.63	µg/L	551.63	ppb	06:29:25
1	SiO2†	26797.7	24527.5	5610.9	µg/L	5610.9	ppb	06:29:04
1	Si 251.611†	31992.2	30574.6	2622.1	µg/L	2622.1	ppb	06:29:04
1	Sn 189.927†	1144.0	1106.1	544.93	µg/L	544.93	ppb	06:29:25
1	Ti 334.940†	191900.3	185706.6	522.06	µg/L	522.06	ppb	06:28:58
1	Tl 190.801†	419.3	432.2	532.76	µg/L	532.76	ppb	06:29:25
1	U 409.014†	5188.7	4876.8	506.04	µg/L	506.04	ppb	06:29:04
1	V 292.402†	40126.2	38974.3	524.04	µg/L	524.04	ppb	06:29:04
1	Zn 213.857†	19996.4	18739.6	523.22	µg/L	523.22	ppb	06:29:04
2	Sc RADIAL	114327.1	114327.1	103	%			06:28:00
2	Al 396.153Radial†	10238.5	9975.7	5269.9	µg/L	5269.9	ppb	06:28:00
2	Ca 317.933Radial†	16568.5	15540.0	5305.0	µg/L	5305.0	ppb	06:28:00
2	Fe 238.204 Radial†	773.9	715.3	4963.3	µg/L	4963.3	ppb	06:28:21
2	K 766.490 Radial†	9251.5	8701.5	5169.3	µg/L	5169.3	ppb	06:28:00
2	Mg 279.077 IEC†	549.8	518.5	5130.8	µg/L	5130.8	ppb	06:28:21
2	Na 589.592 Radial†	32039.7	30679.7	9469.8	µg/L	9469.8	ppb	06:28:00
2	Sr 421.552†	119160.5	115142.6	478.90	µg/L	478.90	ppb	06:28:00
2	Sc 361.383	1722509.7	1722509.7	103.67	%			06:29:32
2	Y 371.029	971079.0	971079.0	103.61	%			06:29:32
2	Ag 328.068†	55948.8	54486.5	513.54	µg/L	513.54	ppb	06:29:38
2	As 188.979†	279.5	277.3	531.15	µg/L	531.15	ppb	06:29:58
2	B 249.677†	9729.9	9218.8	508.15	µg/L	508.15	ppb	06:29:38
2	Ba 233.527†	19881.2	19187.9	520.01	µg/L	520.01	ppb	06:29:38
2	Be 313.107†	715557.6	691907.7	516.68	µg/L	516.68	ppb	06:29:32
2	Cd 226.502†	17676.0	17191.2	520.99	µg/L	520.99	ppb	06:29:38
2	Co 228.616†	9977.0	9597.1	522.37	µg/L	522.37	ppb	06:29:38
2	Cr 267.716†	20235.3	19450.3	520.35	µg/L	520.35	ppb	06:29:38
2	Cu 324.752†	73076.8	67860.8	514.63	µg/L	514.63	ppb	06:29:38
2	Mn 257.610†	144546.8	140008.5	529.45	µg/L	529.45	ppb	06:29:32
2	Mo 202.031†	4562.1	4398.3	530.88	µg/L	530.88	ppb	06:29:58
2	Ni 231.604†	7996.2	7418.0	541.53	µg/L	541.53	ppb	06:29:38
2	P 214.914†	1449.3	1156.8	2577.7	µg/L	2577.7	ppb	06:29:58
2	Pb 220.353†	1679.2	1585.0	527.99	µg/L	527.99	ppb	06:29:58

2	S 181.975 Axial†	298.6	267.4	1109.6 µg/L	1109.6 ppb	06:29:58
2	Sb 206.836†	501.1	464.2	529.70 µg/L	529.70 ppb	06:29:58
2	Se 196.026†	441.9	411.9	545.52 µg/L	545.52 ppb	06:29:58
2	SiO2†	26895.3	24539.1	5613.6 µg/L	5613.6 ppb	06:29:38
2	Si 251.611†	32133.2	30612.2	2625.3 µg/L	2625.3 ppb	06:29:38
2	Sn 189.927†	1120.4	1079.7	531.95 µg/L	531.95 ppb	06:29:58
2	Ti 334.940†	191109.6	184353.4	518.27 µg/L	518.27 ppb	06:29:32
2	Tl 190.801†	418.4	430.1	530.13 µg/L	530.13 ppb	06:29:58
2	U 409.014†	5164.2	4837.2	501.95 µg/L	501.95 ppb	06:29:38
2	V 292.402†	40062.9	38789.7	521.50 µg/L	521.50 ppb	06:29:38
2	Zn 213.857†	19984.1	18666.2	521.18 µg/L	521.18 ppb	06:29:38
3	Sc RADIAL	114950.1	114950.1	104 %		06:28:26
3	Al 396.153Radial†	10126.6	9814.4	5186.0 µg/L	5186.0 ppb	06:28:26
3	Ca 317.933Radial†	16410.7	15301.3	5223.5 µg/L	5223.5 ppb	06:28:26
3	Fe 238.204 Radial†	781.4	718.5	4984.2 µg/L	4984.2 ppb	06:28:47
3	K 766.490 Radial†	9193.9	8597.5	5107.5 µg/L	5107.5 ppb	06:28:26
3	Mg 279.077 IEC†	548.5	514.4	5088.9 µg/L	5088.9 ppb	06:28:47
3	Na 589.592 Radial†	31647.2	30134.0	9301.4 µg/L	9301.4 ppb	06:28:26
3	Sr 421.552†	117797.4	113206.2	470.84 µg/L	470.84 ppb	06:28:26
3	Sc 361.383	1727979.6	1727979.6	104.00 %		06:30:05
3	Y 371.029	971717.6	971717.6	103.68 %		06:30:05
3	Ag 328.068†	54143.7	52579.9	495.49 µg/L	495.49 ppb	06:30:11
3	As 188.979†	250.3	248.4	475.86 µg/L	475.86 ppb	06:30:31
3	B 249.677†	9402.2	8873.9	489.00 µg/L	489.00 ppb	06:30:11
3	Ba 233.527†	18929.6	18212.2	493.55 µg/L	493.55 ppb	06:30:11
3	Be 313.107†	685232.4	660563.1	493.28 µg/L	493.28 ppb	06:30:05
3	Cd 226.502†	16807.2	16301.8	494.00 µg/L	494.00 ppb	06:30:11
3	Co 228.616†	9425.9	9036.7	491.82 µg/L	491.82 ppb	06:30:11
3	Cr 267.716†	18658.7	17872.4	478.14 µg/L	478.14 ppb	06:30:11
3	Cu 324.752†	69015.8	63732.7	483.38 µg/L	483.38 ppb	06:30:11
3	Mn 257.610†	138757.9	134000.8	506.74 µg/L	506.74 ppb	06:30:05
3	Mo 202.031†	3958.6	3804.1	459.19 µg/L	459.19 ppb	06:30:31
3	Ni 231.604†	7538.7	6953.6	507.63 µg/L	507.63 ppb	06:30:11
3	P 214.914†	1306.1	1014.6	2257.0 µg/L	2257.0 ppb	06:30:31
3	Pb 220.353†	1511.6	1418.7	472.50 µg/L	472.50 ppb	06:30:31
3	S 181.975 Axial†	268.7	237.8	986.60 µg/L	986.60 ppb	06:30:31
3	Sb 206.836†	446.5	410.2	467.62 µg/L	467.62 ppb	06:30:31
3	Se 196.026†	395.2	365.7	485.82 µg/L	485.82 ppb	06:30:31
3	SiO2†	25882.5	23483.1	5372.0 µg/L	5372.0 ppb	06:30:11
3	Si 251.611†	30862.8	29292.6	2512.1 µg/L	2512.1 ppb	06:30:11
3	Sn 189.927†	962.2	924.1	455.35 µg/L	455.35 ppb	06:30:31
3	Ti 334.940†	182450.9	175443.9	493.21 µg/L	493.21 ppb	06:30:05
3	Tl 190.801†	386.8	398.4	491.20 µg/L	491.20 ppb	06:30:31
3	U 409.014†	4816.5	4487.2	465.56 µg/L	465.56 ppb	06:30:11
3	V 292.402†	37498.1	36201.2	486.41 µg/L	486.41 ppb	06:30:11
3	Zn 213.857†	18833.2	17498.5	488.55 µg/L	488.55 ppb	06:30:11

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1722507.4	103.67	%	0.329				0.32%
Sc RADIAL	114248.9	103	%	0.7				0.65%
Y 371.029	970844.9	103.59	%	0.108				0.10%
Ag 328.068†	53897.6	507.97	µg/L	10.831	507.97	ppb	10.831	2.13%
QC value within limits for Ag 328.068 Recovery = 101.59%								
Al 396.153Radial†	9993.4	5279.7	µg/L	98.94	5279.7	ppb	98.94	1.87%
QC value within limits for Al 396.153Radial Recovery = 105.59%								
As 188.979†	269.7	516.76	µg/L	35.939	516.76	ppb	35.939	6.95%
QC value within limits for As 188.979 Recovery = 103.35%								
B 249.677†	9117.0	502.47	µg/L	11.716	502.47	ppb	11.716	2.33%
QC value within limits for B 249.677 Recovery = 100.49%								
Ba 233.527†	18898.7	512.17	µg/L	16.187	512.17	ppb	16.187	3.16%
QC value within limits for Ba 233.527 Recovery = 102.43%								
Be 313.107†	682929.3	509.98	µg/L	14.557	509.98	ppb	14.557	2.85%
QC value within limits for Be 313.107 Recovery = 102.00%								
Ca 317.933Radial†	15555.7	5310.3	µg/L	89.65	5310.3	ppb	89.65	1.69%
QC value within limits for Ca 317.933Radial Recovery = 106.21%								
Cd 226.502†	16913.0	512.54	µg/L	16.078	512.54	ppb	16.078	3.14%
QC value within limits for Cd 226.502 Recovery = 102.51%								
Co 228.616†	9420.3	512.73	µg/L	18.127	512.73	ppb	18.127	3.54%

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   QC value within limits for Co 228.616  Recovery = 102.55%
Cr 267.716†            18949.9      506.96 µg/L        24.983      506.96 ppb        24.983   4.93%
   QC value within limits for Cr 267.716  Recovery = 101.39%
Cu 324.752†            66573.8      504.90 µg/L        18.659      504.90 ppb        18.659   3.70%
   QC value within limits for Cu 324.752  Recovery = 100.98%
Fe 238.204 Radial†       723.2      5017.5 µg/L         76.52      5017.5 ppb         76.52   1.53%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.35%
K 766.490 Radial†       8748.0      5196.9 µg/L        105.91      5196.9 ppb        105.91   2.04%
   QC value within limits for K 766.490 Radial  Recovery = 103.94%
Mg 279.077 IEC†          523.5      5179.4 µg/L        122.35      5179.4 ppb        122.35   2.36%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.59%
Mn 257.610†           138454.9      523.58 µg/L        14.805      523.58 ppb        14.805   2.83%
   QC value within limits for Mn 257.610  Recovery = 104.72%
Mo 202.031†             4227.8      510.32 µg/L        44.563      510.32 ppb        44.563   8.73%
   QC value within limits for Mo 202.031  Recovery = 102.06%
Na 589.592 Radial†     30665.3      9465.4 µg/L        161.80      9465.4 ppb        161.80   1.71%
   QC value within limits for Na 589.592 Radial  Recovery = 94.65%
Ni 231.604†             7265.6      530.41 µg/L        19.725      530.41 ppb        19.725   3.72%
   QC value within limits for Ni 231.604  Recovery = 106.08%
P 214.914†              1114.6      2482.6 µg/L        196.21      2482.6 ppb        196.21   7.90%
   QC value within limits for P 214.914  Recovery = 99.30%
Pb 220.353†             1535.2      511.37 µg/L        33.779      511.37 ppb        33.779   6.61%
   QC value within limits for Pb 220.353  Recovery = 102.27%
S 181.975 Axial†         255.0      1058.0 µg/L         63.84      1058.0 ppb         63.84   6.03%
   QC value within limits for S 181.975 Axial  Recovery = 105.80%
Sb 206.836†              450.8      514.20 µg/L        41.085      514.20 ppb        41.085   7.99%
   QC value within limits for Sb 206.836  Recovery = 102.84%
Se 196.026†              398.0      527.66 µg/L        36.359      527.66 ppb        36.359   6.89%
   QC value within limits for Se 196.026  Recovery = 105.53%
SiO2†                  24183.3      5532.2 µg/L        138.71      5532.2 ppb        138.71   2.51%
   QC value within limits for SiO2  Recovery = 103.45%
Si 251.611†            30159.8      2586.5 µg/L         64.43      2586.5 ppb         64.43   2.49%
   QC value within limits for Si 251.611  Recovery = 103.46%
Sn 189.927†             1036.6      510.74 µg/L        48.407      510.74 ppb        48.407   9.48%
   QC value within limits for Sn 189.927  Recovery = 102.15%
Sr 421.552†           115208.9      479.17 µg/L         8.471      479.17 ppb         8.471   1.77%
   QC value within limits for Sr 421.552  Recovery = 95.83%
Ti 334.940†           181834.6      511.18 µg/L        15.679      511.18 ppb        15.679   3.07%
   QC value within limits for Ti 334.940  Recovery = 102.24%
Tl 190.801†              420.3      518.03 µg/L        23.272      518.03 ppb        23.272   4.49%
   QC value within limits for Tl 190.801  Recovery = 103.61%
U 409.014†              4733.7      491.18 µg/L        22.288      491.18 ppb        22.288   4.54%
   QC value within limits for U 409.014  Recovery = 98.24%
V 292.402†             37988.4      510.65 µg/L        21.031      510.65 ppb        21.031   4.12%
   QC value within limits for V 292.402  Recovery = 102.13%
Zn 213.857†            18301.5      510.98 µg/L        19.459      510.98 ppb        19.459   3.81%
   QC value within limits for Zn 213.857  Recovery = 102.20%
All analyte(s) passed QC.
```

Sequence No.: 49
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 06:30:40
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113356.0	113356.0	102	%			06:31:13
1	Al 396.153Radial†	-164.5	-90.4	-47.878	µg/L	-47.878	ppb	06:31:13
1	Ca 317.933Radial†	420.9	-79.1	-27.006	µg/L	-27.006	ppb	06:31:34
1	Fe 238.204 Radial†	33.9	-0.3	-2.2534	µg/L	-2.2534	ppb	06:31:34
1	K 766.490 Radial†	333.8	76.5	45.458	µg/L	45.458	ppb	06:31:13
1	Mg 279.077 IEC†	13.6	-0.2	-1.6281	µg/L	-1.6281	ppb	06:31:34
1	Na 589.592 Radial†	286.6	-38.7	-11.932	µg/L	-11.932	ppb	06:31:13
1	Sr 421.552†	186.8	38.5	0.1602	µg/L	0.1602	ppb	06:31:13
1	Sc 361.383	1704646.9	1704646.9	102.59	%			06:32:35
1	Y 371.029	963856.0	963856.0	102.84	%			06:32:35
1	Ag 328.068†	-443.8	84.7	0.7942	µg/L	0.7942	ppb	06:32:41
1	As 188.979†	-2.8	4.9	9.4969	µg/L	9.4969	ppb	06:33:01
1	B 249.677†	191.2	19.5	1.0782	µg/L	1.0782	ppb	06:33:01
1	Ba 233.527†	-8.3	2.0	0.0541	µg/L	0.0541	ppb	06:33:01
1	Be 313.107†	-1756.3	-43.9	-0.0330	µg/L	-0.0330	ppb	06:32:41
1	Cd 226.502†	-129.1	14.7	0.4478	µg/L	0.4478	ppb	06:33:01
1	Co 228.616†	25.5	-2.0	-0.1083	µg/L	-0.1083	ppb	06:33:01
1	Cr 267.716†	60.2	-10.5	-0.2799	µg/L	-0.2799	ppb	06:32:41
1	Cu 324.752†	2714.3	15.2	0.1149	µg/L	0.1149	ppb	06:32:41
1	Mn 257.610†	-529.5	60.0	0.2267	µg/L	0.2267	ppb	06:33:01
1	Mo 202.031†	17.6	14.8	1.7859	µg/L	1.7859	ppb	06:33:01
1	Ni 231.604†	322.4	19.0	1.3866	µg/L	1.3866	ppb	06:33:01
1	P 214.914†	242.8	-4.6	-10.496	µg/L	-10.496	ppb	06:33:01
1	Pb 220.353†	28.1	-7.4	-2.4581	µg/L	-2.4581	ppb	06:33:01
1	S 181.975 Axial†	23.4	2.3	9.4277	µg/L	9.4277	ppb	06:33:01
1	Sb 206.836†	21.3	1.6	1.8691	µg/L	1.8691	ppb	06:33:01
1	Se 196.026†	10.1	-4.5	-5.8878	µg/L	-5.8878	ppb	06:33:01
1	SiO2†	1562.5	118.4	27.096	µg/L	27.096	ppb	06:32:41
1	Si 251.611†	523.2	125.9	10.796	µg/L	10.796	ppb	06:33:01
1	Sn 189.927†	0.6	-0.5	-0.2340	µg/L	-0.2340	ppb	06:33:01
1	Ti 334.940†	139.7	141.8	0.3987	µg/L	0.3987	ppb	06:32:41
1	Tl 190.801†	-21.5	5.5	6.7774	µg/L	6.7774	ppb	06:33:01
1	U 409.014†	191.9	42.8	4.4558	µg/L	4.4558	ppb	06:32:41
1	V 292.402†	-123.4	24.1	0.3378	µg/L	0.3378	ppb	06:32:41
1	Zn 213.857†	620.9	-5.6	-0.1626	µg/L	-0.1626	ppb	06:33:01
2	Sc RADIAL	113630.4	113630.4	103	%			06:31:39
2	Al 396.153Radial†	-161.9	-87.4	-46.304	µg/L	-46.304	ppb	06:31:39
2	Ca 317.933Radial†	414.4	-86.5	-29.519	µg/L	-29.519	ppb	06:31:59
2	Fe 238.204 Radial†	34.5	0.2	1.3181	µg/L	1.3181	ppb	06:31:59
2	K 766.490 Radial†	260.0	3.8	2.2854	µg/L	2.2854	ppb	06:31:39
2	Mg 279.077 IEC†	11.2	-2.5	-24.989	µg/L	-24.989	ppb	06:31:59
2	Na 589.592 Radial†	245.1	-79.8	-24.631	µg/L	-24.631	ppb	06:31:39
2	Sr 421.552†	192.4	43.5	0.1808	µg/L	0.1808	ppb	06:31:39
2	Sc 361.383	1711395.4	1711395.4	103.00	%			06:33:07
2	Y 371.029	964152.7	964152.7	102.87	%			06:33:07
2	Ag 328.068†	-469.6	61.4	0.5749	µg/L	0.5749	ppb	06:33:13
2	As 188.979†	2.8	10.4	19.987	µg/L	19.987	ppb	06:33:33
2	B 249.677†	186.1	13.8	0.7610	µg/L	0.7610	ppb	06:33:33
2	Ba 233.527†	-3.8	6.4	0.1734	µg/L	0.1734	ppb	06:33:33
2	Be 313.107†	-1786.2	-66.2	-0.0496	µg/L	-0.0496	ppb	06:33:13
2	Cd 226.502†	-139.4	5.3	0.1603	µg/L	0.1603	ppb	06:33:33
2	Co 228.616†	23.4	-4.1	-0.2246	µg/L	-0.2246	ppb	06:33:33
2	Cr 267.716†	46.2	-24.3	-0.6492	µg/L	-0.6492	ppb	06:33:13
2	Cu 324.752†	2743.6	33.3	0.2522	µg/L	0.2522	ppb	06:33:13
2	Mn 257.610†	-515.7	75.4	0.2868	µg/L	0.2868	ppb	06:33:33
2	Mo 202.031†	14.5	11.7	1.4126	µg/L	1.4126	ppb	06:33:33
2	Ni 231.604†	309.9	5.6	0.4104	µg/L	0.4104	ppb	06:33:33
2	P 214.914†	233.9	-14.2	-32.257	µg/L	-32.257	ppb	06:33:33
2	Pb 220.353†	39.5	3.6	1.2012	µg/L	1.2012	ppb	06:33:33

2	S 181.975 Axial†	21.3	0.1	0.4355 µg/L	0.4355 ppb	06:33:33
2	Sb 206.836†	21.9	2.1	2.4631 µg/L	2.4631 ppb	06:33:33
2	Se 196.026†	14.1	-0.7	-0.8254 µg/L	-0.8254 ppb	06:33:33
2	SiO2†	1590.5	139.6	31.942 µg/L	31.942 ppb	06:33:13
2	Si 251.611†	527.1	127.7	10.955 µg/L	10.955 ppb	06:33:33
2	Sn 189.927†	-1.0	-2.0	-0.9858 µg/L	-0.9858 ppb	06:33:33
2	Ti 334.940†	165.1	165.9	0.4681 µg/L	0.4681 ppb	06:33:13
2	Tl 190.801†	-21.1	6.0	7.3121 µg/L	7.3121 ppb	06:33:33
2	U 409.014†	111.4	-36.1	-3.7529 µg/L	-3.7529 ppb	06:33:13
2	V 292.402†	-138.2	10.2	0.1408 µg/L	0.1408 ppb	06:33:13
2	Zn 213.857†	619.3	-9.5	-0.2681 µg/L	-0.2681 ppb	06:33:33
3	Sc RADIAL	113730.2	113730.2	103 %		06:32:05
3	Al 396.153Radial†	-123.3	-49.8	-26.377 µg/L	-26.377 ppb	06:32:05
3	Ca 317.933Radial†	409.4	-91.7	-31.289 µg/L	-31.289 ppb	06:32:25
3	Fe 238.204 Radial†	30.7	-3.5	-24.467 µg/L	-24.467 ppb	06:32:25
3	K 766.490 Radial†	356.9	97.9	58.153 µg/L	58.153 ppb	06:32:05
3	Mg 279.077 IEC†	12.0	-1.7	-17.039 µg/L	-17.039 ppb	06:32:25
3	Na 589.592 Radial†	227.5	-97.1	-29.972 µg/L	-29.972 ppb	06:32:05
3	Sr 421.552†	197.8	48.6	0.2020 µg/L	0.2020 ppb	06:32:05
3	Sc 361.383	1707245.2	1707245.2	102.75 %		06:33:39
3	Y 371.029	968542.0	968542.0	103.34 %		06:33:39
3	Ag 328.068†	-494.4	36.1	0.3365 µg/L	0.3365 ppb	06:33:45
3	As 188.979†	-3.5	4.3	8.1827 µg/L	8.1827 ppb	06:34:05
3	B 249.677†	185.2	13.3	0.7506 µg/L	0.7506 ppb	06:34:05
3	Ba 233.527†	-5.1	5.1	0.1388 µg/L	0.1388 ppb	06:34:05
3	Be 313.107†	-1793.0	-77.0	-0.0577 µg/L	-0.0577 ppb	06:33:45
3	Cd 226.502†	-151.4	-6.7	-0.2004 µg/L	-0.2004 ppb	06:34:05
3	Co 228.616†	34.3	6.5	0.3546 µg/L	0.3546 ppb	06:34:05
3	Cr 267.716†	68.3	-2.7	-0.0714 µg/L	-0.0714 ppb	06:33:45
3	Cu 324.752†	2746.7	42.8	0.3192 µg/L	0.3192 ppb	06:33:45
3	Mn 257.610†	-532.2	58.1	0.2196 µg/L	0.2196 ppb	06:34:05
3	Mo 202.031†	13.4	10.6	1.2836 µg/L	1.2836 ppb	06:34:05
3	Ni 231.604†	307.8	4.3	0.3117 µg/L	0.3117 ppb	06:34:05
3	P 214.914†	244.2	-3.6	-8.1456 µg/L	-8.1456 ppb	06:34:05
3	Pb 220.353†	38.0	2.2	0.7430 µg/L	0.7430 ppb	06:34:05
3	S 181.975 Axial†	16.6	-4.4	-18.171 µg/L	-18.171 ppb	06:34:05
3	Sb 206.836†	25.6	5.7	6.4943 µg/L	6.4943 ppb	06:34:05
3	Se 196.026†	22.5	7.6	9.7335 µg/L	9.7335 ppb	06:34:05
3	SiO2†	1572.8	126.1	28.857 µg/L	28.857 ppb	06:33:45
3	Si 251.611†	536.4	138.0	11.836 µg/L	11.836 ppb	06:34:05
3	Sn 189.927†	6.5	5.3	2.6120 µg/L	2.6120 ppb	06:34:05
3	Ti 334.940†	184.1	184.8	0.5208 µg/L	0.5208 ppb	06:33:45
3	Tl 190.801†	-26.6	0.6	0.7703 µg/L	0.7703 ppb	06:34:05
3	U 409.014†	212.9	62.9	6.5487 µg/L	6.5487 ppb	06:33:45
3	V 292.402†	-123.1	24.5	0.3415 µg/L	0.3415 ppb	06:33:45
3	Zn 213.857†	621.3	-6.1	-0.1724 µg/L	-0.1724 ppb	06:34:05

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1707762.5	102.78	%	0.205				0.20%
Sc RADIAL	113572.2	103	%	0.2				0.17%
Y 371.029	965516.9	103.02	%	0.280				0.27%
Ag 328.068†	60.7	0.5685	µg/L	0.22893	0.5685	ppb	0.22893	40.27%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-75.9	-40.186	µg/L	11.9849	-40.186	ppb	11.9849	29.82%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	6.5	12.556	µg/L	6.4695	12.556	ppb	6.4695	51.53%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	15.5	0.8633	µg/L	0.18618	0.8633	ppb	0.18618	21.57%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	4.5	0.1221	µg/L	0.06139	0.1221	ppb	0.06139	50.28%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-62.4	-0.0468	µg/L	0.01262	-0.0468	ppb	0.01262	27.00%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-85.7	-29.271	µg/L	2.1522	-29.271	ppb	2.1522	7.35%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	4.4	0.1359	µg/L	0.32480	0.1359	ppb	0.32480	238.96%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	0.1	0.0072	µg/L	0.30641	0.0072	ppb	0.30641	>999.9%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -12.5     -0.3335 µg/L       0.29260     -0.3335 ppb        0.29260  87.73%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               30.4      0.2288 µg/L       0.10414      0.2288 ppb        0.10414  45.52%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        -1.2     -8.4674 µg/L      13.97059     -8.4674 ppb       13.97059 164.99%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         59.4      35.299 µg/L       29.2865      35.299 ppb        29.2865  82.97%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           -1.5     -14.552 µg/L       11.8776     -14.552 ppb        11.8776  81.62%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               64.5      0.2444 µg/L       0.03694      0.2444 ppb        0.03694  15.11%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               12.4      1.4941 µg/L       0.26083      1.4941 ppb        0.26083  17.46%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       -71.9     -22.178 µg/L        9.2668     -22.178 ppb         9.2668  41.78%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                9.6      0.7029 µg/L       0.59416      0.7029 ppb        0.59416  84.53%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -7.5     -16.967 µg/L       13.2943     -16.967 ppb        13.2943  78.36%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               -0.5     -0.1713 µg/L       1.99365     -0.1713 ppb        1.99365 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          -0.7     -2.7692 µg/L      14.07552     -2.7692 ppb       14.07552 508.30%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                3.2      3.6089 µg/L       2.51648      3.6089 ppb        2.51648  69.73%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                0.8      1.0068 µg/L       7.97020      1.0068 ppb        7.97020 791.67%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    128.1      29.298 µg/L        2.4530      29.298 ppb         2.4530   8.37%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              130.5      11.196 µg/L        0.5604      11.196 ppb         0.5604   5.01%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                0.9      0.4641 µg/L       1.89778      0.4641 ppb        1.89778 408.95%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†               43.5      0.1810 µg/L       0.02090      0.1810 ppb        0.02090  11.54%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              164.2      0.4625 µg/L       0.06125      0.4625 ppb        0.06125  13.24%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                4.0      4.9533 µg/L       3.63240      4.9533 ppb        3.63240  73.33%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                23.2      2.4172 µg/L       5.44496      2.4172 ppb        5.44496 225.26%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                19.6      0.2734 µg/L       0.11485      0.2734 ppb        0.11485  42.01%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -7.1     -0.2010 µg/L       0.05828     -0.2010 ppb        0.05828  29.00%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 8
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 07:08:58
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	112642.1	112642.1	102	%			07:09:37
1	Al 396.153Radial†	10209.6	10095.6	5332.9	µg/L	5332.9	ppb	07:09:37
1	Ca 317.933Radial†	16573.8	15785.0	5388.6	µg/L	5388.6	ppb	07:09:37
1	Fe 238.204 Radial†	777.8	730.4	5067.9	µg/L	5067.9	ppb	07:09:57
1	K 766.490 Radial†	9267.1	8850.8	5258.0	µg/L	5258.0	ppb	07:09:37
1	Mg 279.077 IEC†	559.0	535.5	5298.5	µg/L	5298.5	ppb	07:09:57
1	Na 589.592 Radial†	31923.5	31029.2	9577.7	µg/L	9577.7	ppb	07:09:37
1	Sr 421.552†	118979.2	116689.1	485.33	µg/L	485.33	ppb	07:09:37
1	Sc 361.383	1690408.6	1690408.6	101.74	%			07:11:01
1	Y 371.029	955086.9	955086.9	101.90	%			07:11:01
1	Ag 328.068†	56242.9	55800.5	525.93	µg/L	525.93	ppb	07:11:07
1	As 188.979†	282.0	284.8	545.62	µg/L	545.62	ppb	07:11:27
1	B 249.677†	9810.7	9476.4	522.37	µg/L	522.37	ppb	07:11:07
1	Ba 233.527†	20059.7	19727.5	534.64	µg/L	534.64	ppb	07:11:07
1	Be 313.107†	723793.6	713111.0	532.52	µg/L	532.52	ppb	07:11:01
1	Cd 226.502†	17913.6	17748.5	537.89	µg/L	537.89	ppb	07:11:07
1	Co 228.616†	10102.9	9903.7	539.07	µg/L	539.07	ppb	07:11:07
1	Cr 267.716†	20490.8	20072.0	536.98	µg/L	536.98	ppb	07:11:07
1	Cu 324.752†	73487.8	69603.4	527.84	µg/L	527.84	ppb	07:11:07
1	Mn 257.610†	145618.9	143710.2	543.45	µg/L	543.45	ppb	07:11:01
1	Mo 202.031†	4672.0	4589.9	554.01	µg/L	554.01	ppb	07:11:27
1	Ni 231.604†	8101.0	7667.5	559.75	µg/L	559.75	ppb	07:11:07
1	P 214.914†	1475.7	1209.3	2695.9	µg/L	2695.9	ppb	07:11:27
1	Pb 220.353†	1721.0	1656.8	551.94	µg/L	551.94	ppb	07:11:27
1	S 181.975 Axial†	297.7	272.0	1128.6	µg/L	1128.6	ppb	07:11:27
1	Sb 206.836†	510.6	482.7	550.86	µg/L	550.86	ppb	07:11:27
1	Se 196.026†	457.9	435.7	576.61	µg/L	576.61	ppb	07:11:27
1	SiO2†	26714.2	24853.8	5685.6	µg/L	5685.6	ppb	07:11:07
1	Si 251.611†	31839.4	30912.1	2651.0	µg/L	2651.0	ppb	07:11:07
1	Sn 189.927†	1165.4	1144.5	563.86	µg/L	563.86	ppb	07:11:27
1	Ti 334.940†	192159.5	188886.2	531.01	µg/L	531.01	ppb	07:11:01
1	Tl 190.801†	428.9	448.1	552.22	µg/L	552.22	ppb	07:11:27
1	U 409.014†	5144.1	4912.1	509.72	µg/L	509.72	ppb	07:11:07
1	V 292.402†	40392.5	39847.6	535.78	µg/L	535.78	ppb	07:11:07
1	Zn 213.857†	20208.8	19253.2	537.57	µg/L	537.57	ppb	07:11:07
2	Sc RADIAL	111977.7	111977.7	101	%			07:10:03
2	Al 396.153Radial†	10104.5	10051.2	5309.6	µg/L	5309.6	ppb	07:10:03
2	Ca 317.933Radial†	16468.0	15777.1	5385.9	µg/L	5385.9	ppb	07:10:03
2	Fe 238.204 Radial†	776.2	733.3	5088.2	µg/L	5088.2	ppb	07:10:23
2	K 766.490 Radial†	9227.9	8866.0	5267.0	µg/L	5267.0	ppb	07:10:03
2	Mg 279.077 IEC†	555.6	535.4	5298.0	µg/L	5298.0	ppb	07:10:23
2	Na 589.592 Radial†	31737.6	31031.7	9578.4	µg/L	9578.4	ppb	07:10:03
2	Sr 421.552†	118221.3	116633.7	485.10	µg/L	485.10	ppb	07:10:03
2	Sc 361.383	1700038.4	1700038.4	102.32	%			07:11:34
2	Y 371.029	955913.6	955913.6	101.99	%			07:11:34
2	Ag 328.068†	56668.9	55903.7	526.92	µg/L	526.92	ppb	07:11:40
2	As 188.979†	285.9	287.0	549.88	µg/L	549.88	ppb	07:12:00
2	B 249.677†	9921.8	9530.4	525.35	µg/L	525.35	ppb	07:11:40
2	Ba 233.527†	20317.3	19867.6	538.43	µg/L	538.43	ppb	07:11:40
2	Be 313.107†	727123.5	712335.6	531.94	µg/L	531.94	ppb	07:11:34
2	Cd 226.502†	18108.6	17839.4	540.64	µg/L	540.64	ppb	07:11:40
2	Co 228.616†	10187.5	9930.0	540.50	µg/L	540.50	ppb	07:11:40
2	Cr 267.716†	20732.0	20193.7	540.23	µg/L	540.23	ppb	07:11:40
2	Cu 324.752†	74151.1	69842.5	529.65	µg/L	529.65	ppb	07:11:40
2	Mn 257.610†	146499.3	143759.9	543.64	µg/L	543.64	ppb	07:11:34
2	Mo 202.031†	4645.9	4538.3	547.79	µg/L	547.79	ppb	07:12:00
2	Ni 231.604†	8166.0	7685.9	561.09	µg/L	561.09	ppb	07:11:40
2	P 214.914†	1465.9	1191.4	2655.1	µg/L	2655.1	ppb	07:12:00
2	Pb 220.353†	1719.3	1645.6	548.14	µg/L	548.14	ppb	07:12:00

2	S 181.975 Axial†	296.6	269.3	1117.2 µg/L	1117.2 ppb	07:12:00
2	Sb 206.836†	511.0	480.3	547.96 µg/L	547.96 ppb	07:12:00
2	Se 196.026†	444.5	420.0	556.38 µg/L	556.38 ppb	07:12:00
2	SiO2†	26928.1	24914.1	5699.4 µg/L	5699.4 ppb	07:11:40
2	Si 251.611†	32245.9	31132.0	2669.9 µg/L	2669.9 ppb	07:11:40
2	Sn 189.927†	1160.6	1133.3	558.34 µg/L	558.34 ppb	07:12:00
2	Ti 334.940†	193091.2	188726.9	530.56 µg/L	530.56 ppb	07:11:34
2	Tl 190.801†	422.1	439.1	541.18 µg/L	541.18 ppb	07:12:00
2	U 409.014†	5260.0	4996.8	518.52 µg/L	518.52 ppb	07:11:40
2	V 292.402†	40822.8	40043.2	538.35 µg/L	538.35 ppb	07:11:40
2	Zn 213.857†	20393.2	19320.9	539.47 µg/L	539.47 ppb	07:11:40
3	Sc RADIAL	112980.7	112980.7	102 %		07:10:29
3	Al 396.153Radial†	10105.6	9963.7	5264.8 µg/L	5264.8 ppb	07:10:29
3	Ca 317.933Radial†	16553.6	15716.5	5365.2 µg/L	5365.2 ppb	07:10:29
3	Fe 238.204 Radial†	776.3	726.6	5041.0 µg/L	5041.0 ppb	07:10:49
3	K 766.490 Radial†	9311.8	8867.2	5267.7 µg/L	5267.7 ppb	07:10:29
3	Mg 279.077 IEC†	556.4	531.3	5255.8 µg/L	5255.8 ppb	07:10:49
3	Na 589.592 Radial†	31740.3	30756.0	9493.3 µg/L	9493.3 ppb	07:10:29
3	Sr 421.552†	118137.0	115514.4	480.44 µg/L	480.44 ppb	07:10:29
3	Sc 361.383	1703429.9	1703429.9	102.52 %		07:12:07
3	Y 371.029	956971.5	956971.5	102.11 %		07:12:07
3	Ag 328.068†	53907.7	53100.1	500.39 µg/L	500.39 ppb	07:12:13
3	As 188.979†	249.8	251.4	481.57 µg/L	481.57 ppb	07:12:34
3	B 249.677†	9402.4	9004.5	496.20 µg/L	496.20 ppb	07:12:13
3	Ba 233.527†	18928.2	18473.1	500.62 µg/L	500.62 ppb	07:12:13
3	Be 313.107†	690170.7	674876.1	503.97 µg/L	503.97 ppb	07:12:07
3	Cd 226.502†	16793.9	16521.8	500.67 µg/L	500.67 ppb	07:12:13
3	Co 228.616†	9417.9	9159.6	498.51 µg/L	498.51 ppb	07:12:13
3	Cr 267.716†	18648.2	18120.8	484.78 µg/L	484.78 ppb	07:12:13
3	Cu 324.752†	68755.7	64435.4	488.71 µg/L	488.71 ppb	07:12:13
3	Mn 257.610†	139320.3	136472.3	516.08 µg/L	516.08 ppb	07:12:07
3	Mo 202.031†	3979.3	3879.1	468.24 µg/L	468.24 ppb	07:12:34
3	Ni 231.604†	7556.2	7075.2	516.51 µg/L	516.51 ppb	07:12:13
3	P 214.914†	1320.0	1046.2	2328.4 µg/L	2328.4 ppb	07:12:34
3	Pb 220.353†	1536.7	1464.2	487.64 µg/L	487.64 ppb	07:12:34
3	S 181.975 Axial†	270.0	242.8	1007.5 µg/L	1007.5 ppb	07:12:34
3	Sb 206.836†	446.8	416.7	475.08 µg/L	475.08 ppb	07:12:34
3	Se 196.026†	400.0	375.8	498.94 µg/L	498.94 ppb	07:12:34
3	SiO2†	25497.8	23466.6	5368.2 µg/L	5368.2 ppb	07:12:13
3	Si 251.611†	30320.0	29190.7	2503.4 µg/L	2503.4 ppb	07:12:13
3	Sn 189.927†	968.0	943.2	464.75 µg/L	464.75 ppb	07:12:34
3	Ti 334.940†	182538.3	178057.6	500.55 µg/L	500.55 ppb	07:12:07
3	Tl 190.801†	388.7	405.7	500.14 µg/L	500.14 ppb	07:12:34
3	U 409.014†	4765.6	4504.3	467.32 µg/L	467.32 ppb	07:12:13
3	V 292.402†	37373.7	36599.4	491.79 µg/L	491.79 ppb	07:12:13
3	Zn 213.857†	18914.9	17839.2	498.07 µg/L	498.07 ppb	07:12:13

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1697959.0	102.19	%	0.407				0.40%
Sc RADIAL	112533.5	102	%	0.5				0.45%
Y 371.029	955990.7	102.00	%	0.101				0.10%
Ag 328.068†	54934.8	517.75	µg/L	15.038	517.75	ppb	15.038	2.90%
QC value within limits for Ag 328.068 Recovery = 103.55%								
Al 396.153Radial†	10036.8	5302.4	µg/L	34.59	5302.4	ppb	34.59	0.65%
QC value within limits for Al 396.153Radial Recovery = 106.05%								
As 188.979†	274.4	525.69	µg/L	38.270	525.69	ppb	38.270	7.28%
QC value within limits for As 188.979 Recovery = 105.14%								
B 249.677†	9337.1	514.64	µg/L	16.041	514.64	ppb	16.041	3.12%
QC value within limits for B 249.677 Recovery = 102.93%								
Ba 233.527†	19356.1	524.56	µg/L	20.819	524.56	ppb	20.819	3.97%
QC value within limits for Ba 233.527 Recovery = 104.91%								
Be 313.107†	700107.6	522.81	µg/L	16.319	522.81	ppb	16.319	3.12%
QC value within limits for Be 313.107 Recovery = 104.56%								
Ca 317.933Radial†	15759.5	5379.9	µg/L	12.80	5379.9	ppb	12.80	0.24%
QC value within limits for Ca 317.933Radial Recovery = 107.60%								
Cd 226.502†	17369.9	526.40	µg/L	22.325	526.40	ppb	22.325	4.24%
QC value within limits for Cd 226.502 Recovery = 105.28%								
Co 228.616†	9664.4	526.02	µg/L	23.842	526.02	ppb	23.842	4.53%

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   QC value within limits for Co 228.616  Recovery = 105.20%
Cr 267.716†            19462.1      520.67 µg/L        31.117      520.67 ppb        31.117   5.98%
   QC value within limits for Cr 267.716  Recovery = 104.13%
Cu 324.752†            67960.4      515.40 µg/L        23.131      515.40 ppb        23.131   4.49%
   QC value within limits for Cu 324.752  Recovery = 103.08%
Fe 238.204 Radial†       730.1      5065.7 µg/L         23.67      5065.7 ppb         23.67   0.47%
   QC value within limits for Fe 238.204 Radial  Recovery = 101.31%
K 766.490 Radial†       8861.3      5264.2 µg/L          5.44      5264.2 ppb          5.44   0.10%
   QC value within limits for K 766.490 Radial  Recovery = 105.28%
Mg 279.077 IEC†          534.1      5284.1 µg/L         24.55      5284.1 ppb         24.55   0.46%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.68%
Mn 257.610†           141314.1      534.39 µg/L        15.858      534.39 ppb        15.858   2.97%
   QC value within limits for Mn 257.610  Recovery = 106.88%
Mo 202.031†             4335.8      523.35 µg/L        47.825      523.35 ppb        47.825   9.14%
   QC value within limits for Mo 202.031  Recovery = 104.67%
Na 589.592 Radial†     30939.0      9549.8 µg/L         48.92      9549.8 ppb         48.92   0.51%
   QC value within limits for Na 589.592 Radial  Recovery = 95.50%
Ni 231.604†             7476.2      545.78 µg/L        25.361      545.78 ppb        25.361   4.65%
   QC value within limits for Ni 231.604  Recovery = 109.16%
P 214.914†              1149.0      2559.8 µg/L        201.44      2559.8 ppb        201.44   7.87%
   QC value within limits for P 214.914  Recovery = 102.39%
Pb 220.353†             1588.9      529.24 µg/L        36.075      529.24 ppb        36.075   6.82%
   QC value within limits for Pb 220.353  Recovery = 105.85%
S 181.975 Axial†         261.4      1084.4 µg/L         66.89      1084.4 ppb         66.89   6.17%
   QC value within limits for S 181.975 Axial  Recovery = 108.44%
Sb 206.836†              459.9      524.63 µg/L        42.941      524.63 ppb        42.941   8.18%
   QC value within limits for Sb 206.836  Recovery = 104.93%
Se 196.026†              410.5      543.98 µg/L        40.294      543.98 ppb        40.294   7.41%
   QC value within limits for Se 196.026  Recovery = 108.80%
SiO2†                  24411.5      5584.4 µg/L        187.32      5584.4 ppb        187.32   3.35%
   QC value within limits for SiO2  Recovery = 104.43%
Si 251.611†            30411.6      2608.1 µg/L         91.17      2608.1 ppb         91.17   3.50%
   QC value within limits for Si 251.611  Recovery = 104.32%
Sn 189.927†             1073.7      528.98 µg/L        55.695      528.98 ppb        55.695  10.53%
   QC value within limits for Sn 189.927  Recovery = 105.80%
Sr 421.552†           116279.1      483.62 µg/L         2.757      483.62 ppb         2.757   0.57%
   QC value within limits for Sr 421.552  Recovery = 96.72%
Ti 334.940†           185223.5      520.71 µg/L        17.457      520.71 ppb        17.457   3.35%
   QC value within limits for Ti 334.940  Recovery = 104.14%
Tl 190.801†              431.0      531.18 µg/L        27.442      531.18 ppb        27.442   5.17%
   QC value within limits for Tl 190.801  Recovery = 106.24%
U 409.014†              4804.4      498.52 µg/L        27.376      498.52 ppb        27.376   5.49%
   QC value within limits for U 409.014  Recovery = 99.70%
V 292.402†             38830.1      521.97 µg/L        26.173      521.97 ppb        26.173   5.01%
   QC value within limits for V 292.402  Recovery = 104.39%
Zn 213.857†            18804.4      525.03 µg/L        23.375      525.03 ppb        23.375   4.45%
   QC value within limits for Zn 213.857  Recovery = 105.01%
All analyte(s) passed QC.
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Sequence No.: 9
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 07:12:44
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	111384.2	111384.2	101	%			07:13:16
1	Al 396.153Radial†	-134.1	-63.0	-33.370	µg/L	-33.370	ppb	07:13:16
1	Ca 317.933Radial†	403.2	-89.4	-30.526	µg/L	-30.526	ppb	07:13:37
1	Fe 238.204 Radial†	32.2	-1.5	-10.209	µg/L	-10.209	ppb	07:13:37
1	K 766.490 Radial†	330.7	79.2	47.046	µg/L	47.046	ppb	07:13:16
1	Mg 279.077 IEC†	9.4	-4.1	-40.063	µg/L	-40.063	ppb	07:13:37
1	Na 589.592 Radial†	292.0	-28.4	-8.7711	µg/L	-8.7711	ppb	07:13:16
1	Sr 421.552†	157.4	12.5	0.0521	µg/L	0.0521	ppb	07:13:16
1	Sc 361.383	1703714.6	1703714.6	102.54	%			07:14:38
1	Y 371.029	963767.6	963767.6	102.83	%			07:14:38
1	Ag 328.068†	-528.4	2.0	0.0154	µg/L	0.0154	ppb	07:14:44
1	As 188.979†	-6.6	1.2	2.2873	µg/L	2.2873	ppb	07:15:04
1	B 249.677†	184.9	13.4	0.7468	µg/L	0.7468	ppb	07:15:04
1	Ba 233.527†	-9.6	0.7	0.0185	µg/L	0.0185	ppb	07:15:04
1	Be 313.107†	-1744.3	-33.1	-0.0249	µg/L	-0.0249	ppb	07:14:44
1	Cd 226.502†	-130.4	13.5	0.4089	µg/L	0.4089	ppb	07:15:04
1	Co 228.616†	26.1	-1.5	-0.0794	µg/L	-0.0794	ppb	07:15:04
1	Cr 267.716†	41.2	-28.9	-0.7740	µg/L	-0.7740	ppb	07:14:44
1	Cu 324.752†	2801.2	101.5	0.7661	µg/L	0.7661	ppb	07:14:44
1	Mn 257.610†	-574.9	15.4	0.0603	µg/L	0.0603	ppb	07:15:04
1	Mo 202.031†	14.0	11.2	1.3559	µg/L	1.3559	ppb	07:15:04
1	Ni 231.604†	295.6	-7.0	-0.5104	µg/L	-0.5104	ppb	07:15:04
1	P 214.914†	242.7	-4.6	-10.509	µg/L	-10.509	ppb	07:15:04
1	Pb 220.353†	36.4	0.7	0.2274	µg/L	0.2274	ppb	07:15:04
1	S 181.975 Axial†	22.9	1.8	7.4138	µg/L	7.4138	ppb	07:15:04
1	Sb 206.836†	24.1	4.3	4.9390	µg/L	4.9390	ppb	07:15:04
1	Se 196.026†	12.2	-2.5	-3.1855	µg/L	-3.1855	ppb	07:15:04
1	SiO2†	1479.9	38.7	8.8561	µg/L	8.8561	ppb	07:14:44
1	Si 251.611†	414.4	20.1	1.7258	µg/L	1.7258	ppb	07:15:04
1	Sn 189.927†	2.6	1.5	0.7148	µg/L	0.7148	ppb	07:15:04
1	Ti 334.940†	83.5	87.1	0.2476	µg/L	0.2476	ppb	07:14:44
1	Tl 190.801†	-24.6	2.5	3.1186	µg/L	3.1186	ppb	07:15:04
1	U 409.014†	154.4	6.4	0.6646	µg/L	0.6646	ppb	07:14:44
1	V 292.402†	-166.7	-18.2	-0.2329	µg/L	-0.2329	ppb	07:14:44
1	Zn 213.857†	619.2	-6.9	-0.1907	µg/L	-0.1907	ppb	07:15:04
2	Sc RADIAL	111252.1	111252.1	101	%			07:13:42
2	Al 396.153Radial†	-127.6	-56.7	-30.028	µg/L	-30.028	ppb	07:13:42
2	Ca 317.933Radial†	406.5	-85.6	-29.229	µg/L	-29.229	ppb	07:14:02
2	Fe 238.204 Radial†	31.9	-1.7	-11.777	µg/L	-11.777	ppb	07:14:02
2	K 766.490 Radial†	224.5	-26.0	-15.465	µg/L	-15.465	ppb	07:13:42
2	Mg 279.077 IEC†	8.3	-5.2	-50.974	µg/L	-50.974	ppb	07:14:02
2	Na 589.592 Radial†	232.4	-87.3	-26.949	µg/L	-26.949	ppb	07:13:42
2	Sr 421.552†	149.7	5.1	0.0210	µg/L	0.0210	ppb	07:13:42
2	Sc 361.383	1692048.6	1692048.6	101.83	%			07:15:10
2	Y 371.029	956520.0	956520.0	102.06	%			07:15:10
2	Ag 328.068†	-446.3	79.1	0.7362	µg/L	0.7362	ppb	07:15:16
2	As 188.979†	-6.3	1.5	2.8155	µg/L	2.8155	ppb	07:15:37
2	B 249.677†	181.3	11.1	0.6199	µg/L	0.6199	ppb	07:15:37
2	Ba 233.527†	-0.9	9.3	0.2500	µg/L	0.2500	ppb	07:15:37
2	Be 313.107†	-1782.0	-81.9	-0.0613	µg/L	-0.0613	ppb	07:15:16
2	Cd 226.502†	-141.1	2.1	0.0632	µg/L	0.0632	ppb	07:15:37
2	Co 228.616†	27.3	-0.1	-0.0061	µg/L	-0.0061	ppb	07:15:37
2	Cr 267.716†	46.1	-23.9	-0.6383	µg/L	-0.6383	ppb	07:15:16
2	Cu 324.752†	2759.4	79.3	0.5978	µg/L	0.5978	ppb	07:15:16
2	Mn 257.610†	-561.7	24.5	0.0953	µg/L	0.0953	ppb	07:15:37
2	Mo 202.031†	10.8	8.2	0.9903	µg/L	0.9903	ppb	07:15:37
2	Ni 231.604†	296.7	-4.0	-0.2903	µg/L	-0.2903	ppb	07:15:37
2	P 214.914†	229.9	-15.5	-35.326	µg/L	-35.326	ppb	07:15:37
2	Pb 220.353†	41.4	5.9	1.9555	µg/L	1.9555	ppb	07:15:37

2	S 181.975 Axial†	24.1	3.1	12.810 µg/L	12.810 ppb	07:15:37
2	Sb 206.836†	20.7	1.2	1.3797 µg/L	1.3797 ppb	07:15:37
2	Se 196.026†	18.8	4.1	5.2857 µg/L	5.2857 ppb	07:15:37
2	SiO2†	1457.3	26.5	6.0602 µg/L	6.0602 ppb	07:15:16
2	Si 251.611†	430.5	38.7	3.3188 µg/L	3.3188 ppb	07:15:37
2	Sn 189.927†	0.9	-0.2	-0.0916 µg/L	-0.0916 ppb	07:15:37
2	Ti 334.940†	95.1	99.0	0.2820 µg/L	0.2820 ppb	07:15:16
2	Tl 190.801†	-28.3	-1.3	-1.5365 µg/L	-1.5365 ppb	07:15:37
2	U 409.014†	114.5	-31.8	-3.3011 µg/L	-3.3011 ppb	07:15:16
2	V 292.402†	-167.3	-20.0	-0.2634 µg/L	-0.2634 ppb	07:15:16
2	Zn 213.857†	610.3	-11.5	-0.3199 µg/L	-0.3199 ppb	07:15:37
3	Sc RADIAL	111529.7	111529.7	101 %		07:14:08
3	Al 396.153Radial†	-153.9	-82.5	-43.704 µg/L	-43.704 ppb	07:14:08
3	Ca 317.933Radial†	411.8	-81.4	-27.795 µg/L	-27.795 ppb	07:14:28
3	Fe 238.204 Radial†	32.0	-1.6	-11.378 µg/L	-11.378 ppb	07:14:28
3	K 766.490 Radial†	313.5	61.7	36.673 µg/L	36.673 ppb	07:14:08
3	Mg 279.077 IEC†	6.6	-6.8	-67.298 µg/L	-67.298 ppb	07:14:28
3	Na 589.592 Radial†	260.1	-60.4	-18.655 µg/L	-18.655 ppb	07:14:08
3	Sr 421.552†	133.7	-11.2	-0.0465 µg/L	-0.0465 ppb	07:14:08
3	Sc 361.383	1704338.5	1704338.5	102.57 %		07:15:43
3	Y 371.029	965131.1	965131.1	102.98 %		07:15:43
3	Ag 328.068†	-491.4	38.2	0.3576 µg/L	0.3576 ppb	07:15:48
3	As 188.979†	-3.6	4.2	8.0156 µg/L	8.0156 ppb	07:16:09
3	B 249.677†	175.3	4.0	0.2300 µg/L	0.2300 ppb	07:16:09
3	Ba 233.527†	-13.6	-3.2	-0.0848 µg/L	-0.0848 ppb	07:16:09
3	Be 313.107†	-1681.8	28.4	0.0211 µg/L	0.0211 ppb	07:15:48
3	Cd 226.502†	-145.9	-1.6	-0.0471 µg/L	-0.0471 ppb	07:16:09
3	Co 228.616†	23.1	-4.4	-0.2366 µg/L	-0.2366 ppb	07:16:09
3	Cr 267.716†	72.6	1.6	0.0437 µg/L	0.0437 ppb	07:15:48
3	Cu 324.752†	2779.9	79.7	0.6012 µg/L	0.6012 ppb	07:15:48
3	Mn 257.610†	-569.1	21.3	0.0844 µg/L	0.0844 ppb	07:16:09
3	Mo 202.031†	14.1	11.3	1.3659 µg/L	1.3659 ppb	07:16:09
3	Ni 231.604†	307.7	4.7	0.3428 µg/L	0.3428 ppb	07:16:09
3	P 214.914†	237.7	-9.6	-21.778 µg/L	-21.778 ppb	07:16:09
3	Pb 220.353†	38.9	3.1	1.0524 µg/L	1.0524 ppb	07:16:09
3	S 181.975 Axial†	19.7	-1.3	-5.5272 µg/L	-5.5272 ppb	07:16:09
3	Sb 206.836†	20.2	0.6	0.6590 µg/L	0.6590 ppb	07:16:09
3	Se 196.026†	12.4	-2.3	-2.9821 µg/L	-2.9821 ppb	07:16:09
3	SiO2†	1496.9	54.8	12.535 µg/L	12.535 ppb	07:15:48
3	Si 251.611†	438.0	42.9	3.6801 µg/L	3.6801 ppb	07:16:09
3	Sn 189.927†	0.7	-0.3	-0.1597 µg/L	-0.1597 ppb	07:16:09
3	Ti 334.940†	86.4	89.9	0.2577 µg/L	0.2577 ppb	07:15:48
3	Tl 190.801†	-25.4	1.8	2.1836 µg/L	2.1836 ppb	07:16:09
3	U 409.014†	95.9	-50.8	-5.2770 µg/L	-5.2770 ppb	07:15:48
3	V 292.402†	-129.2	18.4	0.2488 µg/L	0.2488 ppb	07:15:48
3	Zn 213.857†	617.0	-9.2	-0.2578 µg/L	-0.2578 ppb	07:16:09

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1700033.9	102.32	%	0.417				0.41%
Sc RADIAL	111388.6	101	%	0.1				0.12%
Y 371.029	961806.2	102.62	%	0.494				0.48%
Ag 328.068†	39.8	0.3697	µg/L	0.36053	0.3697	ppb	0.36053	97.51%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-67.4	-35.701	µg/L	7.1294	-35.701	ppb	7.1294	19.97%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	2.3	4.3728	µg/L	3.16578	4.3728	ppb	3.16578	72.40%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	9.5	0.5322	µg/L	0.26931	0.5322	ppb	0.26931	50.60%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	2.3	0.0612	µg/L	0.17144	0.0612	ppb	0.17144	280.05%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-28.9	-0.0217	µg/L	0.04128	-0.0217	ppb	0.04128	190.47%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-85.5	-29.183	µg/L	1.3660	-29.183	ppb	1.3660	4.68%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	4.6	0.1417	µg/L	0.23788	0.1417	ppb	0.23788	167.93%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-2.0	-0.1073	µg/L	0.11778	-0.1073	ppb	0.11778	109.73%

```
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -17.1     -0.4562 µg/L       0.43819     -0.4562 ppb        0.43819  96.05%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               86.8      0.6550 µg/L       0.09619      0.6550 ppb        0.09619  14.68%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        -1.6     -11.121 µg/L        0.8146     -11.121 ppb         0.8146   7.32%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         38.3      22.751 µg/L       33.5002      22.751 ppb        33.5002 147.25%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           -5.3     -52.778 µg/L       13.7068     -52.778 ppb        13.7068  25.97%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               20.4      0.0800 µg/L       0.01794      0.0800 ppb        0.01794  22.43%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               10.3      1.2374 µg/L       0.21401      1.2374 ppb        0.21401  17.30%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       -58.7     -18.125 µg/L        9.1006     -18.125 ppb         9.1006  50.21%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               -2.1     -0.1526 µg/L       0.44298     -0.1526 ppb        0.44298 290.21%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -9.9     -22.538 µg/L       12.4260     -22.538 ppb        12.4260  55.13%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                3.2      1.0784 µg/L       0.86434      1.0784 ppb        0.86434  80.15%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           1.2      4.8990 µg/L       9.42393      4.8990 ppb        9.42393 192.36%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                2.0      2.3259 µg/L       2.29151      2.3259 ppb        2.29151  98.52%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -0.2     -0.2940 µg/L       4.83323     -0.2940 ppb        4.83323 >999.9%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     40.0      9.1505 µg/L       3.24741      9.1505 ppb        3.24741  35.49%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               33.9      2.9082 µg/L       1.03983      2.9082 ppb        1.03983  35.75%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                0.3      0.1545 µg/L       0.48641      0.1545 ppb        0.48641 314.85%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                2.1      0.0089 µg/L       0.05041      0.0089 ppb        0.05041 566.47%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               92.0      0.2624 µg/L       0.01768      0.2624 ppb        0.01768   6.74%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                1.0      1.2552 µg/L       2.46247      1.2552 ppb        2.46247 196.18%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               -25.4     -2.6378 µg/L       3.02580     -2.6378 ppb        3.02580 114.71%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -6.6     -0.0825 µg/L       0.28734     -0.0825 ppb        0.28734 348.25%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -9.2     -0.2561 µg/L       0.06463     -0.2561 ppb        0.06463  25.23%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 19
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 07:48:42
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113702.1	113702.1	103	%			07:49:20
1	Al 396.153Radial†	10022.0	9819.7	5187.0	µg/L	5187.0	ppb	07:49:20
1	Ca 317.933Radial†	16387.2	15451.7	5274.9	µg/L	5274.9	ppb	07:49:20
1	Fe 238.204 Radial†	771.7	717.3	4977.1	µg/L	4977.1	ppb	07:49:40
1	K 766.490 Radial†	9176.8	8678.1	5155.4	µg/L	5155.4	ppb	07:49:20
1	Mg 279.077 IEC†	554.0	525.6	5200.5	µg/L	5200.5	ppb	07:49:40
1	Na 589.592 Radial†	31727.8	30546.7	9428.8	µg/L	9428.8	ppb	07:49:20
1	Sr 421.552†	118300.4	114939.6	478.05	µg/L	478.05	ppb	07:49:20
1	Sc 361.383	1703123.8	1703123.8	102.50	%			07:50:44
1	Y 371.029	959787.4	959787.4	102.41	%			07:50:44
1	Ag 328.068†	56080.2	55229.0	520.55	µg/L	520.55	ppb	07:50:50
1	As 188.979†	290.8	291.4	558.27	µg/L	558.27	ppb	07:51:10
1	B 249.677†	9774.5	9369.1	516.47	µg/L	516.47	ppb	07:50:50
1	Ba 233.527†	19995.7	19517.8	528.96	µg/L	528.96	ppb	07:50:50
1	Be 313.107†	717976.0	702123.8	524.31	µg/L	524.31	ppb	07:50:44
1	Cd 226.502†	17808.2	17514.2	530.79	µg/L	530.79	ppb	07:50:50
1	Co 228.616†	10081.9	9809.0	533.92	µg/L	533.92	ppb	07:50:50
1	Cr 267.716†	20420.8	19853.3	531.13	µg/L	531.13	ppb	07:50:50
1	Cu 324.752†	73402.9	68981.2	523.11	µg/L	523.11	ppb	07:50:50
1	Mn 257.610†	144725.9	141770.4	536.11	µg/L	536.11	ppb	07:50:44
1	Mo 202.031†	4655.1	4539.1	547.88	µg/L	547.88	ppb	07:51:10
1	Ni 231.604†	8044.4	7552.8	551.37	µg/L	551.37	ppb	07:50:50
1	P 214.914†	1469.1	1191.9	2656.9	µg/L	2656.9	ppb	07:51:10
1	Pb 220.353†	1717.5	1640.8	546.59	µg/L	546.59	ppb	07:51:10
1	S 181.975 Axial†	292.9	265.2	1100.3	µg/L	1100.3	ppb	07:51:10
1	Sb 206.836†	513.7	482.0	550.04	µg/L	550.04	ppb	07:51:10
1	Se 196.026†	455.1	429.6	568.43	µg/L	568.43	ppb	07:51:10
1	SiO2†	26564.9	24512.1	5607.4	µg/L	5607.4	ppb	07:50:50
1	Si 251.611†	31729.5	30571.2	2621.8	µg/L	2621.8	ppb	07:50:50
1	Sn 189.927†	1153.0	1123.8	553.67	µg/L	553.67	ppb	07:51:10
1	Ti 334.940†	191289.8	186627.5	524.66	µg/L	524.66	ppb	07:50:44
1	Tl 190.801†	420.3	436.6	538.06	µg/L	538.06	ppb	07:51:10
1	U 409.014†	5203.9	4932.7	511.87	µg/L	511.87	ppb	07:50:50
1	V 292.402†	40359.7	39519.2	531.36	µg/L	531.36	ppb	07:50:50
1	Zn 213.857†	20070.3	18969.8	529.66	µg/L	529.66	ppb	07:50:50
2	Sc RADIAL	113976.8	113976.8	103	%			07:49:46
2	Al 396.153Radial†	10069.9	9842.6	5199.1	µg/L	5199.1	ppb	07:49:46
2	Ca 317.933Radial†	16424.8	15449.8	5274.2	µg/L	5274.2	ppb	07:49:46
2	Fe 238.204 Radial†	772.3	716.1	4968.9	µg/L	4968.9	ppb	07:50:06
2	K 766.490 Radial†	9163.9	8644.0	5135.1	µg/L	5135.1	ppb	07:49:46
2	Mg 279.077 IEC†	551.5	521.8	5163.2	µg/L	5163.2	ppb	07:50:06
2	Na 589.592 Radial†	31838.8	30580.0	9439.0	µg/L	9439.0	ppb	07:49:46
2	Sr 421.552†	118320.8	114682.1	476.98	µg/L	476.98	ppb	07:49:46
2	Sc 361.383	1696689.1	1696689.1	102.11	%			07:51:17
2	Y 371.029	962040.9	962040.9	102.65	%			07:51:17
2	Ag 328.068†	56440.1	55789.0	525.82	µg/L	525.82	ppb	07:51:23
2	As 188.979†	285.9	287.6	550.95	µg/L	550.95	ppb	07:51:43
2	B 249.677†	9825.7	9455.4	521.26	µg/L	521.26	ppb	07:51:23
2	Ba 233.527†	20104.8	19698.7	533.86	µg/L	533.86	ppb	07:51:23
2	Be 313.107†	715849.8	702698.1	524.74	µg/L	524.74	ppb	07:51:17
2	Cd 226.502†	17974.3	17742.8	537.72	µg/L	537.72	ppb	07:51:23
2	Co 228.616†	10113.0	9876.7	537.61	µg/L	537.61	ppb	07:51:23
2	Cr 267.716†	20528.5	20034.4	535.97	µg/L	535.97	ppb	07:51:23
2	Cu 324.752†	73735.5	69578.6	527.63	µg/L	527.63	ppb	07:51:23
2	Mn 257.610†	144533.7	142117.6	537.43	µg/L	537.43	ppb	07:51:17
2	Mo 202.031†	4634.9	4536.6	547.57	µg/L	547.57	ppb	07:51:43
2	Ni 231.604†	8088.7	7626.0	556.71	µg/L	556.71	ppb	07:51:23
2	P 214.914†	1459.1	1187.6	2646.7	µg/L	2646.7	ppb	07:51:43
2	Pb 220.353†	1699.9	1629.9	542.95	µg/L	542.95	ppb	07:51:43

2	S 181.975 Axial†	294.8	268.2	1112.6 µg/L	1112.6 ppb	07:51:43
2	Sb 206.836†	505.9	476.2	543.42 µg/L	543.42 ppb	07:51:43
2	Se 196.026†	454.3	430.5	569.63 µg/L	569.63 ppb	07:51:43
2	SiO2†	26761.9	24803.4	5674.0 µg/L	5674.0 ppb	07:51:23
2	Si 251.611†	31964.8	30919.0	2651.6 µg/L	2651.6 ppb	07:51:23
2	Sn 189.927†	1146.3	1121.5	552.53 µg/L	552.53 ppb	07:51:43
2	Ti 334.940†	190288.8	186355.0	523.90 µg/L	523.90 ppb	07:51:17
2	Tl 190.801†	418.2	436.0	537.37 µg/L	537.37 ppb	07:51:43
2	U 409.014†	5168.5	4917.3	510.27 µg/L	510.27 ppb	07:51:23
2	V 292.402†	40572.1	39876.5	536.11 µg/L	536.11 ppb	07:51:23
2	Zn 213.857†	20200.1	19171.2	535.29 µg/L	535.29 ppb	07:51:23
3	Sc RADIAL	113971.6	113971.6	103 %		07:50:12
3	Al 396.153Radial†	10085.2	9857.9	5208.9 µg/L	5208.9 ppb	07:50:12
3	Ca 317.933Radial†	16467.1	15491.6	5288.5 µg/L	5288.5 ppb	07:50:12
3	Fe 238.204 Radial†	772.8	716.5	4971.1 µg/L	4971.1 ppb	07:50:32
3	K 766.490 Radial†	9235.8	8714.2	5176.9 µg/L	5176.9 ppb	07:50:12
3	Mg 279.077 IEC†	554.5	524.8	5191.2 µg/L	5191.2 ppb	07:50:32
3	Na 589.592 Radial†	31856.0	30598.1	9444.6 µg/L	9444.6 ppb	07:50:12
3	Sr 421.552†	118589.3	114947.8	478.09 µg/L	478.09 ppb	07:50:12
3	Sc 361.383	1709881.0	1709881.0	102.91 %		07:51:50
3	Y 371.029	966409.9	966409.9	103.11 %		07:51:50
3	Ag 328.068†	54130.6	53118.3	500.55 µg/L	500.55 ppb	07:51:56
3	As 188.979†	255.0	255.5	489.45 µg/L	489.45 ppb	07:52:16
3	B 249.677†	9399.2	8966.7	494.15 µg/L	494.15 ppb	07:51:56
3	Ba 233.527†	18950.7	18425.3	499.33 µg/L	499.33 ppb	07:51:56
3	Be 313.107†	690221.8	672385.8	502.11 µg/L	502.11 ppb	07:51:50
3	Cd 226.502†	16836.7	16501.5	500.06 µg/L	500.06 ppb	07:51:56
3	Co 228.616†	9438.7	9145.1	497.72 µg/L	497.72 ppb	07:51:56
3	Cr 267.716†	18714.1	18116.2	484.66 µg/L	484.66 ppb	07:51:56
3	Cu 324.752†	69095.2	64512.3	489.28 µg/L	489.28 ppb	07:51:56
3	Mn 257.610†	139662.3	136291.9	515.39 µg/L	515.39 ppb	07:51:50
3	Mo 202.031†	3979.1	3864.2	466.45 µg/L	466.45 ppb	07:52:16
3	Ni 231.604†	7578.8	7069.4	516.08 µg/L	516.08 ppb	07:51:56
3	P 214.914†	1320.1	1041.5	2317.5 µg/L	2317.5 ppb	07:52:16
3	Pb 220.353†	1513.2	1435.7	478.16 µg/L	478.16 ppb	07:52:16
3	S 181.975 Axial†	266.0	237.9	987.23 µg/L	987.23 ppb	07:52:16
3	Sb 206.836†	452.1	420.2	479.02 µg/L	479.02 ppb	07:52:16
3	Se 196.026†	404.5	378.7	502.57 µg/L	502.57 ppb	07:52:16
3	SiO2†	25516.9	23391.4	5351.0 µg/L	5351.0 ppb	07:51:56
3	Si 251.611†	30392.6	29149.7	2499.9 µg/L	2499.9 ppb	07:51:56
3	Sn 189.927†	969.8	941.4	463.86 µg/L	463.86 ppb	07:52:16
3	Ti 334.940†	182928.4	177764.9	499.73 µg/L	499.73 ppb	07:51:50
3	Tl 190.801†	381.4	397.1	489.66 µg/L	489.66 ppb	07:52:16
3	U 409.014†	4694.3	4417.5	458.30 µg/L	458.30 ppb	07:51:56
3	V 292.402†	37444.1	36530.4	490.85 µg/L	490.85 ppb	07:51:56
3	Zn 213.857†	18924.3	17778.7	496.37 µg/L	496.37 ppb	07:51:56

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1703231.3	102.51	%	0.397				0.39%
Sc RADIAL	113883.5	103	%	0.1				0.14%
Y 371.029	962746.1	102.72	%	0.359				0.35%
Ag 328.068†	54712.1	515.64	µg/L	13.330	515.64	ppb	13.330	2.59%
QC value within limits for Ag 328.068 Recovery = 103.13%								
Al 396.153Radial†	9840.0	5198.3	µg/L	10.97	5198.3	ppb	10.97	0.21%
QC value within limits for Al 396.153Radial Recovery = 103.97%								
As 188.979†	278.2	532.89	µg/L	37.798	532.89	ppb	37.798	7.09%
QC value within limits for As 188.979 Recovery = 106.58%								
B 249.677†	9263.7	510.63	µg/L	14.471	510.63	ppb	14.471	2.83%
QC value within limits for B 249.677 Recovery = 102.13%								
Ba 233.527†	19214.0	520.71	µg/L	18.681	520.71	ppb	18.681	3.59%
QC value within limits for Ba 233.527 Recovery = 104.14%								
Be 313.107†	692402.6	517.05	µg/L	12.946	517.05	ppb	12.946	2.50%
QC value within limits for Be 313.107 Recovery = 103.41%								
Ca 317.933Radial†	15464.4	5279.2	µg/L	8.05	5279.2	ppb	8.05	0.15%
QC value within limits for Ca 317.933Radial Recovery = 105.58%								
Cd 226.502†	17252.8	522.86	µg/L	20.043	522.86	ppb	20.043	3.83%
QC value within limits for Cd 226.502 Recovery = 104.57%								
Co 228.616†	9610.3	523.08	µg/L	22.043	523.08	ppb	22.043	4.21%

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   QC value within limits for Co 228.616  Recovery = 104.62%
Cr 267.716†            19334.6      517.26 µg/L        28.331      517.26 ppb         28.331   5.48%
   QC value within limits for Cr 267.716  Recovery = 103.45%
Cu 324.752†            67690.7      513.34 µg/L        20.959      513.34 ppb         20.959   4.08%
   QC value within limits for Cu 324.752  Recovery = 102.67%
Fe 238.204 Radial†       716.7      4972.4 µg/L          4.27     4972.4 ppb           4.27   0.09%
   QC value within limits for Fe 238.204 Radial  Recovery = 99.45%
K 766.490 Radial†       8678.8      5155.8 µg/L         20.86      5155.8 ppb          20.86   0.40%
   QC value within limits for K 766.490 Radial  Recovery = 103.12%
Mg 279.077 IEC†          524.0      5185.0 µg/L         19.41      5185.0 ppb          19.41   0.37%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.70%
Mn 257.610†           140060.0      529.65 µg/L        12.359      529.65 ppb         12.359   2.33%
   QC value within limits for Mn 257.610  Recovery = 105.93%
Mo 202.031†             4313.3      520.63 µg/L        46.926      520.63 ppb         46.926   9.01%
   QC value within limits for Mo 202.031  Recovery = 104.13%
Na 589.592 Radial†     30574.9      9437.5 µg/L         8.05      9437.5 ppb           8.05   0.09%
   QC value within limits for Na 589.592 Radial  Recovery = 94.37%
Ni 231.604†             7416.1      541.39 µg/L        22.078      541.39 ppb         22.078   4.08%
   QC value within limits for Ni 231.604  Recovery = 108.28%
P 214.914†              1140.4      2540.4 µg/L       193.04      2540.4 ppb         193.04   7.60%
   QC value within limits for P 214.914  Recovery = 101.61%
Pb 220.353†             1568.8      522.56 µg/L        38.496      522.56 ppb         38.496   7.37%
   QC value within limits for Pb 220.353  Recovery = 104.51%
S 181.975 Axial†         257.1      1066.7 µg/L        69.11      1066.7 ppb          69.11   6.48%
   QC value within limits for S 181.975 Axial  Recovery = 106.67%
Sb 206.836†              459.5      524.16 µg/L        39.231      524.16 ppb         39.231   7.48%
   QC value within limits for Sb 206.836  Recovery = 104.83%
Se 196.026†              412.9      546.88 µg/L        38.377      546.88 ppb         38.377   7.02%
   QC value within limits for Se 196.026  Recovery = 109.38%
SiO2†                  24235.6      5544.1 µg/L       170.54      5544.1 ppb         170.54   3.08%
   QC value within limits for SiO2  Recovery = 103.68%
Si 251.611†            30213.3      2591.1 µg/L        80.39      2591.1 ppb          80.39   3.10%
   QC value within limits for Si 251.611  Recovery = 103.64%
Sn 189.927†             1062.2      523.35 µg/L        51.522      523.35 ppb         51.522   9.84%
   QC value within limits for Sn 189.927  Recovery = 104.67%
Sr 421.552†           114856.5      477.71 µg/L         0.629      477.71 ppb          0.629   0.13%
   QC value within limits for Sr 421.552  Recovery = 95.54%
Ti 334.940†           183582.5      516.10 µg/L        14.178      516.10 ppb         14.178   2.75%
   QC value within limits for Ti 334.940  Recovery = 103.22%
Tl 190.801†              423.2      521.70 µg/L        27.748      521.70 ppb         27.748   5.32%
   QC value within limits for Tl 190.801  Recovery = 104.34%
U 409.014†              4755.8      493.48 µg/L        30.478      493.48 ppb         30.478   6.18%
   QC value within limits for U 409.014  Recovery = 98.70%
V 292.402†             38642.0      519.44 µg/L        24.876      519.44 ppb         24.876   4.79%
   QC value within limits for V 292.402  Recovery = 103.89%
Zn 213.857†            18639.9      520.44 µg/L        21.032      520.44 ppb         21.032   4.04%
   QC value within limits for Zn 213.857  Recovery = 104.09%
All analyte(s) passed QC.
```

Sequence No.: 20
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 07:52:27
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	110724.8	110724.8	100	%			07:53:00
1	Al 396.153Radial†	-114.2	-44.0	-23.288	µg/L	-23.288	ppb	07:53:00
1	Ca 317.933Radial†	406.4	-83.9	-28.625	µg/L	-28.625	ppb	07:53:20
1	Fe 238.204 Radial†	29.2	-4.2	-29.357	µg/L	-29.357	ppb	07:53:20
1	K 766.490 Radial†	310.7	61.1	36.311	µg/L	36.311	ppb	07:53:00
1	Mg 279.077 IEC†	12.3	-1.1	-10.673	µg/L	-10.673	ppb	07:53:20
1	Na 589.592 Radial†	205.0	-113.5	-35.046	µg/L	-35.046	ppb	07:53:00
1	Sr 421.552†	144.2	0.3	0.0011	µg/L	0.0011	ppb	07:53:00
1	Sc 361.383	1703943.8	1703943.8	102.55	%			07:54:22
1	Y 371.029	964477.3	964477.3	102.91	%			07:54:22
1	Ag 328.068†	-560.1	-28.9	-0.2777	µg/L	-0.2777	ppb	07:54:28
1	As 188.979†	-3.3	4.5	8.5978	µg/L	8.5978	ppb	07:54:48
1	B 249.677†	179.5	8.1	0.4637	µg/L	0.4637	ppb	07:54:48
1	Ba 233.527†	-10.2	0.1	0.0030	µg/L	0.0030	ppb	07:54:48
1	Be 313.107†	-1794.2	-81.6	-0.0610	µg/L	-0.0610	ppb	07:54:28
1	Cd 226.502†	-140.7	3.4	0.1070	µg/L	0.1070	ppb	07:54:48
1	Co 228.616†	34.4	6.6	0.3610	µg/L	0.3610	ppb	07:54:48
1	Cr 267.716†	37.6	-32.5	-0.8684	µg/L	-0.8684	ppb	07:54:28
1	Cu 324.752†	2706.0	8.3	0.0571	µg/L	0.0571	ppb	07:54:28
1	Mn 257.610†	-553.5	36.4	0.1365	µg/L	0.1365	ppb	07:54:48
1	Mo 202.031†	11.0	8.3	1.0045	µg/L	1.0045	ppb	07:54:48
1	Ni 231.604†	297.1	-5.6	-0.4122	µg/L	-0.4122	ppb	07:54:48
1	P 214.914†	234.2	-12.9	-29.252	µg/L	-29.252	ppb	07:54:48
1	Pb 220.353†	33.3	-2.3	-0.7762	µg/L	-0.7762	ppb	07:54:48
1	S 181.975 Axial†	21.9	0.8	3.3155	µg/L	3.3155	ppb	07:54:48
1	Sb 206.836†	20.9	1.2	1.3626	µg/L	1.3626	ppb	07:54:48
1	Se 196.026†	14.5	-0.2	-0.3325	µg/L	-0.3325	ppb	07:54:48
1	SiO2†	1402.5	-36.9	-8.4357	µg/L	-8.4357	ppb	07:54:28
1	Si 251.611†	389.2	-4.5	-0.3870	µg/L	-0.3870	ppb	07:54:48
1	Sn 189.927†	6.1	4.9	2.4136	µg/L	2.4136	ppb	07:54:48
1	Ti 334.940†	48.0	52.4	0.1478	µg/L	0.1478	ppb	07:54:28
1	Tl 190.801†	-26.9	0.3	0.3762	µg/L	0.3762	ppb	07:54:48
1	U 409.014†	209.1	59.7	6.2135	µg/L	6.2135	ppb	07:54:28
1	V 292.402†	-188.6	-39.6	-0.5155	µg/L	-0.5155	ppb	07:54:28
1	Zn 213.857†	603.3	-22.5	-0.6282	µg/L	-0.6282	ppb	07:54:48
2	Sc RADIAL	109859.7	109859.7	99.3	%			07:53:26
2	Al 396.153Radial†	-101.0	-31.6	-16.728	µg/L	-16.728	ppb	07:53:26
2	Ca 317.933Radial†	407.6	-79.5	-27.129	µg/L	-27.129	ppb	07:53:46
2	Fe 238.204 Radial†	31.5	-1.7	-12.034	µg/L	-12.034	ppb	07:53:46
2	K 766.490 Radial†	251.6	4.1	2.4478	µg/L	2.4478	ppb	07:53:26
2	Mg 279.077 IEC†	9.5	-3.8	-37.557	µg/L	-37.557	ppb	07:53:46
2	Na 589.592 Radial†	246.4	-70.3	-21.694	µg/L	-21.694	ppb	07:53:26
2	Sr 421.552†	153.1	10.4	0.0432	µg/L	0.0432	ppb	07:53:26
2	Sc 361.383	1699326.9	1699326.9	102.27	%			07:54:54
2	Y 371.029	961639.9	961639.9	102.60	%			07:54:54
2	Ag 328.068†	-468.7	59.0	0.5483	µg/L	0.5483	ppb	07:55:00
2	As 188.979†	-7.6	0.2	0.3677	µg/L	0.3677	ppb	07:55:20
2	B 249.677†	187.6	16.5	0.9217	µg/L	0.9217	ppb	07:55:20
2	Ba 233.527†	-17.9	-7.4	-0.2003	µg/L	-0.2003	ppb	07:55:20
2	Be 313.107†	-1757.7	-50.7	-0.0379	µg/L	-0.0379	ppb	07:55:00
2	Cd 226.502†	-141.4	2.3	0.0715	µg/L	0.0715	ppb	07:55:20
2	Co 228.616†	23.9	-3.5	-0.1908	µg/L	-0.1908	ppb	07:55:20
2	Cr 267.716†	82.6	11.6	0.3100	µg/L	0.3100	ppb	07:55:00
2	Cu 324.752†	2735.0	43.8	0.3290	µg/L	0.3290	ppb	07:55:00
2	Mn 257.610†	-564.9	23.7	0.0916	µg/L	0.0916	ppb	07:55:20
2	Mo 202.031†	12.0	9.3	1.1259	µg/L	1.1259	ppb	07:55:20
2	Ni 231.604†	303.7	1.6	0.1183	µg/L	0.1183	ppb	07:55:20
2	P 214.914†	239.2	-7.4	-16.863	µg/L	-16.863	ppb	07:55:20
2	Pb 220.353†	31.7	-3.8	-1.2755	µg/L	-1.2755	ppb	07:55:20

2	S 181.975 Axial†	24.0	2.8	11.773	µg/L	11.773 ppb	07:55:20
2	Sb 206.836†	20.5	0.9	1.0550	µg/L	1.0550 ppb	07:55:20
2	Se 196.026†	20.7	5.9	7.5801	µg/L	7.5801 ppb	07:55:20
2	SiO2†	1431.5	-4.8	-1.1025	µg/L	-1.1025 ppb	07:55:00
2	Si 251.611†	405.5	12.4	1.0632	µg/L	1.0632 ppb	07:55:20
2	Sn 189.927†	4.0	2.9	1.4281	µg/L	1.4281 ppb	07:55:20
2	Ti 334.940†	68.5	72.6	0.2067	µg/L	0.2067 ppb	07:55:00
2	Tl 190.801†	-21.2	5.7	7.0154	µg/L	7.0154 ppb	07:55:20
2	U 409.014†	154.8	7.1	0.7425	µg/L	0.7425 ppb	07:55:00
2	V 292.402†	-169.5	-21.4	-0.2753	µg/L	-0.2753 ppb	07:55:00
2	Zn 213.857†	598.4	-25.7	-0.7206	µg/L	-0.7206 ppb	07:55:20
3	Sc RADIAL	110811.0	110811.0	100	%		07:53:52
3	Al 396.153Radial†	-162.7	-92.3	-48.850	µg/L	-48.850 ppb	07:53:52
3	Ca 317.933Radial†	400.2	-90.4	-30.859	µg/L	-30.859 ppb	07:54:12
3	Fe 238.204 Radial†	29.5	-4.0	-27.374	µg/L	-27.374 ppb	07:54:12
3	K 766.490 Radial†	276.9	27.2	16.139	µg/L	16.139 ppb	07:53:52
3	Mg 279.077 IEC†	12.9	-0.5	-5.0596	µg/L	-5.0596 ppb	07:54:12
3	Na 589.592 Radial†	263.0	-55.8	-17.239	µg/L	-17.239 ppb	07:53:52
3	Sr 421.552†	153.9	9.9	0.0411	µg/L	0.0411 ppb	07:53:52
3	Sc 361.383	1684659.0	1684659.0	101.39	%		07:55:26
3	Y 371.029	953675.5	953675.5	101.75	%		07:55:26
3	Ag 328.068†	-490.4	33.7	0.3115	µg/L	0.3115 ppb	07:55:32
3	As 188.979†	-5.2	2.5	4.8731	µg/L	4.8731 ppb	07:55:52
3	B 249.677†	171.8	2.5	0.1571	µg/L	0.1571 ppb	07:55:52
3	Ba 233.527†	-8.0	2.2	0.0591	µg/L	0.0591 ppb	07:55:52
3	Be 313.107†	-1809.5	-116.7	-0.0873	µg/L	-0.0873 ppb	07:55:32
3	Cd 226.502†	-148.4	-5.7	-0.1710	µg/L	-0.1710 ppb	07:55:52
3	Co 228.616†	17.7	-9.5	-0.5158	µg/L	-0.5158 ppb	07:55:52
3	Cr 267.716†	116.0	45.2	1.2097	µg/L	1.2097 ppb	07:55:32
3	Cu 324.752†	2741.5	73.5	0.5513	µg/L	0.5513 ppb	07:55:32
3	Mn 257.610†	-559.5	24.3	0.0906	µg/L	0.0906 ppb	07:55:52
3	Mo 202.031†	7.2	4.7	0.5661	µg/L	0.5661 ppb	07:55:52
3	Ni 231.604†	300.6	1.2	0.0902	µg/L	0.0902 ppb	07:55:52
3	P 214.914†	234.8	-9.7	-21.979	µg/L	-21.979 ppb	07:55:52
3	Pb 220.353†	39.6	4.3	1.4216	µg/L	1.4216 ppb	07:55:52
3	S 181.975 Axial†	21.6	0.7	2.9055	µg/L	2.9055 ppb	07:55:52
3	Sb 206.836†	21.5	2.1	2.3666	µg/L	2.3666 ppb	07:55:52
3	Se 196.026†	20.6	6.0	7.6477	µg/L	7.6477 ppb	07:55:52
3	SiO2†	1440.4	16.1	3.6789	µg/L	3.6789 ppb	07:55:32
3	Si 251.611†	411.4	21.7	1.8618	µg/L	1.8618 ppb	07:55:52
3	Sn 189.927†	8.3	7.2	3.5271	µg/L	3.5271 ppb	07:55:52
3	Ti 334.940†	88.5	92.9	0.2611	µg/L	0.2611 ppb	07:55:32
3	Tl 190.801†	-27.2	-0.3	-0.3973	µg/L	-0.3973 ppb	07:55:52
3	U 409.014†	198.7	51.8	5.3875	µg/L	5.3875 ppb	07:55:32
3	V 292.402†	-142.1	4.2	0.0672	µg/L	0.0672 ppb	07:55:32
3	Zn 213.857†	595.0	-23.9	-0.6716	µg/L	-0.6716 ppb	07:55:52

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1695976.6	102.07	%	0.606				0.59%
Sc RADIAL	110465.2	99.9	%	0.48				0.48%
Y 371.029	959930.9	102.42	%	0.597				0.58%
Ag 328.068†	21.2	0.1940	µg/L	0.42536	0.1940	ppb	0.42536	219.24%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-55.9	-29.622	µg/L	16.9717	-29.622	ppb	16.9717	57.29%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	2.4	4.6129	µg/L	4.12123	4.6129	ppb	4.12123	89.34%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	9.1	0.5142	µg/L	0.38481	0.5142	ppb	0.38481	74.84%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-1.7	-0.0461	µg/L	0.13648	-0.0461	ppb	0.13648	296.08%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-83.0	-0.0621	µg/L	0.02470	-0.0621	ppb	0.02470	39.79%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-84.6	-28.871	µg/L	1.8770	-28.871	ppb	1.8770	6.50%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	-0.0	0.0025	µg/L	0.15129	0.0025	ppb	0.15129	>999.9%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-2.1	-0.1152	µg/L	0.44328	-0.1152	ppb	0.44328	384.83%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 8.1      0.2171 µg/L       1.04216      0.2171 ppb        1.04216 480.04%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                41.8      0.3125 µg/L       0.24751      0.3125 ppb        0.24751  79.21%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†         -3.3     -22.922 µg/L        9.4810     -22.922 ppb         9.4810  41.36%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          30.8      18.300 µg/L       17.0349      18.300 ppb        17.0349  93.09%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -1.8     -17.763 µg/L       17.3704     -17.763 ppb        17.3704  97.79%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                28.1      0.1062 µg/L       0.02623      0.1062 ppb        0.02623  24.69%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 7.5      0.8988 µg/L       0.29450      0.8988 ppb        0.29450  32.76%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -79.9     -24.659 µg/L        9.2666     -24.659 ppb         9.2666  37.58%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                -0.9     -0.0679 µg/L       0.29851     -0.0679 ppb        0.29851 439.67%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -10.0     -22.698 µg/L        6.2257     -22.698 ppb         6.2257  27.43%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                -0.6     -0.2100 µg/L       1.43493     -0.2100 ppb        1.43493 683.21%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            1.4      5.9979 µg/L       5.00544      5.9979 ppb        5.00544  83.45%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 1.4      1.5947 µg/L       0.68591      1.5947 ppb        0.68591  43.01%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 3.9      4.9651 µg/L       4.58796      4.9651 ppb        4.58796  92.40%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                      -8.5     -1.9531 µg/L       6.10192     -1.9531 ppb        6.10192 312.42%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†                 9.9      0.8460 µg/L       1.14002      0.8460 ppb        1.14002 134.75%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 5.0      2.4563 µg/L       1.05015      2.4563 ppb        1.05015  42.75%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                 6.8      0.0285 µg/L       0.02374      0.0285 ppb        0.02374  83.37%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                72.6      0.2052 µg/L       0.05668      0.2052 ppb        0.05668  27.62%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 1.9      2.3314 µg/L       4.07480      2.3314 ppb        4.07480 174.78%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                 39.5      4.1145 µg/L       2.94929      4.1145 ppb        2.94929  71.68%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -19.0     -0.2412 µg/L       0.29280     -0.2412 ppb        0.29280 121.40%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -24.0     -0.6735 µg/L       0.04622     -0.6735 ppb        0.04622   6.86%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

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Analysis Begun

Start Time: 2/26/2010 08:04:04 **Plasma On Time:** 2/8/2010 03:37:33
Logged In Analyst: optima **Technique:** ICP Continuous
Spectrometer Model: Optima 4300 DV, S/N 077N1030502 **Autosampler Model:** AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\022610B.sif
Batch ID:
Results Data Set: 022610D
Results Library: c:\pe\optima1\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location:** 301
Sample ID: 1202039771|951755|1 **Date Collected:** 2/26/2010 08:04:07
Analyst: HSC **Data Type:** Original
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Replicate Data: 1202039771|951755|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	111695.4	111695.4	101	%			08:04:43
1	Al 396.153Radial†	-153.7	-82.1	-43.465	µg/L	-43.465	ppb	08:04:43
1	Ca 317.933Radial†	447.5	-46.7	-15.925	µg/L	-15.925	ppb	08:05:03
1	Fe 238.204 Radial†	36.1	2.4	16.320	µg/L	16.320	ppb	08:05:03
1	K 766.490 Radial†	275.5	23.6	14.015	µg/L	14.015	ppb	08:04:43
1	Mg 279.077 IEC†	9.0	-4.5	-44.355	µg/L	-44.355	ppb	08:05:03
1	Na 589.592 Radial†	288.9	-32.2	-9.9484	µg/L	-9.9484	ppb	08:04:43
1	Sr 421.552†	205.9	60.2	0.2502	µg/L	0.2502	ppb	08:04:43
1	Sc 361.383	1680726.8	1680726.8	101.15	%			08:06:05
1	Y 371.029	951960.5	951960.5	101.57	%			08:06:05
1	Ag 328.068†	-466.4	56.2	0.5283	µg/L	0.5283	ppb	08:06:11
1	As 188.979†	-6.3	1.4	2.7081	µg/L	2.7081	ppb	08:06:31
1	B 249.677†	186.8	17.8	0.9769	µg/L	0.9769	ppb	08:06:31
1	Ba 233.527†	-7.1	3.1	0.0842	µg/L	0.0842	ppb	08:06:31
1	Be 313.107†	-1711.1	-23.6	-0.0178	µg/L	-0.0178	ppb	08:06:11
1	Cd 226.502†	-147.2	-4.9	-0.1506	µg/L	-0.1506	ppb	08:06:31
1	Co 228.616†	19.3	-7.8	-0.4275	µg/L	-0.4275	ppb	08:06:31
1	Cr 267.716†	65.2	-4.7	-0.1253	µg/L	-0.1253	ppb	08:06:11
1	Cu 324.752†	2798.8	136.4	1.0358	µg/L	1.0358	ppb	08:06:11
1	Mn 257.610†	-457.3	124.0	0.4730	µg/L	0.4730	ppb	08:06:31
1	Mo 202.031†	7.5	5.0	0.6068	µg/L	0.6068	ppb	08:06:31
1	Ni 231.604†	308.4	9.6	0.7005	µg/L	0.7005	ppb	08:06:31
1	P 214.914†	240.7	-3.4	-7.7223	µg/L	-7.7223	ppb	08:06:31
1	Pb 220.353†	31.8	-3.4	-1.1335	µg/L	-1.1335	ppb	08:06:31
1	S 181.975 Axial†	22.0	1.2	4.9414	µg/L	4.9414	ppb	08:06:31
1	Sb 206.836†	18.8	-0.6	-0.6640	µg/L	-0.6640	ppb	08:06:31
1	Se 196.026†	16.0	1.4	1.9458	µg/L	1.9458	ppb	08:06:31
1	SiO2†	1570.6	148.1	33.887	µg/L	33.887	ppb	08:06:11
1	Si 251.611†	567.5	177.0	15.178	µg/L	15.178	ppb	08:06:31
1	Sn 189.927†	7.3	6.2	3.0496	µg/L	3.0496	ppb	08:06:31
1	Ti 334.940†	178.9	182.5	0.5167	µg/L	0.5167	ppb	08:06:11
1	Tl 190.801†	-29.6	-2.7	-3.2924	µg/L	-3.2924	ppb	08:06:31
1	U 409.014†	263.9	116.7	12.133	µg/L	12.133	ppb	08:06:11
1	V 292.402†	-133.6	12.2	0.1800	µg/L	0.1800	ppb	08:06:11
1	Zn 213.857†	663.1	44.8	1.2570	µg/L	1.2570	ppb	08:06:31
2	Sc RADIAL	111581.2	111581.2	101	%			08:05:09
2	Al 396.153Radial†	-167.4	-95.8	-50.721	µg/L	-50.721	ppb	08:05:09
2	Ca 317.933Radial†	437.8	-55.8	-19.059	µg/L	-19.059	ppb	08:05:29
2	Fe 238.204 Radial†	34.4	0.7	4.8993	µg/L	4.8993	ppb	08:05:29
2	K 766.490 Radial†	239.7	-11.6	-6.9159	µg/L	-6.9159	ppb	08:05:09
2	Mg 279.077 IEC†	10.7	-2.8	-27.269	µg/L	-27.269	ppb	08:05:29
2	Na 589.592 Radial†	310.7	-10.3	-3.1922	µg/L	-3.1922	ppb	08:05:09
2	Sr 421.552†	177.0	31.7	0.1318	µg/L	0.1318	ppb	08:05:09
2	Sc 361.383	1682021.7	1682021.7	101.23	%			08:06:37
2	Y 371.029	949695.8	949695.8	101.33	%			08:06:37
2	Ag 328.068†	-441.9	80.8	0.7574	µg/L	0.7574	ppb	08:06:43
2	As 188.979†	-3.6	4.1	7.9383	µg/L	7.9383	ppb	08:07:03

2	B 249.677†	166.5	-2.4	-0.1364 µg/L	-0.1364 ppb	08:07:03
2	Ba 233.527†	-13.8	-3.5	-0.0942 µg/L	-0.0942 ppb	08:07:03
2	Be 313.107†	-1758.6	-69.2	-0.0518 µg/L	-0.0518 ppb	08:06:43
2	Cd 226.502†	-144.7	-2.3	-0.0708 µg/L	-0.0708 ppb	08:07:03
2	Co 228.616†	20.4	-6.7	-0.3681 µg/L	-0.3681 ppb	08:07:03
2	Cr 267.716†	78.6	8.6	0.2290 µg/L	0.2290 ppb	08:06:43
2	Cu 324.752†	2770.9	106.7	0.8088 µg/L	0.8088 ppb	08:06:43
2	Mn 257.610†	-469.8	112.0	0.4256 µg/L	0.4256 ppb	08:07:03
2	Mo 202.031†	5.2	2.7	0.3253 µg/L	0.3253 ppb	08:07:03
2	Ni 231.604†	310.7	11.6	0.8475 µg/L	0.8475 ppb	08:07:03
2	P 214.914†	235.1	-9.1	-20.671 µg/L	-20.671 ppb	08:07:03
2	Pb 220.353†	29.5	-5.7	-1.8862 µg/L	-1.8862 ppb	08:07:03
2	S 181.975 Axial†	18.6	-2.3	-9.3593 µg/L	-9.3593 ppb	08:07:03
2	Sb 206.836†	21.9	2.4	2.7550 µg/L	2.7550 ppb	08:07:03
2	Se 196.026†	11.3	-3.2	-4.0591 µg/L	-4.0591 ppb	08:07:03
2	SiO2†	1595.2	171.3	39.190 µg/L	39.190 ppb	08:06:43
2	Si 251.611†	575.7	184.6	15.831 µg/L	15.831 ppb	08:07:03
2	Sn 189.927†	4.4	3.3	1.6401 µg/L	1.6401 ppb	08:07:03
2	Ti 334.940†	141.8	145.7	0.4117 µg/L	0.4117 ppb	08:06:43
2	Tl 190.801†	-21.9	4.9	6.0060 µg/L	6.0060 ppb	08:07:03
2	U 409.014†	131.8	-14.0	-1.4602 µg/L	-1.4602 ppb	08:06:43
2	V 292.402†	-133.4	12.5	0.1680 µg/L	0.1680 ppb	08:06:43
2	Zn 213.857†	664.7	45.8	1.2846 µg/L	1.2846 ppb	08:07:03
3	Sc RADIAL	110394.4	110394.4	99.8 %		08:05:34
3	Al 396.153Radial†	-174.7	-104.9	-55.570 µg/L	-55.570 ppb	08:05:34
3	Ca 317.933Radial†	439.4	-49.6	-16.923 µg/L	-16.923 ppb	08:05:55
3	Fe 238.204 Radial†	36.7	3.4	23.407 µg/L	23.407 ppb	08:05:55
3	K 766.490 Radial†	308.8	60.2	35.751 µg/L	35.751 ppb	08:05:34
3	Mg 279.077 IEC†	6.0	-7.4	-73.288 µg/L	-73.288 ppb	08:05:55
3	Na 589.592 Radial†	283.4	-34.4	-10.630 µg/L	-10.630 ppb	08:05:34
3	Sr 421.552†	154.1	10.7	0.0444 µg/L	0.0444 ppb	08:05:34
3	Sc 361.383	1678733.1	1678733.1	101.03 %		08:07:09
3	Y 371.029	948586.8	948586.8	101.21 %		08:07:09
3	Ag 328.068†	-482.0	40.3	0.3765 µg/L	0.3765 ppb	08:07:15
3	As 188.979†	-3.4	4.3	8.1616 µg/L	8.1616 ppb	08:07:35
3	B 249.677†	168.6	-0.0	-0.0129 µg/L	-0.0129 ppb	08:07:35
3	Ba 233.527†	-11.3	-1.1	-0.0302 µg/L	-0.0302 ppb	08:07:35
3	Be 313.107†	-1764.0	-78.0	-0.0584 µg/L	-0.0584 ppb	08:07:15
3	Cd 226.502†	-157.1	-14.9	-0.4530 µg/L	-0.4530 ppb	08:07:35
3	Co 228.616†	25.9	-1.2	-0.0673 µg/L	-0.0673 ppb	08:07:35
3	Cr 267.716†	106.9	36.7	0.9810 µg/L	0.9810 ppb	08:07:15
3	Cu 324.752†	2771.2	112.4	0.8555 µg/L	0.8555 ppb	08:07:15
3	Mn 257.610†	-487.3	93.8	0.3611 µg/L	0.3611 ppb	08:07:35
3	Mo 202.031†	14.6	12.1	1.4556 µg/L	1.4556 ppb	08:07:35
3	Ni 231.604†	308.5	10.0	0.7348 µg/L	0.7348 ppb	08:07:35
3	P 214.914†	237.7	-6.0	-13.741 µg/L	-13.741 ppb	08:07:35
3	Pb 220.353†	34.3	-0.9	-0.2943 µg/L	-0.2943 ppb	08:07:35
3	S 181.975 Axial†	23.4	2.5	10.507 µg/L	10.507 ppb	08:07:35
3	Sb 206.836†	21.6	2.2	2.5008 µg/L	2.5008 ppb	08:07:35
3	Se 196.026†	23.0	8.4	10.981 µg/L	10.981 ppb	08:07:35
3	SiO2†	1593.3	172.5	39.465 µg/L	39.465 ppb	08:07:15
3	Si 251.611†	604.5	214.3	18.377 µg/L	18.377 ppb	08:07:35
3	Sn 189.927†	5.4	4.3	2.1081 µg/L	2.1081 ppb	08:07:35
3	Ti 334.940†	115.3	119.7	0.3423 µg/L	0.3423 ppb	08:07:15
3	Tl 190.801†	-27.2	-0.5	-0.5408 µg/L	-0.5408 ppb	08:07:35
3	U 409.014†	146.7	1.0	0.1015 µg/L	0.1015 ppb	08:07:15
3	V 292.402†	-181.2	-35.0	-0.4509 µg/L	-0.4509 ppb	08:07:15
3	Zn 213.857†	672.2	54.5	1.5314 µg/L	1.5314 ppb	08:07:35

Mean Data: 1202039771|951755|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1680493.9	101.14	%	0.100				0.10%
Sc RADIAL	111223.7	101	%	0.7				0.65%
Y 371.029	950081.0	101.37	%	0.183				0.18%
Ag 328.068†	59.1	0.5541	µg/L	0.19177	0.5541	ppb	0.19177	34.61%
Al 396.153Radial†	-94.3	-49.919	µg/L	6.0922	-49.919	ppb	6.0922	12.20%
As 188.979†	3.3	6.2693	µg/L	3.08612	6.2693	ppb	3.08612	49.23%
B 249.677†	5.1	0.2759	µg/L	0.61021	0.2759	ppb	0.61021	221.20%
Ba 233.527†	-0.5	-0.0134	µg/L	0.09038	-0.0134	ppb	0.09038	674.16%

Be 313.107†	-56.9	-0.0427	µg/L	0.02179	-0.0427	ppb	0.02179	51.05%
Ca 317.933Radial†	-50.7	-17.302	µg/L	1.6009	-17.302	ppb	1.6009	9.25%
Cd 226.502†	-7.4	-0.2248	µg/L	0.20163	-0.2248	ppb	0.20163	89.70%
Co 228.616†	-5.3	-0.2876	µg/L	0.19312	-0.2876	ppb	0.19312	67.14%
Cr 267.716†	13.5	0.3616	µg/L	0.56494	0.3616	ppb	0.56494	156.25%
Cu 324.752†	118.5	0.9001	µg/L	0.11990	0.9001	ppb	0.11990	13.32%
Fe 238.204 Radial†	2.1	14.876	µg/L	9.3381	14.876	ppb	9.3381	62.77%
K 766.490 Radial†	24.0	14.283	µg/L	21.3349	14.283	ppb	21.3349	149.37%
Mg 279.077 IEC†	-4.9	-48.304	µg/L	23.2620	-48.304	ppb	23.2620	48.16%
Mn 257.610†	109.9	0.4199	µg/L	0.05616	0.4199	ppb	0.05616	13.38%
Mo 202.031†	6.6	0.7959	µg/L	0.58841	0.7959	ppb	0.58841	73.93%
Na 589.592 Radial†	-25.7	-7.9235	µg/L	4.11161	-7.9235	ppb	4.11161	51.89%
Ni 231.604†	10.4	0.7610	µg/L	0.07690	0.7610	ppb	0.07690	10.11%
P 214.914†	-6.1	-14.045	µg/L	6.4796	-14.045	ppb	6.4796	46.13%
Pb 220.353†	-3.3	-1.1046	µg/L	0.79635	-1.1046	ppb	0.79635	72.09%
S 181.975 Axial†	0.5	2.0298	µg/L	10.24827	2.0298	ppb	10.24827	504.90%
Sb 206.836†	1.3	1.5306	µg/L	1.90479	1.5306	ppb	1.90479	124.45%
Se 196.026†	2.2	2.9559	µg/L	7.57078	2.9559	ppb	7.57078	256.12%
SiO2†	164.0	37.514	µg/L	3.1442	37.514	ppb	3.1442	8.38%
Si 251.611†	192.0	16.462	µg/L	1.6898	16.462	ppb	1.6898	10.26%
Sn 189.927†	4.6	2.2659	µg/L	0.71791	2.2659	ppb	0.71791	31.68%
Sr 421.552†	34.2	0.1421	µg/L	0.10329	0.1421	ppb	0.10329	72.67%
Ti 334.940†	149.3	0.4236	µg/L	0.08778	0.4236	ppb	0.08778	20.72%
Tl 190.801†	0.6	0.7243	µg/L	4.77655	0.7243	ppb	4.77655	659.48%
U 409.014†	34.6	3.5915	µg/L	7.43835	3.5915	ppb	7.43835	207.11%
V 292.402†	-3.4	-0.0343	µg/L	0.36081	-0.0343	ppb	0.36081	>999.9%
Zn 213.857†	48.4	1.3577	µg/L	0.15107	1.3577	ppb	0.15107	11.13%

Sequence No.: 2
Sample ID: 1202039772|951755|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 302
Date Collected: 2/26/2010 08:07:45
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202039772|951755|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	115435.7	115435.7	104	%			08:08:18
1	Al 396.153Radial†	190424.8	182534.6	96617	µg/L	96617	ppb	08:08:18
1	Ca 317.933Radial†	330060.8	315773.4	107800	µg/L	107800	ppb	08:08:18
1	Fe 238.204 Radial†	28589.6	27361.0	189440	µg/L	189440	ppb	08:08:24
1	K 766.490 Radial†	77142.6	73668.6	43764	µg/L	43764	ppb	08:08:18
1	Mg 279.077 IEC†	4255.0	4063.7	39986	µg/L	39986	ppb	08:08:24
1	Na 589.592 Radial†	33319.9	31608.7	9756.5	µg/L	9756.5	ppb	08:08:18
1	Sr 421.552†	556666.0	533251.8	2217.9	µg/L	2217.9	ppb	08:08:18
1	Sc 361.383	1714459.0	1714459.0	103.18	%			08:09:03
1	Y 371.029	988827.6	988827.6	105.50	%			08:09:03
1	Ag 328.068†	32866.4	32369.7	335.81	µg/L	335.81	ppb	08:09:03
1	As 188.979†	632.6	620.7	1195.8	µg/L	1195.8	ppb	08:09:24
1	B 249.677†	30875.2	29755.7	1551.1	µg/L	1551.1	ppb	08:09:03
1	Ba 233.527†	77930.5	75536.2	2045.8	µg/L	2045.8	ppb	08:09:03
1	Be 313.107†	1177987.6	1143311.9	851.80	µg/L	851.80	ppb	08:09:03
1	Cd 226.502†	22654.8	22096.5	649.76	µg/L	649.76	ppb	08:09:24
1	Co 228.616†	18911.6	18301.3	985.21	µg/L	985.21	ppb	08:09:24
1	Cr 267.716†	99449.0	96311.6	2575.8	µg/L	2575.8	ppb	08:09:03
1	Cu 324.752†	270356.4	259384.8	1999.1	µg/L	1999.1	ppb	08:09:03
1	Mn 257.610†	1598493.2	1549752.0	5869.6	µg/L	5869.6	ppb	08:09:03
1	Mo 202.031†	4813.6	4662.7	569.80	µg/L	569.80	ppb	08:09:24
1	Ni 231.604†	21469.8	20512.1	1500.3	µg/L	1500.3	ppb	08:09:24
1	P 214.914†	4328.7	3953.9	8661.2	µg/L	8661.2	ppb	08:09:24
1	Pb 220.353†	2960.3	2834.2	940.38	µg/L	940.38	ppb	08:09:24
1	S 181.975 Axial†	1077.4	1023.6	4247.0	µg/L	4247.0	ppb	08:09:24
1	Sb 206.836†	1202.5	1146.3	1279.6	µg/L	1279.6	ppb	08:09:24
1	Se 196.026†	2464.7	2374.3	3662.3	µg/L	3662.3	ppb	08:09:24
1	SiO2†	365901.1	353207.7	80800	µg/L	80800	ppb	08:09:03
1	Si 251.611†	452398.3	438056.7	37568	µg/L	37568	ppb	08:09:03
1	Sn 189.927†	2391.4	2316.6	1133.7	µg/L	1133.7	ppb	08:09:24
1	Ti 334.940†	2210273.3	2142086.7	6024.3	µg/L	6024.3	ppb	08:09:03
1	Tl 190.801†	1087.6	1080.5	1396.6	µg/L	1396.6	ppb	08:09:24
1	U 409.014†	-2607.9	-2671.6	-310.70	µg/L	-310.70	ppb	08:09:03
1	V 292.402†	101448.2	98462.6	1325.5	µg/L	1325.5	ppb	08:09:03
1	Zn 213.857†	230673.1	222945.5	6248.6	µg/L	6248.6	ppb	08:09:03
2	Sc RADIAL	116095.7	116095.7	105	%			08:08:30
2	Al 396.153Radial†	190120.3	181207.1	95914	µg/L	95914	ppb	08:08:30
2	Ca 317.933Radial†	329162.4	313119.5	106890	µg/L	106890	ppb	08:08:30
2	Fe 238.204 Radial†	28503.9	27123.7	187790	µg/L	187790	ppb	08:08:35
2	K 766.490 Radial†	76890.7	73008.3	43372	µg/L	43372	ppb	08:08:30
2	Mg 279.077 IEC†	4266.6	4051.6	39869	µg/L	39869	ppb	08:08:35
2	Na 589.592 Radial†	33093.0	31211.0	9633.8	µg/L	9633.8	ppb	08:08:30
2	Sr 421.552†	555141.4	528766.9	2199.2	µg/L	2199.2	ppb	08:08:30
2	Sc 361.383	1711068.3	1711068.3	102.98	%			08:09:34
2	Y 371.029	991092.6	991092.6	105.75	%			08:09:34
2	Ag 328.068†	32758.5	32328.0	335.19	µg/L	335.19	ppb	08:09:34
2	As 188.979†	620.8	610.5	1176.0	µg/L	1176.0	ppb	08:09:54
2	B 249.677†	30753.1	29696.4	1548.7	µg/L	1548.7	ppb	08:09:34
2	Ba 233.527†	77670.3	75433.3	2043.0	µg/L	2043.0	ppb	08:09:34
2	Be 313.107†	1173796.6	1141504.5	850.45	µg/L	850.45	ppb	08:09:34
2	Cd 226.502†	22623.3	22109.4	650.34	µg/L	650.34	ppb	08:09:54
2	Co 228.616†	18890.3	18316.9	986.09	µg/L	986.09	ppb	08:09:54
2	Cr 267.716†	99090.6	96154.6	2571.6	µg/L	2571.6	ppb	08:09:34
2	Cu 324.752†	269601.9	259171.4	1997.2	µg/L	1997.2	ppb	08:09:34
2	Mn 257.610†	1591934.7	1546453.1	5857.0	µg/L	5857.0	ppb	08:09:34
2	Mo 202.031†	4779.9	4639.2	566.90	µg/L	566.90	ppb	08:09:54
2	Ni 231.604†	21372.9	20459.3	1496.4	µg/L	1496.4	ppb	08:09:54
2	P 214.914†	4333.2	3966.5	8691.3	µg/L	8691.3	ppb	08:09:54
2	Pb 220.353†	2936.7	2816.9	934.65	µg/L	934.65	ppb	08:09:54

2	S 181.975 Axial†	1087.1	1035.1	4294.6 µg/L	4294.6 ppb	08:09:54
2	Sb 206.836†	1202.3	1148.4	1282.0 µg/L	1282.0 ppb	08:09:54
2	Se 196.026†	2451.4	2366.2	3646.5 µg/L	3646.5 ppb	08:09:54
2	SiO2†_	364630.7	352676.8	80678 µg/L	80678 ppb	08:09:34
2	Si 251.611†	450732.0	437307.4	37504 µg/L	37504 ppb	08:09:34
2	Sn 189.927†	2401.1	2330.6	1140.7 µg/L	1140.7 ppb	08:09:54
2	Ti 334.940†	2202071.8	2138367.4	6013.8 µg/L	6013.8 ppb	08:09:34
2	Tl 190.801†	1082.4	1077.6	1392.9 µg/L	1392.9 ppb	08:09:54
2	U 409.014†	-2542.9	-2613.5	-304.37 µg/L	-304.37 ppb	08:09:34
2	V 292.402†	101022.8	98244.4	1322.5 µg/L	1322.5 ppb	08:09:34
2	Zn 213.857†	229917.8	222655.1	6240.5 µg/L	6240.5 ppb	08:09:34
3	Sc RADIAL	115553.1	115553.1	104 %		08:08:41
3	Al 396.153Radial†	189430.6	181397.5	96015 µg/L	96015 ppb	08:08:41
3	Ca 317.933Radial†	327228.4	312740.8	106760 µg/L	106760 ppb	08:08:41
3	Fe 238.204 Radial†	28680.9	27420.6	189850 µg/L	189850 ppb	08:08:47
3	K 766.490 Radial†	76706.6	73176.1	43472 µg/L	43472 ppb	08:08:41
3	Mg 279.077 IEC†	4263.7	4067.9	40027 µg/L	40027 ppb	08:08:47
3	Na 589.592 Radial†	33128.0	31392.5	9689.8 µg/L	9689.8 ppb	08:08:41
3	Sr 421.552†	554372.0	530514.0	2206.5 µg/L	2206.5 ppb	08:08:41
3	Sc 361.383	1715626.5	1715626.5	103.25 %		08:10:05
3	Y 371.029	986747.7	986747.7	105.28 %		08:10:05
3	Ag 328.068†	32800.4	32284.1	335.06 µg/L	335.06 ppb	08:10:05
3	As 188.979†	624.7	612.7	1180.4 µg/L	1180.4 ppb	08:10:25
3	B 249.677†	30934.0	29792.3	1552.9 µg/L	1552.9 ppb	08:10:05
3	Ba 233.527†	77924.1	75478.6	2044.3 µg/L	2044.3 ppb	08:10:05
3	Be 313.107†	1175868.8	1140483.0	849.69 µg/L	849.69 ppb	08:10:05
3	Cd 226.502†	22539.7	21970.0	645.87 µg/L	645.87 ppb	08:10:25
3	Co 228.616†	18794.7	18175.6	978.38 µg/L	978.38 ppb	08:10:25
3	Cr 267.716†	99071.6	95880.6	2564.3 µg/L	2564.3 ppb	08:10:05
3	Cu 324.752†	270497.6	259343.2	1998.9 µg/L	1998.9 ppb	08:10:05
3	Mn 257.610†	1594215.6	1544555.0	5850.0 µg/L	5850.0 ppb	08:10:05
3	Mo 202.031†	4765.7	4613.2	563.84 µg/L	563.84 ppb	08:10:25
3	Ni 231.604†	21301.1	20334.6	1487.3 µg/L	1487.3 ppb	08:10:25
3	P 214.914†	4317.7	3940.3	8629.9 µg/L	8629.9 ppb	08:10:25
3	Pb 220.353†	2939.2	2811.8	932.84 µg/L	932.84 ppb	08:10:25
3	S 181.975 Axial†	1071.8	1017.5	4221.6 µg/L	4221.6 ppb	08:10:25
3	Sb 206.836†	1195.4	1138.5	1270.9 µg/L	1270.9 ppb	08:10:25
3	Se 196.026†	2441.5	2350.2	3632.5 µg/L	3632.5 ppb	08:10:25
3	SiO2†	365709.8	352781.1	80702 µg/L	80702 ppb	08:10:05
3	Si 251.611†	452209.2	437575.2	37527 µg/L	37527 ppb	08:10:05
3	Sn 189.927†	2389.1	2312.7	1131.8 µg/L	1131.8 ppb	08:10:25
3	Ti 334.940†	2208199.0	2138620.1	6014.5 µg/L	6014.5 ppb	08:10:05
3	Tl 190.801†	1096.8	1088.8	1406.9 µg/L	1406.9 ppb	08:10:25
3	U 409.014†	-2570.1	-2633.3	-306.70 µg/L	-306.70 ppb	08:10:05
3	V 292.402†	101456.3	98403.6	1324.6 µg/L	1324.6 ppb	08:10:05
3	Zn 213.857†	230668.9	222789.3	6244.2 µg/L	6244.2 ppb	08:10:05

Mean Data: 1202039772|951755|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1713717.9	103.14	%	0.143				0.14%
Sc RADIAL	115694.8	105	%	0.3				0.30%
Y 371.029	988889.3	105.51	%	0.232				0.22%
Ag 328.068†	32327.3	335.35	µg/L	0.402	335.35	ppb	0.402	0.12%
Al 396.153Radial†	181713.1	96182	µg/L	379.9	96182	ppb	379.9	0.40%
As 188.979†	614.6	1184.0	µg/L	10.37	1184.0	ppb	10.37	0.88%
B 249.677†	29748.1	1550.9	µg/L	2.12	1550.9	ppb	2.12	0.14%
Ba 233.527†	75482.7	2044.4	µg/L	1.40	2044.4	ppb	1.40	0.07%
Be 313.107†	1141766.5	850.65	µg/L	1.068	850.65	ppb	1.068	0.13%
Ca 317.933Radial†	313877.9	107150	µg/L	564.1	107150	ppb	564.1	0.53%
Cd 226.502†	22058.6	648.66	µg/L	2.429	648.66	ppb	2.429	0.37%
Co 228.616†	18264.6	983.23	µg/L	4.221	983.23	ppb	4.221	0.43%
Cr 267.716†	96115.6	2570.6	µg/L	5.83	2570.6	ppb	5.83	0.23%
Cu 324.752†	259299.8	1998.4	µg/L	1.05	1998.4	ppb	1.05	0.05%
Fe 238.204 Radial†	27301.8	189030	µg/L	1087.4	189030	ppb	1087.4	0.58%
K 766.490 Radial†	73284.3	43536	µg/L	203.9	43536	ppb	203.9	0.47%
Mg 279.077 IEC†	4061.1	39961	µg/L	82.3	39961	ppb	82.3	0.21%
Mn 257.610†	1546920.0	5858.9	µg/L	9.94	5858.9	ppb	9.94	0.17%
Mo 202.031†	4638.3	566.85	µg/L	2.980	566.85	ppb	2.980	0.53%
Na 589.592 Radial†	31404.1	9693.4	µg/L	61.45	9693.4	ppb	61.45	0.63%

Ni 231.604†	20435.3	1494.6	µg/L	6.65	1494.6	ppb	6.65	0.45%
P 214.914†	3953.6	8660.8	µg/L	30.68	8660.8	ppb	30.68	0.35%
Pb 220.353†	2821.0	935.96	µg/L	3.938	935.96	ppb	3.938	0.42%
S 181.975 Axial†	1025.4	4254.4	µg/L	37.07	4254.4	ppb	37.07	0.87%
Sb 206.836†	1144.4	1277.5	µg/L	5.85	1277.5	ppb	5.85	0.46%
Se 196.026†	2363.5	3647.1	µg/L	14.89	3647.1	ppb	14.89	0.41%
SiO2†	352888.5	80727	µg/L	64.4	80727	ppb	64.4	0.08%
Si 251.611†	437646.4	37533	µg/L	32.6	37533	ppb	32.6	0.09%
Sn 189.927†	2320.0	1135.4	µg/L	4.68	1135.4	ppb	4.68	0.41%
Sr 421.552†	530844.2	2207.9	µg/L	9.40	2207.9	ppb	9.40	0.43%
Ti 334.940†	2139691.4	6017.5	µg/L	5.85	6017.5	ppb	5.85	0.10%
Tl 190.801†	1082.3	1398.8	µg/L	7.24	1398.8	ppb	7.24	0.52%
U 409.014†	-2639.5	-307.26	µg/L	3.200	-307.26	ppb	3.200	1.04%
V 292.402†	98370.2	1324.2	µg/L	1.54	1324.2	ppb	1.54	0.12%
Zn 213.857†	222796.6	6244.4	µg/L	4.04	6244.4	ppb	4.04	0.06%

Sequence No.: 4
Sample ID: 1202039773|951755|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 304
Date Collected: 2/26/2010 08:14:15
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202039773|951755|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113901.1	113901.1	103	%			08:14:48
1	Al 396.153Radial†	21581.3	21027.9	11131	µg/L	11131	ppb	08:14:48
1	Ca 317.933Radial†	18118.1	17104.8	5839.2	µg/L	5839.2	ppb	08:14:48
1	Fe 238.204 Radial†	13382.5	12962.4	89736	µg/L	89736	ppb	08:14:48
1	K 766.490 Radial†	6709.8	6266.7	3722.9	µg/L	3722.9	ppb	08:14:48
1	Mg 279.077 IEC†	177.2	158.7	1472.9	µg/L	1472.9	ppb	08:15:09
1	Na 589.592 Radial†	7415.0	6882.4	2124.4	µg/L	2124.4	ppb	08:14:48
1	Sr 421.552†	5154.6	4861.9	20.221	µg/L	20.221	ppb	08:14:48
1	Sc 361.383	1712659.0	1712659.0	103.08	%			08:16:13
1	Y 371.029	1018768.6	1018768.6	108.70	%			08:16:13
1	Ag 328.068†	-1574.3	-1010.0	2.3592	µg/L	2.3592	ppb	08:16:18
1	As 188.979†	-1.3	6.3	17.050	µg/L	17.050	ppb	08:16:39
1	B 249.677†	824.5	633.0	-11.781	µg/L	-11.781	ppb	08:16:18
1	Ba 233.527†	8523.3	8279.1	224.03	µg/L	224.03	ppb	08:16:18
1	Be 313.107†	3350.0	4918.1	3.0398	µg/L	3.0398	ppb	08:16:18
1	Cd 226.502†	283.1	415.3	2.4574	µg/L	2.4574	ppb	08:16:39
1	Co 228.616†	210.2	177.0	6.1880	µg/L	6.1880	ppb	08:16:39
1	Cr 267.716†	852.9	758.4	20.295	µg/L	20.295	ppb	08:16:39
1	Cu 324.752†	3359.7	629.0	21.632	µg/L	21.632	ppb	08:16:18
1	Mn 257.610†	393578.1	382412.3	1451.5	µg/L	1451.5	ppb	08:16:13
1	Mo 202.031†	157.2	150.1	21.526	µg/L	21.526	ppb	08:16:39
1	Ni 231.604†	464.3	155.1	12.490	µg/L	12.490	ppb	08:16:39
1	P 214.914†	1039.5	767.2	1671.7	µg/L	1671.7	ppb	08:16:39
1	Pb 220.353†	87.2	49.8	14.172	µg/L	14.172	ppb	08:16:39
1	S 181.975 Axial†	35.4	13.8	57.143	µg/L	57.143	ppb	08:16:39
1	Sb 206.836†	14.9	-4.7	-5.3889	µg/L	-5.3889	ppb	08:16:39
1	Se 196.026†	-49.0	-61.9	213.89	µg/L	213.89	ppb	08:16:39
1	SiO2†	145725.5	139973.5	32020	µg/L	32020	ppb	08:16:18
1	Si 251.611†	182035.3	176220.5	15113	µg/L	15113	ppb	08:16:13
1	Sn 189.927†	-2.1	-3.1	-7.4600	µg/L	-7.4600	ppb	08:16:39
1	Ti 334.940†	609846.5	591658.1	1664.3	µg/L	1664.3	ppb	08:16:13
1	Tl 190.801†	-44.8	-17.0	10.927	µg/L	10.927	ppb	08:16:39
1	U 409.014†	-3200.2	-3249.0	-350.65	µg/L	-350.65	ppb	08:16:13
1	V 292.402†	2215.9	2294.1	33.617	µg/L	33.617	ppb	08:16:18
1	Zn 213.857†	8167.2	7312.7	201.24	µg/L	201.24	ppb	08:16:18
2	Sc RADIAL	113353.9	113353.9	102	%			08:15:14
2	Al 396.153Radial†	21912.8	21452.5	11356	µg/L	11356	ppb	08:15:14
2	Ca 317.933Radial†	18308.0	17375.0	5931.4	µg/L	5931.4	ppb	08:15:14
2	Fe 238.204 Radial†	13579.8	13217.7	91504	µg/L	91504	ppb	08:15:14
2	K 766.490 Radial†	6713.3	6301.6	3743.6	µg/L	3743.6	ppb	08:15:14
2	Mg 279.077 IEC†	174.7	157.1	1455.4	µg/L	1455.4	ppb	08:15:34
2	Na 589.592 Radial†	7544.2	7043.2	2174.0	µg/L	2174.0	ppb	08:15:14
2	Sr 421.552†	5239.1	4968.6	20.665	µg/L	20.665	ppb	08:15:14
2	Sc 361.383	1714539.9	1714539.9	103.19	%			08:16:46
2	Y 371.029	1017120.3	1017120.3	108.52	%			08:16:46
2	Ag 328.068†	-1625.9	-1058.4	2.1321	µg/L	2.1321	ppb	08:16:52
2	As 188.979†	6.3	13.8	31.439	µg/L	31.439	ppb	08:17:13
2	B 249.677†	811.5	619.5	-13.447	µg/L	-13.447	ppb	08:16:52
2	Ba 233.527†	8516.2	8263.1	223.59	µg/L	223.59	ppb	08:16:52
2	Be 313.107†	3336.3	4901.2	3.0320	µg/L	3.0320	ppb	08:16:52
2	Cd 226.502†	289.5	421.1	2.4341	µg/L	2.4341	ppb	08:17:13
2	Co 228.616†	204.4	171.2	5.8997	µg/L	5.8997	ppb	08:17:13
2	Cr 267.716†	870.2	774.1	20.717	µg/L	20.717	ppb	08:17:13
2	Cu 324.752†	3341.9	608.2	21.807	µg/L	21.807	ppb	08:16:52
2	Mn 257.610†	389852.8	378383.2	1436.3	µg/L	1436.3	ppb	08:16:46
2	Mo 202.031†	159.6	152.3	21.851	µg/L	21.851	ppb	08:17:13
2	Ni 231.604†	462.8	153.2	12.373	µg/L	12.373	ppb	08:17:13
2	P 214.914†	1044.0	770.4	1677.8	µg/L	1677.8	ppb	08:17:13
2	Pb 220.353†	88.5	51.0	14.512	µg/L	14.512	ppb	08:17:13

2	S 181.975 Axial†	35.2	13.6	56.277 µg/L	56.277 ppb	08:17:13
2	Sb 206.836†	13.9	-5.7	-6.4712 µg/L	-6.4712 ppb	08:17:13
2	Se 196.026†	-51.4	-64.2	216.78 µg/L	216.78 ppb	08:17:13
2	SiO2†	145430.5	139532.5	31919 µg/L	31919 ppb	08:16:52
2	Si 251.611†	181187.2	175204.9	15026 µg/L	15026 ppb	08:16:46
2	Sn 189.927†	-5.1	-6.0	-8.9962 µg/L	-8.9962 ppb	08:17:13
2	Ti 334.940†	605918.8	587202.7	1651.8 µg/L	1651.8 ppb	08:16:46
2	Tl 190.801†	-50.4	-22.4	4.4386 µg/L	4.4386 ppb	08:17:13
2	U 409.014†	-3232.8	-3277.1	-353.83 µg/L	-353.83 ppb	08:16:46
2	V 292.402†	2177.3	2254.4	33.153 µg/L	33.153 ppb	08:16:52
2	Zn 213.857†	8183.4	7319.7	201.35 µg/L	201.35 ppb	08:16:52
3	Sc RADIAL	113761.1	113761.1	103 %		08:15:40
3	Al 396.153Radial†	21695.6	21164.8	11204 µg/L	11204 ppb	08:15:40
3	Ca 317.933Radial†	18059.5	17069.5	5827.1 µg/L	5827.1 ppb	08:15:40
3	Fe 238.204 Radial†	13433.5	13028.0	90190 µg/L	90190 ppb	08:15:40
3	K 766.490 Radial†	6737.8	6302.0	3743.8 µg/L	3743.8 ppb	08:15:40
3	Mg 279.077 IEC†	171.2	153.1	1416.9 µg/L	1416.9 ppb	08:16:00
3	Na 589.592 Radial†	7504.0	6977.8	2153.8 µg/L	2153.8 ppb	08:15:40
3	Sr 421.552†	5159.2	4872.5	20.265 µg/L	20.265 ppb	08:15:40
3	Sc 361.383	1711805.6	1711805.6	103.02 %		08:17:20
3	Y 371.029	1013970.7	1013970.7	108.19 %		08:17:20
3	Ag 328.068†	-1549.5	-986.8	2.6318 µg/L	2.6318 ppb	08:17:26
3	As 188.979†	-0.9	6.8	17.901 µg/L	17.901 ppb	08:17:46
3	B 249.677†	795.6	605.3	-13.548 µg/L	-13.548 ppb	08:17:26
3	Ba 233.527†	8303.0	8069.4	218.35 µg/L	218.35 ppb	08:17:26
3	Be 313.107†	3260.0	4832.3	2.9912 µg/L	2.9912 ppb	08:17:26
3	Cd 226.502†	266.1	398.9	1.9060 µg/L	1.9060 ppb	08:17:46
3	Co 228.616†	181.3	149.1	4.7522 µg/L	4.7522 ppb	08:17:46
3	Cr 267.716†	809.7	716.8	19.183 µg/L	19.183 ppb	08:17:46
3	Cu 324.752†	3320.6	592.7	21.442 µg/L	21.442 ppb	08:17:26
3	Mn 257.610†	384836.9	374118.0	1420.1 µg/L	1420.1 ppb	08:17:20
3	Mo 202.031†	139.7	133.2	19.496 µg/L	19.496 ppb	08:17:46
3	Ni 231.604†	439.4	131.2	10.750 µg/L	10.750 ppb	08:17:46
3	P 214.914†	986.3	716.1	1555.4 µg/L	1555.4 ppb	08:17:46
3	Pb 220.353†	78.5	41.4	11.372 µg/L	11.372 ppb	08:17:46
3	S 181.975 Axial†	42.9	21.1	87.358 µg/L	87.358 ppb	08:17:46
3	Sb 206.836†	16.5	-3.2	-3.6417 µg/L	-3.6417 ppb	08:17:46
3	Se 196.026†	-50.2	-63.1	213.88 µg/L	213.88 ppb	08:17:46
3	SiO2†	142384.5	136801.0	31295 µg/L	31295 ppb	08:17:26
3	Si 251.611†	178913.7	173278.5	14860 µg/L	14860 ppb	08:17:20
3	Sn 189.927†	1.3	0.3	-5.8351 µg/L	-5.8351 ppb	08:17:46
3	Ti 334.940†	594748.0	577297.7	1623.9 µg/L	1623.9 ppb	08:17:20
3	Tl 190.801†	-45.7	-17.8	9.5211 µg/L	9.5211 ppb	08:17:46
3	U 409.014†	-3166.1	-3217.4	-347.43 µg/L	-347.43 ppb	08:17:20
3	V 292.402†	2171.3	2251.9	33.057 µg/L	33.057 ppb	08:17:26
3	Zn 213.857†	8009.4	7163.5	197.03 µg/L	197.03 ppb	08:17:26

Mean Data: 1202039773|951755|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1713001.5	103.10	%	0.084				0.08%
Sc RADIAL	113672.1	103	%	0.3				0.25%
Y 371.029	1016619.9	108.47	%	0.260				0.24%
Ag 328.068†	-1018.4	2.3744	µg/L	0.25021	2.3744	ppb	0.25021	10.54%
Al 396.153Radial†	21215.1	11230	µg/L	114.7	11230	ppb	114.7	1.02%
As 188.979†	9.0	22.130	µg/L	8.0731	22.130	ppb	8.0731	36.48%
B 249.677†	619.3	-12.925	µg/L	0.9924	-12.925	ppb	0.9924	7.68%
Ba 233.527†	8203.9	221.99	µg/L	3.159	221.99	ppb	3.159	1.42%
Be 313.107†	4883.8	3.0210	µg/L	0.02615	3.0210	ppb	0.02615	0.87%
Ca 317.933Radial†	17183.1	5865.9	µg/L	57.06	5865.9	ppb	57.06	0.97%
Cd 226.502†	411.8	2.2658	µg/L	0.31185	2.2658	ppb	0.31185	13.76%
Co 228.616†	165.8	5.6133	µg/L	0.75957	5.6133	ppb	0.75957	13.53%
Cr 267.716†	749.8	20.065	µg/L	0.7920	20.065	ppb	0.7920	3.95%
Cu 324.752†	610.0	21.627	µg/L	0.1822	21.627	ppb	0.1822	0.84%
Fe 238.204 Radial†	13069.4	90477	µg/L	917.8	90477	ppb	917.8	1.01%
K 766.490 Radial†	6290.1	3736.8	µg/L	12.03	3736.8	ppb	12.03	0.32%
Mg 279.077 IEC†	156.3	1448.4	µg/L	28.66	1448.4	ppb	28.66	1.98%
Mn 257.610†	378304.5	1436.0	µg/L	15.67	1436.0	ppb	15.67	1.09%
Mo 202.031†	145.2	20.958	µg/L	1.2761	20.958	ppb	1.2761	6.09%
Na 589.592 Radial†	6967.8	2150.7	µg/L	24.96	2150.7	ppb	24.96	1.16%

Ni 231.604†	146.5	11.871	µg/L	0.9725	11.871	ppb	0.9725	8.19%
P 214.914†	751.2	1635.0	µg/L	68.97	1635.0	ppb	68.97	4.22%
Pb 220.353†	47.4	13.352	µg/L	1.7230	13.352	ppb	1.7230	12.90%
S 181.975 Axial†	16.1	66.926	µg/L	17.7002	66.926	ppb	17.7002	26.45%
Sb 206.836†	-4.5	-5.1673	µg/L	1.42771	-5.1673	ppb	1.42771	27.63%
Se 196.026†	-63.0	214.85	µg/L	1.669	214.85	ppb	1.669	0.78%
SiO2†	138769.0	31745	µg/L	393.1	31745	ppb	393.1	1.24%
Si 251.611†	174901.3	15000	µg/L	128.2	15000	ppb	128.2	0.85%
Sn 189.927†	-2.9	-7.4304	µg/L	1.58077	-7.4304	ppb	1.58077	21.27%
Sr 421.552†	4901.0	20.384	µg/L	0.2445	20.384	ppb	0.2445	1.20%
Ti 334.940†	585386.1	1646.7	µg/L	20.68	1646.7	ppb	20.68	1.26%
Tl 190.801†	-19.1	8.2954	µg/L	3.41320	8.2954	ppb	3.41320	41.15%
U 409.014†	-3247.8	-350.64	µg/L	3.197	-350.64	ppb	3.197	0.91%
V 292.402†	2266.8	33.276	µg/L	0.2991	33.276	ppb	0.2991	0.90%
Zn 213.857†	7265.3	199.88	µg/L	2.462	199.88	ppb	2.462	1.23%

Sequence No.: 5
Sample ID: 1202039774|951755|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 305
Date Collected: 2/26/2010 08:17:56
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202039774|951755|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	115425.8	115425.8	104	%			08:18:29
1	Al 396.153Radial†	46654.6	44778.3	23693	µg/L	23693	ppb	08:18:29
1	Ca 317.933Radial†	35153.3	33196.8	11333	µg/L	11333	ppb	08:18:29
1	Fe 238.204 Radial†	13031.5	12454.4	86230	µg/L	86230	ppb	08:18:49
1	K 766.490 Radial†	21591.7	20441.6	12144	µg/L	12144	ppb	08:18:29
1	Mg 279.077 IEC†	746.6	702.1	6858.3	µg/L	6858.3	ppb	08:18:49
1	Na 589.592 Radial†	30028.6	28457.4	8783.9	µg/L	8783.9	ppb	08:18:29
1	Sr 421.552†	119613.2	114479.1	476.14	µg/L	476.14	ppb	08:18:29
1	Sc 361.383	1713459.3	1713459.3	103.12	%			08:19:55
1	Y 371.029	1028831.3	1028831.3	109.77	%			08:19:55
1	Ag 328.068†	53495.0	52392.1	504.68	µg/L	504.68	ppb	08:20:01
1	As 188.979†	277.6	276.8	534.69	µg/L	534.69	ppb	08:20:21
1	B 249.677†	10278.8	9800.6	497.97	µg/L	497.97	ppb	08:20:01
1	Ba 233.527†	26755.9	25955.7	703.16	µg/L	703.16	ppb	08:20:01
1	Be 313.107†	716689.1	696650.8	519.59	µg/L	519.59	ppb	08:19:55
1	Cd 226.502†	17747.1	17350.2	516.65	µg/L	516.65	ppb	08:20:01
1	Co 228.616†	9761.5	9438.9	510.27	µg/L	510.27	ppb	08:20:01
1	Cr 267.716†	21207.3	20495.9	548.32	µg/L	548.32	ppb	08:20:01
1	Cu 324.752†	77460.2	72483.8	564.90	µg/L	564.90	ppb	08:20:01
1	Mn 257.610†	553860.9	537662.3	2038.1	µg/L	2038.1	ppb	08:19:55
1	Mo 202.031†	4600.7	4459.0	541.30	µg/L	541.30	ppb	08:20:21
1	Ni 231.604†	8258.8	7713.3	564.18	µg/L	564.18	ppb	08:20:01
1	P 214.914†	1367.1	1084.4	2349.5	µg/L	2349.5	ppb	08:20:21
1	Pb 220.353†	1743.6	1656.0	549.88	µg/L	549.88	ppb	08:20:21
1	S 181.975 Axial†	1442.1	1377.8	5716.7	µg/L	5716.7	ppb	08:20:21
1	Sb 206.836†	467.4	434.1	495.14	µg/L	495.14	ppb	08:20:21
1	Se 196.026†	371.8	346.2	726.45	µg/L	726.45	ppb	08:20:21
1	SiO2†	290846.1	280632.8	64198	µg/L	64198	ppb	08:19:55
1	Si 251.611†	358939.1	347683.9	29818	µg/L	29818	ppb	08:19:55
1	Sn 189.927†	1173.3	1136.8	554.73	µg/L	554.73	ppb	08:20:21
1	Ti 334.940†	801804.1	777525.5	2186.8	µg/L	2186.8	ppb	08:19:55
1	Tl 190.801†	397.7	412.1	539.15	µg/L	539.15	ppb	08:20:21
1	U 409.014†	1556.1	1364.8	129.23	µg/L	129.23	ppb	08:19:55
1	V 292.402†	42372.7	41233.6	556.70	µg/L	556.70	ppb	08:20:01
1	Zn 213.857†	27686.5	26237.2	729.98	µg/L	729.98	ppb	08:20:01
2	Sc RADIAL	115300.7	115300.7	104	%			08:18:55
2	Al 396.153Radial†	46773.5	44940.8	23779	µg/L	23779	ppb	08:18:55
2	Ca 317.933Radial†	35194.5	33272.9	11359	µg/L	11359	ppb	08:18:55
2	Fe 238.204 Radial†	13041.1	12477.1	86388	µg/L	86388	ppb	08:19:15
2	K 766.490 Radial†	21595.4	20467.6	12159	µg/L	12159	ppb	08:18:55
2	Mg 279.077 IEC†	746.3	702.6	6863.0	µg/L	6863.0	ppb	08:19:15
2	Na 589.592 Radial†	29977.8	28439.9	8778.5	µg/L	8778.5	ppb	08:18:55
2	Sr 421.552†	119627.8	114617.3	476.71	µg/L	476.71	ppb	08:18:55
2	Sc 361.383	1701993.4	1701993.4	102.43	%			08:20:29
2	Y 371.029	1013753.7	1013753.7	108.16	%			08:20:29
2	Ag 328.068†	53790.9	53030.4	510.69	µg/L	510.69	ppb	08:20:35
2	As 188.979†	278.0	279.0	538.96	µg/L	538.96	ppb	08:20:55
2	B 249.677†	10321.4	9909.3	503.91	µg/L	503.91	ppb	08:20:35
2	Ba 233.527†	26887.3	26258.7	711.36	µg/L	711.36	ppb	08:20:35
2	Be 313.107†	713098.8	697827.7	520.47	µg/L	520.47	ppb	08:20:29
2	Cd 226.502†	17906.8	17622.1	524.87	µg/L	524.87	ppb	08:20:35
2	Co 228.616†	9808.4	9548.5	516.23	µg/L	516.23	ppb	08:20:35
2	Cr 267.716†	21293.3	20718.4	554.27	µg/L	554.27	ppb	08:20:35
2	Cu 324.752†	77667.0	73191.7	570.29	µg/L	570.29	ppb	08:20:35
2	Mn 257.610†	550774.2	538267.1	2040.3	µg/L	2040.3	ppb	08:20:29
2	Mo 202.031†	4578.6	4467.4	542.32	µg/L	542.32	ppb	08:20:55
2	Ni 231.604†	8260.6	7769.1	568.25	µg/L	568.25	ppb	08:20:35
2	P 214.914†	1362.0	1088.4	2357.8	µg/L	2357.8	ppb	08:20:55
2	Pb 220.353†	1725.6	1649.8	547.81	µg/L	547.81	ppb	08:20:55

2	S 181.975 Axial†	1426.9	1372.4	5694.2 µg/L	5694.2 ppb	08:20:55
2	Sb 206.836†	468.3	438.0	499.55 µg/L	499.55 ppb	08:20:55
2	Se 196.026†	367.4	344.3	724.43 µg/L	724.43 ppb	08:20:55
2	SiO2†	289814.5	281525.7	64402 µg/L	64402 ppb	08:20:29
2	Si 251.611†	357876.4	348991.3	29930 µg/L	29930 ppb	08:20:29
2	Sn 189.927†	1162.1	1133.4	553.07 µg/L	553.07 ppb	08:20:55
2	Ti 334.940†	799348.5	780366.2	2194.8 µg/L	2194.8 ppb	08:20:29
2	Tl 190.801†	391.0	408.2	534.40 µg/L	534.40 ppb	08:20:55
2	U 409.014†	1486.6	1307.0	123.20 µg/L	123.20 ppb	08:20:29
2	V 292.402†	42383.0	41520.6	560.54 µg/L	560.54 ppb	08:20:35
2	Zn 213.857†	27720.2	26451.0	735.95 µg/L	735.95 ppb	08:20:35
3	Sc RADIAL	115394.1	115394.1	104 %		08:19:21
3	Al 396.153Radial†	46899.1	45024.9	23824 µg/L	23824 ppb	08:19:21
3	Ca 317.933Radial†	35222.4	33272.3	11358 µg/L	11358 ppb	08:19:21
3	Fe 238.204 Radial†	13184.1	12604.1	87266 µg/L	87266 ppb	08:19:41
3	K 766.490 Radial†	21555.8	20412.9	12127 µg/L	12127 ppb	08:19:21
3	Mg 279.077 IEC†	745.1	700.9	6844.6 µg/L	6844.6 ppb	08:19:41
3	Na 589.592 Radial†	30177.2	28607.7	8830.3 µg/L	8830.3 ppb	08:19:21
3	Sr 421.552†	120057.9	114936.8	478.04 µg/L	478.04 ppb	08:19:21
3	Sc 361.383	1705932.8	1705932.8	102.67 %		08:21:03
3	Y 371.029	1018128.4	1018128.4	108.63 %		08:21:03
3	Ag 328.068†	52453.0	51606.0	497.30 µg/L	497.30 ppb	08:21:09
3	As 188.979†	256.4	257.4	497.49 µg/L	497.49 ppb	08:21:30
3	B 249.677†	9950.2	9524.6	482.12 µg/L	482.12 ppb	08:21:09
3	Ba 233.527†	25688.5	25030.5	678.08 µg/L	678.08 ppb	08:21:09
3	Be 313.107†	699480.5	682956.0	509.38 µg/L	509.38 ppb	08:21:03
3	Cd 226.502†	17218.5	16911.2	503.20 µg/L	503.20 ppb	08:21:09
3	Co 228.616†	9335.8	9066.1	490.02 µg/L	490.02 ppb	08:21:09
3	Cr 267.716†	20165.8	19572.2	523.61 µg/L	523.61 ppb	08:21:09
3	Cu 324.752†	74473.2	69905.8	545.58 µg/L	545.58 ppb	08:21:09
3	Mn 257.610†	541101.7	527604.5	2000.1 µg/L	2000.1 ppb	08:21:03
3	Mo 202.031†	4266.6	4153.2	504.44 µg/L	504.44 ppb	08:21:30
3	Ni 231.604†	7882.6	7382.3	540.03 µg/L	540.03 ppb	08:21:09
3	P 214.914†	1290.1	1015.3	2193.0 µg/L	2193.0 ppb	08:21:30
3	Pb 220.353†	1630.2	1553.0	515.49 µg/L	515.49 ppb	08:21:30
3	S 181.975 Axial†	1365.7	1309.6	5433.6 µg/L	5433.6 ppb	08:21:30
3	Sb 206.836†	439.8	409.2	466.57 µg/L	466.57 ppb	08:21:30
3	Se 196.026†	357.8	334.2	714.27 µg/L	714.27 ppb	08:21:30
3	SiO2†	285950.3	277108.6	63391 µg/L	63391 ppb	08:21:03
3	Si 251.611†	353086.6	343519.3	29460 µg/L	29460 ppb	08:21:03
3	Sn 189.927†	1076.0	1047.0	510.47 µg/L	510.47 ppb	08:21:30
3	Ti 334.940†	781900.2	761569.7	2141.9 µg/L	2141.9 ppb	08:21:03
3	Tl 190.801†	379.8	396.5	519.70 µg/L	519.70 ppb	08:21:30
3	U 409.014†	1511.5	1327.9	125.25 µg/L	125.25 ppb	08:21:03
3	V 292.402†	40311.6	39407.5	532.13 µg/L	532.13 ppb	08:21:09
3	Zn 213.857†	26670.8	25366.3	705.58 µg/L	705.58 ppb	08:21:09

Mean Data: 1202039774|951755|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1707128.5	102.74	%	0.351				0.34%
Sc RADIAL	115373.5	104	%	0.1				0.06%
Y 371.029	1020237.8	108.86	%	0.828				0.76%
Ag 328.068†	52342.9	504.22	µg/L	6.707	504.22	ppb	6.707	1.33%
Al 396.153Radial†	44914.7	23766	µg/L	66.7	23766	ppb	66.7	0.28%
As 188.979†	271.1	523.71	µg/L	22.809	523.71	ppb	22.809	4.36%
B 249.677†	9744.8	494.67	µg/L	11.264	494.67	ppb	11.264	2.28%
Ba 233.527†	25748.3	697.53	µg/L	17.337	697.53	ppb	17.337	2.49%
Be 313.107†	692478.2	516.48	µg/L	6.165	516.48	ppb	6.165	1.19%
Ca 317.933Radial†	33247.3	11350	µg/L	14.9	11350	ppb	14.9	0.13%
Cd 226.502†	17294.5	514.91	µg/L	10.939	514.91	ppb	10.939	2.12%
Co 228.616†	9351.2	505.51	µg/L	13.741	505.51	ppb	13.741	2.72%
Cr 267.716†	20262.1	542.07	µg/L	16.260	542.07	ppb	16.260	3.00%
Cu 324.752†	71860.4	560.26	µg/L	12.992	560.26	ppb	12.992	2.32%
Fe 238.204 Radial†	12511.8	86628	µg/L	558.2	86628	ppb	558.2	0.64%
K 766.490 Radial†	20440.7	12143	µg/L	16.3	12143	ppb	16.3	0.13%
Mg 279.077 IEC†	701.8	6855.3	µg/L	9.58	6855.3	ppb	9.58	0.14%
Mn 257.610†	534511.3	2026.2	µg/L	22.62	2026.2	ppb	22.62	1.12%
Mo 202.031†	4359.9	529.35	µg/L	21.580	529.35	ppb	21.580	4.08%
Na 589.592 Radial†	28501.7	8797.5	µg/L	28.47	8797.5	ppb	28.47	0.32%

Ni 231.604†	7621.6	557.49 µg/L	15.256	557.49 ppb	15.256	2.74%
P 214.914†	1062.7	2300.1 µg/L	92.84	2300.1 ppb	92.84	4.04%
Pb 220.353†	1619.6	537.72 µg/L	19.287	537.72 ppb	19.287	3.59%
S 181.975 Axial†	1353.3	5614.8 µg/L	157.34	5614.8 ppb	157.34	2.80%
Sb 206.836†	427.1	487.09 µg/L	17.904	487.09 ppb	17.904	3.68%
Se 196.026†	341.5	721.72 µg/L	6.533	721.72 ppb	6.533	0.91%
SiO2†	279755.7	63997 µg/L	534.3	63997 ppb	534.3	0.83%
Si 251.611†	346731.5	29736 µg/L	245.1	29736 ppb	245.1	0.82%
Sn 189.927†	1105.7	539.42 µg/L	25.091	539.42 ppb	25.091	4.65%
Sr 421.552†	114677.7	476.96 µg/L	0.976	476.96 ppb	0.976	0.20%
Ti 334.940†	773153.8	2174.5 µg/L	28.50	2174.5 ppb	28.50	1.31%
Tl 190.801†	405.6	531.08 µg/L	10.140	531.08 ppb	10.140	1.91%
U 409.014†	1333.2	125.89 µg/L	3.064	125.89 ppb	3.064	2.43%
V 292.402†	40720.6	549.79 µg/L	15.416	549.79 ppb	15.416	2.80%
Zn 213.857†	26018.2	723.84 µg/L	16.093	723.84 ppb	16.093	2.22%

Sequence No.: 6
Sample ID: 1202039776|951755|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 306
Date Collected: 2/26/2010 08:21:40
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202039776|951755|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113712.4	113712.4	103	%			08:22:12
1	Al 396.153Radial†	50179.5	48880.6	25865	µg/L	25865	ppb	08:22:12
1	Ca 317.933Radial†	35757.9	34292.5	11707	µg/L	11707	ppb	08:22:12
1	Fe 238.204 Radial†	13168.2	12775.5	88453	µg/L	88453	ppb	08:22:33
1	K 766.490 Radial†	23890.6	22989.6	13657	µg/L	13657	ppb	08:22:12
1	Mg 279.077 IEC†	924.4	885.8	8673.0	µg/L	8673.0	ppb	08:22:33
1	Na 589.592 Radial†	30418.2	29270.0	9034.7	µg/L	9034.7	ppb	08:22:12
1	Sr 421.552†	121747.8	118282.5	491.96	µg/L	491.96	ppb	08:22:12
1	Sc 361.383	1707419.7	1707419.7	102.76	%			08:23:38
1	Y 371.029	1020841.3	1020841.3	108.92	%			08:23:38
1	Ag 328.068†	53733.3	52807.5	508.90	µg/L	508.90	ppb	08:23:44
1	As 188.979†	284.4	284.4	549.40	µg/L	549.40	ppb	08:24:04
1	B 249.677†	10312.2	9868.3	500.58	µg/L	500.58	ppb	08:23:44
1	Ba 233.527†	31410.9	30577.4	828.20	µg/L	828.20	ppb	08:23:44
1	Be 313.107†	721354.9	703649.6	524.80	µg/L	524.80	ppb	08:23:38
1	Cd 226.502†	17797.5	17460.1	519.73	µg/L	519.73	ppb	08:23:44
1	Co 228.616†	9817.6	9527.1	515.00	µg/L	515.00	ppb	08:23:44
1	Cr 267.716†	21706.9	21054.8	563.27	µg/L	563.27	ppb	08:23:44
1	Cu 324.752†	78376.3	73640.9	574.08	µg/L	574.08	ppb	08:23:44
1	Mn 257.610†	635506.1	619014.6	2345.7	µg/L	2345.7	ppb	08:23:38
1	Mo 202.031†	4682.1	4554.0	552.84	µg/L	552.84	ppb	08:24:04
1	Ni 231.604†	8306.3	7787.9	569.66	µg/L	569.66	ppb	08:23:44
1	P 214.914†	1410.0	1130.8	2452.8	µg/L	2452.8	ppb	08:24:04
1	Pb 220.353†	1762.9	1680.8	558.23	µg/L	558.23	ppb	08:24:04
1	S 181.975 Axial†	1464.7	1404.8	5828.7	µg/L	5828.7	ppb	08:24:04
1	Sb 206.836†	485.2	453.0	516.69	µg/L	516.69	ppb	08:24:04
1	Se 196.026†	379.0	354.4	743.16	µg/L	743.16	ppb	08:24:04
1	SiO2†	291804.2	282562.7	64639	µg/L	64639	ppb	08:23:38
1	Si 251.611†	360376.2	350313.6	30043	µg/L	30043	ppb	08:23:38
1	Sn 189.927†	1187.3	1154.4	563.50	µg/L	563.50	ppb	08:24:04
1	Ti 334.940†	814168.2	792307.8	2228.3	µg/L	2228.3	ppb	08:23:38
1	Tl 190.801†	405.8	421.4	552.30	µg/L	552.30	ppb	08:24:04
1	U 409.014†	1108.0	934.0	84.111	µg/L	84.111	ppb	08:23:38
1	V 292.402†	42827.3	41821.5	564.67	µg/L	564.67	ppb	08:23:44
1	Zn 213.857†	28201.4	26833.2	746.49	µg/L	746.49	ppb	08:23:44
2	Sc RADIAL	114223.4	114223.4	103	%			08:22:38
2	Al 396.153Radial†	50329.8	48807.9	25826	µg/L	25826	ppb	08:22:38
2	Ca 317.933Radial†	35674.2	34055.9	11626	µg/L	11626	ppb	08:22:38
2	Fe 238.204 Radial†	13264.0	12811.0	88699	µg/L	88699	ppb	08:22:59
2	K 766.490 Radial†	23906.4	22900.9	13605	µg/L	13605	ppb	08:22:38
2	Mg 279.077 IEC†	926.3	883.6	8650.2	µg/L	8650.2	ppb	08:22:59
2	Na 589.592 Radial†	30569.9	29284.5	9039.2	µg/L	9039.2	ppb	08:22:38
2	Sr 421.552†	122180.5	118171.7	491.49	µg/L	491.49	ppb	08:22:38
2	Sc 361.383	1708186.3	1708186.3	102.81	%			08:24:13
2	Y 371.029	1026643.1	1026643.1	109.54	%			08:24:13
2	Ag 328.068†	53669.2	52721.6	508.10	µg/L	508.10	ppb	08:24:18
2	As 188.979†	283.3	283.3	547.18	µg/L	547.18	ppb	08:24:39
2	B 249.677†	10245.8	9799.3	496.63	µg/L	496.63	ppb	08:24:18
2	Ba 233.527†	31299.7	30455.5	824.89	µg/L	824.89	ppb	08:24:18
2	Be 313.107†	719878.6	701898.5	523.50	µg/L	523.50	ppb	08:24:13
2	Cd 226.502†	17752.3	17408.4	518.13	µg/L	518.13	ppb	08:24:18
2	Co 228.616†	9815.6	9520.8	514.67	µg/L	514.67	ppb	08:24:18
2	Cr 267.716†	21622.1	20962.8	560.81	µg/L	560.81	ppb	08:24:18
2	Cu 324.752†	77948.5	73190.6	570.72	µg/L	570.72	ppb	08:24:18
2	Mn 257.610†	634939.3	618185.6	2342.6	µg/L	2342.6	ppb	08:24:13
2	Mo 202.031†	4651.0	4521.6	548.95	µg/L	548.95	ppb	08:24:39
2	Ni 231.604†	8278.8	7757.5	567.44	µg/L	567.44	ppb	08:24:18
2	P 214.914†	1415.3	1135.4	2463.3	µg/L	2463.3	ppb	08:24:39
2	Pb 220.353†	1764.5	1681.5	558.48	µg/L	558.48	ppb	08:24:39

2	S 181.975 Axial†	1447.9	1387.8	5757.9	µg/L	5757.9 ppb	08:24:39
2	Sb 206.836†	476.8	444.7	507.16	µg/L	507.16 ppb	08:24:39
2	Se 196.026†	360.9	336.6	720.93	µg/L	720.93 ppb	08:24:39
2	SiO2†	290983.2	281636.7	64427	µg/L	64427 ppb	08:24:13
2	Si 251.611†	359280.7	349090.6	29938	µg/L	29938 ppb	08:24:13
2	Sn 189.927†	1181.6	1148.3	560.46	µg/L	560.46 ppb	08:24:39
2	Ti 334.940†	811979.1	789823.0	2221.3	µg/L	2221.3 ppb	08:24:13
2	Tl 190.801†	397.7	413.3	542.44	µg/L	542.44 ppb	08:24:39
2	U 409.014†	989.0	817.8	71.992	µg/L	71.992 ppb	08:24:13
2	V 292.402†	42515.2	41499.1	560.35	µg/L	560.35 ppb	08:24:18
2	Zn 213.857†	28117.4	26739.2	743.85	µg/L	743.85 ppb	08:24:18
3	Sc RADIAL	114068.7	114068.7	103	%		08:23:04
3	Al 396.153Radial†	50547.3	49084.9	25974	µg/L	25974 ppb	08:23:04
3	Ca 317.933Radial†	35965.9	34385.6	11738	µg/L	11738 ppb	08:23:04
3	Fe 238.204 Radial†	13201.1	12767.4	88397	µg/L	88397 ppb	08:23:25
3	K 766.490 Radial†	24174.6	23192.4	13778	µg/L	13778 ppb	08:23:04
3	Mg 279.077 IEC†	924.3	882.9	8643.1	µg/L	8643.1 ppb	08:23:25
3	Na 589.592 Radial†	30664.3	29416.2	9079.8	µg/L	9079.8 ppb	08:23:04
3	Sr 421.552†	122783.7	118917.2	494.59	µg/L	494.59 ppb	08:23:04
3	Sc 361.383	1706432.7	1706432.7	102.70	%		08:24:47
3	Y 371.029	1025002.6	1025002.6	109.36	%		08:24:47
3	Ag 328.068†	52818.0	51946.5	500.69	µg/L	500.69 ppb	08:24:52
3	As 188.979†	264.7	265.4	512.96	µg/L	512.96 ppb	08:25:13
3	B 249.677†	10067.0	9635.4	487.69	µg/L	487.69 ppb	08:24:52
3	Ba 233.527†	30287.2	29501.0	799.04	µg/L	799.04 ppb	08:24:52
3	Be 313.107†	709384.4	692399.9	516.41	µg/L	516.41 ppb	08:24:47
3	Cd 226.502†	17279.5	16965.8	504.74	µg/L	504.74 ppb	08:24:52
3	Co 228.616†	9477.5	9201.4	497.30	µg/L	497.30 ppb	08:24:52
3	Cr 267.716†	20755.4	20140.6	538.81	µg/L	538.81 ppb	08:24:52
3	Cu 324.752†	75648.5	71029.0	554.30	µg/L	554.30 ppb	08:24:52
3	Mn 257.610†	627218.7	611302.8	2316.6	µg/L	2316.6 ppb	08:24:47
3	Mo 202.031†	4344.5	4227.8	513.49	µg/L	513.49 ppb	08:25:13
3	Ni 231.604†	7989.5	7484.1	547.48	µg/L	547.48 ppb	08:24:52
3	P 214.914†	1340.1	1063.6	2301.6	µg/L	2301.6 ppb	08:25:13
3	Pb 220.353†	1668.7	1590.0	527.94	µg/L	527.94 ppb	08:25:13
3	S 181.975 Axial†	1393.8	1336.6	5545.6	µg/L	5545.6 ppb	08:25:13
3	Sb 206.836†	446.7	415.8	474.07	µg/L	474.07 ppb	08:25:13
3	Se 196.026†	349.8	326.3	706.50	µg/L	706.50 ppb	08:25:13
3	SiO2†	288646.2	279652.0	63973	µg/L	63973 ppb	08:24:47
3	Si 251.611†	356388.8	346633.9	29727	µg/L	29727 ppb	08:24:47
3	Sn 189.927†	1083.0	1053.5	513.80	µg/L	513.80 ppb	08:25:13
3	Ti 334.940†	799421.4	778407.0	2189.2	µg/L	2189.2 ppb	08:24:47
3	Tl 190.801†	379.7	396.3	521.23	µg/L	521.23 ppb	08:25:13
3	U 409.014†	1115.7	942.2	84.961	µg/L	84.961 ppb	08:24:47
3	V 292.402†	41015.4	40081.3	541.18	µg/L	541.18 ppb	08:24:52
3	Zn 213.857†	27317.8	25988.8	722.88	µg/L	722.88 ppb	08:24:52

Mean Data: 1202039776|951755|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1707346.3	102.76	%	0.053				0.05%
Sc RADIAL	114001.5	103	%	0.2				0.23%
Y 371.029	1024162.3	109.27	%	0.319				0.29%
Ag 328.068†	52491.9	505.90	µg/L	4.527	505.90	ppb	4.527	0.89%
Al 396.153Radial†	48924.4	25888	µg/L	76.5	25888	ppb	76.5	0.30%
As 188.979†	277.7	536.52	µg/L	20.430	536.52	ppb	20.430	3.81%
B 249.677†	9767.7	494.96	µg/L	6.605	494.96	ppb	6.605	1.33%
Ba 233.527†	30178.0	817.38	µg/L	15.968	817.38	ppb	15.968	1.95%
Be 313.107†	699316.0	521.57	µg/L	4.514	521.57	ppb	4.514	0.87%
Ca 317.933Radial†	34244.7	11690	µg/L	58.0	11690	ppb	58.0	0.50%
Cd 226.502†	17278.1	514.20	µg/L	8.236	514.20	ppb	8.236	1.60%
Co 228.616†	9416.4	508.99	µg/L	10.125	508.99	ppb	10.125	1.99%
Cr 267.716†	20719.4	554.30	µg/L	13.467	554.30	ppb	13.467	2.43%
Cu 324.752†	72620.2	566.37	µg/L	10.585	566.37	ppb	10.585	1.87%
Fe 238.204 Radial†	12784.6	88516	µg/L	160.6	88516	ppb	160.6	0.18%
K 766.490 Radial†	23027.6	13680	µg/L	88.8	13680	ppb	88.8	0.65%
Mg 279.077 IEC†	884.1	8655.4	µg/L	15.59	8655.4	ppb	15.59	0.18%
Mn 257.610†	616167.7	2335.0	µg/L	16.02	2335.0	ppb	16.02	0.69%
Mo 202.031†	4434.5	538.43	µg/L	21.685	538.43	ppb	21.685	4.03%
Na 589.592 Radial†	29323.6	9051.2	µg/L	24.86	9051.2	ppb	24.86	0.27%

Ni 231.604†	7676.5	561.52 µg/L	12.216	561.52 ppb	12.216	2.18%
P 214.914†	1109.9	2405.9 µg/L	90.47	2405.9 ppb	90.47	3.76%
Pb 220.353†	1650.8	548.22 µg/L	17.561	548.22 ppb	17.561	3.20%
S 181.975 Axial†	1376.4	5710.7 µg/L	147.32	5710.7 ppb	147.32	2.58%
Sb 206.836†	437.8	499.31 µg/L	22.371	499.31 ppb	22.371	4.48%
Se 196.026†	339.1	723.53 µg/L	18.464	723.53 ppb	18.464	2.55%
SiO2†	281283.8	64346 µg/L	340.2	64346 ppb	340.2	0.53%
Si 251.611†	348679.4	29903 µg/L	160.7	29903 ppb	160.7	0.54%
Sn 189.927†	1118.7	545.92 µg/L	27.862	545.92 ppb	27.862	5.10%
Sr 421.552†	118457.1	492.68 µg/L	1.673	492.68 ppb	1.673	0.34%
Ti 334.940†	786846.0	2212.9 µg/L	20.85	2212.9 ppb	20.85	0.94%
Tl 190.801†	410.3	538.66 µg/L	15.877	538.66 ppb	15.877	2.95%
U 409.014†	898.0	80.355 µg/L	7.2547	80.355 ppb	7.2547	9.03%
V 292.402†	41134.0	555.40 µg/L	12.501	555.40 ppb	12.501	2.25%
Zn 213.857†	26520.4	737.74 µg/L	12.939	737.74 ppb	12.939	1.75%

Sequence No.: 7
Sample ID: 1202039775|951755|5
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 307
Date Collected: 2/26/2010 08:25:22
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202039775|951755|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	112863.8	112863.8	102	%			08:25:55
1	Al 396.153Radial†	4679.6	4656.3	2464.8	µg/L	2464.8	ppb	08:25:55
1	Ca 317.933Radial†	4314.6	3738.7	1276.3	µg/L	1276.3	ppb	08:26:15
1	Fe 238.204 Radial†	2650.6	2564.3	17752	µg/L	17752	ppb	08:26:15
1	K 766.490 Radial†	1747.4	1463.3	869.28	µg/L	869.28	ppb	08:25:55
1	Mg 279.077 IEC†	49.1	34.7	324.57	µg/L	324.57	ppb	08:26:15
1	Na 589.592 Radial†	1860.3	1504.8	464.49	µg/L	464.49	ppb	08:25:55
1	Sr 421.552†	1270.7	1101.5	4.5814	µg/L	4.5814	ppb	08:25:55
1	Sc 361.383	1717472.4	1717472.4	103.36	%			08:27:17
1	Y 371.029	979942.2	979942.2	104.56	%			08:27:17
1	Ag 328.068†	-776.6	-234.1	0.1425	µg/L	0.1425	ppb	08:27:23
1	As 188.979†	-3.9	3.9	8.4152	µg/L	8.4152	ppb	08:27:43
1	B 249.677†	324.7	147.2	-1.1132	µg/L	-1.1132	ppb	08:27:23
1	Ba 233.527†	1755.4	1708.4	46.226	µg/L	46.226	ppb	08:27:43
1	Be 313.107†	-743.3	948.9	0.5874	µg/L	0.5874	ppb	08:27:23
1	Cd 226.502†	-66.5	76.2	0.3062	µg/L	0.3062	ppb	08:27:43
1	Co 228.616†	54.7	26.0	0.7553	µg/L	0.7553	ppb	08:27:43
1	Cr 267.716†	240.0	163.0	4.3621	µg/L	4.3621	ppb	08:27:23
1	Cu 324.752†	2885.0	160.7	4.5537	µg/L	4.5537	ppb	08:27:23
1	Mn 257.610†	80816.9	78762.2	298.90	µg/L	298.90	ppb	08:27:23
1	Mo 202.031†	45.9	42.0	5.7453	µg/L	5.7453	ppb	08:27:43
1	Ni 231.604†	331.6	25.5	2.0914	µg/L	2.0914	ppb	08:27:43
1	P 214.914†	391.8	137.8	298.98	µg/L	298.98	ppb	08:27:43
1	Pb 220.353†	52.2	15.7	4.7649	µg/L	4.7649	ppb	08:27:43
1	S 181.975 Axial†	26.4	5.0	20.700	µg/L	20.700	ppb	08:27:43
1	Sb 206.836†	18.1	-1.6	-1.8314	µg/L	-1.8314	ppb	08:27:43
1	Se 196.026†	3.3	-11.2	43.601	µg/L	43.601	ppb	08:27:43
1	SiO2†	33717.8	31215.7	7140.9	µg/L	7140.9	ppb	08:27:23
1	Si 251.611†	40435.6	38735.3	3322.0	µg/L	3322.0	ppb	08:27:23
1	Sn 189.927†	5.6	4.4	0.9934	µg/L	0.9934	ppb	08:27:43
1	Ti 334.940†	117168.5	113359.9	318.88	µg/L	318.88	ppb	08:27:23
1	Tl 190.801†	-28.0	-0.6	5.4520	µg/L	5.4520	ppb	08:27:43
1	U 409.014†	-447.2	-576.9	-62.529	µg/L	-62.529	ppb	08:27:23
1	V 292.402†	274.7	410.0	6.0877	µg/L	6.0877	ppb	08:27:23
1	Zn 213.857†	2123.1	1443.3	39.714	µg/L	39.714	ppb	08:27:43
2	Sc RADIAL	113300.3	113300.3	102	%			08:26:21
2	Al 396.153Radial†	4684.0	4642.9	2457.7	µg/L	2457.7	ppb	08:26:21
2	Ca 317.933Radial†	4305.6	3713.5	1267.7	µg/L	1267.7	ppb	08:26:41
2	Fe 238.204 Radial†	2649.1	2552.8	17673	µg/L	17673	ppb	08:26:41
2	K 766.490 Radial†	1787.5	1495.8	888.62	µg/L	888.62	ppb	08:26:21
2	Mg 279.077 IEC†	54.4	39.7	373.92	µg/L	373.92	ppb	08:26:41
2	Na 589.592 Radial†	1866.3	1503.7	464.13	µg/L	464.13	ppb	08:26:21
2	Sr 421.552†	1290.5	1116.1	4.6421	µg/L	4.6421	ppb	08:26:21
2	Sc 361.383	1722124.8	1722124.8	103.64	%			08:27:49
2	Y 371.029	980434.8	980434.8	104.61	%			08:27:49
2	Ag 328.068†	-645.9	-105.9	1.3378	µg/L	1.3378	ppb	08:27:55
2	As 188.979†	-9.3	-1.4	-1.6540	µg/L	-1.6540	ppb	08:28:15
2	B 249.677†	314.8	136.9	-1.6452	µg/L	-1.6452	ppb	08:27:55
2	Ba 233.527†	1750.6	1699.1	45.977	µg/L	45.977	ppb	08:28:15
2	Be 313.107†	-690.4	1001.9	0.6270	µg/L	0.6270	ppb	08:27:55
2	Cd 226.502†	-62.7	80.1	0.4346	µg/L	0.4346	ppb	08:28:15
2	Co 228.616†	64.3	35.2	1.2551	µg/L	1.2551	ppb	08:28:15
2	Cr 267.716†	241.9	164.2	4.3953	µg/L	4.3953	ppb	08:27:55
2	Cu 324.752†	2898.2	165.9	4.5779	µg/L	4.5779	ppb	08:27:55
2	Mn 257.610†	80991.2	78719.1	298.73	µg/L	298.73	ppb	08:27:55
2	Mo 202.031†	40.7	36.9	5.1252	µg/L	5.1252	ppb	08:28:15
2	Ni 231.604†	342.5	35.2	2.7972	µg/L	2.7972	ppb	08:28:15
2	P 214.914†	392.4	137.3	298.10	µg/L	298.10	ppb	08:28:15
2	Pb 220.353†	45.3	8.9	2.5253	µg/L	2.5253	ppb	08:28:15

2	S 181.975 Axial†	23.4	2.0	8.4061 µg/L	8.4061 ppb	08:28:15
2	Sb 206.836†	20.8	0.9	1.0738 µg/L	1.0738 ppb	08:28:15
2	Se 196.026†	-3.9	-18.2	34.310 µg/L	34.310 ppb	08:28:15
2	SiO2†	33832.7	31238.4	7146.1 µg/L	7146.1 ppb	08:27:55
2	Si 251.611†	40673.9	38859.5	3332.6 µg/L	3332.6 ppb	08:27:55
2	Sn 189.927†	8.2	6.8	2.2164 µg/L	2.2164 ppb	08:28:15
2	Ti 334.940†	117430.2	113306.2	318.72 µg/L	318.72 ppb	08:27:55
2	Tl 190.801†	-34.3	-6.6	-1.9083 µg/L	-1.9083 ppb	08:28:15
2	U 409.014†	-584.3	-707.9	-76.144 µg/L	-76.144 ppb	08:27:55
2	V 292.402†	357.1	488.9	7.1140 µg/L	7.1140 ppb	08:27:55
2	Zn 213.857†	2110.5	1425.5	39.212 µg/L	39.212 ppb	08:28:15
3	Sc RADIAL	113261.8	113261.8	102 %		08:26:46
3	Al 396.153Radial†	4684.0	4644.5	2458.6 µg/L	2458.6 ppb	08:26:46
3	Ca 317.933Radial†	4288.6	3698.4	1262.6 µg/L	1262.6 ppb	08:27:07
3	Fe 238.204 Radial†	2634.5	2539.4	17580 µg/L	17580 ppb	08:27:07
3	K 766.490 Radial†	1760.6	1470.1	873.36 µg/L	873.36 ppb	08:26:46
3	Mg 279.077 IEC†	47.5	33.0	307.78 µg/L	307.78 ppb	08:27:07
3	Na 589.592 Radial†	1817.6	1456.7	449.64 µg/L	449.64 ppb	08:26:46
3	Sr 421.552†	1283.8	1110.0	4.6167 µg/L	4.6167 ppb	08:26:46
3	Sc 361.383	1731884.8	1731884.8	104.23 %		08:28:21
3	Y 371.029	986859.3	986859.3	105.29 %		08:28:21
3	Ag 328.068†	-675.6	-130.9	1.0847 µg/L	1.0847 ppb	08:28:27
3	As 188.979†	-4.3	3.6	7.7885 µg/L	7.7885 ppb	08:28:47
3	B 249.677†	292.4	113.7	-2.8786 µg/L	-2.8786 ppb	08:28:27
3	Ba 233.527†	1602.7	1547.7	41.880 µg/L	41.880 ppb	08:28:47
3	Be 313.107†	-666.9	1028.2	0.6523 µg/L	0.6523 ppb	08:28:27
3	Cd 226.502†	-72.7	70.9	0.1636 µg/L	0.1636 ppb	08:28:47
3	Co 228.616†	70.4	40.6	1.5831 µg/L	1.5831 ppb	08:28:47
3	Cr 267.716†	235.2	156.5	4.1879 µg/L	4.1879 ppb	08:28:27
3	Cu 324.752†	2885.0	137.4	4.3454 µg/L	4.3454 ppb	08:28:27
3	Mn 257.610†	78203.4	75604.1	286.95 µg/L	286.95 ppb	08:28:27
3	Mo 202.031†	37.5	33.6	4.7188 µg/L	4.7188 ppb	08:28:47
3	Ni 231.604†	325.2	16.7	1.4460 µg/L	1.4460 ppb	08:28:47
3	P 214.914†	385.3	128.4	277.82 µg/L	277.82 ppb	08:28:47
3	Pb 220.353†	42.7	6.1	1.5695 µg/L	1.5695 ppb	08:28:47
3	S 181.975 Axial†	25.9	4.2	17.613 µg/L	17.613 ppb	08:28:47
3	Sb 206.836†	15.3	-4.5	-5.0686 µg/L	-5.0686 ppb	08:28:47
3	Se 196.026†	-0.9	-15.3	37.803 µg/L	37.803 ppb	08:28:47
3	SiO2†	33015.5	30270.4	6924.7 µg/L	6924.7 ppb	08:28:27
3	Si 251.611†	39535.5	37546.2	3220.0 µg/L	3220.0 ppb	08:28:27
3	Sn 189.927†	4.5	3.3	0.4734 µg/L	0.4734 ppb	08:28:47
3	Ti 334.940†	112565.2	108000.3	303.80 µg/L	303.80 ppb	08:28:27
3	Tl 190.801†	-31.0	-3.2	2.0968 µg/L	2.0968 ppb	08:28:47
3	U 409.014†	-327.6	-458.5	-50.196 µg/L	-50.196 ppb	08:28:27
3	V 292.402†	275.4	408.5	6.0657 µg/L	6.0657 ppb	08:28:27
3	Zn 213.857†	1966.0	1275.4	35.006 µg/L	35.006 ppb	08:28:47

Mean Data: 1202039775|951755|5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1723827.3	103.75	%	0.443				0.43%
Sc RADIAL	113142.0	102	%	0.2				0.21%
Y 371.029	982412.1	104.82	%	0.412				0.39%
Ag 328.068†	-157.0	0.8550	µg/L	0.62987	0.8550	ppb	0.62987	73.67%
Al 396.153Radial†	4647.9	2460.4	µg/L	3.88	2460.4	ppb	3.88	0.16%
As 188.979†	2.0	4.8499	µg/L	5.64126	4.8499	ppb	5.64126	116.32%
B 249.677†	132.6	-1.8790	µg/L	0.90565	-1.8790	ppb	0.90565	48.20%
Ba 233.527†	1651.7	44.694	µg/L	2.4405	44.694	ppb	2.4405	5.46%
Be 313.107†	993.0	0.6223	µg/L	0.03272	0.6223	ppb	0.03272	5.26%
Ca 317.933Radial†	3716.9	1268.8	µg/L	6.94	1268.8	ppb	6.94	0.55%
Cd 226.502†	75.8	0.3015	µg/L	0.13558	0.3015	ppb	0.13558	44.97%
Co 228.616†	33.9	1.1978	µg/L	0.41687	1.1978	ppb	0.41687	34.80%
Cr 267.716†	161.3	4.3151	µg/L	0.11143	4.3151	ppb	0.11143	2.58%
Cu 324.752†	154.7	4.4924	µg/L	0.12784	4.4924	ppb	0.12784	2.85%
Fe 238.204 Radial†	2552.2	17668	µg/L	86.1	17668	ppb	86.1	0.49%
K 766.490 Radial†	1476.4	877.09	µg/L	10.189	877.09	ppb	10.189	1.16%
Mg 279.077 IEC†	35.8	335.42	µg/L	34.378	335.42	ppb	34.378	10.25%
Mn 257.610†	77695.2	294.86	µg/L	6.852	294.86	ppb	6.852	2.32%
Mo 202.031†	37.5	5.1964	µg/L	0.51691	5.1964	ppb	0.51691	9.95%
Na 589.592 Radial†	1488.4	459.42	µg/L	8.474	459.42	ppb	8.474	1.84%

Ni 231.604†	25.8	2.1115 µg/L	0.67578	2.1115 ppb	0.67578	32.00%
P 214.914†	134.5	291.63 µg/L	11.966	291.63 ppb	11.966	4.10%
Pb 220.353†	10.3	2.9532 µg/L	1.64009	2.9532 ppb	1.64009	55.54%
S 181.975 Axial†	3.8	15.573 µg/L	6.3959	15.573 ppb	6.3959	41.07%
Sb 206.836†	-1.7	-1.9421 µg/L	3.07271	-1.9421 ppb	3.07271	158.22%
Se 196.026†	-14.9	38.571 µg/L	4.6929	38.571 ppb	4.6929	12.17%
SiO2†	30908.1	7070.5 µg/L	126.37	7070.5 ppb	126.37	1.79%
Si 251.611†	38380.3	3291.5 µg/L	62.18	3291.5 ppb	62.18	1.89%
Sn 189.927†	4.9	1.2277 µg/L	0.89483	1.2277 ppb	0.89483	72.89%
Sr 421.552†	1109.2	4.6134 µg/L	0.03046	4.6134 ppb	0.03046	0.66%
Ti 334.940†	111555.5	313.80 µg/L	8.660	313.80 ppb	8.660	2.76%
Tl 190.801†	-3.5	1.8802 µg/L	3.68494	1.8802 ppb	3.68494	195.99%
U 409.014†	-581.1	-62.956 µg/L	12.9794	-62.956 ppb	12.9794	20.62%
V 292.402†	435.8	6.4225 µg/L	0.59902	6.4225 ppb	0.59902	9.33%
Zn 213.857†	1381.4	37.977 µg/L	2.5857	37.977 ppb	2.5857	6.81%

Sequence No.: 8
Sample ID: 246557001|951755|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 308
Date Collected: 2/26/2010 08:28:56
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 246557001|951755|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113077.4	113077.4	102	%			08:29:29
1	Al 396.153Radial†	48518.6	47530.1	25161	µg/L	25161	ppb	08:29:29
1	Ca 317.933Radial†	19112.8	18206.0	6215.1	µg/L	6215.1	ppb	08:29:29
1	Fe 238.204 Radial†	8522.4	8303.0	57481	µg/L	57481	ppb	08:29:49
1	K 766.490 Radial†	7124.0	6719.3	3991.7	µg/L	3991.7	ppb	08:29:29
1	Mg 279.077 IEC†	422.9	400.2	3895.7	µg/L	3895.7	ppb	08:29:49
1	Na 589.592 Radial†	1864.3	1505.2	464.62	µg/L	464.62	ppb	08:29:29
1	Sr 421.552†	11400.6	11008.0	45.784	µg/L	45.784	ppb	08:29:29
1	Sc 361.383	1719018.7	1719018.7	103.46	%			08:30:54
1	Y 371.029	1024758.3	1024758.3	109.34	%			08:30:54
1	Ag 328.068†	-1206.1	-648.5	1.6655	µg/L	1.6655	ppb	08:30:59
1	As 188.979†	3.5	11.0	24.184	µg/L	24.184	ppb	08:31:20
1	B 249.677†	659.2	470.3	-3.7432	µg/L	-3.7432	ppb	08:30:59
1	Ba 233.527†	11833.5	11448.1	309.78	µg/L	309.78	ppb	08:30:59
1	Be 313.107†	6608.0	8055.1	5.2935	µg/L	5.2935	ppb	08:30:59
1	Cd 226.502†	168.1	303.1	2.7819	µg/L	2.7819	ppb	08:31:20
1	Co 228.616†	304.4	267.4	10.610	µg/L	10.610	ppb	08:31:20
1	Cr 267.716†	5799.0	5536.1	148.04	µg/L	148.04	ppb	08:30:59
1	Cu 324.752†	6371.9	3528.5	37.516	µg/L	37.516	ppb	08:30:59
1	Mn 257.610†	591954.9	572746.1	2169.2	µg/L	2169.2	ppb	08:30:54
1	Mo 202.031†	59.2	54.8	8.7988	µg/L	8.7988	ppb	08:31:20
1	Ni 231.604†	1584.3	1236.0	91.055	µg/L	91.055	ppb	08:31:20
1	P 214.914†	499.2	241.2	505.30	µg/L	505.30	ppb	08:31:20
1	Pb 220.353†	217.7	175.7	57.904	µg/L	57.904	ppb	08:31:20
1	S 181.975 Axial†	95.5	71.7	297.69	µg/L	297.69	ppb	08:31:20
1	Sb 206.836†	15.3	-4.4	-6.6487	µg/L	-6.6487	ppb	08:31:20
1	Se 196.026†	-25.0	-38.5	136.27	µg/L	136.27	ppb	08:31:20
1	SiO2†	237281.8	227946.6	52145	µg/L	52145	ppb	08:30:54
1	Si 251.611†	292655.6	282490.1	24226	µg/L	24226	ppb	08:30:54
1	Sn 189.927†	-12.5	-13.1	-9.8331	µg/L	-9.8331	ppb	08:31:20
1	Ti 334.940†	698809.1	675458.4	1899.9	µg/L	1899.9	ppb	08:30:54
1	Tl 190.801†	-46.9	-18.8	9.7182	µg/L	9.7182	ppb	08:31:20
1	U 409.014†	-2106.8	-2180.6	-235.10	µg/L	-235.10	ppb	08:30:54
1	V 292.402†	3354.1	3386.3	47.269	µg/L	47.269	ppb	08:30:59
1	Zn 213.857†	10432.9	9473.4	263.01	µg/L	263.01	ppb	08:30:59
2	Sc RADIAL	112389.4	112389.4	102	%			08:29:55
2	Al 396.153Radial†	48508.5	47810.7	25309	µg/L	25309	ppb	08:29:55
2	Ca 317.933Radial†	19116.8	18324.4	6255.5	µg/L	6255.5	ppb	08:29:55
2	Fe 238.204 Radial†	8505.9	8337.8	57721	µg/L	57721	ppb	08:30:15
2	K 766.490 Radial†	7049.8	6689.0	3973.8	µg/L	3973.8	ppb	08:29:55
2	Mg 279.077 IEC†	425.9	405.7	3950.0	µg/L	3950.0	ppb	08:30:15
2	Na 589.592 Radial†	1896.7	1548.4	477.93	µg/L	477.93	ppb	08:29:55
2	Sr 421.552†	11432.8	11108.1	46.200	µg/L	46.200	ppb	08:29:55
2	Sc 361.383	1719442.5	1719442.5	103.48	%			08:31:28
2	Y 371.029	1020742.2	1020742.2	108.91	%			08:31:28
2	Ag 328.068†	-1228.3	-669.7	1.4928	µg/L	1.4928	ppb	08:31:33
2	As 188.979†	2.9	10.4	23.009	µg/L	23.009	ppb	08:31:54
2	B 249.677†	663.6	474.3	-3.6463	µg/L	-3.6463	ppb	08:31:33
2	Ba 233.527†	11798.1	11411.0	308.78	µg/L	308.78	ppb	08:31:33
2	Be 313.107†	6549.6	7997.1	5.2576	µg/L	5.2576	ppb	08:31:33
2	Cd 226.502†	169.8	304.7	2.8009	µg/L	2.8009	ppb	08:31:54
2	Co 228.616†	301.5	264.4	10.489	µg/L	10.489	ppb	08:31:54
2	Cr 267.716†	5794.4	5530.2	147.88	µg/L	147.88	ppb	08:31:33
2	Cu 324.752†	6365.0	3520.3	37.500	µg/L	37.500	ppb	08:31:33
2	Mn 257.610†	585180.2	566058.4	2144.0	µg/L	2144.0	ppb	08:31:28
2	Mo 202.031†	54.1	49.9	8.2155	µg/L	8.2155	ppb	08:31:54
2	Ni 231.604†	1568.8	1220.7	89.942	µg/L	89.942	ppb	08:31:54
2	P 214.914†	494.1	236.1	493.70	µg/L	493.70	ppb	08:31:54
2	Pb 220.353†	228.7	186.2	61.400	µg/L	61.400	ppb	08:31:54

2	S 181.975 Axial†	88.9	65.3	271.02	µg/L	271.02 ppb	08:31:54
2	Sb 206.836†	15.8	-3.9	-6.0724	µg/L	-6.0724 ppb	08:31:54
2	Se 196.026†	-25.3	-38.8	136.63	µg/L	136.63 ppb	08:31:54
2	SiO2†	234776.6	225469.2	51578	µg/L	51578 ppb	08:31:28
2	Si 251.611†	289623.8	279490.7	23969	µg/L	23969 ppb	08:31:28
2	Sn 189.927†	-11.3	-12.0	-9.2868	µg/L	-9.2868 ppb	08:31:54
2	Ti 334.940†	691897.2	668612.7	1880.6	µg/L	1880.6 ppb	08:31:28
2	Tl 190.801†	-46.9	-18.8	9.4501	µg/L	9.4501 ppb	08:31:54
2	U 409.014†	-2099.8	-2173.3	-234.38	µg/L	-234.38 ppb	08:31:28
2	V 292.402†	3295.4	3328.8	46.508	µg/L	46.508 ppb	08:31:33
2	Zn 213.857†	10426.1	9464.3	262.75	µg/L	262.75 ppb	08:31:33
3	Sc RADIAL	112698.6	112698.6	102	%		08:30:21
3	Al 396.153Radial†	48711.4	47878.9	25345	µg/L	25345 ppb	08:30:21
3	Ca 317.933Radial†	19186.4	18341.0	6261.2	µg/L	6261.2 ppb	08:30:21
3	Fe 238.204 Radial†	8444.2	8254.3	57143	µg/L	57143 ppb	08:30:41
3	K 766.490 Radial†	7040.5	6660.8	3957.0	µg/L	3957.0 ppb	08:30:21
3	Mg 279.077 IEC†	418.8	397.6	3870.3	µg/L	3870.3 ppb	08:30:41
3	Na 589.592 Radial†	1912.0	1558.2	480.97	µg/L	480.97 ppb	08:30:21
3	Sr 421.552†	11446.6	11090.7	46.128	µg/L	46.128 ppb	08:30:21
3	Sc 361.383	1722869.8	1722869.8	103.69	%		08:32:02
3	Y 371.029	1021384.2	1021384.2	108.98	%		08:32:02
3	Ag 328.068†	-1155.1	-596.8	2.0915	µg/L	2.0915 ppb	08:32:07
3	As 188.979†	-8.4	-0.4	2.1811	µg/L	2.1811 ppb	08:32:28
3	B 249.677†	622.9	433.9	-5.5946	µg/L	-5.5946 ppb	08:32:07
3	Ba 233.527†	11319.1	10926.4	295.67	µg/L	295.67 ppb	08:32:07
3	Be 313.107†	6202.1	7649.4	5.0127	µg/L	5.0127 ppb	08:32:07
3	Cd 226.502†	137.7	273.4	1.9127	µg/L	1.9127 ppb	08:32:28
3	Co 228.616†	288.1	250.9	9.8357	µg/L	9.8357 ppb	08:32:28
3	Cr 267.716†	5509.3	5244.1	140.23	µg/L	140.23 ppb	08:32:07
3	Cu 324.752†	6168.6	3318.7	35.865	µg/L	35.865 ppb	08:32:07
3	Mn 257.610†	575770.3	555858.4	2105.3	µg/L	2105.3 ppb	08:32:02
3	Mo 202.031†	47.1	43.0	7.3642	µg/L	7.3642 ppb	08:32:28
3	Ni 231.604†	1482.7	1134.7	83.645	µg/L	83.645 ppb	08:32:28
3	P 214.914†	476.7	218.4	454.12	µg/L	454.12 ppb	08:32:28
3	Pb 220.353†	202.4	160.5	52.853	µg/L	52.853 ppb	08:32:28
3	S 181.975 Axial†	80.8	57.3	237.85	µg/L	237.85 ppb	08:32:28
3	Sb 206.836†	12.8	-6.8	-9.3413	µg/L	-9.3413 ppb	08:32:28
3	Se 196.026†	-21.2	-34.8	140.03	µg/L	140.03 ppb	08:32:28
3	SiO2†	231856.1	222201.3	50831	µg/L	50831 ppb	08:32:02
3	Si 251.611†	286248.1	275678.3	23642	µg/L	23642 ppb	08:32:02
3	Sn 189.927†	-9.6	-10.3	-8.4430	µg/L	-8.4430 ppb	08:32:28
3	Ti 334.940†	678819.9	654670.6	1841.4	µg/L	1841.4 ppb	08:32:02
3	Tl 190.801†	-39.3	-11.4	17.911	µg/L	17.911 ppb	08:32:28
3	U 409.014†	-2098.9	-2168.5	-233.80	µg/L	-233.80 ppb	08:32:02
3	V 292.402†	3198.6	3229.1	45.140	µg/L	45.140 ppb	08:32:07
3	Zn 213.857†	10003.1	9036.4	250.78	µg/L	250.78 ppb	08:32:07

Mean Data: 246557001|951755|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1720443.7	103.54	%	0.127				0.12%
Sc RADIAL	112721.8	102	%	0.3				0.31%
Y 371.029	1022294.9	109.07	%	0.230				0.21%
Ag 328.068†	-638.3	1.7499	µg/L	0.30816	1.7499	ppb	0.30816	17.61%
Al 396.153Radial†	47739.9	25272	µg/L	97.8	25272	ppb	97.8	0.39%
As 188.979†	7.0	16.458	µg/L	12.3784	16.458	ppb	12.3784	75.21%
B 249.677†	459.5	-4.3280	µg/L	1.09796	-4.3280	ppb	1.09796	25.37%
Ba 233.527†	11261.8	304.74	µg/L	7.876	304.74	ppb	7.876	2.58%
Be 313.107†	7900.6	5.1879	µg/L	0.15280	5.1879	ppb	0.15280	2.95%
Ca 317.933Radial†	18290.4	6243.9	µg/L	25.13	6243.9	ppb	25.13	0.40%
Cd 226.502†	293.8	2.4985	µg/L	0.50741	2.4985	ppb	0.50741	20.31%
Co 228.616†	260.9	10.312	µg/L	0.4166	10.312	ppb	0.4166	4.04%
Cr 267.716†	5436.8	145.39	µg/L	4.463	145.39	ppb	4.463	3.07%
Cu 324.752†	3455.8	36.960	µg/L	0.9489	36.960	ppb	0.9489	2.57%
Fe 238.204 Radial†	8298.4	57448	µg/L	290.4	57448	ppb	290.4	0.51%
K 766.490 Radial†	6689.7	3974.2	µg/L	17.37	3974.2	ppb	17.37	0.44%
Mg 279.077 IEC†	401.2	3905.3	µg/L	40.69	3905.3	ppb	40.69	1.04%
Mn 257.610†	564887.7	2139.5	µg/L	32.17	2139.5	ppb	32.17	1.50%
Mo 202.031†	49.3	8.1262	µg/L	0.72151	8.1262	ppb	0.72151	8.88%
Na 589.592 Radial†	1537.3	474.50	µg/L	8.694	474.50	ppb	8.694	1.83%

Ni 231.604†	1197.1	88.214	µg/L	3.9960	88.214	ppb	3.9960	4.53%
P 214.914†	231.9	484.38	µg/L	26.832	484.38	ppb	26.832	5.54%
Pb 220.353†	174.1	57.385	µg/L	4.2971	57.385	ppb	4.2971	7.49%
S 181.975 Axial†	64.8	268.85	µg/L	29.978	268.85	ppb	29.978	11.15%
Sb 206.836†	-5.0	-7.3541	µg/L	1.74489	-7.3541	ppb	1.74489	23.73%
Se 196.026†	-37.4	137.64	µg/L	2.072	137.64	ppb	2.072	1.51%
SiO2†	225205.7	51518	µg/L	659.2	51518	ppb	659.2	1.28%
Si 251.611†	279219.7	23946	µg/L	292.8	23946	ppb	292.8	1.22%
Sn 189.927†	-11.8	-9.1876	µg/L	0.70030	-9.1876	ppb	0.70030	7.62%
Sr 421.552†	11069.0	46.037	µg/L	0.2223	46.037	ppb	0.2223	0.48%
Ti 334.940†	666247.2	1874.0	µg/L	29.80	1874.0	ppb	29.80	1.59%
Tl 190.801†	-16.3	12.360	µg/L	4.8093	12.360	ppb	4.8093	38.91%
U 409.014†	-2174.1	-234.43	µg/L	0.653	-234.43	ppb	0.653	0.28%
V 292.402†	3314.7	46.306	µg/L	1.0788	46.306	ppb	1.0788	2.33%
Zn 213.857†	9324.7	258.85	µg/L	6.990	258.85	ppb	6.990	2.70%

Sequence No.: 9
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/26/2010 08:32:37
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	115722.8	115722.8	105	%			08:33:16
1	Al 396.153Radial†	10131.7	9754.2	5152.4	µg/L	5152.4	ppb	08:33:16
1	Ca 317.933Radial†	16441.0	15224.8	5197.4	µg/L	5197.4	ppb	08:33:16
1	Fe 238.204 Radial†	780.0	712.1	4940.8	µg/L	4940.8	ppb	08:33:37
1	K 766.490 Radial†	9268.5	8609.8	5114.8	µg/L	5114.8	ppb	08:33:16
1	Mg 279.077 IEC†	551.0	513.2	5078.5	µg/L	5078.5	ppb	08:33:37
1	Na 589.592 Radial†	32007.9	30275.4	9345.0	µg/L	9345.0	ppb	08:33:16
1	Sr 421.552†	118548.6	113167.3	470.68	µg/L	470.68	ppb	08:33:16
1	Sc 361.383	1714422.7	1714422.7	103.18	%			08:34:40
1	Y 371.029	969991.8	969991.8	103.49	%			08:34:40
1	Ag 328.068†	56294.5	55076.1	519.10	µg/L	519.10	ppb	08:34:46
1	As 188.979†	282.8	281.7	539.63	µg/L	539.63	ppb	08:35:06
1	B 249.677†	9782.8	9314.3	513.45	µg/L	513.45	ppb	08:34:46
1	Ba 233.527†	20011.5	19404.6	525.89	µg/L	525.89	ppb	08:34:46
1	Be 313.107†	717282.8	696835.7	520.36	µg/L	520.36	ppb	08:34:40
1	Cd 226.502†	17810.9	17402.4	527.40	µg/L	527.40	ppb	08:34:46
1	Co 228.616†	10048.6	9711.9	528.63	µg/L	528.63	ppb	08:34:46
1	Cr 267.716†	20342.9	19646.5	525.60	µg/L	525.60	ppb	08:34:46
1	Cu 324.752†	73779.7	68874.5	522.30	µg/L	522.30	ppb	08:34:46
1	Mn 257.610†	143514.9	139666.2	528.16	µg/L	528.16	ppb	08:34:46
1	Mo 202.031†	4658.1	4512.1	544.62	µg/L	544.62	ppb	08:35:06
1	Ni 231.604†	8013.6	7471.3	545.42	µg/L	545.42	ppb	08:34:46
1	P 214.914†	1467.5	1181.0	2632.1	µg/L	2632.1	ppb	08:35:06
1	Pb 220.353†	1722.5	1634.6	544.51	µg/L	544.51	ppb	08:35:06
1	S 181.975 Axial†	302.6	272.7	1131.4	µg/L	1131.4	ppb	08:35:06
1	Sb 206.836†	510.4	475.5	542.63	µg/L	542.63	ppb	08:35:06
1	Se 196.026†	445.3	417.2	552.40	µg/L	552.40	ppb	08:35:06
1	SiO2†	26863.4	24630.7	5634.5	µg/L	5634.5	ppb	08:34:46
1	Si 251.611†	32105.0	30731.1	2635.5	µg/L	2635.5	ppb	08:34:46
1	Sn 189.927†	1151.8	1115.3	549.44	µg/L	549.44	ppb	08:35:06
1	Ti 334.940†	191548.8	185648.6	521.92	µg/L	521.92	ppb	08:34:40
1	Tl 190.801†	423.8	437.2	538.84	µg/L	538.84	ppb	08:35:06
1	U 409.014†	5163.4	4859.9	504.32	µg/L	504.32	ppb	08:34:46
1	V 292.402†	40397.0	39295.8	528.34	µg/L	528.34	ppb	08:34:46
1	Zn 213.857†	20064.8	18835.4	525.91	µg/L	525.91	ppb	08:34:46
2	Sc RADIAL	115858.3	115858.3	105	%			08:33:42
2	Al 396.153Radial†	10148.3	9758.8	5154.9	µg/L	5154.9	ppb	08:33:42
2	Ca 317.933Radial†	16512.7	15274.9	5214.5	µg/L	5214.5	ppb	08:33:42
2	Fe 238.204 Radial†	785.1	716.1	4968.7	µg/L	4968.7	ppb	08:34:03
2	K 766.490 Radial†	9380.3	8706.2	5172.1	µg/L	5172.1	ppb	08:33:42
2	Mg 279.077 IEC†	557.0	518.4	5129.3	µg/L	5129.3	ppb	08:34:03
2	Na 589.592 Radial†	32099.1	30326.7	9360.8	µg/L	9360.8	ppb	08:33:42
2	Sr 421.552†	119392.5	113840.4	473.48	µg/L	473.48	ppb	08:33:42
2	Sc 361.383	1711123.8	1711123.8	102.98	%			08:35:13
2	Y 371.029	960062.0	960062.0	102.43	%			08:35:13
2	Ag 328.068†	56224.0	55112.8	519.43	µg/L	519.43	ppb	08:35:19
2	As 188.979†	291.2	290.4	556.37	µg/L	556.37	ppb	08:35:39
2	B 249.677†	9779.0	9328.9	514.24	µg/L	514.24	ppb	08:35:19
2	Ba 233.527†	19950.8	19383.1	525.30	µg/L	525.30	ppb	08:35:19
2	Be 313.107†	711478.8	692540.0	517.15	µg/L	517.15	ppb	08:35:13
2	Cd 226.502†	17700.5	17328.4	525.15	µg/L	525.15	ppb	08:35:19
2	Co 228.616†	10062.7	9744.3	530.40	µg/L	530.40	ppb	08:35:19
2	Cr 267.716†	20316.2	19658.6	525.92	µg/L	525.92	ppb	08:35:19
2	Cu 324.752†	73663.3	68899.3	522.49	µg/L	522.49	ppb	08:35:19
2	Mn 257.610†	143012.7	139446.6	527.33	µg/L	527.33	ppb	08:35:19
2	Mo 202.031†	4603.3	4467.6	539.25	µg/L	539.25	ppb	08:35:39
2	Ni 231.604†	8025.7	7498.0	547.37	µg/L	547.37	ppb	08:35:19
2	P 214.914†	1448.1	1164.9	2595.4	µg/L	2595.4	ppb	08:35:39
2	Pb 220.353†	1705.6	1621.4	540.10	µg/L	540.10	ppb	08:35:39

2	S 181.975 Axial†	295.2	266.0	1103.8 µg/L	1103.8 ppb	08:35:39
2	Sb 206.836†	508.1	474.2	541.07 µg/L	541.07 ppb	08:35:39
2	Se 196.026†	447.6	420.3	556.41 µg/L	556.41 ppb	08:35:39
2	SiO2†	26931.3	24746.7	5661.1 µg/L	5661.1 ppb	08:35:19
2	Si 251.611†	32180.2	30864.1	2646.9 µg/L	2646.9 ppb	08:35:19
2	Sn 189.927†	1136.5	1102.6	543.21 µg/L	543.21 ppb	08:35:39
2	Ti 334.940†	190159.6	184657.6	519.13 µg/L	519.13 ppb	08:35:13
2	Tl 190.801†	420.8	435.2	536.27 µg/L	536.27 ppb	08:35:39
2	U 409.014†	5253.1	4956.7	514.38 µg/L	514.38 ppb	08:35:19
2	V 292.402†	40208.1	39187.9	526.88 µg/L	526.88 ppb	08:35:19
2	Zn 213.857†	20098.2	18905.3	527.87 µg/L	527.87 ppb	08:35:19
3	Sc RADIAL	114640.5	114640.5	104 %		08:34:08
3	Al 396.153Radial†	10168.7	9881.3	5221.3 µg/L	5221.3 ppb	08:34:08
3	Ca 317.933Radial†	16622.4	15548.2	5307.8 µg/L	5307.8 ppb	08:34:08
3	Fe 238.204 Radial†	780.4	719.6	4991.9 µg/L	4991.9 ppb	08:34:29
3	K 766.490 Radial†	9402.8	8823.0	5241.5 µg/L	5241.5 ppb	08:34:08
3	Mg 279.077 IEC†	558.3	525.3	5196.4 µg/L	5196.4 ppb	08:34:29
3	Na 589.592 Radial†	32307.4	30853.2	9523.4 µg/L	9523.4 ppb	08:34:08
3	Sr 421.552†	120096.3	115730.3	481.34 µg/L	481.34 ppb	08:34:08
3	Sc 361.383	1721620.1	1721620.1	103.61 %		08:35:46
3	Y 371.029	970083.6	970083.6	103.50 %		08:35:46
3	Ag 328.068†	53894.1	52531.4	495.02 µg/L	495.02 ppb	08:35:51
3	As 188.979†	254.8	253.5	485.72 µg/L	485.72 ppb	08:36:12
3	B 249.677†	9369.4	8875.7	489.09 µg/L	489.09 ppb	08:35:51
3	Ba 233.527†	18777.5	18132.5	491.40 µg/L	491.40 ppb	08:35:51
3	Be 313.107†	684017.7	661824.7	494.22 µg/L	494.22 ppb	08:35:46
3	Cd 226.502†	16611.3	16172.5	490.08 µg/L	490.08 ppb	08:35:51
3	Co 228.616†	9361.3	9007.8	490.24 µg/L	490.24 ppb	08:35:51
3	Cr 267.716†	18530.9	17815.4	476.61 µg/L	476.61 ppb	08:35:51
3	Cu 324.752†	68980.7	63944.0	484.98 µg/L	484.98 ppb	08:35:51
3	Mn 257.610†	133191.3	129121.2	488.28 µg/L	488.28 ppb	08:35:51
3	Mo 202.031†	3988.6	3847.1	464.38 µg/L	464.38 ppb	08:36:12
3	Ni 231.604†	7487.6	6931.1	505.99 µg/L	505.99 ppb	08:35:51
3	P 214.914†	1316.4	1029.2	2290.0 µg/L	2290.0 ppb	08:36:12
3	Pb 220.353†	1527.7	1439.6	479.46 µg/L	479.46 ppb	08:36:12
3	S 181.975 Axial†	263.5	233.7	969.70 µg/L	969.70 ppb	08:36:12
3	Sb 206.836†	445.3	410.6	468.22 µg/L	468.22 ppb	08:36:12
3	Se 196.026†	397.0	368.8	489.79 µg/L	489.79 ppb	08:36:12
3	SiO2†	25647.4	23348.2	5341.1 µg/L	5341.1 ppb	08:35:51
3	Si 251.611†	30583.6	29132.7	2498.4 µg/L	2498.4 ppb	08:35:51
3	Sn 189.927†	967.5	932.7	459.59 µg/L	459.59 ppb	08:36:12
3	Ti 334.940†	182347.6	175992.3	494.75 µg/L	494.75 ppb	08:35:46
3	Tl 190.801†	380.1	393.4	484.94 µg/L	484.94 ppb	08:36:12
3	U 409.014†	4768.8	4458.2	462.53 µg/L	462.53 ppb	08:35:51
3	V 292.402†	37185.5	36032.7	484.20 µg/L	484.20 ppb	08:35:51
3	Zn 213.857†	18781.7	17515.8	489.03 µg/L	489.03 ppb	08:35:51

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1715722.2	103.26	%	0.323				0.31%
Sc RADIAL	115407.2	104	%	0.6				0.58%
Y 371.029	966712.5	103.14	%	0.615				0.60%
Ag 328.068†	54240.1	511.18	µg/L	13.998	511.18	ppb	13.998	2.74%
QC value within limits for Ag 328.068 Recovery = 102.24%								
Al 396.153Radial†	9798.1	5176.2	µg/L	39.09	5176.2	ppb	39.09	0.76%
QC value within limits for Al 396.153Radial Recovery = 103.52%								
As 188.979†	275.2	527.24	µg/L	36.919	527.24	ppb	36.919	7.00%
QC value within limits for As 188.979 Recovery = 105.45%								
B 249.677†	9172.9	505.59	µg/L	14.301	505.59	ppb	14.301	2.83%
QC value within limits for B 249.677 Recovery = 101.12%								
Ba 233.527†	18973.4	514.19	µg/L	19.747	514.19	ppb	19.747	3.84%
QC value within limits for Ba 233.527 Recovery = 102.84%								
Be 313.107†	683733.5	510.58	µg/L	14.259	510.58	ppb	14.259	2.79%
QC value within limits for Be 313.107 Recovery = 102.12%								
Ca 317.933Radial†	15349.3	5239.9	µg/L	59.41	5239.9	ppb	59.41	1.13%
QC value within limits for Ca 317.933Radial Recovery = 104.80%								
Cd 226.502†	16967.8	514.21	µg/L	20.929	514.21	ppb	20.929	4.07%
QC value within limits for Cd 226.502 Recovery = 102.84%								
Co 228.616†	9488.0	516.42	µg/L	22.689	516.42	ppb	22.689	4.39%

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   QC value within limits for Co 228.616  Recovery = 103.28%
Cr 267.716†            19040.2      509.38 µg/L        28.376      509.38 ppb         28.376   5.57%
   QC value within limits for Cr 267.716  Recovery = 101.88%
Cu 324.752†            67239.3      509.93 µg/L        21.599      509.93 ppb         21.599   4.24%
   QC value within limits for Cu 324.752  Recovery = 101.99%
Fe 238.204 Radial†       715.9      4967.1 µg/L         25.60     4967.1 ppb          25.60   0.52%
   QC value within limits for Fe 238.204 Radial  Recovery = 99.34%
K 766.490 Radial†       8713.0      5176.1 µg/L         63.43     5176.1 ppb          63.43   1.23%
   QC value within limits for K 766.490 Radial  Recovery = 103.52%
Mg 279.077 IEC†          519.0      5134.7 µg/L         59.18     5134.7 ppb          59.18   1.15%
   QC value within limits for Mg 279.077 IEC  Recovery = 102.69%
Mn 257.610†           136078.0      514.59 µg/L        22.792      514.59 ppb         22.792   4.43%
   QC value within limits for Mn 257.610  Recovery = 102.92%
Mo 202.031†             4275.6      516.08 µg/L        44.853      516.08 ppb         44.853   8.69%
   QC value within limits for Mo 202.031  Recovery = 103.22%
Na 589.592 Radial†     30485.1      9409.7 µg/L         98.72     9409.7 ppb          98.72   1.05%
   QC value within limits for Na 589.592 Radial  Recovery = 94.10%
Ni 231.604†             7300.1      532.92 µg/L        23.346      532.92 ppb         23.346   4.38%
   QC value within limits for Ni 231.604  Recovery = 106.58%
P 214.914†              1125.0      2505.9 µg/L        187.80     2505.9 ppb         187.80   7.49%
   QC value within limits for P 214.914  Recovery = 100.23%
Pb 220.353†             1565.2      521.36 µg/L        36.353      521.36 ppb         36.353   6.97%
   QC value within limits for Pb 220.353  Recovery = 104.27%
S 181.975 Axial†         257.5      1068.3 µg/L         86.52     1068.3 ppb          86.52   8.10%
   QC value within limits for S 181.975 Axial  Recovery = 106.83%
Sb 206.836†              453.4      517.31 µg/L        42.514      517.31 ppb         42.514   8.22%
   QC value within limits for Sb 206.836  Recovery = 103.46%
Se 196.026†              402.1      532.87 µg/L        37.359      532.87 ppb         37.359   7.01%
   QC value within limits for Se 196.026  Recovery = 106.57%
SiO2†                  24241.9      5545.6 µg/L        177.54     5545.6 ppb         177.54   3.20%
   QC value within limits for SiO2  Recovery = 103.70%
Si 251.611†            30242.6      2593.6 µg/L         82.63     2593.6 ppb          82.63   3.19%
   QC value within limits for Si 251.611  Recovery = 103.74%
Sn 189.927†             1050.2      517.41 µg/L        50.176      517.41 ppb         50.176   9.70%
   QC value within limits for Sn 189.927  Recovery = 103.48%
Sr 421.552†           114246.0      475.17 µg/L         5.527      475.17 ppb          5.527   1.16%
   QC value within limits for Sr 421.552  Recovery = 95.03%
Ti 334.940†           182099.5      511.93 µg/L        14.947      511.93 ppb         14.947   2.92%
   QC value within limits for Ti 334.940  Recovery = 102.39%
Tl 190.801†              421.9      520.01 µg/L        30.404      520.01 ppb         30.404   5.85%
   QC value within limits for Tl 190.801  Recovery = 104.00%
U 409.014†              4758.3      493.74 µg/L        27.494      493.74 ppb         27.494   5.57%
   QC value within limits for U 409.014  Recovery = 98.75%
V 292.402†             38172.1      513.14 µg/L        25.072      513.14 ppb         25.072   4.89%
   QC value within limits for V 292.402  Recovery = 102.63%
Zn 213.857†            18418.8      514.27 µg/L        21.881      514.27 ppb         21.881   4.25%
   QC value within limits for Zn 213.857  Recovery = 102.85%
All analyte(s) passed QC.
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Sequence No.: 10
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/26/2010 08:36:21
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	113572.2	113572.2	103	%			08:36:54
1	Al 396.153Radial†	-138.6	-64.8	-34.316	µg/L	-34.316	ppb	08:36:54
1	Ca 317.933Radial†	424.8	-76.1	-25.992	µg/L	-25.992	ppb	08:37:15
1	Fe 238.204 Radial†	31.9	-2.3	-16.020	µg/L	-16.020	ppb	08:37:15
1	K 766.490 Radial†	325.5	67.8	40.291	µg/L	40.291	ppb	08:36:54
1	Mg 279.077 IEC†	19.3	5.4	53.321	µg/L	53.321	ppb	08:37:15
1	Na 589.592 Radial†	269.4	-56.0	-17.285	µg/L	-17.285	ppb	08:36:54
1	Sr 421.552†	154.7	6.9	0.0289	µg/L	0.0289	ppb	08:36:54
1	Sc 361.383	1712760.3	1712760.3	103.08	%			08:38:17
1	Y 371.029	965911.4	965911.4	103.06	%			08:38:17
1	Ag 328.068†	-534.9	-1.6	-0.0192	µg/L	-0.0192	ppb	08:38:22
1	As 188.979†	-4.0	3.8	7.3143	µg/L	7.3143	ppb	08:38:43
1	B 249.677†	177.3	5.1	0.2922	µg/L	0.2922	ppb	08:38:43
1	Ba 233.527†	-15.9	-5.3	-0.1435	µg/L	-0.1435	ppb	08:38:43
1	Be 313.107†	-1829.1	-106.5	-0.0796	µg/L	-0.0796	ppb	08:38:22
1	Cd 226.502†	-143.1	1.8	0.0552	µg/L	0.0552	ppb	08:38:43
1	Co 228.616†	23.5	-4.1	-0.2258	µg/L	-0.2258	ppb	08:38:43
1	Cr 267.716†	64.6	-6.5	-0.1733	µg/L	-0.1733	ppb	08:38:43
1	Cu 324.752†	2827.1	112.1	0.8458	µg/L	0.8458	ppb	08:38:22
1	Mn 257.610†	-521.6	70.1	0.2606	µg/L	0.2606	ppb	08:38:43
1	Mo 202.031†	4.5	2.0	0.2360	µg/L	0.2360	ppb	08:38:43
1	Ni 231.604†	301.0	-3.3	-0.2380	µg/L	-0.2380	ppb	08:38:43
1	P 214.914†	244.8	-3.8	-8.6808	µg/L	-8.6808	ppb	08:38:43
1	Pb 220.353†	46.0	9.8	3.2774	µg/L	3.2774	ppb	08:38:43
1	S 181.975 Axial†	20.4	-0.8	-3.4007	µg/L	-3.4007	ppb	08:38:43
1	Sb 206.836†	22.2	2.3	2.6475	µg/L	2.6475	ppb	08:38:43
1	Se 196.026†	22.0	7.0	8.9308	µg/L	8.9308	ppb	08:38:43
1	SiO2†	1499.0	49.7	11.372	µg/L	11.372	ppb	08:38:22
1	Si 251.611†	448.1	50.6	4.3404	µg/L	4.3404	ppb	08:38:43
1	Sn 189.927†	2.8	1.7	0.8488	µg/L	0.8488	ppb	08:38:43
1	Ti 334.940†	101.8	104.4	0.2890	µg/L	0.2890	ppb	08:38:22
1	Tl 190.801†	-31.7	-4.2	-5.1460	µg/L	-5.1460	ppb	08:38:43
1	U 409.014†	81.2	-65.4	-6.7986	µg/L	-6.7986	ppb	08:38:22
1	V 292.402†	-169.9	-20.5	-0.2789	µg/L	-0.2789	ppb	08:38:22
1	Zn 213.857†	618.6	-10.6	-0.3013	µg/L	-0.3013	ppb	08:38:43
2	Sc RADIAL	113605.6	113605.6	103	%			08:37:20
2	Al 396.153Radial†	-151.3	-77.2	-40.882	µg/L	-40.882	ppb	08:37:20
2	Ca 317.933Radial†	412.9	-87.8	-29.968	µg/L	-29.968	ppb	08:37:40
2	Fe 238.204 Radial†	29.8	-4.4	-30.446	µg/L	-30.446	ppb	08:37:40
2	K 766.490 Radial†	273.6	17.2	10.213	µg/L	10.213	ppb	08:37:20
2	Mg 279.077 IEC†	6.3	-7.3	-71.653	µg/L	-71.653	ppb	08:37:40
2	Na 589.592 Radial†	211.7	-112.2	-34.629	µg/L	-34.629	ppb	08:37:20
2	Sr 421.552†	174.7	26.3	0.1094	µg/L	0.1094	ppb	08:37:20
2	Sc 361.383	1698891.8	1698891.8	102.25	%			08:38:49
2	Y 371.029	959211.9	959211.9	102.34	%			08:38:49
2	Ag 328.068†	-491.2	36.9	0.3451	µg/L	0.3451	ppb	08:38:54
2	As 188.979†	-4.5	3.2	6.2175	µg/L	6.2175	ppb	08:39:15
2	B 249.677†	179.5	8.7	0.4961	µg/L	0.4961	ppb	08:39:15
2	Ba 233.527†	-8.4	1.9	0.0514	µg/L	0.0514	ppb	08:39:15
2	Be 313.107†	-1731.4	-25.4	-0.0191	µg/L	-0.0191	ppb	08:38:54
2	Cd 226.502†	-141.9	1.8	0.0579	µg/L	0.0579	ppb	08:39:15
2	Co 228.616†	28.2	0.7	0.0382	µg/L	0.0382	ppb	08:39:15
2	Cr 267.716†	63.8	-6.8	-0.1805	µg/L	-0.1805	ppb	08:39:15
2	Cu 324.752†	2799.8	107.8	0.8105	µg/L	0.8105	ppb	08:38:54
2	Mn 257.610†	-542.3	45.7	0.1757	µg/L	0.1757	ppb	08:39:15
2	Mo 202.031†	17.2	14.4	1.7382	µg/L	1.7382	ppb	08:39:15
2	Ni 231.604†	301.0	-0.9	-0.0659	µg/L	-0.0659	ppb	08:39:15
2	P 214.914†	239.4	-7.1	-16.233	µg/L	-16.233	ppb	08:39:15
2	Pb 220.353†	43.6	7.9	2.6364	µg/L	2.6364	ppb	08:39:15

2	S 181.975 Axial†	23.0	1.9	7.9448	µg/L	7.9448 ppb	08:39:15
2	Sb 206.836†	21.4	1.8	2.0390	µg/L	2.0390 ppb	08:39:15
2	Se 196.026†	15.1	0.4	0.4705	µg/L	0.4705 ppb	08:39:15
2	SiO2†	1492.2	54.9	12.555	µg/L	12.555 ppb	08:38:54
2	Si 251.611†	452.5	58.6	5.0217	µg/L	5.0217 ppb	08:39:15
2	Sn 189.927†	-0.7	-1.7	-0.8514	µg/L	-0.8514 ppb	08:39:15
2	Ti 334.940†	133.6	136.3	0.3887	µg/L	0.3887 ppb	08:38:54
2	Tl 190.801†	-26.1	1.0	1.2059	µg/L	1.2059 ppb	08:39:15
2	U 409.014†	92.8	-53.4	-5.5504	µg/L	-5.5504 ppb	08:38:54
2	V 292.402†	-99.6	46.9	0.6299	µg/L	0.6299 ppb	08:38:54
2	Zn 213.857†	619.9	-4.5	-0.1226	µg/L	-0.1226 ppb	08:39:15
3	Sc RADIAL	113412.4	113412.4	103	%		08:37:46
3	Al 396.153Radial†	-134.6	-61.1	-32.389	µg/L	-32.389 ppb	08:37:46
3	Ca 317.933Radial†	409.6	-90.3	-30.841	µg/L	-30.841 ppb	08:38:06
3	Fe 238.204 Radial†	32.1	-2.1	-14.851	µg/L	-14.851 ppb	08:38:06
3	K 766.490 Radial†	258.2	2.6	1.5638	µg/L	1.5638 ppb	08:37:46
3	Mg 279.077 IEC†	8.4	-5.2	-51.134	µg/L	-51.134 ppb	08:38:06
3	Na 589.592 Radial†	265.6	-59.3	-18.307	µg/L	-18.307 ppb	08:37:46
3	Sr 421.552†	179.4	31.2	0.1299	µg/L	0.1299 ppb	08:37:46
3	Sc 361.383	1709004.8	1709004.8	102.86	%		08:39:21
3	Y 371.029	967243.9	967243.9	103.20	%		08:39:21
3	Ag 328.068†	-439.7	89.8	0.8407	µg/L	0.8407 ppb	08:39:26
3	As 188.979†	-9.3	-1.4	-2.6758	µg/L	-2.6758 ppb	08:39:47
3	B 249.677†	170.5	-1.1	-0.0524	µg/L	-0.0524 ppb	08:39:47
3	Ba 233.527†	-22.4	-11.7	-0.3144	µg/L	-0.3144 ppb	08:39:47
3	Be 313.107†	-1794.8	-77.0	-0.0577	µg/L	-0.0577 ppb	08:39:26
3	Cd 226.502†	-137.9	6.5	0.1980	µg/L	0.1980 ppb	08:39:47
3	Co 228.616†	32.8	5.0	0.2749	µg/L	0.2749 ppb	08:39:47
3	Cr 267.716†	61.2	-9.6	-0.2560	µg/L	-0.2560 ppb	08:39:47
3	Cu 324.752†	2726.2	20.1	0.1490	µg/L	0.1490 ppb	08:39:26
3	Mn 257.610†	-533.7	57.2	0.2190	µg/L	0.2190 ppb	08:39:47
3	Mo 202.031†	11.1	8.4	1.0074	µg/L	1.0074 ppb	08:39:47
3	Ni 231.604†	299.6	-4.0	-0.2919	µg/L	-0.2919 ppb	08:39:47
3	P 214.914†	239.9	-8.1	-18.297	µg/L	-18.297 ppb	08:39:47
3	Pb 220.353†	39.1	3.2	1.0721	µg/L	1.0721 ppb	08:39:47
3	S 181.975 Axial†	23.9	2.7	11.177	µg/L	11.177 ppb	08:39:47
3	Sb 206.836†	21.2	1.4	1.6092	µg/L	1.6092 ppb	08:39:47
3	Se 196.026†	10.9	-3.8	-4.8728	µg/L	-4.8728 ppb	08:39:47
3	SiO2†	1525.2	78.3	17.920	µg/L	17.920 ppb	08:39:26
3	Si 251.611†	467.7	70.7	6.0590	µg/L	6.0590 ppb	08:39:47
3	Sn 189.927†	8.4	7.2	3.5296	µg/L	3.5296 ppb	08:39:47
3	Ti 334.940†	158.3	159.5	0.4522	µg/L	0.4522 ppb	08:39:26
3	Tl 190.801†	-27.1	0.2	0.1962	µg/L	0.1962 ppb	08:39:47
3	U 409.014†	141.7	-6.4	-0.6644	µg/L	-0.6644 ppb	08:39:26
3	V 292.402†	-109.8	37.5	0.5049	µg/L	0.5049 ppb	08:39:26
3	Zn 213.857†	597.5	-29.9	-0.8360	µg/L	-0.8360 ppb	08:39:47

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1706885.7	102.73	%	0.432				0.42%
Sc RADIAL	113530.0	103	%	0.1				0.09%
Y 371.029	964122.4	102.87	%	0.459				0.45%
Ag 328.068†	41.7	0.3889	µg/L	0.43157	0.3889	ppb	0.43157	110.98%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-67.7	-35.862	µg/L	4.4525	-35.862	ppb	4.4525	12.42%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	1.9	3.6186	µg/L	5.47869	3.6186	ppb	5.47869	151.40%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	4.2	0.2453	µg/L	0.27727	0.2453	ppb	0.27727	113.03%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-5.0	-0.1355	µg/L	0.18306	-0.1355	ppb	0.18306	135.12%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-69.6	-0.0521	µg/L	0.03064	-0.0521	ppb	0.03064	58.76%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-84.8	-28.933	µg/L	2.5848	-28.933	ppb	2.5848	8.93%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	3.4	0.1037	µg/L	0.08169	0.1037	ppb	0.08169	78.76%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	0.5	0.0291	µg/L	0.25046	0.0291	ppb	0.25046	861.59%

```
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -7.6     -0.2033 µg/L      0.04581     -0.2033 ppb       0.04581  22.53%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              80.0      0.6018 µg/L      0.39250      0.6018 ppb       0.39250  65.22%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†       -3.0     -20.439 µg/L       8.6861     -20.439 ppb        8.6861  42.50%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†        29.2      17.356 µg/L      20.3275      17.356 ppb       20.3275 117.12%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          -2.3     -23.155 µg/L      67.0202     -23.155 ppb       67.0202 289.44%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              57.7      0.2184 µg/L      0.04243      0.2184 ppb       0.04243  19.42%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               8.2      0.9939 µg/L      0.75117      0.9939 ppb       0.75117  75.58%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†      -75.8     -23.407 µg/L       9.7321     -23.407 ppb        9.7321  41.58%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -2.7     -0.1986 µg/L      0.11802     -0.1986 ppb       0.11802  59.42%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               -6.3     -14.404 µg/L       5.0625     -14.404 ppb        5.0625  35.15%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               7.0      2.3287 µg/L      1.13443      2.3287 ppb       1.13443  48.72%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          1.3      5.2402 µg/L      7.65575      5.2402 ppb       7.65575 146.10%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               1.8      2.0986 µg/L      0.52173      2.0986 ppb       0.52173  24.86%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               1.2      1.5095 µg/L      6.96019      1.5095 ppb       6.96019 461.10%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    61.0      13.949 µg/L       3.4894      13.949 ppb        3.4894  25.02%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              59.9      5.1404 µg/L      0.86542      5.1404 ppb       0.86542  16.84%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               2.4      1.1757 µg/L      2.20871      1.1757 ppb       2.20871 187.87%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              21.5      0.0894 µg/L      0.05343      0.0894 ppb       0.05343  59.76%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             133.4      0.3766 µg/L      0.08225      0.3766 ppb       0.08225  21.84%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -1.0     -1.2480 µg/L      3.41337     -1.2480 ppb       3.41337 273.51%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†              -41.8     -4.3378 µg/L      3.24186     -4.3378 ppb       3.24186  74.74%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†               21.3      0.2853 µg/L      0.49255      0.2853 ppb       0.49255 172.65%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             -15.0     -0.4200 µg/L      0.37119     -0.4200 ppb       0.37119  88.38%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

ICPMS #5 Daily Performance Report

Sample ID: Sample
Sample Date/Time: Saturday, March 06, 2010 12:09:34
Sample Description:
Method File: c:\elandata\Method\Daily2.mth
Dataset File: c:\elandata\Dataset\default\Sample.661
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	4777.6	4777.599	78.513	1.6
	Mg	24.0	48634.0	48634.045	234.209	0.5
	Co	58.9	90810.3	90810.329	749.980	0.8
	Rh	102.9	182759.1	182759.120	2080.782	1.1
	In	114.9	251410.0	251410.017	1585.778	0.6
	Pb	208.0	269712.7	269712.731	1579.796	0.6
⌈>	Ba	137.9	240159.5	240159.536	2766.790	1.2
⌊	Ba++	69.0	3561.9	0.015	0.000	2.0
⌈>	Ce	139.9	293604.7	293604.702	1492.439	0.5
⌊	CeO	155.9	6296.5	0.021	0.000	1.8
	Bkgd	220.0	22.2	22.200	3.915	17.6

Current Optimization File Data

Current Value	Description
0.87	Nebulizer Gas Flow
6.50	Lens Voltage
1450.00	ICP RF Power
-1750.00	Analog Stage Voltage
1250.00	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	6.5	5313.7
Co	59	17	7.3	86868.6
In	115	17	8.0	235041.8

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	585	2050	0.658
Be	9.0	9.0	2046	2075	0.619
Mg	24.0	24.0	5699	2080	0.646
Mg	25.0	25.0	5927	2080	0.613
Mg	26.0	25.9	6172	2080	0.645
Co	58.9	59.0	14193	2110	0.623
Rh	102.9	102.9	24880	2160	0.639
In	114.9	114.9	27795	2180	0.649
Ce	139.9	139.9	33866	2200	0.642
Pb	206.0	206.0	49948	2295	0.612
Pb	207.0	207.0	50159	2240	0.638
Pb	208.0	208.0	50451	2265	0.700
U	238.1	238.1	57734	2275	0.727

ICPMS#5 - Summary Report

Sample ID: Blank
Sample Date/Time: Saturday, March 06, 2010 20:36:09
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lani soil.mth
Dataset File: c:\elandata\Dataset\100305\Blank.630

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9		ug/L		26	
>	Sc	45		ug/L		828043	
	Ni	60		ug/L		91	
>	Ge	74		ug/L		350217	
	As	75		ug/L		67	
	Se	77		ug/L		9069	
	Se	82		ug/L		23	
	Kr	83		ug/L		109	
>	Lu	175		ug/L		478432	
	Tl	205		ug/L		852	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	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	Mass	Out 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: Saturday, March 06, 2010 20:39:46
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lani soil.mth
Dataset File: c:\elandata\Dataset\100305\Standard 1.631

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**10.000**	**ug/L**	4.007	4222	0.005
>	Sc	45		**ug/L**		847581	847581.483
	Ni	60	**10.000**	**ug/L**	0.713	13011	0.015
>	Ge	74		**ug/L**		353538	353538.328
	As	75	**10.000**	**ug/L**	4.907	10649	0.030
	Se	77		**ug/L**		8896	-0.001
	Se	82	**10.000**	**ug/L**	2.675	1074	0.003
	Kr	83		**ug/L**		122	0.000
>	Lu	175		**ug/L**		484626	484625.610
	Tl	205	**10.000**	**ug/L**	0.767	226344	0.465

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	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	Mass	Out 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: Saturday, March 06, 2010 20:43:20
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\anl soil.mth
Dataset File: c:\elandata\Dataset\100305\Standard 2.632

Concentration Results

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**99.994**	**ug/L**	0.946	42140	0.049
>	Sc	45		**ug/L**		855961	855960.580
	Ni	60	**100.005**	**ug/L**	3.758	131233	0.153
>	Ge	74		**ug/L**		365567	365567.448
	As	75	**100.014**	**ug/L**	2.103	111006	0.304
	Se	77		**ug/L**		17251	0.021
	Se	82	**100.002**	**ug/L**	3.069	10907	0.030
	Kr	83		**ug/L**		129	0.000
>	Lu	175		**ug/L**		485507	485506.681
	Tl	205	**99.828**	**ug/L**	0.779	1925606	3.964

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	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	Mass	Out 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: Saturday, March 06, 2010 20:46:56
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 1.633

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**51.988**	**ug/L**	3.029	22339	0.026
>	Sc	45		**ug/L**		872260	872260.414
	Ni	60	**52.485**	**ug/L**	2.209	70248	0.080
>	Ge	74		**ug/L**		376932	376931.909
	As	75	**49.546**	**ug/L**	2.098	56740	0.150
	Se	77		**ug/L**		13279	0.009
	Se	82	**51.154**	**ug/L**	0.643	5767	0.015
	Kr	83		**ug/L**		133	0.000
>	Lu	175		**ug/L**		494169	494169.401
	Tl	205	**54.012**	**ug/L**	2.102	1060700	2.145

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovi	Dilution % Dif	Duplicate Rel. % Difference
	Be	9	103.976				
>	Sc	45		105.3			
	Ni	60	104.971				
>	Ge	74		107.6			
	As	75	99.092				
	Se	77					
	Se	82	102.308				
	Kr	83					
>	Lu	175		103.3			
	Tl	205	108.024				

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: Saturday, March 06, 2010 20:50:33
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 2.634

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**-0.008**	**ug/L**	88.649	24	-0.000
>	Sc	45		**ug/L**		878842	878842.032
	Ni	60	**-0.000**	**ug/L**	1835.419	96	-0.000
>	Ge	74		**ug/L**		377951	377951.440
	As	75	**-0.234**	**ug/L**	311.832	-203	-0.001
	Se	77		**ug/L**		10813	0.003
	Se	82	**-0.035**	**ug/L**	528.201	21	-0.000
	Kr	83		**ug/L**		123	0.000
>	Lu	175		**ug/L**		494254	494254.204
	Tl	205	**0.183**	**ug/L**	4.659	4480	0.007

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		106.1			
	Ni	60					
>	Ge	74		107.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		103.3			
	Tl	205					

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 3
Sample Date/Time: Saturday, March 06, 2010 20:54:11
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 3.635

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**0.533**	**ug/L**	1.834	260	0.000
>	Sc	45		**ug/L**		882938	882937.505
	Ni	60	**2.159**	**ug/L**	5.506	3016	0.003
>	Ge	74		**ug/L**		374005	374005.247
	As	75	**6.050**	**ug/L**	2.285	6937	0.018
	Se	77		**ug/L**		9332	-0.001
	Se	82	**5.695**	**ug/L**	1.007	659	0.002
	Kr	83		**ug/L**		127	0.000
>	Lu	175		**ug/L**		497109	497109.083
	Tl	205	**1.290**	**ug/L**	2.491	26354	0.051

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9	106.628				
>	Sc	45		106.6			
	Ni	60	107.952				
>	Ge	74		106.8			
	As	75	120.995				
	Se	77					
	Se	82	113.904				
	Kr	83					
>	Lu	175		103.9			
	Tl	205	129.038				

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 4
Sample Date/Time: Saturday, March 06, 2010 20:57:48
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lani soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 4.636

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**0.076**	**ug/L**	17.674	55	0.000
>	Sc	45		**ug/L**		789746	789745.738
	Ni	60	**3.205**	**ug/L**	1.091	3965	0.005
>	Ge	74		**ug/L**		339327	339327.426
	As	75	**0.214**	**ug/L**	335.761	284	0.001
	Se	77		**ug/L**		8763	-0.000
	Se	82	**-1.624**	**ug/L**	8.969	-142	-0.000
	Kr	83		**ug/L**		316	0.001
>	Lu	175		**ug/L**		463130	463129.668
	Tl	205	**0.028**	**ug/L**	5.970	1333	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		95.4			
	Ni	60	96.829				
>	Ge	74		96.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		96.8			
	Tl	205					

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: Saturday, March 06, 2010 21:01:25
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 5.637

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**17.738**	**ug/L**	2.750	7172	0.009
>	Sc	45		**ug/L**		818867	818866.854
	Ni	60	**21.157**	**ug/L**	0.702	26636	0.032
>	Ge	74		**ug/L**		352065	352065.274
	As	75	**19.293**	**ug/L**	4.271	20681	0.059
	Se	77		**ug/L**		10646	0.004
	Se	82	**17.784**	**ug/L**	2.068	1888	0.005
	Kr	83		**ug/L**		308	0.001
>	Lu	175		**ug/L**		485784	485783.767
	Tl	205	**19.611**	**ug/L**	2.520	379170	0.779

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Be	9	88.690				
>	Sc	45		98.9			
	Ni	60	90.763				
>	Ge	74		100.5			
	As	75	96.464				
	Se	77					
	Se	82	88.921				
	Kr	83					
>	Lu	175		101.5			
	Tl	205	98.057				

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 6
Sample Date/Time: Saturday, March 06, 2010 21:05:03
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\anl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 6.638

Concentration Results

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**53.113**	**ug/L**	2.412	21960	0.026
|>	Sc	45		**ug/L**		839405	839405.485
⌊	Ni	60	**51.603**	**ug/L**	2.339	66455	0.079
⌈>	Ge	74		**ug/L**		357195	357195.410
|	As	75	**49.408**	**ug/L**	1.905	53621	0.150
|	Se	77		**ug/L**		12389	0.009
|	Se	82	**51.389**	**ug/L**	2.080	5490	0.015
⌊	Kr	83		**ug/L**		136	0.000
⌈>	Lu	175		**ug/L**		484532	484531.999
⌊	Tl	205	**53.843**	**ug/L**	1.220	1036942	2.138

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9	106.226				
>	Sc	45		101.4			
	Ni	60	103.206				
>	Ge	74		102.0			
	As	75	98.815				
	Se	77					
	Se	82	102.779				
	Kr	83					
>	Lu	175		101.3			
	Tl	205	107.686				

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 7
Sample Date/Time: Saturday, March 06, 2010 21:08:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 7.639

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**-0.001**	**ug/L**	1539.380	27	-0.000
>	Sc	45		**ug/L**		858462	858461.512
	Ni	60	**-0.005**	**ug/L**	144.573	88	-0.000
>	Ge	74		**ug/L**		364858	364858.180
	As	75	**-0.119**	**ug/L**	629.690	-62	-0.000
	Se	77		**ug/L**		10448	0.003
	Se	82	**-0.108**	**ug/L**	111.948	12	-0.000
	Kr	83		**ug/L**		121	0.000
>	Lu	175		**ug/L**		488836	488836.045
	Tl	205	**0.248**	**ug/L**	3.683	5681	0.010

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovi	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		103.7			
	Ni	60					
>	Ge	74		104.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		102.2			
	Tl	205					

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: Saturday, March 06, 2010 21:26:59
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 8.644

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**53.151**	**ug/L**	2.966	21057	0.026
>	Sc	45		**ug/L**		804485	804485.395
	Ni	60	**52.299**	**ug/L**	2.677	64551	0.080
>	Ge	74		**ug/L**		343263	343262.633
	As	75	**48.806**	**ug/L**	2.474	50899	0.148
	Se	77		**ug/L**		11476	0.008
	Se	82	**50.883**	**ug/L**	4.234	5223	0.015
	Kr	83		**ug/L**		130	0.000
>	Lu	175		**ug/L**		473619	473619.212
	Tl	205	**53.613**	**ug/L**	1.995	1009054	2.129

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9	106.302				
>	Sc	45		97.2			
	Ni	60	104.598				
>	Ge	74		98.0			
	As	75	97.612				
	Se	77					
	Se	82	101.766				
	Kr	83					
>	Lu	175		99.0			
	Tl	205	107.226				

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: Saturday, March 06, 2010 21:30:38
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lani soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 9.645

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**-0.009**	**ug/L**	135.676	22	-0.000
>	Sc	45		**ug/L**		802475	802474.555
	Ni	60	**0.000**	**ug/L**	1104.771	88	0.000
>	Ge	74		**ug/L**		337049	337048.727
	As	75	**-0.321**	**ug/L**	18.628	-264	-0.001
	Se	77		**ug/L**		9041	0.001
	Se	82	**-0.041**	**ug/L**	288.329	18	-0.000
	Kr	83		**ug/L**		123	0.000
>	Lu	175		**ug/L**		469884	469884.278
	Tl	205	**0.225**	**ug/L**	6.857	5035	0.009

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		96.9			
	Ni	60					
>	Ge	74		96.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		98.2			
	Tl	205					

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: Saturday, March 06, 2010 22:00:03
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\anl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 8.653

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**54.671**	**ug/L**	1.891	20505	0.027
>	Sc	45		**ug/L**		761358	761358.058
	Ni	60	**52.699**	**ug/L**	0.793	61560	0.081
>	Ge	74		**ug/L**		331653	331652.918
	As	75	**48.864**	**ug/L**	2.804	49239	0.148
	Se	77		**ug/L**		10549	0.006
	Se	82	**49.822**	**ug/L**	3.694	4942	0.015
	Kr	83		**ug/L**		103	-0.000
>	Lu	175		**ug/L**		464418	464417.901
	Tl	205	**53.791**	**ug/L**	1.849	993005	2.136

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9	109.342				
>	Sc	45		91.9			
	Ni	60	105.397				
>	Ge	74		94.7			
	As	75	97.728				
	Se	77					
	Se	82	99.644				
	Kr	83					
>	Lu	175		97.1			
	Tl	205	107.583				

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: Saturday, March 06, 2010 22:03:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 9.654

Concentration Results

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**-0.002**	**ug/L**	716.794	24	-0.000
>	Sc	45		**ug/L**		771213	771213.414
	Ni	60	**0.003**	**ug/L**	137.311	88	0.000
>	Ge	74		**ug/L**		327351	327351.240
	As	75	**0.088**	**ug/L**	590.586	143	0.000
	Se	77		**ug/L**		7879	-0.002
	Se	82	**0.116**	**ug/L**	147.063	32	0.000
	Kr	83		**ug/L**		101	-0.000
>	Lu	175		**ug/L**		456460	456460.439
	Tl	205	**0.212**	**ug/L**	6.772	4647	0.008

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		93.1			
	Ni	60					
>	Ge	74		93.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		95.4			
	Tl	205					

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: 1202041828
Sample Date/Time: Saturday, March 06, 2010 22:07:22
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\1202041828.655

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**-0.006**	**ug/L**	254.229	22	-0.000
>	Sc	45		**ug/L**		771741	771740.700
	Ni	60	**0.087**	**ug/L**	11.356	187	0.000
>	Ge	74		**ug/L**		322695	322694.553
	As	75	**0.162**	**ug/L**	382.190	221	0.000
	Se	77		**ug/L**		4573	-0.012
	Se	82	**-0.252**	**ug/L**	26.091	-3	-0.000
	Kr	83		**ug/L**		107	0.000
>	Lu	175		**ug/L**		471575	471574.953
	Tl	205	**0.087**	**ug/L**	3.365	2473	0.003

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		93.2			
	Ni	60					
>	Ge	74		92.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		98.6			
	Tl	205					

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: 1202041833
Sample Date/Time: Saturday, March 06, 2010 22:11:04
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 952645|40|baj
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\1202041833.656

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**21.639**	**ug/L**	0.229	8405	0.011
>	Sc	45		**ug/L**		786944	786943.827
	Ni	60	**35.442**	**ug/L**	1.421	42825	0.054
>	Ge	74		**ug/L**		334458	334458.354
	As	75	**28.374**	**ug/L**	0.940	28865	0.086
	Se	77		**ug/L**		11638	0.009
	Se	82	**77.059**	**ug/L**	4.657	7692	0.023
	Kr	83		**ug/L**		121	0.000
>	Lu	175		**ug/L**		476076	476076.256
	Tl	205	**37.164**	**ug/L**	1.211	703429	1.476

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		95.0			
	Ni	60					
>	Ge	74		95.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		99.5			
	Tl	205					

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: 246557001
Sample Date/Time: Saturday, March 06, 2010 22:14:47
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\246557001.657

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**2.909**	**ug/L**	2.452	1150	0.001
>	Sc	45		**ug/L**		785804	785803.731
	Ni	60	**24.567**	**ug/L**	1.447	29670	0.038
>	Ge	74		**ug/L**		320138	320137.553
	As	75	**4.463**	**ug/L**	3.438	4397	0.014
	Se	77		**ug/L**		4275	-0.013
	Se	82	**0.500**	**ug/L**	52.215	68	0.000
	Kr	83		**ug/L**		214	0.000
>	Lu	175		**ug/L**		504764	504764.187
	Tl	205	**0.444**	**ug/L**	0.578	9790	0.018

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		94.9			
	Ni	60					
>	Ge	74		91.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		105.5			
	Tl	205					

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: 1202041829
Sample Date/Time: Saturday, March 06, 2010 22:18:28
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\1202041829.658

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**2.955**	**ug/L**	3.973	1165	0.001
>	Sc	45		**ug/L**		784719	784718.856
	Ni	60	**17.966**	**ug/L**	2.478	21684	0.028
>	Ge	74		**ug/L**		316314	316314.500
	As	75	**4.586**	**ug/L**	5.619	4461	0.014
	Se	77		**ug/L**		4003	-0.013
	Se	82	**-0.258**	**ug/L**	155.661	-4	-0.000
	Kr	83		**ug/L**		231	0.000
>	Lu	175		**ug/L**		497156	497156.196
	Tl	205	**0.272**	**ug/L**	0.646	6251	0.011

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		94.8			
	Ni	60					
>	Ge	74		90.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		103.9			
	Tl	205					

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: 1202041831
Sample Date/Time: Saturday, March 06, 2010 22:22:08
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\1202041831.659

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**23.505**	**ug/L**	2.614	9015	0.012
>	Sc	45		**ug/L**		777179	777178.897
	Ni	60	**36.385**	**ug/L**	0.377	43416	0.056
>	Ge	74		**ug/L**		316570	316570.098
	As	75	**35.213**	**ug/L**	2.411	33886	0.107
	Se	77		**ug/L**		4473	-0.012
	Se	82	**7.552**	**ug/L**	1.594	733	0.002
	Kr	83		**ug/L**		250	0.000
>	Lu	175		**ug/L**		497625	497625.257
	Tl	205	**40.515**	**ug/L**	1.002	801555	1.609

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		93.9			
	Ni	60					
>	Ge	74		90.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		104.0			
	Tl	205					

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: 1202041832
Sample Date/Time: Saturday, March 06, 2010 22:25:49
Sample Type:
Sample Description: LANL 6020 MSD
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\1202041832.660

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**23.580**	**ug/L**	2.490	9151	0.012
>	Sc	45		**ug/L**		786658	786658.432
	Ni	60	**34.755**	**ug/L**	0.788	41979	0.053
>	Ge	74		**ug/L**		321502	321501.704
	As	75	**35.900**	**ug/L**	0.926	35088	0.109
	Se	77		**ug/L**		4469	-0.012
	Se	82	**7.544**	**ug/L**	1.136	743	0.002
	Kr	83		**ug/L**		216	0.000
>	Lu	175		**ug/L**		498110	498109.559
	Tl	205	**42.396**	**ug/L**	1.713	839552	1.684

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		95.0			
	Ni	60					
>	Ge	74		91.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		104.1			
	Tl	205					

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: 1202041830
Sample Date/Time: Saturday, March 06, 2010 22:29:31
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 952645|10|baj
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\1202041830.661

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**0.572**	**ug/L**	4.168	238	0.000
>	Sc	45		**ug/L**		760209	760209.040
	Ni	60	**5.076**	**ug/L**	1.184	5997	0.008
>	Ge	74		**ug/L**		320077	320076.602
	As	75	**1.143**	**ug/L**	13.353	1171	0.003
	Se	77		**ug/L**		4809	-0.011
	Se	82	**-0.184**	**ug/L**	125.876	3	-0.000
	Kr	83		**ug/L**		136	0.000
>	Lu	175		**ug/L**		476592	476592.270
	Tl	205	**0.114**	**ug/L**	2.823	2997	0.005

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		91.8			
	Ni	60					
>	Ge	74		91.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		99.6			
	Tl	205					

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: Saturday, March 06, 2010 22:33:11
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lani soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 8.662

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**53.981**	**ug/L**	0.377	20355	0.027
>	Sc	45		**ug/L**		765368	765368.400
	Ni	60	**51.619**	**ug/L**	1.525	60620	0.079
>	Ge	74		**ug/L**		324904	324903.622
	As	75	**49.816**	**ug/L**	1.805	49175	0.151
	Se	77		**ug/L**		10584	0.007
	Se	82	**51.812**	**ug/L**	0.650	5034	0.015
	Kr	83		**ug/L**		118	0.000
>	Lu	175		**ug/L**		458285	458285.021
	Tl	205	**54.104**	**ug/L**	0.824	985463	2.149

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Be	9	107.962				
>	Sc	45		92.4			
	Ni	60	103.237				
>	Ge	74		92.8			
	As	75	99.632				
	Se	77					
	Se	82	103.624				
	Kr	83					
>	Lu	175		95.8			
	Tl	205	108.208				

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: Saturday, March 06, 2010 22:36:50
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\lanl soil.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 9.663

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**0.001**	**ug/L**	855.701	26	0.000
>	Sc	45		**ug/L**		788821	788821.010
	Ni	60	**0.007**	**ug/L**	63.508	95	0.000
>	Ge	74		**ug/L**		335210	335209.968
	As	75	**-0.029**	**ug/L**	994.254	36	-0.000
	Se	77		**ug/L**		8269	-0.001
	Se	82	**-0.308**	**ug/L**	68.433	-9	-0.000
	Kr	83		**ug/L**		125	0.000
>	Lu	175		**ug/L**		465050	465050.264
	Tl	205	**0.225**	**ug/L**	1.194	4987	0.009

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Be	9					
>	Sc	45		95.3			
	Ni	60					
>	Ge	74		95.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		97.2			
	Tl	205					

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: Blank
Sample Date/Time: Sunday, March 07, 2010 09:07:21
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\Blank.792

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		470103	
	U	238		ug/L		1066	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175					
	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: Standard 1
Sample Date/Time: Sunday, March 07, 2010 09:09:00
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\Standard 1.793

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		480966	480966.288
	U	238	10.000	ug/L	1.474	525553	1.091

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175					
	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: Standard 2
Sample Date/Time: Sunday, March 07, 2010 09:10:37
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\Standard 2.794

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		481278	481277.800
	U	238	99.814	ug/L	0.435	4419996	9.182

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175					
	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 1
Sample Date/Time: Sunday, March 07, 2010 09:12:14
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 1.795

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		482406	482406.099
⌊	U	238	53.936	ug/L	0.464	2394387	4.961

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		102.6			
⌊	U	238	107.871				

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: Sunday, March 07, 2010 09:13:54
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 2.796

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		471077	471077.088
	U	238	0.012	ug/L	1.830	1570	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Lu	175		100.2			
	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 3
Sample Date/Time: Sunday, March 07, 2010 09:15:34
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 3.797

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		432580	432580.478
⌊	U	238	0.244	ug/L	27.161	10410	0.022

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		92.0			
⌊	U	238	121.851				

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 4
Sample Date/Time: Sunday, March 07, 2010 09:17:13
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 4.798

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		467689	467688.803
	U	238	-0.018	ug/L	3.265	277	-0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		99.5			
	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: Sunday, March 07, 2010 09:18:52
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 5.799

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		489027	489026.530
	U	238	22.975	ug/L	1.000	1034513	2.113

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Lu	175		104.0			
	U	238	114.876				

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 6
Sample Date/Time: Sunday, March 07, 2010 09:20:32
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 6.800

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		475999	475998.754
	U	238	54.529	ug/L	0.180	2388625	5.016

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		101.3			
	U	238	109.058				

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 7
Sample Date/Time: Sunday, March 07, 2010 09:22:13
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 7.801

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		467232	467232.037
⌊	U	238	0.009	ug/L	8.825	1438	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		99.4			
⌊	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: 1202041828
Sample Date/Time: Sunday, March 07, 2010 09:24:46
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\1202041828.802

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		481100	481099.967
	U	238	-0.013	ug/L	5.320	506	-0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Lu	175		102.3			
	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: 1202041833
Sample Date/Time: Sunday, March 07, 2010 09:26:30
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 952645|40|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\1202041833.803

Concentration Results

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		**ug/L**		487083	487082.840
	U	238	**0.582**	**ug/L**	1.122	27199	0.054

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Lu	175		103.6			
	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: 246557001
Sample Date/Time: Sunday, March 07, 2010 09:28:15
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\246557001.804

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		505699	505698.822
⌊	U	238	6.876	ug/L	0.572	320979	0.632

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		107.6			
⌊	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: 1202041829
Sample Date/Time: Sunday, March 07, 2010 09:29:58
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\1202041829.805

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		502451	502450.643
	U	238	6.070	ug/L	0.627	281704	0.558

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		106.9			
	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: 1202041831
Sample Date/Time: Sunday, March 07, 2010 09:31:41
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\1202041831.806

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		507558	507558.036
⌊	U	238	28.187	ug/L	1.612	1317031	2.593

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		108.0			
⌊	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: 1202041832
Sample Date/Time: Sunday, March 07, 2010 09:33:24
Sample Type:
Sample Description: LANL 6020 MSD
Number of Replicates: 3
Batch ID: 952645|2|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\1202041832.807

Concentration Results

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		**ug/L**		494027	494027.484
	U	238	**31.231**	**ug/L**	1.654	1420293	2.873

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		105.1			
	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: 1202041830
Sample Date/Time: Sunday, March 07, 2010 09:35:07
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 952645|10|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\1202041830.808

Concentration Results

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		**ug/L**		479232	479231.832
	U	238	**1.382**	**ug/L**	1.431	62013	0.127

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		101.9			
	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 6
Sample Date/Time: Sunday, March 07, 2010 09:36:50
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 6.809

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		468303	468303.140
	U	238	54.588	ug/L	1.234	2352532	5.021

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		99.6			
	U	238	109.176				

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 7
Sample Date/Time: Sunday, March 07, 2010 09:38:30
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: c:\elandata\Dataset\100305\QC Std 7.810

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		466249	466249.494
	U	238	0.008	ug/L	3.293	1385	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		99.2			
	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

Method Name: SOIL
Method Description: 7471A, ILM04 ANALYST JXL1
Element: Hg

Date: 02/26/2010
Technique:FI-MHS
Calibration Type:
Hg, Calc. Intercept : Linear
Wavelength: 253.7 nm
Sample Info Name: 022610S1.SIF Results Data Set Name: 022610S1

Element: Hg Seq. No.: 1 AS Loc.: 1 Date: 02/26/2010
Sample ID: Calib Blank

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0041	0.0041	09:58:12	No
2			0.0040	0.0040	09:58:47	No
Mean:			0.0041			
SD :			0.0001			
%RSD:			3.4725			

Auto-zero performed.

Element: Hg Seq. No.: 2 AS Loc.: 2 Date: 02/26/2010
Sample ID: S0.2

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0024	0.0065	10:00:09	No
2			0.0024	0.0064	10:00:43	No
Mean:			0.0024			
SD :			0.0000			
%RSD:			0.2880			

[Hg] Standard number 1 applied. [0.200]
Correlation Coefficient: 1.00000 Slope: 0.01201
Intercept : 0.00000

Element: Hg Seq. No.: 3 AS Loc.: 3 Date: 02/26/2010
Sample ID: S0.5

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0051	0.0091	10:02:07	No
2			0.0051	0.0092	10:02:42	No
Mean:			0.0051			
SD :			0.0000			
%RSD:			0.8939			

[Hg] Standard number 2 applied. [0.500]
Correlation Coefficient: 0.99670 Slope: 0.01011
Intercept : 0.00014

Element: Hg Seq. No.: 4 AS Loc.: 4 Date: 02/26/2010
Sample ID: S2.0

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0208	0.0249	10:04:07	No
2			0.0204	0.0244	10:04:42	No
Mean:			0.0206			
SD :			0.0003			
%RSD:			1.6365			

[Hg] Standard number 3 applied. [2.000]

Correlation Coefficient: 0.99983 Slope: 0.01024
Intercept : 0.00011

==========

Element: Hg Seq. No.: 5 AS Loc.: 5 Date: 02/26/2010
Sample ID: S5.0

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0496	0.0536	10:06:07	No
2			0.0496	0.0537	10:06:42	No
Mean:			0.0496			
SD :			0.0000			
%RSD:						

[Hg] Standard number 4 applied. [5.000]
Correlation Coefficient: 0.99988 Slope: 0.00990
Intercept : 0.00030

==========

Element: Hg Seq. No.: 6 AS Loc.: 6 Date: 02/26/2010
Sample ID: S10

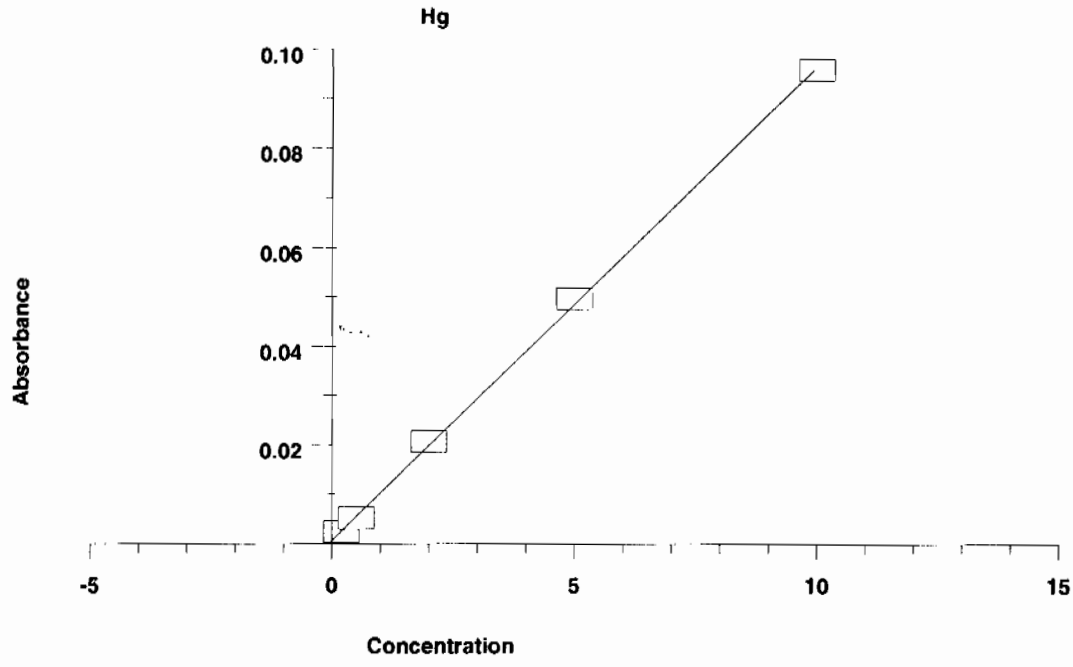
Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0958	0.0998	10:08:08	No
2			0.0956	0.0996	10:08:43	No
Mean:			0.0957			
SD :			0.0001			
%RSD:			0.1484			

[Hg] Standard number 5 applied. [10.00]
Correlation Coefficient: 0.99980 Slope: 0.00957
Intercept : 0.00067

Calibration data for Hg

Standard ID	Mean Signal (Pk Height)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.0041	---	----	----	----
S0.2	0.0024	0.200	0.181	0.0000	0.3
S0.5	0.0051	0.500	0.463	0.0000	0.9
S2.0	0.0206	2.000	2.083	0.0003	1.6
S5.0	0.0496	5.000	5.113	0.0000	----
S10	0.0957	10.000	9.929	0.0001	0.1

Correlation Coefficient: 0.99980 Slope: 0.00957 Intercept: 0.0007



==========

Element: Hg Seq. No.: 7 AS Loc.: 9 Date: 02/26/2010
Sample ID: ICV

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.130	5.130	0.0498	0.0538	10:10:11	No
2	5.137	5.137	0.0498	0.0539	10:10:47	No
Mean:	5.133	5.133	0.0498			
SD :	0.0048	0.0048	0.0000			
%RSD:						

QC value within specified limits.

==========

Element: Hg Seq. No.: 8 AS Loc.: 10 Date: 02/26/2010
Sample ID: ICB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.105	-0.105	-0.0003	0.0037	10:12:09	No
2	-0.120	-0.120	-0.0005	0.0036	10:12:44	No
Mean:	-0.112	-0.112	-0.0004			
SD :	0.0112	0.0112	0.0001			
%RSD:	10.0	10.0	26.2116			

QC value within specified limits.

==========

Element: Hg Seq. No.: 9 AS Loc.: 11 Date: 02/26/2010
Sample ID: CRDL

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.196	0.196	0.0025	0.0066	10:14:07	No
2	0.186	0.186	0.0024	0.0065	10:14:41	No
Mean:	0.191	0.191	0.0025			
SD :	0.0069	0.0069	0.0001			
%RSD:	3.6	3.6	2.6421			

QC value within specified limits.

==========

Element: Hg Seq. No.: 10 AS Loc.: 7 Date: 02/26/2010
Sample ID: CCV

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.055	5.055	0.0490	0.0531	10:16:07	No
2	5.170	5.170	0.0501	0.0542	10:16:41	No
Mean:	5.112	5.112	0.0496			
SD :	0.0809	0.0809	0.0008			
%RSD:	1.6	1.6	1.5602			

QC value within specified limits.

==========

Element: Hg Seq. No.: 11 AS Loc.: 8 Date: 02/26/2010
Sample ID: CCB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.046	-0.046	0.0002	0.0043	10:18:09	No
2	-0.069	-0.069	0.0000	0.0041	10:18:44	No
Mean:	-0.057	-0.057	0.0001			
SD :	0.0164	0.0164	0.0002			
%RSD:	28.7	28.7	132.8005			

QC value within specified limits.

==========

Element: Hg Seq. No.: 12 AS Loc.: 12 Date: 02/26/2010
Sample ID: 1202039457|i||951632|MB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.045	-0.045	0.0002	0.0043	10:20:10	No
2	-0.048	-0.048	0.0002	0.0043	10:20:44	No
Mean:	-0.046	-0.046	0.0002			
SD :	0.0020	0.0020	0.0000			
%RSD:	4.4	4.4	8.6886			

==========

Element: Hg Seq. No.: 13 AS Loc.: 13 Date: 02/26/2010
Sample ID: 1202039458|i|10||LCS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	3.612	3.612	0.0352	0.0393	10:22:09	No
2	3.664	3.664	0.0357	0.0398	10:22:44	No
Mean:	3.638	3.638	0.0355			
SD :	0.0370	0.0370	0.0004			
%RSD:	1.0	1.0	0.9970			

==========

Element: Hg Seq. No.: 14 AS Loc.: 14 Date: 02/26/2010
Sample ID: 246557001|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.079	0.079	0.0014	0.0055	10:24:09	No
2	0.079	0.079	0.0014	0.0055	10:24:45	No
Mean:	0.079	0.079	0.0014			
SD :	0.0004	0.0004	0.0000			
%RSD:	0.5	0.5	0.2841			

==========

Element: Hg Seq. No.: 15 AS Loc.: 15 Date: 02/26/2010
Sample ID: 246566001|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.082	0.082	0.0015	0.0055	10:26:11	No
2	0.075	0.075	0.0014	0.0054	10:26:46	No
Mean:	0.079	0.079	0.0014			
SD :	0.0047	0.0047	0.0000			
%RSD:	6.0	6.0	3.1970			

Element: Hg Seq. No.: 16 AS Loc.: 16 Date: 02/26/2010
Sample ID: 1202039459|i|||DUP

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.035	0.035	0.0010	0.0051	10:28:14	No
2	0.023	0.023	0.0009	0.0049	10:28:49	No
Mean:	0.029	0.029	0.0009			
SD :	0.0088	0.0088	0.0001			
%RSD:	30.6	30.6	8.9467			

Element: Hg Seq. No.: 17 AS Loc.: 17 Date: 02/26/2010
Sample ID: 1202039460|i|||MS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	2.146	2.146	0.0212	0.0253	10:30:13	No
2	2.123	2.123	0.0210	0.0250	10:30:47	No
Mean:	2.134	2.134	0.0211			
SD :	0.0163	0.0163	0.0002			
%RSD:	0.8	0.8	0.7411			

Element: Hg Seq. No.: 18 AS Loc.: 18 Date: 02/26/2010
Sample ID: 1202039462|i|||MSD

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	2.137	2.137	0.0211	0.0252	10:32:07	No
2	2.116	2.116	0.0209	0.0250	10:32:42	No
Mean:	2.126	2.126	0.0210			
SD :	0.0149	0.0149	0.0001			
%RSD:	0.7	0.7	0.6781			

Element: Hg Seq. No.: 19 AS Loc.: 19 Date: 02/26/2010
Sample ID: 1202039461|i|5||SDILT

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.115	-0.115	-0.0004	0.0036	10:34:03	No
2	-0.126	-0.126	-0.0005	0.0035	10:34:37	No
Mean:	-0.120	-0.120	-0.0005			
SD :	0.0082	0.0082	0.0001			
%RSD:	6.8	6.8	16.1495			

Element: Hg Seq. No.: 20 AS Loc.: 20 Date: 02/26/2010
Sample ID: 246566002|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.157	0.157	0.0022	0.0062	10:36:00	No
2	0.164	0.164	0.0022	0.0063	10:36:34	No
Mean:	0.161	0.161	0.0022			
SD :	0.0048	0.0048	0.0000			

%RSD: 3.0 3.0 2.0650

==========

Element: Hg Seq. No.: 21 AS Loc.: 21 Date: 02/26/2010
Sample ID: 246566003|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.411	0.411	0.0046	0.0086	10:37:56	No
2	0.410	0.410	0.0046	0.0086	10:38:31	No
Mean:	0.410	0.410	0.0046			
SD :	0.0002	0.0002	0.0000			
%RSD:						

==========

Element: Hg Seq. No.: 22 AS Loc.: 7 Date: 02/26/2010
Sample ID: CCV

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.109	5.109	0.0496	0.0536	10:39:55	No
2	4.985	4.985	0.0484	0.0524	10:40:30	No
Mean:	5.047	5.047	0.0490			
SD :	0.0879	0.0879	0.0008			
%RSD:	1.7	1.7	1.7180			

QC value within specified limits.

==========

Element: Hg Seq. No.: 23 AS Loc.: 8 Date: 02/26/2010
Sample ID: CCB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.061	-0.061	0.0001	0.0041	10:41:58	No
2	-0.069	-0.069	0.0000	0.0041	10:42:33	No
Mean:	-0.065	-0.065	0.0000			
SD :	0.0051	0.0051	0.0000			
%RSD:	7.8	7.8	107.1557			

QC value within specified limits.

==========

Element: Hg Seq. No.: 24 AS Loc.: 22 Date: 02/26/2010
Sample ID: 246566004|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.250	0.250	0.0031	0.0071	10:43:59	No
2	0.248	0.248	0.0030	0.0071	10:44:33	No
Mean:	0.249	0.249	0.0030			
SD :	0.0018	0.0018	0.0000			
%RSD:	0.7	0.7	0.5800			

==========

Element: Hg Seq. No.: 25 AS Loc.: 23 Date: 02/26/2010
Sample ID: 246566005|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.032	0.032	0.0010	0.0050	10:45:56	No
2	0.024	0.024	0.0009	0.0049	10:46:31	No
Mean:	0.028	0.028	0.0009			
SD :	0.0057	0.0057	0.0001			
%RSD:	20.5	20.5	5.8875			

==========

Element: Hg Seq. No.: 26 AS Loc.: 24 Date: 02/26/2010
Sample ID: 246566006|i|||

Miscellaneous

Prep LogBook

Analyst: LYH1 Verified by:_____

Batch: 951754

Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202039772	UI062540-I	.53	g
MS	1202039774	UI100120-01	.25	mL
MS	1202039774	UI100120-06	.25	mL
MSD	1202039776	UI100120-01	.25	mL
MSD	1202039776	UI100120-06	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202039771		SW846 3050B	13-FEB-2010 08:45	<2	0.538 g	50 mL	92.9368	SOIL
LCS	1202039772		SW846 3050B	13-FEB-2010 08:45	<2	0.53 g	50 mL	94.33962	SOIL
SAMPLE	246557001		SW846 3050B	13-FEB-2010 08:45	<2	0.518 g	50 mL	96.5251	SOIL
SAMPLE	246562001		SW846 3050B	13-FEB-2010 08:45	<2	0.536 g	50 mL	93.28358	SOIL
DUP	1202039773	246562001	SW846 3050B	13-FEB-2010 08:45	<2	0.537 g	50 mL	93.10987	SOIL
MS	1202039774	246562001	SW846 3050B	13-FEB-2010 08:45	<2	0.529 g	50 mL	94.51796	SOIL
MSD	1202039776	246562001	SW846 3050B	13-FEB-2010 08:45	<2	0.535 g	50 mL	93.45794	SOIL
SDILT	1202039775	246562001	SW846 3050B	13-FEB-2010 08:45	<2	0.536 g	50 mL	93.28358	SOIL

Reagent/Solvent Lot ID	Amount	Description
1265209	10 mL	HYDROCHLORIC ACID
1234886	1.25 mL	Nitric Acid CONC.

Comments

Prep LogBook

Analyst: LYH1 Verified by:_____

Batch: 952644

Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202041833	UI062540-MS	.547	g
MS	1202041831	UI042709-A	.5	mL
MS	1202041831	UI042709-B	.5	mL
MSD	1202041832	UI042709-A	.5	mL
MSD	1202041832	UI042709-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202041828		SW846 3050B	18-FEB-2010 09:00	<2	0.51 g	50 mL	98.03922	SOIL
LCS	1202041833		SW846 3050B	18-FEB-2010 09:00	<2	0.5 g	50 mL	100	SOIL
SAMPLE	246557001		SW846 3050B	18-FEB-2010 09:00	<2	0.524 g	50 mL	95.41985	SOIL
DUP	1202041829	246557001	SW846 3050B	18-FEB-2010 09:00	<2	0.509 g	50 mL	98.23183	SOIL
SDILT	1202041830	246557001	SW846 3050B	18-FEB-2010 09:00	<2	0.524 g	50 mL	95.41985	SOIL
MS	1202041831	246557001	SW846 3050B	18-FEB-2010 09:00	<2	0.529 g	50 mL	94.51796	SOIL
MSD	1202041832	246557001	SW846 3050B	18-FEB-2010 09:00	<2	0.507 g	50 mL	98.61933	SOIL

Reagent/Solvent Lot ID	Amount	Description
1250038-02	1.5 mL	Hydrogen Peroxide 30%
1234886	5 mL	Nitric Acid CONC.

Comments

Prep LogBook

Analyst: TXB3 Verified by:_____

Batch: 951631

Lab SOP: GL-MA-E-010 REV# 23

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202039458	UI031809A	.202	g
MS	1202039460	WHG100225-14	.3	mL
MSD	1202039462	WHG100225-14	.3	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202039457		SW846 7471A Prep	25-FEB-2010 20:05	0.537 g	30 mL	55.86592	SOIL
LCS	1202039458		SW846 7471A Prep	25-FEB-2010 20:05	0.202 g	30 mL	148.51485	SOIL
SAMPLE	246557001		SW846 7471A Prep	25-FEB-2010 20:05	0.572 g	30 mL	52.44755	SOIL
SAMPLE	246566001		SW846 7471A Prep	25-FEB-2010 20:05	0.555 g	30 mL	54.05405	SOIL
DUP	1202039459	246566001	SW846 7471A Prep	25-FEB-2010 20:05	0.506 g	30 mL	59.28854	SOIL
MS	1202039460	246566001	SW846 7471A Prep	25-FEB-2010 20:05	0.5 g	30 mL	60	SOIL
MSD	1202039462	246566001	SW846 7471A Prep	25-FEB-2010 20:05	0.505 g	30 mL	59.40594	SOIL
SDILT	1202039461	246566001	SW846 7471A Prep	25-FEB-2010 20:05	0.555 g	30 mL	54.05405	SOIL
SAMPLE	246566002		SW846 7471A Prep	25-FEB-2010 20:05	0.547 g	30 mL	54.84461	SOIL
SAMPLE	246566003		SW846 7471A Prep	25-FEB-2010 20:05	0.5 g	30 mL	60	SOIL
SAMPLE	246566004		SW846 7471A Prep	25-FEB-2010 20:05	0.598 g	30 mL	50.16722	SOIL
SAMPLE	246566005		SW846 7471A Prep	25-FEB-2010 20:05	0.53 g	30 mL	56.60377	SOIL
SAMPLE	246566006		SW846 7471A Prep	25-FEB-2010 20:05	0.589 g	30 mL	50.93379	SOIL
SAMPLE	246566007		SW846 7471A Prep	25-FEB-2010 20:05	0.572 g	30 mL	52.44755	SOIL
SAMPLE	246566008		SW846 7471A Prep	25-FEB-2010 20:05	0.519 g	30 mL	57.80347	SOIL
SAMPLE	246566009		SW846 7471A Prep	25-FEB-2010 20:05	0.507 g	30 mL	59.1716	SOIL
SAMPLE	246566010		SW846 7471A Prep	25-FEB-2010 20:05	0.551 g	30 mL	54.44646	SOIL
SAMPLE	246566011		SW846 7471A Prep	25-FEB-2010 20:05	0.5 g	30 mL	60	SOIL

Reagent/Solvent Lot ID	Amount	Description
1274394-A	1.125 mL	Hydrochloric Acid Conc.
1274391-1	.375 mL	NITRIC ACID
1274397-C	7.5 mL	5% KMnO4 solution
1255532-C	2 mL	Hg reducing agent
WHG100225-07	30 uL	Mercury Working Standard 1st Source CAL S 0.2/CRA
WHG100225-08	75 uL	Mercury Working Standard 1st Source CAL S 0.5
WHG100225-11	1.5 mL	Mercury Working 1st Source CAL S 10.0
WHG100225-09	300 uL	Mercury Working 1st Source CAL S 2.0
WHG100225-10	750 uL	Mercury Working 1st Source CAL S 5.0/CCV
WHG100225-12	750 uL	Mercury Working 2nd Source S 5.0/ICV

Comments Sample 246566001 is a rocky light brown soil.
Digestion Start Date: 25-FEB-10 20:05
Digestion End Date: 25-FEB-10 20:35

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
01-MAR-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP	SW846 3050B/6010B	Solid	LANL
Batch ID:	**Sample Numbers:**		
951755	See Below		

Potentially affected work order(s)(SDG): 246557(10-1666),246562(10-1668)

Application Issues:

Failed Recovery for MS/PS

Failed RPD for MS/MSD, or PS/PSD

Failed Recovery for LCS/LCSD

Failed RPD for DUP

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. Failed Recovery for MS/PS: QC 1202039774MS 2. Failed RPD for DUP: QC 1202039773DUP 3. Failed RPD for MS/MSD, or PS/PSD: QC 1202039776MSD 4. Failed Recovery for LCS/LCSD: QC 1202039772LCS 5. Failed Recovery for MSD/PSD: QC 1202039776MSD	1. The matrix spike recovery failed outside of the control limits for aluminum,potassium and sodium 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. 2. The sample and sample duplicate % RPD failed outside the control limits for magnesium due to possible sample non-homogeneity and/or matrix interference. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported. 3. The matrix spike and matrix spike duplicate % RPD failed outside of the control limits for magnesium due to possible matrix interferences and/or sample non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported. 4. Silver and/or antimony did not meet the recovery acceptance criteria for the LCS. Per the DOE-AL statement of work, page forty, silver and antimony are exempt from the re-digestion requirement for LCS failures. 5. The matrix spike duplicate recovery failed outside of the control limits for aluminum,magnesium,manganese,potassium and sodium 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.

Originator's Name:

Helen Camello 01-MAR-10

Data Validator/Group Leader:

Christopher Louviere 01-MAR-10

DER Report No.: 800470
Revision No.: 1

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
07-MAR-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP/MS	SW846 3050B/6020	Solid	LANL
Batch ID:	**Sample Numbers:**		
952645	See Below		

Potentially affected work order(s)(SDG): 246557(10-1666)

Application Issues:

Failed Recovery for MS/PS

Failed RPD for DUP

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:

1. Failed Recovery for MS/PS:

   QC 1202041831MS

2. Failed RPD for DUP:

   QC 1202041829DUP

3. Failed Recovery for MSD/PSD:

   QC 1202041832MSD

DER Disposition:

The matrix spike and matrix spike duplicate recovery failed outside of the control limits for Ni and Se 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.

The sample and sample duplicate % RPD failed outside the control limits for Ni due to possible sample non-homogeneity and/or matrix interference. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.

Originator's Name:

Elizabeth Janssen 08-MAR-10

Data Validator/Group Leader:

Jamie Johnson 08-MAR-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: UI042709-A **Opened:** 27-APR-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 27-APR-09 **Lot Number :** 1015749
Type: Source Material **Expires:** 27-APR-10
Employee: Bryan Davis
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

Serial ID: UI042709-B **Opened:** 27-APR-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 27-APR-09 **Lot Number :** 1015749
Type: Source Material **Expires:** 27-APR-10
Employee: Bryan Davis
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: 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

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
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		

Standard Logbook

Serial ID: UI090612-02 **Opened:** 12-JUN-09 **Catalog Number :** 060074-06-01
Name: ICPMS Tungsten - 10mg/L S **Received:** 12-JUN-09 **Lot Number :** 1016377
Type: Source Material **Expires:** 12-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: 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

Analyte	Concentration	Analyte	Concentration
Zirconium	2 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:** 01-MAR-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: 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 SOUF **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

Analyte	Concentration	Analyte	Concentration
Vanadium	200 mg/L	Zinc	200 mg/L

Serial ID:	UI091102-41	**Opened:**	16-NOV-09	**Amount :**	500 mL
Name:	TRACE CALSTD#1B SOUF	**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
Tin	200 mg/L	Titanium	200 mg/L

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

Analyte	Concentration	Analyte	Concentration
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		

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: UI100120-01 **Opened:** 20-JAN-10 **Lot Number :** 1018095
Name: METALSPIKE-1 **Received:** 20-JAN-10
Type: Source Material **Expires:** 20-JAN-11
Employee: Bryan Davis
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: UI100120-06 **Opened:** 20-JAN-10 **Lot Number :** 1018096
Name: METALSPIKE-2 **Received:** 20-JAN-10
Type: Source Material **Expires:** 20-JAN-11
Employee: Bryan Davis
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: UI100210-48 **Opened:** 11-FEB-10 **Amount :** 1000 mL
Name: Trace ICP ICSA **Received:** 10-FEB-10 **Catalog Number :** 160005-02
Type: Source Material **Expires:** 04-MAR-10 **Lot Number :** 1018807
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: UI100211-40 **Opened:** 11-FEB-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD-A **Received:** 10-FEB-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 11-FEB-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

Serial ID: UI100211-41 **Opened:** 11-FEB-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD B **Received:** 10-FEB-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 11-FEB-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

Analyte	Concentration	Analyte	Concentration
Sodium	500000 ug/L	Uranium	15000 ug/L

Serial ID: UI100219-11 **Opened:** 19-FEB-10 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A **Received:** 19-FEB-10 **Catalog Number :** 160013-01-01L
Type: Source Material **Expires:** 19-FEB-11 **Lot Number :** 1018321
Employee: Paul Boyd **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: UMS100226-01 **Opened:** 26-FEB-10 **Amount :** 250 mL
Name: ICPMSCalSPIKEB **Received:** 26-FEB-10 **Catalog Number :** ZGEL-100-250
Type: Source Material **Expires:** 26-FEB-11 **Lot Number :** 21-104JB
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

Serial ID: UMS100226-02 **Opened:** 26-FEB-10 **Catalog Number :** ZGEL-102-250
Name: ICPMSCalSPIKEA **Received:** 26-FEB-10 **Lot Number :** 21-103JB
Type: Source Material **Expires:** 26-FEB-11
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: UMS100226-03 **Opened:** 26-FEB-10 **Amount :** 250 ml
Name: ICPMSCalSPIKEC **Received:** 26-FEB-10 **Catalog Number :** ZGEL-101-250
Type: Source Material **Expires:** 26-FEB-11 **Lot Number :** 21-102JB
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: IHG100225-01 **Opened:** 25-FEB-10 **Instrument Id :** Mercury
Name: MHGINTER1 **Received:** 25-FEB-10 **Pipet Id :** Minou1
Type: Intermediate **Expires:** 26-FEB-10 **Solvent :** 1mL HNO3 + Type1 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: IHG100225-02 **Opened:** 25-FEB-10 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Intermediate **Expires:** 26-FEB-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Intermediate 2nd Source 200 ug/L
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Standard Logbook

Serial ID: WHG100225-07 **Opened:** 25-FEB-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.2CRA **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 01-MAR-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.
IHG100225-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

Serial ID: WHG100225-08 **Opened:** 25-FEB-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.5 **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 01-MAR-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.
IHG100225-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

Serial ID: WHG100225-09 **Opened:** 25-FEB-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS2.0 **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 01-MAR-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.
IHG100225-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

Serial ID: WHG100225-10 **Opened:** 25-FEB-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS5.0CCV **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 01-MAR-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL S 5.0/CCV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100225-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Standard Logbook

Serial ID: WHG100225-11 **Opened:** 25-FEB-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS10.0 **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 01-MAR-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.
IHG100225-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

Serial ID: WHG100225-12 **Opened:** 25-FEB-10 **Pipet Id :** Hg1289245
Name: MHGWORKS5.0ICV **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 01-MAR-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.
IHG100225-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100225-14 **Opened:** 25-FEB-10 **Pipet Id :** Hg1289245
Name: MHGSOILMSSPIKE **Received:** 25-FEB-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 01-MAR-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: WI100226-43 **Opened:** 26-FEB-10 **Balance Id :** 216
Name: TRACE ICP 0.5/CCV STD. **Received:** 02-NOV-09 **Pipet Id :** 3581809
Type: Working **Expires:** 27-FEB-10 **Solvent :** 3%HCL and 1%HNO3 -1272839
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
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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: WMS100306-04 **Opened:** 06-MAR-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 06-MAR-10 **Balance Id :** 4025216
Type: Working **Expires:** 07-MAR-10 **Pipet Id :** 3541598
Employee: Elizabeth Janssen **Solvent :** 2%HNO3/1%HCl-1276824
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090612-02	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS100226-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS100226-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS100226-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100306-04A **Opened:** 06-MAR-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 06-MAR-10 **Pipet Id :** 3541598
Type: Working **Expires:** 07-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1276824
Employee: Elizabeth Janssen
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100306-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100306-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100306-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100306-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100306-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100306-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100306-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100306-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100306-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100306-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100306-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100306-05 **Opened:** 06-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 06-MAR-10 **Pipet Id :** 3541598
Type: Working **Expires:** 07-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1276824
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

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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: WMS100306-06 **Opened:** 06-MAR-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 06-MAR-10 **Pipet Id :** 3820544
Type: Working **Expires:** 07-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1276824
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

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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: WMS100306-07 **Opened:** 06-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 06-MAR-10 **Lot Number :** 1010773
Type: Working **Expires:** 07-MAR-10 **Pipet Id :** 3541598
Employee: Elizabeth Janssen **Solvent :** 2%HNO3/1%HCl - 1276824
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100219-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100219-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100219-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Standard Logbook

Serial ID: WMS100306-08 **Opened:** 06-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 06-MAR-10 **Pipet Id :** 1758088
Type: Working **Expires:** 07-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1276824
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
UI100219-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100219-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100219-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Standard Logbook

Serial ID: 100202 **Opened:** 02-FEB-10 **Lot Number :** 200930201
Name: I-HCL **Received:** 02-FEB-10
Type: Reagent/Solvent **Expires:** 02-FEB-11
Employee: Francena Armstrong
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 1100721TCLP **Opened:** 16-APR-09 **Lot Number :** H02026 L
Name: I-HNO3 **Received:** 02-APR-09
Type: Reagent/Solvent **Expires:** 02-APR-10
Employee: Clifford Postell
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

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: 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: Hydroxlyamine Hydrochloride
Comments: None

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

Standard Logbook

Serial ID: 1250038-02 **Opened:** 04-JAN-10 **Lot Number :** ZU74081198 mL
Name: B-H2O2 **Received:** 04-JAN-10
Type: Reagent/Solvent **Expires:** 04-JAN-11
Employee: Bryan Davis
Supplier: EM SCIENCE
Description: Hydrogen Peroxide 30%
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

Serial ID: 1265209 **Opened:** 04-FEB-10 **Lot Number :** J02039
Name: I-HCL **Received:** 04-FEB-10 **Preservative_Id :** 5 none
Type: Reagent/Solvent **Expires:** 04-FEB-11
Employee: Bryan Davis
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 1272839 **Opened:** 22-FEB-10 **Amount :** 20 L
Name: B-ICP-RINSE SOLN **Received:** 12-FEB-10 **Lot Number :** H04040+G34050
Type: Reagent/Solvent **Expires:** 28-FEB-10 **Solvent :** 3%HCL+1%HNO3
Employee: Helen Camello
Supplier: GEL
Description: 3%HCL+1%HNO3 RINSE SOLN.
Comments: None

Serial ID: 1274391-1 **Opened:** 24-FEB-10 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 24-FEB-10 **Lot Number :** H44025
Type: Reagent/Solvent **Expires:** 24-FEB-11
Employee: Tara Griffin
Supplier: Mallinckrodt Chemicals
Description: NITRIC ACID
Comments: None

Standard Logbook

Serial ID: 1274394-A **Opened:** 24-FEB-10 **Lot Number :** J02039
Name: B-HCl-MER **Received:** 24-FEB-10
Type: Reagent/Solvent **Expires:** 01-MAR-10
Employee: Tara Griffin
Supplier: J T Baker
Description: Hydrochloric Acid Conc.
Comments: None

Serial ID: 1274397-C **Opened:** 24-FEB-10 **Balance Id :** BAL-002
Name: B-KMnO4-MER **Received:** 24-FEB-10
Type: Reagent/Solvent **Expires:** 20-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: 1276824 **Opened:** 01-MAR-10 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 01-MAR-10
Type: Reagent/Solvent **Expires:** 08-MAR-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.
100202	I-HCL	36.5-38.0	90 mL	9 l	N/A
1100721TCLP	I-HNO3	69.0-70.0	180 mL	9 l	N/A

General Chemistry Analysis

Case Narrative

General Chemistry Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1666

Method/Analysis Information

Product: **pH**

Analytical Batch: 951417 **Method:** SW9045C pH

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9045C/9045D:

Sample ID	Client ID
246557001	RE15-10-8363
1202038962	Laboratory Control Sample (LCS)
1202038963	246575003(WST15-10-11621) 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-GC-E-008 REV# 17.

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 Electrode analysis was performed on a PerpHecT LogR pH/ISE.

Initial Calibration

All initial calibration requirements have been met for this SDG.

Calibration Verification Information (CCV)

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Quality Control (QC) Information

Laboratory Control Sample (LCS) Recovery

The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation

The following sample was selected for QC analysis: 246575003 (WST15-10-11621).

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
The following sample from this sample group was received by the lab outside of the method specified holding time: 246557001 (RE15-10-8363).

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.

Method/Analysis Information

Product:	**Cyanide, Total**		
Analytical Batch:	951938	**Method:**	SW9012A Cyanide and Total
Prep Batch :	951935	**Method:**	SSW846 9010B Prep

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

Sample ID	Client ID
246557001	RE15-10-8363
1202040197	Method Blank (MB)
1202040198	246280011(RE16-10-1190) Sample Duplicate (DUP)
1202040199	246291009(RE16-10-1472) Sample Duplicate (DUP)
1202040200	246280011(RE16-10-1190) Matrix Spike (MS)
1202040201	246291009(RE16-10-1472) Matrix Spike (MS)
1202040202	246280011(RE16-10-1190) Matrix Spike Duplicate (MSD)
1202040203	246291009(RE16-10-1472) Matrix Spike Duplicate (MSD)
1202040204	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: 246280011 (RE16-10-1190) and 246291009 (RE16-10-1472).

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. 1202040198 (RE16-10-1190) and 1202040199 (RE16-10-1472).

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: 1202040204 (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.

Method/Analysis Information

Product:	**Ion Chromatography**		
Analytical Batch:	953765	**Method:**	EPA 300.0 Nitrate in Soil
Prep Batch :	953763	**Method:**	EPA 300.0 PREP

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA 300.0:

Sample ID	Client ID
246557001	RE15-10-8363
1202044709	Method Blank (MB)
1202044710	246557001(RE15-10-8363) Sample Duplicate (DUP)
1202044711	246557001(RE15-10-8363) Matrix Spike (MS)
1202044712	246557001(RE15-10-8363) Matrix Spike Duplicate (MSD)
1202044713	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-086 REV# 17.

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 Ion Chromatography analysis was performed on a Dionex ICS-3000 Ion Chromatograph.

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 sample was selected for QC analysis: 246557001 (RE15-10-8363).

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The spike recovery for Fluoride falls outside of the GEL acceptance limits but within the client specified limits. 1202044711 (RE15-10-8363).

Matrix Spike Duplicate (MSD) Recovery Statement
The spike duplicate recovery for Fluoride falls outside of the GEL acceptance limits but within the client specified limits. 1202044712 (RE15-10-8363).

MS/MSD Relative Percent Difference (RPD) Statement
The RPD 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 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
The following DER was generated for this SDG: 792225 1202044711 (RE15-10-8363) and 1202044712 (RE15-10-8363).

Manual Integrations
The following samples from this sample group had to be manually integrated due to errors in the instrument software peak integration: 1202044711 (RE15-10-8363), 1202044712 (RE15-10-8363), 1202044713 (LCS) and 246557001 (RE15-10-8363).

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:** 08Mar10

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: 10-1666 GEL Work Order: 246557

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 _____

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 20, 2010

Client SDG: 10-1666

Client Sample ID: RE15-10-8363
Sample ID: 246557001
Matrix: R
Collect Date: 03-FEB-10 12:00
Receive Date: 09-FEB-10
Collector: Client
Moisture: 18.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Electrode Analysis											
SW9045C pH "As Received"											
pH at Temp 21.9C	H	6.50	0.010	0.100	SU	1	LXA1	02/10/10	1519	951417	1
Flow Injection Analysis											
SW9012A Cyanide, Total "Dry Weight Corrected"											
Cyanide, Total	J	118	71.6	263	ug/kg	1	AXC2	02/11/10	1436	951938	2
Ion Chromatography											
EPA 300.0 Nitrate in Soil "Dry Weight Corrected"											
Nitrate-N	U	ND	0.369	1.23	mg/kg	1	MAR1	02/16/10	1717	953765	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	MAR1	02/16/10	1030	953763
SW846 9010B Prep	SW846 9010B Prep	AXS5	02/11/10	1147	951935

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

Quality Control Summary

GEL LABORATORIES LLC

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

QC Summary

Report Date: February 20, 2010

Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico

Contact: Ms. Joylene Valdez

Workorder: 246557

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Electrode Analysis											
Batch 951417											
QC1202038963 246575003 DUP											
pH		H	7.19	H	7.14	SU	0.698		(0%-10%)	LXA1	02/10/10 15:23
QC1202038962 LCS											
pH	7.00				6.98	SU		99.7	(95%-105%)		02/10/10 15:12
Flow Injection Analysis											
Batch 951938											
QC1202040198 246280011 DUP											
Cyanide, Total		U	ND	U	ND	ug/kg	N/A			AXC2	02/11/10 14:26
QC1202040199 246291009 DUP											
Cyanide, Total		J	152	U	ND	ug/kg	200 ^				02/11/10 14:33
QC1202040204 LCS											
Cyanide, Total	67900				58000	ug/kg		85.4	(32%-157%)		02/11/10 14:24
QC1202040197 MB											
Cyanide, Total				U	250	ug/kg					02/11/10 14:23
QC1202040200 246280011 MS											
Cyanide, Total	5600	U	ND		5110	ug/kg		91.2	(26%-158%)		02/11/10 14:30
QC1202040201 246291009 MS											
Cyanide, Total	5730	J	152		4590	ug/kg		77.5	(26%-158%)		02/11/10 14:34
QC1202040202 246280011 MSD											
Cyanide, Total	5340	U	ND		4940	ug/kg	3.41	92.5	(0%-30%)		02/11/10 14:31
QC1202040203 246291009 MSD											
Cyanide, Total	5290	J	152		4290	ug/kg	6.95	78.1	(0%-30%)		02/11/10 14:35
Ion Chromatography											
Batch 953765											
QC1202044710 246557001 DUP											
Nitrate-N		U	ND	U	ND	mg/kg	N/A			MAR1	02/16/10 17:46
QC1202044713 LCS											
Nitrate-N	50.0				48.2	mg/kg		96.5	(90%-110%)		02/16/10 15:50
QC1202044709 MB											
Nitrate-N				U	1.00	mg/kg					02/16/10 15:21
QC1202044711 246557001 MS											
Nitrate-N	61.5	U	ND		58.5	mg/kg		95.1	(90%-110%)		02/16/10 18:15
QC1202044712 246557001 MSD											
Nitrate-N	61.5	U	ND		58.5	mg/kg	0.0441	95.2	(0%-20%)		02/16/10 18:44

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

QC Summary

Workorder: 246557

Parmname	NOM	Sample	Qual	QC	Units	RPD%	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
JNX	Non Calibrated Compound
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.
Ul	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.
^ 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: 20-FEB-2010 15:13

GEL Laboratories LLC

Contract: LANL01004

SDG #: 10-1666

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
ICV	**11-FEB-2010 09:59:47**	**OM_2-11-2010_09-49-17**	**146**	**150**	**97.3**	**(90%-110%)**	**Yes**
CCV	11-FEB-2010 14:14:42	OM_2-11-2010_13-11-41	97.6	100	97.6	(90%-110%)	Yes
CCV	11-FEB-2010 14:27:08	OM_2-11-2010_13-11-41	93.4	100	93.4	(90%-110%)	Yes
CCV	11-FEB-2010 14:39:42	OM_2-11-2010_13-11-41	93.3	100	93.3	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**11-FEB-2010 10:01:38**	**OM_2-11-2010_09-49-17**	**-1.07**	**10**	**Yes**
CCB	11-FEB-2010 14:16:32	OM_2-11-2010_13-11-41	1.36	10	Yes
CCB	11-FEB-2010 14:28:58	OM_2-11-2010_13-11-41	1.94	10	Yes
CCB	11-FEB-2010 14:41:33	OM_2-11-2010_13-11-41	1.81	10	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-FEB-2010 15:13

GEL Laboratories LLC

Contract: **LANL01004**

SDG #: **10-1666**

Ion Chromatography

Method: EPA 300.0 Concentration Units:mg/L

Instrument: Dionex ICS-3000 Ion Chromatograph

Parmname: Nitrate-N

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**16-FEB-2010 14:23:00**	**100216**	**4.8197**	**5**	**96.4**	**(90%-110%)**	**Yes**
CCV	16-FEB-2010 19:13:00	100216	7.4873	7.5	99.8	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**16-FEB-2010 14:52:00**	**100216**	**0**	**0.1**	**Yes**
CCB	16-FEB-2010 19:42:00	100216	0	0.1	Yes

Cyanide, Total

Prep LogBook

Analyst: AXS5 Verified by:_____

Batch: 951935

Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202040204	URF1200957-01	.25	g
MS	1202040200	URF1184831-02	.025	mL
MS	1202040201	URF1184831-02	.025	mL
MSD	1202040202	URF1184831-02	.025	mL
MSD	1202040203	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202040197		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5 g	25 mL	50	SOIL
LCS	1202040204		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.25 g	25 mL	100	SOIL
SAMPLE	246280011		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5665 g	25 mL	44.13063	SOIL
DUP	1202040198	246280011	SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5985 g	25 mL	41.77109	SOIL
MS	1202040200	246280011	SW846 9010B Prep	11-FEB-2010 11:47	>12	0.534 g	25 mL	46.81648	SOIL
MSD	1202040202	246280011	SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5604 g	25 mL	44.61099	SOIL
SAMPLE	246291009		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5232 g	25 mL	47.78287	SOIL
DUP	1202040199	246291009	SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5311 g	25 mL	47.07211	SOIL
MS	1202040201	246291009	SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5149 g	25 mL	48.55312	SOIL
MSD	1202040203	246291009	SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5575 g	25 mL	44.84305	SOIL
SAMPLE	246557001		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5841 g	25 mL	42.80089	SOIL
SAMPLE	246562001		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5943 g	25 mL	42.0663	SOIL
SAMPLE	246587007		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5523 g	25 mL	45.26525	SOIL
SAMPLE	246592001		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5765 g	25 mL	43.36513	SOIL
SAMPLE	246592002		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5423 g	25 mL	46.09994	SOIL
SAMPLE	246592003		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5782 g	25 mL	43.23763	SOIL
SAMPLE	246592004		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5543 g	25 mL	45.10193	SOIL
SAMPLE	246594001		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5227 g	25 mL	47.82858	SOIL
SAMPLE	246594002		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5732 g	25 mL	43.61479	SOIL
SAMPLE	246594003		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5299 g	25 mL	47.17871	SOIL
SAMPLE	246594004		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5324 g	25 mL	46.95718	SOIL
SAMPLE	246594005		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5427 g	25 mL	46.06597	SOIL
SAMPLE	246594006		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5421 g	25 mL	46.11695	SOIL
SAMPLE	246610001		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.542 g	25 mL	46.12546	SOIL
SAMPLE	246610002		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5181 g	25 mL	48.25323	SOIL
SAMPLE	246610003		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.5608 g	25 mL	44.57917	SOIL
SAMPLE	246612001		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.54 g	25 mL	46.2963	MISC SOLID
SAMPLE	246615001		SW846 9010B Prep	11-FEB-2010 11:47	>12	0.574 g	25 mL	43.55401	MISC SOLID

Prep LogBook

Reagent/Solvent Lot ID	Amount	Description	Comments
100210-C	25 mL	0.25N Sodium Hydroxide Solution	
WCN100211-07	.0375 mL	150 ppb CN Distilled ICV Standard	
1176724-C	1.25 mL	0.8N H3NO3S	
1260189-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	2/11/2010 9:52:37	OM_2-11-2010_09-49-17
150 ppb		1	axc2	2/11/2010 9:53:30	OM_2-11-2010_09-49-17
100 ppb		1	axc2	2/11/2010 9:54:22	OM_2-11-2010_09-49-17
50 ppb		1	axc2	2/11/2010 9:55:15	OM_2-11-2010_09-49-17
10 ppb		1	axc2	2/11/2010 9:56:08	OM_2-11-2010_09-49-17
CRDL 5.0 ppb		1	axc2	2/11/2010 9:57:02	OM_2-11-2010_09-49-17
ICAL-00		1	axc2	2/11/2010 9:57:56	OM_2-11-2010_09-49-17
ICV		1	axc2	2/11/2010 9:59:47	OM_2-11-2010_09-49-17
ICB		1	axc2	2/11/2010 10:01:38	OM_2-11-2010_09-49-17
		1	axc2	2/11/2010 10:03:27	OM_2-11-2010_09-49-17
1202034323	949511	1	axc2	2/11/2010 10:05:17	OM_2-11-2010_09-49-17
1202034330	949511	1	axc2	2/11/2010 10:06:10	OM_2-11-2010_09-49-17
245934002	949511	1	axc2	2/11/2010 10:07:04	OM_2-11-2010_09-49-17
1202034324	949511	1	axc2	2/11/2010 10:07:57	OM_2-11-2010_09-49-17
1202034326	949511	1	axc2	2/11/2010 10:08:50	OM_2-11-2010_09-49-17
1202034328	949511	1	axc2	2/11/2010 10:09:43	OM_2-11-2010_09-49-17
245934003	949511	1	axc2	2/11/2010 10:10:35	OM_2-11-2010_09-49-17
246064001	949511	1	axc2	2/11/2010 10:11:28	OM_2-11-2010_09-49-17
1202034325	949511	1	axc2	2/11/2010 10:12:20	OM_2-11-2010_09-49-17
1202034327	949511	1	axc2	2/11/2010 10:13:12	OM_2-11-2010_09-49-17
CCV		1	axc2	2/11/2010 10:14:05	OM_2-11-2010_09-49-17
CCB		1	axc2	2/11/2010 10:15:55	OM_2-11-2010_09-49-17
1202034329	949511	1	axc2	2/11/2010 10:17:43	OM_2-11-2010_09-49-17
246064005	949511	1	axc2	2/11/2010 10:18:36	OM_2-11-2010_09-49-17
246064009	949511	1	axc2	2/11/2010 10:19:27	OM_2-11-2010_09-49-17
246225002	949511	1	axc2	2/11/2010 10:20:19	OM_2-11-2010_09-49-17
246264001	949511	1	axc2	2/11/2010 10:21:11	OM_2-11-2010_09-49-17
246269001	949511	1	axc2	2/11/2010 10:22:05	OM_2-11-2010_09-49-17
246278001	949511	1	axc2	2/11/2010 10:22:58	OM_2-11-2010_09-49-17
246292001	949511	1	axc2	2/11/2010 10:23:52	OM_2-11-2010_09-49-17
246292002	949511	1	axc2	2/11/2010 10:24:45	OM_2-11-2010_09-49-17
246293001	949511	1	axc2	2/11/2010 10:25:38	OM_2-11-2010_09-49-17
CCV		1	axc2	2/11/2010 10:26:31	OM_2-11-2010_09-49-17
CCB		1	axc2	2/11/2010 10:28:21	OM_2-11-2010_09-49-17
246293003	949511	1	axc2	2/11/2010 10:30:10	OM_2-11-2010_09-49-17
246306001	949511	1	axc2	2/11/2010 10:31:03	OM_2-11-2010_09-49-17
246313001	949511	1	axc2	2/11/2010 10:31:55	OM_2-11-2010_09-49-17
246323001	949511	1	axc2	2/11/2010 10:32:47	OM_2-11-2010_09-49-17
246334001	949511	1	axc2	2/11/2010 10:33:40	OM_2-11-2010_09-49-17
246436001	949511	1	axc2	2/11/2010 10:34:33	OM_2-11-2010_09-49-17
246448001	949511	1	axc2	2/11/2010 10:35:25	OM_2-11-2010_09-49-17
246472001	949511	1	axc2	2/11/2010 10:36:17	OM_2-11-2010_09-49-17
CCV		1	axc2	2/11/2010 10:37:09	OM_2-11-2010_09-49-17
CCB		1	axc2	2/11/2010 10:38:59	OM_2-11-2010_09-49-17

Author: axc2 Date : 2/11/2010

Original Run Filename: OM_2-11-2010_09-49-17.OMN created 2/11/2010 09:49:17
Original Run Author's Signature: [axc2]
Current Run Filename: OM_2-11-2010_09-49-17.OMN last modified 2/11/2010 10:40:05
Current Run Author's Signature: [axc2]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN100211-01	1	S1	200	8.83	2/11/2010@09:52:37			200 ppb
WCN100211-02	1	S2	150	6.63	2/11/2010@09:53:30			150 ppb
WCN100211-03	1	S3	100	4.36	2/11/2010@09:54:22			100 ppb
WCN100211-04	1	S4	50.0	2.20	2/11/2010@09:55:15			50 ppb
WCN100211-05	1	S5	10.0	0.540	2/11/2010@09:56:08			10 ppb
WCN100211-06	1	S6	5.00	0.362	2/11/2010@09:57:02			CRDL 5.0 ppb
WCN100211-08	1	S7	0.00	0.0328	2/11/2010@09:57:56			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
		Result:	0.99988 > 0.99500					
		Message	Pass					
		Action	Continue					
WCN100211-07	1	S8	146	6.43	2/11/2010@09:59:47			ICV
		Known Conc:	150					
DQM Test: > + Percent Relative Difference								
		Result:	-2.8 < 10.0					
		Message	ICV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-2.8 < 10.0					
		Message	ICV Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
WCN100211-08	1	S7	-1.07	0.0209	2/11/2010@10:01:38			ICB/CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.07 < 5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.07 > -5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
WCN100211-06	1	S6	6.35	0.345	2/11/2010@10:03:27			
		Known Conc:	5.00					
DQM Test: > + Concentration Limit								
		Result:	6.35 < 7.50					
		Message	CRDL Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	6.35 > 2.50					
		Message	Pass					
		Action	None					
1202034323|949511|MB	1	1	-1.45	0.00419	2/11/2010@10:05:17			
1202034330||LCS	1	2	48.1	2.17	2/11/2010@10:06:10			
245934002	1	3	2.66	0.183	2/11/2010@10:07:04			
1202034324||DUP	1	4	4.23	0.252	2/11/2010@10:07:57			
1202034326||MS	1	5	105	4.65	2/11/2010@10:08:50			
1202034328||MSD	1	6	92.5	4.10	2/11/2010@10:09:43			
245934003	1	7	-0.642	0.0396	2/11/2010@10:10:35			
246064001	1	8	1.58	0.136	2/11/2010@10:11:28			
1202034325||DUP	1	9	2.13	0.161	2/11/2010@10:12:20			
1202034327||MS	1	10	104	4.59	2/11/2010@10:13:12			
WCN100211-03	1	S3	102	4.52	2/11/2010@10:14:05			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	2.1 < 10.0					

		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	2.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	-0.943	0.0264	2/11/2010@10:15:55			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	-0.943 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	-0.943 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1202034329||MSD	1	11	104	4.62	2/11/2010@10:17:43			
246064005	1	12	2.07	0.158	2/11/2010@10:18:36			
246064009	1	13	0.264	0.0791	2/11/2010@10:19:27			
246225002	1	14	39.6	1.80	2/11/2010@10:20:19			
246264001	1	15	-0.705	0.0368	2/11/2010@10:21:11			
246269001	1	16	0.112	0.0725	2/11/2010@10:22:05			
246278001	1	17	-1.45	0.00411	2/11/2010@10:22:58			
246292001	1	18	-0.826	0.0315	2/11/2010@10:23:52			
246292002	1	19	-1.37	0.00769	2/11/2010@10:24:45			
246293001	1	20	0.188	0.0758	2/11/2010@10:25:38			
WCN100211-03	1	S3	103	4.55	2/11/2010@10:26:31			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	2.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	2.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	-1.02	0.0233	2/11/2010@10:28:21			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	-1.02 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	-1.02 > -5.00					
		Message	CCB Passed					
		Action	Continue					
246293003	1	21	-0.359	0.0519	2/11/2010@10:30:10			
246306001	1	22	-0.770	0.0340	2/11/2010@10:31:03			
246313001	1	23	-1.08	0.0206	2/11/2010@10:31:55			
246323001	1	24	-0.601	0.0413	2/11/2010@10:32:47			
246334001	1	25	-2.72	-0.0512	2/11/2010@10:33:40			
246436001	1	26	-0.864	0.0299	2/11/2010@10:34:33			
246448001	1	27	-1.37	0.00777	2/11/2010@10:35:25			
246472001	1	28	-0.472	0.0470	2/11/2010@10:36:17			
WCN100211-03	1	S3	103	4.55	2/11/2010@10:37:09			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	2.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	2.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	-0.764	0.0342	2/11/2010@10:38:59			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	-0.764 < 5.00					

Author: axc2

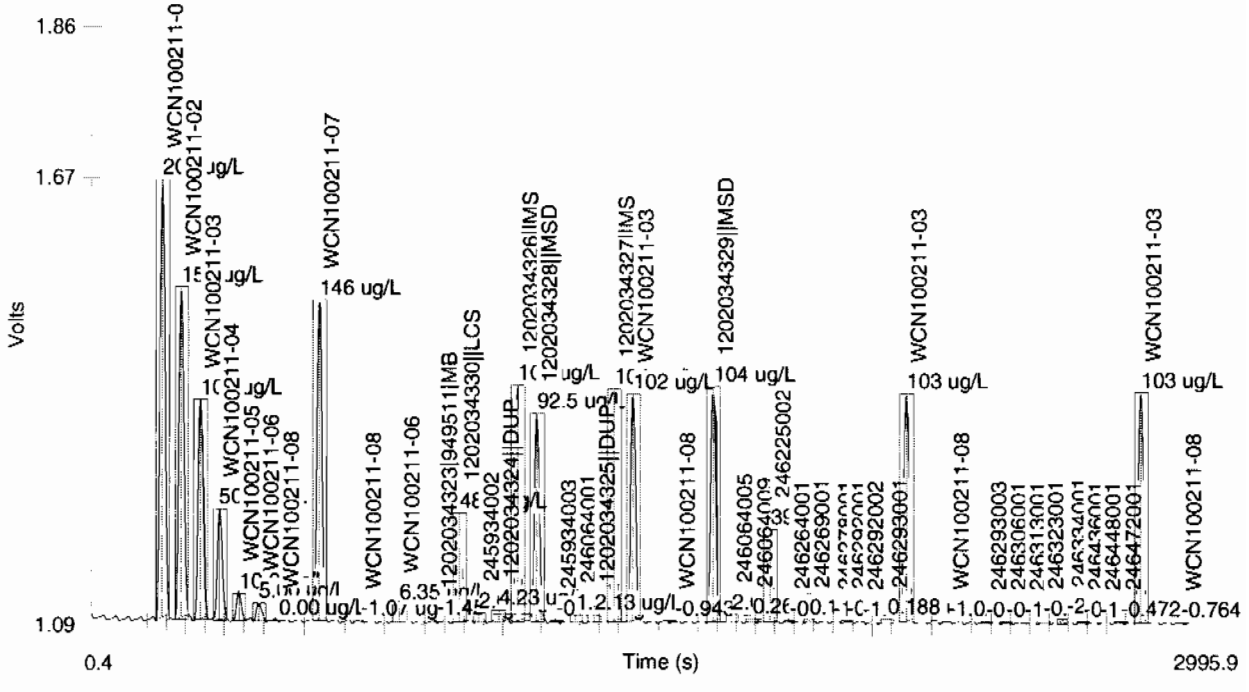
Date : 2/11/2010

Message	CCB Passed
Action	Continue
DQM Test: < - Concentration Limit	
Result:	-0.764 > -5.00
Message	CCB Passed
Action	Continue

Analyte Properties Table for OM_2-11-2010_09-49-17.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

Channel 1: Current View

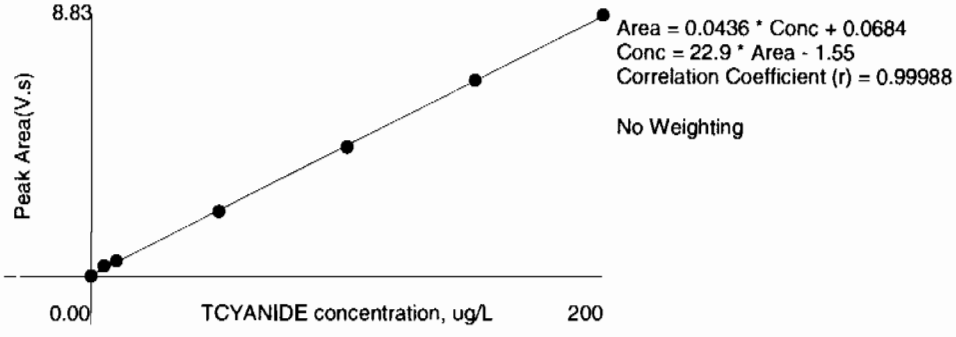


Author: axc2 Date : 2/11/2010

Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	8.83	0.563	-0.4	2/11/2010	09:53:41
2	150	1	6.63	0.424	-0.2	2/11/2010	09:54:33
3	100	1	4.36	0.279	1.6	2/11/2010	09:55:25
4	50.0	1	2.20	0.140	2.4	2/11/2010	09:56:18
5	10.0	1	0.540	0.0343	-7.1	2/11/2010	09:57:11
6	5.00	1	0.362	0.0225	-26.4	2/11/2010	09:58:05
7	0.00	1	0.0328	0.00101		2/11/2010	09:58:59

Figure 1: TCYANIDE



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	axc2	2/11/2010 13:12:27	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010 13:14:17	OM_2-11-2010_13-11-41
1202032232	948614	1	axc2	2/11/2010 13:16:06	OM_2-11-2010_13-11-41
1202032239	948614	25	axc2	2/11/2010 13:17:00	OM_2-11-2010_13-11-41
245938001	948614	1	axc2	2/11/2010 13:17:53	OM_2-11-2010_13-11-41
245938002	948614	1	axc2	2/11/2010 13:18:46	OM_2-11-2010_13-11-41
245938003	948614	1	axc2	2/11/2010 13:19:39	OM_2-11-2010_13-11-41
245938004	948614	1	axc2	2/11/2010 13:20:32	OM_2-11-2010_13-11-41
245938005	948614	1	axc2	2/11/2010 13:21:25	OM_2-11-2010_13-11-41
245938006	948614	1	axc2	2/11/2010 13:22:17	OM_2-11-2010_13-11-41
245938007	948614	1	axc2	2/11/2010 13:23:10	OM_2-11-2010_13-11-41
245938008	948614	1	axc2	2/11/2010 13:24:02	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010 13:24:54	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010 13:26:45	OM_2-11-2010_13-11-41
245950006	948614	1	axc2	2/11/2010 13:28:34	OM_2-11-2010_13-11-41
1202032233	948614	1	axc2	2/11/2010 13:29:26	OM_2-11-2010_13-11-41
1202032235	948614	1	axc2	2/11/2010 13:30:17	OM_2-11-2010_13-11-41
1202032237	948614	1	axc2	2/11/2010 13:31:09	OM_2-11-2010_13-11-41
245950007	948614	1	axc2	2/11/2010 13:32:00	OM_2-11-2010_13-11-41
1202032234	948614	1	axc2	2/11/2010 13:32:54	OM_2-11-2010_13-11-41
1202032236	948614	1	axc2	2/11/2010 13:33:48	OM_2-11-2010_13-11-41
1202032238	948614	1	axc2	2/11/2010 13:34:42	OM_2-11-2010_13-11-41
245950008	948614	1	axc2	2/11/2010 13:35:35	OM_2-11-2010_13-11-41
245950009	948614	1	axc2	2/11/2010 13:36:28	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010 13:37:21	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010 13:39:10	OM_2-11-2010_13-11-41
245955001	948614	1	axc2	2/11/2010 13:40:59	OM_2-11-2010_13-11-41
245955002	948614	1	axc2	2/11/2010 13:41:53	OM_2-11-2010_13-11-41
245960001	948614	1	axc2	2/11/2010 13:42:45	OM_2-11-2010_13-11-41
245960002	948614	1	axc2	2/11/2010 13:43:37	OM_2-11-2010_13-11-41
245960003	948614	1	axc2	2/11/2010 13:44:30	OM_2-11-2010_13-11-41
245960004	948614	1	axc2	2/11/2010 13:45:22	OM_2-11-2010_13-11-41
245960005	948614	1	axc2	2/11/2010 13:46:14	OM_2-11-2010_13-11-41
245960006	948614	1	axc2	2/11/2010 13:47:06	OM_2-11-2010_13-11-41
1202032248	948618	1	axc2	2/11/2010 13:47:59	OM_2-11-2010_13-11-41
1202032255	948618	25	axc2	2/11/2010 13:48:50	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010 13:49:43	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010 13:51:33	OM_2-11-2010_13-11-41
245960007	948618	1	axc2	2/11/2010 13:53:23	OM_2-11-2010_13-11-41
1202032249	948618	1	axc2	2/11/2010 13:54:17	OM_2-11-2010_13-11-41
1202032251	948618	1	axc2	2/11/2010 13:55:10	OM_2-11-2010_13-11-41
1202032253	948618	1	axc2	2/11/2010 13:56:04	OM_2-11-2010_13-11-41
245960008	948618	1	axc2	2/11/2010 13:56:58	OM_2-11-2010_13-11-41
1202032250	948618	1	axc2	2/11/2010 13:57:50	OM_2-11-2010_13-11-41
1202032252	948618	1	axc2	2/11/2010 13:58:43	OM_2-11-2010_13-11-41
1202032254	948618	1	axc2	2/11/2010 13:59:37	OM_2-11-2010_13-11-41
245960009	948618	1	axc2	2/11/2010 14:00:29	OM_2-11-2010_13-11-41
245960010	948618	1	axc2	2/11/2010 14:01:22	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010 14:02:14	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010 14:04:04	OM_2-11-2010_13-11-41
245960011	948618	1	axc2	2/11/2010 14:05:52	OM_2-11-2010_13-11-41
245998001	948618	1	axc2	2/11/2010 14:06:45	OM_2-11-2010_13-11-41
245998002	948618	1	axc2	2/11/2010 14:07:37	OM_2-11-2010_13-11-41
245998003	948618	1	axc2	2/11/2010 14:08:29	OM_2-11-2010_13-11-41
245998004	948618	1	axc2	2/11/2010 14:09:21	OM_2-11-2010_13-11-41
245998005	948618	1	axc2	2/11/2010 14:10:15	OM_2-11-2010_13-11-41
245998006	948618	1	axc2	2/11/2010 14:11:10	OM_2-11-2010_13-11-41
245998007	948618	1	axc2	2/11/2010 14:12:03	OM_2-11-2010_13-11-41

245998008	948618	1	axc2	2/11/2010	14:12:56	OM_2-11-2010_13-11-41
245998009	948618	1	axc2	2/11/2010	14:13:50	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010	14:14:42	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010	14:16:32	OM_2-11-2010_13-11-41
246012001	948618	1	axc2	2/11/2010	14:18:21	OM_2-11-2010_13-11-41
246012002	948618	1	axc2	2/11/2010	14:19:15	OM_2-11-2010_13-11-41
246012003	948618	1	axc2	2/11/2010	14:20:08	OM_2-11-2010_13-11-41
246012004	948618	1	axc2	2/11/2010	14:21:01	OM_2-11-2010_13-11-41
246012005	948618	1	axc2	2/11/2010	14:21:53	OM_2-11-2010_13-11-41
246012006	948618	1	axc2	2/11/2010	14:22:47	OM_2-11-2010_13-11-41
1202040197	951938	1	axc2	2/11/2010	14:23:39	OM_2-11-2010_13-11-41
1202040204	951938	25	axc2	2/11/2010	14:24:31	OM_2-11-2010_13-11-41
246280011	951938	1	axc2	2/11/2010	14:25:23	OM_2-11-2010_13-11-41
1202040198	951938	1	axc2	2/11/2010	14:26:15	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010	14:27:08	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010	14:28:58	OM_2-11-2010_13-11-41
1202040200	951938	1	axc2	2/11/2010	14:30:48	OM_2-11-2010_13-11-41
1202040202	951938	1	axc2	2/11/2010	14:31:43	OM_2-11-2010_13-11-41
246291009	951938	1	axc2	2/11/2010	14:32:37	OM_2-11-2010_13-11-41
1202040199	951938	1	axc2	2/11/2010	14:33:30	OM_2-11-2010_13-11-41
1202040201	951938	1	axc2	2/11/2010	14:34:25	OM_2-11-2010_13-11-41
1202040203	951938	1	axc2	2/11/2010	14:35:17	OM_2-11-2010_13-11-41
246557001	951938	1	axc2	2/11/2010	14:36:10	OM_2-11-2010_13-11-41
246562001	951938	1	axc2	2/11/2010	14:37:04	OM_2-11-2010_13-11-41
246587007	951938	1	axc2	2/11/2010	14:37:58	OM_2-11-2010_13-11-41
246592001	951938	1	axc2	2/11/2010	14:38:49	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010	14:39:42	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010	14:41:33	OM_2-11-2010_13-11-41
246592002	951938	1	axc2	2/11/2010	14:43:22	OM_2-11-2010_13-11-41
246592003	951938	1	axc2	2/11/2010	14:44:15	OM_2-11-2010_13-11-41
246592004	951938	1	axc2	2/11/2010	14:45:07	OM_2-11-2010_13-11-41
246594001	951938	1	axc2	2/11/2010	14:45:59	OM_2-11-2010_13-11-41
246594002	951938	1	axc2	2/11/2010	14:46:51	OM_2-11-2010_13-11-41
246594003	951938	1	axc2	2/11/2010	14:47:46	OM_2-11-2010_13-11-41
246594004	951938	1	axc2	2/11/2010	14:48:40	OM_2-11-2010_13-11-41
246594005	951938	1	axc2	2/11/2010	14:49:34	OM_2-11-2010_13-11-41
246594006	951938	1	axc2	2/11/2010	14:50:28	OM_2-11-2010_13-11-41
246610001	951938	1	axc2	2/11/2010	14:51:22	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010	14:52:15	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010	14:54:05	OM_2-11-2010_13-11-41
246610002*	951938	1	axc2	2/11/2010	14:55:56	OM_2-11-2010_13-11-41
246610003*	951938	1	axc2	2/11/2010	14:56:50	OM_2-11-2010_13-11-41
246612001*	951938	1	axc2	2/11/2010	14:57:43	OM_2-11-2010_13-11-41
246615001*	951938	1	axc2	2/11/2010	14:58:36	OM_2-11-2010_13-11-41
1202040194*	951932	1	axc2	2/11/2010	14:59:31	OM_2-11-2010_13-11-41
1202040196*	951932	1	axc2	2/11/2010	15:00:25	OM_2-11-2010_13-11-41
246612001*	951932	1	axc2	2/11/2010	15:01:18	OM_2-11-2010_13-11-41
1202040195*	951932	1	axc2	2/11/2010	15:02:12	OM_2-11-2010_13-11-41
246615001*	951932	1	axc2	2/11/2010	15:03:05	OM_2-11-2010_13-11-41
CCV		1	axc2	2/11/2010	15:03:58	OM_2-11-2010_13-11-41
CCB		1	axc2	2/11/2010	15:05:48	OM_2-11-2010_13-11-41

Author: axc2 Date : 2/11/2010

Original Run Filename: OM_2-11-2010_13-11-41.OMN created 2/11/2010 13:11:41
Original Run Author's Signature: [axc2]
Current Run Filename: OM_2-11-2010_13-11-41.OMN last modified 2/11/2010 15:06:53
Current Run Author's Signature: [axc2]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN100211-03	1	S3	94.8	4.20	2/11/2010@13:12:27			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	-5.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	-5.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	1.93	0.152	2/11/2010@13:14:17			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	1.93 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	1.93 > -5.00					
		Message	CCB Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
1202032232|948614|MB	1	1	-0.686	0.0376	2/11/2010@13:16:06			
1202032239||LCS	1	2	23.9	1.11	2/11/2010@13:17:00		25.00	
245938001	1	3	2.59	0.180	2/11/2010@13:17:53			
245938002	1	4	-0.603	0.0412	2/11/2010@13:18:46			
245938003	1	5	0.184	0.0756	2/11/2010@13:19:39			
245938004	1	6	-0.847	0.0306	2/11/2010@13:20:32			
245938005	1	7	1.39	0.128	2/11/2010@13:21:25			
245938006	1	8	-0.839	0.0309	2/11/2010@13:22:17			
245938007	1	9	-0.337	0.0529	2/11/2010@13:23:10			
245938008	1	10	0.766	0.101	2/11/2010@13:24:02			
WCN100211-03	1	S3	92.8	4.12	2/11/2010@13:24:54			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	-7.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	-7.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	1.48	0.132	2/11/2010@13:26:45			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	1.48 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	1.48 > -5.00					
		Message	CCB Passed					
		Action	Continue					
245950006	1	11	6.80	0.364	2/11/2010@13:28:34			
1202032233||DUP	1	12	4.08	0.246	2/11/2010@13:29:26			
1202032235||MS	1	13	78.1	3.48	2/11/2010@13:30:17			
1202032237||MSD	1	14	76.8	3.42	2/11/2010@13:31:09			
245950007	1	15	2.92	0.195	2/11/2010@13:32:00			

1202032234||DUP	1	16	1.00	0.111	2/11/2010@13:32:54			
1202032236||MS	1	17	75.7	3.37	2/11/2010@13:33:48			
1202032238||MSD	1	18	80.5	3.58	2/11/2010@13:34:42			
245950008	1	19	2.77	0.189	2/11/2010@13:35:35			
245950009	1	20	13.9	0.676	2/11/2010@13:36:28			
WCN100211-03	1	S3	93.7	4.16	2/11/2010@13:37:21			CCV
	Known Conc:		100					
DQM Test: > + Percent Relative Difference								
		Result:	-6.3 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-6.3 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	2.68	0.185	2/11/2010@13:39:10			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
		Result:	2.68 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	2.68 > -5.00					
		Message	CCB Passed					
		Action	Continue					
245955001	1	21	-0.0162	0.0669	2/11/2010@13:40:59			
245955002	1	22	-1.55	-1.59e-4	2/11/2010@13:41:53			
245960001	1	23	0.0402	0.0693	2/11/2010@13:42:45			
245960002	1	24	1.17	0.118	2/11/2010@13:43:37			
245960003	1	25	0.304	0.0808	2/11/2010@13:44:30			
245960004	1	26	0.287	0.0801	2/11/2010@13:45:22			
245960005	1	27	0.431	0.0864	2/11/2010@13:46:14			
245960006	1	28	0.770	0.101	2/11/2010@13:47:06			
1202032248|948618|MB	1	29	0.407	0.0853	2/11/2010@13:47:59			
1202032255||LCS	1	30	29.4	1.35	2/11/2010@13:48:50		25.00	
WCN100211-03	1	S3	94.6	4.19	2/11/2010@13:49:43			CCV
	Known Conc:		100					
DQM Test: > + Percent Relative Difference								
		Result:	-5.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-5.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	2.13	0.160	2/11/2010@13:51:33			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
		Result:	2.13 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	2.13 > -5.00					
		Message	CCB Passed					
		Action	Continue					
245960007	1	31	0.0379	0.0692	2/11/2010@13:53:23			
1202032249||DUP	1	32	0.746	0.100	2/11/2010@13:54:17			
1202032251||MS	1	33	85.5	3.80	2/11/2010@13:55:10			
1202032253||MSD	1	34	67.7	3.02	2/11/2010@13:56:04			
245960008	1	35	3.10	0.203	2/11/2010@13:56:58			
1202032250||DUP	1	36	0.363	0.0834	2/11/2010@13:57:50			
1202032252||MS	1	37	86.5	3.84	2/11/2010@13:58:43			
1202032254||MSD	1	38	77.7	3.46	2/11/2010@13:59:37			
245960009	1	39	3.26	0.210	2/11/2010@14:00:29			
245960010	1	40	1.29	0.124	2/11/2010@14:01:22			
WCN100211-03	1	S3	93.9	4.17	2/11/2010@14:02:14			CCV
	Known Conc:		100					
DQM Test: > + Percent Relative Difference								

		Result:	-6.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-6.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	1.78	0.145	2/11/2010@14:04:04			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	1.78 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.78 > -5.00					
		Message	CCB Passed					
		Action	Continue					
245960011	1	41	0.196	0.0761	2/11/2010@14:05:52			
245998001	1	42	-0.395	0.0503	2/11/2010@14:06:45			
245998002	1	43	0.821	0.103	2/11/2010@14:07:37			
245998003	1	44	-0.139	0.0615	2/11/2010@14:08:29			
245998004	1	45	0.289	0.0802	2/11/2010@14:09:21			
245998005	1	46	-0.410	0.0497	2/11/2010@14:10:15			
245998006	1	47	5.12	0.291	2/11/2010@14:11:10			
245998007	1	48	0.146	0.0739	2/11/2010@14:12:03			
245998008	1	49	-1.76	-0.00916	2/11/2010@14:12:56			
245998009	1	50	0.375	0.0839	2/11/2010@14:13:50			
WCN100211-03	1	S3	97.6	4.33	2/11/2010@14:14:42			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	-2.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-2.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	1.36	0.127	2/11/2010@14:16:32			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	1.36 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.36 > -5.00					
		Message	CCB Passed					
		Action	Continue					
246012001	1	51	0.266	0.0792	2/11/2010@14:18:21			
246012002	1	52	-0.481	0.0466	2/11/2010@14:19:15			
246012003	1	53	0.188	0.0758	2/11/2010@14:20:08			
246012004	1	54	-0.326	0.0533	2/11/2010@14:21:01			
246012005	1	55	-0.0652	0.0647	2/11/2010@14:21:53			
246012006	1	56	-0.712	0.0365	2/11/2010@14:22:47			
1202040197|951938|MB	1	57	-2.19	-0.0282	2/11/2010@14:23:39			
1202040204||LCS	1	58	23.2	1.08	2/11/2010@14:24:31		25.00	
246280011	1	59	-0.125	0.0621	2/11/2010@14:25:23			
1202040198||DUP	1	60	-0.908	0.0280	2/11/2010@14:26:15			
WCN100211-03	1	S3	93.4	4.15	2/11/2010@14:27:08			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	-6.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-6.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	1.94	0.152	2/11/2010@14:28:58			CCB

		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	1.94 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.94 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1202040200||MS	1	61	91.2	4.05	2/11/2010@14:30:48			
1202040202||MSD	1	62	92.5	4.11	2/11/2010@14:31:43			
246291009	1	63	2.70	0.186	2/11/2010@14:32:37			
1202040199||DUP	1	64	-0.845	0.0307	2/11/2010@14:33:30			
1202040201||MS	1	65	80.2	3.57	2/11/2010@14:34:25			
1202040203||MSD	1	66	81.0	3.60	2/11/2010@14:35:17			
246557001	1	67	2.25	0.166	2/11/2010@14:36:10			
246562001	1	68	-0.806	0.0324	2/11/2010@14:37:04			
246587007	1	69	-0.127	0.0620	2/11/2010@14:37:58			
246592001	1	70	1.11	0.116	2/11/2010@14:38:49			
WCN100211-03	1	S3	93.3	4.14	2/11/2010@14:39:42			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					
WCN100211-08	1	S7	1.81	0.147	2/11/2010@14:41:33			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	1.81 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.81 > -5.00					
		Message	CCB Passed					
		Action	Continue					
246592002	1	71	0.567	0.0923	2/11/2010@14:43:22			
246592003	1	72	1.71	0.142	2/11/2010@14:44:15			
246592004	1	73	0.407	0.0853	2/11/2010@14:45:07			
246594001	1	74	-0.143	0.0613	2/11/2010@14:45:59			
246594002	1	75	-0.134	0.0617	2/11/2010@14:46:51			
246594003	1	76	-0.329	0.0532	2/11/2010@14:47:46			
246594004	1	77	0.0585	0.0701	2/11/2010@14:48:40			
246594005	1	78	-2.65	-0.0480	2/11/2010@14:49:34			
246594006	1	79	-1.79	-0.0107	2/11/2010@14:50:28			
246610001	1	80	-1.55	0.00	2/11/2010@14:51:22			
WCN100211-03	1	S3	93.6	4.15	2/11/2010@14:52:15			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	-6.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-6.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100211-08	1	S7	1.02	0.112	2/11/2010@14:54:05			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	1.02 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.02 > -5.00					
		Message	CCB Passed					

		Action	Continue					
246610002	1	81	-0.827	0.0315	2/11/2010@14:55:56			
246610003	1	82	-1.05	0.0217	2/11/2010@14:56:50			
246612001	1	83	0.0685	0.0706	2/11/2010@14:57:43			
246615001	1	84	22.5	1.05	2/11/2010@14:58:36			
1202040194|951932|MB	1	95	-0.101	0.0631	2/11/2010@14:59:31			
1202040196||LCS	1	96	-0.953	0.0259	2/11/2010@15:00:25			
246612001	1	97	1.37	0.128	2/11/2010@15:01:18			
1202040195||DUP	1	98	3.09	0.203	2/11/2010@15:02:12			
246615001	1	99	39.0	1.77	2/11/2010@15:03:05			
WCN100211-03	1	S3	94.2	4.18	2/11/2010@15:03:58			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					
WCN100211-08	1	S7	-39.9	-1.67	2/11/2010@15:05:48			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-39.9 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-39.9 < -5.00					
		Message	CCB Failed					
		Action	Stop Run					

Analyte Properties Table for OM_2-11-2010_13-11-41.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

Author: axc2

Date : 2/11/2010

Channel 1: Current View

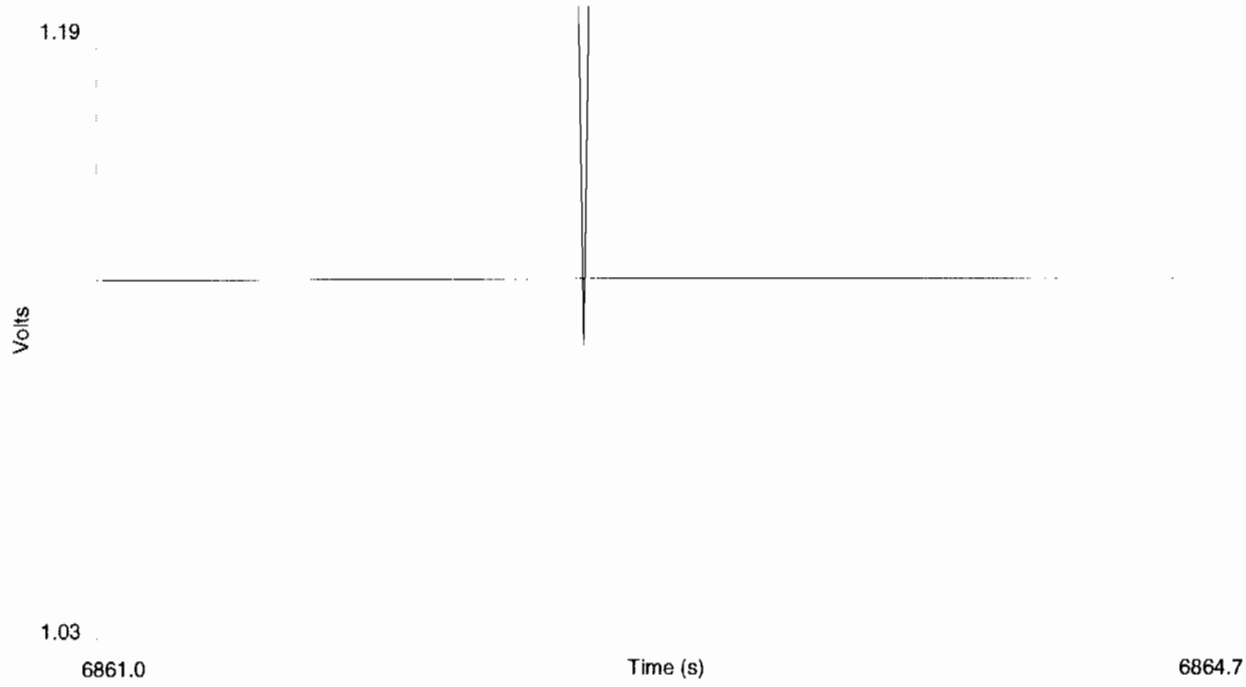
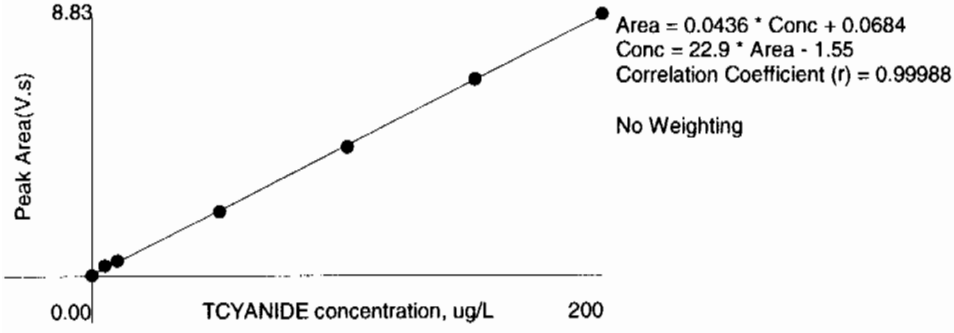


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	8.83	0.563	-0.4	2/11/2010	09:53:41
2	150	1	6.63	0.424	-0.2	2/11/2010	09:54:33
3	100	1	4.36	0.279	1.6	2/11/2010	09:55:25
4	50.0	1	2.20	0.140	2.4	2/11/2010	09:56:18
5	10.0	1	0.540	0.0343	-7.1	2/11/2010	09:57:11
6	5.00	1	0.362	0.0225	-26.4	2/11/2010	09:58:05
7	0.00	1	0.0328	0.00101		2/11/2010	09:58:59

Figure 1: TCYANIDE



Ion Chromatography

Prep LogBook

Analyst: MAR1 Verified by:_____

Batch: 953763

Lab SOP: GL-GC-E-086 REV# 17

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202044713	UIC100123SPK-I	.8	mL
MS	1202044711	UIC100123SPK-I	.8	mL
MSD	1202044712	UIC100123SPK-I	.8	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202044709		EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL
LCS	1202044713		EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL
SAMPLE	245955001		EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL
SAMPLE	245955002		EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL
SAMPLE	246557001		EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL
DUP	1202044710	246557001	EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL
MS	1202044711	246557001	EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL
MSD	1202044712	246557001	EPA 300.0 PREP	16-FEB-2010 10:30	4 g	40 mL	10	SOIL

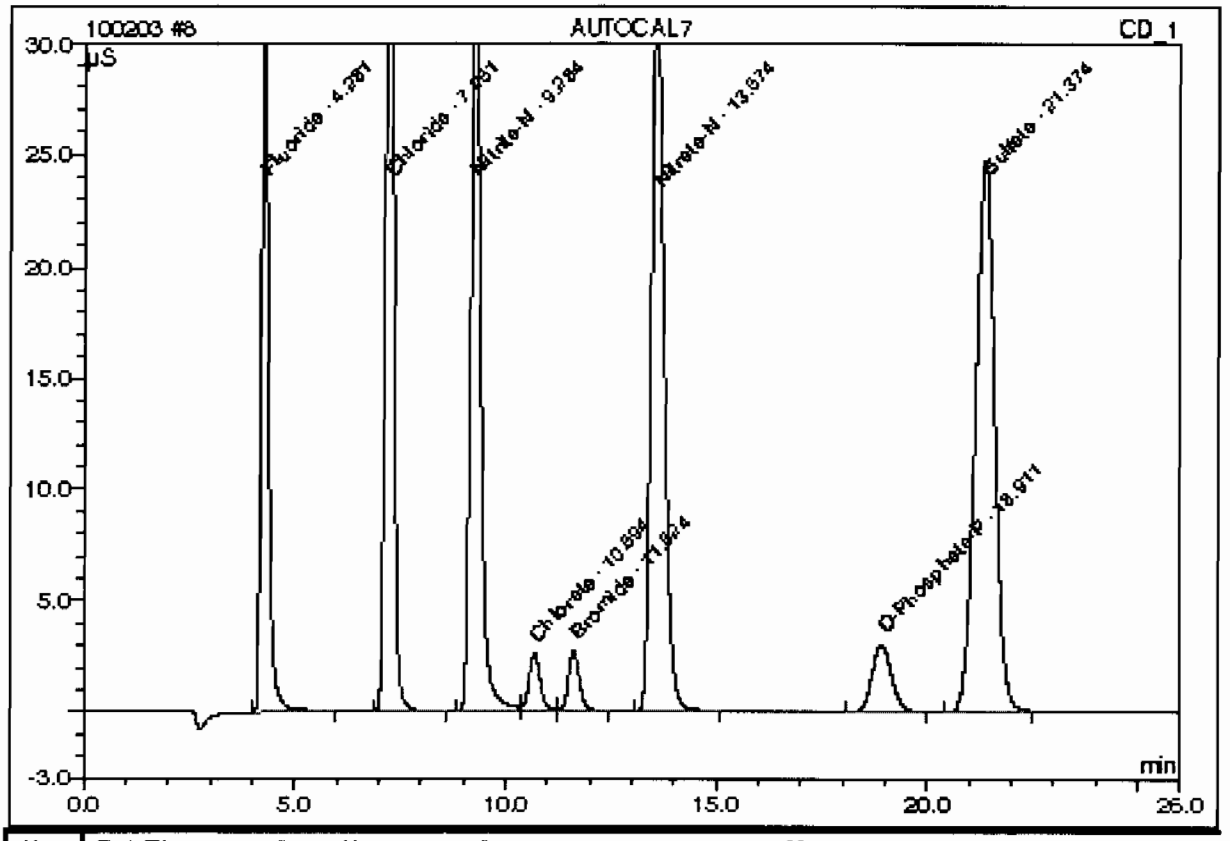
Comments

This is runlog for Sequence 100217.seq for IC6

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
ICAL-07	02/03/10 14:51		1	100217	MAR1
ICAL-06	02/03/10 15:20		1	100217	MAR1
ICAL-05	02/03/10 15:49		1	100217	MAR1
ICAL-04	02/03/10 16:18		1	100217	MAR1
ICAL-03	02/03/10 16:47		1	100217	MAR1
ICAL-02	02/03/10 17:16		1	100217	MAR1
ICAL-01	02/03/10 17:45		1	100217	MAR1

8 AUTOCAL7

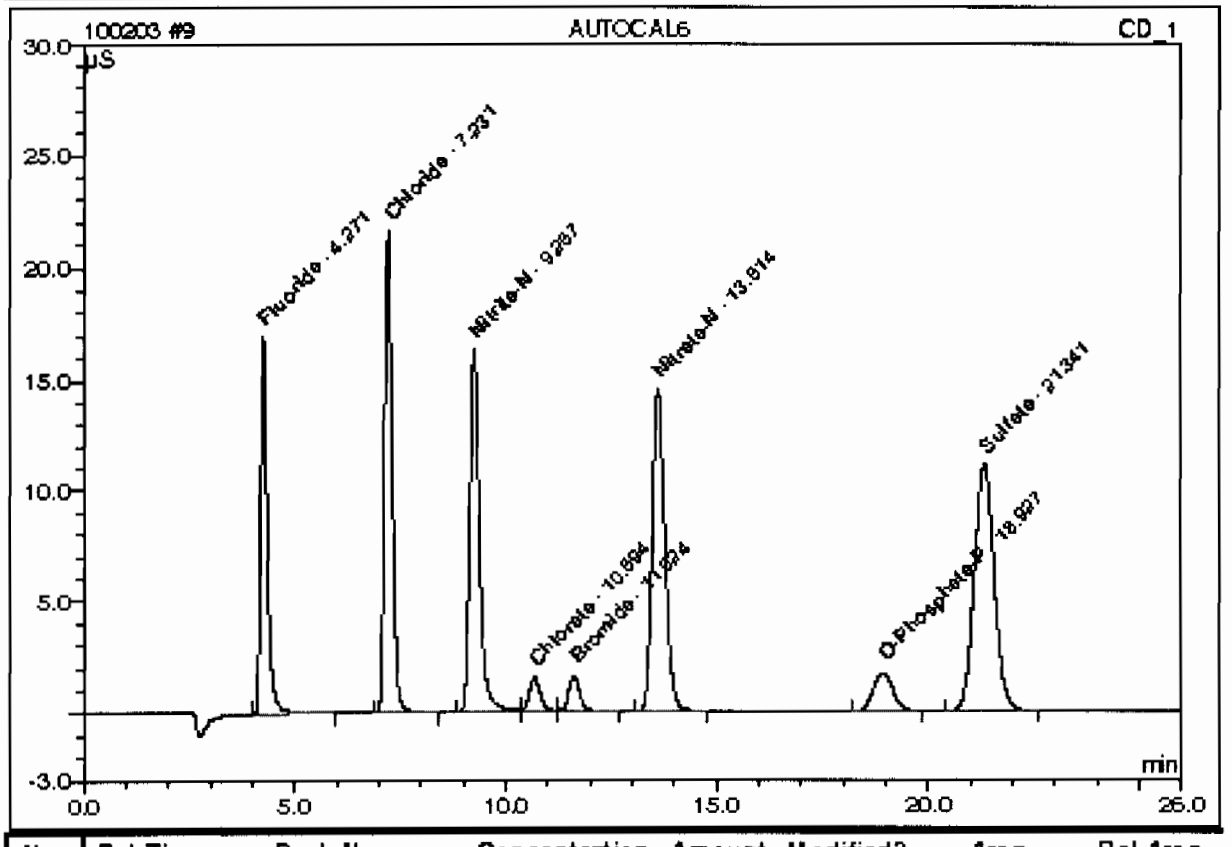
Sample Name:	AUTOCAL7	*Injection Volume:*	1.0
Vial Number:	2	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 14:51	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.28	Fluoride	10.0000	10.0789		6.36361	12.07
2	7.25	Chloride	20.0000	20.3251		9.51272	18.04
3	9.28	Nitrite-N	10.0000	10.0955		9.30956	17.66
4	10.69	Chlorate	5.0000	5.0882		0.81636	1.55
5	11.62	Bromide	5.0000	5.0072		0.83672	1.59
6	13.57	Nitrate-N	10.0000	10.1822		11.20457	21.25
7	18.91	O-Phosphate-P	5.0000	5.0928		1.61745	3.07
8	21.37	Sulfate	40.0000	40.6145		13.05755	24.77
Total:				106.4844	0.000	52.719	100.00

9 AUTOCAL6

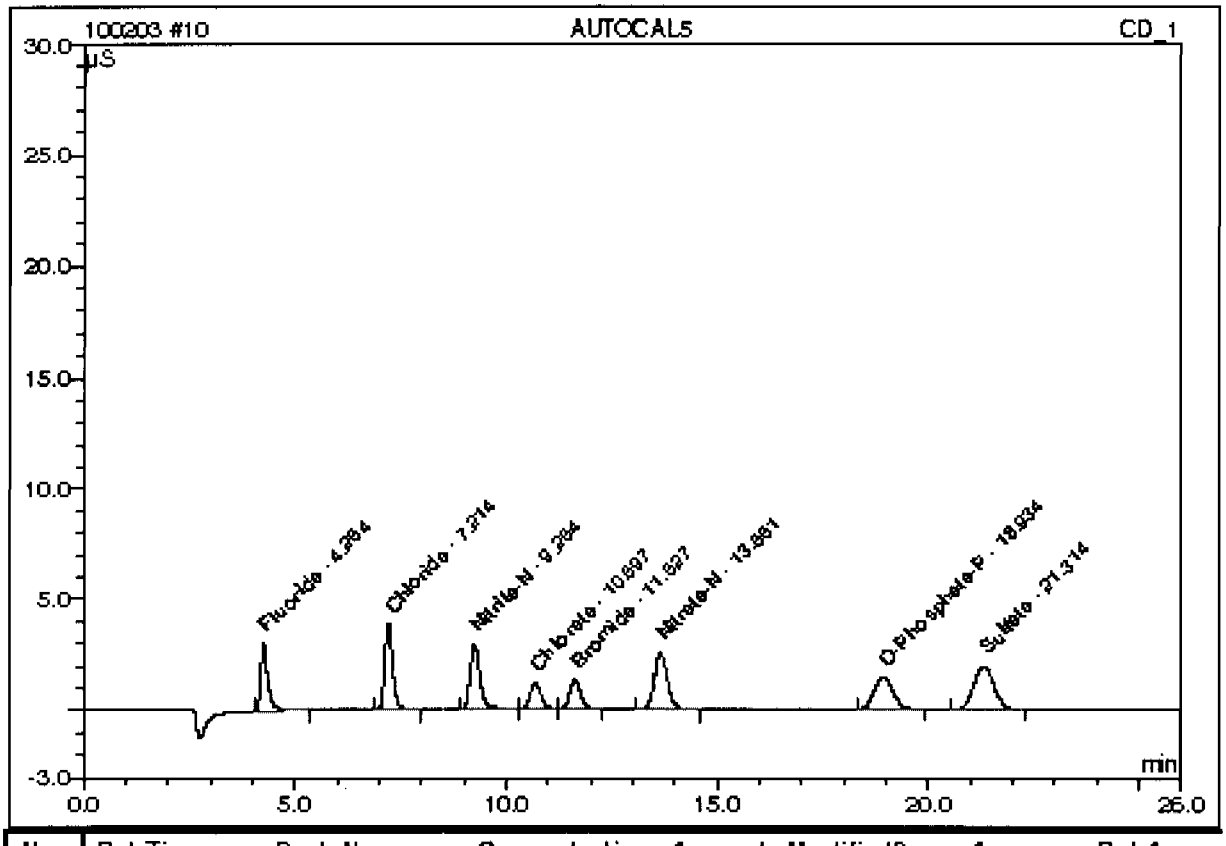
Sample Name:	AUTOCAL6	*Injection Volume:*	1.0
Vial Number:	3	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 15:20	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.27	Fluoride	5.0000	4.8505		3.04271	12.30
2	7.23	Chloride	10.0000	9.3656		4.33939	17.55
3	9.27	Nitrite-N	5.0000	4.8181		4.41022	17.83
4	10.69	Chlorate	3.0000	2.9971		0.47650	1.93
5	11.62	Bromide	3.0000	3.0679		0.51071	2.06
6	13.61	Nitrate-N	5.0000	4.6446		5.04710	20.41
7	18.93	O-Phosphate-P	3.0000	2.9374		0.91837	3.71
8	21.34	Sulfate	20.0000	18.8112		5.98714	24.21
Total:				51.4925	0.000	24.732	100.00

10 AUTOCAL5

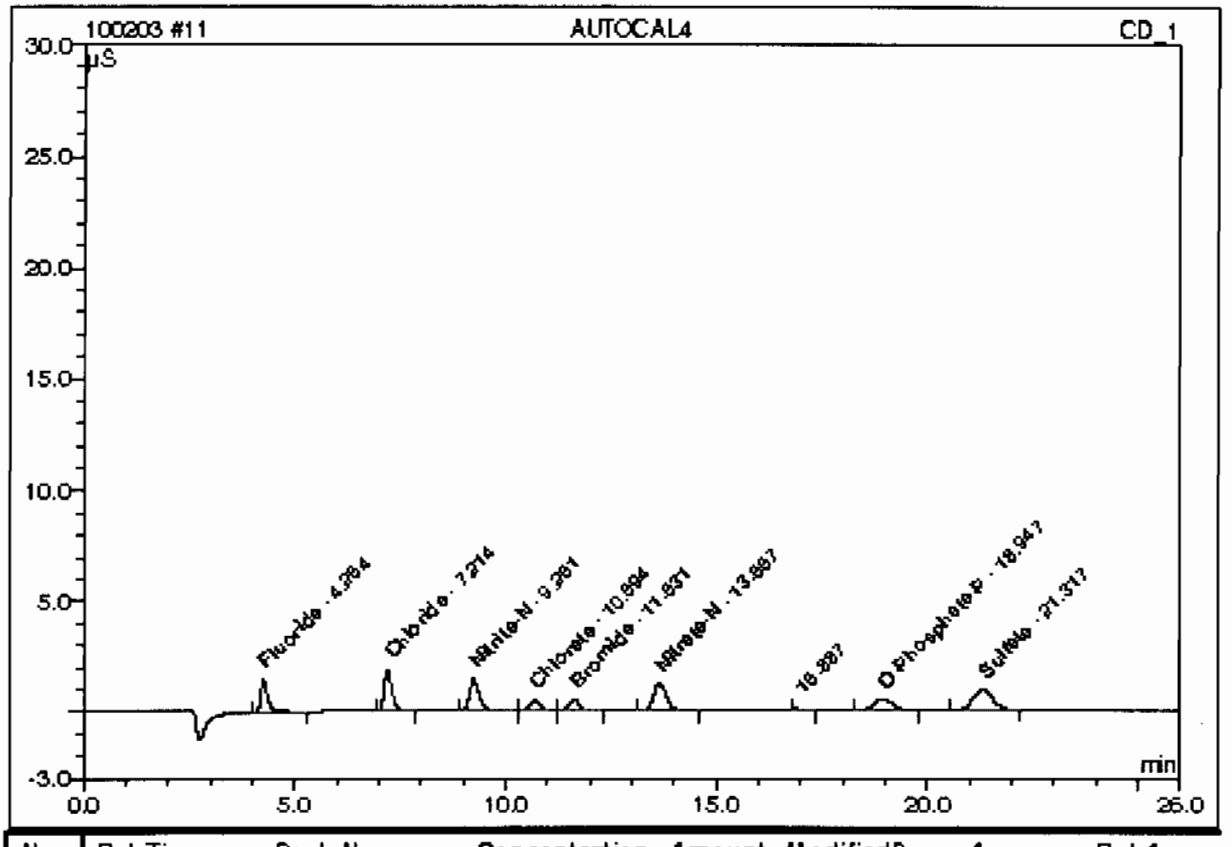
Sample Name:	AUTOCAL5	*Injection Volume:*	1.0
Vial Number:	4	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 15:49	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.26	Fluoride	1.0000	0.9515		0.56618	9.92
2	7.21	Chloride	2.0000	1.8779		0.80490	14.10
3	9.25	Nitrite-N	1.0000	0.9432		0.81286	14.24
4	10.70	Chlorate	2.5000	2.3297		0.36803	6.45
5	11.63	Bromide	2.5000	2.4133		0.40066	7.02
6	13.65	Nitrate-N	1.0000	0.9296		0.91623	16.05
7	18.93	O-Phosphate-P	2.5000	2.4061		0.74604	13.07
8	21.31	Sulfate	4.0000	3.7213		1.09374	19.16
Total:				15.5726	0.000	5.709	100.00

11 AUTOCAL4

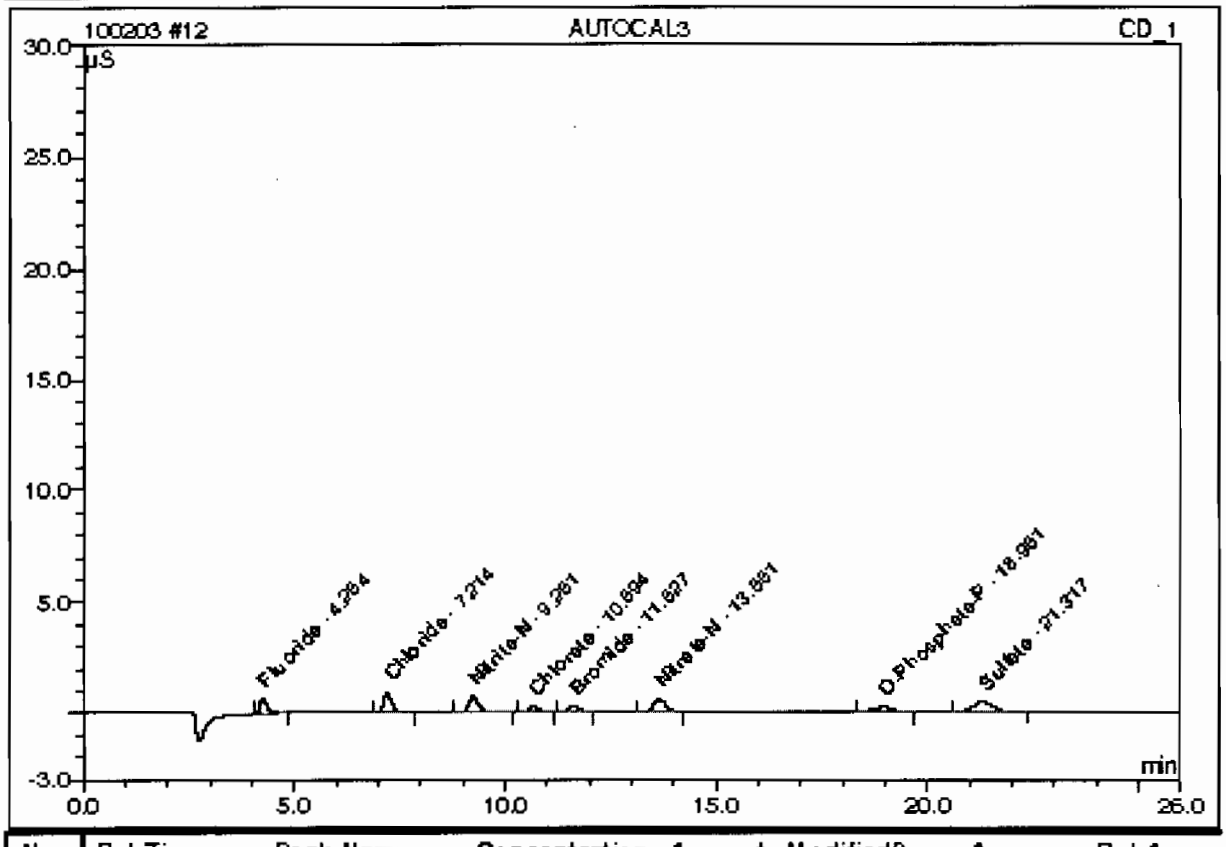
Sample Name:	AUTOCAL4	*Injection Volume:*	1.0
Vial Number:	5	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 16:18	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.26	Fluoride	0.5000	0.4971		0.27757	10.42
2	7.21	Chloride	1.0000	1.0089		0.39471	14.82
3	9.25	Nitrite-N	0.5000	0.4969		0.39851	14.97
4	10.69	Chlorate	1.0000	0.9855		0.14957	5.62
5	11.63	Bromide	1.0000	0.9805		0.15979	6.00
6	13.66	Nitrate-N	0.5000	0.5103		0.45001	16.90
8	18.95	O-Phosphate-P	1.0000	0.9640		0.27829	10.45
9	21.32	Sulfate	2.0000	1.9928		0.53323	20.03
Total:				7.4361	0.000	2.642	99.22

12 AUTOCAL3

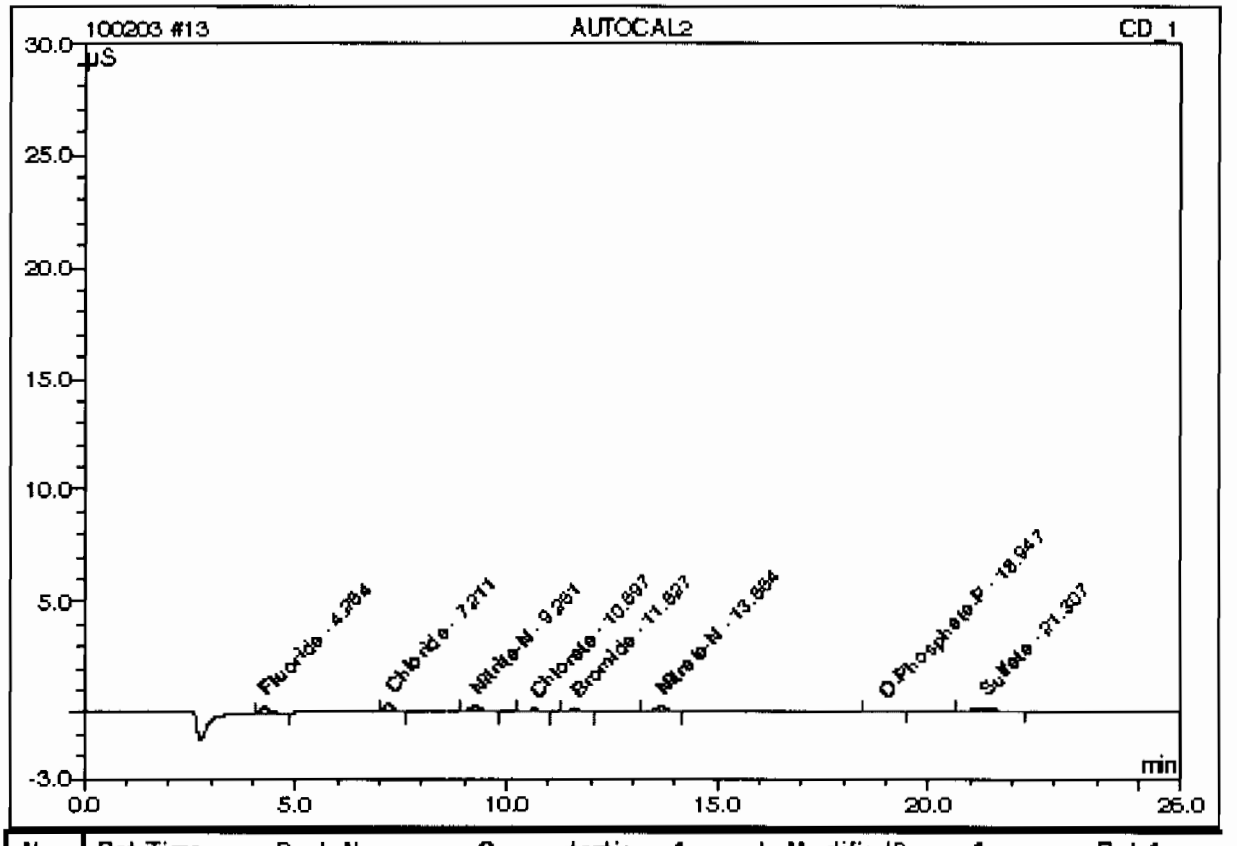
Sample Name:	AUTOCAL3	*Injection Volume:*	1.0
Vial Number:	6	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 16:47	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.26	Fluoride	0.2500	0.2665		0.13108	10.19
2	7.21	Chloride	0.5000	0.5938		0.19877	15.45
3	9.25	Nitrite-N	0.2500	0.2798		0.19699	15.31
4	10.69	Chlorate	0.5000	0.5043		0.07135	5.55
5	11.63	Bromide	0.5000	0.4866		0.07676	5.97
6	13.66	Nitrate-N	0.2500	0.2967		0.21243	16.51
7	18.95	O-Phosphate-P	0.5000	0.4866		0.12344	9.60
8	21.32	Sulfate	1.0000	1.1986		0.27569	21.43
Total:				4.1128	0.000	1.287	100.00

13 AUTOCAL2

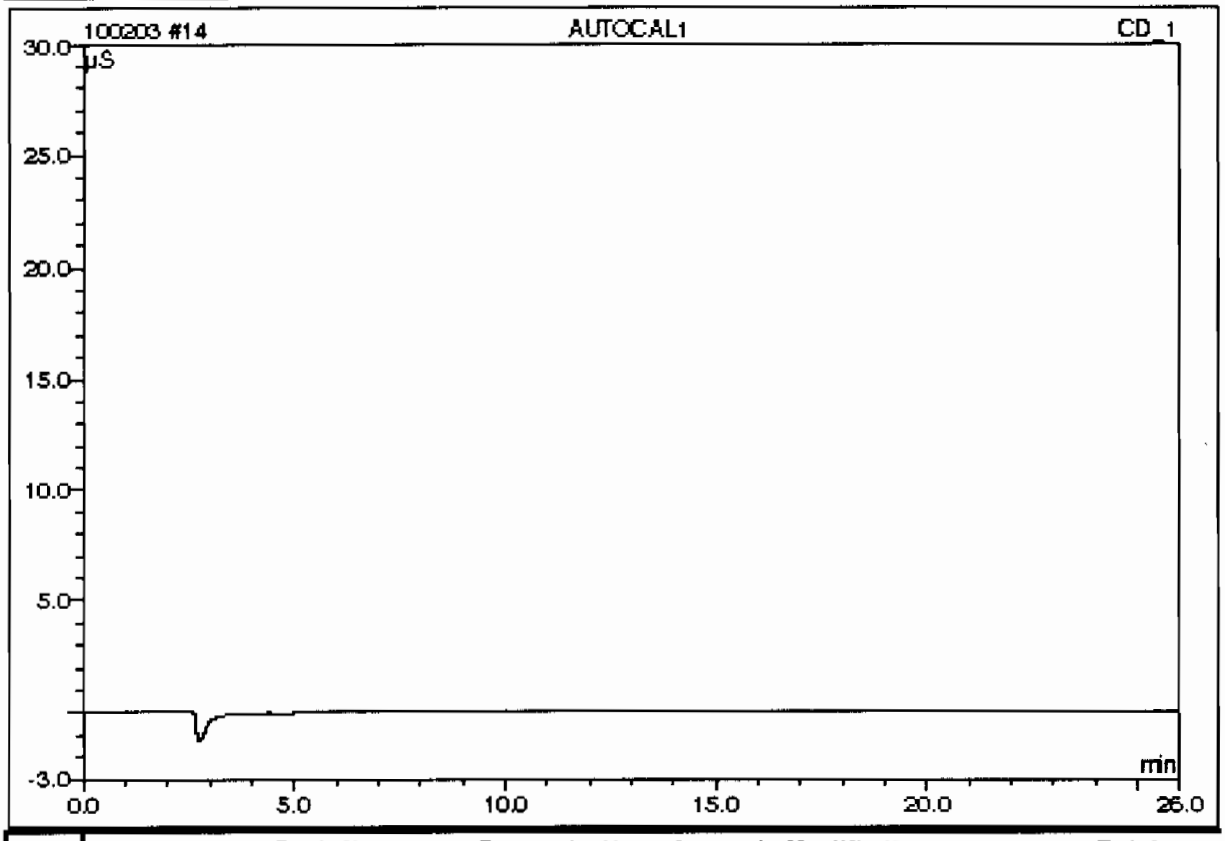
Sample Name:	AUTOCAL2	*Injection Volume:*	1.0
Vial Number:	7	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 17:16	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.26	Fluoride	0.1000	0.1453		0.05408	10.63
2	7.21	Chloride	0.2000	0.3561		0.08657	17.02
3	9.25	Nitrite-N	0.1000	0.1488		0.07532	14.81
4	10.70	Chlorate	0.2000	0.2300		0.02676	5.26
5	11.63	Bromide	0.2000	0.2145		0.03102	6.10
6	13.66	Nitrate-N	0.1000	0.1809		0.08368	16.46
7	18.95	O-Phosphate-P	0.2000	0.2072		0.03283	6.46
8	21.31	Sulfate	0.4000	0.7131		0.11824	23.25
Total:				2.1958	0.000	0.509	100.00

14 AUTOCAL1

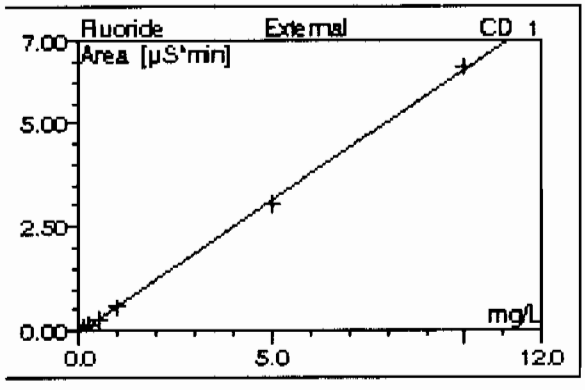
Sample Name:	AUTOCAL1	*Injection Volume:*	1.0
Vial Number:	8	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 17:45	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056

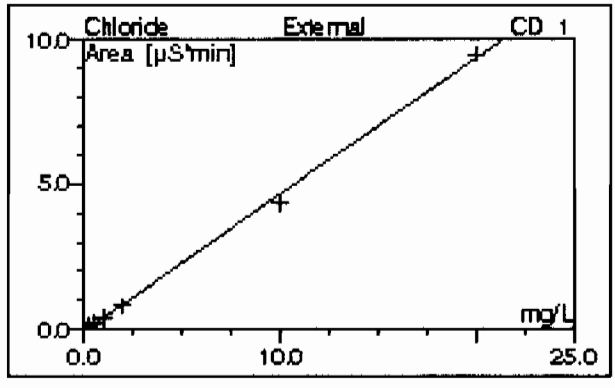


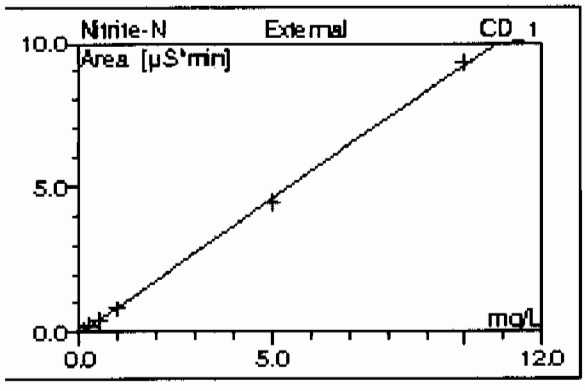
No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

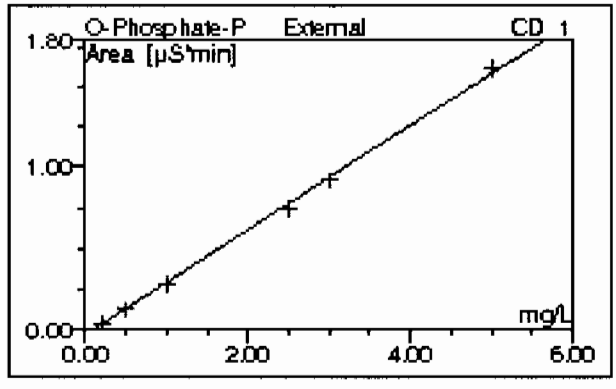
14 AUTOCAL1

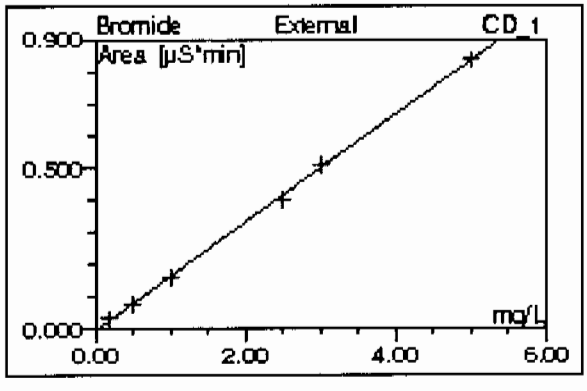
Sample Name:	AUTOCAL1	*Injection Volume:*	1.0
Vial Number:	8	*Channel:*	CD_1
Sample Type:	standard	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 17:45	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-002712; GL GCE086;300;9056

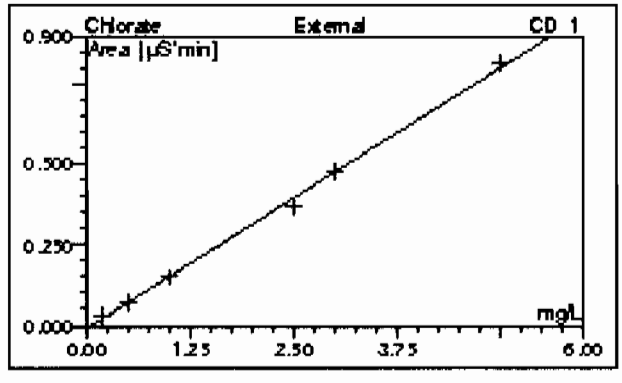


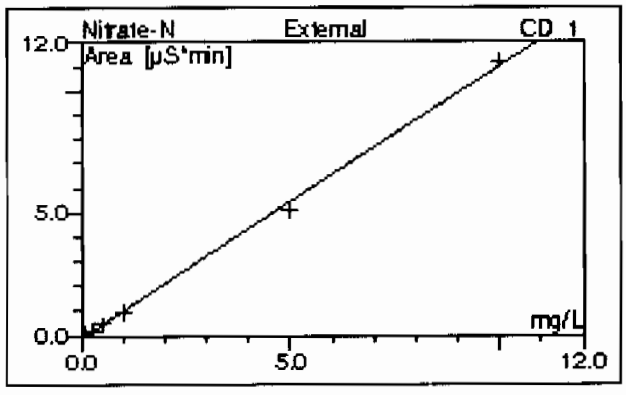


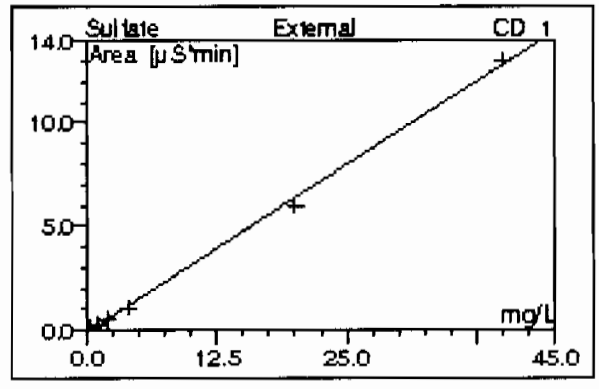








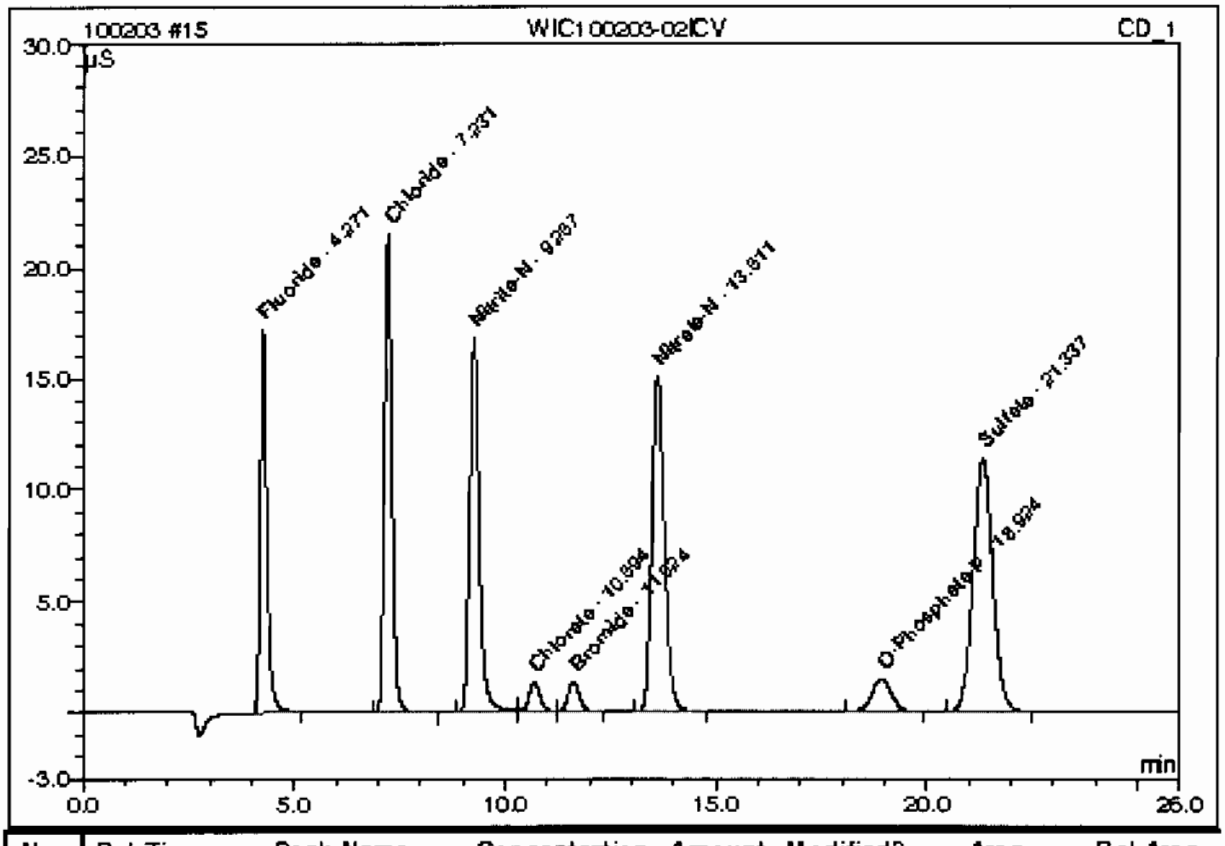




No. CD_1	Ret.Time CD_1 min	Peak Name CD_1	Cal.Type CD_1	Coeff.Det. CD_1 %	Offset CD_1	Slope CD_1	Curve CD_1
n.a.	n.a.	Fluoride	0LOff	99.9581	-0.0382	0.6352	0.0000
n.a.	n.a.	Chloride	0LOff	99.8253	-0.0815	0.4720	0.0000
n.a.	n.a.	Nitrite-N	0LOff	99.9387	-0.0628	0.9284	0.0000
n.a.	n.a.	Chlorate	0LOff	99.7775	-0.0106	0.1625	0.0000
n.a.	n.a.	Bromide	0LOff	99.9232	-0.0050	0.1681	0.0000
n.a.	n.a.	Nitrate-N	0LOff	99.7828	-0.1175	1.1119	0.0000
n.a.	n.a.	O-Phosphate-P	0LOff	99.8669	-0.0344	0.3243	0.0000
n.a.	n.a.	Sulfate	0LOff	99.8425	-0.1130	0.3243	0.0000
Average:				99.8644	-0.0579	0.5158	0.0000

15 WIC100203-02ICV

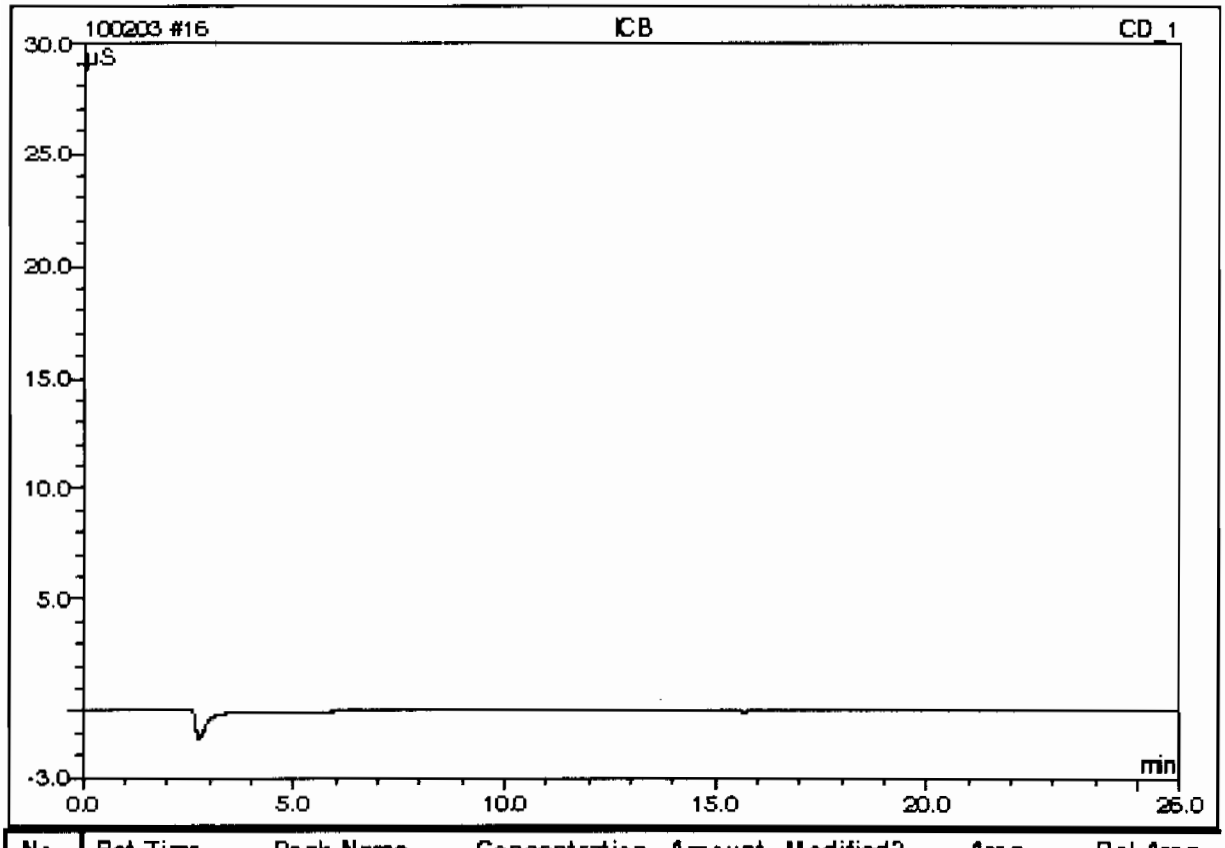
Sample Name:	WIC100203-02ICV	*Injection Volume:*	1.0
Vial Number:	9	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 18:14	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GLGCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.27	Fluoride	n.a.	4.8343		3.03244	12.24
2	7.23	Chloride	n.a.	9.3469		4.33058	17.48
3	9.27	Nitrite-N	n.a.	4.9162		4.50127	18.17
4	10.69	Chlorate	n.a.	2.5483		0.40356	1.63
5	11.62	Bromide	n.a.	2.4935		0.41414	1.67
6	13.61	Nitrate-N	n.a.	4.7629		5.17862	20.90
7	18.92	O-Phosphate-P	n.a.	2.5894		0.80548	3.25
8	21.34	Sulfate	n.a.	19.1845		6.10818	24.66
Total:				50.6760	0.000	24.774	100.00

16 ICB

Sample Name:	ICB	*Injection Volume:*	1.0
Vial Number:	10	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/3/2010 18:43	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC B086;300;9056



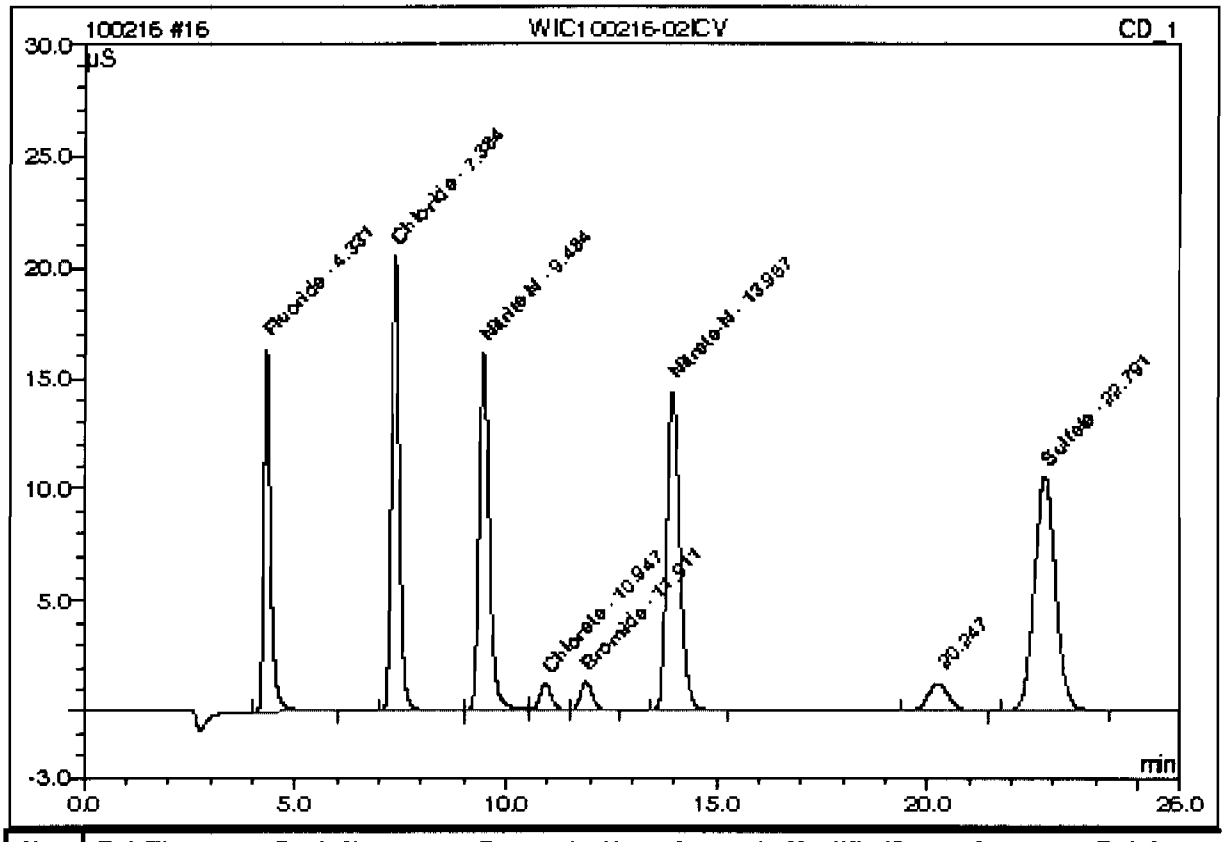
No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 100216.seq for IC6

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	02/16/10 13:26		1	100216	MAR1
BLK	02/16/10 13:55		1	100216	MAR1
ICV	02/16/10 14:23		1	100216	MAR1
ICB	02/16/10 14:52		1	100216	MAR1
1202044709	02/16/10 15:21	953765	1	100216	MAR1
1202044713	02/16/10 15:50	953765	1	100216	MAR1
245955001	02/16/10 16:19	953765	1	100216	MAR1
245955002	02/16/10 16:48	953765	1	100216	MAR1
246557001	02/16/10 17:17	953765	1	100216	MAR1
1202044710	02/16/10 17:46	953765	1	100216	MAR1
1202044711	02/16/10 18:15	953765	1	100216	MAR1
1202044712	02/16/10 18:44	953765	1	100216	MAR1
CVH	02/16/10 19:13		1	100216	MAR1
CCB	02/16/10 19:42		1	100216	MAR1
1202044718	02/16/10 20:10	953771	1	100216	GXM3
1202044725	02/16/10 20:39	953771	1	100216	GXM3
246262001	02/16/10 21:08	953771	1	100216	GXM3
1202044719	02/16/10 21:37	953771	1	100216	GXM3
1202044721	02/16/10 22:06	953771	1	100216	GXM3
1202044723	02/16/10 22:35	953771	1	100216	GXM3
246262002	02/16/10 23:04	953771	1	100216	GXM3
246331001	02/16/10 23:33	953771	1	100216	GXM3

16 WIC100216-02ICV

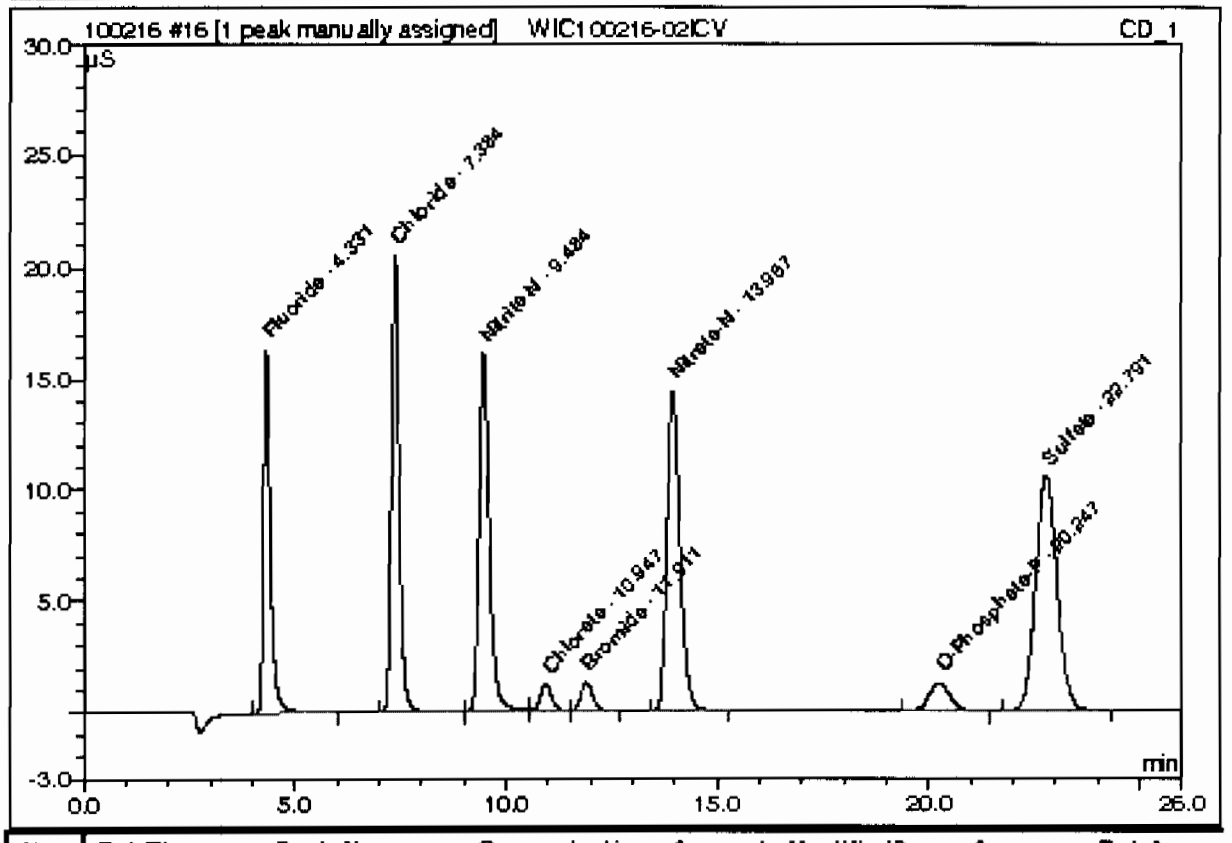
Sample Name:	WIC100216-02ICV	*Injection Volume:*	1.0
Vial Number:	3	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 14:23	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.9426		3.10123	12.40
2	7.38	Chloride	n.a.	9.4838		4.39520	17.58
3	9.48	Nitrite-N	n.a.	4.9378		4.52132	18.08
4	10.95	Chlorate	n.a.	2.5218		0.39925	1.60
5	11.91	Bromide	n.a.	2.5304		0.42033	1.68
6	13.96	Nitrate-N	n.a.	4.8197		5.24173	20.97
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
8	22.79	Sulfate	n.a.	19.4121		6.18199	24.73
Total:				48.6482	0.000	24.261	97.04

16 WIC100216-02ICV

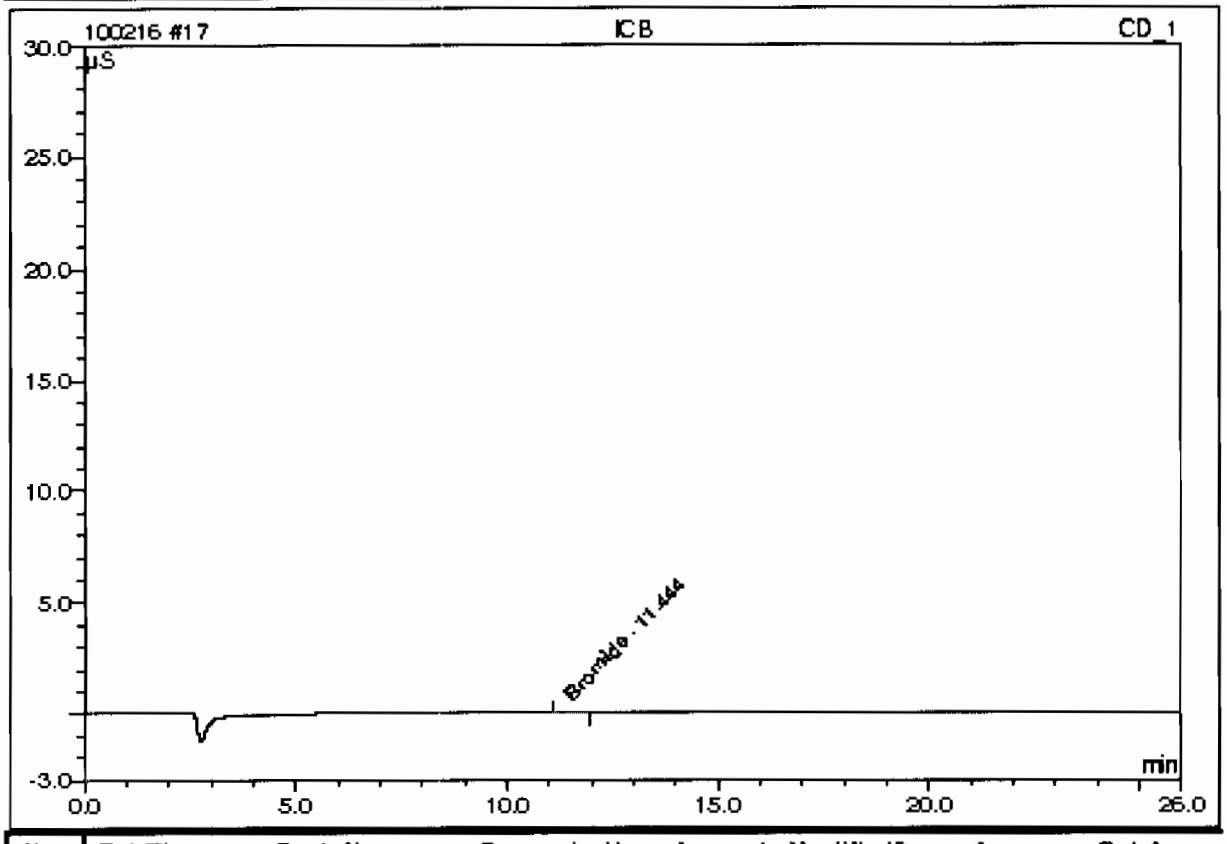
Sample Name:	WIC100216-02ICV	*Injection Volume:*	1.0
Vial Number:	3	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 14:23	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.9426		3.10123	12.40
2	7.38	Chloride	n.a.	9.4838		4.39520	17.58
3	9.48	Nitrite-N	n.a.	4.9378		4.52132	18.08
4	10.95	Chlorate	n.a.	2.5218		0.39925	1.60
5	11.91	Bromide	n.a.	2.5304		0.42033	1.68
6	13.96	Nitrate-N	n.a.	4.8197		5.24173	20.97
7	20.25	O-Phosphate-P	n.a.	2.3879		0.74012	2.96
8	22.79	Sulfate	n.a.	19.4121		6.18199	24.73
Total:				51.0360	0.000	25.001	100.00

17 ICB

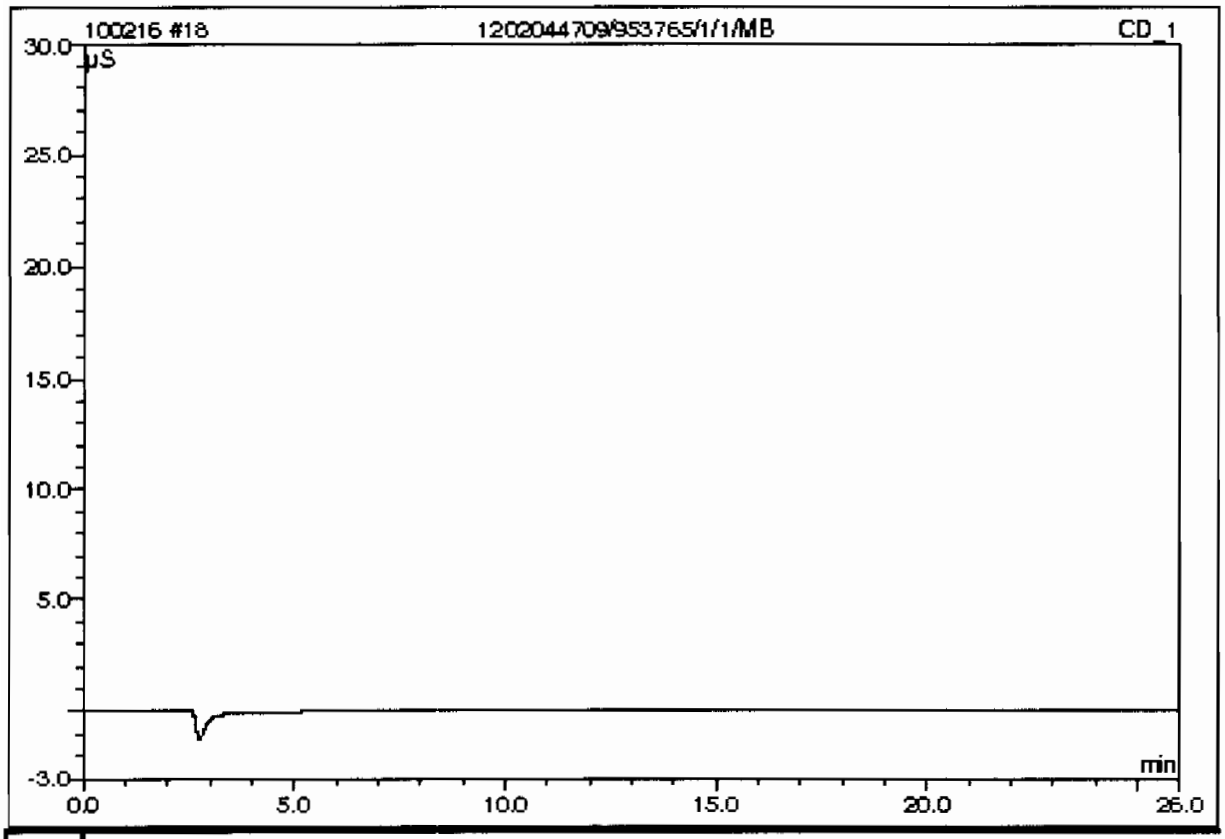
Sample Name:	ICB	*Injection Volume:*	1.0
Vial Number:	4	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 14:52	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
1	11.44	Bromide	n.a.	0.1385		0.01824	100.00
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.1385	0.000	0.018	100.00

18 1202044709/953765/1/1/MB

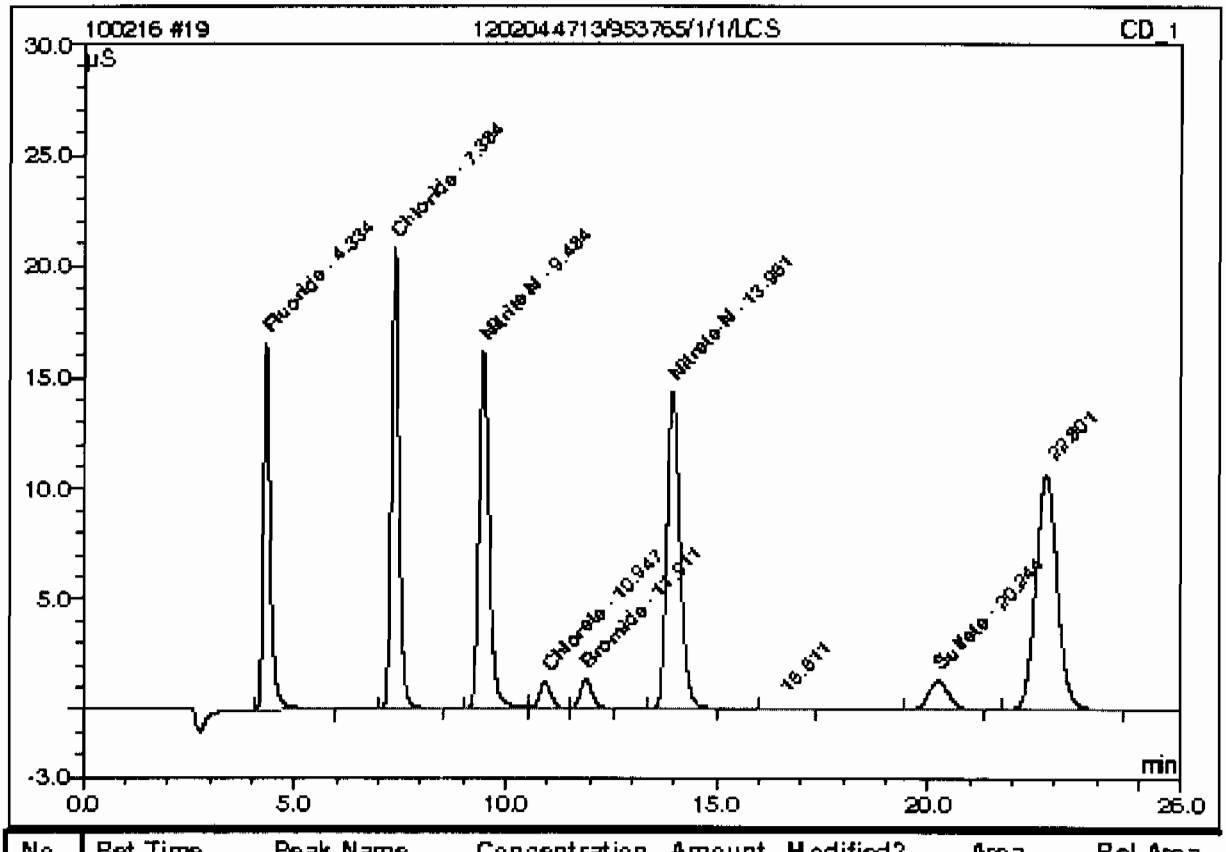
Sample Name:	1202044709/953765/1/1/MB	*Injection Volume:*	1.0
Vial Number:	5	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 15:21	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

19 1202044713/953765/1/1/LCS

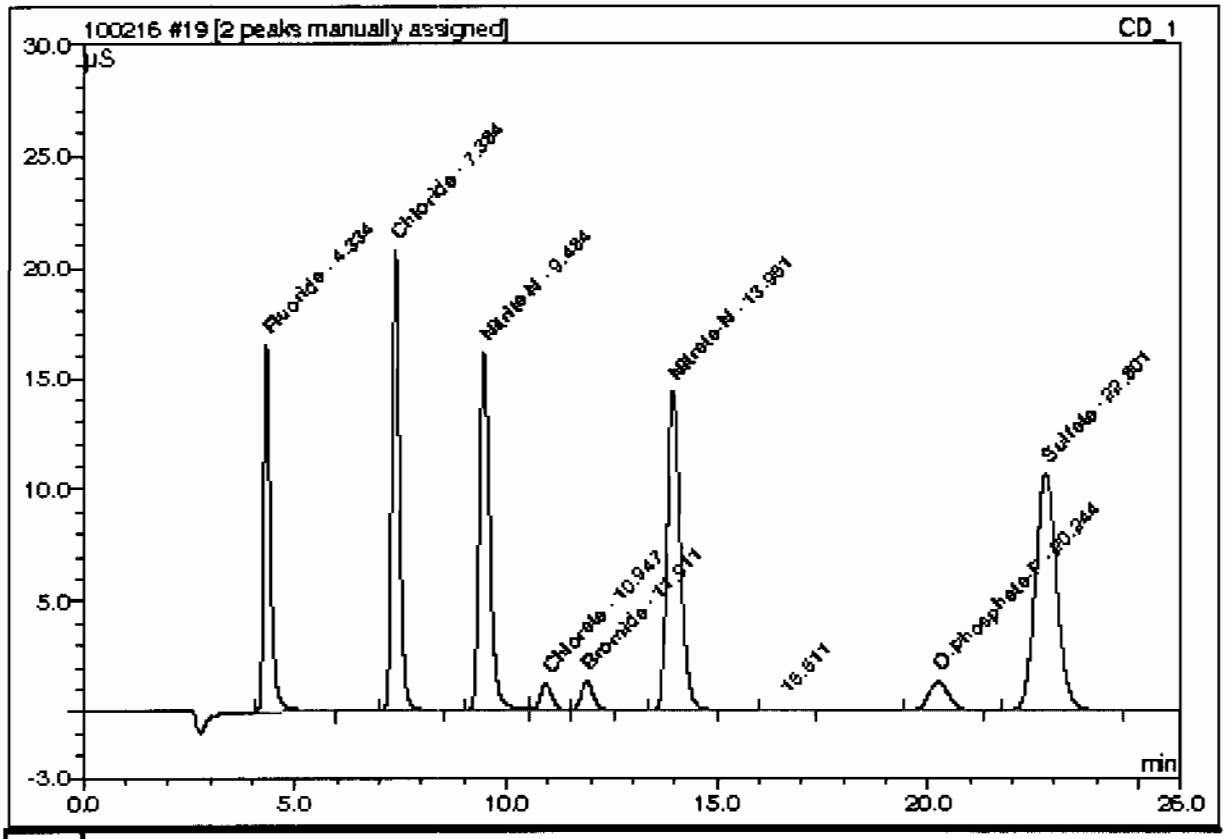
Sample Name:	1202044713/953765/1/1/LCS	*Injection Volume:*	1.0
Vial Number:	6	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 15:50	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.9813		3.12577	12.47
2	7.38	Chloride	n.a.	9.5474		4.42523	17.66
3	9.48	Nitrite-N	n.a.	4.9256		4.50998	18.00
4	10.95	Chlorate	n.a.	2.3655		0.37385	1.49
5	11.91	Bromide	n.a.	2.4524		0.40723	1.62
6	13.96	Nitrate-N	n.a.	4.8235		5.24598	20.93
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
8	20.24	Sulfate	n.a.	2.6135		0.73450	2.93
Total:				31.7091	0.000	18.823	75.11

19 1202044713/953765/1/1/LCS

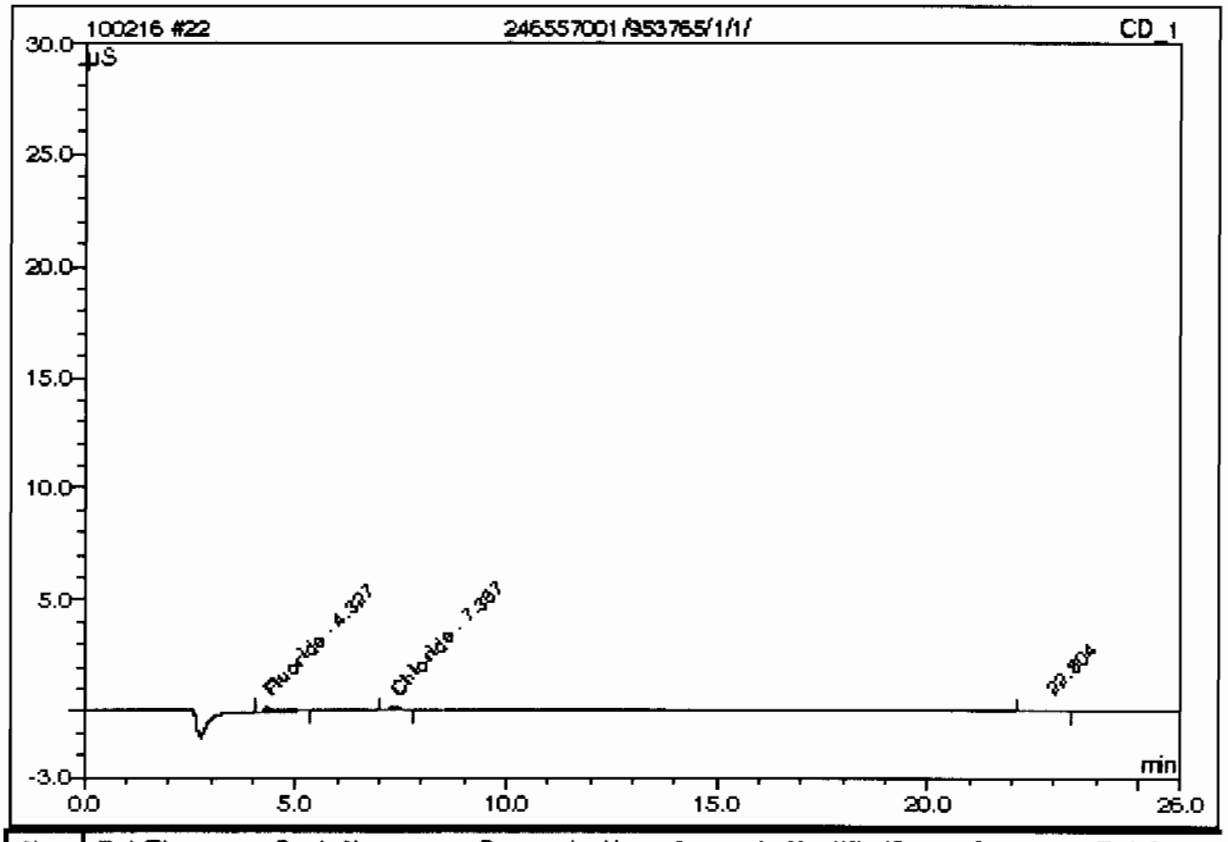
Sample Name:	1202044713/953765/1/1/LCS	*Injection Volume:*	1.0
Vial Number:	6	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 15:50	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.9813		3.12577	12.47
2	7.38	Chloride	n.a.	9.5474		4.42523	17.66
3	9.48	Nitrite-N	n.a.	4.9256		4.50998	18.00
4	10.95	Chlorate	n.a.	2.3655		0.37385	1.49
5	11.91	Bromide	n.a.	2.4524		0.40723	1.62
6	13.96	Nitrate-N	n.a.	4.8235		5.24598	20.93
8	20.24	O-Phosphate-P	n.a.	2.3705		0.73450	2.93
9	22.80	Sulfate	n.a.	19.5231		6.21797	24.81
Total:				50.9892	0.000	25.040	99.92

22 246557001/953765/1/1/

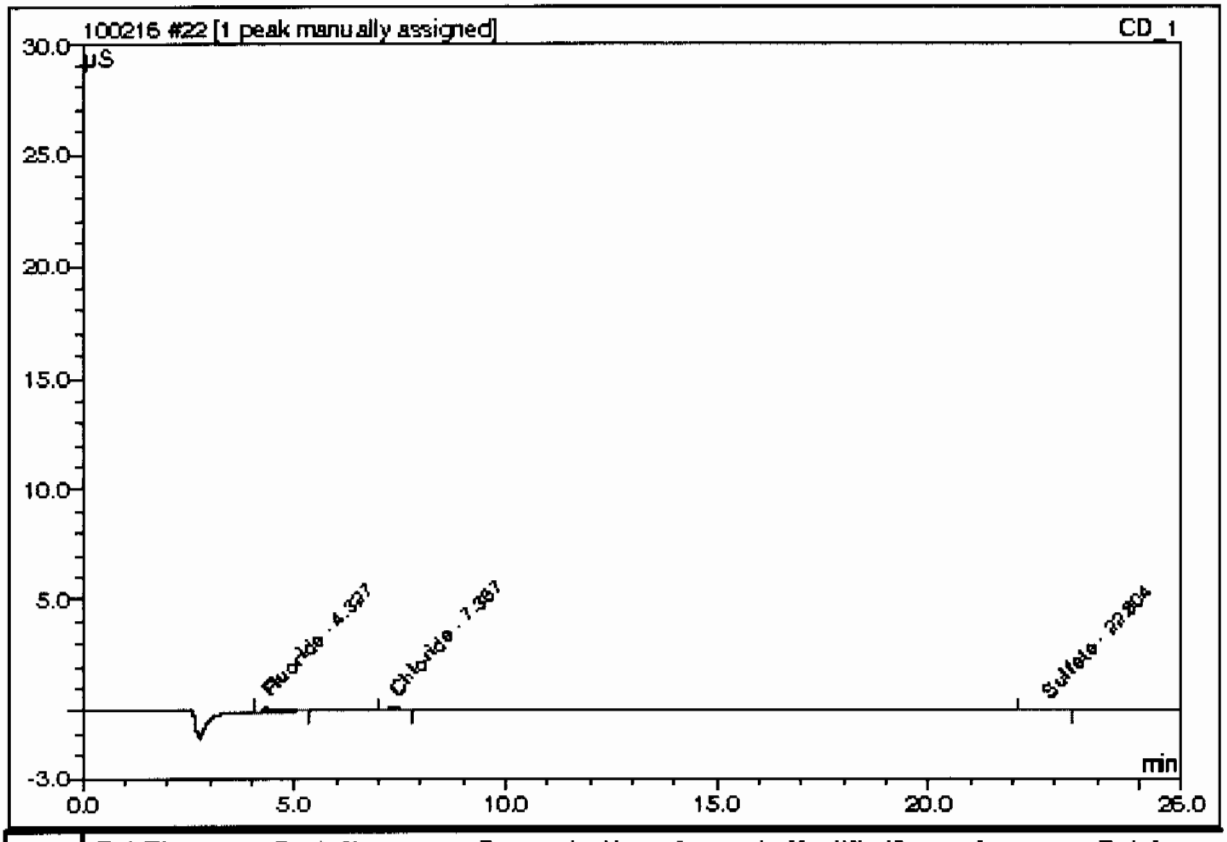
Sample Name:	246557001/953765/1/1/	*Injection Volume:*	1.0
Vial Number:	9	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 17:17	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	0.1199		0.03794	37.89
2	7.37	Chloride	n.a.	0.2533		0.03806	38.01
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.3732	0.000	0.076	75.90

22 246557001/953765/1/1/

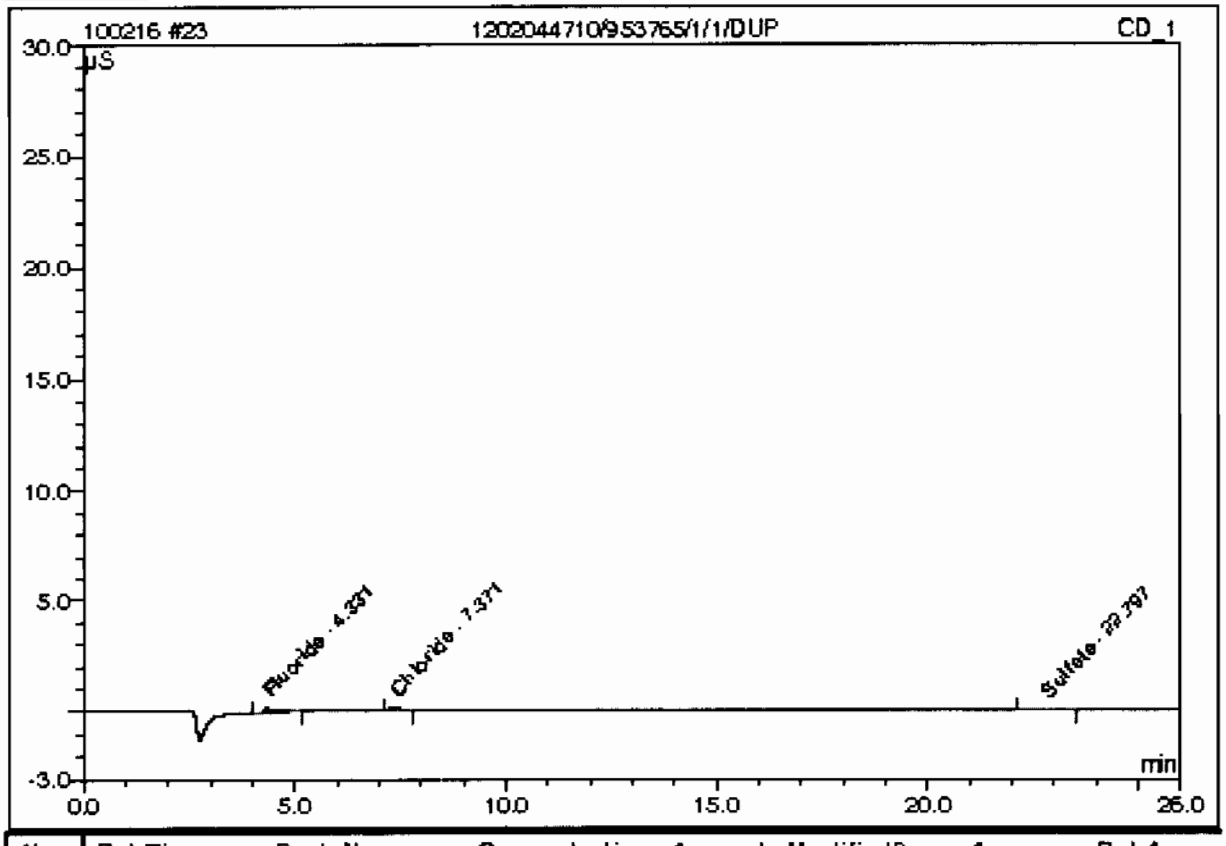
Sample Name:	246557001/953765/1/1/	*Injection Volume:*	1.0
Vial Number:	9	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 17:17	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GLGCB086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	0.1199		0.03794	37.89
2	7.37	Chloride	n.a.	0.2533		0.03806	38.01
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	22.80	Sulfate	n.a.	0.4229		0.02413	24.10
Total:				0.7961	0.000	0.100	100.00

23 1202044710/953765/1/1/DUP

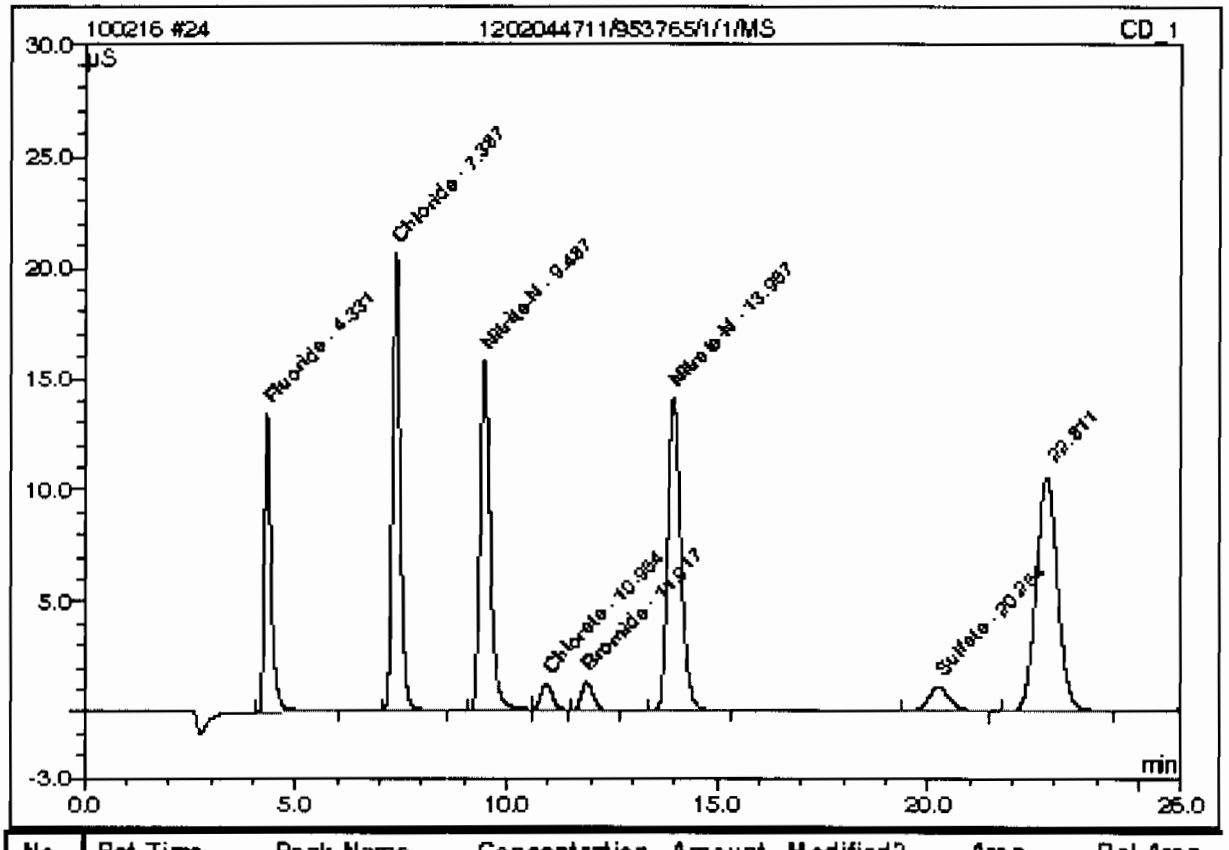
Sample Name:	1202044710/953765/1/1/DUP	*Injection Volume:*	1.0
Vial Number:	10	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 17:46	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	0.1191		0.03745	35.07
2	7.37	Chloride	n.a.	0.2591		0.04077	38.19
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	22.80	Sulfate	n.a.	0.4365		0.02855	26.74
Total:				0.8147	0.000	0.107	100.00

24 1202044711/953765/1/1/MS

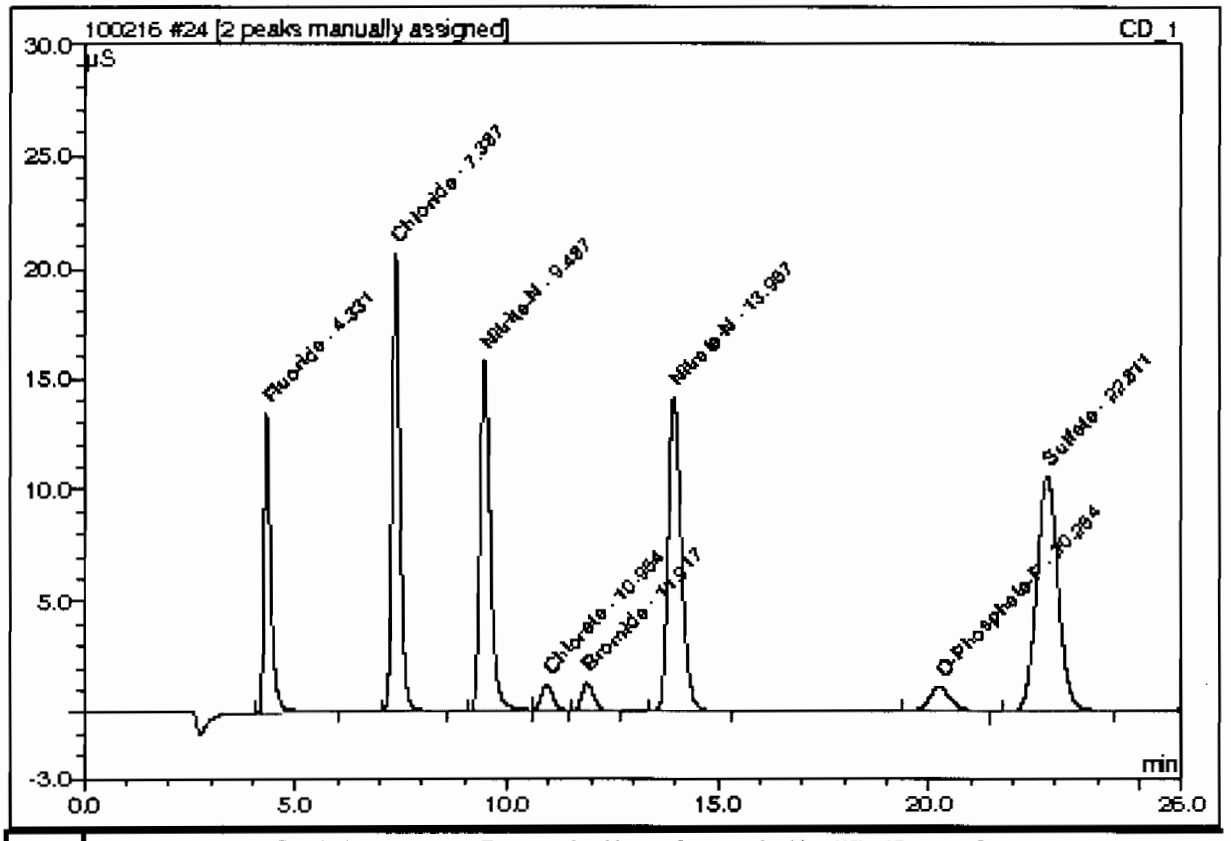
Sample Name:	1202044711/953765/1/1/MS	*Injection Volume:*	1.0
Vial Number:	11	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 18:15	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC B086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.0983		2.56490	10.64
2	7.39	Chloride	n.a.	9.5180		4.41132	18.30
3	9.49	Nitrite-N	n.a.	4.8073		4.40011	18.25
4	10.95	Chlorate	n.a.	2.2453		0.35431	1.47
5	11.92	Bromide	n.a.	2.4021		0.39878	1.65
6	13.97	Nitrate-N	n.a.	4.7566		5.17156	21.45
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
7	20.25	Sulfate	n.a.	2.3217		0.63987	2.65
Total:				30.1491	0.000	17.941	74.42

24 1202044711/953765/1/1/MS

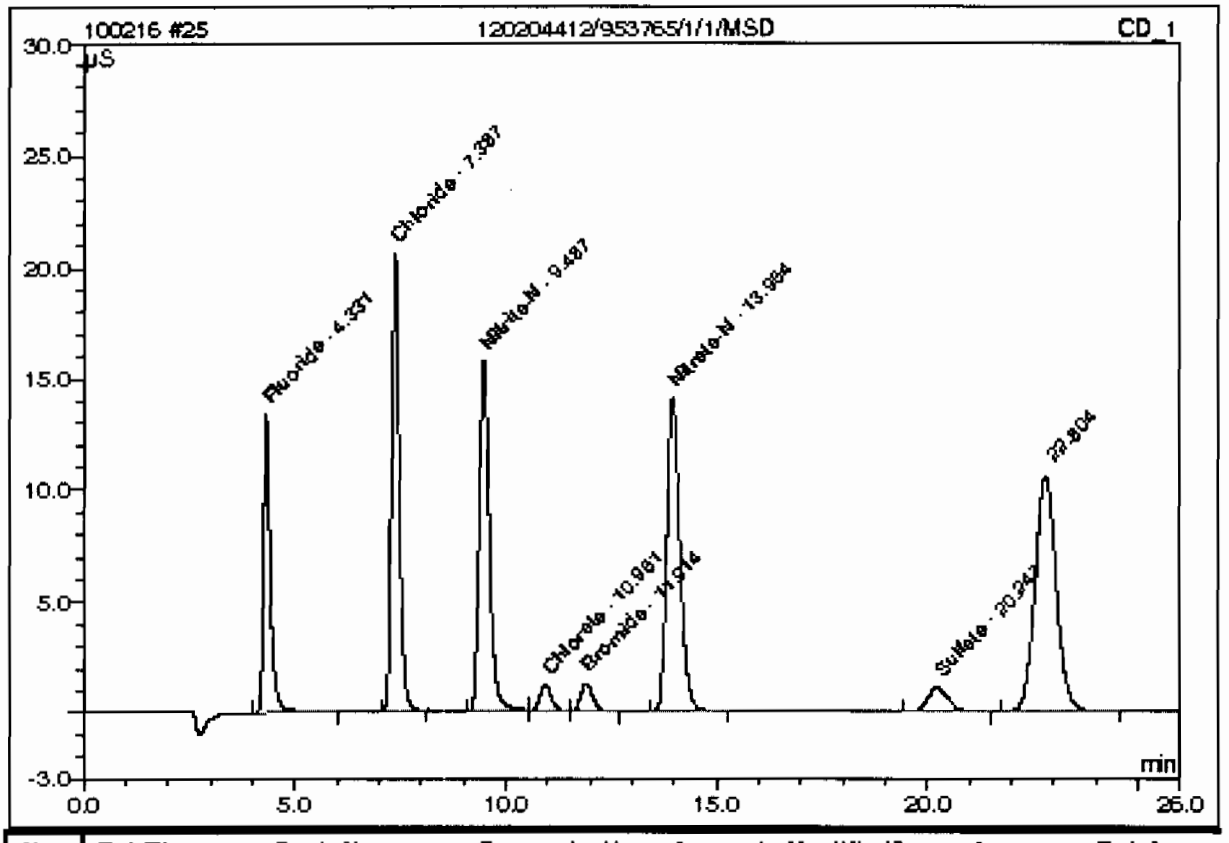
Sample Name:	1202044711/953765/1/1/MS	*Injection Volume:*	1.0
Vial Number:	11	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 18:15	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.0983		2.56490	10.64
2	7.39	Chloride	n.a.	9.5180		4.41132	18.30
3	9.49	Nitrite-N	n.a.	4.8073		4.40011	18.25
4	10.95	Chlorate	n.a.	2.2453		0.35431	1.47
5	11.92	Bromide	n.a.	2.4021		0.39878	1.65
6	13.97	Nitrate-N	n.a.	4.7566		5.17156	21.45
7	20.25	O-Phosphate-P	n.a.	2.0788		0.63987	2.65
8	22.81	Sulfate	n.a.	19.3645		6.16654	25.58
Total:				49.2707	0.000	24.107	100.00

25 120204412/953765/1/1/MSD

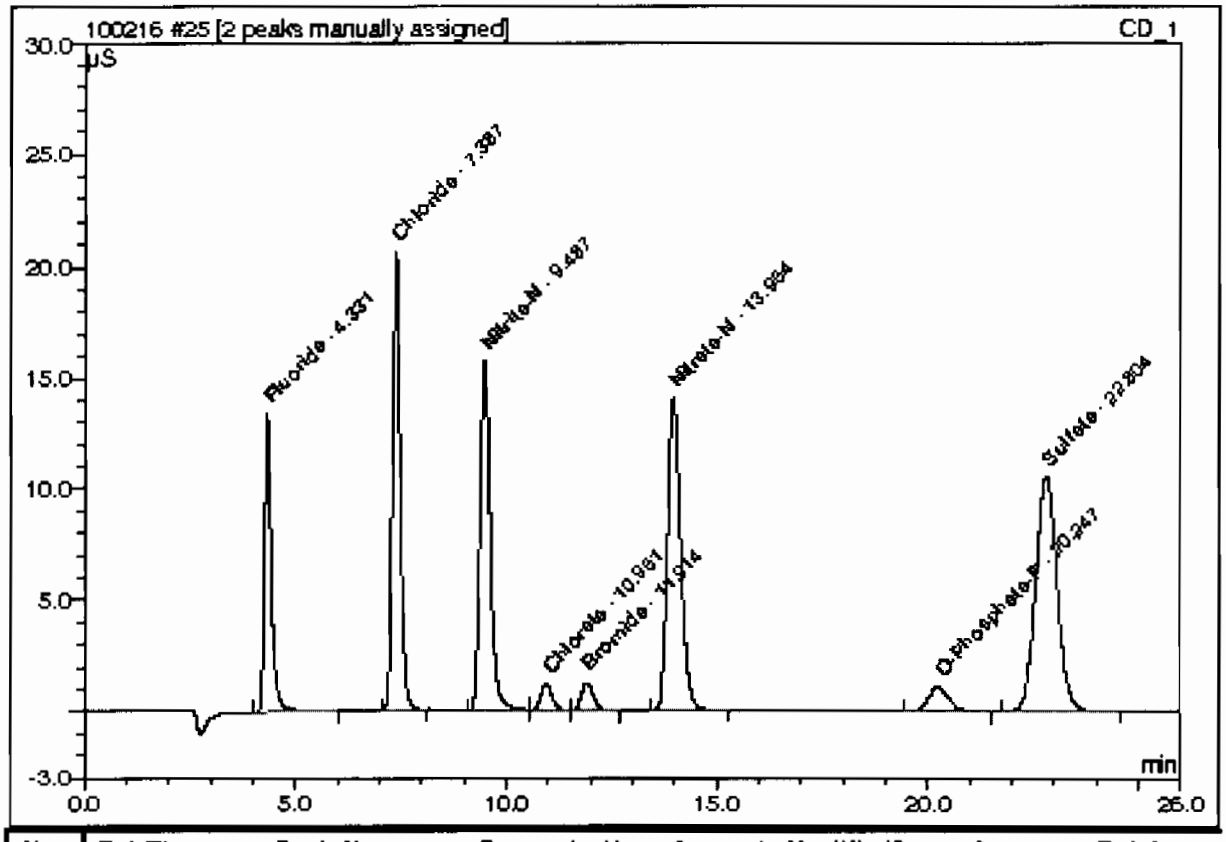
Sample Name:	120204412/953765/1/1/MSD	*Injection Volume:*	1.0
Vial Number:	12	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 18:44	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.0875		2.55806	10.57
2	7.39	Chloride	n.a.	9.4498		4.37915	18.09
3	9.49	Nitrite-N	n.a.	4.8650		4.45373	18.40
4	10.95	Chlorate	n.a.	2.5045		0.39644	1.64
5	11.91	Bromide	n.a.	2.5013		0.41546	1.72
6	13.96	Nitrate-N	n.a.	4.7587		5.17392	21.38
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
7	20.25	Sulfate	n.a.	2.2926		0.63044	2.60
Total:				30.4593	0.000	18.007	74.39

25 1202044712/953765/1/1/MSD

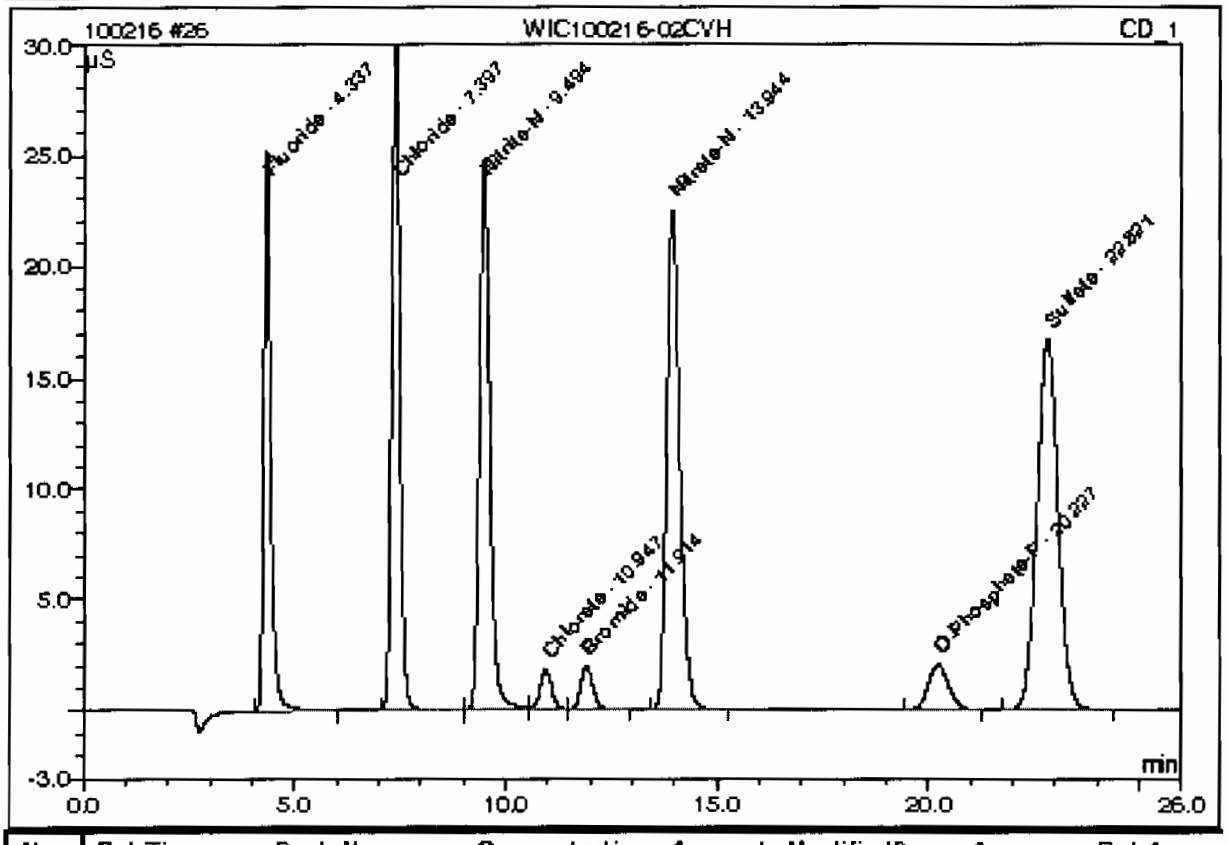
Sample Name:	1202044712/953765/1/1/MSD	*Injection Volume:*	1.0
Vial Number:	12	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 18:44	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.33	Fluoride	n.a.	4.0875		2.55806	10.57
2	7.39	Chloride	n.a.	9.4498		4.37915	18.09
3	9.49	Nitrite-N	n.a.	4.8650		4.45373	18.40
4	10.95	Chlorate	n.a.	2.5045		0.39644	1.64
5	11.91	Bromide	n.a.	2.5013		0.41546	1.72
6	13.96	Nitrate-N	n.a.	4.7587		5.17392	21.38
7	20.25	O-Phosphate-P	n.a.	2.0497		0.63044	2.60
8	22.80	Sulfate	n.a.	19.4623		6.19827	25.61
Total:				49.6788	0.000	24.205	100.00

26 WIC100216-02CVH

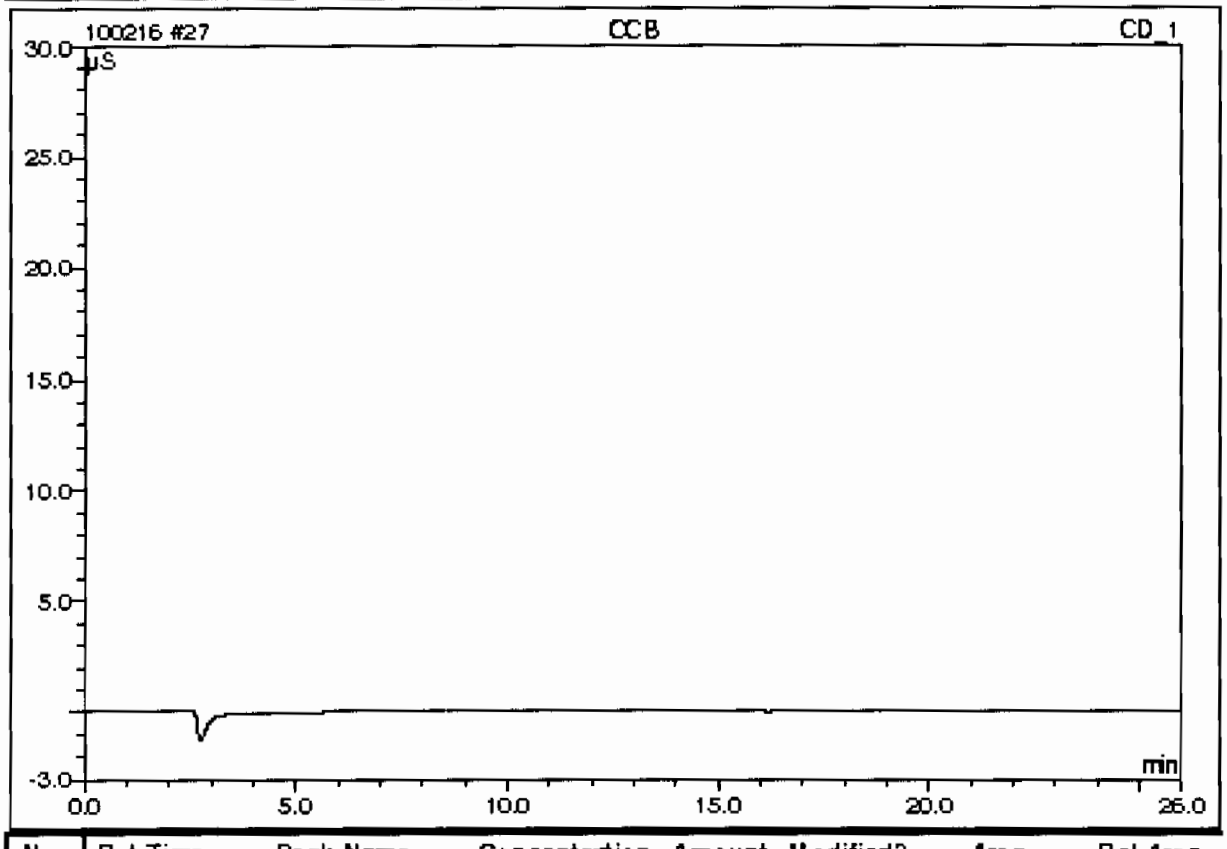
Sample Name:	WIC100216-02CVH	*Injection Volume:*	1.0
Vial Number:	13	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 19:13	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCB086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.34	Fluoride	n.a.	7.5951		4.78599	12.30
2	7.40	Chloride	n.a.	14.9365		6.96908	17.91
3	9.49	Nitrite-N	n.a.	7.5569		6.95278	17.87
4	10.95	Chlorate	n.a.	3.6879		0.58878	1.51
5	11.91	Bromide	n.a.	3.8811		0.64741	1.66
6	13.94	Nitrate-N	n.a.	7.4873		8.20799	21.09
7	20.23	O-Phosphate-P	n.a.	3.6391		1.14595	2.94
8	22.82	Sulfate	n.a.	29.9956		9.61402	24.71
Total:				78.7795	0.000	38.912	100.00

27 CCB

Sample Name:	CCB	*Injection Volume:*	1.0
Vial Number:	14	*Channel:*	CD_1
Sample Type:	unknown	*Dilution Factor:*	1.0000
Control Program:	AS23	*Sample Weight:*	1.0000
Quantif. Method:	100203an	*Sample Amount:*	1.0000
Recording Time:	2/16/2010 19:42	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

pH

pH / Corrosivity LogBook

Analyst: LXA1
Batch: 951417
Lab SOP: GL-GC-E-008 REV# 17
Description: pH
Method: SW846 9045C/9045D

Type	Sample Id	Serial Number	Description
CCV	240	IMM091029-PH	PH 7 BUFFER FOR PH
LCS	1202038962	IMM100210-01	LCS BUFFER SOLUTION

Sample id	Parent Sample Id	Matrix	Start Time	Stop Time	Run Date	Parmname	Initial Wt(g)	Final Vol(mL)	Ph	Temp	Nc(mg/L)	Recovery(%)	Rpd(%)
1202038962 LCS		Soil	14:00	14:05	10-FEB-10 15:12	pH	20	20	6.98	19.9'C	7	99.714	
1202038962 LCS		Soil	14:00	14:05	10-FEB-10 15:12	pH 2	20	20	6.98	19.9'C	7	99.714	
246368001		Misc Solid	14:00	14:05	10-FEB-10 15:13	pH	5	20	12.37	23.0'C			
246368001		Misc Solid	14:00	14:05	10-FEB-10 15:13	pH 2	5	20	12.37	23.0'C			
246557001		Soil	14:00	14:05	10-FEB-10 15:19	pH	20	20	6.5	21.9'C			
246557001		Soil	14:00	14:05	10-FEB-10 15:19	pH 2	20	20	6.52	21.9'C			
246575003		Soil	14:00	14:05	10-FEB-10 15:21	pH	20	20	7.19	21.2'C			
246575003		Soil	14:00	14:05	10-FEB-10 15:21	pH 2	20	20	7.21	21.2'C			
1202038963 DUP	246575003	Soil	14:00	14:05	10-FEB-10 15:23	pH	20	20	7.14	21.2'C			.698
1202038963 DUP	246575003	Soil	14:00	14:05	10-FEB-10 15:23	pH 2	20	20	7.15	21.2'C			.836
CCV			14:00	14:05	10-FEB-10 15:25	pH	20	20	6.99	18.9'C	7	99.857	
CCV			14:00	14:05	10-FEB-10 15:25	pH 2	20	20	6.98	18.9'C	7	99.714	
246575004		Soil	14:00	14:05	10-FEB-10 15:25	pH	20	20	8.25	20.1'C			
246575004		Soil	14:00	14:05	10-FEB-10 15:25	pH 2	20	20	8.25	20.1'C			
CCV			14:00	14:05	10-FEB-10 15:28	pH	20	20	7	18.7'C	7	100	
CCV			14:00	14:05	10-FEB-10 15:28	pH 2	20	20	7	18.7'C	7	100	

Calibration Information:
Run Date: 10-FEB-10 13:58
Instrument: PHX742
Analyst: LXA1

	Standard	Observed	Theoretical		C	%Recovery
13:58	IMM100210-PH1	4.01	4	SU	20.3	100.25
13:58	IMM100210-PH-	7.01	7	SU	20.3	100.14
13:58	UPH100210-a	10.01	10	SU	20.3	100.1
13:58	UPH100210-02c-	2.07	2	SU	20.3	103.5
13:58	100210-a	12.04	12	SU	20.3	100.33
13:58	IMM100210-01	7.02	7	SU	20.3	100.29

Comments:

Miscellaneous

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
17-FEB-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
IC	EPA 300.0	Solid	LANL
Batch ID:	**Sample Numbers:**		
953765	See Below		

Potentially affected work order(s)(SDG): 245955(10-1509),246557(10-1666)

Application Issues:

Failed Recovery for MS/PS

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. Failed Recovery for MS/MSD: QC 1202044711MS, QAC 1202044712MSD	1. The MS ans MSD recoveries for Fluoride fall outside of the GEL acceptance limits for fluoride but within the client specified limits.

Originator's Name:

Mary Sherwood 17-FEB-10

Data Validator/Group Leader:

Julia Hamilton 18-FEB-10

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1666

Method/Analysis Information

Product:	**Dry Weight-Percent Moisture**
Analytical Method:	Dry Soil Prep
Analytical Batch Number:	951346

Sample ID	Client ID
246557001	RE15-10-8363
1202038788	246283011(RE16-10-1190) 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: 246283011 (RE16-10-1190). The QC was from LANL work order 246283.

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

Product:	**AM241**
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	951456
Prep Batch Number:	951346

Sample ID	Client ID
246557001	RE15-10-8363
1202039064	Method Blank (MB)
1202039065	246601001(RE46-10-11496) Sample Duplicate (DUP)
1202039066	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 1202039064 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 246601001 (RE46-10-11496). The QC was from LANL work order 246601.

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

Product:	**ISOPU**
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	951460
Prep Batch Number:	951346

Sample ID	Client ID
246557001	RE15-10-8363
1202039073	Method Blank (MB)
1202039074	246601001(RE46-10-11496) Sample Duplicate (DUP)
1202039075	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 1202039073 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 246601001 (RE46-10-11496). The QC was from LANL work order 246601.

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

Product:	**ISOU**
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	951463
Prep Batch Number:	951346

Sample ID	Client ID
246557001	RE15-10-8363
1202039076	Method Blank (MB)
1202039077	246601001(RE46-10-11496) Sample Duplicate (DUP)
1202039078	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 1202039076 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 246601001 (RE46-10-11496). The QC was from LANL work order 246601.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The U238 blank result 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.

Manual Integration
Manual integration of alpha spectroscopy spectra 1202039076 (MB) was performed to fully separate counts in Regions of Interest which would have been biased.

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

Product:	**GAMMA SPEC**
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	951362
Prep Batch Number:	951346

Sample ID	Client ID
246557001	RE15-10-8363
1202038807	Method Blank (MB)
1202038808	246611001(RE16-10-1246) Sample Duplicate (DUP)
1202038809	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, July 2009 and February 2010.

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: 246611001 (RE16-10-1246). The QC was from LANL work order 246611.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The method blank 1202038807 (MB) result is greater than 1.65 times the CSU but less than the MDC for Na-22.

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 result is less than the decision level.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	246557001	RE15-10-8363
			1202038808	RE16-10-1246(246611001DUP)
		Cadmium-109	1202038808	RE16-10-1246(246611001DUP)
		Radium-224	246557001	RE15-10-8363
			1202038808	RE16-10-1246(246611001DUP)
UI	Data rejected due to low abundance.	Strontium-85	246557001	RE15-10-8363
			1202038808	RE16-10-1246(246611001DUP)

Method/Analysis Information

Product:	**H3**
Analytical Method:	GL-RAD-A-002
Analytical Batch Number:	953111

Sample ID	Client ID
246557001	RE15-10-8363
1202042933	Method Blank (MB)
1202042934	246557001(RE15-10-8363) Sample Duplicate (DUP)
1202042935	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-RAD-A-002 REV# 18.

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:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 246557001 (RE15-10-8363). The QC was from LANL work order 246557.

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.

Additional Comments
Additional comments were not required for this sample set.

Blank Decision Level
The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

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: Paula Nelle 2/26/10

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: 10-1666 GEL Work Order: 246557

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 _____

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

Report Date: February 25, 2010

Client Sample ID:	RE15-10-8363	Project:	LANL01004
Sample ID:	246557001	Client ID:	LANL010
Matrix:	R		
Collect Date:	03-FEB-10		
Receive Date:	09-FEB-10		
Collector:	Client		
Moisture:	18.7%		

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00638	0.0217	+/-0.00297	0.050	pCi/g		JXD2	02/17/10	1623	951456	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	-0.000983	0.0202	+/-0.00164	0.050	pCi/g		JXD2	02/16/10	2116	951460	3
Plutonium-239/240	U	0.0013	0.0152	+/-0.00131	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.19	0.0883	+/-0.106	0.100	pCi/g		JXD2	02/17/10	1621	951463	4
Uranium-235/236	U	0.0389	0.0563	+/-0.0146	0.100	pCi/g						
Uranium-238		1.40	0.0603	+/-0.121	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	-0.0967	0.555	+/-0.184	0.200	pCi/g		MXR1	02/19/10	1307	951362	5
Bismuth-211	UI	4.95	0.435	+/-0.393		pCi/g						
Bismuth-214		1.36	0.129	+/-0.133	0.200	pCi/g						
Cadmium-109	U	1.27	2.17	+/-0.966		pCi/g						
Cerium-139	U	0.0156	0.0687	+/-0.0203	0.050	pCi/g						
Cesium-134	U	0.0507	0.113	+/-0.032	0.100	pCi/g						
Cesium-137	U	0.044	0.0898	+/-0.0251	0.100	pCi/g						
Cobalt-60	U	0.0478	0.0908	+/-0.0255	0.100	pCi/g						
Europium-152	U	0.0318	0.217	+/-0.092	0.200	pCi/g						
Lanthanum-140	U	-0.0657	0.175	+/-0.0577		pCi/g						
Lead-212		2.25	0.115	+/-0.153	0.100	pCi/g						
Lead-214		1.72	0.152	+/-0.144	0.100	pCi/g						
Mercury-203	U	0.0269	0.101	+/-0.029	0.100	pCi/g						
Potassium-40		34.6	0.688	+/-1.99	1.00	pCi/g						
Radium-223	U	-0.934	1.52	+/-0.478		pCi/g						
Radium-224	UI	5.79	1.31	+/-0.880		pCi/g						
Radium-226		1.36	0.129	+/-0.133		pCi/g						
Radium-228		2.00	0.289	+/-0.215	0.500	pCi/g						
Ruthenium-106	U	0.183	0.648	+/-0.191	0.800	pCi/g						

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

Report Date: February 25, 2010

Client Sample ID: RE15-10-8363
Sample ID: 246557001
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Sodium-22	U	-0.0392	0.090	+/-0.0298	0.080	pCi/g						
Strontium-85	UI	0.143	0.0962	+/-0.0285		pCi/g						
Thallium-208		0.589	0.0813	+/-0.0628	0.080	pCi/g						
Thorium-227	U	-0.063	0.860	+/-0.251		pCi/g						
Thorium-231	U	-0.934	1.52	+/-0.478		pCi/g						
Thorium-234	U	0.997	4.46	+/-1.28	2.00	pCi/g						
Tin-113	U	-0.0509	0.0978	+/-0.0306	0.100	pCi/g						
Uranium-235	U	0.117	0.505	+/-0.151	0.500	pCi/g						
Yttrium-88	U	-0.00387	0.0648	+/-0.0202	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	102	181	+/-55.5	250	pCi/L		KXK2	02/22/10	2019	953111	6

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 HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	77.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	97.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.2	(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.

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

Report Date: February 25, 2010

Client Sample ID: RE15-10-8363
Sample ID: 246557001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

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
JNX Non Calibrated Compound
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.
Ul 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

GEL LABORATORIES LLC

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

QC Summary

Report Date: March 5, 2010

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico

Contact: Ms. Joylene Valdez

Workorder: 246557

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 951456										
QC1202039065 246601001 DUP										
Americium-241	U	0.00315	U	0.00265	pCi/g	0.0628		(0-1)	JXD2	02/17/1011:55
	TPU:	+/-0.00229		+/-0.00172						
	Yield:	53.5		75.1						
QC1202039066 LCS										
Americium-241	33.2			31.2	pCi/g		94.1	(80%-120%)		02/17/1011:55
	TPU:			+/-2.14						
	Yield:			88.3						
QC1202039064 MB										
Americium-241			U	0.00136	pCi/g					02/17/1011:55
	TPU:			+/-0.00182						
	Yield:			58.7						
Batch 951460										
QC1202039074 246601001 DUP										
Plutonium-238	U	0.00	U	0.00036	pCi/g	0.0553		(0-1)	JXD2	02/16/1021:16
	TPU:	+/-0.0014		+/-0.00185						
	Yield:	88.0		83.1						
Plutonium-239/240	U	-0.00105	U	0.00184	pCi/g	0.351		(0-1)		
	TPU:	+/-0.00175		+/-0.00237						
	Yield:	88.0		83.1						
QC1202039075 LCS										
Plutonium-238				6.54	pCi/g			(80%-120%)		02/16/1021:16
	TPU:			+/-0.540						
	Yield:			83.6						
Plutonium-239/240	41.8			34.2	pCi/g		81.8	(80%-120%)		
	TPU:			+/-2.27						
	Yield:			83.6						
QC1202039073 MB										
Plutonium-238			U	-0.00593	pCi/g					02/16/1021:16
	TPU:			+/-0.00356						
	Yield:			77.3						
Plutonium-239/240			U	0.0044	pCi/g					
	TPU:			+/-0.00371						
	Yield:			77.3						
Batch 951463										
QC1202039077 246601001 DUP										
Uranium-233/234		0.837		0.777	pCi/g	0.191		(0-1)	JXD2	02/17/1011:57
	TPU:	+/-0.0807		+/-0.0759						
	Yield:	101		97.7						
Uranium-235/236	U	0.040	U	0.0476	pCi/g	0.134		(0-1)		
	TPU:	+/-0.0136		+/-0.0147						
	Yield:	101		97.7						
Uranium-238		0.813		0.764	pCi/g	0.159		(0-1)		
	TPU:	+/-0.0787		+/-0.0749						

QC Summary

Workorder: 246557

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 951463										
	Yield:	101		97.7						
QC1202039078 LCS										
Uranium-233/234				5.60	pCi/g					02/17/1011:57
	TPU:			+/-0.533						
	Yield:			100						
Uranium-235/236				0.326	pCi/g					
	TPU:			+/-0.0879						
	Yield:			100						
Uranium-238	5.75			6.32	pCi/g		110	(80%-120%)		
	TPU:			+/-0.589						
	Yield:			100						
QC1202039076 MB										
Uranium-233/234			U	0.00501	pCi/g					02/17/1011:57
	TPU:			+/-0.00463						
	Yield:			105						
Uranium-235/236			U	0.00873	pCi/g					
	TPU:			+/-0.00538						
	Yield:			105						
Uranium-238			U	0.0053	pCi/g					
	TPU:			+/-0.00308						
	Yield:			105						
Rad Gamma Spec										
Batch 951362										
QC1202038808 246611001 DUP										
Americium-241	U	0.0208	U	-0.0702	pCi/g	0.213		(0-1)	MXR1	02/19/1020:32
	TPU:	+/-0.0595		+/-0.154						
Bismuth-211	UI	3.17	UI	3.80	pCi/g	0.526		(0-1)		
	TPU:	+/-0.266		+/-0.335						
Bismuth-214		1.10		0.961	pCi/g	0.344		(0-1)		
	TPU:	+/-0.0966		+/-0.108						
Cadmium-109	UI	3.63	UI	1.98	pCi/g	0.725		(0-1)		
	TPU:	+/-0.470		+/-0.673						
Cerium-139	U	-0.000839	U	-0.0295	pCi/g	0.409		(0-1)		
	TPU:	+/-0.0146		+/-0.0204						
Cesium-134	U	0.0927	U	0.108	pCi/g	0.106		(0-1)		
	TPU:	+/-0.0276		+/-0.046						
Cesium-137	U	-0.0228	U	-0.00467	pCi/g	0.215		(0-1)		
	TPU:	+/-0.0201		+/-0.0222						
Cobalt-60	U	-0.0498	U	-0.0346	pCi/g	0.137		(0-1)		
	TPU:	+/-0.0249		+/-0.0309						
Europium-152	U	0.0623	U	-0.0837	pCi/g	0.544		(0-1)		
	TPU:	+/-0.0561		+/-0.0781						
Lanthanum-140	U	-0.0706	U	0.101	pCi/g	0.833		(0-1)		
	TPU:	+/-0.0455		+/-0.0576						
Lead-212		1.50		1.47	pCi/g	0.0635		(0-1)		
	TPU:	+/-0.0921		+/-0.113						
Lead-214		1.10		1.32	pCi/g	0.502		(0-1)		
	TPU:	+/-0.0968		+/-0.121						
Mercury-203	U	0.0421	U	0.0406	pCi/g	0.0154		(0-1)		
	TPU:	+/-0.0209		+/-0.028						

QC Summary

Workorder: 246557

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 951362										
Potassium-40		39.8		38.0	pCi/g	0.213		(0-1)		
	TPU:	+/-2.04		+/-2.19						
Radium-223	U	-0.477	U	-1.39	pCi/g	0.551		(0-1)		
	TPU:	+/-0.363		+/-0.469						
Radium-224	UI	4.61	UI	4.27	pCi/g	0.0962		(0-1)		
	TPU:	+/-0.784		+/-0.962						
Radium-226		1.10		0.961	pCi/g	0.344		(0-1)		
	TPU:	+/-0.0966		+/-0.108						
Radium-228		1.36		1.29	pCi/g	0.0884		(0-1)		
	TPU:	+/-0.176		+/-0.192						
Ruthenium-106	U	0.0692	U	-0.28	pCi/g	0.467		(0-1)		
	TPU:	+/-0.161		+/-0.213						
Sodium-22	U	0.0144	U	-0.0101	pCi/g	0.218		(0-1)		
	TPU:	+/-0.0253		+/-0.0307						
Strontium-85	U	0.0718	UI	0.123	pCi/g	0.502		(0-1)		
	TPU:	+/-0.0222		+/-0.0287						
Thallium-208		0.516		0.410	pCi/g	0.547		(0-1)		
	TPU:	+/-0.0464		+/-0.0502						
Thorium-227	U	-0.144	U	0.0501	pCi/g	0.220		(0-1)		
	TPU:	+/-0.188		+/-0.253						
Thorium-231	U	-0.477	U	-1.39	pCi/g	0.551		(0-1)		
	TPU:	+/-0.363		+/-0.469						
Thorium-234	U	1.45	U	-0.642	pCi/g	0.537		(0-1)		
	TPU:	+/-0.706		+/-1.24						
Tin-113	U	0.0156	U	-0.0164	pCi/g	0.301		(0-1)		
	TPU:	+/-0.0233		+/-0.0297						
Uranium-235	U	0.169	U	-0.0775	pCi/g	0.487		(0-1)		
	TPU:	+/-0.110		+/-0.143						
Yttrium-88	U	-0.00735	U	-0.0445	pCi/g	0.490		(0-1)		
	TPU:	+/-0.0181		+/-0.0199						
QC1202038809 LCS										
Americium-241	15.9			14.2	pCi/g		89	(75%-125%)		02/19/1020:33
	TPU:			+/-0.629						
Bismuth-211				2.16	pCi/g					
	TPU:			+/-0.388						
Bismuth-214				0.522	pCi/g					
	TPU:			+/-0.114						
Cadmium-109				32.5	pCi/g					
	TPU:			+/-1.87						
Cerium-139			U	0.0288	pCi/g					
	TPU:			+/-0.0217						
Cesium-134			U	0.0494	pCi/g					
	TPU:			+/-0.0478						
Cesium-137	5.56			5.73	pCi/g		103	(75%-125%)		
	TPU:			+/-0.216						
Cobalt-60	6.39			6.43	pCi/g		101	(75%-125%)		
	TPU:			+/-0.283						
Europium-152			U	-0.0765	pCi/g					
	TPU:			+/-0.130						
Lanthanum-140			U	-0.0095	pCi/g					
	TPU:			+/-0.0365						

QC Summary

Workorder: 246557

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 951362										
Lead-212				1.09	pCi/g					
	TPU:			+/-0.080						
Lead-214				0.752	pCi/g					
	TPU:			+/-0.136						
Mercury-203			U	0.0353	pCi/g					
	TPU:			+/-0.0308						
Potassium-40			U	0.732	pCi/g					
	TPU:			+/-0.335						
Radium-223			U	-0.572	pCi/g					
	TPU:			+/-0.584						
Radium-224				3.07	pCi/g					
	TPU:			+/-0.817						
Radium-226				0.522	pCi/g					
	TPU:			+/-0.114						
Radium-228				0.872	pCi/g					
	TPU:			+/-0.277						
Ruthenium-106			U	-0.237	pCi/g					
	TPU:			+/-0.282						
Sodium-22			U	-0.00383	pCi/g					
	TPU:			+/-0.0239						
Strontium-85			U	-0.0893	pCi/g					
	TPU:			+/-0.0359						
Thallium-208				0.326	pCi/g					
	TPU:			+/-0.0656						
Thorium-227			U	0.421	pCi/g					
	TPU:			+/-0.324						
Thorium-231			U	-0.572	pCi/g					
	TPU:			+/-0.584						
Thorium-234			U	-0.723	pCi/g					
	TPU:			+/-0.972						
Tin-113			U	0.00561	pCi/g					
	TPU:			+/-0.0405						
Uranium-235			U	0.010	pCi/g					
	TPU:			+/-0.154						
Yttrium-88			U	-0.0113	pCi/g					
	TPU:			+/-0.0195						
QC1202038807 MB										
Americium-241			U	-0.00204	pCi/g					02/19/1017:35
	TPU:			+/-0.0485						
Bismuth-211			U	-0.04	pCi/g					
	TPU:			+/-0.0607						
Bismuth-214			U	-0.0181	pCi/g					
	TPU:			+/-0.0221						
Cadmium-109			U	-0.112	pCi/g					
	TPU:			+/-0.169						
Cerium-139			U	0.00339	pCi/g					
	TPU:			+/-0.00655						
Cesium-134			U	-0.00354	pCi/g					
	TPU:			+/-0.0105						
Cesium-137			U	0.00622	pCi/g					
	TPU:			+/-0.00893						

QC Summary

Workorder: 246557

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 951362										
Cobalt-60			U	-0.00483	pCi/g					
	TPU:			+/-0.00993						
Europium-152			U	0.00438	pCi/g					
	TPU:			+/-0.0232						
Lanthanum-140			U	-0.00582	pCi/g					
	TPU:			+/-0.0153						
Lead-212			U	-0.0272	pCi/g					
	TPU:			+/-0.0155						
Lead-214			U	-0.02	pCi/g					
	TPU:			+/-0.0211						
Mercury-203			U	0.00481	pCi/g					
	TPU:			+/-0.00811						
Potassium-40			U	0.00635	pCi/g					
	TPU:			+/-0.148						
Radium-223			U	0.0987	pCi/g					
	TPU:			+/-0.171						
Radium-224			U	-0.138	pCi/g					
	TPU:			+/-0.172						
Radium-226			U	-0.0181	pCi/g					
	TPU:			+/-0.0221						
Radium-228			U	-0.135	pCi/g					
	TPU:			+/-0.0445						
Ruthenium-106			U	-0.162	pCi/g					
	TPU:			+/-0.0861						
Sodium-22			U	0.0182	pCi/g					
	TPU:			+/-0.0102						
Strontium-85			U	-0.0865	pCi/g					
	TPU:			+/-0.0146						
Thallium-208			U	0.00163	pCi/g					
	TPU:			+/-0.0107						
Thorium-227			U	-0.102	pCi/g					
	TPU:			+/-0.0897						
Thorium-231			U	0.0987	pCi/g					
	TPU:			+/-0.171						
Thorium-234			U	-0.625	pCi/g					
	TPU:			+/-0.432						
Tin-113			U	0.0139	pCi/g					
	TPU:			+/-0.00892						
Uranium-235			U	-0.0248	pCi/g					
	TPU:			+/-0.0537						
Yttrium-88			U	-0.00183	pCi/g					
	TPU:			+/-0.0125						
Rad Liquid Scintillation										
Batch 953111										
QC1202042934 246557001 DUP										
Tritium	U	102	U	99.3	pCi/L	0.0113		(0-1)	KXK2	02/23/1020:02
	TPU:	+/-55.5		+/-55.2						
QC1202042935 LCS										
Tritium	5550			5650	pCi/L		102	(80%-120%)		02/23/1021:39
	TPU:			+/-495						

QC Summary

Workorder: 246557

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 953111										
QC1202042933 MB										
Tritium			U	2.17	pCi/L					02/23/1018:26
	TPU:			+/-52.9						

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
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
JNX	Non Calibrated Compound
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

QC Summary

Workorder: **246557**

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time

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 acceptence 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# 951456 Product: Am Date: 2/18/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 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.	✓		Case narrative
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.			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: [illegible] 2/18/10

Secondary Review Performed By: [illegible] 2/18/10

2/19

LANL

Am/Cm Que Sheet

10-FEB-10

Batch #: 951456 | Analyst: JXD2 | First Client Due Date: 19-FEB-10 | Internal Due Date09-FEB-10 | Comments:

Tracer(s): Am243/Cm244 | Tracer Code: 445-96-2-55 | Expiration Date: 05/11/10 | Vol: 0.1

LCS Isotope(s): Am241/Cm244 | LCS Code(s): — | Expiration Date: — | Vol(s): —

Spike Isotope(s): Am241/Cm244 | Spike Code(s): — | Expiration Date: — | Vol(s): —

Prep Date: 02/12/10 | Initials: JXP | Pipet ID: 2271058 | Balance ID: 50410272 | Witness: 2/12/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l/f)	Am/Cm Det #
~~246283011-1~~	~~RE16-10-1190~~	~~SAMPLE~~		~~.05 pCi/g~~	~~SOIL~~	~~LANL010~~	~~29-JAN-10~~	~~1~~	~~1~~	~~1.277~~	~~43~~
246294009-1	RE16-10-1472	SAMPLE		.05 pCi/g	SOIL	LANL010	30-JAN-10	2	2	1.260	44
246557001-1	RE15-10-8363	SAMPLE		.05 pCi/g	SOIL	LANL010	03-FEB-10	3	3	1.274	45
246562001-1	WST16-10-12212	SAMPLE		.05 pCi/g	SOIL	LANL010	04-FEB-10	4	4	1.255	46
246575003-1	WST15-10-11621	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	5	5	1.265	245
246575004-1	WST15-10-11620	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	6	6	1.253	246
246601001-1	RE46-10-11496	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	7	7	1.261	247
246601002-1	RE46-10-11495	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	8	8	1.258	47
246601003-1	RE46-10-11497	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	9	9	1.257	48
246601004-1	RE46-10-11494	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	10	10	1.262	65
246601005-1	RE46-10-11491	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	11	11	1.264	66
246601006-1	RE46-10-11498	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	12	12	1.252	67
246601007-1	RE46-10-11492	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	13	13	1.257	68
246601008-1	RE46-10-11501	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	14	14	1.258	69
246601009-1	RE46-10-11500	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	15	15	1.259	70
246601010-1	RE46-10-11499	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	16	16	1.258	211
246601011-1	RE46-10-11493	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	17	17	1.261	212
1202039064-1	MB for batch 951456	MB		.05 pCi/g	SOIL	QC ACCOUNT		18	18	1	248
1202039065-1	RE46-10-11496(246601001DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	05-FEB-10	19	19	1.285	249
1202039066-1	LCS for batch 951456	LCS		.05 pCi/g	SOIL	QC ACCOUNT		20	20	0.101	250

* SRM 0244-B Exp 4/30/20 0.101 g

Choose SOP Used: GL-RAD-A-011 / GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION (Circle One)

Data Reviewed By: JoL 2/18/10

Blank Correction Report

Batch ID 951456

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202039065	DUP	Americium-241	1.29 g	0.00265	0.00172	0.0179	.001054264	pCi/g	YES
1202039066	LCS	Americium-241	0.101 g	31.2	2.14	0.192	.013465347	pCi/g	NO
1202039064	MB	Americium-241	1.00 g	0.00136	0.00182	0.0295	.00136	pCi/g	YES
246294009	RE16-10-1472	Americium-241	1.26 g	0.00368	0.00298	0.0219	.001079365	pCi/g	YES
246557001	RE15-10-8363	Americium-241	1.27 g	0.00638	0.00297	0.0217	.001070866	pCi/g	NO
246562001	WST16-10-12212	Americium-241	1.26 g	-0.00024	0.0031	0.0251	.001079365	pCi/g	YES
246575003	WST15-10-11621	Americium-241	1.27 g	-0.00203	0.00247	0.0219	.001070866	pCi/g	YES
246575004	WST15-10-11620	Americium-241	1.25 g	0.00297	0.00268	0.0388	.001088	pCi/g	YES
246601001	RE46-10-11496	Americium-241	1.26 g	0.00315	0.00229	0.0268	.001079365	pCi/g	YES
246601002	RE46-10-11495	Americium-241	1.26 g	0.00321	0.00784	0.0267	.001079365	pCi/g	YES
246601003	RE46-10-11497	Americium-241	1.26 g	0.00135	0.00757	0.0252	.001079365	pCi/g	YES
246601004	RE46-10-11494	Americium-241	1.26 g	0.00568	0.007	0.0239	.001079365	pCi/g	NO
246601005	RE46-10-11491	Americium-241	1.26 g	-5.58E-05	0.00742	0.0279	.001079365	pCi/g	YES
246601006	RE46-10-11498	Americium-241	1.25 g	-0.00361	0.00714	0.0284	.001088	pCi/g	YES
246601007	RE46-10-11492	Americium-241	1.26 g	0.00162	0.00295	0.0274	.001079365	pCi/g	YES
246601008	RE46-10-11501	Americium-241	1.26 g	0.00168	0.00301	0.0279	.001079365	pCi/g	YES
246601009	RE46-10-11500	Americium-241	1.26 g	0.000418	0.00451	0.0178	.001079365	pCi/g	YES
246601010	RE46-10-11499	Americium-241	1.26 g	-0.0106	0.00463	0.020	.001079365	pCi/g	YES
246601011	RE46-10-11493	Americium-241	1.26 g	-0.0005	0.00131	0.0209	.001079365	pCi/g	YES

Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951456
SAMPLE ID : S0246557001_AM
SAMPLE QTY : 1.274 G
SAMPLE DATE : 3-FEB-2010 00:00:00.
ANALYST : JXD2
% YIELD : 77.186

CHAMBER : 045
DETECTOR S/N : 78783
AVERAGE %EFFICIENCY : 33.6564
COUNT DATE : 17-FEB-2010 16:23:23
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_AM
BKG FILE : B045.CNF;1105
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W045.CNF;298
CAL DATE : 3-FEB-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.2512E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3155E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3155E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

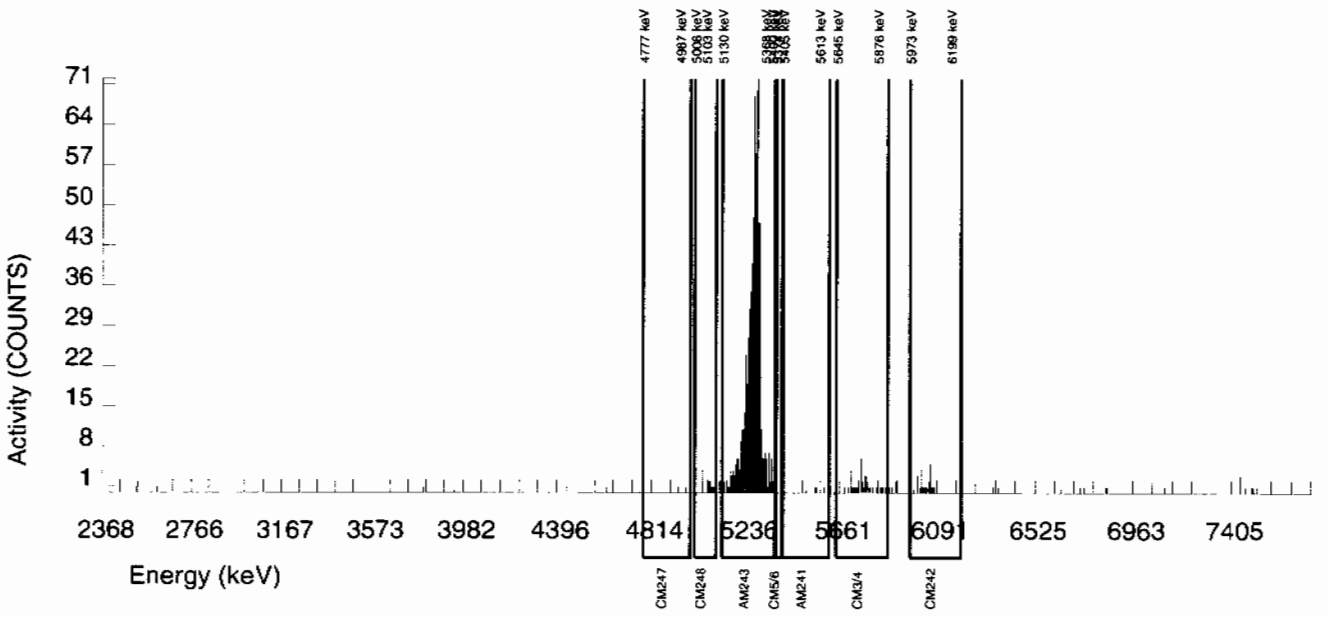
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5523.458	4.942	6.000	4.684	0.000	2.8409	99.94000	6.38E-03	2.97E-03	9.00E-03	2.17E-02	2.95E-03
AM243	5270.000	5274.908	39.194	756.000	756.000	0.000	0.0000	99.78000	1.03E+00	7.35E-02	0.00E+00	3.70E-03	3.75E-02
CM-242	6102.000	6037.714	54.923	30.000	27.000	3.000	4.3413	100.0000	3.92E-02	8.67E-03	1.37E-02	3.12E-02	8.33E-03
CM-3/4	5795.020	5764.063	49.357	41.000	31.000	10.000	5.1799	100.0000	4.23E-02	1.01E-02	1.64E-02	3.65E-02	9.74E-03
CM-5/6	5386.000	5386.813	0.000	1.000	1.000	0.000	14.2480	86.09000	1.58E-03	1.58E-03	5.24E-02	1.09E-01	1.58E-03
CM-247	4946.000	4897.820	0.000	4.000	2.000	2.000	13.7917	79.30000	3.43E-03	4.21E-03	5.51E-02	1.15E-01	4.20E-03
CM-248	5078.600	5070.895	7.258	14.000	14.000	0.000	19.5080	91.00000	2.09E-02	5.74E-03	6.79E-02	1.40E-01	5.60E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-241



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951456
SAMPLE ID : S0246601001_AM
SAMPLE QTY : 1.261 G
SAMPLE DATE : 5-FEB-2010 00:00:00.
ANALYST : JXD2
% YIELD : 53.519

CHAMBER : 247
DETECTOR S/N : 79440
AVERAGE %EFFICIENCY : 37.2485
COUNT DATE : 17-FEB-2010 11:55:50
ELAPSED LIVE TIME(SEC) : 65036.80

LIB FILE : ENV_ALPHA_AM
BKG FILE : B247.CNF;81
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W247.CNF;29
CAL DATE : 29-JAN-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 1.5609E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3155E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3155E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

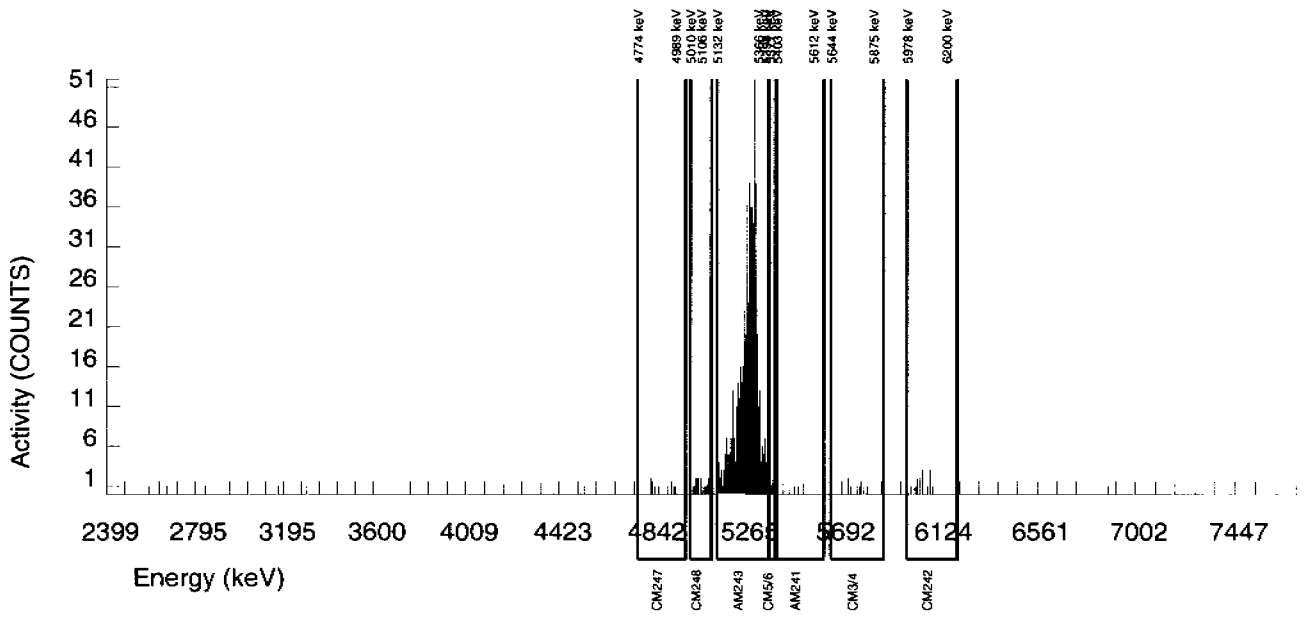
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5486.882	39.351	3.000	1.906	0.000	2.8409	99.94000	3.15E-03	2.29E-03	1.12E-02	2.68E-02	2.28E-03
AM243	5270.000	5275.642	43.187	631.000	628.832	2.168	1.4724	99.78000	1.04E+00	7.81E-02	5.79E-03	1.61E-02	4.17E-02
CM-242	6102.000	6046.127	67.635	17.000	17.000	0.000	4.3413	100.0000	2.97E-02	7.44E-03	1.70E-02	3.86E-02	7.20E-03
CM-3/4	5795.020	5769.170	4.919	10.000	10.000	0.000	5.1799	100.0000	1.66E-02	5.34E-03	2.03E-02	4.51E-02	5.23E-03
CM-5/6	5386.000	5378.648	8.839	18.000	18.000	0.000	14.2480	86.09000	3.46E-02	8.44E-03	6.50E-02	1.35E-01	8.15E-03
CM-247	4946.000	4895.120	4.919	8.000	6.916	1.084	13.7917	79.30000	1.44E-02	6.38E-03	6.83E-02	1.42E-01	6.31E-03
CM-248	5078.600	5070.781	0.000	22.000	20.916	1.084	19.5080	91.00000	3.80E-02	9.07E-03	8.42E-02	1.73E-01	8.75E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-241



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951456
SAMPLE ID : S1202039064_AM
SAMPLE QTY : 1.000 G
SAMPLE DATE : 12-FEB-2010 00:00:00
ANALYST : JXD2
% YIELD : 58.654

CHAMBER : 248
DETECTOR S/N : 79441
AVERAGE %EFFICIENCY : 38.9692
COUNT DATE : 17-FEB-2010 11:55:52
ELAPSED LIVE TIME(SEC) : 65036.34

LIB FILE : ENV_ALPHA_AM
BKG FILE : B248.CNF;83
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W248.CNF;29
CAL DATE : 29-JAN-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 1.7107E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3154E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3154E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

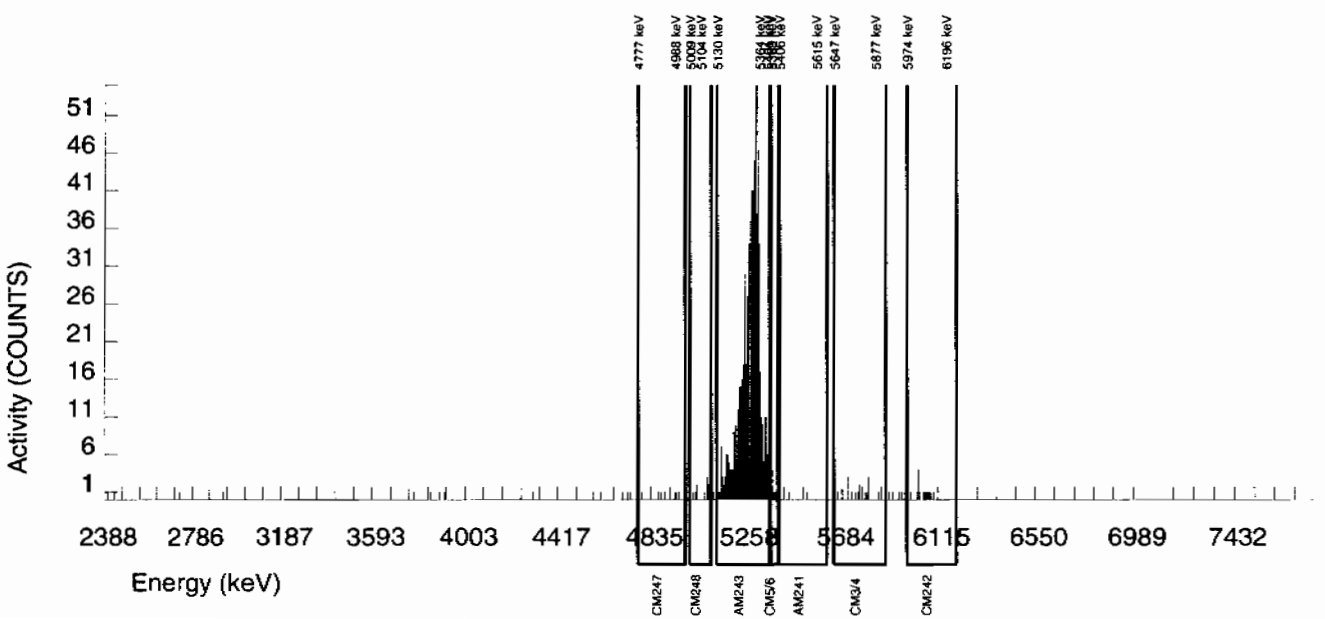
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5494.314	79.065	2.000	0.745	0.000	2.8409	99.94000	1.36E-03	1.82E-03	1.23E-02	2.95E-02	1.82E-03
AM243	5270.000	5281.789	62.137	721.000	721.000	0.000	0.0000	99.78000	1.31E+00	9.47E-02	0.00E+00	4.94E-03	4.89E-02
CM-242	6102.000	6044.212	5.739	17.000	17.000	0.000	4.3413	100.0000	3.17E-02	7.93E-03	1.87E-02	4.24E-02	7.69E-03
CM-3/4	5795.020	5766.333	88.948	18.000	18.000	0.000	5.1799	100.0000	3.27E-02	7.98E-03	2.24E-02	4.97E-02	7.72E-03
CM-5/6	5386.000	5376.688	0.000	19.000	19.000	0.000	14.2480	86.09000	4.01E-02	9.53E-03	7.15E-02	1.49E-01	9.21E-03
CM-247	4946.000	4892.424	0.000	9.000	6.832	2.168	13.7917	79.30000	1.57E-02	7.78E-03	7.51E-02	1.56E-01	7.72E-03
CM-248	5078.600	5074.569	0.000	16.000	16.000	0.000	19.5080	91.00000	3.20E-02	8.23E-03	9.26E-02	1.91E-01	7.99E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-241



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951456
SAMPLE ID : S1202039065_AM
SAMPLE QTY : 1.285 G
SAMPLE DATE : 5-FEB-2010 00:00:00.
ANALYST : JXD2
% YIELD : 75.078

CHAMBER : 249
DETECTOR S/N : 79442
AVERAGE %EFFICIENCY : 38.9612
COUNT DATE : 17-FEB-2010 11:55:56
ELAPSED LIVE TIME(SEC) : 65039.48

LIB FILE : ENV_ALPHA_AM
BKG FILE : B249.CNF;80
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W249.CNF;31
CAL DATE : 29-JAN-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.1897E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3155E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3155E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

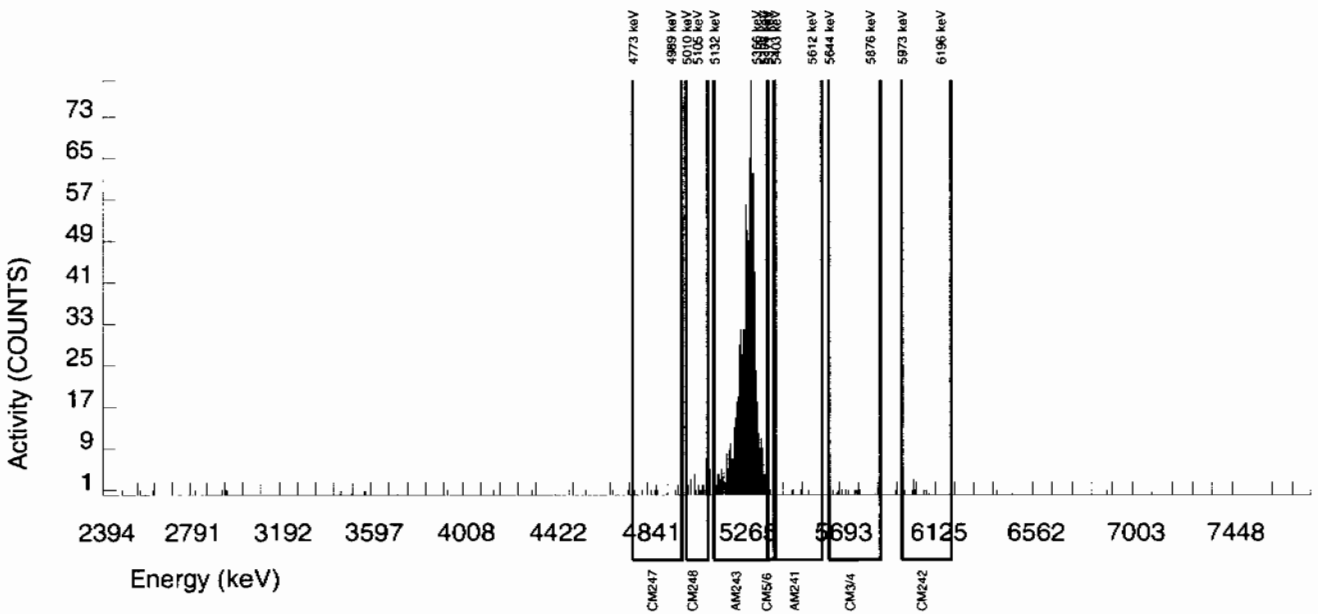
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5512.799	73.361	4.000	2.394	0.000	2.8409	99.94000	2.65E-03	1.72E-03	7.46E-03	1.79E-02	1.71E-03
AM243	5270.000	5280.057	43.513	926.000	922.748	3.252	1.8033	99.78000	1.02E+00	6.93E-02	4.74E-03	1.25E-02	3.38E-02
CM-242	6102.000	6037.601	7.398	13.000	11.916	1.084	4.3413	100.0000	1.39E-02	4.47E-03	1.14E-02	2.58E-02	4.40E-03
CM-3/4	5795.020	5744.967	177.546	12.000	12.000	0.000	5.1799	100.0000	1.33E-02	3.91E-03	1.36E-02	3.02E-02	3.83E-03
CM-5/6	5386.000	5377.752	0.000	13.000	13.000	0.000	14.2480	86.09000	1.67E-02	4.73E-03	4.34E-02	9.04E-02	4.63E-03
CM-247	4946.000	4887.195	133.160	15.000	13.916	1.084	13.7917	79.30000	1.94E-02	5.72E-03	4.57E-02	9.51E-02	5.61E-03
CM-248	5078.600	5075.186	0.000	32.000	32.000	0.000	19.5080	91.00000	3.89E-02	7.25E-03	5.63E-02	1.16E-01	6.87E-03

NOTES:

* Sg calculated via blank population. (Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-241



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951456
SAMPLE ID : S1202039066_AM
SAMPLE QTY : 0.101 G
SAMPLE DATE : 12-FEB-2010 00:00:00
ANALYST : JXD2
% YIELD : 88.301

CHAMBER : 250
DETECTOR S/N : 79443
AVERAGE %EFFICIENCY : 39.2720
COUNT DATE : 17-FEB-2010 11:55:58
ELAPSED LIVE TIME(SEC) : 65043.68

LIB FILE : ENV_ALPHA_AM
BKG FILE : B250.CNF;80
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W250.CNF;29
CAL DATE : 29-JAN-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.5754E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3154E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3154E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

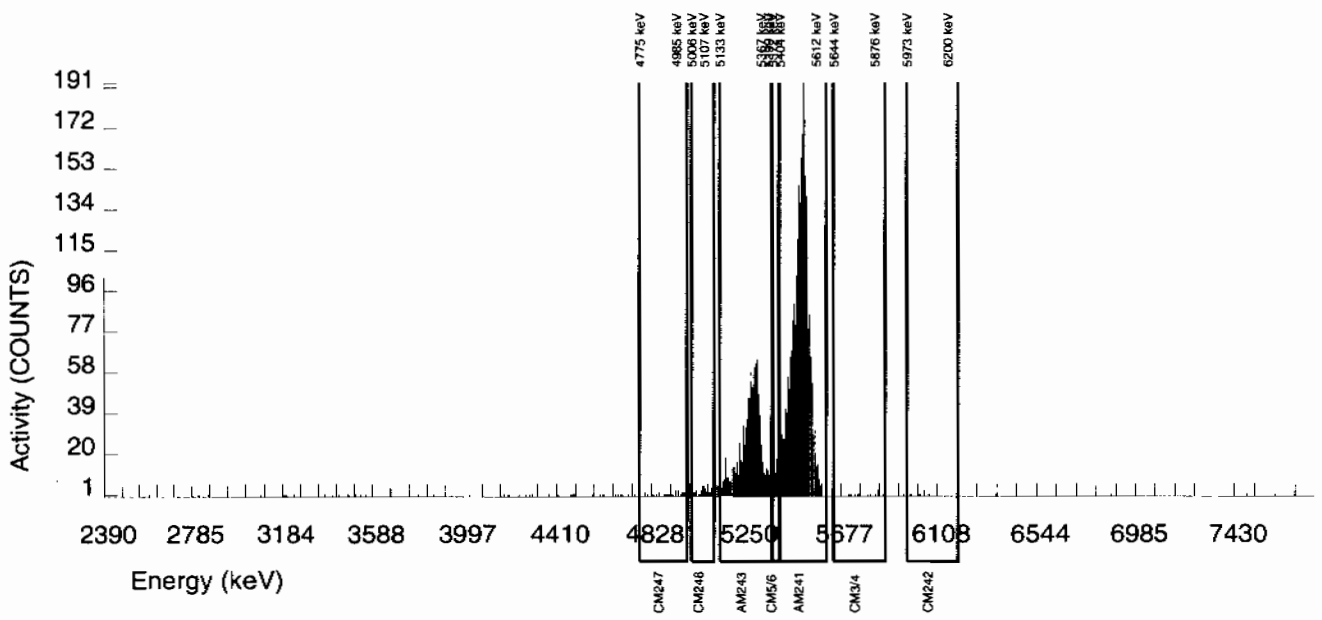
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5499.897	48.965	2629.000	2627.096	0.000	2.8409	99.94000	3.12E+01	2.14E+00	8.01E-02	1.92E-01	6.08E-01
AM243	5270.000	5274.700	70.733	1094.000	1094.000	0.000	0.0000	99.78000	1.30E+01	9.44E-01	0.00E+00	3.22E-02	3.93E-01
CM-242	6102.000	6042.272	37.974	14.000	14.000	0.000	4.3413	100.0000	1.70E-01	4.69E-02	1.22E-01	2.77E-01	4.55E-02
CM-3/4	5795.020	5791.760	4.906	14.000	11.832	2.168	5.1799	100.0000	1.40E-01	4.89E-02	1.46E-01	3.24E-01	4.80E-02
CM-5/6	5386.000	5385.313	0.000	103.000	103.000	0.000	14.2480	86.09000	1.42E+00	1.68E-01	4.66E-01	9.70E-01	1.40E-01
CM-247	4946.000	4909.390	165.592	30.000	30.000	0.000	13.7917	79.30000	4.49E-01	8.71E-02	4.90E-01	1.02E+00	8.19E-02
CM-248	5078.600	5066.630	0.000	48.000	48.000	0.000	19.5080	91.00000	6.26E-01	9.93E-02	6.04E-01	1.24E+00	9.03E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-241



Radiochemistry Batch Checklist, Rev10

Batch# 951460 Product: PU Date: 2/17/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 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. 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.			NA
Smears Taken for Radioactive batches.	✓		
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 statused.	✓		
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 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: [signature] 2/17/10

Secondary Review Performed By: [signature] 2/17/10

2/9 - 2/19

Plutonium Que Sheet

10-FEB-10 DV

Batch #: 951460 **Analyst:** JXD2 **First Client Due Date:** 19-FEB-10 **Internal Due Date:** 09-FEB-10

Tracer Isotope(s): Pu-242/Pu-238 **Tracer Code:** 1375-A **Expiration Date:** 01/08/11 **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: 02/12/10 **Initials:** JXD **Pipet ID:** 2971058 **Balance ID:** 50410272 **Witness:** [illegible] 2/12/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/ Dry Aliquot (g)(l / l)	Pu Det #
246283011-1	RE16-10-1190	SAMPLE		.05 pCi/g	SOIL	LANL010	29-JAN-10	1	1	1.277	221
246294009-1	RE16-10-1472	SAMPLE		.05 pCi/g	SOIL	LANL010	30-JAN-10	2	2	1.260	222
246557001-1	RE15-10-8363	SAMPLE		.05 pCi/g	SOIL	LANL010	03-FEB-10	3	3	1.274	223
246562001-1	WST16-10-12212	SAMPLE		.05 pCi/g	SOIL	LANL010	04-FEB-10	4	4	1.255	224
246575003-1	WST15-10-11621	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	5	5	1.265	225
246575004-1	WST15-10-11620	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	6	6	1.253	226
246601001-1	RE46-10-11496	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	7	7	1.261	227
246601002-1	RE46-10-11495	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	8	8	1.258	228
246601003-1	RE46-10-11497	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	9	9	1.257	229
246601004-1	RE46-10-11494	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	10	10	1.262	230
246601005-1	RE46-10-11491	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	11	11	1.264	231
246601006-1	RE46-10-11498	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	12	12	1.252	232
246601007-1	RE46-10-11492	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	13	13	1.257	233
246601008-1	RE46-10-11501	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	14	14	1.258	234
246601009-1	RE46-10-11500	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	15	15	1.259	235
246601010-1	RE46-10-11499	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	16	16	1.258	236
246601011-1	RE46-10-11493	SAMPLE		.05 pCi/g	SOIL	LANL010	05-FEB-10	17	17	1.261	237
1202039073-1	MB for batch 951460	MB		.05 pCi/g	SOIL	QC ACCOUNT		18	18	1	238
1202039074-1	RE46-10-11496(246601001DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	05-FEB-10	19	19	1.285	239
1202039075-1	LCS for batch 951460	LCS		.05 pCi/g	SOIL	QC ACCOUNT		20	20	0.101	240

* SRM 0244-B Exp 4/30/20 0.101g

Choose SOP Used: GL-RAD-A-011, GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

Solid Sample Dissolution by: LEACH or DIGESTION (Circle One)

Data Reviewed By: [illegible] 2/12/10

GEL Laboratories LLC, , Radiochemistry Division

Blank Correction Report

Batch ID 951460

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202039074	DUP	Plutonium-238	1.29 g	0.00036	0.00185	0.0229	-.00459690	pCi/g	NO
		Plutonium-239/240	1.29 g	0.00184	0.00237	0.0173	.003410853	pCi/g	YES
1202039075	LCS	Plutonium-238	0.101 g	6.54	0.540	0.297	-.05871287	pCi/g	NO
		Plutonium-239/240	0.101 g	34.2	2.27	0.224	.043564356	pCi/g	NO
1202039073	MB	Plutonium-238	1.00 g	-0.00593	0.00356	0.0304	-.00593	pCi/g	NO
		Plutonium-239/240	1.00 g	0.0044	0.00371	0.0229	.0044	pCi/g	YES
246283011	RE16-10-1190	Plutonium-238	1.28 g	-0.00335	0.00244	0.023	-.00463281	pCi/g	NO
		Plutonium-239/240	1.28 g	0.00149	0.00149	0.0174	.0034375	pCi/g	YES
246294009	RE16-10-1472	Plutonium-238	1.26 g	0.00	0.00149	0.0231	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00037	0.00187	0.0174	.003492063	pCi/g	YES
246557001	RE15-10-8363	Plutonium-238	1.27 g	-0.000983	0.00164	0.0202	-.00466929	pCi/g	NO
		Plutonium-239/240	1.27 g	0.0013	0.00131	0.0152	.003464567	pCi/g	YES
246562001	WST16-10-12212	Plutonium-238	1.26 g	0.00	0.00139	0.0215	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00452	0.00298	0.0163	.003492063	pCi/g	YES
246575003	WST15-10-11621	Plutonium-238	1.27 g	0.00153	0.00154	0.0237	-.00466929	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00573	0.00426	0.0179	.003464567	pCi/g	YES
246575004	WST15-10-11620	Plutonium-238	1.25 g	0.00139	0.0014	0.0216	-.004744	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00	0.0014	0.0163	.00352	pCi/g	YES
246601001	RE46-10-11496	Plutonium-238	1.26 g	0.00	0.0014	0.0216	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	-0.00105	0.00175	0.0163	.003492063	pCi/g	YES
246601002	RE46-10-11495	Plutonium-238	1.26 g	0.000334	0.0017	0.0209	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00	0.00135	0.0158	.003492063	pCi/g	YES
246601003	RE46-10-11497	Plutonium-238	1.26 g	0.00136	0.00136	0.0211	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0017	0.00218	0.0159	.003492063	pCi/g	YES
246601004	RE46-10-11494	Plutonium-238	1.26 g	-0.00108	0.00179	0.0221	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00	0.00143	0.0167	.003492063	pCi/g	YES
246601005	RE46-10-11491	Plutonium-238	1.26 g	0.00	0.00131	0.0202	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00195	0.00266	0.0153	.003492063	pCi/g	YES
246601006	RE46-10-11498	Plutonium-238	1.25 g	-0.00122	0.00202	0.025	-.004744	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00161	0.00162	0.0189	.00352	pCi/g	YES
246601007	RE46-10-11492	Plutonium-238	1.26 g	0.00	0.00138	0.0213	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00275	0.00195	0.0161	.003492063	pCi/g	YES
246601008	RE46-10-11501	Plutonium-238	1.26 g	-0.00109	0.0018	0.0222	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00	0.00144	0.0168	.003492063	pCi/g	YES
246601009	RE46-10-11500	Plutonium-238	1.26 g	0.00	0.00174	0.0269	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.000423	0.00218	0.0203	.003492063	pCi/g	YES
246601010	RE46-10-11499	Plutonium-238	1.26 g	0.00272	0.00193	0.021	-.00470635	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0153	0.00488	0.0159	.003492063	pCi/g	YES
246601011	RE46-10-11493	Plutonium-238	1.26 g	-0.00439	0.00264	0.0225	-.00470635	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
246601011	RE46-10-11493	Plutonium-239/240	1.26 g	0.00145	0.00145	0.017	.003492063	pCi/g	YES

Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951460
SAMPLE ID : S0246557001_PU
SAMPLE QTY : 1.274 G
SAMPLE DATE : 3-FEB-2010 00:00:00.
ANALYST : JXD2
% YIELD : 97.026

CHAMBER : 223
DETECTOR S/N : 79416
AVERAGE %EFFICIENCY : 37.1371
COUNT DATE : 16-FEB-2010 21:16:02
ELAPSED LIVE TIME(SEC) : 45165.83

LIB FILE : ENV_ALPHA_PU
BKG FILE : B223.CNF;82
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W223.CNF;28
CAL DATE : 29-JAN-2010

TRACER
ID : 1375-A
NUCLIDE : PU242
NOMINAL : 3.3808E+00 dpm
RESULTS : 3.2802E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

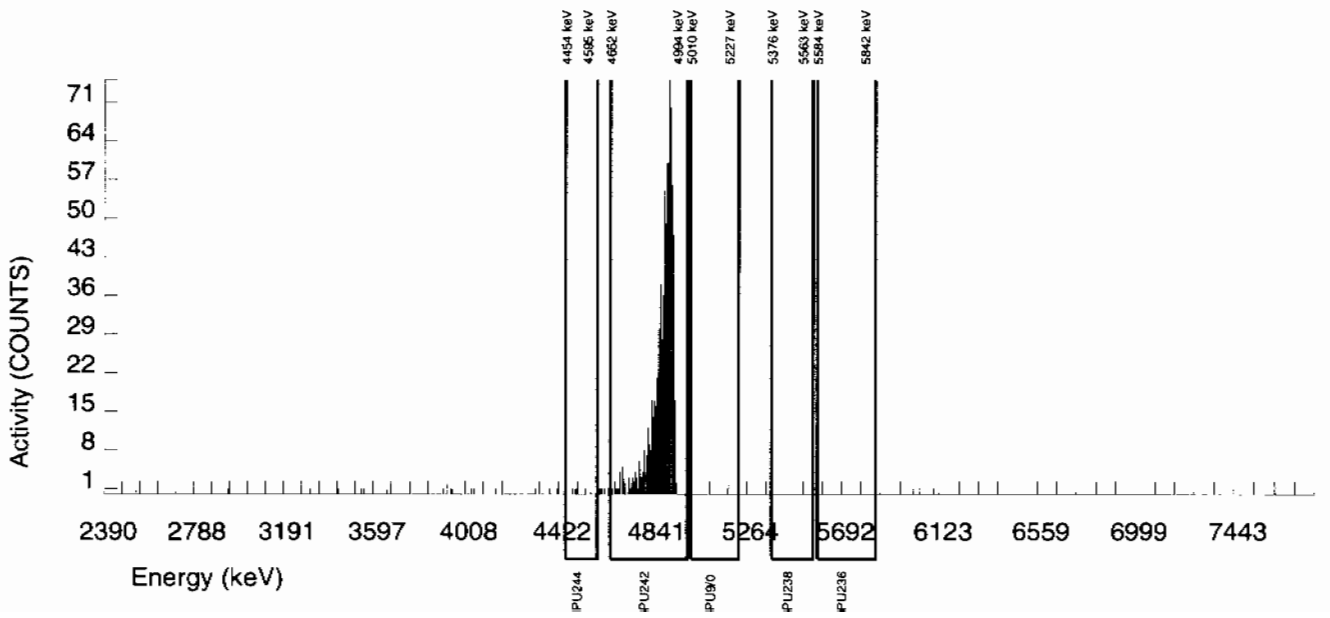
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5713.184	0.000	0.000	0.000	0.000	2.6925	100.0000	0.00E+00	1.32E-03	7.64E-03	1.88E-02	1.32E-03
PU-238	5499.000	5469.503	0.000	0.000	-0.753	0.753	2.9312	99.90000	-9.83E-04	1.64E-03	8.33E-03	2.02E-02	1.63E-03
PU-9/0	5155.000	5179.405	4.948	1.000	1.000	0.000	2.0604	99.90000	1.30E-03	1.31E-03	5.86E-03	1.52E-02	1.30E-03
PU242	4890.000	4888.953	54.490	917.000	917.000	0.000	0.0000	100.0000	1.20E+00	7.31E-02	0.00E+00	3.53E-03	3.95E-02
PU-244	4589.000	4523.484	84.115	5.000	5.000	0.000	3.7241	99.90000	6.52E-03	2.94E-03	1.06E-02	2.47E-02	2.92E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951460	CHAMBER : 227	LIB FILE : ENV_ALPHA_PU
SAMPLE ID : S0246601001_PU	DETECTOR S/N : 79420	BKG FILE : B227.CNF;80
SAMPLE QTY : 1.261 G	AVERAGE %EFFICIENCY : 38.6409	BKG DATE : 14-FEB-2010
SAMPLE DATE : 5-FEB-2010 00:00:00.	COUNT DATE : 16-FEB-2010 21:16:13	BKG LIVE TIME(SEC) : 60000.00
ANALYST : JXD2	ELAPSED LIVE TIME(SEC) : 45189.26	EFF FILE : W227.CNF;28
% YIELD : 88.018		CAL DATE : 29-JAN-2010

TRACER	MS/MSD	LCS/LCSD
ID : 1375-A	ID : 0244-B	ID : 0244-B
NUCLIDE : PU242	NUCLIDE : PU-9/0	NUCLIDE : PU-9/0
NOMINAL : 3.3808E+00 dpm	NOMINAL : 4.1778E+01 pCi/G	NOMINAL : 4.1778E+01 pCi/G
RESULTS : 2.9757E+00 dpm		

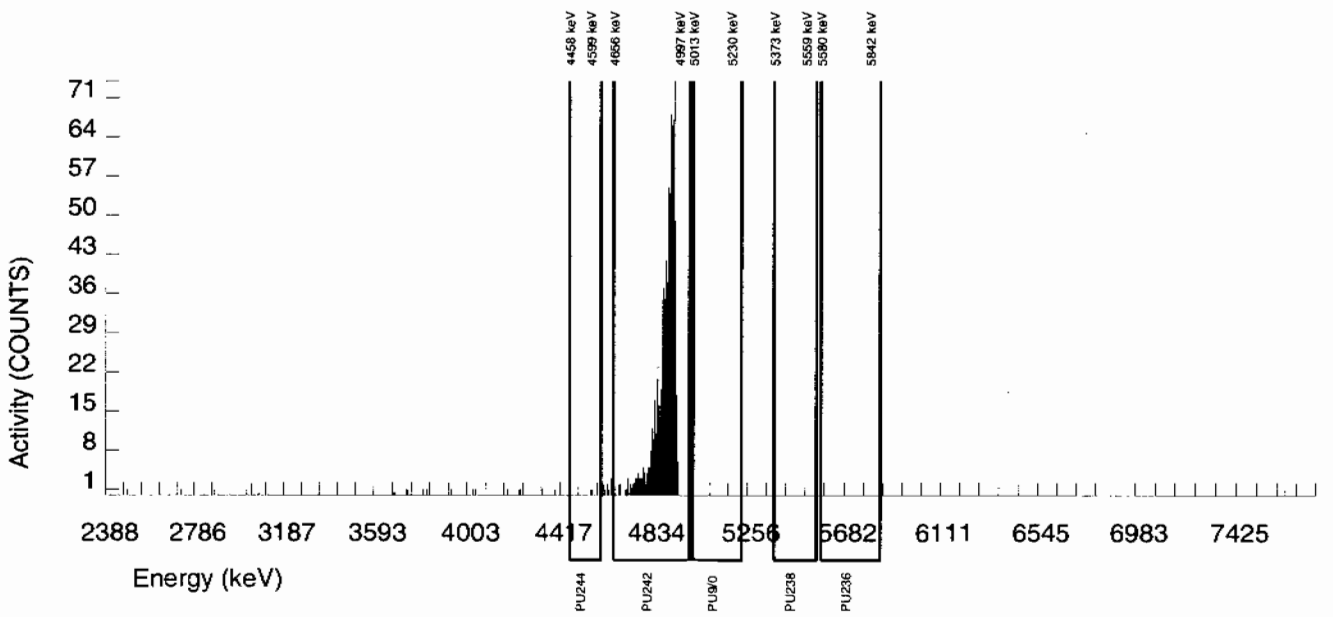
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5711.139	0.000	0.000	-0.753	0.753	2.6925	100.0000	-1.06E-03	1.76E-03	8.18E-03	2.01E-02	1.76E-03
PU-238	5499.000	5465.689	0.000	0.000	0.000	0.000	2.9312	99.90000	0.00E+00	1.40E-03	8.91E-03	2.16E-02	1.40E-03
PU-9/0	5155.000	5121.117	0.000	0.000	-0.753	0.753	2.0604	99.90000	-1.05E-03	1.75E-03	6.26E-03	1.63E-02	1.75E-03
PU242	4890.000	4893.459	44.460	866.000	866.000	0.000	0.0000	100.0000	1.21E+00	7.52E-02	0.00E+00	3.78E-03	4.10E-02
PU-244	4589.000	4544.894	64.288	3.000	3.000	0.000	3.7241	99.90000	4.19E-03	2.43E-03	1.13E-02	2.64E-02	2.42E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951460
SAMPLE ID : S1202039073_PU
SAMPLE QTY : 1.000 G
SAMPLE DATE : 12-FEB-2010 00:00:00
ANALYST : JXD2
% YIELD : 77.321

CHAMBER : 238
DETECTOR S/N : 79431
AVERAGE %EFFICIENCY : 39.3479
COUNT DATE : 16-FEB-2010 21:16:40
ELAPSED LIVE TIME(SEC) : 45383.22

LIB FILE : ENV_ALPHA_PU
BKG FILE : B238.CNF;82
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W238.CNF;30
CAL DATE : 29-JAN-2010

TRACER
ID : 1375-A
NUCLIDE : PU242
NOMINAL : 3.3808E+00 dpm
RESULTS : 2.6141E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

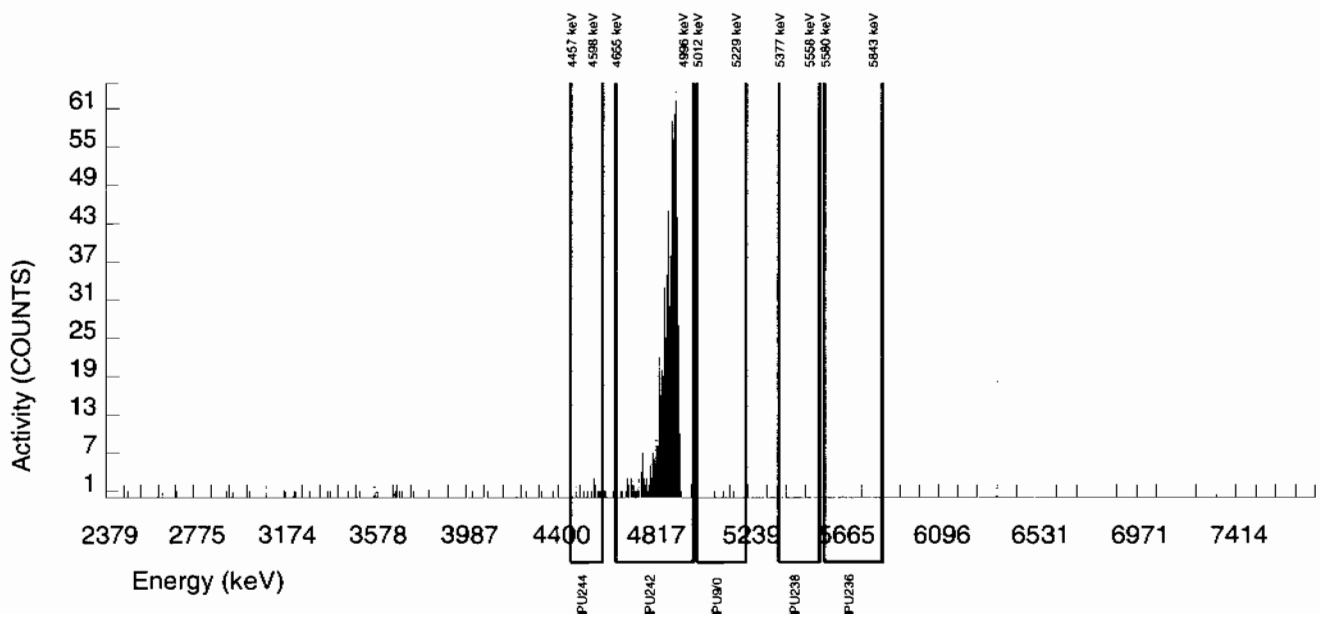
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5711.007	0.000	0.000	0.000	0.000	2.6925	100.0000	0.00E+00	1.97E-03	1.15E-02	2.83E-02	1.96E-03
PU-238	5499.000	5467.786	0.000	0.000	-3.026	3.026	2.9312	99.90000	-5.93E-03	3.56E-03	1.25E-02	3.04E-02	3.55E-03
PU-9/0	5155.000	5136.899	83.532	3.000	2.244	0.756	2.0604	99.90000	4.40E-03	3.71E-03	8.80E-03	2.29E-02	3.70E-03
PU242	4890.000	4889.793	57.529	778.000	778.000	0.000	0.0000	100.0000	1.52E+00	9.80E-02	0.00E+00	5.30E-03	5.46E-02
PU-244	4589.000	4543.013	63.816	14.000	14.000	0.000	3.7241	99.90000	2.74E-02	7.48E-03	1.59E-02	3.71E-02	7.33E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951460
SAMPLE ID : S1202039074_PU
SAMPLE QTY : 1.285 G
SAMPLE DATE : 5-FEB-2010 00:00:00.
ANALYST : JXD2
% YIELD : 83.080

CHAMBER : 239
DETECTOR S/N : 79432
AVERAGE %EFFICIENCY : 37.8194
COUNT DATE : 16-FEB-2010 21:16:42
ELAPSED LIVE TIME(SEC) : 45384.08

LIB FILE : ENV_ALPHA_PU
BKG FILE : B239.CNF;80
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W239.CNF;28
CAL DATE : 29-JAN-2010

TRACER
ID : 1375-A
NUCLIDE : PU242
NOMINAL : 3.3808E+00 dpm
RESULTS : 2.8087E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

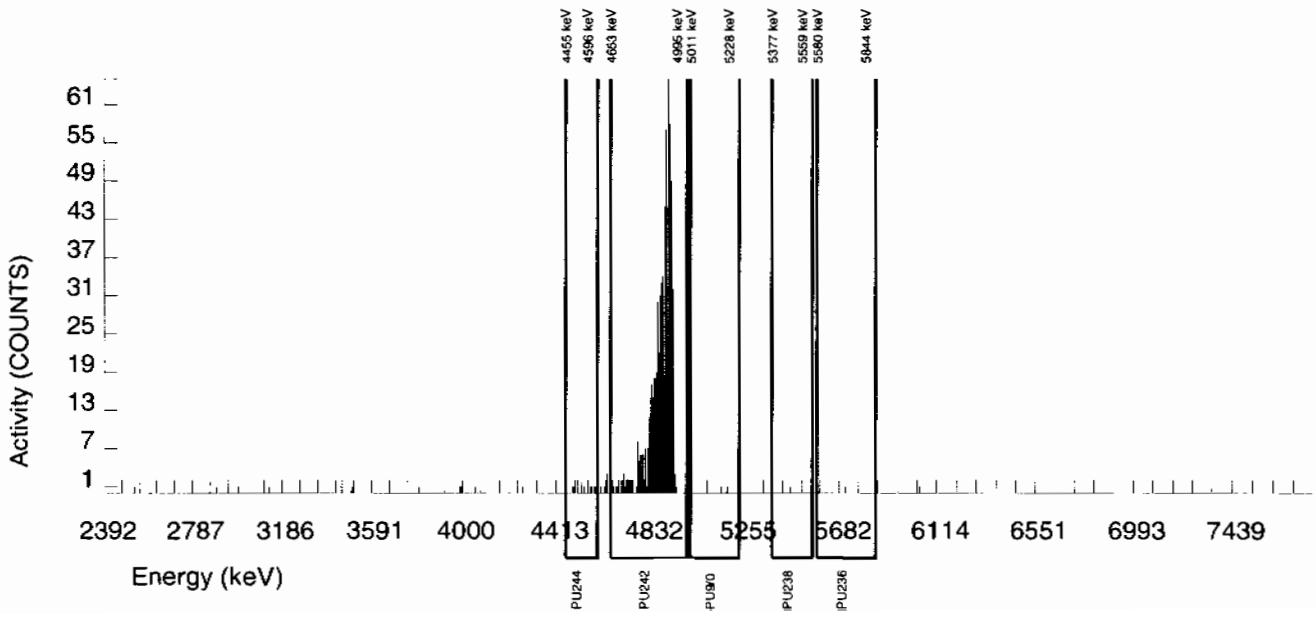
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5714.341	4.908	1.000	1.000	0.000	2.6925	100.0000	1.49E-03	1.49E-03	8.66E-03	2.13E-02	1.49E-03
PU-238	5499.000	5467.727	4.908	1.000	0.244	0.756	2.9312	99.90000	3.60E-04	1.85E-03	9.43E-03	2.29E-02	1.85E-03
PU-9/0	5155.000	5169.576	34.354	2.000	1.244	0.756	2.0604	99.90000	1.84E-03	2.37E-03	6.63E-03	1.73E-02	2.37E-03
PU242	4890.000	4885.323	49.088	805.000	803.487	1.513	1.2300	100.0000	1.19E+00	7.74E-02	3.96E-03	1.19E-02	4.19E-02
PU-244	4589.000	4539.581	0.000	17.000	17.000	0.000	3.7241	99.90000	2.51E-02	6.24E-03	1.20E-02	2.80E-02	6.09E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951460
SAMPLE ID : S1202039075_PU
SAMPLE QTY : 0.101 G
SAMPLE DATE : 12-FEB-2010 00:00:00
ANALYST : JXD2
% YIELD : 83.636

CHAMBER : 240
DETECTOR S/N : 79433
AVERAGE %EFFICIENCY : 36.8412
COUNT DATE : 16-FEB-2010 21:16:45
ELAPSED LIVE TIME(SEC) : 45387.33

LIB FILE : ENV_ALPHA_PU
BKG FILE : B240.CNF;80
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W240.CNF;28
CAL DATE : 29-JAN-2010

TRACER
ID : 1375-A
NUCLIDE : PU242
NOMINAL : 3.3808E+00 dpm
RESULTS : 2.8275E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

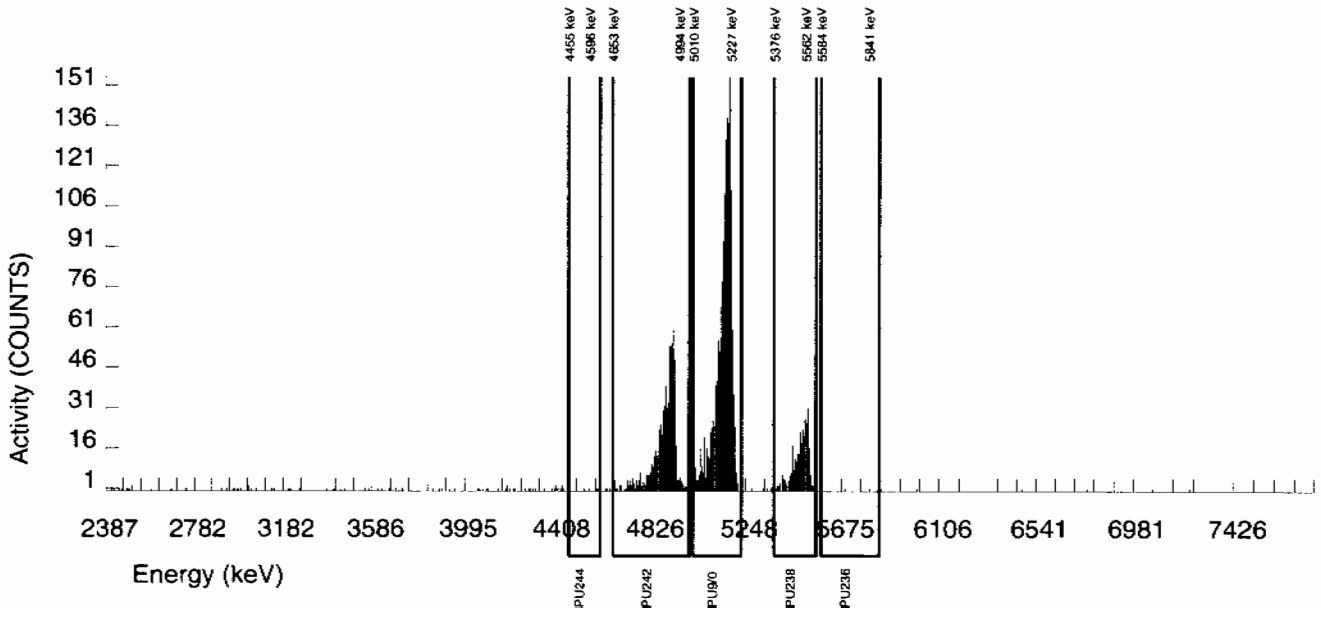
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5749.877	103.192	2.000	2.000	0.000	2.6925	100.0000	3.84E-02	2.73E-02	1.12E-01	2.76E-01	2.72E-02
PU-238	5499.000	5499.928	69.716	343.000	341.487	1.513	2.9312	99.90000	6.54E+00	5.40E-01	1.22E-01	2.97E-01	3.55E-01
PU-9/0	5155.000	5153.226	42.954	1783.000	1783.000	0.000	2.0604	99.90000	3.42E+01	2.27E+00	8.60E-02	2.24E-01	8.09E-01
PU242	4890.000	4887.894	52.002	788.000	788.000	0.000	0.0000	100.0000	1.51E+01	1.08E+00	0.00E+00	5.19E-02	5.37E-01
PU-244	4589.000	4562.259	0.000	7.000	6.244	0.756	3.7241	99.90000	1.20E-01	5.32E-02	1.56E-01	3.63E-01	5.27E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



Radiochemistry Batch Checklist, Rev10

Batch# 951463 Product: U Date: 2/18/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 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.	✓		Case narrative
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		Case narrative
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: [illegible] 2/18/10

Secondary Review Performed By: [illegible] 2/18/10

2/18

LANL

Uranium Que Sheet

pV 10-FEB-10

Batch #: 951463 **Analyst:** JXD2 **First Client Due Date:** 19-FEB-10 **Internal Due Date:** 09-FEB-10

Tracer Isotope: U-232/U-236 **Tracer Code:** 1283-H **Expiration Date:** 12/09/10 **Vol:** 0.1
LCS Isotope: U-238 **LCS Code:** — **Expiration Date:** — **Vol:** —
Spike Isotope: U-238 **Spike Code:** — **Expiration Date:** — **Vol:** —
Prep Date: 02/11/10 **Initials:** JXD **Pipet ID:** 29710158 **Balance ID:** 50410272 **Witness:** 2/12/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g)	U Det #
246283011-1	RE16-10-1190	SAMPLE		.1 pCi/g	SOIL	LANL010	29-JAN-10	1	1	0.533	113
246294009-1	RE16-10-1472	SAMPLE		.1 pCi/g	SOIL	LANL010	30-JAN-10	2	2	0.508	114
246557001-1	RE15-10-8363	SAMPLE		.1 pCi/g	SOIL	LANL010	03-FEB-10	3	3	0.500	115
246562001-1	WST16-10-12212	SAMPLE		.1 pCi/g	SOIL	LANL010	04-FEB-10	4	4	0.526	117
246575003-1	WST15-10-11621	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	5	5	0.511	155
246575004-1	WST15-10-11620	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	6	6	0.504	156
246601001-1	RE46-10-11496	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	7	7	0.502	157
246601002-1	RE46-10-11495	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	8	8	0.508	127
246601003-1	RE46-10-11497	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	9	9	0.501	118
246601004-1	RE46-10-11494	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	10	10	0.509	119
246601005-1	RE46-10-11491	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	11	11	0.517	120
246601006-1	RE46-10-11498	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	12	12	0.521	121
246601007-1	RE46-10-11492	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	13	13	0.528	122
246601008-1	RE46-10-11501	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	14	14	0.520	123
246601009-1	RE46-10-11500	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	15	15	0.510	124
246601010-1	RE46-10-11499	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	16	16	0.529	125
246601011-1	RE46-10-11493	SAMPLE		.1 pCi/g	SOIL	LANL010	05-FEB-10	17	17	0.502	126
1202039076-1	MB for batch 951463	MB		.1 pCi/g	SOIL	QC ACCOUNT		18	18	/	158
1202039077-1	RE46-10-11496(246601001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	05-FEB-10	19	19	0.526	159
1202039078-1	LCS for batch 951463	LCS		.1 pCi/g	SOIL	QC ACCOUNT		20	20	0.104	160

* SRM 0244-A Exp 10/31/20 0.104 g

Choose SOP used: GL-RAD-A-011 **Solid Sample Dissolution by:** LEACH or DIGESTION (Circle One) **Data Reviewed By:** 2/18/10

Blank Correction Report

Batch ID 951463

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202039077	DUP	Uranium-233/234	0.526 g	0.777	0.0759	0.0884	.009524715	pCi/g	NO
		Uranium-235/236	0.526 g	0.0476	0.0147	0.0564	.016596958	pCi/g	YES
		Uranium-238	0.526 g	0.764	0.0749	0.0604	.010076046	pCi/g	NO
1202039078	LCS	Uranium-233/234	0.104 g	5.60	0.533	0.444	.048173077	pCi/g	NO
		Uranium-235/236	0.104 g	0.326	0.0879	0.283	.083942308	pCi/g	YES
		Uranium-238	0.104 g	6.32	0.589	0.303	.050961538	pCi/g	NO
1202039076	MB	Uranium-233/234	1.00 g	0.00501	0.00463	0.0446	.00501	pCi/g	YES
		Uranium-235/236	1.00 g	0.00873	0.00538	0.0284	.00873	pCi/g	YES
		Uranium-238	1.00 g	0.0053	0.00308	0.0304	.0053	pCi/g	YES
246283011	RE16-10-1190	Uranium-233/234	0.533 g	0.887	0.0842	0.0892	.009399625	pCi/g	NO
		Uranium-235/236	0.533 g	0.0437	0.0142	0.0569	.016378987	pCi/g	YES
		Uranium-238	0.533 g	0.915	0.0861	0.0609	.009943715	pCi/g	NO
246294009	RE16-10-1472	Uranium-233/234	0.508 g	1.01	0.0945	0.096	.009862205	pCi/g	NO
		Uranium-235/236	0.508 g	0.0611	0.0175	0.0612	.017185039	pCi/g	YES
		Uranium-238	0.508 g	0.867	0.0842	0.0655	.010433071	pCi/g	NO
246557001	RE15-10-8363	Uranium-233/234	0.500 g	1.19	0.106	0.0883	.01002	pCi/g	NO
		Uranium-235/236	0.500 g	0.0389	0.0146	0.0563	.01746	pCi/g	YES
		Uranium-238	0.500 g	1.40	0.121	0.0603	.0106	pCi/g	NO
246562001	WST16-10-12212	Uranium-233/234	0.526 g	0.633	0.065	0.0869	.009524715	pCi/g	NO
		Uranium-235/236	0.526 g	0.0383	0.0156	0.0554	.016596958	pCi/g	YES
		Uranium-238	0.526 g	0.651	0.0661	0.0593	.010076046	pCi/g	NO
246575003	WST15-10-11621	Uranium-233/234	0.511 g	3.86	0.297	0.0921	.009804305	pCi/g	NO
		Uranium-235/236	0.511 g	0.207	0.0339	0.0587	.017084149	pCi/g	NO
		Uranium-238	0.511 g	4.69	0.356	0.0629	.010371820	pCi/g	NO
246575004	WST15-10-11620	Uranium-233/234	0.504 g	1.88	0.158	0.0962	.009940476	pCi/g	NO
		Uranium-235/236	0.504 g	0.0848	0.0209	0.0613	.017321429	pCi/g	YES
		Uranium-238	0.504 g	1.99	0.166	0.0657	.010515873	pCi/g	NO
246601001	RE46-10-11496	Uranium-233/234	0.502 g	0.837	0.0807	0.0907	.009980080	pCi/g	NO
		Uranium-235/236	0.502 g	0.040	0.0136	0.0578	.017390438	pCi/g	YES
		Uranium-238	0.502 g	0.813	0.0787	0.0619	.010557769	pCi/g	NO
246601002	RE46-10-11495	Uranium-233/234	0.508 g	0.744	0.0752	0.0973	.009862205	pCi/g	NO
		Uranium-235/236	0.508 g	0.0572	0.017	0.062	.017185039	pCi/g	YES
		Uranium-238	0.508 g	0.717	0.0734	0.0664	.010433071	pCi/g	NO
246601003	RE46-10-11497	Uranium-233/234	0.501 g	0.681	0.0711	0.0987	.01	pCi/g	NO
		Uranium-235/236	0.501 g	0.0339	0.013	0.0629	.017425150	pCi/g	YES
		Uranium-238	0.501 g	0.747	0.0757	0.0674	.010578842	pCi/g	NO
246601004	RE46-10-11494	Uranium-233/234	0.509 g	0.826	0.0801	0.0923	.009842829	pCi/g	NO
		Uranium-235/236	0.509 g	0.0497	0.0154	0.0588	.017151277	pCi/g	YES
		Uranium-238	0.509 g	0.779	0.0766	0.063	.010412574	pCi/g	NO
246601005	RE46-10-11491	Uranium-233/234	0.517 g	0.917	0.0874	0.0937	.009690522	pCi/g	NO
		Uranium-235/236	0.517 g	0.0551	0.0176	0.0597	.016885880	pCi/g	YES

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
246601005	RE46-10-11491	Uranium-238	0.517 g	0.813	0.0795	0.064	.010251451	pCi/g	NO
246601006	RE46-10-11498	Uranium-233/234	0.521 g	0.859	0.0828	0.0919	.009616123	pCi/g	NO
		Uranium-235/236	0.521 g	0.0585	0.019	0.0586	.016756238	pCi/g	YES
		Uranium-238	0.521 g	1.00	0.0933	0.0628	.010172745	pCi/g	NO
246601007	RE46-10-11492	Uranium-233/234	0.528 g	0.835	0.0779	0.0802	.009488636	pCi/g	NO
		Uranium-235/236	0.528 g	0.0314	0.0126	0.0511	.016534091	pCi/g	YES
		Uranium-238	0.528 g	0.801	0.0754	0.0548	.010037879	pCi/g	NO
246601008	RE46-10-11501	Uranium-233/234	0.520 g	0.782	0.0758	0.0874	.009634615	pCi/g	NO
		Uranium-235/236	0.520 g	0.0428	0.0139	0.0557	.016788462	pCi/g	YES
		Uranium-238	0.520 g	0.755	0.0737	0.0596	.010192308	pCi/g	NO
246601009	RE46-10-11500	Uranium-233/234	0.510 g	0.781	0.0765	0.0896	.009823529	pCi/g	NO
		Uranium-235/236	0.510 g	0.0746	0.0188	0.0571	.017117647	pCi/g	YES
		Uranium-238	0.510 g	0.835	0.0801	0.0612	.010392157	pCi/g	NO
246601010	RE46-10-11499	Uranium-233/234	0.529 g	1.08	0.0986	0.0916	.009470699	pCi/g	NO
		Uranium-235/236	0.529 g	0.0404	0.0138	0.0584	.016502836	pCi/g	YES
		Uranium-238	0.529 g	1.05	0.0965	0.0625	.010018904	pCi/g	NO
246601011	RE46-10-11493	Uranium-233/234	0.502 g	0.890	0.087	0.100	.009960080	pCi/g	NO
		Uranium-235/236	0.502 g	0.054	0.0167	0.0639	.017390438	pCi/g	YES
		Uranium-238	0.502 g	0.958	0.0922	0.0685	.010557769	pCi/g	NO

Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951463	CHAMBER : 158	LIB FILE : ENV_ALPHA_UU
SAMPLE ID : S1202039076_UU	DETECTOR S/N : 33451	BKG FILE : B158.CNF;400
SAMPLE QTY : 1.000 G	AVERAGE %EFFICIENCY : 24.3861	BKG DATE : 14-FEB-2010
SAMPLE DATE : 12-FEB-2010 00:00:00	COUNT DATE : 17-FEB-2010 11:57:38	BKG LIVE TIME(SEC) : 60000.00
ANALYST : JXD2	ELAPSED LIVE TIME(SEC) : 60000.00	EFF FILE : W158.CNF;112
% YIELD : 100.523		CAL DATE : 18-JAN-2010

TRACER	MS/MSD	LCS/LCSD
ID : 1283-H	ID : 0244-A	ID : 0244-A
NUCLIDE : U232	NUCLIDE : U-238	NUCLIDE : U-238
NOMINAL : 4.5043E+00 dpm	NOMINAL : 5.7500E+00 pCi/G	NOMINAL : 5.7500E+00 pCi/G
RESULTS : 4.5279E+00 dpm		

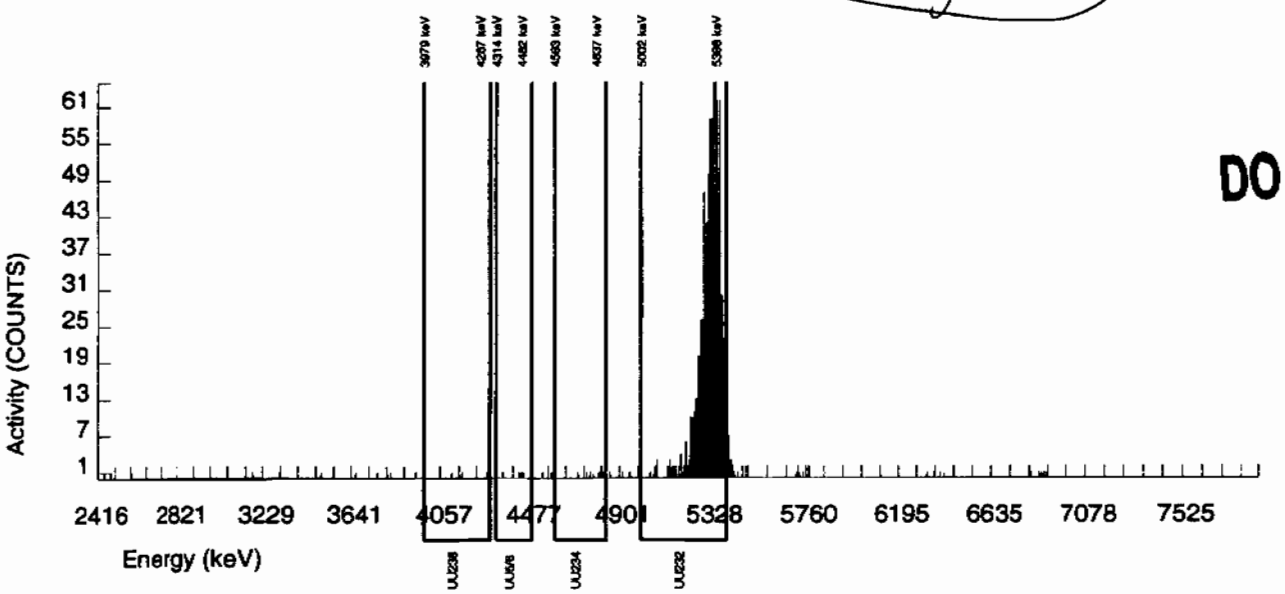
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5326.493	77.141	1106.000	1104.000	2.000	1.4142	100.0000	2.03E+00	1.55E-01	6.05E-03	1.71E-02	6.12E-02
U-3/4	4763.020	4775.770	120.711	6.000	2.883	2.000	4.8416	100.0000	5.30E-03	4.84E-03	2.07E-02	4.64E-02	4.82E-03
U-235	4391.000	4423.129	100.592	5.000	4.000	1.000	2.2152	80.90000	9.09E-03	5.60E-03	1.17E-02	2.96E-02	5.56E-03
U-238	4184.730	4184.296	160.948	3.000	3.000	0.000	3.1208	100.0000	5.51E-03	3.21E-03	1.33E-02	3.17E-02	3.18E-03

Integrated

NOTES:

* Sg calculated via blank population. (Sg updated 10-FEB-2010)
* Sg of U232 calculated as sqrt(BKG AREA).
* Corrections made to the following net area due to tracer impurity:
  U-3/4



DO NOT REPORT

Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	951463	CHAMBER	115	LIB FILE	ENV_ALPHA_UU
SAMPLE ID	S0246557001_UU	DETECTOR S/N	79995	BKG FILE	B115.CNF;454
SAMPLE QTY	0.500 G	AVERAGE %EFFICIENCY	25.9560	BKG DATE	14-FEB-2010
SAMPLE DATE	3-FEB-2010 00:00:00.	COUNT DATE	17-FEB-2010 16:21:55	BKG LIVE TIME(SEC)	60000.00
ANALYST	JXD2	ELAPSED LIVE TIME(SEC)	60000.00	EFF FILE	W115.CNF;147
% YIELD	99.235			CAL DATE	18-JAN-2010

TRACER		MS/MSD		LCS/LCSD	
ID	1283-H	ID	0244-A	ID	0244-A
NUCLIDE	U232	NUCLIDE	U-238	NUCLIDE	U-238
NOMINAL	4.5054E+00 dpm	NOMINAL	5.7500E+00 pCi/G	NOMINAL	5.7500E+00 pCi/G
RESULTS	4.4709E+00 dpm				

NUCLIDE ACTIVITY SUMMARY

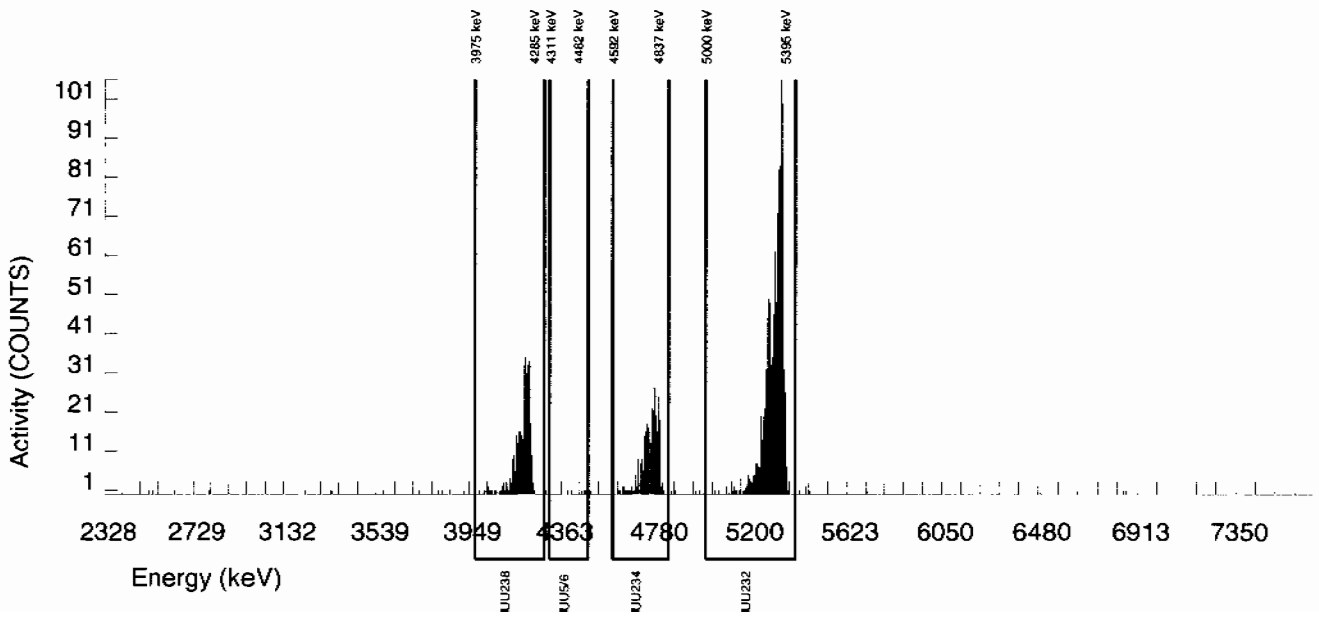
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.537	40.530	1162.000	1160.000	2.000	1.4142	100.0000	4.06E+00	3.09E-01	1.15E-02	3.25E-02	1.19E-01
U-3/4	4763.020	4761.064	62.458	345.000	340.826	3.000	4.8416	100.0000	1.19E+00	1.06E-01	3.94E-02	8.83E-02	6.51E-02
U-235	4391.000	4427.139	6.176	10.000	9.000	1.000	2.2152	80.90000	3.89E-02	1.46E-02	2.23E-02	5.63E-02	1.43E-02
U-238	4184.730	4193.031	34.233	401.000	400.000	1.000	3.1208	100.0000	1.40E+00	1.21E-01	2.54E-02	6.03E-02	7.01E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
U-3/4



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951463
SAMPLE ID : S0246601001_UU
SAMPLE QTY : 0.502 G
SAMPLE DATE : 5-FEB-2010 00:00:00.
ANALYST : JXD2
% YIELD : 101.183

CHAMBER : 157
DETECTOR S/N : 75555
AVERAGE %EFFICIENCY : 24.6661
COUNT DATE : 17-FEB-2010 11:57:36
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B157.CNF;399
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W157.CNF;109
CAL DATE : 18-JAN-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5052E+00 dpm
RESULTS : 4.5585E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

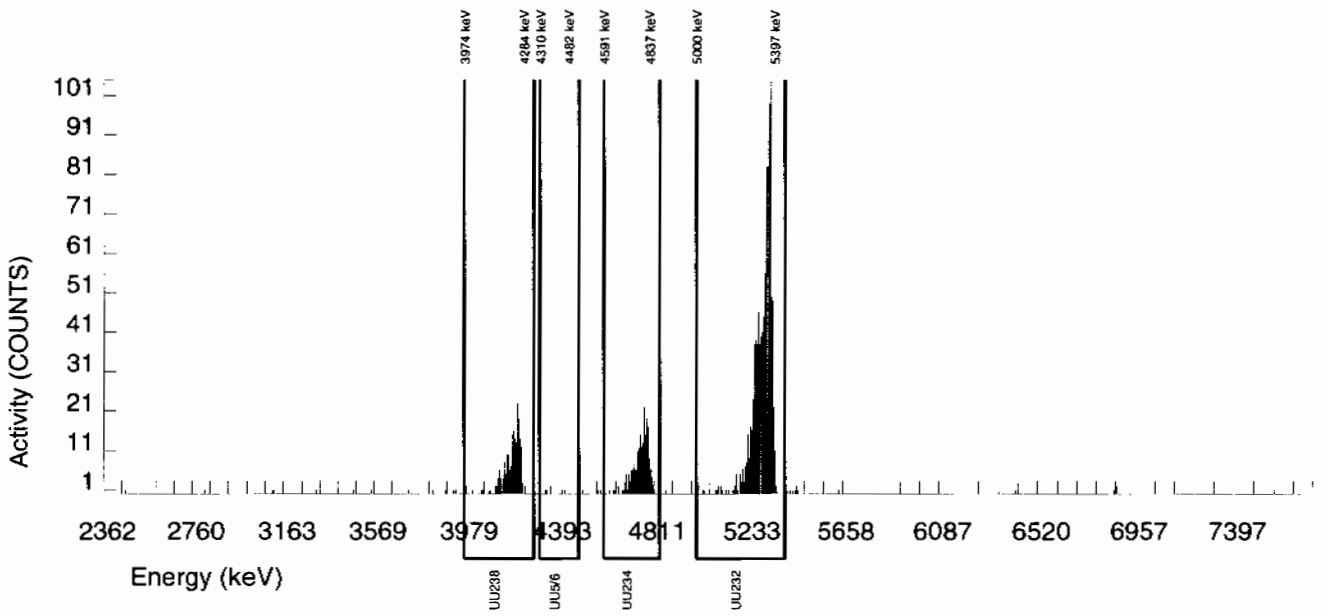
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5302.500	30.741	1129.000	1124.000	5.000	2.2361	100.0000	4.04E+00	3.10E-01	1.87E-02	4.71E-02	1.21E-01
U-3/4	4763.020	4758.699	47.518	235.000	232.862	1.000	4.8416	100.0000	8.37E-01	8.07E-02	4.05E-02	9.07E-02	5.51E-02
U-235	4391.000	4386.373	24.798	9.000	9.000	0.000	2.2152	80.90000	4.00E-02	1.36E-02	2.29E-02	5.78E-02	1.33E-02
U-238	4184.730	4188.393	39.044	226.000	226.000	0.000	3.1208	100.0000	8.13E-01	7.87E-02	2.61E-02	6.19E-02	5.40E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
U-3/4



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951463
SAMPLE ID : S1202039076_UU
SAMPLE QTY : 1.000 G
SAMPLE DATE : 12-FEB-2010 00:00:00
ANALYST : JXD2
% YIELD : 104.621

CHAMBER : 158
DETECTOR S/N : 33451
AVERAGE %EFFICIENCY : 24.3861
COUNT DATE : 17-FEB-2010 11:57:38
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B158.CNF;400
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W158.CNF;112
CAL DATE : 18-JAN-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5043E+00 dpm
RESULTS : 4.7125E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

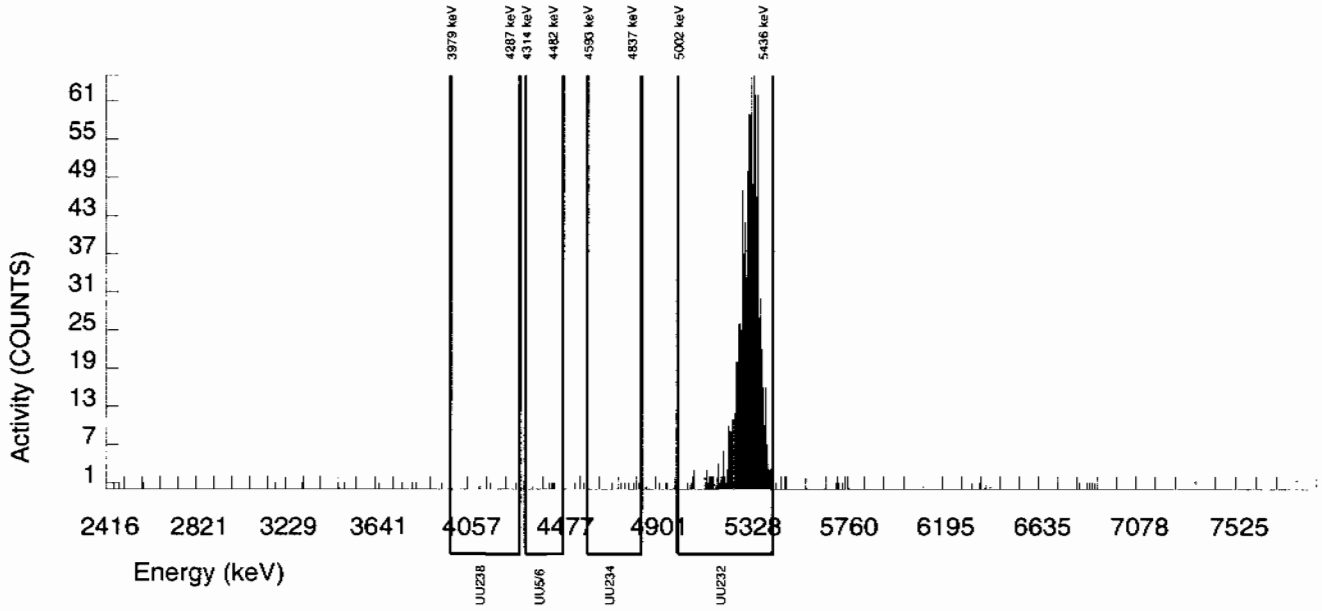
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5329.881	77.141	1151.000	1149.000	2.000	1.4142	100.0000	2.03E+00	1.54E-01	5.81E-03	1.64E-02	6.00E-02
U-3/4	4763.020	4775.770	120.711	6.000	2.837	2.000	4.8416	100.0000	5.01E-03	4.63E-03	1.99E-02	4.46E-02	4.62E-03
U-235	4391.000	4423.129	100.592	5.000	4.000	1.000	2.2152	80.90000	8.73E-03	5.38E-03	1.12E-02	2.84E-02	5.35E-03
U-238	4184.730	4184.296	160.948	3.000	3.000	0.000	3.1208	100.0000	5.30E-03	3.08E-03	1.28E-02	3.04E-02	3.06E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
U-3/4



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951463
SAMPLE ID : S1202039077_UU
SAMPLE QTY : 0.526 G
SAMPLE DATE : 5-FEB-2010 00:00:00.
ANALYST : JXD2
% YIELD : 97.706

CHAMBER : 159
DETECTOR S/N : 76225
AVERAGE %EFFICIENCY : 25.0212
COUNT DATE : 17-FEB-2010 11:57:42
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B159.CNF;373
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W159.CNF;104
CAL DATE : 18-JAN-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5052E+00 dpm
RESULTS : 4.4018E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

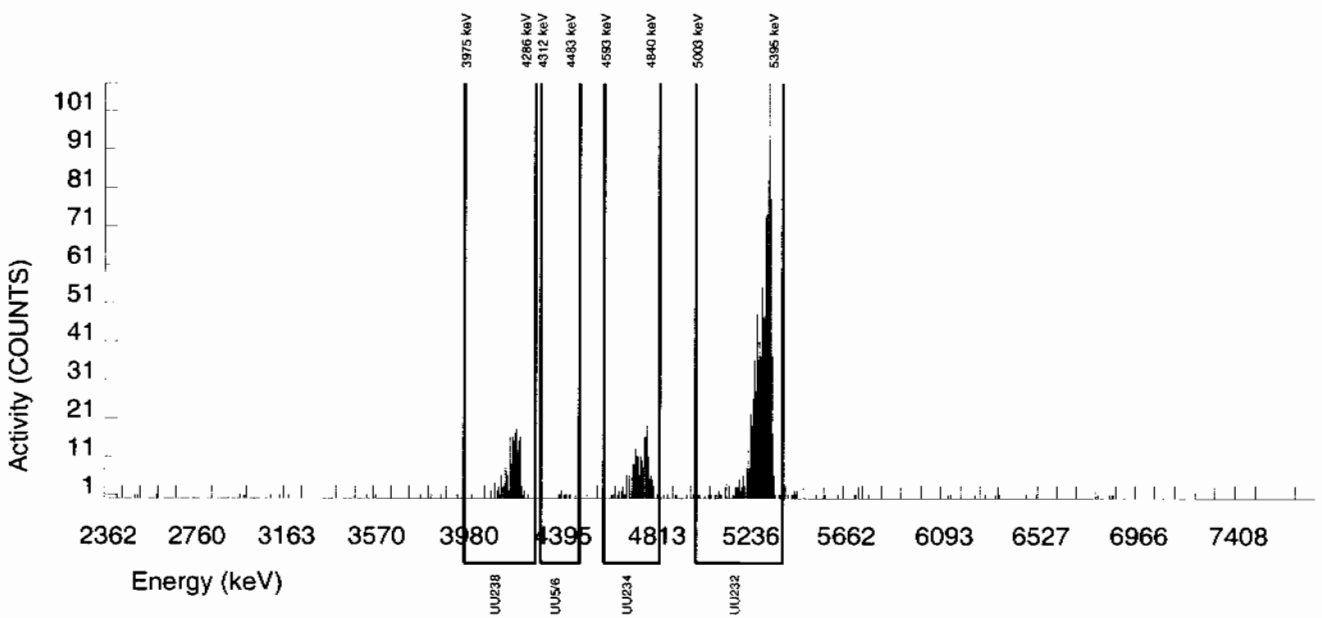
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.518	42.777	1108.000	1101.000	7.000	2.6458	100.0000	3.86E+00	2.97E-01	2.16E-02	5.26E-02	1.17E-01
U-3/4	4763.020	4757.353	60.087	224.000	221.886	1.000	4.8416	100.0000	7.77E-01	7.59E-02	3.95E-02	8.84E-02	5.24E-02
U-235	4391.000	4423.184	7.282	11.000	11.000	0.000	2.2152	80.90000	4.76E-02	1.47E-02	2.23E-02	5.64E-02	1.44E-02
U-238	4184.730	4190.437	48.660	219.000	218.000	1.000	3.1208	100.0000	7.64E-01	7.49E-02	2.54E-02	6.04E-02	5.20E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
U-3/4



Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951463
SAMPLE ID : S1202039078_UU
SAMPLE QTY : 0.104 G
SAMPLE DATE : 12-FEB-2010 00:00:00
ANALYST : JXD2
% YIELD : 100.105

CHAMBER : 160
DETECTOR S/N : 79994
AVERAGE %EFFICIENCY : 24.5767
COUNT DATE : 17-FEB-2010 11:57:44
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B160.CNF;375
BKG DATE : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W160.CNF;116
CAL DATE : 18-JAN-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5043E+00 dpm
RESULTS : 4.5091E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

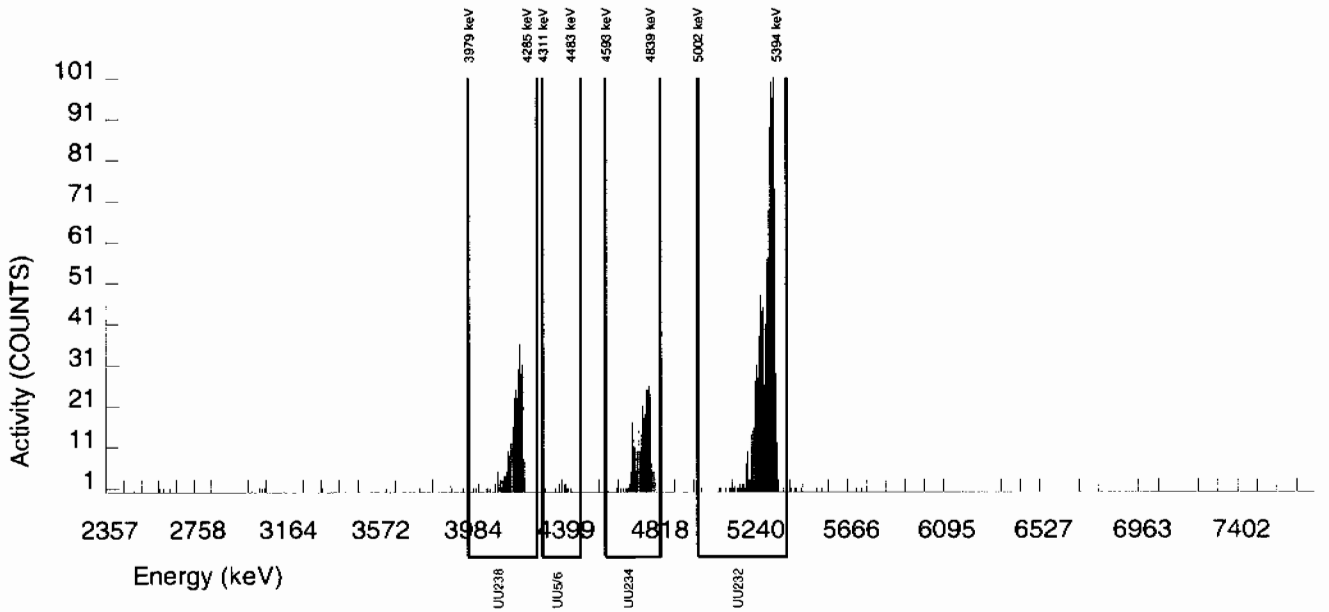
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.537	37.757	1109.000	1108.000	1.000	1.0000	100.0000	1.95E+01	1.61E+00	4.10E-02	1.30E-01	5.87E-01
U-3/4	4763.020	4764.022	84.339	321.000	317.879	2.000	4.8416	100.0000	5.60E+00	5.33E-01	1.98E-01	4.44E-01	3.16E-01
U-235	4391.000	4400.706	37.498	15.000	15.000	0.000	2.2152	80.90000	3.26E-01	8.79E-02	1.12E-01	2.83E-01	8.43E-02
U-238	4184.730	4192.488	40.913	359.000	359.000	0.000	3.1208	100.0000	6.32E+00	5.89E-01	1.28E-01	3.03E-01	3.34E-01

NOTES:

* Sg calculated via blank population. (Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
U-3/4



Radiochemistry Batch Checklist, Rev10

Batch# 96/362 Product: RS Date: 2/23/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
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.			NA
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.			NA
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 statused.	✓		
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 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: [illegible] 2/23/10

Secondary Review Performed By: [illegible] 2/24/10

LANL
3/2/110

Gamma Spec Que Sheet I.G.- 2/19/10

02/10/2010

Batch #:951362 **Analyst:** MXR1 **First Client DueDate**03/02/2010 **Internal Due Date:** 02/20/2010

Gamma Spike Isotope: Mixed Gamma **Spike Code:** NA **Expiration Date:** NA **Vol:** NA **Nominal Concentration:** NA

Gamma LCS Isotope: Mixed Gamma **LCS Code:** 1032-A **Expiration Date:** 12/2/10 **Vol:** 1.0mL **Nominal Concentration:** ~~NA~~ (calculated) JK 2/23/10

Initials: K **Prep Date:** 2/12/10 **Library:** Solid **Witness:** NA

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date		Geometry	Wet/Dry Aliquot (1/B/F)	Detector	Sealing Date/Time (if Applicable)
246557001-1	RE15-10-8363	SAMPLE		LANL010	SOIL	03-FEB-10 12:00:00	RF	Can	129.15	15	2/11/10
246562001-1	WST16-10-12212	SAMPLE		LANL010	SOIL	04-FEB-10 12:00:00	RF		130.86	18	
246601001-1	RE46-10-11496	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		124.03	2	
246601002-1	RE46-10-11495	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		127.94	4	
246601003-1	RE46-10-11497	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		131.41	7	
246601004-1	RE46-10-11494	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		127.48	11	
246601005-1	RE46-10-11491	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		124.71	12	
246601006-1	RE46-10-11498	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		123.77	14	
246601007-1	RE46-10-11492	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		127.56	15	
246601008-1	RE46-10-11501	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		131.22	19	
246601009-1	RE46-10-11500	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		122.56	22	
246601010-1	RE46-10-11499	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		121.89	23	
246601011-1	RE46-10-11493	SAMPLE		LANL010	SOIL	05-FEB-10 12:00:00	RF		137.19	18 ~~13~~	RF 2/12/10
246610001-1	RE16-10-1173	SAMPLE		LANL010	SOIL	03-FEB-10 12:00:00	RF		108.45	16	2/12/10
246610002-1	RE16-10-1157	SAMPLE		LANL010	SOIL	03-FEB-10 12:00:00	RF		110.91	21	
246610003-1	RE16-10-1156	SAMPLE		LANL010	SOIL	03-FEB-10 12:00:00	RF		114.75	25	
246611001-1	RE16-10-1246	SAMPLE		LANL010	SOIL	04-FEB-10 12:00:00	K		112.99	7	
246611002-1	RE16-10-1247	SAMPLE		LANL010	SOIL	04-FEB-10 12:00:00	K		111.96	11	
246611003-1	RE16-10-1268	SAMPLE		LANL010	SOIL	04-FEB-10 12:00:00	K		121.11	12	
1202038807-1	MB	MB		QC ACCOUNT	SOIL	2/12/10	K		137.19	10	
1202038808-1	DUP RE16-10-1246(246611001)	DUP		QC ACCOUNT	SOIL	04-FEB-10 12:00:00	K		112.99	15	
1202038809-1	LCS	LCS		QC ACCOUNT	SOIL	2/12/10	K		155.44	14	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: [signature] 2/23/10

dailies ✓

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
951362	246557001	SAMPLE	19-FEB-10		Americium-241	-0.09672	0.5547	0.200
					Cerium-139	0.01557	0.06872	0.050
					Cesium-134	0.05067	0.1129	0.100
					Europium-152	0.0318	0.2169	0.200
					Mercury-203	0.02689	0.1013	0.100
					Sodium-22	-0.03918	0.09002	0.080
					Thorium-234	0.9968	4.461	2.00
					Uranium-235	0.1167	0.5047	0.500
951362	246562001	SAMPLE	19-FEB-10		Americium-241	-0.02882	0.2703	0.200
					Thorium-234	0.1775	2.32	2.00
951362	246601001	SAMPLE	19-FEB-10		Americium-241	0.01459	0.345	0.200
					Cerium-139	-0.00503	0.05896	0.050
					Sodium-22	-0.02524	0.0901	0.080
					Thorium-234	0.8596	2.675	2.00
951362	246601002	SAMPLE	19-FEB-10		Americium-241	-0.1633	0.3661	0.200
					Sodium-22	0.01717	0.08168	0.080
					Thorium-234	1.125	3.173	2.00
951362	246601003	SAMPLE	19-FEB-10		Sodium-22	0.02803	0.08206	0.080
951362	246601004	SAMPLE	19-FEB-10					
951362	246601005	SAMPLE	19-FEB-10		Americium-241	0.00448	0.2589	0.200
					Cerium-139	-0.00313	0.0501	0.050
					Cesium-134	0.08782	0.1003	0.100
					Sodium-22	-0.0033	0.08228	0.080
					Thorium-234	1.915	2.212	2.00
951362	246601006	SAMPLE	19-FEB-10		Americium-241	-0.05087	0.2301	0.200
					Cerium-139	-0.00477	0.05351	0.050
					Sodium-22	-0.01611	0.08444	0.080
951362	246601007	SAMPLE	19-FEB-10		Americium-241	-0.5386	0.507	0.200
					Cerium-139	0.04192	0.0697	0.050
					Europium-152	-0.00045	0.2101	0.200
					Sodium-22	-0.00416	0.09106	0.080
					Thorium-234	1.792	4.304	2.00
951362	246601008	SAMPLE	19-FEB-10		Americium-241	0.01205	0.2801	0.200
					Cerium-139	-0.04135	0.05162	0.050
					Sodium-22	0.04935	0.08191	0.080
					Thorium-234	1.424	2.317	2.00
951362	246601009	SAMPLE	19-FEB-10		Americium-241	-0.02267	0.2371	0.200
					Cerium-139	-0.0217	0.05074	0.050
951362	246601010	SAMPLE	19-FEB-10		Americium-241	-0.1235	0.3768	0.200
					Cerium-139	-0.04506	0.05563	0.050
					Cesium-134	0.05702	0.1093	0.100
					Sodium-22	0.02655	0.09607	0.080
					Thorium-234	1.254	3.222	2.00
951362	246601011	SAMPLE	19-FEB-10		Americium-241	0.01427	0.2776	0.200
					Thorium-234	1.387	2.277	2.00

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
951362	246610001	SAMPLE	19-FEB-10		Americium-241	0.04287	0.2291	0.200
951362	246610002	SAMPLE	19-FEB-10		Cesium-134	0.03059	0.1161	0.100
					Sodium-22	0.00241	0.1183	0.080
951362	246610003	SAMPLE	19-FEB-10		Cesium-134	0.07532	0.1014	0.100
					Sodium-22	0.01812	0.09905	0.080
951362	246611001	SAMPLE	19-FEB-10		Cesium-134	0.09273	0.1015	0.100
					Sodium-22	0.01438	0.0858	0.080
951362	246611002	SAMPLE	19-FEB-10					
951362	246611003	SAMPLE	19-FEB-10		Americium-241	0.07149	0.2564	0.200
					Thorium-234	0.7185	2.161	2.00
951362	1202038807	MB	19-FEB-10					
951362	1202038808	DUP	19-FEB-10		Americium-241	-0.07024	0.5174	0.200
					Cerium-139	-0.02947	0.06398	0.050
					Cesium-134	0.1083	0.1117	0.100
					Europium-152	-0.08366	0.2155	0.200
					Sodium-22	-0.0101	0.09722	0.080
					Thorium-234	-0.6418	4.109	2.00
951362	1202038809	LCS	19-FEB-10		Cerium-139	0.02884	0.0764	0.050
					Cesium-134	0.04935	0.1628	0.100
					Europium-152	-0.07652	0.2974	0.200
					Mercury-203	0.03529	0.111	0.100
					Potassium-40	0.7319	1.241	1.00
					Ruthenium-106	-0.237	0.9174	0.800
					Thorium-234	-0.723	3.012	2.00
					Tin-113	0.00561	0.1403	0.100
					Uranium-235	0.01002	0.529	0.500

GEL QUALS

Batch ID: 951362

Report run on: February 23, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
246557001-1 19-FEB-2010 13:07	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.945			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.792			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1427			
246562001-1 19-FEB-2010 13:58	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.753			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.186			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.63			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1065			
246601001-1 19-FEB-2010 15:12	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.424			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.276			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1373		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.836			
246601002-1 19-FEB-2010 15:12	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.095			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.961			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1803		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.247			
246601003-1 19-FEB-2010 15:12	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.267			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.364			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1283		.1	.1
	Mercury-203	UI	UI	UI	Data rejected due to interference.		.08973		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.801			

GEL QUALS

Batch ID: 951362

Report run on: February 23, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
246601003-1 19-FEB-2010 15:12	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08147			
246601004-1 19-FEB-2010 15:13	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.031			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.903			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1216		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.787			
246601005-1 19-FEB-2010 15:13	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.461			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.924			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.447			
246601006-1 19-FEB-2010 15:14	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.654			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.059			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.385			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07293			
246601007-1 19-FEB-2010 15:40	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.422			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.926			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1907		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.567			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.09634			
246601008-1 19-FEB-2010 15:40	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.093			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.146			

GEL QUALS

Batch ID: 951362

Report run on: February 23, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
246601008-1 19-FEB-2010 15:40	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1323		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.892			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.09188			
246601009-1 19-FEB-2010 15:41	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.298			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.055			
	Mercury-203	UI	UI	UI	Data rejected due to interference.		.08736		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.594			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1348			
246601010-1 19-FEB-2010 15:42	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.055			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.391			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.351			
246610001-1 19-FEB-2010 15:46	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.245			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.178			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1442		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.855			
	Thorium-234	UI	UI	UI	Data rejected due to no valid peak.		2.07		2	2
246610002-1 19-FEB-2010 15:47	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.469			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.955			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.15			

GEL QUALS

Batch ID: 951362

Report run on: February 23, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
246610003-1 19-FEB-2010 15:47	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.25			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.378			
	Radium-224	UI	UI	UI	Data rejected due to interference.		1.956			
246601011-1 19-FEB-2010 16:16	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.521			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.636			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09844		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.883			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1008			
246611001-1 19-FEB-2010 17:29	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.172			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.633			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.61			
246611002-1 19-FEB-2010 17:30	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.92			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.087			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09892		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.057			
246611003-1 19-FEB-2010 17:31	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.328			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.758			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.389			
1202038808-1 DUP 19-FEB-2010 20:32	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.803			

GEL QUALS

Batch ID: 951362

Report run on: February 23, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
1202038808-1 DUP 19-FEB-2010 20:32	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.976			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.274			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1229			

Gamma Review Report based on Result > MDA for Batch:951362

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
246557001	03-FEB-10 12:00	19-FEB-10 13:07	16	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	2.001	0.2145	pCi/g	0.2888	N	911.2	3	1.652	IDENTIFIED	8.957	☐	
Americium-243	MU	0.4261	0.06958	pCi/g	0.1537	N	74.97	1	1.429	IDENTIFIED	15.28	☐	
Annihilation Rad.		0.1839	0.04471	pCi/g	0.05759	N	511.2	1	2.256	IDENTIFIED	23.93	☐	
Bismuth-211	JNT	4.945	0.3929	pCi/g	0.4352	Y	352.1	4	1.363	IDENTIFIED	6.2	☑ UI	
Bismuth-212	HE	0.9644	0.2186	pCi/g	0.7958	N	0	11	0	NOT_IDENTI	0	☐	
Bismuth-214	✓	1.364	0.1334	pCi/g	0.1287	0.200	609.5	4	1.539	IDENTIFIED	8.434	☐	
Cerium-143		1649	264.3	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Gross Gamma		11.29	1.819	pCi/g	4.086	N		0				☐	
Iodine-123	HE	11390	1.28E+07	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Krypton-85	HE	27.56	5.512	pCi/g	18.58	N	0	11	0	NOT_IDENTI	0	☐	
Lead-212	✓	2.25	0.1528	pCi/g	0.1148	0.100	238.8	4	1.395	IDENTIFIED	3.265	☐	
Lead-214	✓	1.72	0.1438	pCi/g	0.1517	0.100	352.1	4	1.363	IDENTIFIED	6.2	☐	
Lutetium-177	HE	3.161	1.237	pCi/g	2.989	N	0	11	0	FAIL_ABUND	0	☐	
Niobium-95m	LA	0.5778	0.1004	pCi/g	0.3273	N	0	11	0	NOT_IDENTI	0	☐	
Polonium-212	MU	2.25	0.1528	pCi/g	0.1148	N	238.8	4	1.395	IDENTIFIED	3.265	☐	
Polonium-214	MU	1.72	0.1438	pCi/g	0.1517	N	352.1	4	1.363	IDENTIFIED	6.2	☐	
Polonium-216	MU	2.25	0.1528	pCi/g	0.1148	N	238.8	4	1.395	IDENTIFIED	3.265	☐	
Polonium-218	MU	1.72	0.1438	pCi/g	0.1517	N	352.1	4	1.363	IDENTIFIED	6.2	☐	
Potassium-40	✓	34.58	1.993	pCi/g	0.6884	1.00	1461	1	2.148	IDENTIFIED	3.012	☐	
Radium-224	JNT	5.792	0.8797	pCi/g	1.306	Y	241.8	1	1.854	IDENTIFIED	14.15	☑ UI	
Radium-226	✓	1.364	0.1334	pCi/g	0.1287	Y	609.5	4	1.539	IDENTIFIED	8.434	☐	
Radium-228	✓	2.001	0.2145	pCi/g	0.2888	0.500	911.2	3	1.652	IDENTIFIED	8.957	☐	
Strontium-85	LA	0.1427	0.02854	pCi/g	0.09621	Y	0	11	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-200	HE	216.6	553.5	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.5891	0.06284	pCi/g	0.08126	0.080	583.3	1	1.533	IDENTIFIED	9.636	☐	
Thorium-228	MU	2.287	0.1553	pCi/g	0.1166	N	238.8	4	1.395	IDENTIFIED	3.265	☐	
Thorium-230	MU	1.364	0.1334	pCi/g	0.1287	N	609.5	4	1.539	IDENTIFIED	8.434	☐	
Thorium-232	MU	2.001	0.2145	pCi/g	0.2888	N	911.2	3	1.652	IDENTIFIED	8.957	☐	
Titanium-44	LA	0.4343	0.0435	pCi/g	0.1233	N	0	11	0	FAIL_ABUND	0	☐	
Tungsten-181	LA	2.958	0.7351	pCi/g	1.19	N	0	11	0	FAIL_ABUND	0	☐	
Uranium-234	MU	1.364	0.1334	pCi/g	0.1287	N	609.5	4	1.539	IDENTIFIED	8.434	☐	
Zirconium-97		1.35E+07	3.39E+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
246562001	04-FEB-10 12:00	19-FEB-10 13:58	15.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	1.513	0.1436	pCi/g	0.1578	N	910.8	3	1.839	IDENTIFIED	6.794	☐	
Americium-243	MU	0.2755	0.03229	pCi/g	0.07956	N	75.06	1	1.076	IDENTIFIED	10.95	☐	
Annihilation Rad.		0.1055	0.02624	pCi/g	0.03413	N	511.2	1	2.482	IDENTIFIED	24.64	☐	

Bismuth-211	INT	2.753	0.1961	pCi/g	0.2331	Y	351.9	4	1.349	IDENTIFIED	6.361	☑	UI
Bismuth-212	NM	0.7887	0.1954	pCi/g	0.338	N	727.1	1	1.641	IDENTIFIED	24.27	☐	
Bismuth-214	V	0.8422	0.07828	pCi/g	0.08962	0.200	609.1	4	1.607	IDENTIFIED	8.152	☐	
Cadmium-109	INT	2.186	0.4644	pCi/g	1.169	Y	87.3	3	1.098	IDENTIFIED	20.74	☑	UI
Cerium-143		488	81.35	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Cesium-135	HE	0.2429	0.06764	pCi/g	0.2207	N	0	10	0	NOT_IDENTI	0	☐	
Gross Gamma		8.581	1.266	pCi/g	2.13	N		0				☐	
Iodine-123	HE	8.03E+05	2.12E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Iodine-133	HE	733.5	2180	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Krypton-85	LA	20.78	3.239	pCi/g	11.35	N	0	10	0	NOT_IDENTI	0	☐	
Lead-212	V	1.345	0.06464	pCi/g	0.07248	0.100	238.7	4	1.198	IDENTIFIED	3.215	☐	
Lead-214	V	0.9576	0.07266	pCi/g	0.08124	0.100	351.9	4	1.349	IDENTIFIED	6.361	☐	
Neptunium-237	HE	0.6311	0.149	pCi/g	0.3489	N	87.3	3	1.098	IDENTIFIED	20.74	☐	
Polonium-212	NM	1.345	0.06464	pCi/g	0.07248	N	238.7	4	1.198	IDENTIFIED	3.215	☐	
Polonium-214	NM	0.9576	0.07266	pCi/g	0.08124	N	351.9	4	1.349	IDENTIFIED	6.361	☐	
Polonium-216	NM	1.345	0.06464	pCi/g	0.07248	N	238.7	4	1.198	IDENTIFIED	3.215	☐	
Polonium-218	NM	0.9576	0.07266	pCi/g	0.08124	N	351.9	4	1.349	IDENTIFIED	6.361	☐	
Potassium-40	V	35.98	1.568	pCi/g	0.3909	1.00	1460	1	2.211	IDENTIFIED	2.145	☐	
Radium-224	INT	3.63	0.5076	pCi/g	0.8237	Y	241.7	1	1.767	IDENTIFIED	13.7	☑	UI
Radium-226	V	0.8422	0.07828	pCi/g	0.08962	Y	609.1	4	1.607	IDENTIFIED	8.152	☐	
Radium-228	V	1.513	0.1436	pCi/g	0.1578	0.500	910.8	3	1.839	IDENTIFIED	6.794	☐	
Strontium-85	LA	0.1065	0.0166	pCi/g	0.05818	Y	0	10	0	NOT_IDENTI	0	☑	UI Data rejected due to low abundance.
Technetium-99m		2.15E+16	0	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Thallium-200	HE	31.96	151.5	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Thallium-208	V	0.4222	0.03589	pCi/g	0.04166	0.080	583	1	1.555	IDENTIFIED	7.542	☐	
Thorium-228	NM	1.365	0.06562	pCi/g	0.07358	N	238.7	4	1.198	IDENTIFIED	3.215	☐	
Thorium-230	NM	0.8422	0.07828	pCi/g	0.08962	N	609.1	4	1.607	IDENTIFIED	8.152	☐	
Thorium-232	NM	1.513	0.1436	pCi/g	0.1578	N	910.8	3	1.839	IDENTIFIED	6.794	☐	
Tin-126	NM	0.2149	0.04565	pCi/g	0.1156	N	87.3	3	1.098	IDENTIFIED	20.74	☐	
Titanium-44	LA	0.3187	0.02686	pCi/g	0.07138	N	0	10	0	FAIL_ABUND	0	☐	
Uranium-234	NM	0.8422	0.07828	pCi/g	0.08962	N	609.1	4	1.607	IDENTIFIED	8.152	☐	
Zirconium-97		4.16E+06	7.53E+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
246601001	05-FEB-10 12:00	19-FEB-10 15:12	14.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NM	2.102	0.2114	pCi/g	0.2421	N	910.6	3	1.859	IDENTIFIED	7.89	☐	
Americium-243	NM	0.4649	0.04643	pCi/g	0.1023	N	74.55	1	1.042	IDENTIFIED	8.982	☐	
Annihilation Rad.		0.1674	0.04159	pCi/g	0.05616	N	510.5	1	2.055	IDENTIFIED	24.34	☐	
Bismuth-211	INT	4.424	0.355	pCi/g	0.3769	Y	351.6	4	1.188	IDENTIFIED	5.584	☑	UI
Bismuth-212	HE	1.307	0.2788	pCi/g	0.8282	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214	V	1.292	0.1117	pCi/g	0.1258	0.200	609	4	1.389	IDENTIFIED	6.848	☐	
Cadmium-109	INT	2.276	0.6166	pCi/g	1.345	Y	86.81	3	0.8603	IDENTIFIED	26.63	☑	UI
Cerium-143		484.6	83.43	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1373	0.04112	pCi/g	0.115	0.100	0	9	0	FAIL_ABUND	0	☑	UI Data rejected due to low abundance.
Gross Gamma		11.15	1.898	pCi/g	3.593	N		0				☐	

Iodine-133	HE	1344	1538	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Lead-212	V	2.039	0.1439	pCi/g	0.1043	0.100	238.4	4	1.076	IDENTIFIED	3.206	☐	
Lead-214	V	1.539	0.1298	pCi/g	0.1314	0.100	351.6	4	1.188	IDENTIFIED	5.584	☐	
Lutetium-177	HE	3.54	0.7536	pCi/g	2.167	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237	HE	0.6579	0.1907	pCi/g	0.4676	N	86.81	3	0.8603	IDENTIFIED	26.63	☐	
Niobium-97	HE	14240	20840	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Polonium-212	NM	2.039	0.1439	pCi/g	0.1043	N	238.4	4	1.076	IDENTIFIED	3.206	☐	
Polonium-214	NM	1.539	0.1298	pCi/g	0.1314	N	351.6	4	1.188	IDENTIFIED	5.584	☐	
Polonium-216	NM	2.039	0.1439	pCi/g	0.1043	N	238.4	4	1.076	IDENTIFIED	3.206	☐	
Polonium-218	NM	1.539	0.1298	pCi/g	0.1314	N	351.6	4	1.188	IDENTIFIED	5.584	☐	
Potassium-40	V	39.28	2.151	pCi/g	0.5724	1.00	1460	1	2.198	IDENTIFIED	2.717	☐	
Radium-224	INT	4.836	0.7741	pCi/g	1.187	Y	241.3	1	1.721	IDENTIFIED	14.88	☑ UI	
Radium-226	V	1.292	0.1117	pCi/g	0.1258	Y	609	4	1.389	IDENTIFIED	6.848	☐	
Radium-228	V	2.102	0.2114	pCi/g	0.2421	0.500	910.6	3	1.859	IDENTIFIED	7.89	☐	
Thallium-200	HE	47.36	143.3	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-208	V	0.5491	0.05493	pCi/g	0.0692	0.080	583	1	1.228	IDENTIFIED	8.658	☐	
Thorium-228	NM	2.068	0.146	pCi/g	0.1058	N	238.4	4	1.076	IDENTIFIED	3.206	☐	
Thorium-230	NM	1.292	0.1117	pCi/g	0.1258	N	609	4	1.389	IDENTIFIED	6.848	☐	
Thorium-232	NM	2.102	0.2114	pCi/g	0.2421	N	910.6	3	1.859	IDENTIFIED	7.89	☐	
Tin-126	HE	0.224	0.06069	pCi/g	0.1332	N	86.81	3	0.8603	IDENTIFIED	26.63	☐	
Titanium-44	HE	0.1038	0.02215	pCi/g	0.07488	N	0	9	0	NOT_IDENTI	0	☐	
Uranium-234	NM	1.292	0.1117	pCi/g	0.1258	N	609	4	1.389	IDENTIFIED	6.848	☐	
Zirconium-97		1.56E+06	5.03E+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
246601002	05-FEB-10 12:00	19-FEB-10 15:12	14.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NM	1.769	0.183	pCi/g	0.2268	N	911.4	3	1.608	IDENTIFIED	8.792	☐	
Americium-243	NM	0.3523	0.04557	pCi/g	0.1053	N	74.82	1	0.9185	IDENTIFIED	11.6	☐	
Annihilation Rad.	HE	0.09893	0.03273	pCi/g	0.05135	N	511.1	1	1.275	IDENTIFIED	32.97	☐	
Bismuth-211	INT	4.095	0.2653	pCi/g	0.3336	Y	351.9	4	1.113	IDENTIFIED	5.532	☑ UI	
Bismuth-212	HE	1.135	0.3004	pCi/g	0.744	N	0	10	0	FAIL_ABUND	0	☐	
Bismuth-214	V	1.044	0.09279	pCi/g	0.1079	0.200	609.5	4	1.424	IDENTIFIED	8.094	☐	
Cadmium-109	INT	3.961	0.5623	pCi/g	1.39	Y	87.25	3	1.011	IDENTIFIED	12.87	☑ UI	
Cerium-143		309.9	57.45	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1803	0.03683	pCi/g	0.09398	0.100	0	10	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		9.731	1.495	pCi/g	2.362	N		0				☐	
Iodine-123		2.39E+06	7.84E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Iodine-135	HE	1.32E+14	2.52E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Lead-212	V	1.874	0.09666	pCi/g	0.09265	0.100	238.6	4	1.099	IDENTIFIED	3.239	☐	
Lead-214	V	1.425	0.0995	pCi/g	0.1137	0.100	351.9	4	1.113	IDENTIFIED	5.532	☐	
Lutetium-177	HE	2.247	0.7746	pCi/g	1.84	N	0	10	0	FAIL_ABUND	0	☐	
Neptunium-237	NM	1.145	0.2009	pCi/g	0.4554	N	87.25	3	1.011	IDENTIFIED	12.87	☐	
Polonium-212	NM	1.874	0.09666	pCi/g	0.09265	N	238.6	4	1.099	IDENTIFIED	3.239	☐	
Polonium-214	NM	1.425	0.0995	pCi/g	0.1137	N	351.9	4	1.113	IDENTIFIED	5.532	☐	
Polonium-216	NM	1.874	0.09666	pCi/g	0.09265	N	238.6	4	1.099	IDENTIFIED	3.239	☐	

Polonium-218	MU	1.425	0.0995	pCi/g	0.1137	N	351.9	4	1.113	IDENTIFIED	5.532	☐	
Potassium-40	V	34.15	1.561	pCi/g	0.5755	1.00	1461	1	1.962	IDENTIFIED	2.874	☐	
Radium-224	INT	4.247	0.6725	pCi/g	1.055	Y	241.5	1	1.607	IDENTIFIED	15.48	☑	UI
Radium-226	V	1.044	0.09279	pCi/g	0.1079	Y	609.5	4	1.424	IDENTIFIED	8.094	☐	
Radium-228	V	1.769	0.183	pCi/g	0.2268	0.500	911.4	3	1.608	IDENTIFIED	8.792	☐	
Sodium-24	HE	22280	1.20E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Thallium-200	HE	79.91	121.8	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Thallium-208	V	0.5818	0.04508	pCi/g	0.06023	0.080	583.2	1	1.346	IDENTIFIED	7.08	☐	
Thorium-228	MU	1.9	0.09804	pCi/g	0.09396	N	238.6	4	1.099	IDENTIFIED	3.239	☐	
Thorium-230	MU	1.044	0.09279	pCi/g	0.1079	N	609.5	4	1.424	IDENTIFIED	8.094	☐	
Thorium-232	MU	1.769	0.183	pCi/g	0.2268	N	911.4	3	1.608	IDENTIFIED	8.792	☐	
Tin-126	INT	0.3899	0.05535	pCi/g	0.1379	N	87.25	3	1.011	IDENTIFIED	12.87	☐	
Titanium-44	LA	0.4187	0.03708	pCi/g	0.08652	N	0	10	0	FAIL_ABUND	0	☐	
Uranium-234	MU	1.044	0.09279	pCi/g	0.1079	N	609.5	4	1.424	IDENTIFIED	8.094	☐	
Zirconium-97	HE	4.02E+05	3.87E+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
246601003	05-FEB-10 12:00	19-FEB-10 15:12	14.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	2.03	0.2047	pCi/g	0.2439	N	911.6	3	1.436	IDENTIFIED	8.237	☐	
Americium-243	MU	0.4068	0.03525	pCi/g	0.0819	N	74.88	1	0.9857	IDENTIFIED	7.672	☐	
Annihilation Rad.		0.1525	0.03597	pCi/g	0.0457	N	511	1	1.489	IDENTIFIED	23.16	☐	
Bismuth-211	INT	4.267	0.332	pCi/g	0.3568	Y	352.1	4	1.224	IDENTIFIED	6.359	☑	UI
Bismuth-212	HE	1.328	0.3303	pCi/g	0.7522	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214	V	1.243	0.1009	pCi/g	0.1099	0.200	609.5	4	1.433	IDENTIFIED	6.249	☐	
Cadmium-109	INT	4.364	0.4941	pCi/g	1.067	Y	87.3	3	1.2	IDENTIFIED	10.32	☑	UI
Cerium-143		400.2	65.1	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1283	0.03463	pCi/g	0.0981	0.100	0	9	0	FAIL_ABUND	0	☑	UI Data rejected due to low abundance.
Gross Gamma		11	1.602	pCi/g	3.586	N		0				☐	
Krypton-85	HE	16.05	4.3	pCi/g	14.61	N	0	9	0	NOT_IDENTI	0	☐	
Lead-212	V	1.963	0.1123	pCi/g	0.09738	0.100	238.7	4	1.114	IDENTIFIED	3.135	☐	
Lead-214	V	1.484	0.1218	pCi/g	0.1244	0.100	352.1	4	1.224	IDENTIFIED	6.359	☐	
Lutetium-177	HE	3.253	0.7899	pCi/g	1.99	N	0	9	0	FAIL_ABUND	0	☐	
Mercury-203	INT	0.08973	0.03597	pCi/g	0.05984	0.100	277.9	1	1.237	IDENTIFIED	39.85	☑	UI
Neptunium-237	MU	1.261	0.1932	pCi/g	0.323	N	87.3	3	1.2	IDENTIFIED	10.32	☐	
Polonium-212	MU	1.963	0.1123	pCi/g	0.09738	N	238.7	4	1.114	IDENTIFIED	3.135	☐	
Polonium-214	MU	1.484	0.1218	pCi/g	0.1244	N	352.1	4	1.224	IDENTIFIED	6.359	☐	
Polonium-216	MU	1.963	0.1123	pCi/g	0.09738	N	238.7	4	1.114	IDENTIFIED	3.135	☐	
Polonium-218	MU	1.484	0.1218	pCi/g	0.1244	N	352.1	4	1.224	IDENTIFIED	6.359	☐	
Potassium-40	V	35.3	1.797	pCi/g	0.5583	1.00	1461	1	2.013	IDENTIFIED	2.734	☐	
Radium-224	INT	5.801	0.8188	pCi/g	1.108	Y	241.6	1	1.829	IDENTIFIED	13.47	☑	UI
Radium-226	V	1.243	0.1009	pCi/g	0.1099	Y	609.5	4	1.433	IDENTIFIED	6.249	☐	
Radium-228	V	2.03	0.2047	pCi/g	0.2439	0.500	911.6	3	1.436	IDENTIFIED	8.237	☐	
Sodium-24	HE	1.56E+05	1.19E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Strontium-85	LA	0.08147	0.02182	pCi/g	0.07415	Y	0	9	0	NOT_IDENTI	0	☑	UI Data rejected due to low abundance.
Thallium-208	V	0.6322	0.05255	pCi/g	0.06251	0.080	583.3	1	1.402	IDENTIFIED	6.798	☐	

Thorium-228	MM	1.991	0.1139	pCi/g	0.09876	N	238.7	4	1.114	IDENTIFIED	3.135	☐
Thorium-230	MM	1.243	0.1009	pCi/g	1.1099	N	609.5	4	1.433	IDENTIFIED	6.249	☐
Thorium-232	MM	2.03	0.2047	pCi/g	0.2439	N	911.6	3	1.436	IDENTIFIED	8.237	☐
Tin-126	MM	0.4296	0.04864	pCi/g	0.1052	N	87.3	3	1.2	IDENTIFIED	10.32	☐
Titanium-44	LA	0.415	0.02808	pCi/g	0.07688	N	0	9	0	FAIL_ABUND	0	☐
Total Uranium		4.2272	2.15E-06	ug/g	2.547	N		0				☐
Uranium-234	MM	1.243	0.1009	pCi/g	1.1099	N	609.5	4	1.433	IDENTIFIED	6.249	☐
Zirconium-97	HE	1.79E+05	4.23E+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
246601004	05-FEB-10 12:00	19-FEB-10 15:13	14.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	MM	1.886	0.1867	pCi/g	0.1939	N	911.5	3	1.365	IDENTIFIED	7.813	☐	
Americium-243	MM	0.4383	0.03645	pCi/g	0.06725	N	74.89	1	0.9549	IDENTIFIED	7.26	☐	
Annihilation Rad.		0.1606	0.03353	pCi/g	0.04475	N	510.7	1	1.781	IDENTIFIED	20.18	☐	
Bismuth-211	INT	4.031	0.3386	pCi/g	0.3129	Y	351.8	4	1.057	IDENTIFIED	5.221	☑ UI	
Bismuth-212	HE	1.1	0.2289	pCi/g	0.6678	N	0	8	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.23	0.1101	pCi/g	0.1044	0.200	609.3	4	1.363	IDENTIFIED	6.943	☐	
Cadmium-109	INT	3.903	0.5004	pCi/g	0.9803	Y	87.13	3	1.19	IDENTIFIED	11.93	☑ UI	
Cerium-143		241.1	54.28	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1216	0.03436	pCi/g	0.09416	0.100	0	8	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		10.77	1.473	pCi/g	2.928	N		0				☐	
Iodine-123	HE	46510	7.22E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.862	0.1423	pCi/g	0.08597	0.100	238.6	4	0.9418	IDENTIFIED	3.066	☐	
Lead-214	✓	1.402	0.1233	pCi/g	0.1091	0.100	351.8	4	1.057	IDENTIFIED	5.221	☐	
Lutetium-177	HE	2.557	0.7731	pCi/g	1.813	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237	MM	1.128	0.1856	pCi/g	0.2866	N	87.13	3	1.19	IDENTIFIED	11.93	☐	
Niobium-97	HE	11240	17120	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Polonium-212	MM	1.862	0.1423	pCi/g	0.08597	N	238.6	4	0.9418	IDENTIFIED	3.066	☐	
Polonium-214	MM	1.402	0.1233	pCi/g	0.1091	N	351.8	4	1.057	IDENTIFIED	5.221	☐	
Polonium-216	MM	1.862	0.1423	pCi/g	0.08597	N	238.6	4	0.9418	IDENTIFIED	3.066	☐	
Polonium-218	MM	1.402	0.1233	pCi/g	0.1091	N	351.8	4	1.057	IDENTIFIED	5.221	☐	
Potassium-40	✓	33.94	1.714	pCi/g	0.4654	1.00	1461	1	1.899	IDENTIFIED	2.609	☐	
Radium-224	INT	4.787	0.7288	pCi/g	0.9786	Y	241.6	1	1.622	IDENTIFIED	13.66	☑ UI	
Radium-226	✓	1.23	0.1101	pCi/g	0.1044	Y	609.3	4	1.363	IDENTIFIED	6.943	☐	
Radium-228	✓	1.886	0.1867	pCi/g	0.1939	0.500	911.5	3	1.365	IDENTIFIED	7.813	☐	
Thallium-208	✓	0.6174	0.05543	pCi/g	0.05613	0.080	583.4	1	1.36	IDENTIFIED	7.174	☐	
Thorium-228	MM	1.888	0.1443	pCi/g	0.08719	N	238.6	4	0.9418	IDENTIFIED	3.066	☐	
Thorium-230	MM	1.23	0.1101	pCi/g	0.1044	N	609.3	4	1.363	IDENTIFIED	6.943	☐	
Thorium-232	MM	1.886	0.1867	pCi/g	0.1939	N	911.5	3	1.365	IDENTIFIED	7.813	☐	
Thorium-234	✓	2.421	0.8397	pCi/g	1.466	2.00	63.12	2	0.9851	IDENTIFIED	33.57	☑	
Tin-126	MM	0.3842	0.04925	pCi/g	0.09681	N	87.13	3	1.19	IDENTIFIED	11.93	☐	
Titanium-44	MM	0.4127	0.02683	pCi/g	0.0601	N	0	8	0	FAIL_ABUND	0	☐	
Total Uranium		7.2453	2.50E-06	ug/g	2.1827	N		0				☐	
Uranium-234	MM	1.23	0.1101	pCi/g	0.1044	N	609.3	4	1.363	IDENTIFIED	6.943	☐	
Uranium-238	HE	2.421	0.8397	pCi/g	1.466	N	63.12	2	0.9851	IDENTIFIED	33.57	☐	

Zirconium-97		6.67E+05	3.19E+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
246601005	05-FEB-10 12:00	19-FEB-10 15:13	14.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	1.526	0.1772	pCi/g	0.2317	N	910.7	3	1.565	IDENTIFIED	10.23	☐	
Americium-243	MU	0.4928	0.04604	pCi/g	0.09309	N	74.72	1	1.129	IDENTIFIED	8.702	☐	
Annihilation Rad.	HE	0.1178	0.04355	pCi/g	0.05186	N	510.2	1	1.726	IDENTIFIED	36.83	☐	
Bismuth-211	INT	4.461	0.2759	pCi/g	0.3297	Y	351.5	4	1.429	IDENTIFIED	5.327	☑ UI	
Bismuth-212	V	1.623	0.2651	pCi/g	0.473	N	727	1	1.447	IDENTIFIED	15.74	☐	
Bismuth-214	V	1.432	0.1043	pCi/g	0.1188	0.200	608.9	4	1.457	IDENTIFIED	6.01	☐	
Cadmium-109	INT	4.924	0.6194	pCi/g	1.215	Y	87.08	3	1.386	IDENTIFIED	11.99	☑ UI	
Cerium-143		527.8	79.67	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Cesium-135	HE	0.3169	0.08899	pCi/g	0.2975	N	0	7	0	NOT_IDENTI	0	☐	
Gross Gamma		10.5	1.616	pCi/g	3.841	N		0				☐	
Iodine-123	HE	1.33E+06	8.48E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Lead-212	V	1.584	0.08851	pCi/g	0.115	0.100	238.3	4	1.11	IDENTIFIED	4.315	☐	
Lead-214	V	1.552	0.1042	pCi/g	0.1185	0.100	351.5	4	1.429	IDENTIFIED	5.327	☐	
Lutetium-177	HE	2.783	0.7105	pCi/g	1.944	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237	MU	1.423	0.2316	pCi/g	0.3571	N	87.08	3	1.386	IDENTIFIED	11.99	☐	
Polonium-212	MU	1.584	0.08851	pCi/g	0.115	N	238.3	4	1.11	IDENTIFIED	4.315	☐	
Polonium-214	MU	1.552	0.1042	pCi/g	0.1185	N	351.5	4	1.429	IDENTIFIED	5.327	☐	
Polonium-216	MU	1.584	0.08851	pCi/g	0.115	N	238.3	4	1.11	IDENTIFIED	4.315	☐	
Polonium-218	MU	1.552	0.1042	pCi/g	0.1185	N	351.5	4	1.429	IDENTIFIED	5.327	☐	
Potassium-40	V	34.75	1.596	pCi/g	0.4871	1.00	1460	1	2.156	IDENTIFIED	2.893	☐	
Radium-224	INT	3.447	0.4353	pCi/g	1.148	Y	241.4	1	1.931	IDENTIFIED	12.32	☑ UI	
Radium-226	V	1.432	0.1043	pCi/g	0.1188	Y	608.9	4	1.457	IDENTIFIED	6.01	☐	
Radium-228	V	1.526	0.1772	pCi/g	0.2317	0.500	910.7	3	1.565	IDENTIFIED	10.23	☐	
Thallium-200	HE	68.86	116.7	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-208	V	0.5593	0.04469	pCi/g	0.06292	0.080	582.7	1	1.349	IDENTIFIED	7.146	☐	
Thorium-228	MU	1.606	0.08976	pCi/g	0.1167	N	238.3	4	1.11	IDENTIFIED	4.315	☐	
Thorium-230	MU	1.432	0.1043	pCi/g	0.1188	N	608.9	4	1.457	IDENTIFIED	6.01	☐	
Thorium-232	MU	1.526	0.1772	pCi/g	0.2317	N	910.7	3	1.565	IDENTIFIED	10.23	☐	
Tin-126	NIL	0.4847	0.06097	pCi/g	0.1202	N	87.08	3	1.386	IDENTIFIED	11.99	☐	
Titanium-44	LA	0.4609	0.03128	pCi/g	0.07886	N	0	7	0	FAIL_ABUND	0	☐	
Total Uranium		5.7209	3.05E-06	ug/g	3.293	N		0				☐	
Uranium-234	MU	1.432	0.1043	pCi/g	0.1188	N	608.9	4	1.457	IDENTIFIED	6.01	☐	
Zirconium-97		1.80E+06	4.57E+05	pCi/g	0	N	0	7	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
246601006	05-FEB-10 12:00	19-FEB-10 15:14	14.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	2.02	0.1844	pCi/g	0.218	N	911.3	3	1.765	IDENTIFIED	6.991	☐	
Americium-243	MU	0.5122	0.05037	pCi/g	0.0896	N	74.83	1	1.676	IDENTIFIED	9.086	☐	
Annihilation Rad.		0.1317	0.03988	pCi/g	0.04793	N	510.6	1	1.955	IDENTIFIED	30.14	☐	

Bismuth-211	INT	4.654	0.2954	pCi/g	0.3426	Y	351.5	4	1.558	IDENTIFIED	5.501	☑	UJ
Bismuth-212	HE	1.071	0.2548	pCi/g	0.6899	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.28	0.09557	pCi/g	0.1285	0.200	609.1	4	1.591	IDENTIFIED	6.331	☐	
Cadmium-109	INT	4.059	0.5282	pCi/g	1.59	Y	87.31	3	1.232	IDENTIFIED	12.27	☑	UJ
Cerium-143		652.2	89.98	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Gross Gamma		11.42	1.634	pCi/g	4.299	N		0				☐	
Krypton-85	HE	14.37	4.166	pCi/g	13.67	N	0	9	0	NOT_IDENTI	0	☐	
Lead-212	✓	2.005	0.09397	pCi/g	0.09678	0.100	238.4	4	1.357	IDENTIFIED	2.952	☐	
Lead-214	✓	1.619	0.1111	pCi/g	0.1194	0.100	351.5	4	1.558	IDENTIFIED	5.501	☐	
Lutetium-177	HE	3.289	0.7196	pCi/g	2.051	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237	MU	1.173	0.1949	pCi/g	0.4042	N	87.31	3	1.232	IDENTIFIED	12.27	☐	
Niobium-95m	LA	1.04	0.09426	pCi/g	0.3189	N	0	9	0	NOT_IDENTI	0	☐	
Polonium-212	MU	2.005	0.09397	pCi/g	0.09678	N	238.4	4	1.357	IDENTIFIED	2.952	☐	
Polonium-214	MU	1.619	0.1111	pCi/g	0.1194	N	351.5	4	1.558	IDENTIFIED	5.501	☐	
Polonium-216	MU	2.005	0.09397	pCi/g	0.09678	N	238.4	4	1.357	IDENTIFIED	2.952	☐	
Polonium-218	MU	1.619	0.1111	pCi/g	0.1194	N	351.5	4	1.558	IDENTIFIED	5.501	☐	
Potassium-40	✓	38.64	1.724	pCi/g	0.573	1.00	1461	1	2.081	IDENTIFIED	2.595	☐	
Radium-224	INT	5.385	0.7485	pCi/g	1.101	Y	241.5	1	2.062	IDENTIFIED	13.6	☑	UJ
Radium-226	✓	1.28	0.09557	pCi/g	0.1285	Y	609.1	4	1.591	IDENTIFIED	6.331	☐	
Radium-228	✓	2.02	0.1844	pCi/g	0.218	0.500	911.3	3	1.765	IDENTIFIED	6.991	☐	
Sodium-24	HE	20590	1.03E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Strontium-85	LA	0.07293	0.02114	pCi/g	0.06935	Y	0	9	0	NOT_IDENTI	0	☑	UI Data rejected due to low abundance.
Thallium-208	✓	0.6539	0.04609	pCi/g	0.06013	0.080	583	1	1.587	IDENTIFIED	6.163	☐	
Thorium-228	MU	2.033	0.0953	pCi/g	0.09815	N	238.4	4	1.357	IDENTIFIED	2.952	☐	
Thorium-230	MU	1.28	0.09557	pCi/g	0.1285	N	609.1	4	1.591	IDENTIFIED	6.331	☐	
Thorium-232	MU	2.02	0.1844	pCi/g	0.218	N	911.3	3	1.765	IDENTIFIED	6.991	☐	
Tin-126	MU	0.3996	0.05199	pCi/g	0.1548	N	87.31	3	1.232	IDENTIFIED	12.27	☐	
Titanium-44	LA	0.4141	0.02927	pCi/g	0.08919	N	0	9	0	FAIL_ABUND	0	☐	
Total Uranium		5.2068	2.60E-06	ug/g	2.9722	N		0				☐	
Uranium-234	MU	1.28	0.09557	pCi/g	0.1285	N	609.1	4	1.591	IDENTIFIED	6.331	☐	
Zirconium-97		2.01E+06	4.32E+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
246601007	05-FEB-10 12:00	19-FEB-10 15:40	14.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	MU	2.031	0.2146	pCi/g	0.2667	N	911.1	3	1.385	IDENTIFIED	8.77	☐	
Americium-243	MU	0.5909	0.08588	pCi/g	0.1442	N	75.01	1	1.937	IDENTIFIED	13.35	☐	
Annihilation Rad.	HE	0.1173	0.04114	pCi/g	0.06114	N	510.7	1	2.37	IDENTIFIED	34.82	☐	
Bismuth-211	INT	4.422	0.3598	pCi/g	0.4491	Y	352	4	1.414	IDENTIFIED	6.445	☑	UJ
Bismuth-212	HE	1.287	0.2741	pCi/g	0.8478	N	0	12	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.201	0.1108	pCi/g	0.1423	0.200	609.4	4	1.372	IDENTIFIED	7.774	☐	
Cadmium-109	INT	2.926	0.5956	pCi/g	2.052	Y	87.36	3	1.463	IDENTIFIED	19.4	☑	UJ
Cerium-143		586.9	97.52	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1907	0.05915	pCi/g	0.1135	0.100	0	12	0	FAIL_ABUND	0	☑	UI Data rejected due to low abundance.
Gross Gamma		10.77	1.677	pCi/g	3.55	N		0				☐	
Iodine-123	HE	2.60E+05	1.19E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	

Iodine-133	HE	1191	1803	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Krypton-85	HE	18.98	5.625	pCi/g	18.1	N	0	12	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.918	0.1362	pCi/g	0.1199	0.100	238.8	4	1.431	IDENTIFIED	3.87	☐	
Lead-214	✓	1.538	0.1314	pCi/g	0.1565	0.100	352	4	1.414	IDENTIFIED	6.445	☐	
Lutetium-177	HE	3.959	0.8895	pCi/g	2.461	N	0	12	0	FAIL_ABUND	0	☐	
Neptunium-237	HE	0.8456	0.193	pCi/g	0.5867	N	87.36	3	1.463	IDENTIFIED	19.4	☐	
Niobium-95m	HE	0.4856	0.1006	pCi/g	0.3257	N	0	12	0	NOT_IDENTI	0	☐	
Niobium-97	HE	16540	23440	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Polonium-212	MU	1.918	0.1362	pCi/g	0.1199	N	238.8	4	1.431	IDENTIFIED	3.87	☐	
Polonium-214	MU	1.538	0.1314	pCi/g	0.1565	N	352	4	1.414	IDENTIFIED	6.445	☐	
Polonium-216	MU	1.918	0.1362	pCi/g	0.1199	N	238.8	4	1.431	IDENTIFIED	3.87	☐	
Polonium-218	MU	1.538	0.1314	pCi/g	0.1565	N	352	4	1.414	IDENTIFIED	6.445	☐	
Potassium-40	✓	38.06	2.166	pCi/g	0.8079	1.00	1460	1	2.095	IDENTIFIED	2.875	☐	
Radium-224	INT	5.567	0.9731	pCi/g	1.364	Y	241.7	1	2.04	IDENTIFIED	16.59	☑ UI	
Radium-226	✓	1.201	0.1108	pCi/g	0.1423	Y	609.4	4	1.372	IDENTIFIED	7.774	☐	
Radium-228	✓	2.031	0.2146	pCi/g	0.2667	0.500	911.1	3	1.385	IDENTIFIED	8.77	☐	
Strontium-85	LA	0.09634	0.02855	pCi/g	0.09189	Y	0	12	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-208	✓	0.6281	0.05891	pCi/g	0.07441	0.080	583.1	1	1.567	IDENTIFIED	8.186	☐	
Thorium-228	MU	1.945	0.1381	pCi/g	0.1216	N	238.8	4	1.431	IDENTIFIED	3.87	☐	
Thorium-230	MU	1.201	0.1107	pCi/g	0.1423	N	609.4	4	1.372	IDENTIFIED	7.774	☐	
Thorium-232	MU	2.031	0.2146	pCi/g	0.2667	N	911.1	3	1.385	IDENTIFIED	8.77	☐	
Tin-126	HE	0.288	0.05863	pCi/g	0.207	N	87.36	3	1.463	IDENTIFIED	19.4	☐	
Titanium-44	LA	0.4315	0.04311	pCi/g	0.1227	N	0	12	0	FAIL_ABUND	0	☐	
Uranium-234	MU	1.201	0.1107	pCi/g	0.1423	N	609.4	4	1.372	IDENTIFIED	7.774	☐	
Zirconium-97		1.75E+06	5.01E+05	pCi/g	0	N	0	12	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
246601008	05-FEB-10 12:00	19-FEB-10 15:40	14.2	SAMPLE	LOAD	I	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	1.82	0.2021	pCi/g	0.2272	N	911.5	3	1.74	IDENTIFIED	9.561	☐	
Americium-243	MU	0.3753	0.04559	pCi/g	0.09624	N	74.71	1	1.47	IDENTIFIED	11.48	☐	
Annihilation Rad.	HE	0.1099	0.03044	pCi/g	0.05138	N	510.4	1	1.639	IDENTIFIED	27.55	☐	
Bismuth-211	INT	4.093	0.2683	pCi/g	0.3264	Y	351.7	4	1.394	IDENTIFIED	5.726	☑ UI	
Bismuth-212	HE	0.9856	0.2334	pCi/g	0.6911	N	0	12	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.308	0.09896	pCi/g	0.1084	0.200	609.3	4	1.523	IDENTIFIED	6.463	☐	
Cadmium-109	INT	2.146	0.5274	pCi/g	1.753	Y	87.35	3	1.091	IDENTIFIED	24.18	☑ UI	
Cerium-143		718.1	96.99	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1323	0.0362	pCi/g	0.09668	0.100	0	12	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		10.68	1.811	pCi/g	3.95	N		0				☐	
Iodine-123	HE	1.56E+05	9.54E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Iodine-133	HE	400.7	1361	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Iodine-135	HE	6.87E+13	2.44E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Krypton-85	HE	18.1	4.184	pCi/g	14.33	N	0	12	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.965	0.09287	pCi/g	0.09685	0.100	238.5	4	1.316	IDENTIFIED	3.052	☐	
Lead-214	✓	1.424	0.1005	pCi/g	0.1138	0.100	351.7	4	1.394	IDENTIFIED	5.726	☐	
Lutetium-177	HE	2.835	0.606	pCi/g	1.99	N	0	12	0	FAIL_ABUND	0	☐	

Neptunium-237	HE	0.6202	0.1653	pCi/g	0.4728	N	87.35	3	1.091	IDENTIFIED	24.18	☐	
Niobium-95m	LA	0.4912	0.08499	pCi/g	0.2762	N	0	12	0	NOT_IDENTI	0	☐	
Polonium-212	NL	1.965	0.09287	pCi/g	0.09685	N	238.5	4	1.316	IDENTIFIED	3.052	☐	
Polonium-214	NL	1.424	0.1005	pCi/g	0.1138	N	351.7	4	1.394	IDENTIFIED	5.726	☐	
Polonium-216	NL	1.965	0.09287	pCi/g	0.09685	N	238.5	4	1.316	IDENTIFIED	3.052	☐	
Polonium-218	NL	1.424	0.1005	pCi/g	0.1138	N	351.7	4	1.394	IDENTIFIED	5.726	☐	
Potassium-40	✓	36.66	1.664	pCi/g	0.5091	1.00	1461	1	2.205	IDENTIFIED	2.593	☐	
Radium-224	INT	4.892	0.6931	pCi/g	1.101	Y	241.6	1	1.798	IDENTIFIED	13.88	☑ UI	
Radium-226	✓	1.308	0.09896	pCi/g	0.1084	Y	609.3	4	1.523	IDENTIFIED	6.463	☐	
Radium-228	✓	1.82	0.2021	pCi/g	0.2272	0.500	911.5	3	1.74	IDENTIFIED	9.561	☐	
Strontium-85	LA	0.09188	0.02124	pCi/g	0.07275	Y	0	12	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-208	✓	0.576	0.04221	pCi/g	0.06201	0.080	583.1	1	1.559	IDENTIFIED	6.493	☐	
Thorium-228	NL	1.993	0.09419	pCi/g	0.09822	N	238.5	4	1.316	IDENTIFIED	3.052	☐	
Thorium-230	NL	1.308	0.09896	pCi/g	0.1084	N	609.3	4	1.523	IDENTIFIED	6.463	☐	
Thorium-232	NL	1.82	0.2021	pCi/g	0.2272	N	911.5	3	1.74	IDENTIFIED	9.561	☐	
Tin-126	HE	0.2112	0.05192	pCi/g	0.1684	N	87.35	3	1.091	IDENTIFIED	24.18	☐	
Titanium-44	LA	0.4455	0.03097	pCi/g	0.09346	N	0	12	0	FAIL_ABUND	0	☐	
Total Uranium		4.209	3.13E-06	ug/g	3.4495	N		0				☐	
Uranium-234	NL	1.308	0.09896	pCi/g	0.1084	N	609.3	4	1.523	IDENTIFIED	6.463	☐	
Zirconium-97		1.81E+06	3.85E+05	pCi/g	0	N	0	12	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
Z46601009	05-FEB-10 12:00	19-FEB-10 15:41	14.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NL	1.782	0.2134	pCi/g	0.217	N	911.4	3	1.776	IDENTIFIED	9.98	☐	
Americium-243	NL	0.4595	0.0406	pCi/g	0.08642	N	74.78	1	1.2	IDENTIFIED	7.837	☐	
Annihilation Rad.	HE	0.08564	0.03223	pCi/g	0.04621	N	511.1	1	1.505	IDENTIFIED	37.3	☐	
Bismuth-211	INT	5.298	0.3838	pCi/g	0.309	Y	352	4	1.374	IDENTIFIED	4.321	☑ UI	
Bismuth-212	HE	0.9652	0.2795	pCi/g	0.617	N	0	12	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.452	0.112	pCi/g	0.1125	0.200	609.3	4	1.698	IDENTIFIED	5.077	☐	
Cadmium-109	INT	2.055	0.5963	pCi/g	1.214	Y	86.87	3	0.9936	IDENTIFIED	28.64	☑ UI	
Cerium-143		628.2	94.16	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Cesium-135	HE	0.3033	0.09745	pCi/g	0.2948	N	0	12	0	NOT_IDENTI	0	☐	
Gross Gamma		11.55	1.609	pCi/g	2.604	N		0				☐	
Iodine-123	HE	9.16E+05	8.56E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Iodine-135	HE	2.33E+13	2.51E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Krypton-85	LA	26.55	4.43	pCi/g	14.23	N	0	12	0	NOT_IDENTI	0	☐	
Lead-212	✓	2.049	0.1466	pCi/g	0.09394	0.100	238.7	4	1.226	IDENTIFIED	2.748	☐	
Lead-214	✓	1.843	0.1419	pCi/g	0.1077	0.100	352	4	1.374	IDENTIFIED	4.321	☐	
Lutetium-177	HE	3.013	0.9069	pCi/g	1.976	N	0	12	0	FAIL_ABUND	0	☐	
Mercury-203	INT	0.08736	0.03704	pCi/g	0.06116	0.100	278.3	1	1.454	IDENTIFIED	41.81	☑ UI	
Neptunium-237	HE	0.5941	0.1829	pCi/g	0.3964	N	86.87	3	0.9936	IDENTIFIED	28.64	☐	
Niobium-97	HE	3105	18490	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Polonium-212	NL	2.049	0.1466	pCi/g	0.09394	N	238.7	4	1.226	IDENTIFIED	2.748	☐	
Polonium-214	NL	1.843	0.1419	pCi/g	0.1077	N	352	4	1.374	IDENTIFIED	4.321	☐	
Polonium-216	NL	2.049	0.1466	pCi/g	0.09394	N	238.7	4	1.226	IDENTIFIED	2.748	☐	

Polonium-218	NM	1.843	0.1419	pCi/g	0.1077	N	352	4	1.374	IDENTIFIED	4.321	☐	
Potassium-40	✓	39.27	2.003	pCi/g	0.5298	1.00	1461	1	2.693	IDENTIFIED	2.243	☐	
Radium-224	INT	5.594	0.7178	pCi/g	1.068	Y	241.7	1	1.687	IDENTIFIED	11.19	☑ UI	
Radium-226	✓	1.452	0.112	pCi/g	0.1125	Y	609.3	4	1.698	IDENTIFIED	5.077	☐	
Radium-228	✓	1.782	0.2134	pCi/g	0.217	0.500	911.4	3	1.776	IDENTIFIED	9.98	☐	
Strontium-85	LA	0.1348	0.02248	pCi/g	0.07222	Y	0	12	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-200	HE	154.1	122.2	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.5903	0.04925	pCi/g	0.05901	0.080	583.1	1	1.497	IDENTIFIED	6.341	☐	
Thorium-228	NM	2.078	0.1487	pCi/g	0.09527	N	238.7	4	1.226	IDENTIFIED	2.748	☐	
Thorium-230	NM	1.451	0.112	pCi/g	0.1125	N	609.3	4	1.698	IDENTIFIED	5.077	☐	
Thorium-232	NM	1.782	0.2134	pCi/g	0.217	N	911.4	3	1.776	IDENTIFIED	9.98	☐	
Thorium-234	✓	2.565	1.074	pCi/g	1.965	2.00	63.3	2	1.241	IDENTIFIED	40.94	☐	
Tin-126	HE	0.2023	0.0587	pCi/g	0.144	N	86.87	3	0.9936	IDENTIFIED	28.64	☐	
Titanium-44	LA	0.4506	0.03023	pCi/g	0.07885	N	0	12	0	FAIL_ABUND	0	☐	
Total Uranium		7.6702	3.19E-06	ug/g	2.9257	N		0				☐	
Uranium-234	NM	1.451	0.112	pCi/g	0.1125	N	609.3	4	1.698	IDENTIFIED	5.077	☐	
Uranium-238	HE	2.565	1.074	pCi/g	1.965	N	63.3	2	1.241	IDENTIFIED	40.94	☐	
Zirconium-97		1.51E+06	4.23E+05	pCi/g	0	N	0	12	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
246601010	05-FEB-10 12:00	19-FEB-10 15:42	14.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NM	1.81	0.2054	pCi/g	0.2573	N	910.1	3	1.51	IDENTIFIED	9.771	☐	
Americium-243	NM	0.4495	0.05156	pCi/g	0.1155	N	74.63	1	1.385	IDENTIFIED	10.58	☐	
Annihilation Rad.	HE	0.1148	0.04163	pCi/g	0.056	N	510	1	1.604	IDENTIFIED	36.14	☐	
Bismuth-211	INT	4.055	0.2954	pCi/g	0.3872	Y	351.5	4	1.286	IDENTIFIED	6.514	☑ UI	
Bismuth-212	HE	1.167	0.3336	pCi/g	0.794	N	0	10	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.216	0.109	pCi/g	0.1318	0.200	608.8	4	1.647	IDENTIFIED	8.141	☐	
Cadmium-109	INT	3.391	0.6327	pCi/g	1.778	Y	87.01	3	1.35	IDENTIFIED	18.02	☑ UI	
Cerium-143		563.9	89.21	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Cesium-135	INT	0.6009	0.1439	pCi/g	0.2876	N	269.6	1	1.223	IDENTIFIED	23.64	☐	
Gross Gamma		9.717	1.754	pCi/g	3.532	N		0				☐	
Iodine-135	HE	3.54E+14	3.25E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.888	0.09286	pCi/g	0.1085	0.100	238.3	4	1.246	IDENTIFIED	3.358	☐	
Lead-214	✓	1.411	0.1091	pCi/g	0.135	0.100	351.5	4	1.286	IDENTIFIED	6.514	☐	
Lutetium-177	HE	3.312	0.8753	pCi/g	2.22	N	0	10	0	FAIL_ABUND	0	☐	
Neptunium-237	NM	0.9802	0.209	pCi/g	0.5107	N	87.01	3	1.35	IDENTIFIED	18.02	☐	
Niobium-95m	LA	0.8664	0.1012	pCi/g	0.3373	N	0	10	0	NOT_IDENTI	0	☐	
Polonium-212	NM	1.888	0.09286	pCi/g	0.1085	N	238.3	4	1.246	IDENTIFIED	3.358	☐	
Polonium-214	NM	1.411	0.1091	pCi/g	0.135	N	351.5	4	1.286	IDENTIFIED	6.514	☐	
Polonium-216	NM	1.888	0.09286	pCi/g	0.1085	N	238.3	4	1.246	IDENTIFIED	3.358	☐	
Polonium-218	NM	1.411	0.1091	pCi/g	0.135	N	351.5	4	1.286	IDENTIFIED	6.514	☐	
Potassium-40	✓	31.49	1.586	pCi/g	0.4077	1.00	1459	1	2.556	IDENTIFIED	3.374	☐	
Radium-224	INT	4.351	0.7716	pCi/g	1.234	Y	241.2	1	1.774	IDENTIFIED	17.51	☑ UI	
Radium-226	✓	1.216	0.109	pCi/g	0.1318	Y	608.8	4	1.647	IDENTIFIED	8.141	☐	
Radium-228	✓	1.81	0.2054	pCi/g	0.2573	0.500	910.1	3	1.51	IDENTIFIED	9.771	☐	

Sodium-24	HE	1.42E+05	1.69E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0		
Technetium-99m	HE	9.88E+14	1.64E+15	pCi/g	0	N	0	10	0	SHORT_HLIF	0		
Thallium-200	HE	9.175	145.3	pCi/g	0	N	0	10	0	SHORT_HLIF	0		
Thallium-208	V	0.538	0.04652	pCi/g	0.07147	0.080	582.6	1	1.521	IDENTIFIED	8.015		
Thorium-228	MU	1.915	0.09418	pCi/g	0.11	N	238.3	4	1.246	IDENTIFIED	3.358		
Thorium-230	MU	1.216	0.109	pCi/g	0.1318	N	608.8	4	1.647	IDENTIFIED	8.141		
Thorium-232	MU	1.81	0.2054	pCi/g	0.2573	N	910.1	3	1.51	IDENTIFIED	9.771		
Tin-126	MU	0.3338	0.06228	pCi/g	0.1785	N	87.01	3	1.35	IDENTIFIED	18.02		
Titanium-44	LA	0.4669	0.03708	pCi/g	0.1025	N	0	10	0	FAIL_ABUND	0		
Uranium-234	MU	1.216	0.109	pCi/g	0.1318	N	608.8	4	1.647	IDENTIFIED	8.141		
Zirconium-97		2.63E+06	5.31E+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
246601011	05-FEB-10 12:00	19-FEB-10 16:16	14.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	1.845	0.1649	pCi/g	0.1666	N	910.7	3	1.484	IDENTIFIED	5.999		
Americium-243	MU	0.4209	0.0408	pCi/g	0.08469	N	75.01	1	1.185	IDENTIFIED	8.748		
Annihilation Rad.		0.1577	0.02512	pCi/g	0.03633	N	510.6	1	1.661	IDENTIFIED	15.59		
Bismuth-211	INT	4.521	0.2395	pCi/g	0.2482	Y	351.9	4	1.349	IDENTIFIED	4.216	UI	
Bismuth-212	LA	1.297	0.2258	pCi/g	0.5481	N	0	12	0	FAIL_ABUND	0		
Bismuth-214	V	1.25	0.08584	pCi/g	0.08346	0.200	609	4	1.539	IDENTIFIED	5.22		
Cadmium-109	INT	3.636	0.504	pCi/g	1.114	Y	87.4	3	1.116	IDENTIFIED	13.08	UI	
Cerium-143		472.8	67.14	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Cesium-134	LA	0.09844	0.02516	pCi/g	0.06981	0.100	0	12	0	FAIL_ABUND	0	UI	Data rejected due to low abundance.
Cesium-135	HE	0.2447	0.07018	pCi/g	0.2281	N	0	12	0	NOT_IDENTI	0		
Gross Gamma		9.794	1.308	pCi/g	2.028	N		0					
Iodine-123	HE	8.64E+05	6.89E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Iodine-135	HE	1.84E+14	2.01E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Krypton-85	LA	19.85	3.23	pCi/g	11.22	N	0	12	0	NOT_IDENTI	0		
Lead-212	V	1.625	0.07434	pCi/g	0.07446	0.100	238.7	4	1.228	IDENTIFIED	2.857		
Lead-214	V	1.573	0.09288	pCi/g	0.08648	0.100	351.9	4	1.349	IDENTIFIED	4.216		
Lutetium-177	HE	2.135	0.5543	pCi/g	1.546	N	0	12	0	FAIL_ABUND	0		
Neptunium-237	INT	1.051	0.1816	pCi/g	0.3291	N	87.4	3	1.116	IDENTIFIED	13.08		
Niobium-95	HE	0.08469	0.01987	pCi/g	0.06604	N	0	12	0	NOT_IDENTI	0		
Polonium-212	MU	1.625	0.07434	pCi/g	0.07446	N	238.7	4	1.228	IDENTIFIED	2.857		
Polonium-214	MU	1.573	0.09288	pCi/g	0.08648	N	351.9	4	1.349	IDENTIFIED	4.216		
Polonium-216	MU	1.625	0.07434	pCi/g	0.07446	N	238.7	4	1.228	IDENTIFIED	2.857		
Polonium-218	MU	1.573	0.09288	pCi/g	0.08648	N	351.9	4	1.349	IDENTIFIED	4.216		
Potassium-40	V	31.69	1.419	pCi/g	0.4552	1.00	1460	1	2.237	IDENTIFIED	2.374		
Radium-224	INT	4.883	0.5485	pCi/g	0.8462	Y	241.8	1	1.708	IDENTIFIED	10.88	UI	
Radium-226	V	1.25	0.08584	pCi/g	0.08346	Y	609	4	1.539	IDENTIFIED	5.22		
Radium-228	V	1.845	0.1649	pCi/g	0.1666	0.500	910.7	3	1.484	IDENTIFIED	5.999		
Strontium-85	LA	0.1008	0.0164	pCi/g	0.05697	Y	0	12	0	NOT_IDENTI	0	UI	Data rejected due to low abundance.
Thallium-208	V	0.5662	0.03931	pCi/g	0.04668	0.080	583	1	1.601	IDENTIFIED	5.731		
Thorium-228	MU	1.648	0.0754	pCi/g	0.07552	N	238.7	4	1.228	IDENTIFIED	2.857		
Thorium-230	MU	1.25	0.08584	pCi/g	0.08346	N	609	4	1.539	IDENTIFIED	5.22		

Thorium-232	NM	1.845	0.1649	pCi/g	0.1666	N	910.7	3	1.484	IDENTIFIED	5.999	☐
Tin-126	NM	0.3579	0.0496	pCi/g	0.1103	N	87.4	3	1.116	IDENTIFIED	13.08	☐
Titanium-44	LA	0.4306	0.03154	pCi/g	0.08263	N	0	12	0	FAIL_ABUND	0	☐
Total Uranium		4.183	3.12E-06	ug/g	3.3905	N		0				☐
Uranium-234	NM	1.25	0.08584	pCi/g	0.08346	N	609	4	1.539	IDENTIFIED	5.22	☐
Zirconium-97		1.33E+06	3.26E+05	pCi/g	0	N	0	12	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
246610001	03-FEB-10 12:00	19-FEB-10 15:46	16.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NM	1.482	0.1808	pCi/g	0.2138	N	911.2	3	1.501	IDENTIFIED	10.66	☐	
Americium-243	NM	0.3312	0.03669	pCi/g	0.0827	N	74.92	1	0.9543	IDENTIFIED	10.27	☐	
Annihilation Rad.		0.1357	0.03849	pCi/g	0.04115	N	510.9	1	1.998	IDENTIFIED	27.97	☐	
Bismuth-211	INT	3.245	0.2832	pCi/g	0.3348	Y	351.9	4	1.157	IDENTIFIED	6.81	☑ UJ	
Bismuth-212	HE	1.028	0.2403	pCi/g	0.6903	N	0	7	0	FAIL_ABUND	0	☐	
Bismuth-214	V	0.9153	0.0918	pCi/g	0.1177	0.200	609.4	4	1.172	IDENTIFIED	8.524	☐	
Cadmium-109	INT	4.178	0.5153	pCi/g	1.071	Y	87.2	3	1.248	IDENTIFIED	11.37	☑ UJ	
Cerium-143		700.9	159.2	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1442	0.03474	pCi/g	0.09598	0.100	0	7	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		9.539	1.351	pCi/g	2.312	N		0				☐	
Lead-212	V	1.492	0.1045	pCi/g	0.08646	0.100	238.6	4	1.011	IDENTIFIED	3.745	☐	
Lead-214	V	1.129	0.1028	pCi/g	0.1167	0.100	351.9	4	1.157	IDENTIFIED	6.81	☐	
Lutetium-177	HE	2.224	0.7764	pCi/g	2.133	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	1.204	0.1936	pCi/g	0.3136	N	87.2	3	1.248	IDENTIFIED	11.37	☐	
Polonium-212	NM	1.492	0.1045	pCi/g	0.08646	N	238.6	4	1.011	IDENTIFIED	3.745	☐	
Polonium-214	NM	1.129	0.1028	pCi/g	0.1167	N	351.9	4	1.157	IDENTIFIED	6.81	☐	
Polonium-216	NM	1.492	0.1045	pCi/g	0.08646	N	238.6	4	1.011	IDENTIFIED	3.745	☐	
Polonium-218	NM	1.129	0.1028	pCi/g	0.1167	N	351.9	4	1.157	IDENTIFIED	6.81	☐	
Potassium-40	V	38.86	2.054	pCi/g	0.6309	1.00	1461	1	1.959	IDENTIFIED	2.935	☐	
Radium-224	INT	3.855	0.6708	pCi/g	0.984	Y	241.6	1	1.736	IDENTIFIED	16.5	☐ UJ	
Radium-226	V	0.9153	0.0918	pCi/g	0.1177	Y	609.4	4	1.172	IDENTIFIED	8.524	☐	
Radium-228	V	1.482	0.1808	pCi/g	0.2138	0.500	911.2	3	1.501	IDENTIFIED	10.66	☐	
Technetium-99m		1.23E+17	0	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-208	V	0.4906	0.0495	pCi/g	0.05718	0.080	583.2	1	1.491	IDENTIFIED	8.789	☐	
Thorium-228	NM	1.516	0.1062	pCi/g	0.08786	N	238.6	4	1.011	IDENTIFIED	3.745	☐	
Thorium-230	NM	0.9153	0.0918	pCi/g	0.1177	N	609.4	4	1.172	IDENTIFIED	8.524	☐	
Thorium-232	NM	1.482	0.1808	pCi/g	0.2138	N	911.2	3	1.501	IDENTIFIED	10.66	☐	
Thorium-234	NVP	2.07	0.7863	pCi/g	1.873	2.00	63.2	2	1.385	IDENTIFIED	36.98	☑ UJ	
Tin-126	NM	0.41	0.05057	pCi/g	0.1056	N	87.2	3	1.248	IDENTIFIED	11.37	☐	
Titanium-44	LA	0.3292	0.02724	pCi/g	0.06843	N	0	7	0	FAIL_ABUND	0	☐	
Total Uranium		6.1713	2.34E-06	ug/g	2.7885	N		0				☐	
Uranium-234	NM	0.9153	0.0918	pCi/g	0.1177	N	609.4	4	1.172	IDENTIFIED	8.524	☐	
Uranium-238	HE	2.07	0.7863	pCi/g	1.873	N	63.2	2	1.385	IDENTIFIED	36.98	☐	
Zirconium-97		6.57E+06	2.62E+06	pCi/g	0	N	0	7	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
246610002	03-FEB-10 12:00	19-FEB-10 15:47	16.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	1.415	0.2405	pCi/g	0.2834	N	910.9	3	1.574	IDENTIFIED	16.02	☐	
Americium-243	MU	0.3161	0.02535	pCi/g	0.04936	N	74.84	1	0.8162	IDENTIFIED	6.805	☐	
Annihilation Rad.	HE	0.05982	0.0405	pCi/g	0.0569	N	510.4	1	1.767	IDENTIFIED	67.54	☐	
Bismuth-211	INT	3.469	0.3067	pCi/g	0.3868	Y	351.6	4	0.9768	IDENTIFIED	7.604	☑ UI	
Bismuth-214	V	1.098	0.1245	pCi/g	0.1337	0.200	609.3	4	1.457	IDENTIFIED	9.671	☐	
Cadmium-109	INT	2.955	0.3815	pCi/g	0.7501	Y	87.24	3	0.9584	IDENTIFIED	12.04	☑ UI	
Cerium-143		631.7	155.2	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Europium-155	HE	0.1842	0.05545	pCi/g	0.1233	N	105.3	1	0.8201	IDENTIFIED	29.65	☐	
Gross Gamma		9.36	1.598	pCi/g	3.186	N		0				☐	
Iodine-123		2.09E+07	8.88E+06	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Lead-212	V	1.514	0.09518	pCi/g	0.09147	0.100	238.4	4	0.8343	IDENTIFIED	3.847	☐	
Lead-214	V	1.207	0.1112	pCi/g	0.1349	0.100	351.6	4	0.9768	IDENTIFIED	7.604	☐	
Lutetium-177	HE	3.903	0.9129	pCi/g	2.327	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.8515	0.1407	pCi/g	0.2149	N	87.24	3	0.9584	IDENTIFIED	12.04	☐	
Niobium-97	HE	57860	1.76E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Polonium-212	MU	1.514	0.09518	pCi/g	0.09147	N	238.4	4	0.8343	IDENTIFIED	3.847	☐	
Polonium-214	MU	1.207	0.1112	pCi/g	0.1349	N	351.6	4	0.9768	IDENTIFIED	7.604	☐	
Polonium-216	MU	1.514	0.09518	pCi/g	0.09147	N	238.4	4	0.8343	IDENTIFIED	3.847	☐	
Polonium-218	MU	1.207	0.1112	pCi/g	0.1349	N	351.6	4	0.9768	IDENTIFIED	7.604	☐	
Potassium-40	V	38.39	2.118	pCi/g	0.7972	1.00	1460	1	2.154	IDENTIFIED	3.498	☐	
Radium-224	INT	5.15	0.7911	pCi/g	1.044	Y	241.3	1	1.703	IDENTIFIED	14.71	☑ UI	
Radium-226	V	1.098	0.1245	pCi/g	0.1337	Y	609.3	4	1.457	IDENTIFIED	9.671	☐	
Radium-228	V	1.415	0.2405	pCi/g	0.2834	0.500	910.9	3	1.574	IDENTIFIED	16.02	☐	
Technetium-99m		1.31E+17	0	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-208	V	0.5129	0.05849	pCi/g	0.07048	0.080	582.8	1	1.198	IDENTIFIED	10.02	☐	
Thorium-228	NA	1.539	0.09673	pCi/g	0.09296	N	238.4	4	0.8343	IDENTIFIED	3.847	☐	
Thorium-230	MU	1.098	0.1245	pCi/g	0.1337	N	609.3	4	1.457	IDENTIFIED	9.671	☐	
Thorium-232	MU	1.415	0.2405	pCi/g	0.2834	N	910.9	3	1.574	IDENTIFIED	16.02	☐	
Thorium-234	V	1.039	0.3963	pCi/g	0.8155	2.00	63.4	2	0.9734	IDENTIFIED	37.12	☐	
Tin-126	MU	0.29	0.03744	pCi/g	0.07348	N	87.24	3	0.9584	IDENTIFIED	12.04	☐	
Titanium-44	LA	0.3374	0.02082	pCi/g	0.03891	N	0	7	0	FAIL_ABUND	0	☐	
Total Uranium		3.1199	1.18E-06	ug/g	1.2158	N		0				☐	
Uranium-234	MU	1.098	0.1245	pCi/g	0.1337	N	609.3	4	1.457	IDENTIFIED	9.671	☐	
Uranium-238	HE	1.039	0.3963	pCi/g	0.8155	N	63.4	2	0.9734	IDENTIFIED	37.12	☐	
Zirconium-97		6.98E+06	3.36E+06	pCi/g	0	N	0	7	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
246610003	03-FEB-10 12:00	19-FEB-10 15:47	16.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	1.198	0.1717	pCi/g	0.2637	N	911.2	3	1.404	IDENTIFIED	13.04	☐	
Americium-243	MU	0.3069	0.02554	pCi/g	0.04326	N	74.8	1	0.9581	IDENTIFIED	6.588	☐	
Annihilation Rad.		0.1446	0.03506	pCi/g	0.04928	N	510.6	1	1.784	IDENTIFIED	23.7	☐	

Bismuth-210	NU	1.776	0.3445	pCi/g	0.6068	N	46.41	3	1.043	IDENTIFIED	18.7	☐	
Bismuth-211	INT	3.25	0.2752	pCi/g	0.2954	Y	351.7	4	1.162	IDENTIFIED	6.635	☑	UI
Bismuth-212	HE	1.142	0.3604	pCi/g	0.54	N	727.5	1	1.715	IDENTIFIED	30.97	☐	
Bismuth-214	✓	1.016	0.1034	pCi/g	0.1205	0.200	609.1	4	1.442	IDENTIFIED	8.197	☐	
Cadmium-109	INT	3.378	0.3619	pCi/g	0.7718	Y	87.19	3	1.078	IDENTIFIED	9.281	☑	UI
Cerium-143		777.2	155.8	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Europium-155	HE	0.1631	0.04754	pCi/g	0.122	N	105.3	1	1.668	IDENTIFIED	28.54	☐	
Gross Gamma		9.461	1.322	pCi/g	3.518	N		0				☐	
Iodine-123	HE	1.92E+06	8.89E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Iodine-135		5.96E+15	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-210	✓	1.776	0.3445	pCi/g	0.6068	N	46.41	3	1.043	IDENTIFIED	18.7	☐	
Lead-212	✓	1.3	0.095	pCi/g	0.1003	0.100	238.5	4	1.021	IDENTIFIED	4.587	☐	
Lead-214	✓	1.131	0.1002	pCi/g	0.1081	0.100	351.7	4	1.162	IDENTIFIED	6.635	☐	
Lutetium-177	HE	2.606	0.6896	pCi/g	2.101	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237	NU	0.9734	0.1448	pCi/g	0.2209	N	87.19	3	1.078	IDENTIFIED	9.281	☐	
Polonium-210	NU	1.776	0.3427	pCi/g	0.6068	N	46.41	3	1.043	IDENTIFIED	18.7	☐	
Polonium-212	NU	1.3	0.095	pCi/g	0.1003	N	238.5	4	1.021	IDENTIFIED	4.587	☐	
Polonium-214	NU	1.131	0.1002	pCi/g	0.1081	N	351.7	4	1.162	IDENTIFIED	6.635	☐	
Polonium-216	NU	1.3	0.095	pCi/g	0.1003	N	238.5	4	1.021	IDENTIFIED	4.587	☐	
Polonium-218	NU	1.131	0.1002	pCi/g	0.1081	N	351.7	4	1.162	IDENTIFIED	6.635	☐	
Potassium-40	✓	38.74	1.992	pCi/g	0.5266	1.00	1460	1	2.06	IDENTIFIED	2.881	☐	
Radium-224	INT	1.956	0.4045	pCi/g	1.261	Y	241.7	1	1.507	IDENTIFIED	20	☑	UI
Radium-226	✓	1.016	0.1034	pCi/g	0.1205	Y	609.1	4	1.442	IDENTIFIED	8.197	☐	
Radium-228	✓	1.198	0.1717	pCi/g	0.2637	0.500	911.2	3	1.404	IDENTIFIED	13.04	☐	
Sodium-24	HE	1.57E+06	1.16E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Thallium-200	HE	333.8	406.5	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.4089	0.05319	pCi/g	0.06463	0.080	583	1	1.219	IDENTIFIED	11.72	☐	
Thorium-228	NU	1.321	0.09654	pCi/g	0.1019	N	238.5	4	1.021	IDENTIFIED	4.587	☐	
Thorium-230	NU	1.016	0.1034	pCi/g	0.1205	N	609.1	4	1.442	IDENTIFIED	8.197	☐	
Thorium-232	NU	1.198	0.1717	pCi/g	0.2637	N	911.2	3	1.404	IDENTIFIED	13.04	☐	
Thorium-234	✓	2.101	0.4334	pCi/g	0.7652	2.00	63.21	2	0.929	IDENTIFIED	18.41	☐	
Tin-126	NU	0.3315	0.03551	pCi/g	0.07559	N	87.19	3	1.078	IDENTIFIED	9.281	☐	
Titanium-44	LA	0.3456	0.02276	pCi/g	0.04256	N	0	8	0	FAIL_ABUND	0	☐	
Total Uranium		6.2765	1.29E-06	ug/g	1.1411	N		0				☐	
Uranium-234	NU	1.016	0.1034	pCi/g	0.1205	N	609.1	4	1.442	IDENTIFIED	8.197	☐	
Uranium-238	NU	2.101	0.4334	pCi/g	0.7652	N	63.21	2	0.929	IDENTIFIED	18.41	☐	
Zirconium-97		7.14E+06	2.79E+06	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
246611001	04-FEB-10 12:00	19-FEB-10 17:29	15.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NU	1.355	0.1755	pCi/g	0.2508	N	911.8	3	1.694	IDENTIFIED	11.57	☐	
Americium-243	NU	0.3157	0.03442	pCi/g	0.07367	N	74.76	1	1.217	IDENTIFIED	10.13	☐	
Annihilation Rad.	HE	0.1042	0.0358	pCi/g	0.05373	N	510.9	1	1.537	IDENTIFIED	34.06	☐	
Bismuth-211	INT	3.172	0.2656	pCi/g	0.3413	Y	352.1	4	1.142	IDENTIFIED	7.07	☑	UI
Bismuth-212	HE	1.274	0.306	pCi/g	0.7524	N	0	10	0	FAIL_ABUND	0	☐	

Bismuth-214	V	1.101	0.09662	pCi/g	0.1201	0.200	609.5	4	1.496	IDENTIFIED	7.094	☐	
Cadmium-109	INT	3.633	0.4696	pCi/g	1.059	Y	87.3	3	1.244	IDENTIFIED	12.05	☑	UI
Cerium-143		576.5	107.3	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Gross Gamma		9.5	1.491	pCi/g	2.507	N		0				☐	
Iodine-133	HE	1453	3429	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Lead-212	V	1.499	0.09206	pCi/g	0.09249	0.100	238.7	4	1.114	IDENTIFIED	3.855	☐	
Lead-214	V	1.104	0.09677	pCi/g	0.1254	0.100	352.1	4	1.142	IDENTIFIED	7.07	☐	
Lutetium-177	HE	2.903	0.9476	pCi/g	2.05	N	0	10	0	FAIL_ABUND	0	☐	
Neptunium-237	MU	1.048	0.1734	pCi/g	0.3079	N	87.3	3	1.244	IDENTIFIED	12.05	☐	
Niobium-97	HE	1.02E+05	56900	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Polonium-212	MU	1.499	0.09206	pCi/g	0.09249	N	238.7	4	1.114	IDENTIFIED	3.855	☐	
Polonium-214	MU	1.104	0.09677	pCi/g	0.1254	N	352.1	4	1.142	IDENTIFIED	7.07	☐	
Polonium-216	MU	1.499	0.09206	pCi/g	0.09249	N	238.7	4	1.114	IDENTIFIED	3.855	☐	
Polonium-218	MU	1.104	0.09677	pCi/g	0.1254	N	352.1	4	1.142	IDENTIFIED	7.07	☐	
Potassium-40	V	39.77	2.037	pCi/g	0.5628	1.00	1461	1	2.165	IDENTIFIED	2.794	☐	
Radium-224	INT	4.61	0.7839	pCi/g	1.053	Y	241.8	1	2.011	IDENTIFIED	16.47	☑	UI
Radium-226	V	1.101	0.09662	pCi/g	0.1201	Y	609.5	4	1.496	IDENTIFIED	7.094	☐	
Radium-228	V	1.355	0.1755	pCi/g	0.2508	0.500	911.8	3	1.694	IDENTIFIED	11.57	☐	
Rhodium-101	HE	0.07296	0.01799	pCi/g	0.06439	N	0	10	0	NOT_IDENTI	0	☐	
Sodium-24	HE	5.92E+05	4.81E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Thallium-200	HE	293.2	258.7	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Thallium-208	V	0.5161	0.04642	pCi/g	0.06375	0.080	583.3	1	1.4	IDENTIFIED	7.618	☐	
Thorium-228	MU	1.522	0.09347	pCi/g	0.0939	N	238.7	4	1.114	IDENTIFIED	3.855	☐	
Thorium-230	MU	1.1	0.09662	pCi/g	0.1201	N	609.5	4	1.496	IDENTIFIED	7.094	☐	
Thorium-232	MU	1.355	0.1755	pCi/g	0.2508	N	911.8	3	1.694	IDENTIFIED	11.57	☐	
Tin-126	MU	0.357	0.04615	pCi/g	0.1043	N	87.3	3	1.244	IDENTIFIED	12.05	☐	
Titanium-44	LA	0.3681	0.02782	pCi/g	0.07252	N	0	10	0	FAIL_ABUND	0	☐	
Total Uranium		4.3774	2.10E-06	ug/g	2.3261	N		0				☐	
Uranium-234	MU	1.1	0.09662	pCi/g	0.1201	N	609.5	4	1.496	IDENTIFIED	7.094	☐	
Zirconium-97		3.27E+06	1.20E+06	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
246611002	04-FEB-10 12:00	19-FEB-10 17:30	15.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	MU	1.411	0.1703	pCi/g	0.215	N	911.4	3	1.38	IDENTIFIED	10.43	☐	
Americium-243	MU	0.324	0.03387	pCi/g	0.07115	N	74.72	1	0.9289	IDENTIFIED	9.64	☐	
Annihilation Rad.		0.1311	0.03711	pCi/g	0.04496	N	510.6	1	2.196	IDENTIFIED	27.8	☐	
Bismuth-211	INT	3.92	0.3452	pCi/g	0.3185	Y	351.9	4	1.044	IDENTIFIED	5.854	☑	UI
Bismuth-212	V	1.477	0.2254	pCi/g	0.3802	N	727.3	1	1.994	IDENTIFIED	14.25	☐	
Bismuth-214	V	1.325	0.1058	pCi/g	0.113	0.200	609.3	4	1.266	IDENTIFIED	5.639	☐	
Cadmium-109	INT	4.087	0.5215	pCi/g	0.9681	Y	87.2	3	1.31	IDENTIFIED	11.87	☑	UI
Cerium-143		205.9	83.66	pCi/g	0	N	0	6	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.09892	0.04605	pCi/g	0.0946	0.100	0	6	0	FAIL_ABUND	0	☑	UI Data rejected due to low abundance.
Cesium-135	HE	0.326	0.1269	pCi/g	0.2181	N	269.6	1	1.005	IDENTIFIED	38.11	☐	
Gross Gamma		10.39	1.8	pCi/g	3.564	N		0				☐	
Lead-212	V	1.452	0.1155	pCi/g	0.08415	0.100	238.6	4	0.961	IDENTIFIED	3.767	☐	

Lead-214	V	1.364	0.1252	pCi/g	0.111	0.100	351.9	4	1.044	IDENTIFIED	5.854	☐
Lutetium-177	HE	3.597	0.9051	pCi/g	1.969	N	0	6	0	FAIL_ABUND	0	☐
Neptunium-237	NR	1.179	0.1935	pCi/g	0.2825	N	87.2	3	1.31	IDENTIFIED	11.87	☐
Niobium-97	HE	21970	51240	pCi/g	0	N	0	6	0	SHORT_HLIF	0	☐
Polonium-212	NR	1.452	0.1155	pCi/g	0.08415	N	238.6	4	0.961	IDENTIFIED	3.767	☐
Polonium-214	NR	1.364	0.1252	pCi/g	0.111	N	351.9	4	1.044	IDENTIFIED	5.854	☐
Polonium-216	NR	1.452	0.1155	pCi/g	0.08415	N	238.6	4	0.961	IDENTIFIED	3.767	☐
Polonium-218	NR	1.364	0.1252	pCi/g	0.111	N	351.9	4	1.044	IDENTIFIED	5.854	☐
Potassium-40	V	39.19	1.99	pCi/g	0.6215	1.00	1461	1	1.951	IDENTIFIED	2.663	☐
Radium-224	INT	5.057	0.7324	pCi/g	0.958	Y	241.6	1	1.659	IDENTIFIED	12.83	☑ UI
Radium-226	V	1.325	0.1058	pCi/g	0.113	Y	609.3	4	1.266	IDENTIFIED	5.639	☐
Radium-228	V	1.411	0.1703	pCi/g	0.215	0.500	911.4	3	1.38	IDENTIFIED	10.43	☐
Thallium-208	V	0.4971	0.0494	pCi/g	0.05031	0.080	583.3	1	1.358	IDENTIFIED	8.342	☐
Thorium-228	NR	1.474	0.1172	pCi/g	0.08544	N	238.6	4	0.961	IDENTIFIED	3.767	☐
Thorium-230	NR	1.325	0.1058	pCi/g	0.113	N	609.3	4	1.266	IDENTIFIED	5.639	☐
Thorium-232	NR	1.411	0.1703	pCi/g	0.215	N	911.4	3	1.38	IDENTIFIED	10.43	☐
Tin-126	NR	0.4016	0.05125	pCi/g	0.09545	N	87.2	3	1.31	IDENTIFIED	11.87	☐
Titanium-44	LA	0.356	0.02547	pCi/g	0.06149	N	0	6	0	FAIL_ABUND	0	☐
Uranium-234	NR	1.325	0.1058	pCi/g	0.113	N	609.3	4	1.266	IDENTIFIED	5.639	☐
Zirconium-97	HE	6.27E+05	1.01E+06	pCi/g	0	N	0	6	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
246611003	04-FEB-10 12:00	19-FEB-10 17:31	15.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.348	0.1528	pCi/g	0.2346	N	910.8	3	1.702	IDENTIFIED	9.918	☐	
Americium-243	NR	0.2779	0.03343	pCi/g	0.08912	N	74.75	1	0.8662	IDENTIFIED	11.54	☐	
Annihilation Rad.	HE	0.0925	0.04395	pCi/g	0.04756	N	511	1	1.996	IDENTIFIED	47.41	☐	
Bismuth-211	INT	3.328	0.2278	pCi/g	0.2991	Y	351.6	4	1.321	IDENTIFIED	6.081	☑ UI	
Bismuth-214	V	1.082	0.09089	pCi/g	0.114	0.200	608.9	4	1.444	IDENTIFIED	7.322	☐	
Cadmium-109	INT	1.758	0.5342	pCi/g	1.223	Y	86.83	3	1.086	IDENTIFIED	30.15	☑ UI	
Cerium-143		638.6	113.6	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Gross Gamma		8.706	1.488	pCi/g	2.654	N		0				☐	
Iodine-133	HE	69.26	3191	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Iodine-135	HE	1.77E+14	3.93E+15	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-212	V	1.316	0.06991	pCi/g	0.08318	0.100	238.4	4	1.088	IDENTIFIED	3.954	☐	
Lead-214	V	1.158	0.08481	pCi/g	0.1088	0.100	351.6	4	1.321	IDENTIFIED	6.081	☐	
Lutetium-177	HE	2.709	0.7387	pCi/g	1.994	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237	HE	0.5074	0.1628	pCi/g	0.4104	N	86.83	3	1.086	IDENTIFIED	30.15	☐	
Polonium-212	NR	1.316	0.06991	pCi/g	0.08318	N	238.4	4	1.088	IDENTIFIED	3.954	☐	
Polonium-214	NR	1.158	0.08481	pCi/g	0.1088	N	351.6	4	1.321	IDENTIFIED	6.081	☐	
Polonium-216	NR	1.316	0.06991	pCi/g	0.08318	N	238.4	4	1.088	IDENTIFIED	3.954	☐	
Polonium-218	NR	1.158	0.08481	pCi/g	0.1088	N	351.6	4	1.321	IDENTIFIED	6.081	☐	
Potassium-40	V	36.37	1.638	pCi/g	0.5297	1.00	1460	1	2.086	IDENTIFIED	2.749	☐	
Promethium-146	HE	0.08386	0.02213	pCi/g	0.08159	N	0	8	0	NOT_IDENTI	0	☐	
Radium-224	INT	3.389	0.5187	pCi/g	0.9467	Y	241.4	1	1.922	IDENTIFIED	15.06	☑ UI	
Radium-226	V	1.082	0.09089	pCi/g	0.114	Y	608.9	4	1.444	IDENTIFIED	7.322	☐	

Radium-228	V	1.348	0.1528	pCi/g	0.2346	0.500	910.8	3	1.702	IDENTIFIED	9.918	☐
Sodium-24	HE	33420	3.99E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Thallium-208	V	0.3715	0.04123	pCi/g	0.05547	0.080	583.1	1	1.533	IDENTIFIED	10.51	☐
Thorium-228	MU	1.336	0.07098	pCi/g	0.08446	N	238.4	4	1.088	IDENTIFIED	3.954	☐
Thorium-230	MU	1.082	0.09089	pCi/g	0.114	N	608.9	4	1.444	IDENTIFIED	7.322	☐
Thorium-232	MU	1.348	0.1528	pCi/g	0.2346	N	910.8	3	1.702	IDENTIFIED	9.918	☐
Tin-126	HE	0.1728	0.05249	pCi/g	0.1379	N	86.83	3	1.086	IDENTIFIED	30.15	☐
Titanium-44	LA	0.3405	0.02768	pCi/g	0.07086	N	0	8	0	FAIL_ABUND	0	☐
Uranium-234	MU	1.082	0.09089	pCi/g	0.114	N	608.9	4	1.444	IDENTIFIED	7.322	☐
Zirconium-97		3.53E+06	1.27E+06	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
1202038807		19-FEB-10 17:35	0	MB	LOAD	1		GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Iodine-123	HE	68.05	108.7	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Iodine-133	HE	1.086	4.411	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Iodine-135	HE	5.14E+06	1.03E+07	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Sodium-24	HE	54.48	57.54	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Technetium-99m	HE	1.62E+07	1.25E+07	pCi/g	0	N	0	5	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
1202038808	04-FEB-10 12:00	19-FEB-10 20:32	15.4	DUP	LOAD	1		LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	MU	1.29	0.1922	pCi/g	0.2894	N	911.1	3	1.819	IDENTIFIED	13.68	☐	
Americium-243	MU	0.3024	0.05909	pCi/g	0.1383	N	74.88	1	1.408	IDENTIFIED	18.67	☐	
Annihilation Rad.	HE	0.1075	0.04521	pCi/g	0.06053	N	511.1	1	2.172	IDENTIFIED	41.83	☐	
Bismuth-211	INT	3.803	0.3346	pCi/g	0.4551	Y	352	4	1.406	IDENTIFIED	7.26	☑ UI	
Bismuth-214	V	0.9606	0.1077	pCi/g	0.1463	0.200	609.3	4	1.537	IDENTIFIED	10.06	☐	
Cadmium-109	INT	1.976	0.6725	pCi/g	1.76	Y	87.47	3	1.217	IDENTIFIED	33.47	☑ UI	
Cerium-143		772.5	155.9	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Gross Gamma		8.666	1.664	pCi/g	3.012	N		0				☐	
Iodine-123	HE	5.31E+06	5.38E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Iodine-133	HE	6657	4775	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Krypton-85	HE	23.91	5.578	pCi/g	18.56	N	0	12	0	NOT_IDENTI	0	☐	
Lead-212	V	1.473	0.1128	pCi/g	0.1296	0.100	238.8	4	1.346	IDENTIFIED	4.818	☐	
Lead-214	V	1.323	0.1214	pCi/g	0.1519	0.100	352	4	1.406	IDENTIFIED	7.26	☐	
Lutetium-177	HE	3.154	0.8209	pCi/g	2.616	N	0	12	0	FAIL_ABUND	0	☐	
Neptunium-237	HE	0.5701	0.2028	pCi/g	0.5212	N	87.47	3	1.217	IDENTIFIED	33.47	☐	
Niobium-95m	HE	0.463	0.1034	pCi/g	0.3319	N	0	12	0	NOT_IDENTI	0	☐	
Niobium-97	HE	66340	74700	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Polonium-212	MU	1.473	0.1128	pCi/g	0.1296	N	238.8	4	1.346	IDENTIFIED	4.818	☐	
Polonium-214	MU	1.323	0.1214	pCi/g	0.1519	N	352	4	1.406	IDENTIFIED	7.26	☐	
Polonium-216	MU	1.473	0.1128	pCi/g	0.1296	N	238.8	4	1.346	IDENTIFIED	4.818	☐	
Polonium-218	MU	1.323	0.1214	pCi/g	0.1519	N	352	4	1.406	IDENTIFIED	7.26	☐	
Potassium-40	V	37.97	2.189	pCi/g	0.6972	1.00	1461	1	2.142	IDENTIFIED	3.017	☐	

Radium-224	JNT	4.274	0.9618	pCi/g	1.475	Y	241.6	1	2.04	IDENTIFIED	21.82	☑	U1
Radium-226	✓	0.9606	0.1077	pCi/g	0.1463	Y	609.3	4	1.537	IDENTIFIED	10.06	☐	
Radium-228	✓	1.29	0.1922	pCi/g	0.2894	0.500	911.1	3	1.819	IDENTIFIED	13.68	☐	
Sodium-24	HE	5.21E+05	5.84E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Strontium-85	LA	0.1229	0.02867	pCi/g	0.09538	Y	0	12	0	NOT_IDENTI	0	☑	UI Data rejected due to low abundance.
Technetium-99m		2.35E+16	0	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.4104	0.05021	pCi/g	0.07341	0.080	583.2	1	1.363	IDENTIFIED	11.35	☐	
Thorium-228	MU	1.496	0.1146	pCi/g	0.1316	N	238.8	4	1.346	IDENTIFIED	4.818	☐	
Thorium-230	MU	0.9606	0.1077	pCi/g	0.1463	N	609.3	4	1.537	IDENTIFIED	10.06	☐	
Thorium-232	MU	1.29	0.1922	pCi/g	0.2894	N	911.1	3	1.819	IDENTIFIED	13.68	☐	
Tin-126	HE	0.1941	0.06608	pCi/g	0.1742	N	87.47	3	1.217	IDENTIFIED	33.47	☐	
Titanium-44	LA	0.3043	0.04117	pCi/g	0.1136	N	0	12	0	FAIL_ABUND	0	☐	
Uranium-234	MU	0.9606	0.1077	pCi/g	0.1463	N	609.3	4	1.537	IDENTIFIED	10.06	☐	
Zirconium-97		4.33E+06	1.82E+06	pCi/g	0	N	0	12	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
1202038809		19-FEB-10 20:33	0	LCS	LOAD	1		GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	HE	0.8718	0.2774	pCi/g	0.5214	N	911.6	3	0.8119	IDENTIFIED	31.28	☐	
Americium-241	✓	14.15	0.6286	pCi/g	0.4525	0.200	59.5	1	1.322	IDENTIFIED	2.439	☐	
Americium-243	HE	0.2401	0.0515	pCi/g	0.1714	N	0	9	0	FAIL_ABUND	0	☐	
Barium-137m		5.422	0.2042	pCi/g	0.1009	N	661.5	2	1.682	IDENTIFIED	2.311	☐	
Bismuth-211		2.161	0.388	pCi/g	0.592	Y	351.9	4	1.392	IDENTIFIED	17.67	☐	
Bismuth-214		0.5219	0.1142	pCi/g	0.2101	0.200	609.3	4	1.675	IDENTIFIED	21.52	☐	
Cadmium-109		32.5	1.868	pCi/g	2.173	Y	88.13	2	1.405	IDENTIFIED	3.735	☐	
Cesium-137	✓	5.731	0.2164	pCi/g	0.1066	0.100	661.5	2	1.682	IDENTIFIED	2.311	☐	
Cobalt-57		0.2174	0.03824	pCi/g	0.06475	N	121.9	1	1.252	IDENTIFIED	17.22	☐	
Cobalt-60	✓	6.434	0.2826	pCi/g	0.07813	0.100	1333	1	2.02	IDENTIFIED	2.568	☐	
Gross Gamma		26.63	2.591	pCi/g	4.791	N		0				☐	
Iodine-135	HE	4.74E+07	3.79E+07	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Lead-212		1.088	0.08	pCi/g	0.1597	0.100	238.5	4	1.297	IDENTIFIED	6.387	☐	
Lead-214		0.7516	0.1364	pCi/g	0.2063	0.100	351.9	4	1.392	IDENTIFIED	17.67	☐	
Neptunium-237		7.596	0.8984	pCi/g	1.219	N	0	9	0	NOT_IDENTI	0	☐	
Niobium-95m	HE	0.4841	0.1098	pCi/g	0.3723	N	0	9	0	NOT_IDENTI	0	☐	
Niobium-97		897.2	110	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Polonium-212		1.088	0.08	pCi/g	0.1597	N	238.5	4	1.297	IDENTIFIED	6.387	☐	
Polonium-214		0.7516	0.1364	pCi/g	0.2063	N	351.9	4	1.392	IDENTIFIED	17.67	☐	
Polonium-216		1.088	0.08	pCi/g	0.1597	N	238.5	4	1.297	IDENTIFIED	6.387	☐	
Polonium-218		0.7516	0.1364	pCi/g	0.2063	N	351.9	4	1.392	IDENTIFIED	17.67	☐	
Radium-224		3.072	0.8172	pCi/g	1.816	Y	241.4	1	1.743	IDENTIFIED	26.44	☐	
Radium-226		0.5219	0.1142	pCi/g	0.2101	Y	609.3	4	1.675	IDENTIFIED	21.52	☐	
Radium-228		0.8718	0.2774	pCi/g	0.5214	0.500	911.6	3	0.8119	IDENTIFIED	31.28	☐	
Silver-110m	HE	0.2094	0.04458	pCi/g	0.1504	N	0	9	0	NOT_IDENTI	0	☐	
Sodium-24	HE	67.45	124.9	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-208		0.3262	0.06561	pCi/g	0.1643	0.080	0	9	0	FAIL_ABUND	0	☐	
Thorium-228		1.097	0.08063	pCi/g	0.161	N	238.5	4	1.297	IDENTIFIED	6.387	☐	

Thorium-230		**0.5219**	0.1142	pCi/g	**0.2101**	N	609.3	4	1.675	IDENTIFIED	21.52	☐
Thorium-232	HE	**0.8718**	0.2774	pCi/g	**0.5214**	N	911.6	3	0.8119	IDENTIFIED	31.28	☐
Tin-126		**3.23**	0.1856	pCi/g	**0.2167**	N	88.13	2	1.405	IDENTIFIED	3.735	☐
Titanium-44	HE	**0.1582**	0.03266	pCi/g	**0.1076**	N	0	9	0	FAIL_ABUND	0	☐
Uranium-234		**0.5219**	0.1142	pCi/g	**0.2101**	N	609.3	4	1.675	IDENTIFIED	21.52	☐

*** = Number of isotopes identified with a keyline at this energy.

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Parmname	Result	Uncertainty	Units	DL	RDL
951362	246611003	SAMPLE	19-FEB-10	Cadmium-109	1.758	0.5342	pCi/g	0.6118	Y
				Cerium-139	0.02633	0.01324	pCi/g	0.02299	0.050
				Cerium-143	638.6	113.6	pCi/g	0	N
				Cesium-134	0.05748	0.02572	pCi/g	0.04604	0.100
				Europium-152	0.08007	0.0493	pCi/g	0.07803	0.200
				Gross Gamma	8.706	1.488	pCi/g	1.281	N
				Iodine-133	69.26	3191	pCi/g	0	N
				Iodine-135	1.77E+14	3.93E+15	pCi/g	0	N
				Krypton-85	10.67	3.81	pCi/g	6.766	N
				Lead-212	1.316	0.06991	pCi/g	0.04162	0.100
				Lead-214	1.158	0.08481	pCi/g	0.05441	0.100
				Potassium-40	36.37	1.638	pCi/g	0.265	1.00
				Radium-224	3.389	0.5187	pCi/g	0.4736	Y
				Radium-226	1.082	0.09089	pCi/g	0.05703	Y
				Radium-228	1.348	0.1528	pCi/g	0.1174	0.500
				Sodium-24	33420	3.99E+05	pCi/g	0	N
				Strontium-85	0.05478	0.01956	pCi/g	0.03473	Y
				Thallium-208	0.3715	0.04123	pCi/g	0.02775	0.080
				Uranium-235	0.2914	0.1001	pCi/g	0.1717	0.500
				Zirconium-97	3.53E+06	1.27E+06	pCi/g	0	N
951362	1202038807	MB	19-FEB-10	Bismuth-210	5.573	1.923	pCi/g	3.824	N
				Iodine-123	68.05	108.7	pCi/g	0	N
				Iodine-135	5.14E+06	1.03E+07	pCi/g	0	N
				Lead-210	5.573	1.923	pCi/g	3.824	N
				Polonium-210	5.573	1.92	pCi/g	3.824	N
				Sodium-24	54.48	57.54	pCi/g	0	N
				Technetium-99m	1.62E+07	1.25E+07	pCi/g	0	N
951362	1202038808	DUP	19-FEB-10	Bismuth-211	3.803	0.3346	pCi/g	0.2277	Y
				Bismuth-214	0.9606	0.1077	pCi/g	0.0732	0.200
				Cadmium-109	1.976	0.6725	pCi/g	0.8803	Y
				Cerium-143	772.5	155.9	pCi/g	0	N
				Cesium-134	0.1083	0.04604	pCi/g	0.05589	0.100
				Gross Gamma	8.666	1.664	pCi/g	1.453	N
				Iodine-123	5.31E+06	5.38E+06	pCi/g	0	N
				Iodine-133	6657	4775	pCi/g	0	N
				Krypton-85	23.91	5.578	pCi/g	9.284	N
				Lead-212	1.473	0.1128	pCi/g	0.06486	0.100

MLE 2/23/10

MLE 2/23/10

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 15:10:20.03

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246557001.CNF;1
Sample date       : 3-FEB-2010 12:00:00. Acquisition date : 19-FEB-2010 13:07:20
Sample ID         : G246557001           Sample quantity  : 1.29150E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.42  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 951362                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	64.97	260	702	4.42	128.87	121	17	3.61E-02	24.2	
2	6	74.97*	314	530	1.43	148.86	145	13	4.36E-02	15.3	2.18E+00
3	6	77.33*	511	380	1.24	153.58	145	13	7.10E-02	8.2	
4	0	87.39*	71	789	1.31	173.70	168	10	9.81E-03	75.8	
5	0	93.24*	267	445	1.68	185.40	182	10	3.70E-02	17.2	
6	0	185.78*	198	552	1.66	370.47	364	14	2.75E-02	26.9	
7	0	209.42	102	391	1.52	417.74	412	11	1.42E-02	38.7	
8	2	238.78*	1421	204	1.40	476.46	468	21	1.97E-01	3.3	1.89E+00
9	2	241.79*	321	247	1.85	482.49	468	21	4.46E-02	14.2	
10	0	270.06	112	236	1.38	539.02	532	11	1.55E-02	28.2	
11	0	295.15*	419	237	1.42	589.20	582	15	5.83E-02	9.5	
12	0	300.34	108	151	1.26	599.58	596	9	1.50E-02	22.7	
13	0	338.17*	287	260	1.49	675.23	667	16	3.99E-02	14.0	
14	0	352.13*	691	215	1.36	703.15	695	16	9.60E-02	6.2	
15	0	463.05	90	133	1.59	925.01	920	11	1.25E-02	26.9	
16	0	511.16*	153	168	2.26	1021.22	1014	18	2.12E-02	23.9	
17	0	583.32*	374	171	1.53	1165.55	1160	15	5.19E-02	9.6	
18	0	609.53*	460	179	1.54	1217.97	1209	18	6.39E-02	8.4	
19	2	768.51	54	119	2.30	1535.96	1528	19	7.50E-03	43.9	4.77E+00
20	2	772.00*	35	59	1.71	1542.94	1528	19	4.91E-03	41.1	
21	0	861.19*	45	53	2.31	1721.36	1716	10	6.20E-03	35.2	
22	0	911.17*	285	76	1.65	1821.33	1815	14	3.96E-02	9.0	
23	1	964.80	74	44	2.20	1928.60	1922	20	1.03E-02	22.5	2.34E+00
24	1	968.88*	183	32	1.96	1936.76	1922	20	2.55E-02	9.7	
25	0	1120.38*	105	70	1.83	2239.83	2232	14	1.45E-02	20.0	
26	0	1240.06	57	88	6.25	2479.25	2473	17	7.88E-03	42.4	
27	0	1377.67	34	17	0.88	2754.54	2749	12	4.72E-03	30.1	
28	0	1460.57*	1227	26	2.15	2920.40	2914	18	1.70E-01	3.0	
29	0	1662.00	14	10	1.34	3323.41	3315	14	1.91E-03	56.8	
30	0	1764.67*	64	25	1.86	3528.82	3519	16	8.85E-03	22.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 19-FEB-2010 15:10:23

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246557001.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 3-FEB-2010 12:00:00 Acquisition date : 19-FEB-2010 13:07:20
Sample ID : G246557001 Sample quantity : 129.15 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 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	*	3.458E+01	3.986E+00	6.881E-01	6.762E-02	50.255
CD-109	+	88.03	*	1.270E+00	1.932E+00	2.080E+00	2.581E-01	0.611
SN-126	+	64.28		3.877E+00	1.987E+00	1.475E+00	2.498E-01	2.628
	+	86.94		5.181E-01	8.158E-01	8.597E-01	3.635E-01	0.603
	+	87.57	*	1.246E-01	1.896E-01	2.167E-01	2.682E-02	0.575
TL-208		277.35		7.680E-01	5.260E-01	9.121E-01	1.274E-01	0.842
	+	510.84		8.513E-01	4.200E-01	2.620E-01	3.145E-02	3.249
	+	583.14	*	5.891E-01	1.257E-01	8.003E-02	7.329E-03	7.360
	+	860.37		6.615E-01	4.700E-01	5.843E-01	5.714E-02	1.132
BI-211		72.87		1.303E+01	6.147E+00	8.875E+00	1.017E+00	1.468
	+	351.07	*	4.945E+00	7.857E-01	4.253E-01	4.235E-02	11.628
PB-212	+	74.81		2.628E+00	8.928E-01	8.918E-01	1.322E-01	2.947
	+	77.11		2.353E+00	4.714E-01	4.917E-01	5.699E-02	4.786
	+	87.30		5.763E-01	8.790E-01	1.007E+00	1.600E-01	0.572
	+	238.63	*	2.250E+00	3.056E-01	1.115E-01	1.328E-02	20.183
	+	300.09		2.624E+00	1.231E+00	1.585E+00	1.914E-01	1.656
PO-212	+	74.81		2.628E+00	8.928E-01	8.918E-01	1.322E-01	2.947
	+	77.11		2.353E+00	4.714E-01	4.917E-01	5.699E-02	4.786
	+	87.30		5.763E-01	8.790E-01	1.007E+00	1.600E-01	0.572
		115.19		2.235E+00	4.676E+00	7.742E+00	7.836E-01	0.289
	+	238.63	*	2.250E+00	3.056E-01	1.115E-01	1.328E-02	20.183
	+	300.09		2.624E+00	1.231E+00	1.585E+00	1.914E-01	1.656
BI-214	+	609.31	*	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757
	+	1120.29		1.643E+00	6.796E-01	5.918E-01	6.379E-02	2.776
	+	1764.49		1.371E+00	6.206E-01	3.239E-01	2.840E-02	4.233
PB-214	+	74.81		4.528E+00	1.516E+00	1.537E+00	2.102E-01	2.947
	+	77.11		4.034E+00	8.646E-01	8.429E-01	1.169E-01	4.786
	+	87.30		9.873E-01	1.504E+00	1.725E+00	2.511E-01	0.572
	+	241.98		3.055E+00	9.436E-01	6.711E-01	8.303E-02	4.552
	+	295.21		1.790E+00	4.058E-01	2.767E-01	3.412E-02	6.468
	+	351.92	*	1.720E+00	2.877E-01	1.482E-01	1.664E-02	11.607
PO-214	+	74.81		4.528E+00	1.516E+00	1.537E+00	2.102E-01	2.947
	+	77.11		4.034E+00	8.646E-01	8.429E-01	1.169E-01	4.786
	+	87.30		9.873E-01	1.504E+00	1.725E+00	2.511E-01	0.572

Sample ID : G246557001 Acquisition date : 19-FEB-2010 13:07:20

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		3.055E+00	9.436E-01	6.711E-01	8.303E-02	4.552
	+	295.21		1.790E+00	4.058E-01	2.767E-01	3.412E-02	6.468
	+	351.92	*	1.720E+00	2.877E-01	1.482E-01	1.664E-02	11.607
PO-216	+	74.81		2.628E+00	8.928E-01	8.918E-01	1.322E-01	2.947
	+	77.11		2.353E+00	4.714E-01	4.917E-01	5.699E-02	4.786
	+	87.30		5.763E-01	8.790E-01	1.007E+00	1.600E-01	0.572
	+	238.63	*	2.250E+00	3.056E-01	1.115E-01	1.328E-02	20.183
	+	300.09		2.624E+00	1.231E+00	1.585E+00	1.914E-01	1.656
PO-218	+	74.81		4.528E+00	1.516E+00	1.537E+00	2.102E-01	2.947
	+	77.11		4.034E+00	8.646E-01	8.429E-01	1.169E-01	4.786
	+	87.30		9.873E-01	1.504E+00	1.725E+00	2.511E-01	0.572
	+	241.98		3.055E+00	9.436E-01	6.711E-01	8.303E-02	4.552
	+	295.21		1.790E+00	4.058E-01	2.767E-01	3.412E-02	6.468
	+	351.92	*	1.720E+00	2.877E-01	1.482E-01	1.664E-02	11.607
RA-224	+	240.98	*	5.792E+00	1.759E+00	1.269E+00	1.399E-01	4.566
RA-226	+	609.31	*	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757
	+	1120.29		1.643E+00	6.796E-01	5.918E-01	6.379E-02	2.776
	+	1764.49		1.371E+00	6.206E-01	3.239E-01	2.840E-02	4.233
AC-228	+	338.32		2.269E+00	1.136E+00	4.774E-01	1.983E-01	4.752
	+	911.07	*	2.001E+00	4.289E-01	2.865E-01	3.375E-02	6.983
	+	969.11		2.276E+00	6.933E-01	4.603E-01	1.084E-01	4.945
RA-228	+	338.32		2.269E+00	1.136E+00	4.774E-01	1.983E-01	4.752
	+	911.07	*	2.001E+00	4.289E-01	2.865E-01	3.375E-02	6.983
	+	969.11		2.276E+00	6.933E-01	4.603E-01	1.084E-01	4.945
TH-228	+	74.81		2.670E+00	8.727E-01	9.061E-01	1.047E-01	2.947
	+	77.11		2.391E+00	4.790E-01	4.996E-01	5.791E-02	4.786
	+	87.30		5.856E-01	8.912E-01	1.023E+00	1.263E-01	0.572
	+	238.63	*	2.287E+00	3.106E-01	1.133E-01	1.349E-02	20.183
	+	300.09		2.667E+00	1.997E+00	1.610E+00	9.595E-01	1.656
TH-230	+	609.31	*	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757
	+	1120.29		1.643E+00	6.796E-01	5.918E-01	6.379E-02	2.776
	+	1764.49		1.371E+00	6.206E-01	3.239E-01	2.840E-02	4.233
TH-232	+	338.32		2.269E+00	6.724E-01	4.774E-01	4.706E-02	4.752
	+	911.07	*	2.001E+00	4.289E-01	2.865E-01	3.375E-02	6.983
	+	969.11		2.276E+00	6.933E-01	4.603E-01	1.084E-01	4.945
U-234	+	609.31	*	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757
	+	1120.29		1.643E+00	6.796E-01	5.918E-01	6.379E-02	2.776
	+	1764.49		1.371E+00	6.206E-01	3.239E-01	2.840E-02	4.233
NP-237	+	86.50	*	3.659E-01	5.620E-01	6.120E-01	1.469E-01	0.598
		95.87		2.533E-01	1.480E+00	2.138E+00	5.485E-01	0.118
AM-243	+	74.67	*	4.261E-01	1.392E-01	1.466E-01	1.686E-02	2.905
	+	86.72		1.372E+01	2.088E+01	2.286E+01	2.809E+00	0.600
		117.66		-2.864E-02	5.031E+00	8.182E+00	8.254E-01	-0.004
		142.18		1.037E+01	2.404E+01	3.946E+01	4.005E+00	0.263
ANH-511	+	511.00	*	1.839E-01	8.941E-02	5.661E-02	4.891E-03	3.248

---- 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	*	6.080E-01	4.306E-01	7.582E-01	7.049E-02	0.802

---- 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	*	-3.918E-02	5.962E-02	8.979E-02	8.157E-03	-0.436
NA-24		1368.53	*	-1.044E+00	5.962E-02	Half-Life too short		
AL-26		1129.67		-1.538E+00	2.165E+00	3.281E+00	2.771E-01	-0.469
		1808.65	*	-1.943E-02	3.420E-02	4.919E-02	4.208E-03	-0.395
TI-44		67.85		-6.384E-02	9.188E-02	1.276E-01	1.456E-02	-0.500
	+	78.38	*	4.343E-01	8.699E-02	1.178E-01	1.372E-02	3.687
SC-46		889.25	*	1.901E-02	4.981E-02	8.486E-02	7.886E-03	0.224
	+	1120.51		2.834E-01	1.157E-01	1.680E-01	1.428E-02	1.687
V-48		944.10		2.169E-01	1.185E+00	1.981E+00	1.832E-01	0.109
		983.50	*	-7.821E-02	9.556E-02	1.446E-01	1.322E-02	-0.541
		1312.09		-1.337E-02	1.044E-01	1.659E-01	1.563E-02	-0.081
CR-51		320.08	*	-2.029E-02	5.163E-01	8.554E-01	9.084E-02	-0.024
MN-52		744.21		1.373E-01	3.137E-01	5.408E-01	4.681E-02	0.254
		848.13		4.525E+00	9.588E+00	1.646E+01	1.503E+00	0.275
		935.52		4.664E-01	3.655E-01	6.598E-01	6.112E-02	0.707
		1246.25		-8.571E+00	1.338E+01	1.693E+01	1.492E+00	-0.506
		1333.61		6.503E+00	6.905E+00	1.234E+01	1.186E+00	0.527
		1434.06	*	7.138E-03	2.654E-01	4.442E-01	4.276E-02	0.016
MN-54		834.83	*	1.893E-02	5.117E-02	8.695E-02	7.890E-03	0.218
CO-56		846.75	*	-5.706E-04	4.945E-02	8.182E-02	7.466E-03	-0.007
		977.42		9.019E-01	3.726E+00	6.252E+00	5.727E-01	0.144
		1037.82		-2.533E-01	3.993E-01	6.130E-01	5.754E-02	-0.413
		1175.09		1.544E+00	3.242E+00	5.462E+00	4.455E-01	0.283
		1238.25		2.120E-01	1.452E-01	2.301E-01	2.067E-02	0.921
		1360.21		1.636E-03	1.120E+00	1.873E+00	1.804E-01	0.001
		1771.40		-1.355E+00	4.520E-01	3.795E-01	3.315E-02	-3.570
CO-57		122.06	*	-5.265E-03	3.404E-02	5.498E-02	5.539E-03	-0.096
		136.48		-1.851E-01	2.788E-01	4.385E-01	4.663E-02	-0.422
CO-58		810.76	*	-4.919E-02	4.922E-02	7.451E-02	6.698E-03	-0.660
FE-59		142.65		1.531E+00	3.860E+00	6.246E+00	6.344E-01	0.245
		192.34		-1.698E+00	1.638E+00	2.122E+00	3.176E-01	-0.800
		1099.22	*	-3.032E-02	1.256E-01	2.005E-01	1.871E-02	-0.151
		1291.56		5.557E-02	1.632E-01	2.726E-01	2.816E-02	0.204
CO-60		1173.22		3.728E-02	6.412E-02	1.089E-01	8.862E-03	0.342
		1332.49	*	4.779E-02	5.106E-02	9.065E-02	8.715E-03	0.527
ZN-65		1115.52	*	-1.028E-01	1.365E-01	1.709E-01	1.460E-02	-0.602
GE-68		1077.35	*	7.675E-01	1.615E+00	2.747E+00	2.405E-01	0.279
AS-73		53.44	*	-6.033E-01	2.252E+00	3.698E+00	4.802E-01	-0.163
AS-74		595.88	*	-2.794E-02	1.145E-01	1.810E-01	1.538E-02	-0.154
		634.78		-2.631E-01	4.597E-01	7.021E-01	5.863E-02	-0.375
SE-75	+	66.05		4.005E+01	2.005E+01	1.425E+01	1.830E+00	2.811
		96.73		-2.526E-01	1.204E+00	1.707E+00	2.616E-01	-0.148
		121.11		7.885E-02	1.827E-01	3.015E-01	3.728E-02	0.262
		136.00		-2.263E-02	5.228E-02	8.314E-02	8.415E-03	-0.272
		198.60		-4.982E-01	2.614E+00	4.145E+00	4.838E-01	-0.120
		264.65	*	4.501E-03	6.348E-02	9.281E-02	1.018E-02	0.048
		279.53		6.280E-02	1.515E-01	2.571E-01	2.845E-02	0.244
		303.91		2.257E+00	2.943E+00	4.472E+00	5.790E-01	0.505
		400.65		-1.986E-01	3.523E-01	5.597E-01	6.147E-02	-0.355

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		3.593E+02	5.467E+02	6.465E+02	8.022E+01	0.556
		200.40		-1.704E+01	3.082E+02	4.913E+02	5.367E+01	-0.035
	+	239.00		4.740E+02	6.076E+01	6.595E+01	7.275E+00	7.187
		249.79		6.503E+01	1.166E+02	1.997E+02	2.199E+01	0.326
		281.68		-2.437E+02	1.679E+02	2.587E+02	2.791E+01	-0.942
		297.23		7.807E+02	1.699E+02	2.254E+02	2.389E+01	3.464
		303.76		2.671E+02	3.275E+02	4.997E+02	5.249E+01	0.535
		439.47		1.898E+01	2.400E+02	3.948E+02	3.384E+01	0.048
		484.57		1.345E+02	4.001E+02	6.657E+02	5.749E+01	0.202
		520.65	*	-1.875E+00	1.779E+01	2.694E+01	2.327E+00	-0.070
		574.64		-2.646E+02	3.592E+02	5.476E+02	4.684E+01	-0.483
		578.91		1.544E+02	1.748E+02	2.632E+02	2.249E+01	0.587
		585.48		2.815E+03	5.093E+02	8.671E+02	7.393E+01	3.247
		755.35		3.832E+01	2.568E+02	4.329E+02	3.771E+01	0.089
		817.79		3.455E+01	2.199E+02	3.694E+02	3.325E+01	0.094
SR-82		698.33		-2.670E+01	4.237E+01	6.759E+01	5.691E+00	-0.395
		776.49	*	-1.629E-01	5.782E-01	7.978E-01	7.031E-02	-0.204
		1395.20		-8.276E+00	1.396E+01	2.156E+01	2.077E+00	-0.384
RB-83		520.41	*	-1.367E-02	9.327E-02	1.351E-01	1.167E-02	-0.101
		529.64		-7.060E-02	1.352E-01	2.106E-01	1.817E-02	-0.335
		552.65		6.224E-02	2.724E-01	4.478E-01	3.850E-02	0.139
RB-84		881.50	*	-2.215E-02	8.371E-02	1.349E-01	1.250E-02	-0.164
KR-85		513.99	*	2.756E+01	1.102E+01	1.827E+01	1.578E+00	1.509
SR-85		513.99	*	1.427E-01	5.707E-02	9.457E-02	8.171E-03	1.509
RB-86		1076.63	*	3.846E-01	1.064E+00	1.793E+00	1.570E-01	0.215
Y-88		898.02		6.391E-03	5.282E-02	8.705E-02	8.152E-03	0.073
		1836.01	*	-3.867E-03	4.040E-02	6.502E-02	5.476E-03	-0.059
ZR-88		392.90	*	-5.398E-02	4.259E-02	6.459E-02	5.437E-03	-0.836
Y-91		1204.90	*	1.159E+01	2.835E+01	4.737E+01	3.993E+00	0.245
NB-94		702.63	*	1.563E-02	4.293E-02	7.351E-02	6.206E-03	0.213
		871.10		-2.787E-03	4.344E-02	7.145E-02	6.590E-03	-0.039
NB-95		765.79	*	5.766E-02	6.559E-02	1.016E-01	8.905E-03	0.567
NB-95M		235.69	*	5.778E-01	2.007E-01	3.179E-01	3.825E-02	1.818
ZR-95		724.18		-1.094E-01	1.292E-01	2.034E-01	1.892E-02	-0.538
		756.15	*	-3.860E-02	8.592E-02	1.380E-01	1.322E-02	-0.280
NB-97		657.90	*	-1.561E-01	8.592E-02	Half-Life too short		
		1024.50		4.004E+01	8.592E-02	Half-Life too short		
ZR-97		254.15		-5.670E+00	8.592E-02	Half-Life too short		
		355.39		2.490E+01	8.592E-02	Half-Life too short		
		507.63	*	1.348E+01	8.592E-02	Half-Life too short		
		602.52		-8.270E+00	8.592E-02	Half-Life too short		
		1021.30		1.189E+01	8.592E-02	Half-Life too short		
		1147.95		-6.329E+00	8.592E-02	Half-Life too short		
		1362.66		3.527E+00	8.592E-02	Half-Life too short		
		1750.46		-1.283E+01	8.592E-02	Half-Life too short		
MO-99		140.51		-5.220E+01	4.782E+01	7.039E+01	1.985E+01	-0.741
		181.06		6.048E+00	3.394E+01	4.792E+01	9.299E+00	0.126
		366.43		1.557E+02	1.456E+02	2.528E+02	2.317E+01	0.616
		739.58	*	-3.335E+00	1.705E+01	2.798E+01	4.250E+00	-0.119

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		778.00		-2.186E+01	6.017E+01	8.632E+01	7.614E+00	-0.253
TC-99M		140.51	*	-7.838E+11	6.017E+01	Half-Life too short		
RH-101		127.23		3.659E-02	4.355E-02	7.260E-02	7.285E-03	0.504
		198.01	*	1.721E-02	4.877E-02	7.666E-02	8.363E-03	0.225
		325.23		-1.283E-01	3.198E-01	5.204E-01	5.273E-02	-0.247
RH-102		418.52		-2.082E-03	3.623E-01	5.942E-01	5.058E-02	-0.004
		475.06	*	-2.942E-02	3.864E-02	5.969E-02	5.150E-03	-0.493
		631.29		-2.693E-02	6.998E-02	1.089E-01	9.111E-03	-0.247
		697.49		-2.689E-02	9.034E-02	1.479E-01	1.244E-02	-0.182
		766.84		1.287E-01	1.751E-01	2.670E-01	2.341E-02	0.482
		1046.59		-4.670E-02	1.387E-01	2.192E-01	1.952E-02	-0.213
		1112.84		1.081E-03	3.335E-01	4.658E-01	3.983E-02	0.002
RU-103		497.08	*	-2.316E-02	5.379E-02	8.476E-02	1.201E-02	-0.273
	+	610.33		1.497E+01	3.543E+00	3.711E+00	6.159E-01	4.035
RH-106	+	511.85		9.201E-01	4.474E-01	5.599E-01	4.838E-02	1.643
		621.84	*	1.834E-01	3.829E-01	6.388E-01	8.445E-02	0.287
		1050.47		-4.620E-01	2.784E+00	4.479E+00	3.979E-01	-0.103
RU-106	+	511.85		9.201E-01	4.474E-01	5.599E-01	4.838E-02	1.643
		621.84	*	1.834E-01	3.824E-01	6.388E-01	5.369E-02	0.287
		1050.47		-4.620E-01	2.784E+00	4.479E+00	3.979E-01	-0.103
AG-108M		433.93	*	-8.699E-03	3.985E-02	6.431E-02	5.724E-03	-0.135
		614.37		5.533E-02	4.680E-02	7.393E-02	6.490E-03	0.748
		722.95		-1.565E-01	6.102E-02	8.185E-02	7.276E-03	-1.912
AG-110M		657.75	*	-2.636E-02	4.335E-02	6.957E-02	5.920E-03	-0.379
		677.61		2.006E-01	3.825E-01	6.638E-01	5.682E-02	0.302
		706.67		1.685E-01	2.844E-01	4.926E-01	4.289E-02	0.342
		763.93		1.572E-01	2.338E-01	3.584E-01	3.223E-02	0.439
		884.67		1.335E-02	5.910E-02	9.959E-02	9.495E-03	0.134
		937.48		-5.078E-02	1.437E-01	2.294E-01	2.191E-02	-0.221
		1384.27		8.718E-02	2.106E-01	3.244E-01	3.196E-02	0.269
IN-111		171.28		1.386E-01	1.724E+00	2.780E+00	2.978E-01	0.050
		245.39	*	6.439E-02	1.982E+00	2.900E+00	3.196E-01	0.022
IN-113M		391.69	*	-5.093E-02	6.120E-02	9.572E-02	8.314E-03	-0.532
SN-113		391.69	*	-5.093E-02	6.120E-02	9.572E-02	8.314E-03	-0.532
IN-114M		190.27	*	-1.791E-01	3.059E-01	4.098E-01	4.449E-02	-0.437
CD-115		260.90		7.608E+01	2.253E+02	3.825E+02	4.191E+01	0.199
		492.35		-9.962E+00	6.327E+01	1.019E+02	8.804E+00	-0.098
		527.90	*	-8.280E+00	1.822E+01	2.854E+01	2.463E+00	-0.290
SN-117M		156.02		4.394E-01	3.282E+00	5.319E+00	5.544E-01	0.083
		158.56	*	-1.658E-02	7.920E-02	1.265E-01	1.327E-02	-0.131
SB-122		563.90	*	9.504E-01	3.515E+00	5.787E+00	4.964E-01	0.164
		692.80		-1.607E+01	6.629E+01	1.090E+02	9.146E+00	-0.147
I-123		159.00	*	1.139E-02	6.629E+01	Half-Life too short		
		528.96		-2.301E+02	6.629E+01	Half-Life too short		
TE-123M		159.00	*	1.741E-05	3.898E-02	6.281E-02	6.618E-03	0.000
I-124		602.71	*	-3.722E-01	1.127E+00	1.508E+00	1.278E-01	-0.247
		722.78		-1.923E+01	7.415E+00	9.935E+00	8.492E-01	-1.936
		1325.50		-3.583E+01	5.450E+01	8.085E+01	7.720E+00	-0.443
	+	1376.25		8.668E+01	5.291E+01	8.997E+01	8.668E+00	0.963

---- Non-Identified Nuclides ----

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		1509.49		2.756E+01	2.135E+01	4.104E+01	3.919E+00	0.671
		1691.02		2.390E+00	5.884E+00	1.031E+01	9.352E-01	0.232
SB-124		602.71		-1.874E-02	5.675E-02	7.595E-02	6.437E-03	-0.247
		645.85		-1.888E-01	6.497E-01	1.018E+00	8.994E-02	-0.185
		709.31		-1.321E+00	3.853E+00	6.297E+00	5.338E-01	-0.210
		713.82		-1.673E+00	2.200E+00	3.468E+00	4.146E-01	-0.482
		722.78		-1.404E+00	5.418E-01	7.252E-01	6.334E-02	-1.936
	+	968.20		2.369E+01	5.065E+00	9.626E+00	8.843E-01	2.461
		1045.16		-2.151E-01	2.947E+00	4.787E+00	4.265E-01	-0.045
		1325.50		-2.793E+00	4.249E+00	6.303E+00	6.019E-01	-0.443
		1368.21		-4.310E-01	1.880E+00	2.979E+00	4.214E-01	-0.145
		1436.60		2.979E-01	3.756E+00	6.339E+00	6.101E-01	0.047
		1691.02	*	4.115E-02	1.013E-01	1.774E-01	1.668E-02	0.232
SB-125		427.89	*	-3.420E-02	1.172E-01	1.885E-01	1.642E-02	-0.181
	+	463.38		9.829E-01	5.374E-01	7.477E-01	6.947E-02	1.314
		600.56		-1.226E-02	2.309E-01	3.483E-01	3.179E-02	-0.035
		635.90		-1.654E-02	3.291E-01	5.265E-01	4.772E-02	-0.031
TE-125M		109.28	*	8.995E-01	1.280E+01	2.092E+01	2.457E+00	0.043
I-126		388.63		1.673E-01	2.818E-01	4.788E-01	4.075E-02	0.349
		666.33	*	-8.309E-02	2.551E-01	4.189E-01	3.455E-02	-0.198
		753.82		1.392E+00	1.872E+00	3.288E+00	2.861E-01	0.423
SB-126		223.80		1.950E+00	5.842E+00	9.947E+00	1.097E+00	0.196
		278.60		3.616E+00	3.601E+00	6.226E+00	6.736E-01	0.581
	+	296.50		1.877E+01	4.090E+00	4.924E+00	5.224E-01	3.812
		414.70		-5.011E-02	1.072E-01	1.710E-01	1.454E-02	-0.293
		415.30		-5.248E-01	8.697E+00	1.422E+01	1.209E+00	-0.037
		555.20		-3.542E+00	5.770E+00	8.921E+00	7.667E-01	-0.397
		573.80		-1.207E+00	1.419E+00	2.140E+00	1.831E-01	-0.564
		593.00		-1.091E+00	1.212E+00	1.805E+00	1.535E-01	-0.604
		656.30		-3.637E+00	4.314E+00	6.786E+00	5.598E-01	-0.536
		666.33		-3.479E-02	1.068E-01	1.754E-01	1.447E-02	-0.198
		675.00		8.583E-01	2.586E+00	4.434E+00	3.678E-01	0.194
		695.00		5.821E-02	9.516E-02	1.661E-01	1.396E-02	0.350
		697.00		-3.187E-02	3.347E-01	5.562E-01	4.679E-02	-0.057
		720.50	*	-9.123E-02	1.978E-01	3.196E-01	2.728E-02	-0.285
		856.80		-1.295E-01	7.171E-01	9.983E-01	9.150E-02	-0.130
		989.30		1.151E+00	1.641E+00	2.860E+00	2.609E-01	0.402
		1034.80		1.379E+01	1.147E+01	2.074E+01	1.857E+00	0.665
		1213.00		-2.505E+00	7.049E+00	1.110E+01	9.438E-01	-0.226
SB-127		61.10		-5.766E+01	1.517E+02	2.161E+02	2.944E+01	-0.267
		252.40		-8.166E-01	6.899E+00	1.149E+01	4.900E+00	-0.071
		290.80		-2.312E+01	3.735E+01	5.158E+01	6.740E+00	-0.448
		411.60		9.353E+00	1.988E+01	3.339E+01	5.294E+00	0.280
		444.90		-4.475E+00	1.524E+01	2.445E+01	3.119E+00	-0.183
		473.00		-2.243E+00	2.562E+00	3.900E+00	5.115E-01	-0.575
		543.00		4.031E+00	2.351E+01	3.859E+01	5.638E+00	0.104
		603.60		-4.921E+00	1.962E+01	2.648E+01	3.352E+00	-0.186
		685.20	*	5.698E-01	1.997E+00	3.411E+00	3.909E-01	0.167
		698.50		-1.675E+01	2.208E+01	3.468E+01	5.518E+00	-0.483

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		722.20		-1.203E+02	5.152E+01	6.951E+01	7.913E+00	-1.730
		783.80		8.022E+00	5.669E+00	1.018E+01	1.306E+00	0.788
XE-127		57.60		1.620E+01	1.526E+01	2.434E+01	2.861E+00	0.666
		145.22		1.362E+00	1.006E+00	1.669E+00	1.703E-01	0.816
		172.10		-8.605E-03	1.657E-01	2.656E-01	2.847E-02	-0.032
		202.84	*	2.420E-03	7.435E-02	1.097E-01	1.200E-02	0.022
		374.96		-9.545E-02	2.623E-01	4.233E-01	3.776E-02	-0.226
I-131		80.18		-2.725E+00	8.547E+00	1.214E+01	1.433E+00	-0.224
		284.30		2.096E+00	2.174E+00	3.763E+00	4.187E-01	0.557
		364.48	*	1.966E-01	1.695E-01	2.953E-01	2.853E-02	0.666
		636.97		1.877E-01	2.057E+00	3.330E+00	2.945E-01	0.056
		722.89		-2.864E+01	1.111E+01	1.491E+01	1.284E+00	-1.920
TE-132		49.72		-6.513E+01	7.636E+01	1.216E+02	1.860E+01	-0.536
		111.76		-1.829E+01	4.838E+01	7.763E+01	9.603E+00	-0.236
		116.30		1.089E+01	4.399E+01	7.225E+01	8.882E+00	0.151
		228.16	*	2.217E-01	1.107E+00	1.876E+00	3.248E-01	0.118
BA-133		53.15		-2.655E+00	9.769E+00	1.604E+01	2.095E+00	-0.165
		79.62		3.764E+00	2.376E+00	3.522E+00	6.048E-01	1.069
		81.00		-2.236E-01	2.079E-01	2.310E-01	4.114E-02	-0.968
		276.40		7.205E-01	5.350E-01	9.018E-01	1.431E-01	0.799
		302.84		2.512E-01	2.128E-01	3.277E-01	4.782E-02	0.766
		356.01	*	3.693E-02	5.998E-02	9.004E-02	1.238E-02	0.410
		383.85		-1.588E-01	4.132E-01	6.654E-01	8.404E-02	-0.239
I-133	+	510.53		3.935E+00	4.132E-01	Half-Life too short		
		529.87	*	-7.815E-03	4.132E-01	Half-Life too short		
		706.58		9.836E-01	4.132E-01	Half-Life too short		
		856.28		-5.125E-01	4.132E-01	Half-Life too short		
		875.33		8.004E-02	4.132E-01	Half-Life too short		
		1236.41		3.685E+00	4.132E-01	Half-Life too short		
		1298.22		8.522E-01	4.132E-01	Half-Life too short		
CS-134		475.35		-1.545E+00	2.538E+00	3.967E+00	3.423E-01	-0.389
		563.23		9.232E-02	4.734E-01	7.759E-01	6.721E-02	0.119
		569.32		-4.170E-02	2.535E-01	4.047E-01	3.514E-02	-0.103
		604.70		-1.837E-02	4.885E-02	6.504E-02	5.522E-03	-0.282
		795.84	*	5.067E-02	6.407E-02	1.118E-01	1.002E-02	0.453
		801.93		-2.293E-02	5.326E-01	8.821E-01	7.918E-02	-0.026
		1038.57		-2.646E+00	4.813E+00	7.447E+00	6.656E-01	-0.355
		1167.94		-3.893E-01	3.448E+00	5.549E+00	4.538E-01	-0.070
		1365.15		-2.853E-01	1.284E+00	2.080E+00	2.077E-01	-0.137
CS-135		268.24	*	3.583E-01	2.363E-01	3.698E-01	4.437E-02	0.969
I-135		288.45		9.377E+10	2.363E-01	Half-Life too short		
		417.63		2.004E+11	2.363E-01	Half-Life too short		
		546.56		-1.054E+11	2.363E-01	Half-Life too short		
		836.80		2.678E+11	2.363E-01	Half-Life too short		
		1038.76		-1.368E+11	2.363E-01	Half-Life too short		
		1124.00		7.119E+11	2.363E-01	Half-Life too short		
		1131.51		-3.287E+10	2.363E-01	Half-Life too short		
		1260.41	*	-9.996E+09	2.363E-01	Half-Life too short		
		1457.56		1.021E+13	2.363E-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
		1678.03		4.073E+10	2.363E-01	Half-Life too short		
		1706.46		-1.219E+11	2.363E-01	Half-Life too short		
		1791.20		1.128E+11	2.363E-01	Half-Life too short		
CS-136		66.91		4.832E-01	1.420E+00	2.341E+00	4.016E-01	0.206
	+	86.29		1.708E+00	2.604E+00	3.119E+00	4.841E-01	0.548
		153.22		5.385E-01	9.400E-01	1.547E+00	1.735E-01	0.348
		163.89		1.162E-01	1.525E+00	2.420E+00	2.777E-01	0.048
		176.55		6.104E-02	5.418E-01	8.736E-01	9.746E-02	0.070
		273.65		-1.078E+00	7.789E-01	1.022E+00	1.157E-01	-1.054
		340.57		6.929E-01	2.272E-01	3.700E-01	3.711E-02	1.873
		818.51		3.929E-02	9.699E-02	1.661E-01	1.497E-02	0.237
		1048.07	*	-6.565E-02	1.365E-01	2.123E-01	1.964E-02	-0.309
		1235.34		9.274E-01	9.817E-01	1.491E+00	1.776E-01	0.622
BA-137M		661.65	*	4.163E-02	4.751E-02	8.383E-02	6.892E-03	0.497
CS-137		661.65	*	4.401E-02	5.022E-02	8.861E-02	7.300E-03	0.497
CE-139		165.85	*	1.557E-02	4.066E-02	6.637E-02	7.085E-03	0.235
BA-140		162.64		-4.814E-01	1.092E+00	1.696E+00	1.865E-01	-0.284
		304.84		7.835E-01	1.919E+00	2.836E+00	8.128E-01	0.276
		423.70		5.438E-01	2.565E+00	4.251E+00	1.377E+00	0.128
		537.32	*	-1.356E-01	3.252E-01	5.046E-01	1.672E-01	-0.269
LA-140		328.77		8.654E-01	4.474E-01	7.890E-01	8.267E-02	1.097
		432.53		-8.132E-01	2.701E+00	4.336E+00	3.892E-01	-0.188
		487.03		1.302E-01	1.907E-01	3.237E-01	2.969E-02	0.402
		751.79		2.812E-01	2.177E+00	3.665E+00	3.521E-01	0.077
		815.85		-1.135E-01	4.218E-01	6.843E-01	6.808E-02	-0.166
		867.82		-8.320E-01	2.037E+00	2.988E+00	2.880E-01	-0.278
		919.63		9.053E-01	3.900E+00	6.104E+00	6.836E-01	0.148
		925.24		-1.274E-01	1.436E+00	2.347E+00	2.298E-01	-0.054
		1596.49	*	-6.569E-02	1.153E-01	1.753E-01	1.643E-02	-0.375
CE-141		145.44	*	9.792E-02	9.184E-02	1.513E-01	1.564E-02	0.647
CE-143		57.37		4.404E-03	9.184E-02	Half-Life too short		
		231.56		-4.639E-03	9.184E-02	Half-Life too short		
		293.26	*	1.649E-03	9.184E-02	Half-Life too short		
		350.59		5.452E-02	9.184E-02	Half-Life too short		
		490.36		-2.741E-03	9.184E-02	Half-Life too short		
		664.57		2.593E-03	9.184E-02	Half-Life too short		
		721.93		-6.623E-03	9.184E-02	Half-Life too short		
CE-144		80.11		-6.614E-01	3.655E+00	5.228E+00	6.144E-01	-0.127
		133.54	*	-1.729E-01	2.819E-01	4.438E-01	7.280E-02	-0.390
PM-144		476.78		8.754E-02	8.981E-02	1.548E-01	1.461E-02	0.566
		618.01		-3.090E-02	4.276E-02	5.735E-02	4.968E-03	-0.539
		696.49	*	7.076E-03	4.042E-02	6.851E-02	5.764E-03	0.103
		778.57		-2.764E+00	3.199E+00	4.515E+00	3.985E-01	-0.612
PR-144		696.49	*	4.798E-01	2.741E+00	4.645E+00	3.906E-01	0.103
		1489.15		-9.951E-01	1.402E+01	2.308E+01	2.210E+00	-0.043
PM-146		453.90	*	-4.514E-03	5.893E-02	9.587E-02	1.027E-02	-0.047
		633.02		-2.153E-01	1.758E+00	2.794E+00	1.043E+00	-0.077
		735.90		6.764E-02	1.693E-01	2.897E-01	8.287E-02	0.233
		747.13		-8.590E-02	1.128E-01	1.758E-01	2.473E-02	-0.489

---- Non-Identified Nuclides ----

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ND-147		91.11		7.308E-01	7.070E-01	7.765E-01	9.613E-02	0.941
		319.41		-1.413E+00	4.699E+00	7.680E+00	7.867E-01	-0.184
		439.89		8.167E-01	7.819E+00	1.288E+01	1.105E+00	0.063
		531.02	*	5.314E-01	7.458E-01	1.265E+00	1.892E-01	0.420
PM-149		285.90	*	4.600E+01	1.654E+02	2.790E+02	4.691E+01	0.165
EU-152		121.78		-8.074E-03	9.884E-02	1.601E-01	1.794E-02	-0.050
		244.69		1.922E-01	5.138E-01	7.656E-01	8.439E-02	0.251
		344.27	*	3.180E-02	1.840E-01	2.119E-01	2.157E-02	0.150
		443.98		7.741E-02	1.228E+00	2.018E+00	1.732E-01	0.038
		778.89		-3.338E-01	3.552E-01	5.147E-01	4.542E-02	-0.649
		867.32		-3.871E-01	1.186E+00	1.691E+00	1.557E-01	-0.229
	+	964.01		1.057E+00	4.858E-01	7.415E-01	6.820E-02	1.426
		1085.78		-9.969E-03	5.193E-01	8.461E-01	7.368E-02	-0.012
		1112.02		9.533E-02	4.540E-01	6.772E-01	5.795E-02	0.141
		1407.95		8.462E-02	2.172E-01	3.792E-01	3.653E-02	0.223
GD-153		69.67		2.838E-01	3.626E+00	4.448E+00	5.077E-01	0.064
		83.37		9.670E+00	2.514E+01	3.677E+01	4.408E+00	0.263
		97.43	*	-6.545E-03	1.234E-01	1.764E-01	1.947E-02	-0.037
		103.18		-8.136E-02	1.452E-01	2.318E-01	2.450E-02	-0.351
EU-154		123.07		2.477E-02	6.899E-02	1.135E-01	1.418E-02	0.218
		247.94		2.328E-01	5.510E-01	8.235E-01	1.101E-01	0.283
		591.81		-4.309E-01	8.562E-01	1.182E+00	1.370E-01	-0.365
		723.30		-4.878E-01	2.475E-01	3.519E-01	3.331E-02	-1.386
		756.87		-2.116E-01	9.250E-01	1.513E+00	1.823E-01	-0.140
		873.19		3.812E-01	3.635E-01	6.490E-01	8.231E-02	0.587
		996.32		-5.323E-01	4.729E-01	6.768E-01	1.218E-01	-0.787
		1004.76		-2.467E-02	2.706E-01	4.402E-01	5.272E-02	-0.056
		1274.45	*	-1.197E-01	1.673E-01	2.499E-01	2.915E-02	-0.479
EU-155		48.70		-1.323E+00	8.240E+00	1.361E+01	1.827E+00	-0.097
		60.01		-7.018E+00	1.162E+01	1.635E+01	1.846E+00	-0.429
	+	86.54		1.501E-01	2.285E-01	2.723E-01	3.359E-02	0.551
		105.31	*	5.705E-02	1.472E-01	2.434E-01	2.564E-02	0.234
TB-160	+	86.79		4.045E-01	6.155E-01	7.286E-01	8.959E-02	0.555
		197.04		5.289E-01	8.439E-01	1.340E+00	1.461E-01	0.395
		215.65		-4.736E-01	1.048E+00	1.634E+00	1.797E-01	-0.290
		298.57		5.264E-01	2.282E-01	2.818E-01	2.982E-02	1.868
		879.36	*	-6.674E-02	1.656E-01	2.632E-01	2.436E-02	-0.254
		962.29		1.154E+00	7.527E-01	1.235E+00	1.136E-01	0.934
	+	966.15		7.325E-01	3.365E-01	7.146E-01	6.568E-02	1.025
		1177.93		2.199E-01	5.122E-01	8.604E-01	7.040E-02	0.256
		1271.85		-1.886E-01	9.832E-01	1.559E+00	1.411E-01	-0.121
HO-166M		80.57		-4.125E-01	5.022E-01	6.424E-01	7.569E-02	-0.642
	+	184.41		1.643E-01	9.017E-02	9.171E-02	9.917E-03	1.792
		280.46		-9.575E-02	1.181E-01	1.894E-01	2.046E-02	-0.506
		410.95		3.041E-01	3.336E-01	5.733E-01	4.866E-02	0.530
		711.68	*	-3.152E-02	7.975E-02	1.296E-01	1.101E-02	-0.243
		752.31		1.949E-01	3.339E-01	5.803E-01	5.046E-02	0.336
		810.29		-2.567E-02	7.180E-02	1.156E-01	1.037E-02	-0.222
TM-171		51.35		-5.374E+01	8.893E+01	1.437E+02	1.938E+01	-0.374

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		52.39		-1.994E+01	4.411E+01	7.185E+01	9.528E+00	-0.277
		59.40		-1.820E+01	6.366E+01	9.123E+01	1.028E+01	-0.199
		66.72	*	1.861E+01	4.944E+01	8.170E+01	9.325E+00	0.228
LU-176	+	88.36		2.956E-01	4.498E-01	5.415E-01	6.686E-02	0.546
		201.83		-1.921E-02	4.174E-02	6.533E-02	7.143E-03	-0.294
		306.84	*	-2.130E-02	3.413E-02	5.145E-02	5.380E-03	-0.414
		401.10		-4.661E+00	9.034E+00	1.440E+01	1.217E+00	-0.324
LU-177		112.95		-1.275E+00	2.390E+00	3.808E+00	3.872E-01	-0.335
	+	208.36	*	3.161E+00	2.474E+00	2.897E+00	3.177E-01	1.091
LU-177M		52.97		-1.279E+00	4.477E+00	7.347E+00	9.634E-01	-0.174
		54.07		-3.328E-01	2.266E+00	3.739E+00	4.786E-01	-0.089
		61.30		1.093E-01	3.280E+00	4.775E+00	5.427E-01	0.023
		121.62		1.133E-01	5.051E-01	8.279E-01	8.332E-02	0.137
		147.16		-1.873E-01	9.127E-01	1.463E+00	1.497E-01	-0.128
		171.86		-4.187E-02	6.647E-01	1.065E+00	1.142E-01	-0.039
		218.09		-2.752E-01	1.134E+00	1.892E+00	2.083E-01	-0.145
	+	268.79		2.717E+00	1.563E+00	1.969E+00	2.147E-01	1.380
		319.02		-1.035E-01	3.478E-01	5.686E-01	5.827E-02	-0.182
		367.43		4.515E-01	1.227E+00	2.064E+00	1.886E-01	0.219
		413.65	*	-2.740E-01	2.433E-01	3.715E-01	3.157E-02	-0.737
HF-181		56.28		1.396E+00	2.357E+00	3.979E+00	4.830E-01	0.351
		57.53		1.355E+00	1.284E+00	2.047E+00	2.411E-01	0.662
	+	65.20		7.686E+00	3.820E+00	2.946E+00	3.363E-01	2.609
		133.02		-6.696E-02	9.262E-02	1.456E-01	1.463E-02	-0.460
		136.25		-4.191E-01	6.202E-01	9.752E-01	9.825E-02	-0.430
		345.85		1.267E-01	3.306E-01	4.303E-01	4.169E-02	0.294
		482.03	*	-6.470E-02	6.018E-02	9.083E-02	7.842E-03	-0.712
W-181		56.28		5.427E-01	9.135E-01	1.542E+00	1.872E-01	0.352
		57.53		5.255E-01	4.980E-01	7.942E-01	9.351E-02	0.662
	+	65.20	*	2.958E+00	1.470E+00	1.134E+00	1.294E-01	2.609
TA-182		67.75		-1.644E-01	2.219E-01	3.075E-01	3.509E-02	-0.535
		100.10		2.160E-01	2.539E-01	4.127E-01	4.454E-02	0.523
		152.43		1.426E-01	4.563E-01	7.447E-01	7.702E-02	0.191
		222.10		1.083E-02	4.774E-01	8.044E-01	8.865E-02	0.013
		1001.68		2.342E+00	2.650E+00	4.650E+00	4.223E-01	0.504
	+	1121.28		7.810E-01	3.190E-01	4.668E-01	3.968E-02	1.673
		1189.05		2.982E-01	4.269E-01	7.311E-01	6.057E-02	0.408
		1221.42	*	-8.472E-02	2.769E-01	4.374E-01	3.754E-02	-0.194
		1230.97		-3.831E-01	6.375E-01	9.514E-01	8.250E-02	-0.403
RE-183		57.98		6.873E-01	5.057E-01	7.770E-01	9.052E-02	0.885
		59.32		-7.510E-02	2.648E-01	3.795E-01	4.287E-02	-0.198
		67.20		8.414E-02	3.455E-01	5.685E-01	6.489E-02	0.148
		162.32	*	-7.908E-02	1.521E-01	2.352E-01	2.488E-02	-0.336
	+	208.81		2.606E+00	2.039E+00	2.404E+00	2.637E-01	1.084
		291.72		5.905E-01	1.323E+00	1.975E+00	2.107E-01	0.299
RE-184		57.98		2.519E+00	1.854E+00	2.848E+00	3.317E-01	0.885
		59.32		-2.750E-01	9.697E-01	1.390E+00	1.570E-01	-0.198
		67.20		3.083E-01	1.266E+00	2.083E+00	2.377E-01	0.148
		161.27		-3.387E-01	4.821E-01	7.519E-01	7.934E-02	-0.450

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		216.55		-1.995E-01	3.641E-01	5.833E-01	6.419E-02	-0.342
		252.85	*	6.468E-02	3.115E-01	5.264E-01	5.789E-02	0.123
		318.01		1.129E-02	6.039E-01	1.004E+00	1.030E-01	0.011
		792.07		1.046E-01	1.372E+00	2.293E+00	2.037E-01	0.046
		903.28		-2.839E-01	1.373E+00	2.053E+00	1.913E-01	-0.138
		920.93		-4.584E-01	5.771E-01	8.806E-01	8.181E-02	-0.521
OS-185		59.72		-1.632E-01	6.983E-01	1.003E+00	1.131E-01	-0.163
		61.14		-1.279E-01	3.672E-01	5.242E-01	5.954E-02	-0.244
		69.30		-1.167E-01	6.035E-01	8.055E-01	9.193E-02	-0.145
		592.07		-2.049E+00	3.374E+00	4.820E+00	4.100E-01	-0.425
		646.12	*	-3.538E-02	5.643E-02	8.586E-02	7.126E-03	-0.412
		717.42		5.144E-01	1.158E+00	1.994E+00	1.699E-01	0.258
		874.81		8.794E-03	7.072E-01	1.170E+00	1.081E-01	0.008
		880.27		3.180E-01	9.002E-01	1.535E+00	1.421E-01	0.207
RE-188		155.03	*	7.053E-02	2.401E-01	3.914E-01	4.070E-02	0.180
		477.96		6.108E+00	4.132E+00	7.302E+00	6.303E-01	0.836
		633.10		-1.042E+00	3.627E+00	5.692E+00	4.757E-01	-0.183
W-188	+	63.58		3.973E+02	1.975E+02	1.682E+02	1.920E+01	2.363
		227.08		4.832E+00	1.718E+01	2.920E+01	3.221E+00	0.165
		290.67	*	-7.273E+00	1.102E+01	1.518E+01	1.621E+00	-0.479
IR-192	+	295.96		1.377E+00	3.003E-01	3.639E-01	3.881E-02	3.784
		308.46		-1.321E-01	1.292E-01	2.025E-01	2.120E-02	-0.652
		316.51	*	-1.340E-02	4.637E-02	7.586E-02	7.822E-03	-0.177
		468.07		-1.043E-02	9.862E-02	1.377E-01	1.273E-02	-0.076
		604.41		-2.525E-01	6.603E-01	8.776E-01	1.134E-01	-0.288
		612.46		4.521E+00	1.249E+00	2.126E+00	2.071E-01	2.126
AU-195	+	65.12		1.364E+00	6.780E-01	5.260E-01	6.006E-02	2.593
		66.83		6.001E-02	1.634E-01	2.699E-01	3.080E-02	0.222
	+	75.70		1.384E+00	4.519E-01	6.883E-01	7.939E-02	2.010
		98.88	*	3.985E-01	3.468E-01	5.217E-01	5.686E-02	0.764
		129.76		6.312E+00	3.981E+00	6.737E+00	6.760E-01	0.937
TL-200		367.94	*	2.166E-04	3.981E+00	Half-Life too short		
		579.30		1.264E-02	3.981E+00	Half-Life too short		
		828.27		-3.508E-03	3.981E+00	Half-Life too short		
		1205.75		2.453E-03	3.981E+00	Half-Life too short		
TL-201		68.90		-4.120E+00	1.200E+01	1.588E+01	1.812E+00	-0.259
		70.82		1.271E+00	8.420E+00	8.908E+00	1.018E+00	0.143
		80.30		-8.440E+00	1.153E+01	1.483E+01	1.745E+00	-0.569
		135.34		-4.229E+01	4.224E+01	6.537E+01	6.580E+00	-0.647
		167.43	*	1.319E+00	1.171E+01	1.891E+01	2.021E+00	0.070
TL-202		68.90		-3.161E-01	9.206E-01	1.218E+00	1.390E-01	-0.259
		70.82		9.721E-02	6.441E-01	6.815E-01	7.784E-02	0.143
		80.30		-6.459E-01	8.820E-01	1.135E+00	1.335E-01	-0.569
		439.56	*	5.797E-03	9.327E-02	1.533E-01	1.314E-02	0.038
HG-203		70.83		4.085E-01	2.685E+00	2.840E+00	4.412E-01	0.144
		72.87		2.628E+00	1.267E+00	1.790E+00	2.722E-01	1.468
		82.60		6.247E-01	2.258E+00	2.782E+00	4.458E-01	0.225
		279.20	*	2.689E-02	5.802E-02	9.860E-02	1.085E-02	0.273
BI-207		72.80		6.934E-01	3.559E-01	5.125E-01	5.870E-02	1.353

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	74.97		7.648E-01	2.498E-01	3.466E-01	3.989E-02	2.206
		84.90		3.359E-01	3.233E-01	4.817E-01	5.837E-02	0.697
		569.67		-6.493E-03	3.889E-02	6.206E-02	5.316E-03	-0.105
		1063.62	*	3.991E-02	7.489E-02	1.275E-01	1.125E-02	0.313
		1770.23		-1.170E-01	5.988E-01	7.903E-01	6.908E-02	-0.148
TL-207		81.07		-4.854E-01	4.536E-01	5.100E-01	6.025E-02	-0.952
		83.78		8.621E-02	2.122E-01	3.105E-01	3.732E-02	0.278
		94.90		8.381E-01	3.869E-01	5.901E-01	6.679E-02	1.420
		122.32		-3.511E-01	2.352E+00	3.799E+00	4.030E-01	-0.092
		144.24		6.607E-01	9.690E-01	1.581E+00	1.748E-01	0.418
		154.21		3.091E-01	5.427E-01	8.925E-01	9.911E-02	0.346
	+	269.46		6.337E-01	3.645E-01	4.685E-01	5.172E-02	1.353
		323.87	*	-9.336E-01	9.554E-01	1.486E+00	2.749E-01	-0.628
	+	338.28		9.473E+00	2.929E+00	3.200E+00	4.227E-01	2.960
		445.03		-8.093E-01	3.006E+00	4.832E+00	5.828E-01	-0.167
PO-209		260.50		6.893E+00	1.225E+01	2.098E+01	2.300E+00	0.328
		262.80		-4.575E+01	3.958E+01	5.570E+01	6.097E+00	-0.821
		896.60	*	3.971E+00	9.399E+00	1.606E+01	1.496E+00	0.247
BI-210		46.50	*	2.530E+00	1.381E+01	2.314E+01	2.850E+00	0.109
PB-210		46.50	*	2.530E+00	1.381E+01	2.314E+01	2.850E+00	0.109
PO-210		46.50	*	2.530E+00	1.381E+01	2.314E+01	2.699E+00	0.109
PB-211		404.84	*	-1.733E+00	1.646E+00	1.864E+00	1.168E+00	-0.930
		427.08		8.697E-01	2.664E+00	4.365E+00	2.712E+00	0.199
		831.96		-5.293E-01	1.669E+00	2.646E+00	1.660E+00	-0.200
BI-212		727.18	*	9.644E-01	4.372E-01	7.866E-01	7.838E-02	1.226
		785.46		1.954E+00	2.397E+00	4.194E+00	3.714E-01	0.466
		1620.62		8.755E-01	1.533E+00	2.741E+00	2.551E-01	0.319
PO-215		81.07		-4.854E-01	4.536E-01	5.100E-01	6.025E-02	-0.952
		83.78		8.621E-02	2.122E-01	3.105E-01	3.732E-02	0.278
		94.90		8.381E-01	3.869E-01	5.901E-01	6.679E-02	1.420
		122.32		-3.511E-01	2.352E+00	3.799E+00	4.030E-01	-0.092
		144.24		6.607E-01	9.690E-01	1.581E+00	1.748E-01	0.418
		154.21		3.091E-01	5.427E-01	8.925E-01	9.911E-02	0.346
	+	269.46		6.337E-01	3.645E-01	4.685E-01	5.172E-02	1.353
		323.87	*	-9.336E-01	9.554E-01	1.486E+00	2.749E-01	-0.628
	+	338.28		9.473E+00	2.929E+00	3.200E+00	4.227E-01	2.960
		445.03		-8.093E-01	3.006E+00	4.832E+00	5.828E-01	-0.167
RN-219	+	271.23		8.130E-01	4.698E-01	5.945E-01	7.294E-02	1.367
		401.81	*	-1.696E-02	5.305E-01	8.704E-01	1.300E-01	-0.019
RN-220		549.76	*	1.246E+01	3.548E+01	5.880E+01	5.059E+00	0.212
RA-223		81.07		-4.854E-01	4.536E-01	5.100E-01	6.025E-02	-0.952
		83.78		8.621E-02	2.122E-01	3.105E-01	3.732E-02	0.278
		94.90		8.381E-01	3.869E-01	5.901E-01	6.679E-02	1.420
		122.32		-3.511E-01	2.352E+00	3.799E+00	4.030E-01	-0.092
		144.24		6.607E-01	9.690E-01	1.581E+00	1.748E-01	0.418
		154.21		3.091E-01	5.427E-01	8.925E-01	9.911E-02	0.346
	+	269.46		6.337E-01	3.645E-01	4.685E-01	5.172E-02	1.353
		323.87	*	-9.336E-01	9.554E-01	1.486E+00	2.749E-01	-0.628
	+	338.28		9.473E+00	2.929E+00	3.200E+00	4.227E-01	2.960

---- Non-Identified Nuclides ----

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		445.03		-8.093E-01	3.006E+00	4.832E+00	5.828E-01	-0.167
AC-227		79.80		1.205E+00	2.893E+00	4.227E+00	9.692E-01	0.285
		236.00		1.957E+00	4.648E-01	6.755E-01	9.491E-02	2.896
		256.20	*	-6.303E-02	5.021E-01	8.361E-01	1.404E-01	-0.075
		286.10		6.266E-01	2.064E+00	3.486E+00	5.116E-01	0.180
	+	299.80		4.864E+00	2.381E+00	3.439E+00	6.370E-01	1.414
		304.40		1.071E+00	2.649E+00	3.929E+00	7.616E-01	0.273
		334.20		-1.583E+00	3.626E+00	5.033E+00	1.008E+00	-0.315
TH-227		79.80		1.205E+00	2.893E+00	4.227E+00	9.801E-01	0.285
	+	94.00		1.140E+01	4.725E+00	5.317E+00	1.225E+00	2.145
		236.00		1.957E+00	4.535E-01	6.755E-01	8.812E-02	2.896
		256.20	*	-6.303E-02	5.021E-01	8.361E-01	1.614E-01	-0.075
		286.10		6.266E-01	2.156E+00	3.486E+00	3.506E+00	0.180
	+	299.80		4.864E+00	2.381E+00	3.439E+00	6.370E-01	1.414
		304.40		1.071E+00	2.649E+00	3.929E+00	7.616E-01	0.273
		334.20		-1.583E+00	3.626E+00	5.033E+00	1.008E+00	-0.315
TH-229		85.43		7.261E-01	3.278E-01	4.962E-01	6.036E-02	1.463
	+	88.47		1.701E-01	2.589E-01	3.108E-01	3.830E-02	0.547
		100.00		2.334E-01	2.627E-01	4.273E-01	4.616E-02	0.546
		193.63	*	-3.800E-01	7.294E-01	1.140E+00	1.240E-01	-0.333
		210.97		2.412E+00	1.189E+00	1.878E+00	2.062E-01	1.284
PA-231		283.67	*	7.320E-01	2.052E+00	3.473E+00	5.729E-01	0.211
	+	301.29		1.945E+00	9.211E-01	1.383E+00	1.890E-01	1.406
TH-231		81.07		-4.854E-01	4.536E-01	5.100E-01	6.025E-02	-0.952
		83.78		8.621E-02	2.122E-01	3.105E-01	3.732E-02	0.278
		94.90		8.381E-01	3.869E-01	5.901E-01	6.679E-02	1.420
		122.32		-3.511E-01	2.352E+00	3.799E+00	4.030E-01	-0.092
		144.24		6.607E-01	9.690E-01	1.581E+00	1.748E-01	0.418
		154.21		3.091E-01	5.427E-01	8.925E-01	9.911E-02	0.346
	+	269.46		6.337E-01	3.645E-01	4.685E-01	5.172E-02	1.353
		323.87	*	-9.336E-01	9.554E-01	1.486E+00	2.749E-01	-0.628
	+	338.28		9.473E+00	2.929E+00	3.200E+00	4.227E-01	2.960
		445.03		-8.093E-01	3.006E+00	4.832E+00	5.828E-01	-0.167
U-231		84.21		2.814E+00	1.065E+01	1.550E+01	1.869E+00	0.181
	+	92.29		1.313E+01	4.765E+00	6.451E+00	7.527E-01	2.035
		95.87	*	3.346E-01	1.954E+00	2.825E+00	3.164E-01	0.118
		108.00		1.206E+00	3.245E+00	5.361E+00	5.534E-01	0.225
PA-233	+	75.28		2.232E+01	7.820E+00	1.058E+01	1.813E+00	2.110
	+	86.59		2.440E+00	3.764E+00	4.419E+00	1.247E+00	0.552
	+	300.12		1.356E+00	6.521E-01	9.576E-01	1.539E-01	1.416
		311.98	*	6.160E-02	8.499E-02	1.458E-01	1.543E-02	0.422
		340.50		3.402E+00	1.303E+00	1.734E+00	4.212E-01	1.962
		398.62		3.042E+00	2.962E+00	4.956E+00	1.317E+00	0.614
		415.76		-5.991E-02	2.160E+00	3.539E+00	7.611E-01	-0.017
PA-234		63.00		7.639E-01	3.017E+00	5.003E+00	8.609E-01	0.153
	+	94.67		1.017E+00	3.800E-01	4.374E-01	6.312E-02	2.325
		98.44		1.491E-01	1.618E-01	2.092E-01	1.175E-01	0.713
		99.86		6.265E-01	6.670E-01	1.087E+00	1.175E-01	0.577
		111.00		6.471E-02	2.461E-01	4.048E-01	5.374E-02	0.160

---- Non-Identified Nuclides ----

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		131.20		1.651E-01	1.464E-01	2.455E-01	2.464E-02	0.673
		152.70		2.301E-01	4.382E-01	7.182E-01	1.291E-01	0.320
	+	186.00		5.915E+00	3.700E+00	3.502E+00	1.117E+00	1.689
		226.40		9.442E-02	5.469E-01	9.258E-01	1.378E-01	0.102
		227.20		1.589E-01	5.750E-01	9.770E-01	1.078E-01	0.163
		248.90		4.403E-01	1.156E+00	1.859E+00	4.357E-01	0.237
	+	293.70		8.592E+00	2.273E+00	2.177E+00	4.005E-01	3.946
		369.80		-8.820E-01	1.132E+00	1.756E+00	3.856E-01	-0.502
		568.70		3.281E-02	1.287E+00	2.083E+00	1.785E-01	0.016
		569.50		-3.180E-02	3.468E-01	5.567E-01	4.768E-02	-0.057
		574.00		-1.304E+00	1.917E+00	2.933E+00	2.509E-01	-0.445
		699.00		-6.515E-01	8.616E-01	1.347E+00	2.558E-01	-0.484
		706.10		1.469E+00	1.560E+00	2.520E+00	1.123E+00	0.583
		733.00		-1.008E+00	5.536E-01	7.231E-01	1.604E-01	-1.393
		742.81		6.163E-01	1.663E+00	2.766E+00	1.859E+00	0.223
		796.30		4.716E-01	1.264E+00	2.143E+00	5.816E-01	0.220
		805.60		-9.334E-01	1.490E+00	2.162E+00	6.647E-01	-0.432
		819.60		1.139E+00	1.588E+00	2.685E+00	1.024E+00	0.424
		826.30		-6.502E-01	1.114E+00	1.697E+00	7.607E-01	-0.383
		831.60		-2.283E-01	8.526E-01	1.381E+00	4.140E-01	-0.165
		876.40		-6.975E-01	1.246E+00	1.580E+00	1.626E+00	-0.441
		880.51		1.360E-01	3.225E-01	5.533E-01	5.123E-02	0.246
		883.24		-4.217E-02	3.483E-01	5.673E-01	3.818E-01	-0.074
		899.00		-4.727E-01	1.118E+00	1.728E+00	7.580E-01	-0.274
		925.00		3.027E-02	1.421E+00	2.347E+00	2.179E-01	0.013
		926.50		-1.103E-02	2.154E-01	3.532E-01	9.011E-02	-0.031
		946.00	*	1.181E-01	3.983E-01	6.706E-01	1.278E-01	0.176
		949.00		2.346E-01	6.046E-01	1.025E+00	9.468E-02	0.229
		980.50		1.453E-01	9.068E-01	1.511E+00	1.383E-01	0.096
		1394.10		-3.039E-01	1.444E+00	2.325E+00	1.517E+00	-0.131
PA-234M		766.42		1.266E+01	1.916E+01	2.754E+01	1.398E+01	0.460
		1001.03	*	6.853E+00	5.916E+00	1.057E+01	1.096E+00	0.649
TH-234		63.29	*	9.968E-01	2.555E+00	4.247E+00	8.274E-01	0.235
	+	92.38		2.951E+00	1.169E+00	1.444E+00	2.847E-01	2.043
U-235		89.95		2.914E-01	2.633E+00	2.745E+00	8.780E-01	0.106
	+	93.35		3.548E+00	1.598E+00	1.698E+00	4.931E-01	2.090
		105.00		4.885E-01	1.453E+00	2.389E+00	7.270E-01	0.204
		143.76	*	1.167E-01	3.012E-01	4.864E-01	8.912E-02	0.240
		163.35		-2.250E-01	6.500E-01	1.011E+00	2.028E-01	-0.222
	+	185.71		2.191E-01	1.202E-01	1.292E-01	1.399E-02	1.695
		205.31		1.171E-01	8.446E-01	1.176E+00	2.381E-01	0.100
NP-236	+	94.67		7.713E-01	2.799E-01	3.320E-01	3.767E-02	2.323
		98.44		1.127E-01	1.053E-01	1.581E-01	1.730E-02	0.713
		111.00		4.895E-02	1.861E-01	3.062E-01	3.129E-02	0.160
		160.31	*	-2.960E-02	1.080E-01	1.720E-01	1.810E-02	-0.172
U-238		63.29	*	9.968E-01	2.555E+00	4.247E+00	8.274E-01	0.235
	+	92.38		2.951E+00	1.071E+00	1.444E+00	1.684E-01	2.043
NP-239		99.55		3.112E-01	2.299E-01	3.648E-01	3.955E-02	0.853
		117.00	*	1.671E-02	2.526E-01	4.121E-01	4.160E-02	0.041

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		2.037E+00	1.594E+00	1.893E+00	2.078E-01	1.076
		228.18		5.977E-02	2.971E-01	5.035E-01	5.554E-02	0.119
		277.60		3.070E-01	2.506E-01	4.358E-01	4.718E-02	0.704
		334.30		8.074E-02	1.976E+00	2.849E+00	2.834E-01	0.028
AM-241		59.54	*	-9.672E-02	3.677E-01	5.276E-01	6.193E-02	-0.183
CM-243		99.55		3.202E-01	2.366E-01	3.754E-01	4.070E-02	0.853
		103.76	*	-3.651E-02	1.315E-01	2.125E-01	2.239E-02	-0.172
		117.00		1.719E-02	2.599E-01	4.240E-01	4.280E-02	0.041
	+	209.75		2.008E+00	1.571E+00	1.867E+00	2.049E-01	1.076
		228.18		6.040E-02	3.002E-01	5.087E-01	5.612E-02	0.119
		277.60		3.095E-01	2.527E-01	4.394E-01	4.757E-02	0.704
AM-246		798.80		-1.188E-01	1.924E-01	3.053E-01	2.722E-02	-0.389
		1036.00		1.496E-01	3.720E-01	6.314E-01	5.651E-02	0.237
		1062.04		1.259E-01	3.253E-01	5.482E-01	4.841E-02	0.230
		1078.86	*	7.345E-03	1.845E-01	3.023E-01	2.644E-02	0.024
CM-247		278.00		1.034E+00	1.038E+00	1.794E+00	1.942E-01	0.576
		287.40		6.833E-01	1.731E+00	2.781E+00	2.982E-01	0.246
		402.60	*	-1.671E-02	4.720E-02	7.589E-02	6.418E-03	-0.220
CF-249		252.85		2.418E-01	1.164E+00	1.968E+00	2.164E-01	0.123
		333.44		-2.191E-01	2.723E-01	3.682E-01	3.669E-02	-0.595
		387.95	*	3.824E-02	5.232E-02	8.949E-02	7.634E-03	0.427
CF-251		176.60	*	6.947E-03	1.785E-01	2.870E-01	3.086E-02	0.024
		227.00		9.012E-02	5.140E-01	8.703E-01	9.600E-02	0.104
		285.00		4.658E-01	2.338E+00	3.934E+00	4.229E-01	0.118

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]G246557001      *
* Acquisition date : 19-FEB-2010 13:07:20 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 02:00:01.42       Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        :  3-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G246557001           Analyst initials: MXR1          *
* Batch Number       : 951362               Sample Quantity : 1.2915E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  3-FEB-2010 11:04:32 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	3.458E+01	3.906E+00	6.884E-01	0.000E+00
CD-109	1.270E+00	1.893E+00	2.174E+00	0.000E+00
SN-126	1.246E-01	1.858E-01	2.266E-01	0.000E+00
TL-208	5.891E-01	1.232E-01	8.126E-02	0.000E+00
BI-211	4.945E+00	7.700E-01	4.352E-01	0.000E+00
PB-212	2.250E+00	2.995E-01	1.148E-01	0.000E+00
PO-212	2.250E+00	2.995E-01	1.148E-01	0.000E+00
BI-214	1.364E+00	2.616E-01	1.287E-01	0.000E+00
PB-214	1.720E+00	2.819E-01	1.517E-01	0.000E+00
PO-214	1.720E+00	2.819E-01	1.517E-01	0.000E+00
PO-216	2.250E+00	2.995E-01	1.148E-01	0.000E+00
PO-218	1.720E+00	2.819E-01	1.517E-01	0.000E+00
RA-224	5.792E+00	1.724E+00	1.306E+00	0.000E+00
RA-226	1.364E+00	2.616E-01	1.287E-01	0.000E+00
AC-228	2.001E+00	4.203E-01	2.888E-01	0.000E+00
RA-228	2.001E+00	4.203E-01	2.888E-01	0.000E+00
TH-228	2.287E+00	3.044E-01	1.166E-01	0.000E+00
TH-230	1.364E+00	2.616E-01	1.287E-01	0.000E+00
TH-232	2.001E+00	4.203E-01	2.888E-01	0.000E+00
U-234	1.364E+00	2.616E-01	1.287E-01	0.000E+00
NP-237	3.659E-01	5.507E-01	6.399E-01	0.000E+00
AM-243	4.261E-01	1.364E-01	1.537E-01	0.000E+00
ANH-511	1.839E-01	8.762E-02	5.759E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	6.080E-01	4.220E-01	7.722E-01	0.000E+00	NOT IDENT.
NA-22	-3.918E-02	5.843E-02	9.002E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.228E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.943E-02	3.351E-02	4.903E-02	0.000E+00	NOT IDENT.

TI-44	0.000E+00	8.525E-02	1.233E-01	0.000E+00	FAIL ABUN
SC-46	1.901E-02	4.881E-02	8.558E-02	0.000E+00	FAIL ABUN
V-48	-7.821E-02	9.365E-02	1.456E-01	0.000E+00	NOT IDENT.
CR-51	-2.029E-02	5.060E-01	8.768E-01	0.000E+00	NOT IDENT.
MN-52	7.138E-03	2.601E-01	4.446E-01	0.000E+00	NOT IDENT.
MN-54	1.893E-02	5.015E-02	8.777E-02	0.000E+00	NOT IDENT.
CO-56	-5.706E-04	4.846E-02	8.258E-02	0.000E+00	NOT IDENT.
CO-57	-5.265E-03	3.336E-02	5.719E-02	0.000E+00	NOT IDENT.
CO-58	-4.919E-02	4.824E-02	7.525E-02	0.000E+00	NOT IDENT.
FE-59	-3.032E-02	1.231E-01	2.015E-01	0.000E+00	NOT IDENT.
CO-60	4.779E-02	5.004E-02	9.082E-02	0.000E+00	NOT IDENT.
ZN-65	-1.028E-01	1.337E-01	1.717E-01	0.000E+00	NOT IDENT.
GE-68	7.675E-01	1.582E+00	2.762E+00	0.000E+00	NOT IDENT.
AS-73	-6.033E-01	2.207E+00	3.895E+00	0.000E+00	NOT IDENT.
AS-74	-2.794E-02	1.123E-01	1.837E-01	0.000E+00	NOT IDENT.
SE-75	4.501E-03	6.221E-02	9.540E-02	0.000E+00	FAIL ABUN
BR-77	-1.875E+00	1.743E+01	2.740E+01	0.000E+00	FAIL ABUN
SR-82	-1.629E-01	5.667E-01	8.064E-01	0.000E+00	NOT IDENT.
RB-83	-1.367E-02	9.141E-02	1.375E-01	0.000E+00	NOT IDENT.
RB-84	-2.215E-02	8.204E-02	1.361E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	1.080E+01	1.858E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.593E-02	9.621E-02	0.000E+00	NOT IDENT.
RB-86	3.846E-01	1.043E+00	1.803E+00	0.000E+00	NOT IDENT.
Y-88	-3.867E-03	3.960E-02	6.481E-02	0.000E+00	NOT IDENT.
ZR-88	-5.398E-02	4.174E-02	6.599E-02	0.000E+00	NOT IDENT.
Y-91	1.159E+01	2.779E+01	4.754E+01	0.000E+00	NOT IDENT.
NB-94	1.563E-02	4.207E-02	7.441E-02	0.000E+00	NOT IDENT.
NB-95	5.766E-02	6.428E-02	1.027E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.967E-01	3.273E-01	0.000E+00	NOT IDENT.
ZR-95	-3.860E-02	8.421E-02	1.395E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.969E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.647E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-3.335E+00	1.671E+01	2.830E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.112E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.721E-02	4.779E-02	7.915E-02	0.000E+00	NOT IDENT.
RH-102	-2.942E-02	3.787E-02	6.080E-02	0.000E+00	NOT IDENT.
RU-103	-2.316E-02	5.271E-02	8.627E-02	0.000E+00	FAIL ABUN
RH-106	1.834E-01	3.752E-01	6.479E-01	0.000E+00	FAIL ABUN
RU-106	1.834E-01	3.748E-01	6.479E-01	0.000E+00	FAIL ABUN
AG-108M	-8.699E-03	3.906E-02	6.559E-02	0.000E+00	NOT IDENT.
AG-110M	-2.636E-02	4.248E-02	7.050E-02	0.000E+00	NOT IDENT.
IN-111	6.439E-02	1.942E+00	2.984E+00	0.000E+00	NOT IDENT.
IN-113M	-5.093E-02	5.998E-02	9.780E-02	0.000E+00	NOT IDENT.
SN-113	-5.093E-02	5.998E-02	9.780E-02	0.000E+00	NOT IDENT.
IN-114M	-1.791E-01	2.997E-01	4.234E-01	0.000E+00	NOT IDENT.
CD-115	-8.280E+00	1.785E+01	2.902E+01	0.000E+00	NOT IDENT.
SN-117M	-1.658E-02	7.761E-02	1.311E-01	0.000E+00	NOT IDENT.
SB-122	9.504E-01	3.445E+00	5.879E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.498E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.741E-05	3.820E-02	6.507E-02	0.000E+00	NOT IDENT.
I-124	-3.722E-01	1.105E+00	1.531E+00	0.000E+00	FAIL ABUN
SB-124	4.115E-02	9.928E-02	1.771E-01	0.000E+00	FAIL ABUN
SB-125	-3.420E-02	1.149E-01	1.923E-01	0.000E+00	FAIL ABUN
TE-125M	8.995E-01	1.254E+01	2.180E+01	0.000E+00	NOT IDENT.
I-126	-8.309E-02	2.500E-01	4.244E-01	0.000E+00	NOT IDENT.
SB-126	-9.123E-02	1.938E-01	3.234E-01	0.000E+00	FAIL ABUN
SB-127	5.698E-01	1.957E+00	3.454E+00	0.000E+00	NOT IDENT.
XE-127	2.420E-03	7.286E-02	1.132E-01	0.000E+00	NOT IDENT.
I-131	1.966E-01	1.661E-01	3.020E-01	0.000E+00	NOT IDENT.
TE-132	2.217E-01	1.085E+00	1.933E+00	0.000E+00	NOT IDENT.
BA-133	3.693E-02	5.878E-02	9.213E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.590E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.067E-02	6.279E-02	1.129E-01	0.000E+00	NOT IDENT.
CS-135	3.583E-01	2.316E-01	3.800E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.857E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.565E-02	1.337E-01	2.135E-01	0.000E+00	FAIL ABUN
BA-137M	4.163E-02	4.656E-02	8.494E-02	0.000E+00	NOT IDENT.
CS-137	4.401E-02	4.922E-02	8.979E-02	0.000E+00	NOT IDENT.
CE-139	1.557E-02	3.985E-02	6.872E-02	0.000E+00	NOT IDENT.
BA-140	-1.356E-01	3.187E-01	5.130E-01	0.000E+00	NOT IDENT.
LA-140	-6.569E-02	1.130E-01	1.751E-01	0.000E+00	NOT IDENT.
CE-141	9.792E-02	9.001E-02	1.570E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.181E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.729E-01	2.763E-01	4.610E-01	0.000E+00	NOT IDENT.
PM-144	7.076E-03	3.961E-02	6.936E-02	0.000E+00	NOT IDENT.
PR-144	4.798E-01	2.686E+00	4.702E+00	0.000E+00	NOT IDENT.
PM-146	-4.514E-03	5.775E-02	9.772E-02	0.000E+00	NOT IDENT.
ND-147	5.314E-01	7.309E-01	1.286E+00	0.000E+00	NOT IDENT.

PM-149	4.600E+01	1.621E+02	2.864E+02	0.000E+00	NOT IDENT.
EU-152	3.180E-02	1.803E-01	2.169E-01	0.000E+00	FAIL ABUN
GD-153	-6.545E-03	1.210E-01	1.841E-01	0.000E+00	NOT IDENT.
EU-154	-1.197E-01	1.640E-01	2.506E-01	0.000E+00	NOT IDENT.
EU-155	5.705E-02	1.442E-01	2.537E-01	0.000E+00	FAIL ABUN
TB-160	-6.674E-02	1.623E-01	2.655E-01	0.000E+00	FAIL ABUN
HO-166M	-3.152E-02	7.815E-02	1.312E-01	0.000E+00	FAIL ABUN
TM-171	1.861E+01	4.845E+01	8.575E+01	0.000E+00	NOT IDENT.
LU-176	-2.130E-02	3.344E-02	5.277E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.424E+00	2.989E+00	0.000E+00	FAIL ABUN
LU-177M	-2.740E-01	2.385E-01	3.792E-01	0.000E+00	FAIL ABUN
HF-181	-6.470E-02	5.898E-02	9.249E-02	0.000E+00	FAIL ABUN
W-181	0.000E+00	1.441E+00	1.190E+00	0.000E+00	FAIL ABUN
TA-182	-8.472E-02	2.713E-01	4.388E-01	0.000E+00	FAIL ABUN
RE-183	-7.908E-02	1.491E-01	2.436E-01	0.000E+00	FAIL ABUN
RE-184	6.468E-02	3.053E-01	5.415E-01	0.000E+00	NOT IDENT.
OS-185	-3.538E-02	5.530E-02	8.703E-02	0.000E+00	NOT IDENT.
RE-188	7.053E-02	2.353E-01	4.056E-01	0.000E+00	NOT IDENT.
W-188	-7.273E+00	1.080E+01	1.558E+01	0.000E+00	FAIL ABUN
IR-192	-1.340E-02	4.544E-02	7.777E-02	0.000E+00	FAIL ABUN
AU-195	3.985E-01	3.398E-01	5.444E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.085E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.319E+00	1.147E+01	1.958E+01	0.000E+00	NOT IDENT.
TL-202	5.797E-03	9.141E-02	1.563E-01	0.000E+00	NOT IDENT.
HG-203	2.689E-02	5.686E-02	1.013E-01	0.000E+00	NOT IDENT.
BI-207	3.991E-02	7.339E-02	1.282E-01	0.000E+00	FAIL ABUN
TL-207	-9.336E-01	9.363E-01	1.523E+00	0.000E+00	FAIL ABUN
PO-209	3.971E+00	9.211E+00	1.619E+01	0.000E+00	NOT IDENT.
BI-210	2.530E+00	1.354E+01	2.442E+01	0.000E+00	NOT IDENT.
PB-210	2.530E+00	1.354E+01	2.442E+01	0.000E+00	NOT IDENT.
PO-210	2.530E+00	1.354E+01	2.442E+01	0.000E+00	NOT IDENT.
PB-211	-1.733E+00	1.613E+00	1.903E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.284E-01	7.958E-01	0.000E+00	NOT IDENT.
PO-215	-9.336E-01	9.363E-01	1.523E+00	0.000E+00	FAIL ABUN
RN-219	-1.696E-02	5.199E-01	8.889E-01	0.000E+00	FAIL ABUN
RN-220	1.246E+01	3.477E+01	5.975E+01	0.000E+00	NOT IDENT.
RA-223	-9.336E-01	9.363E-01	1.523E+00	0.000E+00	FAIL ABUN
AC-227	-6.303E-02	4.921E-01	8.599E-01	0.000E+00	FAIL ABUN
TH-227	-6.303E-02	4.921E-01	8.599E-01	0.000E+00	FAIL ABUN
TH-229	-3.800E-01	7.148E-01	1.177E+00	0.000E+00	FAIL ABUN
PA-231	7.320E-01	2.011E+00	3.566E+00	0.000E+00	FAIL ABUN
TH-231	-9.336E-01	9.363E-01	1.523E+00	0.000E+00	FAIL ABUN
U-231	3.346E-01	1.915E+00	2.949E+00	0.000E+00	FAIL ABUN
PA-233	6.160E-02	8.329E-02	1.495E-01	0.000E+00	FAIL ABUN
PA-234	1.181E-01	3.903E-01	6.756E-01	0.000E+00	FAIL ABUN
PA-234M	6.853E+00	5.798E+00	1.064E+01	0.000E+00	NOT IDENT.
TH-234	9.968E-01	2.504E+00	4.461E+00	0.000E+00	FAIL ABUN
U-235	1.167E-01	2.952E-01	5.047E-01	0.000E+00	FAIL ABUN
NP-236	-2.960E-02	1.058E-01	1.781E-01	0.000E+00	FAIL ABUN
U-238	9.968E-01	2.504E+00	4.461E+00	0.000E+00	FAIL ABUN
NP-239	1.671E-02	2.476E-01	4.289E-01	0.000E+00	FAIL ABUN
AM-241	-9.672E-02	3.604E-01	5.547E-01	0.000E+00	NOT IDENT.
CM-243	-3.651E-02	1.289E-01	2.216E-01	0.000E+00	FAIL ABUN
AM-246	7.345E-03	1.808E-01	3.039E-01	0.000E+00	NOT IDENT.
CM-247	-1.671E-02	4.625E-02	7.750E-02	0.000E+00	NOT IDENT.
CF-249	3.824E-02	5.127E-02	9.144E-02	0.000E+00	NOT IDENT.
CF-251	6.947E-03	1.750E-01	2.969E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 15:10:21.14

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246557001.CNF;1
Sample date       : 3-FEB-2010 12:00:00. Acquisition date : 19-FEB-2010 13:07:20
Sample ID         : G246557001           Sample quantity  : 1.29150E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.42  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 951362               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	1227	10.67*	9.662E-01	3.458E+01	3.458E+01	11.53
CD-109	88.03	71	3.72*	4.451E+00	1.239E+00	1.270E+00	152.18
SN-126	64.28	260	9.60	2.027E+00	3.877E+00	3.877E+00	51.25
	86.94	71	8.90	4.451E+00	5.181E-01	5.181E-01	157.46
	87.57	71	37.00*	4.451E+00	1.246E-01	1.246E-01	152.18
TL-208	277.35	------	6.80	3.705E+00	------ Line Not Found		------
	510.84	153	21.60	2.418E+00	8.513E-01	8.513E-01	49.33
	583.14	374	84.20*	2.190E+00	5.891E-01	5.891E-01	21.34
	860.37	45	12.46	1.575E+00	6.615E-01	6.615E-01	71.05
BI-211	72.87	------	1.27	3.001E+00	------ Line Not Found		------
	351.07	691	12.94*	3.140E+00	4.945E+00	4.945E+00	15.89
PB-212	74.81	314	10.70	3.245E+00	2.628E+00	2.628E+00	33.97
	77.11	511	18.00	3.508E+00	2.353E+00	2.353E+00	20.03
	87.30	71	8.00	4.451E+00	5.763E-01	5.763E-01	152.51
	238.63	1421	44.60*	4.114E+00	2.250E+00	2.250E+00	13.58
	300.09	108	3.41	3.505E+00	2.624E+00	2.624E+00	46.91
PO-212	74.81	314	10.70	3.245E+00	2.628E+00	2.628E+00	33.97
	77.11	511	18.00	3.508E+00	2.353E+00	2.353E+00	20.03
	87.30	71	8.00	4.451E+00	5.763E-01	5.763E-01	152.51
	115.19	------	0.60	5.586E+00	------ Line Not Found		------
	238.63	1421	44.60*	4.114E+00	2.250E+00	2.250E+00	13.58
	300.09	108	3.41	3.505E+00	2.624E+00	2.624E+00	46.91
BI-214	609.31	460	46.30*	2.117E+00	1.364E+00	1.364E+00	19.56
	1120.29	105	15.10	1.226E+00	1.643E+00	1.643E+00	41.37
	1764.49	64	15.80	8.553E-01	1.371E+00	1.371E+00	45.26
PB-214	74.81	314	6.21	3.245E+00	4.528E+00	4.528E+00	33.49
	77.11	511	10.50	3.508E+00	4.034E+00	4.034E+00	21.43
	87.30	71	4.67	4.451E+00	9.873E-01	9.873E-01	152.37
	241.98	321	7.49	4.078E+00	3.055E+00	3.055E+00	30.89
	295.21	419	19.20	3.548E+00	1.790E+00	1.790E+00	22.67
	351.92	691	37.20*	3.140E+00	1.720E+00	1.720E+00	16.72
PO-214	74.81	314	6.21	3.245E+00	4.528E+00	4.528E+00	33.49

Sample ID : G246557001 Acquisition date : 19-FEB-2010 13:07:20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	511	10.50	3.508E+00	4.034E+00	4.034E+00	21.43
	87.30	71	4.67	4.451E+00	9.873E-01	9.873E-01	152.37
	241.98	321	7.49	4.078E+00	3.055E+00	3.055E+00	30.89
	295.21	419	19.20	3.548E+00	1.790E+00	1.790E+00	22.67
	351.92	691	37.20*	3.140E+00	1.720E+00	1.720E+00	16.72
PO-216	74.81	314	10.70	3.245E+00	2.628E+00	2.628E+00	33.97
	77.11	511	18.00	3.508E+00	2.353E+00	2.353E+00	20.03
	87.30	71	8.00	4.451E+00	5.763E-01	5.763E-01	152.51
	238.63	1421	44.60*	4.114E+00	2.250E+00	2.250E+00	13.58
	300.09	108	3.41	3.505E+00	2.624E+00	2.624E+00	46.91
PO-218	74.81	314	6.21	3.245E+00	4.528E+00	4.528E+00	33.49
	77.11	511	10.50	3.508E+00	4.034E+00	4.034E+00	21.43
	87.30	71	4.67	4.451E+00	9.873E-01	9.873E-01	152.37
	241.98	321	7.49	4.078E+00	3.055E+00	3.055E+00	30.89
	295.21	419	19.20	3.548E+00	1.790E+00	1.790E+00	22.67
	351.92	691	37.20*	3.140E+00	1.720E+00	1.720E+00	16.72
RA-224	240.98	321	3.95*	4.078E+00	5.792E+00	5.792E+00	30.38
RA-226	609.31	460	46.30*	2.117E+00	1.364E+00	1.364E+00	19.56
	1120.29	105	15.10	1.226E+00	1.643E+00	1.643E+00	41.37
	1764.49	64	15.80	8.553E-01	1.371E+00	1.371E+00	45.26
AC-228	338.32	287	11.40	3.229E+00	2.269E+00	2.269E+00	50.07
	911.07	285	27.70*	1.494E+00	2.001E+00	2.001E+00	21.44
	969.11	183	16.60	1.410E+00	2.276E+00	2.276E+00	30.46
RA-228	338.32	287	11.40	3.229E+00	2.269E+00	2.269E+00	50.07
	911.07	285	27.70*	1.494E+00	2.001E+00	2.001E+00	21.44
	969.11	183	16.60	1.410E+00	2.276E+00	2.276E+00	30.46
TH-228	74.81	314	10.70	3.245E+00	2.628E+00	2.670E+00	32.68
	77.11	511	18.00	3.508E+00	2.353E+00	2.391E+00	20.03
	87.30	71	8.00	4.451E+00	5.763E-01	5.856E-01	152.18
	238.63	1421	44.60*	4.114E+00	2.250E+00	2.287E+00	13.58
	300.09	108	3.41	3.505E+00	2.624E+00	2.667E+00	74.87
TH-230	609.31	460	46.30*	2.117E+00	1.364E+00	1.364E+00	19.56
	1120.29	105	15.10	1.226E+00	1.643E+00	1.643E+00	41.37
	1764.49	64	15.80	8.553E-01	1.371E+00	1.371E+00	45.26
TH-232	338.32	287	11.40	3.229E+00	2.269E+00	2.269E+00	29.64
	911.07	285	27.70*	1.494E+00	2.001E+00	2.001E+00	21.44
	969.11	183	16.60	1.410E+00	2.276E+00	2.276E+00	30.46
U-234	609.31	460	46.30*	2.117E+00	1.364E+00	1.364E+00	19.56
	1120.29	105	15.10	1.226E+00	1.643E+00	1.643E+00	41.37
	1764.49	64	15.80	8.553E-01	1.371E+00	1.371E+00	45.26
NP-237	86.50	71	12.60*	4.451E+00	3.659E-01	3.659E-01	153.57
	95.87	------	2.60	5.004E+00	------ Line Not Found		------
AM-243	74.67	314	66.00*	3.245E+00	4.261E-01	4.261E-01	32.66
	86.72	71	0.34	4.451E+00	1.372E+01	1.372E+01	152.18
	117.66	------	0.55	5.611E+00	------ Line Not Found		------
	142.18	------	0.13	5.525E+00	------ Line Not Found		------
ANH-511	511.00	153	100.00*	2.418E+00	1.839E-01	1.839E-01	48.63

Flag: "*" = Keyline

Sample ID : G246557001 Acquisition date : 19-FEB-2010 13:07:20

Total number of lines in spectrum 30
Number of unidentified lines 4
Number of lines tentatively identified by NID 26 86.67%

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	3.458E+01	3.458E+01	0.399E+01	11.53	
CD-109	464.00D	1.02	1.239E+00	1.270E+00	1.932E+00	152.18	
SN-126	1.00E+05Y	1.00	1.246E-01	1.246E-01	1.896E-01	152.18	
TL-208	1.41E+10Y	1.00	5.891E-01	5.891E-01	1.257E-01	21.34	
BI-211	7.04E+08Y	1.00	4.945E+00	4.945E+00	0.786E+00	15.89	
PB-212	1.41E+10Y	1.00	2.250E+00	2.250E+00	0.306E+00	13.58	
PO-212	1.41E+10Y	1.00	2.250E+00	2.250E+00	0.306E+00	13.58	
BI-214	1600.00Y	1.00	1.364E+00	1.364E+00	0.267E+00	19.56	
PB-214	1600.00Y	1.00	1.720E+00	1.720E+00	0.288E+00	16.72	
PO-214	1600.00Y	1.00	1.720E+00	1.720E+00	0.288E+00	16.72	
PO-216	1.41E+10Y	1.00	2.250E+00	2.250E+00	0.306E+00	13.58	
PO-218	1600.00Y	1.00	1.720E+00	1.720E+00	0.288E+00	16.72	
RA-224	1.41E+10Y	1.00	5.792E+00	5.792E+00	1.759E+00	30.38	
RA-226	1600.00Y	1.00	1.364E+00	1.364E+00	0.267E+00	19.56	
AC-228	1.41E+10Y	1.00	2.001E+00	2.001E+00	0.429E+00	21.44	
RA-228	1.41E+10Y	1.00	2.001E+00	2.001E+00	0.429E+00	21.44	
TH-228	1.91Y	1.02	2.250E+00	2.287E+00	0.311E+00	13.58	
TH-230	4.47E+09Y	1.00	1.364E+00	1.364E+00	0.267E+00	19.56	
TH-232	1.41E+10Y	1.00	2.001E+00	2.001E+00	0.429E+00	21.44	
U-234	4.47E+09Y	1.00	1.364E+00	1.364E+00	0.267E+00	19.56	
NP-237	2.14E+06Y	1.00	3.659E-01	3.659E-01	5.620E-01	153.57	
AM-243	7380.00Y	1.00	4.261E-01	4.261E-01	1.392E-01	32.66	
ANH-511	1.00E+09Y	1.00	1.839E-01	1.839E-01	0.894E-01	48.63	
	Total Activity :		7.387E+01	7.394E+01			

Grand Total Activity : 7.387E+01 7.394E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G246557001 Acquisition date : 19-FEB-2010 13:07:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.24	267	445	1.68	185.40	182	10	3.70E-02	34.4	4.86E+00	T
0	185.78	198	552	1.66	370.47	364	14	2.75E-02	53.8	4.86E+00	T
0	209.42	102	391	1.52	417.74	412	11	1.42E-02	77.5	4.50E+00	T
0	270.06	112	236	1.38	539.02	532	11	1.55E-02	56.5	3.77E+00	T
0	463.05	90	133	1.59	925.01	920	11	1.25E-02	53.9	2.60E+00	T
2	768.51	54	119	2.30	1535.96	1528	19	7.50E-03	87.9	1.75E+00	
2	772.00	35	59	1.71	1542.94	1528	19	4.91E-03	82.2	1.74E+00	
1	964.80	74	44	2.20	1928.60	1922	20	1.03E-02	45.0	1.42E+00	T
0	1240.06	57	88	6.25	2479.25	2473	17	7.88E-03	84.7	1.11E+00	
0	1377.67	34	17	0.88	2754.54	2749	12	4.72E-03	60.3	1.01E+00	T
0	1662.00	14	10	1.34	3323.41	3315	14	1.91E-03	****	8.83E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 15:10:26.96

```
*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246557001.CNF;1  *
* Acquisition date : 19-FEB-2010 13:07:20  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 02:00:01.42         Half life ratio : 8.00000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date      : 3-FEB-2010 12:00:00.  Nuclide Library : SOLID          *
* Sample ID        : G246557001            Analyst initials: MXR1           *
* Batch Number     : 951362                Sample Quantity : 1.29150E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 3-FEB-2010 11:04:32.11MS 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	3.458E+01	3.986E+00	6.881E-01	6.762E-02	50.255
CD-109	1.270E+00	1.932E+00	2.080E+00	2.581E-01	0.611
SN-126	1.246E-01	1.896E-01	2.167E-01	2.682E-02	0.575
TL-208	5.891E-01	1.257E-01	8.003E-02	7.329E-03	7.360
BI-211	4.945E+00	7.857E-01	4.253E-01	4.235E-02	11.628
PB-212	2.250E+00	3.056E-01	1.115E-01	1.328E-02	20.183
PO-212	2.250E+00	3.056E-01	1.115E-01	1.328E-02	20.183
BI-214	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757
PB-214	1.720E+00	2.877E-01	1.482E-01	1.664E-02	11.607
PO-214	1.720E+00	2.877E-01	1.482E-01	1.664E-02	11.607
PO-216	2.250E+00	3.056E-01	1.115E-01	1.328E-02	20.183
PO-218	1.720E+00	2.877E-01	1.482E-01	1.664E-02	11.607
RA-224	5.792E+00	1.759E+00	1.269E+00	1.399E-01	4.566
RA-226	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757
AC-228	2.001E+00	4.289E-01	2.865E-01	3.375E-02	6.983
RA-228	2.001E+00	4.289E-01	2.865E-01	3.375E-02	6.983
TH-228	2.287E+00	3.106E-01	1.133E-01	1.349E-02	20.183
TH-230	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757

Sample ID : G246557001 Acquisition date : 19-FEB-2010 13:07:20

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	2.001E+00	4.289E-01	2.865E-01	3.375E-02	6.983
U-234	1.364E+00	2.669E-01	1.268E-01	1.257E-02	10.757
NP-237	3.659E-01	5.620E-01	6.120E-01	1.469E-01	0.598
AM-243	4.261E-01	1.392E-01	1.466E-01	1.686E-02	2.905
ANH-511	1.839E-01	8.941E-02	5.661E-02	4.891E-03	3.248

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	6.080E-01		4.306E-01	7.582E-01	7.049E-02	0.802
NA-22	-3.918E-02		5.962E-02	8.979E-02	8.157E-03	-0.436
NA-24	-1.044E+00		1.137E+00	Half-Life too short		
AL-26	-1.943E-02		3.420E-02	4.919E-02	4.208E-03	-0.395
TI-44	4.343E-01	+	8.699E-02	1.178E-01	1.372E-02	3.687
SC-46	1.901E-02		4.981E-02	8.486E-02	7.886E-03	0.224
V-48	-7.821E-02		9.556E-02	1.446E-01	1.322E-02	-0.541
CR-51	-2.029E-02		5.163E-01	8.554E-01	9.084E-02	-0.024
MN-52	7.138E-03		2.654E-01	4.442E-01	4.276E-02	0.016
MN-54	1.893E-02		5.117E-02	8.695E-02	7.890E-03	0.218
CO-56	-5.706E-04		4.945E-02	8.182E-02	7.466E-03	-0.007
CO-57	-5.265E-03		3.404E-02	5.498E-02	5.539E-03	-0.096
CO-58	-4.919E-02		4.922E-02	7.451E-02	6.698E-03	-0.660
FE-59	-3.032E-02		1.256E-01	2.005E-01	1.871E-02	-0.151
CO-60	4.779E-02		5.106E-02	9.065E-02	8.715E-03	0.527
ZN-65	-1.028E-01		1.365E-01	1.709E-01	1.460E-02	-0.602
GE-68	7.675E-01		1.615E+00	2.747E+00	2.405E-01	0.279
AS-73	-6.033E-01		2.252E+00	3.698E+00	4.802E-01	-0.163
AS-74	-2.794E-02		1.145E-01	1.810E-01	1.538E-02	-0.154
SE-75	4.501E-03		6.348E-02	9.281E-02	1.018E-02	0.048
BR-77	-1.875E+00		1.779E+01	2.694E+01	2.327E+00	-0.070
SR-82	-1.629E-01		5.782E-01	7.978E-01	7.031E-02	-0.204
RB-83	-1.367E-02		9.327E-02	1.351E-01	1.167E-02	-0.101
RB-84	-2.215E-02		8.371E-02	1.349E-01	1.250E-02	-0.164
KR-85	2.756E+01		1.102E+01	1.827E+01	1.578E+00	1.509
SR-85	1.427E-01		5.707E-02	9.457E-02	8.171E-03	1.509
RB-86	3.846E-01		1.064E+00	1.793E+00	1.570E-01	0.215
Y-88	-3.867E-03		4.040E-02	6.502E-02	5.476E-03	-0.059
ZR-88	-5.398E-02		4.259E-02	6.459E-02	5.437E-03	-0.836
Y-91	1.159E+01		2.835E+01	4.737E+01	3.993E+00	0.245
NB-94	1.563E-02		4.293E-02	7.351E-02	6.206E-03	0.213
NB-95	5.766E-02		6.559E-02	1.016E-01	8.905E-03	0.567
NB-95M	5.778E-01		2.007E-01	3.179E-01	3.825E-02	1.818
ZR-95	-3.860E-02		8.592E-02	1.380E-01	1.322E-02	-0.280
NB-97	-1.561E-01		1.515E-01	Half-Life too short		
ZR-97	1.348E+01		3.391E+00	Half-Life too short		
MO-99	-3.335E+00		1.705E+01	2.798E+01	4.250E+00	-0.119
TC-99M	-7.838E+11		3.629E+11	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
RH-101	1.721E-02		4.877E-02	7.666E-02	8.363E-03	0.225
RH-102	-2.942E-02		3.864E-02	5.969E-02	5.150E-03	-0.493
RU-103	-2.316E-02		5.379E-02	8.476E-02	1.201E-02	-0.273
RH-106	1.834E-01		3.829E-01	6.388E-01	8.445E-02	0.287
RU-106	1.834E-01		3.824E-01	6.388E-01	5.369E-02	0.287
AG-108M	-8.699E-03		3.985E-02	6.431E-02	5.724E-03	-0.135
AG-110M	-2.636E-02		4.335E-02	6.957E-02	5.920E-03	-0.379
IN-111	6.439E-02		1.982E+00	2.900E+00	3.196E-01	0.022
IN-113M	-5.093E-02		6.120E-02	9.572E-02	8.314E-03	-0.532
SN-113	-5.093E-02		6.120E-02	9.572E-02	8.314E-03	-0.532
IN-114M	-1.791E-01		3.059E-01	4.098E-01	4.449E-02	-0.437
CD-115	-8.280E+00		1.822E+01	2.854E+01	2.463E+00	-0.290
SN-117M	-1.658E-02		7.920E-02	1.265E-01	1.327E-02	-0.131
SB-122	9.504E-01		3.515E+00	5.787E+00	4.964E-01	0.164
I-123	1.139E-02		1.275E+01	Half-Life too short		
TE-123M	1.741E-05		3.898E-02	6.281E-02	6.618E-03	0.000
I-124	-3.722E-01		1.127E+00	1.508E+00	1.278E-01	-0.247
SB-124	4.115E-02		1.013E-01	1.774E-01	1.668E-02	0.232
SB-125	-3.420E-02		1.172E-01	1.885E-01	1.642E-02	-0.181
TE-125M	8.995E-01		1.280E+01	2.092E+01	2.457E+00	0.043
I-126	-8.309E-02		2.551E-01	4.189E-01	3.455E-02	-0.198
SB-126	-9.123E-02		1.978E-01	3.196E-01	2.728E-02	-0.285
SB-127	5.698E-01		1.997E+00	3.411E+00	3.909E-01	0.167
XE-127	2.420E-03		7.435E-02	1.097E-01	1.200E-02	0.022
I-131	1.966E-01		1.695E-01	2.953E-01	2.853E-02	0.666
TE-132	2.217E-01		1.107E+00	1.876E+00	3.248E-01	0.118
BA-133	3.693E-02		5.998E-02	9.004E-02	1.238E-02	0.410
I-133	-7.815E-03		8.113E-03	Half-Life too short		
CS-134	5.067E-02		6.407E-02	1.118E-01	1.002E-02	0.453
CS-135	3.583E-01		2.363E-01	3.698E-01	4.437E-02	0.969
I-135	-9.996E+09		4.009E+10	Half-Life too short		
CS-136	-6.565E-02		1.365E-01	2.123E-01	1.964E-02	-0.309
BA-137M	4.163E-02		4.751E-02	8.383E-02	6.892E-03	0.497
CS-137	4.401E-02		5.022E-02	8.861E-02	7.300E-03	0.497
CE-139	1.557E-02		4.066E-02	6.637E-02	7.085E-03	0.235
BA-140	-1.356E-01		3.252E-01	5.046E-01	1.672E-01	-0.269
LA-140	-6.569E-02		1.153E-01	1.753E-01	1.643E-02	-0.375
CE-141	9.792E-02		9.184E-02	1.513E-01	1.564E-02	0.647
CE-143	1.649E-03		2.643E-04	Half-Life too short		
CE-144	-1.729E-01		2.819E-01	4.438E-01	7.280E-02	-0.390
PM-144	7.076E-03		4.042E-02	6.851E-02	5.764E-03	0.103
PR-144	4.798E-01		2.741E+00	4.645E+00	3.906E-01	0.103
PM-146	-4.514E-03		5.893E-02	9.587E-02	1.027E-02	-0.047
ND-147	5.314E-01		7.458E-01	1.265E+00	1.892E-01	0.420
PM-149	4.600E+01		1.654E+02	2.790E+02	4.691E+01	0.165
EU-152	3.180E-02		1.840E-01	2.119E-01	2.157E-02	0.150
GD-153	-6.545E-03		1.234E-01	1.764E-01	1.947E-02	-0.037
EU-154	-1.197E-01		1.673E-01	2.499E-01	2.915E-02	-0.479

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	5.705E-02		1.472E-01	2.434E-01	2.564E-02	0.234
TB-160	-6.674E-02		1.656E-01	2.632E-01	2.436E-02	-0.254
HO-166M	-3.152E-02		7.975E-02	1.296E-01	1.101E-02	-0.243
TM-171	1.861E+01		4.944E+01	8.170E+01	9.325E+00	0.228
LU-176	-2.130E-02		3.413E-02	5.145E-02	5.380E-03	-0.414
LU-177	3.161E+00	+	2.474E+00	2.897E+00	3.177E-01	1.091
LU-177M	-2.740E-01		2.433E-01	3.715E-01	3.157E-02	-0.737
HF-181	-6.470E-02		6.018E-02	9.083E-02	7.842E-03	-0.712
W-181	2.958E+00	+	1.470E+00	1.134E+00	1.294E-01	2.609
TA-182	-8.472E-02		2.769E-01	4.374E-01	3.754E-02	-0.194
RE-183	-7.908E-02		1.521E-01	2.352E-01	2.488E-02	-0.336
RE-184	6.468E-02		3.115E-01	5.264E-01	5.789E-02	0.123
OS-185	-3.538E-02		5.643E-02	8.586E-02	7.126E-03	-0.412
RE-188	7.053E-02		2.401E-01	3.914E-01	4.070E-02	0.180
W-188	-7.273E+00		1.102E+01	1.518E+01	1.621E+00	-0.479
IR-192	-1.340E-02		4.637E-02	7.586E-02	7.822E-03	-0.177
AU-195	3.985E-01		3.468E-01	5.217E-01	5.686E-02	0.764
TL-200	2.166E-04		5.535E-04	Half-Life too short		
TL-201	1.319E+00		1.171E+01	1.891E+01	2.021E+00	0.070
TL-202	5.797E-03		9.327E-02	1.533E-01	1.314E-02	0.038
HG-203	2.689E-02		5.802E-02	9.860E-02	1.085E-02	0.273
BI-207	3.991E-02		7.489E-02	1.275E-01	1.125E-02	0.313
TL-207	-9.336E-01		9.554E-01	1.486E+00	2.749E-01	-0.628
PO-209	3.971E+00		9.399E+00	1.606E+01	1.496E+00	0.247
BI-210	2.530E+00		1.381E+01	2.314E+01	2.850E+00	0.109
PB-210	2.530E+00		1.381E+01	2.314E+01	2.850E+00	0.109
PO-210	2.530E+00		1.381E+01	2.314E+01	2.699E+00	0.109
PB-211	-1.733E+00		1.646E+00	1.864E+00	1.168E+00	-0.930
BI-212	9.644E-01		4.372E-01	7.866E-01	7.838E-02	1.226
PO-215	-9.336E-01		9.554E-01	1.486E+00	2.749E-01	-0.628
RN-219	-1.696E-02		5.305E-01	8.704E-01	1.300E-01	-0.019
RN-220	1.246E+01		3.548E+01	5.880E+01	5.059E+00	0.212
RA-223	-9.336E-01		9.554E-01	1.486E+00	2.749E-01	-0.628
AC-227	-6.303E-02		5.021E-01	8.361E-01	1.404E-01	-0.075
TH-227	-6.303E-02		5.021E-01	8.361E-01	1.614E-01	-0.075
TH-229	-3.800E-01		7.294E-01	1.140E+00	1.240E-01	-0.333
PA-231	7.320E-01		2.052E+00	3.473E+00	5.729E-01	0.211
TH-231	-9.336E-01		9.554E-01	1.486E+00	2.749E-01	-0.628
U-231	3.346E-01		1.954E+00	2.825E+00	3.164E-01	0.118
PA-233	6.160E-02		8.499E-02	1.458E-01	1.543E-02	0.422
PA-234	1.181E-01		3.983E-01	6.706E-01	1.278E-01	0.176
PA-234M	6.853E+00		5.916E+00	1.057E+01	1.096E+00	0.649
TH-234	9.968E-01		2.555E+00	4.247E+00	8.274E-01	0.235
U-235	1.167E-01		3.012E-01	4.864E-01	8.912E-02	0.240
NP-236	-2.960E-02		1.080E-01	1.720E-01	1.810E-02	-0.172
U-238	9.968E-01		2.555E+00	4.247E+00	8.274E-01	0.235
NP-239	1.671E-02		2.526E-01	4.121E-01	4.160E-02	0.041
AM-241	-9.672E-02		3.677E-01	5.276E-01	6.193E-02	-0.183

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.651E-02		1.315E-01	2.125E-01	2.239E-02	-0.172
AM-246	7.345E-03		1.845E-01	3.023E-01	2.644E-02	0.024
CM-247	-1.671E-02		4.720E-02	7.589E-02	6.418E-03	-0.220
CF-249	3.824E-02		5.232E-02	8.949E-02	7.634E-03	0.427
CF-251	6.947E-03		1.785E-01	2.870E-01	3.086E-02	0.024

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G246557001           *
* Acquisition date  : 19-FEB-2010 13:07:20 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 02:00:01.42      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       :  3-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G246557001           Analyst initials: MXR1           *
* Batch Number      : 951362               Sample Quantity : 1.2915E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME :  3-FEB-2010 11:04:32 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	3.458E+01	3.906E+00	3.444E-01	1.993E+00
CD-109	1.270E+00	1.893E+00	1.088E+00	9.660E-01
SN-126	1.246E-01	1.858E-01	1.134E-01	9.482E-02
TL-208	5.891E-01	1.232E-01	4.065E-02	6.284E-02
BI-211	4.945E+00	7.700E-01	2.178E-01	3.929E-01
PB-212	2.250E+00	2.995E-01	5.743E-02	1.528E-01
PO-212	2.250E+00	2.995E-01	5.743E-02	1.528E-01
BI-214	1.364E+00	2.616E-01	6.437E-02	1.334E-01
PB-214	1.720E+00	2.819E-01	7.589E-02	1.438E-01
PO-214	1.720E+00	2.819E-01	7.589E-02	1.438E-01
PO-216	2.250E+00	2.995E-01	5.743E-02	1.528E-01
PO-218	1.720E+00	2.819E-01	7.589E-02	1.438E-01
RA-224	5.792E+00	1.724E+00	6.533E-01	8.797E-01
RA-226	1.364E+00	2.616E-01	6.437E-02	1.334E-01
AC-228	2.001E+00	4.203E-01	1.445E-01	2.145E-01
RA-228	2.001E+00	4.203E-01	1.445E-01	2.145E-01
TH-228	2.287E+00	3.044E-01	5.836E-02	1.553E-01
TH-230	1.364E+00	2.616E-01	6.437E-02	1.334E-01
TH-232	2.001E+00	4.203E-01	1.445E-01	2.145E-01
U-234	1.364E+00	2.616E-01	6.437E-02	1.334E-01
NP-237	3.659E-01	5.507E-01	3.201E-01	2.810E-01
AM-243	4.261E-01	1.364E-01	7.688E-02	6.958E-02
ANH-511	1.839E-01	8.762E-02	2.881E-02	4.471E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	6.080E-01	4.220E-01	3.863E-01	2.153E-01	NOT IDENT.
NA-22	-3.918E-02	5.843E-02	4.504E-02	2.981E-02	NOT IDENT.
NA-24	-1.044E+06	2.228E+06	0.000E+00	1.137E+06	SHORT HLIF
AL-26	-1.943E-02	3.351E-02	2.453E-02	1.710E-02	NOT IDENT.

TI-44	4.343E-01	8.525E-02	6.170E-02	4.350E-02	FAIL ABUN
SC-46	1.901E-02	4.881E-02	4.282E-02	2.490E-02	FAIL ABUN
V-48	-7.821E-02	9.365E-02	7.286E-02	4.778E-02	NOT IDENT.
CR-51	-2.029E-02	5.060E-01	4.386E-01	2.582E-01	NOT IDENT.
MN-52	7.138E-03	2.601E-01	2.224E-01	1.327E-01	NOT IDENT.
MN-54	1.893E-02	5.015E-02	4.391E-02	2.558E-02	NOT IDENT.
CO-56	-5.706E-04	4.846E-02	4.131E-02	2.472E-02	NOT IDENT.
CO-57	-5.265E-03	3.336E-02	2.861E-02	1.702E-02	NOT IDENT.
CO-58	-4.919E-02	4.824E-02	3.765E-02	2.461E-02	NOT IDENT.
FE-59	-3.032E-02	1.231E-01	1.008E-01	6.281E-02	NOT IDENT.
CO-60	4.779E-02	5.004E-02	4.544E-02	2.553E-02	NOT IDENT.
ZN-65	-1.028E-01	1.337E-01	8.589E-02	6.823E-02	NOT IDENT.
GE-68	7.675E-01	1.582E+00	1.382E+00	8.074E-01	NOT IDENT.
AS-73	-6.033E-01	2.207E+00	1.949E+00	1.126E+00	NOT IDENT.
AS-74	-2.794E-02	1.123E-01	9.191E-02	5.727E-02	NOT IDENT.
SE-75	4.501E-03	6.221E-02	4.773E-02	3.174E-02	FAIL ABUN
BR-77	-1.875E+00	1.743E+01	1.371E+01	8.895E+00	FAIL ABUN
SR-82	-1.629E-01	5.667E-01	4.034E-01	2.891E-01	NOT IDENT.
RB-83	-1.367E-02	9.141E-02	6.877E-02	4.664E-02	NOT IDENT.
RB-84	-2.215E-02	8.204E-02	6.807E-02	4.186E-02	NOT IDENT.
KR-85	2.756E+01	1.080E+01	9.297E+00	5.512E+00	NOT IDENT.
SR-85	1.427E-01	5.593E-02	4.813E-02	2.854E-02	NOT IDENT.
RB-86	3.846E-01	1.043E+00	9.019E-01	5.320E-01	NOT IDENT.
Y-88	-3.867E-03	3.960E-02	3.242E-02	2.020E-02	NOT IDENT.
ZR-88	-5.398E-02	4.174E-02	3.301E-02	2.129E-02	NOT IDENT.
Y-91	1.159E+01	2.779E+01	2.378E+01	1.418E+01	NOT IDENT.
NB-94	1.563E-02	4.207E-02	3.723E-02	2.146E-02	NOT IDENT.
NB-95	5.766E-02	6.428E-02	5.140E-02	3.280E-02	NOT IDENT.
NB-95M	5.778E-01	1.967E-01	1.638E-01	1.004E-01	NOT IDENT.
ZR-95	-3.860E-02	8.421E-02	6.979E-02	4.296E-02	NOT IDENT.
NB-97	-1.561E+05	2.969E+05	0.000E+00	1.515E+05	SHORT HLIF
ZR-97	1.348E+07	6.647E+06	0.000E+00	3.391E+06	SHORT HLIF
MO-99	-3.335E+00	1.671E+01	1.416E+01	8.523E+00	NOT IDENT.
TC-99M	-7.838E+17	7.112E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.721E-02	4.779E-02	3.960E-02	2.438E-02	NOT IDENT.
RH-102	-2.942E-02	3.787E-02	3.042E-02	1.932E-02	NOT IDENT.
RU-103	-2.316E-02	5.271E-02	4.316E-02	2.689E-02	FAIL ABUN
RH-106	1.834E-01	3.752E-01	3.242E-01	1.914E-01	FAIL ABUN
RU-106	1.834E-01	3.748E-01	3.242E-01	1.912E-01	FAIL ABUN
AG-108M	-8.699E-03	3.906E-02	3.282E-02	1.993E-02	NOT IDENT.
AG-110M	-2.636E-02	4.248E-02	3.527E-02	2.168E-02	NOT IDENT.
IN-111	6.439E-02	1.942E+00	1.493E+00	9.909E-01	NOT IDENT.
IN-113M	-5.093E-02	5.998E-02	4.893E-02	3.060E-02	NOT IDENT.
SN-113	-5.093E-02	5.998E-02	4.893E-02	3.060E-02	NOT IDENT.
IN-114M	-1.791E-01	2.997E-01	2.118E-01	1.529E-01	NOT IDENT.
CD-115	-8.280E+00	1.785E+01	1.452E+01	9.109E+00	NOT IDENT.
SN-117M	-1.658E-02	7.761E-02	6.558E-02	3.960E-02	NOT IDENT.
SB-122	9.504E-01	3.445E+00	2.941E+00	1.758E+00	NOT IDENT.
I-123	1.139E+04	2.498E+07	0.000E+00	1.275E+07	SHORT HLIF
TE-123M	1.741E-05	3.820E-02	3.255E-02	1.949E-02	NOT IDENT.
I-124	-3.722E-01	1.105E+00	7.658E-01	5.635E-01	FAIL ABUN
SB-124	4.115E-02	9.928E-02	8.859E-02	5.065E-02	FAIL ABUN
SB-125	-3.420E-02	1.149E-01	9.621E-02	5.860E-02	FAIL ABUN
TE-125M	8.995E-01	1.254E+01	1.091E+01	6.400E+00	NOT IDENT.
I-126	-8.309E-02	2.500E-01	2.123E-01	1.275E-01	NOT IDENT.
SB-126	-9.123E-02	1.938E-01	1.618E-01	9.889E-02	FAIL ABUN
SB-127	5.698E-01	1.957E+00	1.728E+00	9.986E-01	NOT IDENT.
XE-127	2.420E-03	7.286E-02	5.663E-02	3.717E-02	NOT IDENT.
I-131	1.966E-01	1.661E-01	1.511E-01	8.476E-02	NOT IDENT.
TE-132	2.217E-01	1.085E+00	9.669E-01	5.536E-01	NOT IDENT.
BA-133	3.693E-02	5.878E-02	4.609E-02	2.999E-02	NOT IDENT.
I-133	-7.815E+03	1.590E+04	0.000E+00	8.113E+03	SHORT HLIF
CS-134	5.067E-02	6.279E-02	5.650E-02	3.204E-02	NOT IDENT.
CS-135	3.583E-01	2.316E-01	1.901E-01	1.181E-01	NOT IDENT.
I-135	-9.996E+15	7.857E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.565E-02	1.337E-01	1.068E-01	6.824E-02	FAIL ABUN
BA-137M	4.163E-02	4.656E-02	4.249E-02	2.375E-02	NOT IDENT.
CS-137	4.401E-02	4.922E-02	4.492E-02	2.511E-02	NOT IDENT.
CE-139	1.557E-02	3.985E-02	3.438E-02	2.033E-02	NOT IDENT.
BA-140	-1.356E-01	3.187E-01	2.566E-01	1.626E-01	NOT IDENT.
LA-140	-6.569E-02	1.130E-01	8.760E-02	5.767E-02	NOT IDENT.
CE-141	9.792E-02	9.001E-02	7.854E-02	4.592E-02	NOT IDENT.
CE-143	1.649E+03	5.181E+02	0.000E+00	2.643E+02	SHORT HLIF
CE-144	-1.729E-01	2.763E-01	2.307E-01	1.410E-01	NOT IDENT.
PM-144	7.076E-03	3.961E-02	3.470E-02	2.021E-02	NOT IDENT.
PR-144	4.798E-01	2.686E+00	2.353E+00	1.370E+00	NOT IDENT.
PM-146	-4.514E-03	5.775E-02	4.889E-02	2.947E-02	NOT IDENT.
ND-147	5.314E-01	7.309E-01	6.435E-01	3.729E-01	NOT IDENT.

PM-149	4.600E+01	1.621E+02	1.433E+02	8.268E+01	NOT IDENT.
EU-152	3.180E-02	1.803E-01	1.085E-01	9.199E-02	FAIL ABUN
GD-153	-6.545E-03	1.210E-01	9.212E-02	6.172E-02	NOT IDENT.
EU-154	-1.197E-01	1.640E-01	1.254E-01	8.366E-02	NOT IDENT.
EU-155	5.705E-02	1.442E-01	1.269E-01	7.358E-02	FAIL ABUN
TB-160	-6.674E-02	1.623E-01	1.328E-01	8.278E-02	FAIL ABUN
HO-166M	-3.152E-02	7.815E-02	6.565E-02	3.987E-02	FAIL ABUN
TM-171	1.861E+01	4.845E+01	4.290E+01	2.472E+01	NOT IDENT.
LU-176	-2.130E-02	3.344E-02	2.640E-02	1.706E-02	FAIL ABUN
LU-177	3.161E+00	2.424E+00	1.495E+00	1.237E+00	FAIL ABUN
LU-177M	-2.740E-01	2.385E-01	1.897E-01	1.217E-01	FAIL ABUN
HF-181	-6.470E-02	5.898E-02	4.627E-02	3.009E-02	FAIL ABUN
W-181	2.958E+00	1.441E+00	5.954E-01	7.351E-01	FAIL ABUN
TA-182	-8.472E-02	2.713E-01	2.195E-01	1.384E-01	FAIL ABUN
RE-183	-7.908E-02	1.491E-01	1.219E-01	7.606E-02	FAIL ABUN
RE-184	6.468E-02	3.053E-01	2.709E-01	1.558E-01	NOT IDENT.
OS-185	-3.538E-02	5.530E-02	4.354E-02	2.821E-02	NOT IDENT.
RE-188	7.053E-02	2.353E-01	2.029E-01	1.201E-01	NOT IDENT.
W-188	-7.273E+00	1.080E+01	7.793E+00	5.508E+00	FAIL ABUN
IR-192	-1.340E-02	4.544E-02	3.891E-02	2.319E-02	FAIL ABUN
AU-195	3.985E-01	3.398E-01	2.724E-01	1.734E-01	FAIL ABUN
TL-200	2.166E+02	1.085E+03	0.000E+00	5.535E+02	SHORT HLIF
TL-201	1.319E+00	1.147E+01	9.795E+00	5.853E+00	NOT IDENT.
TL-202	5.797E-03	9.141E-02	7.821E-02	4.664E-02	NOT IDENT.
HG-203	2.689E-02	5.686E-02	5.066E-02	2.901E-02	NOT IDENT.
BI-207	3.991E-02	7.339E-02	6.416E-02	3.744E-02	FAIL ABUN
TL-207	-9.336E-01	9.363E-01	7.618E-01	4.777E-01	FAIL ABUN
PO-209	3.971E+00	9.211E+00	8.099E+00	4.699E+00	NOT IDENT.
BI-210	2.530E+00	1.354E+01	1.222E+01	6.906E+00	NOT IDENT.
PB-210	2.530E+00	1.354E+01	1.222E+01	6.906E+00	NOT IDENT.
PO-210	2.530E+00	1.354E+01	1.222E+01	6.906E+00	NOT IDENT.
PB-211	-1.733E+00	1.613E+00	9.522E-01	8.229E-01	NOT IDENT.
BI-212	9.644E-01	4.284E-01	3.981E-01	2.186E-01	NOT IDENT.
PO-215	-9.336E-01	9.363E-01	7.618E-01	4.777E-01	FAIL ABUN
RN-219	-1.696E-02	5.199E-01	4.447E-01	2.653E-01	FAIL ABUN
RN-220	1.246E+01	3.477E+01	2.989E+01	1.774E+01	NOT IDENT.
RA-223	-9.336E-01	9.363E-01	7.618E-01	4.777E-01	FAIL ABUN
AC-227	-6.303E-02	4.921E-01	4.302E-01	2.510E-01	FAIL ABUN
TH-227	-6.303E-02	4.921E-01	4.302E-01	2.511E-01	FAIL ABUN
TH-229	-3.800E-01	7.148E-01	5.891E-01	3.647E-01	FAIL ABUN
PA-231	7.320E-01	2.011E+00	1.784E+00	1.026E+00	FAIL ABUN
TH-231	-9.336E-01	9.363E-01	7.618E-01	4.777E-01	FAIL ABUN
U-231	3.346E-01	1.915E+00	1.475E+00	9.770E-01	FAIL ABUN
PA-233	6.160E-02	8.329E-02	7.481E-02	4.250E-02	FAIL ABUN
PA-234	1.181E-01	3.903E-01	3.380E-01	1.991E-01	FAIL ABUN
PA-234M	6.853E+00	5.798E+00	5.321E+00	2.958E+00	NOT IDENT.
TH-234	9.968E-01	2.504E+00	2.232E+00	1.278E+00	FAIL ABUN
U-235	1.167E-01	2.952E-01	2.525E-01	1.506E-01	FAIL ABUN
NP-236	-2.960E-02	1.058E-01	8.912E-02	5.400E-02	FAIL ABUN
U-238	9.968E-01	2.504E+00	2.232E+00	1.278E+00	FAIL ABUN
NP-239	1.671E-02	2.476E-01	2.146E-01	1.263E-01	FAIL ABUN
AM-241	-9.672E-02	3.604E-01	2.775E-01	1.839E-01	NOT IDENT.
CM-243	-3.651E-02	1.289E-01	1.108E-01	6.577E-02	FAIL ABUN
AM-246	7.345E-03	1.808E-01	1.521E-01	9.223E-02	NOT IDENT.
CM-247	-1.671E-02	4.625E-02	3.878E-02	2.360E-02	NOT IDENT.
CF-249	3.824E-02	5.127E-02	4.575E-02	2.616E-02	NOT IDENT.
CF-251	6.947E-03	1.750E-01	1.485E-01	8.926E-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
46.50	317.6914
46.50	317.6914
46.50	317.6914
48.70	317.9432
49.72	340.4892
51.35	326.0690
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52.97	342.3178
53.15	342.4176
53.44	344.5025
54.07	351.5936
56.28	357.6548
56.28	357.6570
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57.53	339.6264
57.53	339.6274
57.60	339.6628
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57.98	319.4440
59.32	385.3596
59.32	385.3596
59.40	385.4066
59.54	385.4875
59.72	385.5928
60.01	399.7602
61.10	403.5287
61.14	403.5525
61.30	388.0640
63.00	413.0589
63.29	413.2332
63.29	413.2332
63.58	413.4079
64.28	413.8270
65.12	414.3272
65.20	414.3752
65.20	414.3752
66.05	414.8774
66.72	415.2708
66.83	415.3361
66.91	415.3837
67.20	415.5532
67.20	415.5532
67.75	473.4853
67.85	468.8334
68.90	456.9146
68.90	456.9146
69.30	457.1660
69.67	439.0002
70.82	454.1707
70.82	454.1707
70.83	454.1777
72.80	455.3885
72.87	455.4315
72.87	455.4315
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74.81	519.1435
74.81	519.1435
74.81	519.1435
74.81	519.1435
74.81	519.1435
74.81	519.1435
74.81	519.1435
74.97	519.2532
75.28	519.4647
75.70	519.7500
77.11	520.7056
77.11	520.7056

77.11	520.7056
77.11	520.7056
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77.11	520.7056
77.11	520.7056
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81.07	576.3779
81.07	576.3779
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83.37	523.4385
83.78	523.7051
83.78	523.7051
83.78	523.7051
83.78	523.7051
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85.43	499.0103
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86.54	624.6025
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86.72	624.7397
86.79	624.7894
86.94	624.9053
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87.57	702.0375
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88.36	634.0466
88.47	634.1304
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92.29	636.9884
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94.67	398.7037
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94.90	426.4808
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98.44	339.9373
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99.55	340.9030
99.86	363.6247
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100.10	363.7223
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103.76	387.3445
105.00	379.6318
105.31	376.6710
108.00	376.7181
109.28	389.6283

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111.00	366.5142
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116.30	345.6058
117.00	356.2661
117.00	356.2661
117.66	354.4174
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121.62	348.4861
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122.06	362.2478
122.32	363.3861
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122.32	363.3861
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144.24	375.1281
144.24	375.1281
144.24	375.1281
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152.70	349.8972
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154.21	358.9699
154.21	358.9699
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163.89	329.2656
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167.43	336.7476
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171.86	339.0318
172.10	332.5325
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176.60	352.3672
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198.60	367.1355
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201.83	370.2234
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209.75	302.3323
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227.20	284.0754
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228.18	276.9714
228.18	276.9714
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236.00	247.2501
236.00	247.2501
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238.63	229.3213
238.63	229.3213
238.63	229.3213
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241.98	229.8111
241.98	229.8111
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249.79	234.6337
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252.85	237.8552
252.85	237.8552
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256.20	238.3430
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262.80	258.0521
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269.46	216.8770
269.46	216.8770
269.46	216.8770
269.46	216.8770
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293.26	0.0000
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295.21	194.4847

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297.23	142.4652
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300.09	196.5957
300.09	196.5957
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301.29	196.7244
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323.87	242.7930
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334.20	214.7125
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338.28	168.8917
338.28	168.8917
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338.32	168.8960
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351.92	164.1855
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367.94	0.0000
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387.95	139.1985
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391.69	178.2811
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445.03	135.6106
445.03	135.6106
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513.99	99.5766
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529.87	0.0000
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569.67	104.8452
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602.71	106.4189
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609.31	84.6022
609.31	84.6022
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612.46	81.4362
614.37	56.1358
618.01	80.8111
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633.10	94.0226
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635.90	80.9791
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661.65	96.5533
664.57	0.0000
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666.33	116.9567
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695.00	74.3376
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696.49	81.8089
697.00	87.4002
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722.78	164.9284
722.89	164.9355
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727.18	76.9434
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747.13	88.7255
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752.31	70.8984
753.82	68.0918
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756.87	78.5639
763.93	78.0469
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766.84	109.0316
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778.00	84.2795
778.57	95.2474
778.89	94.8745
783.80	71.5408
785.46	86.8436
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798.80	106.3276
801.93	90.1216
805.60	91.1731
810.29	73.9953
810.76	84.5768
815.85	74.1081
817.79	70.2955
818.51	65.4945
819.60	60.6967
826.30	85.9019
828.27	0.0000
831.60	93.7596
831.96	93.7675
834.83	90.9382
836.80	0.0000
846.75	70.8494
848.13	66.0203
856.28	0.0000
856.80	75.0711
860.37	72.0804
867.32	74.6526
867.82	76.7765
871.10	69.3533
873.19	49.8441
874.81	60.6213
875.33	0.0000
876.40	70.4282
879.36	62.6510
880.27	51.8948
880.51	50.9188
881.50	60.7260
883.24	62.7135
884.67	56.8554
889.25	61.8298
896.60	61.9464
898.02	62.9531
899.00	74.7754
903.28	72.2308
911.07	76.9796
911.07	76.9796
911.07	76.9796
919.63	59.3433
920.93	74.2035
925.00	58.4334
925.24	59.4275
926.50	61.4273
935.52	53.6221
937.48	73.5167
944.10	62.6917
946.00	66.7028
949.00	69.7422
962.29	56.5461
964.01	56.5703
966.15	59.0288
968.20	59.0588
969.11	63.5060
969.11	63.5060
969.11	63.5060
977.42	58.1864
980.50	57.2261
983.50	73.3416
989.30	50.3042
996.32	75.5829
1001.03	53.4712
1001.68	58.5251
1004.76	64.6263
1021.30	0.0000
1024.50	0.0000
1034.80	42.7092
1036.00	52.8929
1037.82	67.1602
1038.57	63.1025
1038.76	0.0000
1045.16	53.0050
1046.59	58.1202
1048.07	59.1588

1050.47	56.1302
1050.47	56.1302
1062.04	70.6031
1063.62	69.6048
1076.63	58.5168
1077.35	56.4726
1078.86	61.6260
1085.78	62.7499
1099.22	72.2245
1112.02	62.0801
1112.84	63.8663
1115.52	78.1049
1120.29	65.7462
1120.29	65.7462
1120.29	65.7462
1120.29	65.7462
1120.51	65.7488
1121.28	56.8750
1124.00	0.0000
1129.67	70.6286
1131.51	0.0000
1147.95	0.0000
1167.94	76.4456
1173.22	73.3838
1175.09	75.5098
1177.93	73.4578
1189.05	68.3695
1204.90	87.5897
1205.75	0.0000
1213.00	91.9631
1221.42	88.9458
1230.97	83.3299
1235.34	78.2734
1236.41	0.0000
1238.25	74.6786
1246.25	82.0961
1260.41	0.0000
1271.85	60.9707
1274.45	66.3518
1274.54	65.2841
1291.56	46.1739
1298.22	0.0000
1312.09	42.0453
1325.50	49.7210
1325.50	49.7210
1332.49	31.3883
1333.61	27.0640
1360.21	27.9785
1362.66	0.0000
1365.15	25.2042
1368.21	25.1465
1368.53	0.0000
1376.25	21.2805
1384.27	24.5911
1394.10	31.9094
1395.20	36.6101
1407.95	27.2866
1434.06	18.9076
1436.60	17.9709
1457.56	0.0000
1460.81	27.5486
1489.15	22.9135
1509.49	15.3298
1596.49	30.1448
1620.62	17.5737
1678.03	0.0000
1691.02	16.7877
1691.02	16.7877
1706.46	0.0000
1750.46	0.0000
1764.49	10.4890
1764.49	10.4890
1764.49	10.4890
1764.49	10.4890
1770.23	13.9976
1771.40	64.0000
1791.20	0.0000
1808.65	15.0853

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G246557001

Total Uranium Activity	3.0196E+00	ug/g
Total Uranium Counting Unc.	7.4504E+00	ug/g
Total Uranium Tpu	3.8012E-06	ug/g
Total Uranium Mda	6.6410E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 951362                    SAMPLE ID   : G246557001        *
*   ANALYST       : MXR1                      DETECTOR    : GAM15             *
*   SAMPLE DATE   :  3-FEB-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 19-FEB-2010 13:07:20.45    SAMPLE ALQT:  129.150 GRAM      *
*                                                                             *
*******************************************************************************


         GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 1.129E+01
         GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.819E+00
         GROSS GAMMA MDA     (pCi/GRAM  )  : 4.086E+00
         GROSS GAMMA DLC     (pCi/GRAM  )  : 1.983E+00
```

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 19:30:10.66

```
*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246611001.CNF;1
Sample date       : 4-FEB-2010 12:00:00. Acquisition date : 19-FEB-2010 17:29:39
Sample ID         : G246611001           Sample quantity  : 1.12990E+02 GRAM
Detector name     : GAM07                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.22  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 951362                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.09*	45	303	0.98	91.85	88	8	6.31E-03	71.7	
2	0	63.58*	80	437	0.89	126.81	123	8	1.11E-02	48.1	
3	2	74.76*	381	339	1.22	149.17	144	16	5.29E-02	10.1	4.93E+00
4	2	77.17*	677	343	1.22	153.99	144	16	9.40E-02	6.3	
5	5	84.12*	111	353	1.65	167.88	164	30	1.54E-02	30.7	2.45E+00
6	5	87.30	272	298	1.24	174.24	164	30	3.78E-02	12.1	
7	5	89.78*	161	289	1.18	179.20	164	30	2.24E-02	19.5	
8	5	92.70*	219	359	1.53	185.03	164	30	3.04E-02	18.4	
9	0	129.01	72	262	0.99	257.65	254	8	9.95E-03	41.2	
10	0	185.71*	182	295	1.25	371.03	366	12	2.53E-02	21.0	
11	0	209.41	107	269	1.21	418.42	412	12	1.48E-02	32.4	
12	5	238.74*	988	133	1.11	477.06	470	21	1.37E-01	3.9	9.81E-01
13	5	241.79	267	207	2.01	483.18	470	21	3.70E-02	16.5	
14	0	271.29	58	202	1.16	542.16	535	11	8.07E-03	49.2	
15	0	295.37	312	140	1.14	590.31	586	9	4.34E-02	8.8	
16	0	300.17*	78	108	0.80	599.90	596	8	1.08E-02	26.4	
17	0	338.69	195	177	1.22	676.93	672	11	2.71E-02	15.1	
18	0	352.06*	455	141	1.14	703.68	699	11	6.32E-02	7.1	
19	0	463.21*	72	91	1.04	925.95	920	11	1.00E-02	28.4	
20	0	510.90*	86	118	1.54	1021.31	1015	15	1.20E-02	34.1	
21	0	583.30*	324	80	1.40	1166.08	1159	12	4.50E-02	7.6	
22	0	609.50*	366	69	1.50	1218.48	1213	12	5.09E-02	7.1	
23	0	727.43*	93	79	2.04	1454.30	1447	15	1.29E-02	23.4	
24	0	911.78*	191	59	1.69	1822.96	1817	15	2.66E-02	11.6	
25	0	969.66*	92	60	1.17	1938.70	1932	11	1.27E-02	19.7	
26	0	1121.05*	71	51	2.24	2241.45	2236	13	9.86E-03	24.9	
27	0	1461.21*	1442	29	2.17	2921.71	2912	19	2.00E-01	2.8	
28	0	1764.97*	57	9	1.26	3529.20	3519	17	7.85E-03	18.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 19-FEB-2010 19:30:12

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246611001.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-FEB-2010 12:00:00 Acquisition date : 19-FEB-2010 17:29:39
Sample ID : G246611001 Sample quantity : 112.99 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.22 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	*	3.977E+01	4.075E+00	5.654E-01	4.855E-02	70.338
CD-109	+	88.03	*	3.633E+00	9.392E-01	1.038E+00	9.781E-02	3.499
SN-126	+	64.28		5.720E-01	5.560E-01	6.052E-01	8.777E-02	0.945
	+	86.94		1.484E+00	7.125E-01	4.265E-01	1.770E-01	3.480
	+	87.57	*	3.570E-01	9.230E-02	1.023E-01	9.582E-03	3.491
TL-208		277.35		4.245E-01	3.966E-01	6.892E-01	8.439E-02	0.616
	+	510.84		4.825E-01	3.339E-01	2.476E-01	3.016E-02	1.949
	+	583.14	*	5.161E-01	9.284E-02	6.354E-02	6.078E-03	8.122
		860.37		2.679E-01	3.485E-01	5.959E-01	5.827E-02	0.450
BI-210	+	46.50	*	1.865E+00	2.679E+00	2.888E+00	2.709E-01	0.646
PB-210	+	46.50	*	1.865E+00	2.679E+00	2.888E+00	2.709E-01	0.646
PO-210	+	46.50	*	1.865E+00	2.678E+00	2.888E+00	2.457E-01	0.646
BI-211		72.87		2.430E+00	2.783E+00	4.248E+00	3.353E-01	0.572
	+	351.07	*	3.172E+00	5.312E-01	3.387E-01	3.038E-02	9.367
PB-212	+	74.81		1.947E+00	4.620E-01	4.442E-01	5.479E-02	4.383
	+	77.11		1.995E+00	3.015E-01	2.568E-01	2.120E-02	7.766
	+	87.30		1.651E+00	4.577E-01	4.736E-01	6.479E-02	3.487
	+	238.63	*	1.499E+00	1.841E-01	9.147E-02	8.749E-03	16.385
	+	300.09		1.833E+00	9.850E-01	1.284E+00	1.332E-01	1.427
PO-212	+	74.81		1.947E+00	4.620E-01	4.442E-01	5.479E-02	4.383
	+	77.11		1.995E+00	3.015E-01	2.568E-01	2.120E-02	7.766
	+	87.30		1.651E+00	4.577E-01	4.736E-01	6.479E-02	3.487
		115.19		2.148E+00	3.446E+00	5.714E+00	4.921E-01	0.376
	+	238.63	*	1.499E+00	1.841E-01	9.147E-02	8.749E-03	16.385
	+	300.09		1.833E+00	9.850E-01	1.284E+00	1.332E-01	1.427
BI-214	+	609.31	*	1.101E+00	1.932E-01	1.197E-01	1.239E-02	9.191
	+	1120.29		1.105E+00	5.633E-01	5.953E-01	6.392E-02	1.857
	+	1764.49		1.209E+00	4.648E-01	3.330E-01	2.739E-02	3.631
PB-214	+	74.81		3.355E+00	7.727E-01	7.654E-01	8.373E-02	4.383
	+	77.11		3.419E+00	5.789E-01	4.403E-01	4.946E-02	7.766
	+	87.30		2.829E+00	7.631E-01	8.113E-01	9.823E-02	3.487
	+	241.98		2.431E+00	8.380E-01	5.510E-01	5.592E-02	4.413
	+	295.21		1.287E+00	2.636E-01	2.197E-01	2.326E-02	5.855
	+	351.92	*	1.104E+00	1.935E-01	1.244E-01	1.291E-02	8.872

Sample ID : G246611001 Acquisition date : 19-FEB-2010 17:29:39

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.355E+00	7.727E-01	7.654E-01	8.373E-02	4.383
	+	77.11		3.419E+00	5.789E-01	4.403E-01	4.946E-02	7.766
	+	87.30		2.829E+00	7.631E-01	8.113E-01	9.823E-02	3.487
	+	241.98		2.431E+00	8.380E-01	5.510E-01	5.592E-02	4.413
	+	295.21		1.287E+00	2.636E-01	2.197E-01	2.326E-02	5.855
	+	351.92	*	1.104E+00	1.935E-01	1.244E-01	1.291E-02	8.872
PO-216	+	74.81		1.947E+00	4.620E-01	4.442E-01	5.479E-02	4.383
	+	77.11		1.995E+00	3.015E-01	2.568E-01	2.120E-02	7.766
	+	87.30		1.651E+00	4.577E-01	4.736E-01	6.479E-02	3.487
	+	238.63	*	1.499E+00	1.841E-01	9.147E-02	8.749E-03	16.385
	+	300.09		1.833E+00	9.850E-01	1.284E+00	1.332E-01	1.427
PO-218	+	74.81		3.355E+00	7.727E-01	7.654E-01	8.373E-02	4.383
	+	77.11		3.419E+00	5.789E-01	4.403E-01	4.946E-02	7.766
	+	87.30		2.829E+00	7.631E-01	8.113E-01	9.823E-02	3.487
	+	241.98		2.431E+00	8.380E-01	5.510E-01	5.592E-02	4.413
	+	295.21		1.287E+00	2.636E-01	2.197E-01	2.326E-02	5.855
	+	351.92	*	1.104E+00	1.935E-01	1.244E-01	1.291E-02	8.872
RA-224	+	240.98	*	4.610E+00	1.568E+00	1.041E+00	8.805E-02	4.428
RA-226	+	609.31	*	1.101E+00	1.932E-01	1.197E-01	1.239E-02	9.191
	+	1120.29		1.105E+00	5.633E-01	5.953E-01	6.392E-02	1.857
	+	1764.49		1.209E+00	4.648E-01	3.330E-01	2.739E-02	3.631
AC-228	+	338.32		1.499E+00	7.669E-01	3.937E-01	1.624E-01	3.807
	+	911.07	*	1.355E+00	3.510E-01	2.509E-01	2.923E-02	5.399
	+	969.11		1.143E+00	5.247E-01	5.141E-01	1.208E-01	2.222
RA-228	+	338.32		1.499E+00	7.669E-01	3.937E-01	1.624E-01	3.807
	+	911.07	*	1.355E+00	3.510E-01	2.509E-01	2.923E-02	5.399
	+	969.11		1.143E+00	5.247E-01	5.141E-01	1.208E-01	2.222
TH-228	+	74.81		1.977E+00	4.317E-01	4.510E-01	3.666E-02	4.383
	+	77.11		2.025E+00	3.062E-01	2.608E-01	2.152E-02	7.766
	+	87.30		1.676E+00	4.334E-01	4.808E-01	4.490E-02	3.487
	+	238.63	*	1.522E+00	1.869E-01	9.287E-02	8.883E-03	16.385
	+	300.09		1.861E+00	1.477E+00	1.304E+00	7.729E-01	1.427
TH-230	+	609.31	*	1.100E+00	1.932E-01	1.197E-01	1.239E-02	9.191
	+	1120.29		1.105E+00	5.633E-01	5.953E-01	6.392E-02	1.857
	+	1764.49		1.209E+00	4.648E-01	3.330E-01	2.739E-02	3.631
TH-232	+	338.32		1.499E+00	4.717E-01	3.937E-01	3.370E-02	3.807
	+	911.07	*	1.355E+00	3.510E-01	2.509E-01	2.923E-02	5.399
	+	969.11		1.143E+00	5.247E-01	5.141E-01	1.208E-01	2.222
TH-234	+	63.29	*	1.445E+00	1.411E+00	1.527E+00	2.658E-01	0.946
	+	92.38		1.917E+00	7.895E-01	6.865E-01	1.260E-01	2.792
U-234	+	609.31	*	1.100E+00	1.932E-01	1.197E-01	1.239E-02	9.191
	+	1120.29		1.105E+00	5.633E-01	5.953E-01	6.392E-02	1.857
	+	1764.49		1.209E+00	4.648E-01	3.330E-01	2.739E-02	3.631
NP-237	+	86.50	*	1.048E+00	3.468E-01	3.019E-01	6.827E-02	3.472
		95.87		-2.640E-01	9.752E-01	1.375E+00	3.405E-01	-0.192
U-238	+	63.29	*	1.445E+00	1.411E+00	1.527E+00	2.658E-01	0.946
	+	92.38		1.917E+00	7.283E-01	6.865E-01	6.289E-02	2.792
AM-243	+	74.67	*	3.157E-01	6.884E-02	7.215E-02	5.799E-03	4.375
	+	86.72		3.932E+01	1.016E+01	1.131E+01	1.048E+00	3.476

Sample ID : G246611001 Acquisition date : 19-FEB-2010 17:29:39

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-2.216E+00	3.859E+00	6.037E+00	5.192E-01	-0.367
		142.18		-9.514E+00	1.851E+01	2.878E+01	2.375E+00	-0.331
ANH-511	+	511.00	*	1.042E-01	7.160E-02	5.349E-02	4.753E-03	1.948

---- 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	*	-2.979E-02	3.576E-01	5.693E-01	5.373E-02	-0.052
NA-22		1274.54	*	1.438E-02	5.066E-02	8.610E-02	7.067E-03	0.167
NA-24		1368.53	*	5.922E-01	5.066E-02	Half-Life too short		
AL-26		1129.67		-3.765E-01	2.127E+00	3.327E+00	2.794E-01	-0.113
		1808.65	*	-3.850E-02	3.638E-02	4.935E-02	4.024E-03	-0.780
TI-44		67.85		3.836E-03	4.069E-02	6.010E-02	4.534E-03	0.064
	+	78.38	*	3.681E-01	5.565E-02	7.105E-02	5.948E-03	5.180
SC-46		889.25	*	1.476E-02	4.661E-02	7.795E-02	7.143E-03	0.189
	+	1120.51		1.894E-01	9.570E-02	1.411E-01	1.192E-02	1.342
V-48		944.10		-4.781E-01	1.083E+00	1.669E+00	1.518E-01	-0.286
		983.50	*	-3.504E-02	8.573E-02	1.321E-01	1.189E-02	-0.265
		1312.09		1.054E-02	8.763E-02	1.466E-01	1.201E-02	0.072
CR-51		320.08	*	-3.705E-02	4.209E-01	6.886E-01	6.222E-02	-0.054
MN-52		744.21		1.171E-01	2.538E-01	4.352E-01	3.950E-02	0.269
		848.13		5.912E+00	7.242E+00	1.274E+01	1.170E+00	0.464
		935.52		2.281E-01	3.176E-01	5.464E-01	4.975E-02	0.417
		1246.25		-1.662E+00	9.548E+00	1.557E+01	1.276E+00	-0.107
		1333.61		-1.726E+00	6.302E+00	1.009E+01	8.270E-01	-0.171
		1434.06	*	-1.345E-01	2.566E-01	3.844E-01	3.197E-02	-0.350
MN-54		834.83	*	5.416E-03	4.260E-02	7.028E-02	6.451E-03	0.077
CO-56		846.75	*	2.019E-02	3.941E-02	6.769E-02	6.214E-03	0.298
		977.42		-8.948E-01	3.620E+00	5.686E+00	5.128E-01	-0.157
		1037.82		2.554E-01	3.662E-01	6.509E-01	6.039E-02	0.392
		1175.09		-1.100E+00	2.754E+00	4.418E+00	3.596E-01	-0.249
		1238.25		1.749E-01	1.201E-01	2.170E-01	1.834E-02	0.806
		1360.21		-6.793E-02	1.138E+00	1.856E+00	1.528E-01	-0.037
		1771.40		-7.751E-01	3.480E-01	3.527E-01	2.897E-02	-2.198
CO-57		122.06	*	-1.432E-02	2.601E-02	4.066E-02	3.499E-03	-0.352
		136.48		-1.348E-01	2.167E-01	3.354E-01	3.020E-02	-0.402
CO-58		810.76	*	-3.312E-02	4.099E-02	6.097E-02	5.601E-03	-0.543
FE-59		142.65		2.827E-01	2.882E+00	4.569E+00	3.768E-01	0.062
		192.34		-5.671E-01	9.795E-01	1.551E+00	2.036E-01	-0.366
		1099.22	*	-7.839E-02	1.005E-01	1.543E-01	1.429E-02	-0.508
		1291.56		-1.875E-01	1.434E-01	1.988E-01	1.872E-02	-0.943
CO-60		1173.22		5.873E-02	5.216E-02	9.481E-02	7.715E-03	0.619
		1332.49	*	-4.984E-02	4.987E-02	7.265E-02	5.951E-03	-0.686
ZN-65		1115.52	*	-1.448E-02	1.189E-01	1.684E-01	1.429E-02	-0.086
GE-68		1077.35	*	-1.777E-01	1.517E+00	2.512E+00	2.177E-01	-0.071
AS-73		53.44	*	4.127E-01	4.978E-01	8.547E-01	6.418E-02	0.483
AS-74		595.88	*	1.053E-02	9.864E-02	1.662E-01	1.489E-02	0.063
		634.78		-1.690E-01	3.806E-01	6.083E-01	5.423E-02	-0.278

---- 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		2.190E+00	4.010E+00	6.057E+00	5.746E-01	0.362
		96.73		-6.557E-01	8.026E-01	1.099E+00	1.522E-01	-0.597
		121.11		-1.482E-02	1.359E-01	2.175E-01	2.436E-02	-0.068
		136.00		1.315E-02	3.926E-02	6.384E-02	5.367E-03	0.206
		198.60		3.853E+00	1.957E+00	3.444E+00	3.165E-01	1.119
		264.65	*	2.233E-03	5.145E-02	7.548E-02	6.446E-03	0.030
		279.53		1.459E-03	1.153E-01	1.913E-01	1.686E-02	0.008
		303.91		2.131E-01	2.542E+00	3.706E+00	4.237E-01	0.058
		400.65		1.785E-02	2.921E-01	4.757E-01	5.201E-02	0.038
BR-77	+	87.88		8.109E+02	2.096E+02	3.170E+02	2.982E+01	2.558
		200.40		-1.308E+02	1.751E+02	2.849E+02	2.342E+01	-0.459
	+	239.00		2.487E+02	2.844E+01	4.081E+01	3.448E+00	6.094
		249.79		4.388E+01	6.784E+01	1.170E+02	9.923E+00	0.375
		281.68		-7.442E+01	9.633E+01	1.520E+02	1.291E+01	-0.490
		297.23		3.030E+02	9.441E+01	1.327E+02	1.135E+01	2.283
		303.76		6.433E+00	2.229E+02	3.236E+02	2.770E+01	0.020
		439.47		6.688E+01	1.641E+02	2.727E+02	2.348E+01	0.245
		484.57		-1.805E+01	2.508E+02	3.991E+02	3.515E+01	-0.045
		520.65	*	2.831E+00	1.165E+01	1.998E+01	1.779E+00	0.142
		574.64		-1.623E+02	2.199E+02	3.448E+02	3.093E+01	-0.471
		578.91		1.078E+02	9.414E+01	1.552E+02	1.392E+01	0.695
		585.48		1.568E+03	3.073E+02	5.567E+02	4.993E+01	2.817
		755.35		-9.130E+01	1.908E+02	2.994E+02	2.724E+01	-0.305
		817.79		3.866E+01	1.464E+02	2.455E+02	2.252E+01	0.157
SR-82		698.33		2.161E+01	3.398E+01	5.925E+01	5.312E+00	0.365
		776.49	*	-2.926E-01	4.066E-01	6.176E-01	5.640E-02	-0.474
		1395.20		-1.989E+00	1.103E+01	1.758E+01	1.455E+00	-0.113
RB-83		520.41	*	1.380E-02	7.426E-02	1.268E-01	1.130E-02	0.109
		529.64		4.183E-02	1.085E-01	1.879E-01	1.677E-02	0.223
		552.65		1.688E-01	1.983E-01	3.544E-01	3.175E-02	0.476
RB-84		881.50	*	8.792E-04	7.964E-02	1.295E-01	1.188E-02	0.007
KR-85		513.99	*	1.399E+01	8.649E+00	1.446E+01	1.286E+00	0.967
SR-85		513.99	*	7.183E-02	4.440E-02	7.425E-02	6.603E-03	0.967
RB-86		1076.63	*	-3.537E-01	9.505E-01	1.537E+00	1.332E-01	-0.230
Y-88		898.02		-4.969E-02	5.033E-02	7.227E-02	6.646E-03	-0.688
		1836.01	*	-7.346E-03	3.619E-02	5.776E-02	4.688E-03	-0.127
ZR-88		392.90	*	-1.219E-02	3.295E-02	5.201E-02	4.332E-03	-0.234
Y-91		1204.90	*	5.966E+00	2.445E+01	4.135E+01	3.377E+00	0.144
NB-94		702.63	*	-3.188E-02	3.464E-02	5.212E-02	4.680E-03	-0.612
		871.10		3.799E-03	3.812E-02	6.261E-02	5.745E-03	0.061
NB-95		765.79	*	-2.121E-02	5.479E-02	8.731E-02	7.959E-03	-0.243
NB-95M		235.69	*	3.435E-02	1.342E-01	2.011E-01	1.952E-02	0.171
ZR-95		724.18		3.748E-02	1.147E-01	1.703E-01	1.660E-02	0.220
		756.15	*	-8.870E-03	7.915E-02	1.287E-01	1.278E-02	-0.069
NB-97		657.90	*	1.017E-01	7.915E-02	Half-Life too short		
		1024.50		-1.530E+00	7.915E-02	Half-Life too short		
ZR-97		254.15		1.173E+00	7.915E-02	Half-Life too short		
		355.39		-3.305E-01	7.915E-02	Half-Life too short		
		507.63	*	3.271E+00	7.915E-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		-1.120E+00	7.915E-02	Half-Life too short		
		1021.30		-3.598E+00	7.915E-02	Half-Life too short		
		1147.95		3.094E+00	7.915E-02	Half-Life too short		
		1362.66		-6.952E+00	7.915E-02	Half-Life too short		
		1750.46		-7.431E+00	7.915E-02	Half-Life too short		
MO-99		140.51		-5.967E+00	2.877E+01	4.444E+01	1.226E+01	-0.134
		181.06		-1.185E+01	1.936E+01	2.769E+01	4.992E+00	-0.428
		366.43		7.824E+01	9.002E+01	1.555E+02	1.317E+01	0.503
		739.58	*	-7.074E+00	1.313E+01	2.045E+01	3.158E+00	-0.346
		778.00		-2.120E+01	3.632E+01	5.592E+01	5.108E+00	-0.379
TC-99M		140.51	*	-1.149E+10	3.632E+01	Half-Life too short		
RH-101		127.23		-4.385E-03	3.705E-02	5.255E-02	4.463E-03	-0.083
		198.01	*	7.296E-02	3.597E-02	6.358E-02	5.216E-03	1.147
		325.23		-1.233E-01	2.461E-01	3.918E-01	3.360E-02	-0.315
RH-102		418.52		-6.252E-02	3.076E-01	4.896E-01	4.160E-02	-0.128
		475.06	*	-1.543E-02	3.245E-02	4.992E-02	4.380E-03	-0.309
		631.29		-2.029E-02	5.491E-02	8.825E-02	7.873E-03	-0.230
		697.49		-1.900E-02	8.034E-02	1.300E-01	1.165E-02	-0.146
		766.84		6.523E-02	1.414E-01	2.394E-01	2.183E-02	0.272
		1046.59		4.169E-02	1.408E-01	2.395E-01	2.106E-02	0.174
		1112.84		-1.184E-01	2.746E-01	4.179E-01	3.549E-02	-0.283
RU-103		497.08	*	1.859E-02	4.514E-02	7.455E-02	1.066E-02	0.249
	+	610.33		1.191E+01	2.624E+00	3.144E+00	5.300E-01	3.787
RH-106	+	511.85		5.206E-01	3.577E-01	4.775E-01	4.243E-02	1.090
		621.84	*	6.921E-02	3.218E-01	5.458E-01	7.403E-02	0.127
		1050.47		9.233E-01	2.790E+00	4.811E+00	4.224E-01	0.192
RU-106	+	511.85		5.206E-01	3.577E-01	4.775E-01	4.243E-02	1.090
		621.84	*	6.921E-02	3.217E-01	5.458E-01	4.878E-02	0.127
		1050.47		9.233E-01	2.790E+00	4.811E+00	4.224E-01	0.192
AG-108M		433.93	*	-3.405E-02	3.297E-02	4.806E-02	4.291E-03	-0.708
		614.37		3.101E-02	4.276E-02	6.724E-02	6.236E-03	0.461
		722.95		3.876E-03	4.999E-02	7.213E-02	6.747E-03	0.054
AG-110M		657.75	*	3.170E-02	3.647E-02	6.474E-02	5.898E-03	0.490
		677.61		-3.579E-01	3.310E-01	4.909E-01	4.486E-02	-0.729
		706.67		1.079E-01	2.211E-01	3.799E-01	3.502E-02	0.284
		763.93		-2.208E-01	2.166E-01	3.263E-01	3.049E-02	-0.677
		884.67		-4.913E-02	5.690E-02	8.361E-02	7.883E-03	-0.588
		937.48		1.406E-02	1.363E-01	2.226E-01	2.092E-02	0.063
		1384.27		-2.504E-01	1.690E-01	2.071E-01	1.764E-02	-1.209
IN-111		171.28		-1.911E-02	1.007E+00	1.591E+00	1.266E-01	-0.012
		245.39	*	-8.241E-01	1.225E+00	1.703E+00	1.442E-01	-0.484
IN-113M		391.69	*	1.555E-02	4.664E-02	7.759E-02	6.670E-03	0.200
SN-113		391.69	*	1.555E-02	4.664E-02	7.759E-02	6.670E-03	0.200
IN-114M		190.27	*	1.369E-01	2.016E-01	3.133E-01	2.549E-02	0.437
CD-115		260.90		-3.367E+01	1.372E+02	2.250E+02	1.911E+01	-0.150
		492.35		-2.149E+01	3.769E+01	5.688E+01	5.024E+00	-0.378
		527.90	*	4.025E+00	1.185E+01	2.046E+01	1.825E+00	0.197
SN-117M		156.02		6.654E-01	2.304E+00	3.715E+00	2.993E-01	0.179
		158.56	*	-2.221E-02	5.629E-02	8.742E-02	7.009E-03	-0.254

---- Non-Identified Nuclides ----

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SB-122		563.90	*	2.888E+00	2.350E+00	4.258E+00	3.817E-01	0.678
		692.80		-1.912E+01	4.952E+01	7.915E+01	7.084E+00	-0.242
I-123		159.00	*	-2.939E+00	4.952E+01	Half-Life too short		
		528.96		3.374E+02	4.952E+01	Half-Life too short		
TE-123M		159.00	*	-1.261E-02	2.894E-02	4.482E-02	3.616E-03	-0.281
I-124		602.71	*	-6.165E-02	8.360E-01	1.261E+00	1.130E-01	-0.049
		722.78		6.249E-01	5.336E+00	7.737E+00	6.987E-01	0.081
		1325.50		1.072E+01	4.131E+01	7.007E+01	5.742E+00	0.153
		1376.25		4.211E+01	3.434E+01	6.435E+01	5.312E+00	0.654
		1509.49		1.089E+01	1.665E+01	2.968E+01	2.482E+00	0.367
		1691.02		-6.403E-01	3.921E+00	6.091E+00	5.061E-01	-0.105
SB-124		602.71		-3.522E-03	4.775E-02	7.204E-02	6.455E-03	-0.049
		645.85		3.542E-01	5.047E-01	8.888E-01	8.349E-02	0.398
		709.31		1.592E-01	3.198E+00	5.300E+00	4.769E-01	0.030
		713.82		-8.303E-01	1.832E+00	2.899E+00	3.571E-01	-0.286
		722.78		5.175E-02	4.419E-01	6.407E-01	5.900E-02	0.081
	+	968.20		1.178E+01	4.768E+00	7.665E+00	6.929E-01	1.537
		1045.16		-1.864E+00	3.052E+00	4.747E+00	4.178E-01	-0.393
		1325.50		9.478E-01	3.654E+00	6.198E+00	5.079E-01	0.153
		1368.21		1.497E+00	2.053E+00	3.662E+00	4.848E-01	0.409
		1436.60		-1.760E+00	4.101E+00	6.258E+00	5.205E-01	-0.281
		1691.02	*	-1.251E-02	7.658E-02	1.190E-01	1.031E-02	-0.105
SB-125		427.89	*	9.466E-02	9.779E-02	1.691E-01	1.474E-02	0.560
	+	463.38		7.879E-01	4.539E-01	6.178E-01	5.803E-02	1.275
		600.56		-1.061E-01	1.994E-01	3.192E-01	3.056E-02	-0.332
		635.90		-1.217E-01	2.895E-01	4.637E-01	4.446E-02	-0.263
TE-125M		109.28	*	-5.140E+00	9.005E+00	1.413E+01	1.465E+00	-0.364
I-126		388.63		-2.288E-03	2.186E-01	3.549E-01	2.961E-02	-0.006
		666.33	*	3.996E-02	1.870E-01	3.158E-01	2.800E-02	0.127
		753.82		2.118E-01	1.613E+00	2.682E+00	2.440E-01	0.079
SB-126		223.80		2.181E+00	4.168E+00	7.159E+00	6.000E-01	0.305
		278.60		1.905E+00	2.586E+00	4.451E+00	3.778E-01	0.428
	+	296.50		1.289E+01	2.515E+00	3.931E+00	3.360E-01	3.279
		414.70		1.677E-02	8.365E-02	1.373E-01	1.164E-02	0.122
		415.30		-4.178E-01	6.998E+00	1.127E+01	9.556E-01	-0.037
		555.20		-2.843E+00	4.043E+00	6.372E+00	5.709E-01	-0.446
		573.80		-6.227E-02	1.076E+00	1.794E+00	1.609E-01	-0.035
		593.00		-2.314E-01	9.588E-01	1.570E+00	1.407E-01	-0.147
		656.30		4.578E-01	3.607E+00	6.050E+00	5.364E-01	0.076
		666.33		1.670E-02	7.818E-02	1.320E-01	1.170E-02	0.127
		675.00		1.545E+00	2.086E+00	3.670E+00	3.264E-01	0.421
		695.00		-2.965E-02	8.195E-02	1.310E-01	1.174E-02	-0.226
		697.00		-1.342E-01	2.773E-01	4.378E-01	3.924E-02	-0.307
		720.50	*	8.787E-02	1.723E-01	2.623E-01	2.367E-02	0.335
		856.80		-8.487E-01	5.398E-01	7.242E-01	6.648E-02	-1.172
		989.30		1.874E+00	1.435E+00	2.607E+00	2.342E-01	0.719
		1034.80		-5.169E+00	1.095E+01	1.761E+01	1.556E+00	-0.294
		1213.00		5.636E+00	6.332E+00	1.116E+01	9.121E-01	0.505
SB-127		61.10		1.641E+01	4.530E+01	6.830E+01	6.942E+00	0.240

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		252.40		-6.260E+00	5.056E+00	6.571E+00	2.761E+00	-0.953
		290.80		-2.169E+01	2.502E+01	3.342E+01	3.718E+00	-0.649
		411.60		2.404E+00	1.362E+01	2.232E+01	3.495E+00	0.108
		444.90		-3.512E+00	1.032E+01	1.613E+01	2.028E+00	-0.218
		473.00		3.513E-01	1.807E+00	2.946E+00	3.827E-01	0.119
		543.00		6.620E+00	1.765E+01	3.047E+01	4.454E+00	0.217
		603.60		2.822E+00	1.488E+01	2.201E+01	2.812E+00	0.128
		685.20	*	1.433E-01	1.677E+00	2.793E+00	3.253E-01	0.051
		698.50		7.718E+00	1.561E+01	2.685E+01	4.305E+00	0.287
		722.20		1.063E+01	3.674E+01	5.438E+01	6.260E+00	0.195
		783.80		1.370E+00	3.932E+00	6.646E+00	8.515E-01	0.206
XE-127		57.60		8.024E-02	4.109E+00	6.814E+00	4.939E-01	0.012
		145.22		-7.254E-02	7.287E-01	1.143E+00	9.380E-02	-0.063
		172.10		-1.230E-02	1.186E-01	1.863E-01	1.484E-02	-0.066
		202.84	*	-4.862E-02	4.990E-02	7.341E-02	6.050E-03	-0.662
		374.96		-1.078E-01	2.011E-01	3.137E-01	2.643E-02	-0.344
I-131		80.18		2.656E+00	5.036E+00	6.079E+00	5.231E-01	0.437
		284.30		-7.333E-01	1.602E+00	2.580E+00	2.313E-01	-0.284
		364.48	*	-3.758E-02	1.187E-01	1.890E-01	1.693E-02	-0.199
		636.97		9.783E-01	1.673E+00	2.912E+00	2.731E-01	0.336
		722.89		7.789E-01	8.511E+00	1.230E+01	1.117E+00	0.063
TE-132		49.72		1.027E+01	1.190E+01	1.859E+01	1.925E+00	0.552
		111.76		1.471E+00	2.943E+01	4.763E+01	5.192E+00	0.031
		116.30		1.870E+01	2.740E+01	4.549E+01	4.947E+00	0.411
		228.16	*	-3.173E-01	7.178E-01	1.173E+00	1.833E-01	-0.270
BA-133		53.15		9.039E-01	2.115E+00	3.578E+00	2.696E-01	0.253
		79.62		9.566E-01	1.424E+00	1.732E+00	2.624E-01	0.552
		81.00		2.244E-02	1.068E-01	1.256E-01	1.995E-02	0.179
		276.40		1.774E-01	3.966E-01	6.516E-01	9.364E-02	0.272
		302.84		3.377E-02	1.726E-01	2.539E-01	3.363E-02	0.133
		356.01	*	-1.233E-03	5.304E-02	7.681E-02	1.009E-02	-0.016
		383.85		-1.829E-01	3.236E-01	5.033E-01	6.259E-02	-0.363
I-133	+	510.53		1.160E+00	3.236E-01	Half-Life too short		
		529.87	*	1.453E-03	3.236E-01	Half-Life too short		
		706.58		2.178E-01	3.236E-01	Half-Life too short		
		856.28		-6.940E-01	3.236E-01	Half-Life too short		
		875.33		-8.400E-03	3.236E-01	Half-Life too short		
		1236.41		4.857E-01	3.236E-01	Half-Life too short		
		1298.22		1.598E-01	3.236E-01	Half-Life too short		
CS-134		475.35		8.073E-02	2.021E+00	3.252E+00	2.853E-01	0.025
		563.23		2.559E-01	4.019E-01	7.033E-01	6.360E-02	0.364
		569.32		-2.887E-03	2.112E-01	3.505E-01	3.183E-02	-0.008
		604.70		2.164E-02	4.086E-02	6.248E-02	5.610E-03	0.346
		795.84	*	9.273E-02	5.521E-02	1.015E-01	9.349E-03	0.914
		801.93		-7.330E-02	4.403E-01	7.214E-01	6.641E-02	-0.102
		1038.57		4.231E+00	4.513E+00	8.171E+00	7.212E-01	0.518
		1167.94		-6.485E-01	2.984E+00	4.868E+00	3.978E-01	-0.133
		1365.15		4.545E-01	1.427E+00	2.440E+00	2.111E-01	0.186
CS-135		268.24	*	3.381E-02	1.832E-01	2.714E-01	2.676E-02	0.125

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135		288.45		-6.218E+09	1.832E-01	Half-Life too short		
		417.63		1.194E+10	1.832E-01	Half-Life too short		
		546.56		-1.435E+09	1.832E-01	Half-Life too short		
		836.80		2.317E+10	1.832E-01	Half-Life too short		
		1038.76		2.690E+10	1.832E-01	Half-Life too short		
		1124.00		7.270E+10	1.832E-01	Half-Life too short		
		1131.51		4.346E+09	1.832E-01	Half-Life too short		
		1260.41	*	-6.617E+09	1.832E-01	Half-Life too short		
		1457.56		6.249E+11	1.832E-01	Half-Life too short		
		1678.03		4.522E+09	1.832E-01	Half-Life too short		
		1706.46		5.123E+09	1.832E-01	Half-Life too short		
		1791.20		6.161E+09	1.832E-01	Half-Life too short		
CS-136		66.91		2.482E-01	6.705E-01	1.003E+00	1.488E-01	0.247
	+	86.29		4.687E+00	1.291E+00	1.814E+00	2.405E-01	2.584
		153.22		1.447E-01	6.793E-01	1.092E+00	1.001E-01	0.133
		163.89		4.021E-01	1.109E+00	1.757E+00	1.590E-01	0.229
		176.55		3.305E-01	3.690E-01	6.482E-01	5.538E-02	0.510
		273.65		-4.498E-01	5.323E-01	7.220E-01	6.549E-02	-0.623
		340.57		3.796E-01	1.605E-01	2.672E-01	2.353E-02	1.421
		818.51		-3.144E-02	8.175E-02	1.282E-01	1.177E-02	-0.245
		1048.07	*	3.343E-02	1.337E-01	2.266E-01	2.073E-02	0.147
		1235.34		-1.288E-01	7.641E-01	1.250E+00	1.442E-01	-0.103
BA-137M		661.65	*	-2.159E-02	3.795E-02	5.978E-02	5.290E-03	-0.361
CS-137		661.65	*	-2.282E-02	4.012E-02	6.319E-02	5.603E-03	-0.361
CE-139		165.85	*	-8.391E-04	2.920E-02	4.617E-02	3.652E-03	-0.018
BA-140		162.64		4.253E-01	8.002E-01	1.279E+00	1.087E-01	0.332
		304.84		7.417E-01	1.550E+00	2.313E+00	6.478E-01	0.321
		423.70		-1.182E+00	2.110E+00	3.204E+00	1.038E+00	-0.369
		537.32	*	8.700E-02	2.647E-01	4.540E-01	1.508E-01	0.192
LA-140		328.77		3.876E-01	3.313E-01	5.768E-01	5.225E-02	0.672
		432.53		-1.906E+00	2.074E+00	3.060E+00	2.754E-01	-0.623
		487.03		-2.311E-02	1.454E-01	2.294E-01	2.142E-02	-0.101
		751.79		5.172E-01	1.842E+00	3.106E+00	3.097E-01	0.167
		815.85		3.026E-01	3.147E-01	5.651E-01	5.713E-02	0.536
		867.82		-1.819E+00	1.644E+00	2.352E+00	2.260E-01	-0.773
		919.63		-1.304E+00	3.428E+00	4.479E+00	4.956E-01	-0.291
		925.24		4.930E-01	1.209E+00	2.044E+00	1.969E-01	0.241
		1596.49	*	-7.061E-02	9.093E-02	1.255E-01	1.050E-02	-0.563
CE-141		145.44	*	-5.227E-03	6.397E-02	1.016E-01	8.504E-03	-0.051
CE-143		57.37		8.841E-05	6.397E-02	Half-Life too short		
		231.56		-1.198E-04	6.397E-02	Half-Life too short		
		293.26	*	5.765E-04	6.397E-02	Half-Life too short		
	+	350.59		2.661E-02	6.397E-02	Half-Life too short		
		490.36		-3.123E-04	6.397E-02	Half-Life too short		
		664.57		4.465E-04	6.397E-02	Half-Life too short		
		721.93		3.253E-04	6.397E-02	Half-Life too short		
CE-144		80.11		1.299E+00	2.299E+00	2.783E+00	2.377E-01	0.467
		133.54	*	6.429E-02	2.311E-01	3.350E-01	5.171E-02	0.192
PM-144		476.78		-1.073E-02	7.448E-02	1.180E-01	1.129E-02	-0.091

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		618.01		-2.359E-02	3.373E-02	5.275E-02	4.839E-03	-0.447
		696.49	*	-2.444E-02	3.620E-02	5.609E-02	5.028E-03	-0.436
		778.57		-2.144E-01	2.280E+00	3.701E+00	3.382E-01	-0.058
PR-144		696.49	*	-1.656E+00	2.453E+00	3.801E+00	3.406E-01	-0.436
		1489.15		3.942E+00	1.112E+01	1.933E+01	1.614E+00	0.204
PM-146		453.90	*	2.433E-02	4.934E-02	8.225E-02	8.863E-03	0.296
		633.02		-1.236E+00	1.492E+00	2.170E+00	8.127E-01	-0.570
		735.90		7.727E-03	1.674E-01	2.695E-01	7.746E-02	0.029
		747.13		-7.258E-02	9.860E-02	1.497E-01	2.144E-02	-0.485
ND-147	+	91.11		7.229E-01	2.915E-01	4.661E-01	4.613E-02	1.551
		319.41		2.420E+00	3.699E+00	6.311E+00	5.414E-01	0.383
		439.89		1.995E+00	6.580E+00	1.085E+01	9.348E-01	0.184
		531.02	*	5.208E-02	5.941E-01	1.007E+00	1.523E-01	0.052
PM-149		285.90	*	1.109E+02	9.663E+01	1.682E+02	2.605E+01	0.659
EU-152		121.78		-2.743E-02	7.467E-02	1.178E-01	1.168E-02	-0.233
		244.69		-2.930E-02	3.718E-01	5.432E-01	4.600E-02	-0.054
		344.27	*	6.227E-02	1.123E-01	1.693E-01	1.535E-02	0.368
		443.98		4.604E-02	9.778E-01	1.582E+00	1.366E-01	0.029
		778.89		-7.528E-03	2.648E-01	4.330E-01	3.955E-02	-0.017
		867.32		-7.036E-01	9.603E-01	1.441E+00	1.323E-01	-0.488
		964.01		-6.933E-02	4.259E-01	5.805E-01	5.253E-02	-0.119
		1085.78		-2.305E-02	4.736E-01	7.890E-01	6.806E-02	-0.029
		1112.02		-1.978E-01	3.733E-01	5.928E-01	5.036E-02	-0.334
		1407.95		1.979E-01	1.900E-01	3.550E-01	2.943E-02	0.558
GD-153		69.67		-1.184E+00	1.491E+00	2.106E+00	1.613E-01	-0.562
	+	83.37		2.614E+01	1.625E+01	2.140E+01	1.901E+00	1.222
		97.43	*	-4.304E-02	8.048E-02	1.126E-01	1.007E-02	-0.382
		103.18		-3.386E-02	1.002E-01	1.597E-01	1.401E-02	-0.212
EU-154		123.07		-2.266E-02	5.203E-02	8.173E-02	9.260E-03	-0.277
		247.94		2.596E-01	4.048E-01	6.222E-01	7.074E-02	0.417
		591.81		1.540E-01	6.213E-01	1.060E+00	1.264E-01	0.145
		723.30		3.223E-02	2.047E-01	2.984E-01	2.955E-02	0.108
		756.87		-7.642E-02	8.829E-01	1.440E+00	1.775E-01	-0.053
		873.19		1.078E-01	3.510E-01	5.872E-01	7.422E-02	0.184
		996.32		-7.753E-02	4.284E-01	6.757E-01	1.212E-01	-0.115
		1004.76		-1.945E-01	2.588E-01	3.815E-01	4.532E-02	-0.510
		1274.45	*	5.084E-02	1.412E-01	2.416E-01	2.656E-02	0.210
EU-155		48.70		2.527E-01	1.434E+00	2.165E+00	1.753E-01	0.117
		60.01		7.330E-01	3.798E+00	5.685E+00	4.094E-01	0.129
	+	86.54		4.300E-01	1.113E-01	1.673E-01	1.561E-02	2.570
		105.31	*	1.182E-01	1.004E-01	1.705E-01	1.507E-02	0.693
TB-160	+	86.79		1.150E+00	2.973E-01	4.483E-01	4.159E-02	2.565
		197.04		6.931E-01	5.899E-01	1.040E+00	8.523E-02	0.666
		215.65		2.730E-01	7.193E-01	1.194E+00	9.950E-02	0.229
		298.57		1.638E-01	1.744E-01	2.060E-01	1.762E-02	0.795
		879.36	*	7.992E-02	1.628E-01	2.769E-01	2.539E-02	0.289
		962.29		-7.476E-01	7.480E-01	9.778E-01	8.852E-02	-0.765
		966.15		3.665E-01	3.063E-01	4.790E-01	4.332E-02	0.765
		1177.93		-1.638E-01	4.436E-01	7.136E-01	5.811E-02	-0.230

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		1271.85		-1.361E-01	8.311E-01	1.350E+00	1.107E-01	-0.101
HO-166M		80.57		7.929E-02	2.952E-01	3.489E-01	2.997E-02	0.227
	+	184.41		1.446E-01	6.199E-02	6.578E-02	5.318E-03	2.198
		280.46		-1.798E-02	8.866E-02	1.452E-01	1.233E-02	-0.124
		410.95		2.518E-01	2.703E-01	4.645E-01	3.925E-02	0.542
		711.68	*	4.312E-02	6.634E-02	1.153E-01	1.038E-02	0.374
		752.31		8.846E-02	2.911E-01	4.918E-01	4.472E-02	0.180
		810.29		-3.739E-02	6.019E-02	9.155E-02	8.392E-03	-0.408
TM-171		51.35		-5.387E+00	1.759E+01	2.886E+01	2.228E+00	-0.187
		52.39		-5.758E+00	9.399E+00	1.519E+01	1.156E+00	-0.379
		59.40		9.460E+00	2.011E+01	3.054E+01	2.196E+00	0.310
		66.72	*	1.647E+01	2.378E+01	3.615E+01	2.704E+00	0.456
LU-176	+	88.36		8.468E-01	2.189E-01	3.384E-01	3.180E-02	2.503
		201.83		-5.640E-02	2.900E-02	4.372E-02	3.600E-03	-1.290
		306.84	*	4.798E-05	2.622E-02	4.324E-02	3.704E-03	0.001
		401.10		-2.547E+00	7.540E+00	1.193E+01	1.001E+00	-0.213
LU-177		112.95		-1.147E+00	1.618E+00	2.518E+00	2.173E-01	-0.456
	+	208.36	*	2.903E+00	1.895E+00	2.025E+00	1.677E-01	1.433
LU-177M		52.97		-2.308E-01	9.661E-01	1.588E+00	1.199E-01	-0.145
		54.07		2.732E-01	5.204E-01	8.830E-01	6.584E-02	0.309
		61.30		3.832E-01	1.148E+00	1.729E+00	1.252E-01	0.222
		121.62		-1.570E-01	3.822E-01	6.020E-01	5.174E-02	-0.261
		147.16		-3.088E-01	6.620E-01	1.029E+00	8.418E-02	-0.300
		171.86		-8.376E-02	4.753E-01	7.436E-01	5.922E-02	-0.113
		218.09		-1.104E-01	8.331E-01	1.390E+00	1.160E-01	-0.079
		268.79		7.530E-01	9.493E-01	1.463E+00	1.244E-01	0.515
		319.02		2.213E-01	2.887E-01	4.953E-01	4.247E-02	0.447
		367.43		6.991E-01	9.250E-01	1.588E+00	1.344E-01	0.440
		413.65	*	-3.749E-02	1.966E-01	3.138E-01	2.657E-02	-0.119
HF-181		56.28		-3.241E-01	6.034E-01	9.767E-01	7.141E-02	-0.332
		57.53		2.876E-03	3.451E-01	5.722E-01	4.149E-02	0.005
		65.20		-2.372E-01	8.129E-01	1.180E+00	8.728E-02	-0.201
		133.02		4.084E-02	7.177E-02	1.061E-01	8.904E-03	0.385
		136.25		-7.628E-02	4.681E-01	7.426E-01	6.195E-02	-0.103
		345.85		-2.180E-02	2.084E-01	3.268E-01	2.792E-02	-0.067
		482.03	*	-2.285E-02	4.739E-02	7.273E-02	6.399E-03	-0.314
W-181		56.28		-1.268E-01	2.359E-01	3.819E-01	2.792E-02	-0.332
		57.53		1.081E-03	1.350E-01	2.239E-01	1.623E-02	0.005
		65.20	*	-9.209E-02	3.155E-01	4.579E-01	3.388E-02	-0.201
TA-182		67.75		8.195E-03	9.707E-02	1.433E-01	1.080E-02	0.057
		100.10		1.510E-01	1.661E-01	2.796E-01	2.476E-02	0.540
		152.43		-1.097E-02	3.443E-01	5.468E-01	4.433E-02	-0.020
		222.10		8.886E-03	3.536E-01	5.941E-01	4.973E-02	0.015
		1001.68		6.148E-01	2.428E+00	4.017E+00	3.596E-01	0.153
	+	1121.28		5.229E-01	2.642E-01	3.906E-01	3.299E-02	1.339
		1189.05		-1.826E-01	3.904E-01	6.229E-01	5.079E-02	-0.293
		1221.42	*	9.417E-02	2.604E-01	4.433E-01	3.625E-02	0.212
		1230.97		-1.181E-01	5.835E-01	9.509E-01	7.782E-02	-0.124
RE-183		57.98		7.216E-02	1.330E-01	2.250E-01	1.627E-02	0.321

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		59.32		7.779E-02	8.056E-02	1.254E-01	9.021E-03	0.620
		67.20		1.872E-02	1.735E-01	2.566E-01	1.926E-02	0.073
		162.32	*	4.506E-02	1.155E-01	1.834E-01	1.460E-02	0.246
	+	208.81		2.582E+00	1.686E+00	1.807E+00	1.497E-01	1.429
		291.72		-7.599E-02	1.013E+00	1.461E+00	1.246E-01	-0.052
RE-184		57.98		2.657E-01	4.897E-01	8.285E-01	5.993E-02	0.321
		59.32		2.862E-01	2.964E-01	4.615E-01	3.319E-02	0.620
		67.20		6.891E-02	6.388E-01	9.445E-01	7.090E-02	0.073
		161.27		1.011E-01	3.621E-01	5.828E-01	4.649E-02	0.173
		216.55		2.972E-02	2.547E-01	4.304E-01	3.589E-02	0.069
		252.85	*	-2.325E-01	2.226E-01	3.460E-01	2.937E-02	-0.672
		318.01		5.675E-01	4.876E-01	8.541E-01	7.325E-02	0.664
		792.07		-8.292E-01	1.173E+00	1.797E+00	1.645E-01	-0.461
		903.28		5.404E-01	1.170E+00	1.979E+00	1.811E-01	0.273
		920.93		-1.290E-02	4.801E-01	7.534E-01	6.877E-02	-0.017
OS-185		59.72		4.102E-02	2.266E-01	3.391E-01	2.439E-02	0.121
		61.14		4.507E-02	1.264E-01	1.905E-01	1.378E-02	0.237
		69.30		-7.149E-02	2.433E-01	3.770E-01	2.878E-02	-0.190
		592.07		1.138E-01	2.622E+00	4.397E+00	3.943E-01	0.026
		646.12	*	2.707E-02	4.333E-02	7.584E-02	6.742E-03	0.357
		717.42		-6.923E-01	9.889E-01	1.525E+00	1.375E-01	-0.454
		874.81		1.460E-01	6.837E-01	1.134E+00	1.041E-01	0.129
		880.27		-9.509E-02	8.905E-01	1.431E+00	1.312E-01	-0.066
RE-188		155.03	*	1.120E-01	1.743E-01	2.859E-01	2.307E-02	0.392
		477.96		3.710E-01	3.364E+00	5.441E+00	4.779E-01	0.068
		633.10		-2.502E+00	2.878E+00	4.392E+00	3.917E-01	-0.570
W-188	+	63.58		5.815E+01	5.605E+01	6.974E+01	5.108E+00	0.834
		227.08		4.653E-02	1.282E+01	2.149E+01	1.804E+00	0.002
		290.67	*	-7.846E+00	8.463E+00	1.125E+01	9.596E-01	-0.697
IR-192	+	295.96		9.821E-01	1.919E-01	3.051E-01	2.626E-02	3.219
		308.46		-8.167E-02	1.030E-01	1.610E-01	1.386E-02	-0.507
		316.51	*	3.084E-03	3.777E-02	6.246E-02	5.369E-03	0.049
		468.07		-4.334E-03	8.111E-02	1.129E-01	1.056E-02	-0.038
		604.41		2.920E-01	5.536E-01	8.454E-01	1.120E-01	0.345
		612.46		1.979E+00	9.322E-01	1.590E+00	1.620E-01	1.245
AU-195		65.12		-3.075E-02	1.464E-01	2.134E-01	1.578E-02	-0.144
		66.83		5.512E-02	7.873E-02	1.197E-01	8.962E-03	0.460
	+	75.70		1.022E+00	2.229E-01	4.004E-01	3.254E-02	2.552
		98.88	*	2.418E-01	2.284E-01	3.506E-01	3.118E-02	0.690
	+	129.76		4.465E+00	3.698E+00	4.853E+00	4.099E-01	0.920
TL-200		367.94	*	2.932E-04	3.698E+00	Half-Life too short		
		579.30		4.642E-03	3.698E+00	Half-Life too short		
		828.27		1.739E-03	3.698E+00	Half-Life too short		
		1205.75		-1.003E-03	3.698E+00	Half-Life too short		
TL-201		68.90		-3.433E-01	3.808E+00	6.249E+00	4.755E-01	-0.055
		70.82		-4.455E-01	2.421E+00	3.528E+00	2.731E-01	-0.126
		80.30		2.574E+00	5.566E+00	6.685E+00	5.723E-01	0.385
		135.34		1.269E+01	2.605E+01	4.266E+01	3.565E+00	0.297
		167.43	*	-2.992E+00	7.010E+00	1.082E+01	8.568E-01	-0.277

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		-3.029E-02	3.360E-01	5.514E-01	4.196E-02	-0.055
		70.82		-3.920E-02	2.130E-01	3.105E-01	2.403E-02	-0.126
		80.30		2.265E-01	4.899E-01	5.884E-01	5.037E-02	0.385
		439.56	*	3.354E-02	7.753E-02	1.290E-01	1.111E-02	0.260
HG-203		70.83		-1.740E-01	9.187E-01	1.339E+00	1.749E-01	-0.130
		72.87		4.842E-01	5.566E-01	8.464E-01	1.078E-01	0.572
		82.60		1.157E+00	1.098E+00	1.547E+00	2.144E-01	0.748
		279.20	*	4.205E-02	4.177E-02	7.285E-02	6.364E-03	0.577
BI-207		72.80		1.270E-01	1.619E-01	2.463E-01	1.942E-02	0.515
	+	74.97		5.666E-01	1.236E-01	1.946E-01	1.569E-02	2.911
	+	84.90		3.380E-01	2.101E-01	2.742E-01	2.483E-02	1.233
		569.67		4.278E-03	3.332E-02	5.590E-02	5.013E-03	0.077
		1063.62	*	-1.563E-02	6.103E-02	9.983E-02	8.710E-03	-0.157
		1770.23		-2.372E-02	5.405E-01	7.635E-01	6.272E-02	-0.031
TL-207		81.07		4.667E-02	2.357E-01	2.769E-01	2.392E-02	0.169
	+	83.78		2.229E-01	1.385E-01	1.835E-01	1.638E-02	1.215
		94.90		2.410E-01	2.196E-01	3.658E-01	3.308E-02	0.659
		122.32		-1.417E+00	1.807E+00	2.786E+00	2.570E-01	-0.509
		144.24		4.578E-01	7.106E-01	1.153E+00	1.072E-01	0.397
		154.21		1.882E-01	4.078E-01	6.630E-01	5.961E-02	0.284
		269.46		2.415E-01	1.997E-01	3.503E-01	3.040E-02	0.689
		323.87	*	-4.772E-01	7.264E-01	1.137E+00	2.011E-01	-0.420
	+	338.28		6.258E+00	2.045E+00	2.692E+00	3.303E-01	2.325
		445.03		-8.019E-01	2.357E+00	3.682E+00	4.457E-01	-0.218
PO-209		260.50		3.260E+00	9.672E+00	1.639E+01	1.393E+00	0.199
		262.80		-1.128E+01	2.774E+01	4.506E+01	3.829E+00	-0.250
		896.60	*	-1.596E+00	8.697E+00	1.370E+01	1.254E+00	-0.117
PB-211		404.84	*	-4.123E-01	1.052E+00	1.604E+00	1.005E+00	-0.257
		427.08		1.581E+00	2.432E+00	3.786E+00	2.352E+00	0.418
		831.96		-6.561E-01	1.468E+00	2.200E+00	1.380E+00	-0.298
BI-212	+	727.18	*	1.274E+00	6.119E-01	7.513E-01	7.793E-02	1.696
		785.46		4.381E-01	1.958E+00	3.271E+00	2.991E-01	0.134
		1620.62		1.990E-01	1.271E+00	2.120E+00	1.771E-01	0.094
PO-215		81.07		4.667E-02	2.357E-01	2.769E-01	2.392E-02	0.169
	+	83.78		2.229E-01	1.385E-01	1.835E-01	1.638E-02	1.215
		94.90		2.410E-01	2.196E-01	3.658E-01	3.308E-02	0.659
		122.32		-1.417E+00	1.807E+00	2.786E+00	2.570E-01	-0.509
		144.24		4.578E-01	7.106E-01	1.153E+00	1.072E-01	0.397
		154.21		1.882E-01	4.078E-01	6.630E-01	5.961E-02	0.284
		269.46		2.415E-01	1.997E-01	3.503E-01	3.040E-02	0.689
		323.87	*	-4.772E-01	7.264E-01	1.137E+00	2.011E-01	-0.420
	+	338.28		6.258E+00	2.045E+00	2.692E+00	3.303E-01	2.325
		445.03		-8.019E-01	2.357E+00	3.682E+00	4.457E-01	-0.218
RN-219	+	271.23		4.073E-01	4.033E-01	4.618E-01	4.715E-02	0.882
		401.81	*	-2.553E-01	4.685E-01	7.278E-01	1.084E-01	-0.351
RN-220		549.76	*	-1.209E+01	2.793E+01	4.530E+01	4.056E+00	-0.267
RA-223		81.07		4.667E-02	2.357E-01	2.769E-01	2.392E-02	0.169
	+	83.78		2.229E-01	1.385E-01	1.835E-01	1.638E-02	1.215
		94.90		2.410E-01	2.196E-01	3.658E-01	3.308E-02	0.659

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		-1.417E+00	1.807E+00	2.786E+00	2.570E-01	-0.509
		144.24		4.578E-01	7.106E-01	1.153E+00	1.072E-01	0.397
		154.21		1.882E-01	4.078E-01	6.630E-01	5.961E-02	0.284
		269.46		2.415E-01	1.997E-01	3.503E-01	3.040E-02	0.689
		323.87	*	-4.772E-01	7.264E-01	1.137E+00	2.011E-01	-0.420
	+	338.28		6.258E+00	2.045E+00	2.692E+00	3.303E-01	2.325
		445.03		-8.019E-01	2.357E+00	3.682E+00	4.457E-01	-0.218
AC-227		79.80		1.123E+00	1.812E+00	2.186E+00	4.692E-01	0.513
		236.00		1.632E-01	2.548E-01	3.904E-01	4.731E-02	0.418
		256.20	*	-1.439E-01	3.748E-01	6.092E-01	9.307E-02	-0.236
		286.10		1.626E+00	1.560E+00	2.717E+00	3.569E-01	0.598
	+	299.80		3.398E+00	1.887E+00	2.787E+00	4.865E-01	1.219
		304.40		1.364E+00	2.186E+00	3.311E+00	6.095E-01	0.412
		334.20		-2.120E+00	2.894E+00	3.851E+00	7.465E-01	-0.551
TH-227		79.80		1.123E+00	1.812E+00	2.186E+00	4.752E-01	0.513
	+	94.00		7.408E+00	3.180E+00	3.507E+00	7.703E-01	2.113
		236.00		1.632E-01	2.547E-01	3.904E-01	4.270E-02	0.418
		256.20	*	-1.439E-01	3.751E-01	6.092E-01	1.097E-01	-0.236
		286.10		1.626E+00	2.247E+00	2.717E+00	2.727E+00	0.598
	+	299.80		3.398E+00	1.887E+00	2.787E+00	4.865E-01	1.219
		304.40		1.364E+00	2.186E+00	3.311E+00	6.095E-01	0.412
		334.20		-2.120E+00	2.894E+00	3.851E+00	7.465E-01	-0.551
TH-229	+	85.43		3.336E-01	2.073E-01	2.751E-01	2.508E-02	1.213
	+	88.47		4.875E-01	1.260E-01	1.950E-01	1.831E-02	2.500
		100.00		1.598E-01	1.799E-01	2.898E-01	2.567E-02	0.551
		193.63	*	-6.376E-01	5.170E-01	8.198E-01	6.694E-02	-0.778
		210.97		8.050E-01	8.127E-01	1.281E+00	1.063E-01	0.629
PA-231		283.67	*	-7.034E-01	1.592E+00	2.562E+00	3.874E-01	-0.275
	+	301.29		1.359E+00	7.354E-01	1.113E+00	1.357E-01	1.221
TH-231		81.07		4.667E-02	2.357E-01	2.769E-01	2.392E-02	0.169
	+	83.78		2.229E-01	1.385E-01	1.835E-01	1.638E-02	1.215
		94.90		2.410E-01	2.196E-01	3.658E-01	3.308E-02	0.659
		122.32		-1.417E+00	1.807E+00	2.786E+00	2.570E-01	-0.509
		144.24		4.578E-01	7.106E-01	1.153E+00	1.072E-01	0.397
		154.21		1.882E-01	4.078E-01	6.630E-01	5.961E-02	0.284
		269.46		2.415E-01	1.997E-01	3.503E-01	3.040E-02	0.689
		323.87	*	-4.772E-01	7.264E-01	1.137E+00	2.011E-01	-0.420
	+	338.28		6.258E+00	2.045E+00	2.692E+00	3.303E-01	2.325
		445.03		-8.019E-01	2.357E+00	3.682E+00	4.457E-01	-0.218
U-231	+	84.21		9.775E+00	6.075E+00	8.044E+00	7.222E-01	1.215
	+	92.29		7.453E+00	2.831E+00	3.767E+00	3.452E-01	1.978
		95.87	*	-3.047E-01	1.123E+00	1.587E+00	1.428E-01	-0.192
		108.00		-1.457E+00	1.977E+00	3.076E+00	2.671E-01	-0.474
PA-233	+	75.28		1.654E+01	4.173E+00	5.956E+00	8.968E-01	2.776
	+	86.59		6.989E+00	2.533E+00	2.721E+00	7.354E-01	2.569
	+	300.12		9.472E-01	5.187E-01	7.748E-01	1.149E-01	1.223
		311.98	*	6.404E-02	6.579E-02	1.146E-01	1.010E-02	0.559
		340.50		1.978E+00	8.977E-01	1.312E+00	3.124E-01	1.507
		398.62		1.755E+00	2.362E+00	3.954E+00	1.050E+00	0.444

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		4.279E-01	1.823E+00	2.997E+00	6.443E-01	0.143
PA-234	+	63.00		1.684E+00	1.638E+00	2.042E+00	3.024E-01	0.825
		94.67		2.715E-01	1.634E-01	2.732E-01	3.471E-02	0.994
		98.44		5.628E-02	9.910E-02	1.411E-01	7.877E-02	0.399
		99.86		4.017E-01	4.551E-01	7.332E-01	6.498E-02	0.548
		111.00		2.888E-01	1.774E-01	3.026E-01	3.664E-02	0.954
		131.20		-6.027E-02	1.193E-01	1.643E-01	1.384E-02	-0.367
		152.70		2.155E-02	3.329E-01	5.312E-01	8.919E-02	0.041
	+	186.00		5.205E+00	2.724E+00	2.628E+00	8.167E-01	1.980
		226.40		-4.897E-02	4.111E-01	6.851E-01	8.944E-02	-0.071
		227.20		3.850E-02	4.288E-01	7.220E-01	6.064E-02	0.053
		248.90		5.950E-01	8.679E-01	1.440E+00	3.220E-01	0.413
		293.70		4.842E+00	1.229E+00	1.723E+00	2.973E-01	2.811
		369.80		-2.150E-01	8.925E-01	1.427E+00	3.099E-01	-0.151
		568.70		-4.740E-01	1.103E+00	1.772E+00	1.589E-01	-0.267
		569.50		1.759E-02	2.939E-01	4.907E-01	4.400E-02	0.036
		574.00		-3.317E-01	1.525E+00	2.508E+00	2.250E-01	-0.132
		699.00		5.538E-01	7.152E-01	1.250E+00	2.405E-01	0.443
		706.10		-1.093E-01	1.114E+00	1.822E+00	8.138E-01	-0.060
		733.00		2.378E-01	4.665E-01	7.046E-01	1.576E-01	0.338
		742.81		5.315E-01	1.487E+00	2.455E+00	1.652E+00	0.216
		796.30		1.373E+00	1.127E+00	1.923E+00	5.234E-01	0.714
		805.60		1.162E+00	1.129E+00	1.930E+00	5.945E-01	0.602
		819.60		-6.985E-01	1.361E+00	2.060E+00	7.860E-01	-0.339
		826.30		-1.406E-01	1.004E+00	1.614E+00	7.240E-01	-0.087
		831.60		-2.578E-01	7.467E-01	1.174E+00	3.522E-01	-0.220
		876.40		4.114E-02	1.007E+00	1.642E+00	1.689E+00	0.025
		880.51		-1.532E-02	3.203E-01	5.179E-01	4.749E-02	-0.030
		883.24		-2.215E-01	3.601E-01	4.944E-01	3.327E-01	-0.448
		899.00		-1.840E-01	9.740E-01	1.544E+00	6.767E-01	-0.119
		925.00		3.128E-01	1.273E+00	2.116E+00	1.930E-01	0.148
		926.50		6.174E-02	1.871E-01	3.128E-01	7.961E-02	0.197
		946.00	*	-1.512E-01	3.668E-01	5.662E-01	1.075E-01	-0.267
		949.00		2.899E-01	5.468E-01	9.269E-01	8.417E-02	0.313
		980.50		2.691E-01	8.776E-01	1.457E+00	1.313E-01	0.185
		1394.10		2.728E-01	1.190E+00	1.999E+00	1.300E+00	0.136
PA-234M		766.42		3.243E+00	1.476E+01	2.446E+01	1.243E+01	0.133
		1001.03	*	7.039E-01	5.546E+00	9.067E+00	9.298E-01	0.078
U-235	+	89.95		2.859E+00	1.427E+00	1.679E+00	5.214E-01	1.703
	+	93.35		2.305E+00	1.070E+00	1.167E+00	3.289E-01	1.975
		105.00		1.140E+00	1.047E+00	1.688E+00	5.044E-01	0.675
		143.76	*	1.694E-01	2.202E-01	3.571E-01	6.184E-02	0.474
		163.35		1.107E-01	4.943E-01	7.773E-01	1.460E-01	0.142
	+	185.71		1.928E-01	8.265E-02	9.844E-02	7.969E-03	1.958
		205.31		3.115E-01	5.527E-01	8.478E-01	1.604E-01	0.367
NP-236		94.67		2.076E-01	1.226E-01	2.074E-01	1.877E-02	1.001
		98.44		4.252E-02	7.115E-02	1.066E-01	9.499E-03	0.399
		111.00		2.184E-01	1.329E-01	2.289E-01	1.980E-02	0.954
		160.31	*	1.029E-02	8.107E-02	1.295E-01	1.035E-02	0.079

---- 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		1.099E-01	1.528E-01	2.444E-01	2.169E-02	0.450
		117.00	*	-1.417E-02	1.875E-01	3.010E-01	2.590E-02	-0.047
	+	209.75		2.035E+00	1.329E+00	1.412E+00	1.171E-01	1.442
		228.18		-1.016E-01	2.289E-01	3.747E-01	3.149E-02	-0.271
		277.60		1.883E-01	1.901E-01	3.307E-01	2.807E-02	0.570
		334.30		-1.193E+00	1.627E+00	2.184E+00	1.871E-01	-0.546
AM-241		59.54	*	2.079E-02	1.191E-01	1.782E-01	1.412E-02	0.117
CM-243		99.55		1.131E-01	1.573E-01	2.515E-01	2.232E-02	0.450
		103.76	*	1.873E-02	9.212E-02	1.506E-01	1.320E-02	0.124
		117.00		-1.458E-02	1.929E-01	3.097E-01	2.664E-02	-0.047
	+	209.75		2.006E+00	1.310E+00	1.392E+00	1.154E-01	1.442
		228.18		-1.026E-01	2.313E-01	3.786E-01	3.182E-02	-0.271
		277.60		1.899E-01	1.916E-01	3.334E-01	2.830E-02	0.570
AM-246		798.80		-2.359E-01	1.712E-01	2.431E-01	2.227E-02	-0.970
		1036.00		-1.892E-01	3.605E-01	5.760E-01	5.089E-02	-0.328
		1062.04		-2.337E-01	2.671E-01	4.092E-01	3.573E-02	-0.571
		1078.86	*	-7.333E-02	1.725E-01	2.776E-01	2.403E-02	-0.264
CM-247		278.00		4.190E-01	7.882E-01	1.343E+00	1.140E-01	0.312
		287.40		1.117E+00	1.233E+00	2.146E+00	1.828E-01	0.521
		402.60	*	-2.673E-03	4.084E-02	6.591E-02	5.533E-03	-0.041
CF-249		252.85		-8.722E-01	8.350E-01	1.298E+00	1.102E-01	-0.672
		333.44		-2.357E-01	2.151E-01	2.779E-01	2.381E-02	-0.848
		387.95	*	1.608E-02	4.140E-02	6.917E-02	5.774E-03	0.232
CF-251		176.60	*	1.121E-01	1.264E-01	2.220E-01	1.779E-02	0.505
		227.00		1.327E-02	3.848E-01	6.460E-01	5.425E-02	0.021
		285.00		6.812E-01	1.825E+00	3.086E+00	2.626E-01	0.221

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]G246611001      *
* Acquisition date : 19-FEB-2010 17:29:39 Detector SN#     :               *
* Detector ID        : GAM07               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 02:00:01.22      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date        :  4-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G246611001           Analyst initials: MXR1          *
* Batch Number       : 951362               Sample Quantity : 1.1299E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58 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	3.977E+01	3.993E+00	5.628E-01	0.000E+00
CD-109	3.633E+00	9.205E-01	1.059E+00	0.000E+00
SN-126	3.570E-01	9.046E-02	1.043E-01	0.000E+00
TL-208	5.161E-01	9.098E-02	6.375E-02	0.000E+00
BI-210	1.865E+00	2.625E+00	2.960E+00	0.000E+00
PB-210	1.865E+00	2.625E+00	2.960E+00	0.000E+00
PO-210	1.865E+00	2.624E+00	2.960E+00	0.000E+00
BI-211	3.172E+00	5.206E-01	3.413E-01	0.000E+00
PB-212	1.499E+00	1.804E-01	9.249E-02	0.000E+00
PO-212	1.499E+00	1.804E-01	9.249E-02	0.000E+00
BI-214	1.101E+00	1.894E-01	1.201E-01	0.000E+00
PB-214	1.104E+00	1.897E-01	1.254E-01	0.000E+00
PO-214	1.104E+00	1.897E-01	1.254E-01	0.000E+00
PO-216	1.499E+00	1.804E-01	9.249E-02	0.000E+00
PO-218	1.104E+00	1.897E-01	1.254E-01	0.000E+00
RA-224	4.610E+00	1.536E+00	1.053E+00	0.000E+00
RA-226	1.101E+00	1.894E-01	1.201E-01	0.000E+00
AC-228	1.355E+00	3.440E-01	2.508E-01	0.000E+00
RA-228	1.355E+00	3.440E-01	2.508E-01	0.000E+00
TH-228	1.522E+00	1.832E-01	9.390E-02	0.000E+00
TH-230	1.100E+00	1.894E-01	1.201E-01	0.000E+00
TH-232	1.355E+00	3.440E-01	2.508E-01	0.000E+00
TH-234	1.445E+00	1.383E+00	1.562E+00	0.000E+00
U-234	1.100E+00	1.894E-01	1.201E-01	0.000E+00
NP-237	1.048E+00	3.399E-01	3.079E-01	0.000E+00
U-238	1.445E+00	1.383E+00	1.562E+00	0.000E+00
AM-243	3.157E-01	6.746E-02	7.367E-02	0.000E+00
ANH-511	1.042E-01	7.017E-02	5.373E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)

BE-7	-2.979E-02	3.505E-01	5.722E-01	0.000E+00	NOT IDENT.
NA-22	1.438E-02	4.964E-02	8.580E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	9.417E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-3.850E-02	3.565E-02	4.903E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.453E-02	7.252E-02	0.000E+00	FAIL ABUN
SC-46	1.476E-02	4.567E-02	7.792E-02	0.000E+00	FAIL ABUN
V-48	-3.504E-02	8.402E-02	1.319E-01	0.000E+00	NOT IDENT.
CR-51	-3.705E-02	4.125E-01	6.945E-01	0.000E+00	NOT IDENT.
MN-52	-1.345E-01	2.514E-01	3.827E-01	0.000E+00	NOT IDENT.
MN-54	5.416E-03	4.175E-02	7.030E-02	0.000E+00	NOT IDENT.
CO-56	2.019E-02	3.862E-02	6.770E-02	0.000E+00	NOT IDENT.
CO-57	-1.432E-02	2.549E-02	4.135E-02	0.000E+00	NOT IDENT.
CO-58	-3.312E-02	4.017E-02	6.100E-02	0.000E+00	NOT IDENT.
FE-59	-7.839E-02	9.845E-02	1.540E-01	0.000E+00	NOT IDENT.
CO-60	-4.984E-02	4.887E-02	7.237E-02	0.000E+00	NOT IDENT.
ZN-65	-1.448E-02	1.166E-01	1.680E-01	0.000E+00	NOT IDENT.
GE-68	-1.777E-01	1.486E+00	2.507E+00	0.000E+00	NOT IDENT.
AS-73	4.127E-01	4.878E-01	8.751E-01	0.000E+00	NOT IDENT.
AS-74	1.053E-02	9.666E-02	1.667E-01	0.000E+00	NOT IDENT.
SE-75	2.233E-03	5.043E-02	7.625E-02	0.000E+00	NOT IDENT.
BR-77	2.831E+00	1.142E+01	2.006E+01	0.000E+00	FAIL ABUN
SR-82	-2.926E-01	3.985E-01	6.182E-01	0.000E+00	NOT IDENT.
RB-83	1.380E-02	7.277E-02	1.274E-01	0.000E+00	NOT IDENT.
RB-84	8.792E-04	7.805E-02	1.295E-01	0.000E+00	NOT IDENT.
KR-85	1.399E+01	8.476E+00	1.453E+01	0.000E+00	NOT IDENT.
SR-85	7.183E-02	4.351E-02	7.458E-02	0.000E+00	NOT IDENT.
RB-86	-3.537E-01	9.315E-01	1.534E+00	0.000E+00	NOT IDENT.
Y-88	-7.346E-03	3.546E-02	5.738E-02	0.000E+00	NOT IDENT.
ZR-88	-1.219E-02	3.229E-02	5.237E-02	0.000E+00	NOT IDENT.
Y-91	5.966E+00	2.396E+01	4.123E+01	0.000E+00	NOT IDENT.
NB-94	-3.188E-02	3.395E-02	5.222E-02	0.000E+00	NOT IDENT.
NB-95	-2.121E-02	5.370E-02	8.740E-02	0.000E+00	NOT IDENT.
NB-95M	3.435E-02	1.315E-01	2.034E-01	0.000E+00	NOT IDENT.
ZR-95	-8.870E-03	7.757E-02	1.289E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.115E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.352E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-7.074E+00	1.287E+01	2.048E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.431E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	0.000E+00	3.525E-02	6.439E-02	0.000E+00	NOT IDENT.
RH-102	-1.543E-02	3.180E-02	5.018E-02	0.000E+00	NOT IDENT.
RU-103	1.859E-02	4.424E-02	7.491E-02	0.000E+00	FAIL ABUN
RH-106	6.921E-02	3.153E-01	5.473E-01	0.000E+00	FAIL ABUN
RU-106	6.921E-02	3.153E-01	5.473E-01	0.000E+00	FAIL ABUN
AG-108M	-3.405E-02	3.231E-02	4.835E-02	0.000E+00	NOT IDENT.
AG-110M	3.170E-02	3.574E-02	6.489E-02	0.000E+00	NOT IDENT.
IN-111	-8.241E-01	1.201E+00	1.721E+00	0.000E+00	NOT IDENT.
IN-113M	1.555E-02	4.571E-02	7.812E-02	0.000E+00	NOT IDENT.
SN-113	1.555E-02	4.571E-02	7.812E-02	0.000E+00	NOT IDENT.
IN-114M	1.369E-01	1.975E-01	3.174E-01	0.000E+00	NOT IDENT.
CD-115	4.025E+00	1.162E+01	2.054E+01	0.000E+00	NOT IDENT.
SN-117M	-2.221E-02	5.517E-02	8.870E-02	0.000E+00	NOT IDENT.
SB-122	2.888E+00	2.303E+00	4.273E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.612E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.261E-02	2.836E-02	4.547E-02	0.000E+00	NOT IDENT.
I-124	-6.165E-02	8.192E-01	1.265E+00	0.000E+00	NOT IDENT.
SB-124	-1.251E-02	7.505E-02	1.183E-01	0.000E+00	FAIL ABUN
SB-125	9.466E-02	9.583E-02	1.701E-01	0.000E+00	FAIL ABUN
TE-125M	-5.140E+00	8.825E+00	1.439E+01	0.000E+00	NOT IDENT.
I-126	3.996E-02	1.833E-01	3.165E-01	0.000E+00	NOT IDENT.
SB-126	8.787E-02	1.689E-01	2.627E-01	0.000E+00	FAIL ABUN
SB-127	1.433E-01	1.643E+00	2.798E+00	0.000E+00	NOT IDENT.
XE-127	-4.862E-02	4.890E-02	7.433E-02	0.000E+00	NOT IDENT.
I-131	-3.758E-02	1.163E-01	1.904E-01	0.000E+00	NOT IDENT.
TE-132	-3.173E-01	7.035E-01	1.187E+00	0.000E+00	NOT IDENT.
BA-133	-1.233E-03	5.198E-02	7.740E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.722E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.273E-02	5.411E-02	1.015E-01	0.000E+00	NOT IDENT.
CS-135	3.381E-02	1.796E-01	2.741E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.309E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.343E-02	1.310E-01	2.262E-01	0.000E+00	FAIL ABUN
BA-137M	-2.159E-02	3.719E-02	5.992E-02	0.000E+00	NOT IDENT.
CS-137	-2.282E-02	3.932E-02	6.334E-02	0.000E+00	NOT IDENT.
CE-139	-8.391E-04	2.862E-02	4.683E-02	0.000E+00	NOT IDENT.
BA-140	8.700E-02	2.594E-01	4.559E-01	0.000E+00	NOT IDENT.
LA-140	-7.061E-02	8.911E-02	1.248E-01	0.000E+00	NOT IDENT.
CE-141	-5.227E-03	6.269E-02	1.031E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.103E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	6.429E-02	2.264E-01	3.404E-01	0.000E+00	NOT IDENT.
PM-144	-2.444E-02	3.547E-02	5.619E-02	0.000E+00	NOT IDENT.
PR-144	-1.656E+00	2.404E+00	3.808E+00	0.000E+00	NOT IDENT.
PM-146	2.433E-02	4.836E-02	8.271E-02	0.000E+00	NOT IDENT.
ND-147	5.208E-02	5.822E-01	1.011E+00	0.000E+00	FAIL ABUN
PM-149	1.109E+02	9.470E+01	1.698E+02	0.000E+00	NOT IDENT.
EU-152	6.227E-02	1.100E-01	1.707E-01	0.000E+00	NOT IDENT.
GD-153	-4.304E-02	7.887E-02	1.148E-01	0.000E+00	FAIL ABUN
EU-154	5.084E-02	1.383E-01	2.408E-01	0.000E+00	NOT IDENT.
EU-155	1.182E-01	9.837E-02	1.736E-01	0.000E+00	FAIL ABUN
TB-160	7.992E-02	1.596E-01	2.769E-01	0.000E+00	FAIL ABUN
HO-166M	4.312E-02	6.501E-02	1.155E-01	0.000E+00	FAIL ABUN
TM-171	1.647E+01	2.330E+01	3.695E+01	0.000E+00	NOT IDENT.
LU-176	4.798E-05	2.570E-02	4.363E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.857E+00	2.050E+00	0.000E+00	FAIL ABUN
LU-177M	-3.749E-02	1.927E-01	3.158E-01	0.000E+00	NOT IDENT.
HF-181	-2.285E-02	4.644E-02	7.310E-02	0.000E+00	NOT IDENT.
W-181	-9.209E-02	3.092E-01	4.681E-01	0.000E+00	NOT IDENT.
TA-182	9.417E-02	2.552E-01	4.419E-01	0.000E+00	FAIL ABUN
RE-183	4.506E-02	1.132E-01	1.860E-01	0.000E+00	FAIL ABUN
RE-184	-2.325E-01	2.182E-01	3.497E-01	0.000E+00	NOT IDENT.
OS-185	2.707E-02	4.247E-02	7.603E-02	0.000E+00	NOT IDENT.
RE-188	1.120E-01	1.708E-01	2.901E-01	0.000E+00	NOT IDENT.
W-188	-7.846E+00	8.294E+00	1.136E+01	0.000E+00	FAIL ABUN
IR-192	3.084E-03	3.701E-02	6.301E-02	0.000E+00	FAIL ABUN
AU-195	2.418E-01	2.238E-01	3.571E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.070E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.992E+00	6.870E+00	1.097E+01	0.000E+00	NOT IDENT.
TL-202	3.354E-02	7.598E-02	1.298E-01	0.000E+00	NOT IDENT.
HG-203	4.205E-02	4.093E-02	7.356E-02	0.000E+00	NOT IDENT.
BI-207	-1.563E-02	5.981E-02	9.964E-02	0.000E+00	FAIL ABUN
TL-207	-4.772E-01	7.119E-01	1.147E+00	0.000E+00	FAIL ABUN
PO-209	-1.596E+00	8.523E+00	1.369E+01	0.000E+00	NOT IDENT.
PB-211	-4.123E-01	1.031E+00	1.615E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.997E-01	7.524E-01	0.000E+00	FAIL ABUN
PO-215	-4.772E-01	7.119E-01	1.147E+00	0.000E+00	FAIL ABUN
RN-219	-2.553E-01	4.591E-01	7.326E-01	0.000E+00	FAIL ABUN
RN-220	-1.209E+01	2.738E+01	4.548E+01	0.000E+00	NOT IDENT.
RA-223	-4.772E-01	7.119E-01	1.147E+00	0.000E+00	FAIL ABUN
AC-227	-1.439E-01	3.673E-01	6.156E-01	0.000E+00	FAIL ABUN
TH-227	-1.439E-01	3.676E-01	6.156E-01	0.000E+00	FAIL ABUN
TH-229	-6.376E-01	5.066E-01	8.304E-01	0.000E+00	FAIL ABUN
PA-231	-7.034E-01	1.561E+00	2.587E+00	0.000E+00	FAIL ABUN
TH-231	-4.772E-01	7.119E-01	1.147E+00	0.000E+00	FAIL ABUN
U-231	-3.047E-01	1.101E+00	1.617E+00	0.000E+00	FAIL ABUN
PA-233	6.404E-02	6.447E-02	1.156E-01	0.000E+00	FAIL ABUN
PA-234	-1.512E-01	3.595E-01	5.657E-01	0.000E+00	FAIL ABUN
PA-234M	7.039E-01	5.435E+00	9.055E+00	0.000E+00	NOT IDENT.
U-235	1.694E-01	2.158E-01	3.626E-01	0.000E+00	FAIL ABUN
NP-236	1.029E-02	7.945E-02	1.314E-01	0.000E+00	NOT IDENT.
NP-239	-1.417E-02	1.838E-01	3.062E-01	0.000E+00	FAIL ABUN
AM-241	2.079E-02	1.167E-01	1.823E-01	0.000E+00	NOT IDENT.
CM-243	1.873E-02	9.028E-02	1.533E-01	0.000E+00	FAIL ABUN
AM-246	-7.333E-02	1.691E-01	2.770E-01	0.000E+00	NOT IDENT.
CM-247	-2.673E-03	4.002E-02	6.634E-02	0.000E+00	NOT IDENT.
CF-249	1.608E-02	4.057E-02	6.965E-02	0.000E+00	NOT IDENT.
CF-251	1.121E-01	1.239E-01	2.251E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 19:30:11.51

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246611001.CNF;1
Sample date       : 4-FEB-2010 12:00:00. Acquisition date : 19-FEB-2010 17:29:39
Sample ID         : G246611001           Sample quantity  : 1.12990E+02 GRAM
Detector name     : GAM07                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.22  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 951362               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	1442	10.67*	1.129E+00	3.977E+01	3.977E+01	10.25
CD-109	88.03	272	3.72*	6.839E+00	3.551E+00	3.633E+00	25.85
SN-126	64.28	80	9.60	4.836E+00	5.720E-01	5.720E-01	97.20
	86.94	272	8.90	6.839E+00	1.484E+00	1.484E+00	48.01
	87.57	272	37.00*	6.839E+00	3.570E-01	3.570E-01	25.85
TL-208	277.35	------	6.80	4.401E+00	------ Line Not Found		------
	510.84	86	21.60	2.755E+00	4.825E-01	4.825E-01	69.21
	583.14	324	84.20*	2.476E+00	5.161E-01	5.161E-01	17.99
	860.37	------	12.46	1.783E+00	------ Line Not Found		------
BI-210	46.50	45	4.05*	2.001E+00	1.862E+00	1.865E+00	143.65
PB-210	46.50	45	4.05*	2.001E+00	1.862E+00	1.865E+00	143.65
PO-210	46.50	45	4.05*	2.001E+00	1.862E+00	1.865E+00	143.59
BI-211	72.87	------	1.27	5.899E+00	------ Line Not Found		------
	351.07	455	12.94*	3.680E+00	3.172E+00	3.172E+00	16.74
PB-212	74.81	381	10.70	6.068E+00	1.947E+00	1.947E+00	23.72
	77.11	677	18.00	6.262E+00	1.995E+00	1.995E+00	15.12
	87.30	272	8.00	6.839E+00	1.651E+00	1.651E+00	27.72
	238.63	988	44.60*	4.909E+00	1.499E+00	1.499E+00	12.29
	300.09	78	3.41	4.150E+00	1.833E+00	1.833E+00	53.73
PO-212	74.81	381	10.70	6.068E+00	1.947E+00	1.947E+00	23.72
	77.11	677	18.00	6.262E+00	1.995E+00	1.995E+00	15.12
	87.30	272	8.00	6.839E+00	1.651E+00	1.651E+00	27.72
	115.19	------	0.60	7.150E+00	------ Line Not Found		------
	238.63	988	44.60*	4.909E+00	1.499E+00	1.499E+00	12.29
	300.09	78	3.41	4.150E+00	1.833E+00	1.833E+00	53.73
BI-214	609.31	366	46.30*	2.389E+00	1.100E+00	1.101E+00	17.56
	1120.29	71	15.10	1.413E+00	1.105E+00	1.105E+00	50.96
	1764.49	57	15.80	9.832E-01	1.209E+00	1.209E+00	38.44
PB-214	74.81	381	6.21	6.068E+00	3.355E+00	3.355E+00	23.03
	77.11	677	10.50	6.262E+00	3.419E+00	3.419E+00	16.93
	87.30	272	4.67	6.839E+00	2.829E+00	2.829E+00	26.98
	241.98	267	7.49	4.864E+00	2.431E+00	2.431E+00	34.46

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	295.21	312	19.20	4.201E+00	1.287E+00	1.287E+00	20.49
	351.92	455	37.20*	3.680E+00	1.104E+00	1.104E+00	17.54
PO-214	74.81	381	6.21	6.068E+00	3.355E+00	3.355E+00	23.03
	77.11	677	10.50	6.262E+00	3.419E+00	3.419E+00	16.93
	87.30	272	4.67	6.839E+00	2.829E+00	2.829E+00	26.98
	241.98	267	7.49	4.864E+00	2.431E+00	2.431E+00	34.46
	295.21	312	19.20	4.201E+00	1.287E+00	1.287E+00	20.49
	351.92	455	37.20*	3.680E+00	1.104E+00	1.104E+00	17.54
PO-216	74.81	381	10.70	6.068E+00	1.947E+00	1.947E+00	23.72
	77.11	677	18.00	6.262E+00	1.995E+00	1.995E+00	15.12
	87.30	272	8.00	6.839E+00	1.651E+00	1.651E+00	27.72
	238.63	988	44.60*	4.909E+00	1.499E+00	1.499E+00	12.29
	300.09	78	3.41	4.150E+00	1.833E+00	1.833E+00	53.73
PO-218	74.81	381	6.21	6.068E+00	3.355E+00	3.355E+00	23.03
	77.11	677	10.50	6.262E+00	3.419E+00	3.419E+00	16.93
	87.30	272	4.67	6.839E+00	2.829E+00	2.829E+00	26.98
	241.98	267	7.49	4.864E+00	2.431E+00	2.431E+00	34.46
	295.21	312	19.20	4.201E+00	1.287E+00	1.287E+00	20.49
	351.92	455	37.20*	3.680E+00	1.104E+00	1.104E+00	17.54
RA-224	240.98	267	3.95*	4.864E+00	4.610E+00	4.610E+00	34.00
RA-226	609.31	366	46.30*	2.389E+00	1.100E+00	1.101E+00	17.56
	1120.29	71	15.10	1.413E+00	1.105E+00	1.105E+00	50.96
	1764.49	57	15.80	9.832E-01	1.209E+00	1.209E+00	38.44
AC-228	338.32	195	11.40	3.790E+00	1.499E+00	1.499E+00	51.17
	911.07	191	27.70*	1.695E+00	1.355E+00	1.355E+00	25.91
	969.11	92	16.60	1.606E+00	1.143E+00	1.143E+00	45.93
RA-228	338.32	195	11.40	3.790E+00	1.499E+00	1.499E+00	51.17
	911.07	191	27.70*	1.695E+00	1.355E+00	1.355E+00	25.91
	969.11	92	16.60	1.606E+00	1.143E+00	1.143E+00	45.93
TH-228	74.81	381	10.70	6.068E+00	1.947E+00	1.977E+00	21.84
	77.11	677	18.00	6.262E+00	1.995E+00	2.025E+00	15.12
	87.30	272	8.00	6.839E+00	1.651E+00	1.676E+00	25.85
	238.63	988	44.60*	4.909E+00	1.499E+00	1.522E+00	12.29
	300.09	78	3.41	4.150E+00	1.833E+00	1.861E+00	79.32
TH-230	609.31	366	46.30*	2.389E+00	1.100E+00	1.100E+00	17.56
	1120.29	71	15.10	1.413E+00	1.105E+00	1.105E+00	50.96
	1764.49	57	15.80	9.832E-01	1.209E+00	1.209E+00	38.44
TH-232	338.32	195	11.40	3.790E+00	1.499E+00	1.499E+00	31.47
	911.07	191	27.70*	1.695E+00	1.355E+00	1.355E+00	25.91
	969.11	92	16.60	1.606E+00	1.143E+00	1.143E+00	45.93
TH-234	63.29	80	3.80*	4.836E+00	1.445E+00	1.445E+00	97.68
	92.38	219	5.41	7.016E+00	1.917E+00	1.917E+00	41.18
U-234	609.31	366	46.30*	2.389E+00	1.100E+00	1.100E+00	17.56
	1120.29	71	15.10	1.413E+00	1.105E+00	1.105E+00	50.96
	1764.49	57	15.80	9.832E-01	1.209E+00	1.209E+00	38.44
NP-237	86.50	272	12.60*	6.839E+00	1.048E+00	1.048E+00	33.08
	95.87	------	2.60	7.087E+00	------ Line Not Found		------
U-238	63.29	80	3.80*	4.836E+00	1.445E+00	1.445E+00	97.68
	92.38	219	5.41	7.016E+00	1.917E+00	1.917E+00	37.99

Sample ID : G246611001 Acquisition date : 19-FEB-2010 17:29:39

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	381	66.00*	6.068E+00	3.157E-01	3.157E-01	21.81
	86.72	272	0.34	6.839E+00	3.932E+01	3.932E+01	25.85
	117.66	------	0.55	7.126E+00	------	Line Not Found	------
	142.18	------	0.13	6.723E+00	------	Line Not Found	------
ANH-511	511.00	86	100.00*	2.755E+00	1.042E-01	1.042E-01	68.71

Flag: "*" = Keyline

Sample ID : G246611001 Acquisition date : 19-FEB-2010 17:29:39

Total number of lines in spectrum 28
Number of unidentified lines 0
Number of lines tentatively identified by NID 28 100.00%

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	3.977E+01	3.977E+01	0.407E+01	10.25	
CD-109	464.00D	1.02	3.551E+00	3.633E+00	0.939E+00	25.85	
SN-126	1.00E+05Y	1.00	3.570E-01	3.570E-01	0.923E-01	25.85	
TL-208	1.41E+10Y	1.00	5.161E-01	5.161E-01	0.928E-01	17.99	
BI-210	22.26Y	1.00	1.862E+00	1.865E+00	2.679E+00	143.65	
PB-210	22.26Y	1.00	1.862E+00	1.865E+00	2.679E+00	143.65	
PO-210	22.26Y	1.00	1.862E+00	1.865E+00	2.678E+00	143.59	
BI-211	7.04E+08Y	1.00	3.172E+00	3.172E+00	0.531E+00	16.74	
PB-212	1.41E+10Y	1.00	1.499E+00	1.499E+00	0.184E+00	12.29	
PO-212	1.41E+10Y	1.00	1.499E+00	1.499E+00	0.184E+00	12.29	
BI-214	1600.00Y	1.00	1.100E+00	1.101E+00	0.193E+00	17.56	
PB-214	1600.00Y	1.00	1.104E+00	1.104E+00	0.194E+00	17.54	
PO-214	1600.00Y	1.00	1.104E+00	1.104E+00	0.194E+00	17.54	
PO-216	1.41E+10Y	1.00	1.499E+00	1.499E+00	0.184E+00	12.29	
PO-218	1600.00Y	1.00	1.104E+00	1.104E+00	0.194E+00	17.54	
RA-224	1.41E+10Y	1.00	4.610E+00	4.610E+00	1.568E+00	34.00	
RA-226	1600.00Y	1.00	1.100E+00	1.101E+00	0.193E+00	17.56	
AC-228	1.41E+10Y	1.00	1.355E+00	1.355E+00	0.351E+00	25.91	
RA-228	1.41E+10Y	1.00	1.355E+00	1.355E+00	0.351E+00	25.91	
TH-228	1.91Y	1.02	1.499E+00	1.522E+00	0.187E+00	12.29	
TH-230	4.47E+09Y	1.00	1.100E+00	1.100E+00	0.193E+00	17.56	
TH-232	1.41E+10Y	1.00	1.355E+00	1.355E+00	0.351E+00	25.91	
TH-234	4.47E+09Y	1.00	1.445E+00	1.445E+00	1.411E+00	97.68	
U-234	4.47E+09Y	1.00	1.100E+00	1.100E+00	0.193E+00	17.56	
NP-237	2.14E+06Y	1.00	1.048E+00	1.048E+00	0.347E+00	33.08	
U-238	4.47E+09Y	1.00	1.445E+00	1.445E+00	1.411E+00	97.68	
AM-243	7380.00Y	1.00	3.157E-01	3.157E-01	0.688E-01	21.81	
ANH-511	1.00E+09Y	1.00	1.042E-01	1.042E-01	0.716E-01	68.71	
	Total Activity :		7.970E+01	7.981E+01			

Grand Total Activity : 7.970E+01 7.981E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G246611001 Acquisition date : 19-FEB-2010 17:29:39

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	84.12	111	353	1.65	167.88	164	30	1.54E-02	61.5	6.70E+00	T
5	89.78	161	289	1.18	179.20	164	30	2.24E-02	39.1	6.93E+00	T
0	129.01	72	262	0.99	257.65	254	8	9.95E-03	82.4	6.97E+00	T
0	185.71	182	295	1.25	371.03	366	12	2.53E-02	42.1	5.82E+00	T
0	209.41	107	269	1.21	418.42	412	12	1.48E-02	64.8	5.38E+00	T
0	271.29	58	202	1.16	542.16	535	11	8.07E-03	98.5	4.47E+00	T
0	463.21	72	91	1.04	925.95	920	11	1.00E-02	56.8	2.98E+00	T
0	727.43	93	79	2.04	1454.30	1447	15	1.29E-02	46.9	2.06E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 19:30:15.97

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*****************************************************************************
*                            GEL Laboratories LLC                            *
*                              2040 Savage Road                              *
*                            Charleston, SC 29414                            *
*****************************************************************************
*                                                                           *
*                               DETECTOR DATA                               *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G246611001.CNF;1  *
* Acquisition date : 19-FEB-2010 17:29:39  Detector SN#    :                *
* Detector ID      : GAM07                 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 02:00:01.22         Half life ratio : 8.00000        *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date      : 4-FEB-2010 12:00:00.  Nuclide Library : SOLID          *
* Sample ID        : G246611001            Analyst initials: MXR1           *
* Batch Number     : 951362                Sample Quantity : 1.12990E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
*                                                                           *
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58.0MS 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	3.977E+01	4.075E+00	5.654E-01	4.855E-02	70.338
CD-109	3.633E+00	9.392E-01	1.038E+00	9.781E-02	3.499
SN-126	3.570E-01	9.230E-02	1.023E-01	9.582E-03	3.491
TL-208	5.161E-01	9.284E-02	6.354E-02	6.078E-03	8.122
BI-210	1.865E+00	2.679E+00	2.888E+00	2.709E-01	0.646
PB-210	1.865E+00	2.679E+00	2.888E+00	2.709E-01	0.646
PO-210	1.865E+00	2.678E+00	2.888E+00	2.457E-01	0.646
BI-211	3.172E+00	5.312E-01	3.387E-01	3.038E-02	9.367
PB-212	1.499E+00	1.841E-01	9.147E-02	8.749E-03	16.385
PO-212	1.499E+00	1.841E-01	9.147E-02	8.749E-03	16.385
BI-214	1.101E+00	1.932E-01	1.197E-01	1.239E-02	9.191
PB-214	1.104E+00	1.935E-01	1.244E-01	1.291E-02	8.872
PO-214	1.104E+00	1.935E-01	1.244E-01	1.291E-02	8.872
PO-216	1.499E+00	1.841E-01	9.147E-02	8.749E-03	16.385
PO-218	1.104E+00	1.935E-01	1.244E-01	1.291E-02	8.872
RA-224	4.610E+00	1.568E+00	1.041E+00	8.805E-02	4.428
RA-226	1.101E+00	1.932E-01	1.197E-01	1.239E-02	9.191
AC-228	1.355E+00	3.510E-01	2.509E-01	2.923E-02	5.399

Sample ID : G246611001 Acquisition date : 19-FEB-2010 17:29:39

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.355E+00	3.510E-01	2.509E-01	2.923E-02	5.399
TH-228	1.522E+00	1.869E-01	9.287E-02	8.883E-03	16.385
TH-230	1.100E+00	1.932E-01	1.197E-01	1.239E-02	9.191
TH-232	1.355E+00	3.510E-01	2.509E-01	2.923E-02	5.399
TH-234	1.445E+00	1.411E+00	1.527E+00	2.658E-01	0.946
U-234	1.100E+00	1.932E-01	1.197E-01	1.239E-02	9.191
NP-237	1.048E+00	3.468E-01	3.019E-01	6.827E-02	3.472
U-238	1.445E+00	1.411E+00	1.527E+00	2.658E-01	0.946
AM-243	3.157E-01	6.884E-02	7.215E-02	5.799E-03	4.375
ANH-511	1.042E-01	7.160E-02	5.349E-02	4.753E-03	1.948

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.979E-02		3.576E-01	5.693E-01	5.373E-02	-0.052
NA-22	1.438E-02		5.066E-02	8.610E-02	7.067E-03	0.167
NA-24	5.922E-01		4.805E-01	Half-Life too short		
AL-26	-3.850E-02		3.638E-02	4.935E-02	4.024E-03	-0.780
TI-44	3.681E-01	+	5.565E-02	7.105E-02	5.948E-03	5.180
SC-46	1.476E-02		4.661E-02	7.795E-02	7.143E-03	0.189
V-48	-3.504E-02		8.573E-02	1.321E-01	1.189E-02	-0.265
CR-51	-3.705E-02		4.209E-01	6.886E-01	6.222E-02	-0.054
MN-52	-1.345E-01		2.566E-01	3.844E-01	3.197E-02	-0.350
MN-54	5.416E-03		4.260E-02	7.028E-02	6.451E-03	0.077
CO-56	2.019E-02		3.941E-02	6.769E-02	6.214E-03	0.298
CO-57	-1.432E-02		2.601E-02	4.066E-02	3.499E-03	-0.352
CO-58	-3.312E-02		4.099E-02	6.097E-02	5.601E-03	-0.543
FE-59	-7.839E-02		1.005E-01	1.543E-01	1.429E-02	-0.508
CO-60	-4.984E-02		4.987E-02	7.265E-02	5.951E-03	-0.686
ZN-65	-1.448E-02		1.189E-01	1.684E-01	1.429E-02	-0.086
GE-68	-1.777E-01		1.517E+00	2.512E+00	2.177E-01	-0.071
AS-73	4.127E-01		4.978E-01	8.547E-01	6.418E-02	0.483
AS-74	1.053E-02		9.864E-02	1.662E-01	1.489E-02	0.063
SE-75	2.233E-03		5.145E-02	7.548E-02	6.446E-03	0.030
BR-77	2.831E+00		1.165E+01	1.998E+01	1.779E+00	0.142
SR-82	-2.926E-01		4.066E-01	6.176E-01	5.640E-02	-0.474
RB-83	1.380E-02		7.426E-02	1.268E-01	1.130E-02	0.109
RB-84	8.792E-04		7.964E-02	1.295E-01	1.188E-02	0.007
KR-85	1.399E+01		8.649E+00	1.446E+01	1.286E+00	0.967
SR-85	7.183E-02		4.440E-02	7.425E-02	6.603E-03	0.967
RB-86	-3.537E-01		9.505E-01	1.537E+00	1.332E-01	-0.230
Y-88	-7.346E-03		3.619E-02	5.776E-02	4.688E-03	-0.127
ZR-88	-1.219E-02		3.295E-02	5.201E-02	4.332E-03	-0.234
Y-91	5.966E+00		2.445E+01	4.135E+01	3.377E+00	0.144
NB-94	-3.188E-02		3.464E-02	5.212E-02	4.680E-03	-0.612
NB-95	-2.121E-02		5.479E-02	8.731E-02	7.959E-03	-0.243
NB-95M	3.435E-02		1.342E-01	2.011E-01	1.952E-02	0.171

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	-8.870E-03		7.915E-02	1.287E-01	1.278E-02	-0.069
NB-97	1.017E-01		5.690E-02	Half-Life too short		
ZR-97	3.271E+00		1.200E+00	Half-Life too short		
MO-99	-7.074E+00		1.313E+01	2.045E+01	3.158E+00	-0.346
TC-99M	-1.149E+10		2.771E+10	Half-Life too short		
RH-101	7.296E-02		3.597E-02	6.358E-02	5.216E-03	1.147
RH-102	-1.543E-02		3.245E-02	4.992E-02	4.380E-03	-0.309
RU-103	1.859E-02		4.514E-02	7.455E-02	1.066E-02	0.249
RH-106	6.921E-02		3.218E-01	5.458E-01	7.403E-02	0.127
RU-106	6.921E-02		3.217E-01	5.458E-01	4.878E-02	0.127
AG-108M	-3.405E-02		3.297E-02	4.806E-02	4.291E-03	-0.708
AG-110M	3.170E-02		3.647E-02	6.474E-02	5.898E-03	0.490
IN-111	-8.241E-01		1.225E+00	1.703E+00	1.442E-01	-0.484
IN-113M	1.555E-02		4.664E-02	7.759E-02	6.670E-03	0.200
SN-113	1.555E-02		4.664E-02	7.759E-02	6.670E-03	0.200
IN-114M	1.369E-01		2.016E-01	3.133E-01	2.549E-02	0.437
CD-115	4.025E+00		1.185E+01	2.046E+01	1.825E+00	0.197
SN-117M	-2.221E-02		5.629E-02	8.742E-02	7.009E-03	-0.254
SB-122	2.888E+00		2.350E+00	4.258E+00	3.817E-01	0.678
I-123	-2.939E+00		3.373E+00	Half-Life too short		
TE-123M	-1.261E-02		2.894E-02	4.482E-02	3.616E-03	-0.281
I-124	-6.165E-02		8.360E-01	1.261E+00	1.130E-01	-0.049
SB-124	-1.251E-02		7.658E-02	1.190E-01	1.031E-02	-0.105
SB-125	9.466E-02		9.779E-02	1.691E-01	1.474E-02	0.560
TE-125M	-5.140E+00		9.005E+00	1.413E+01	1.465E+00	-0.364
I-126	3.996E-02		1.870E-01	3.158E-01	2.800E-02	0.127
SB-126	8.787E-02		1.723E-01	2.623E-01	2.367E-02	0.335
SB-127	1.433E-01		1.677E+00	2.793E+00	3.253E-01	0.051
XE-127	-4.862E-02		4.990E-02	7.341E-02	6.050E-03	-0.662
I-131	-3.758E-02		1.187E-01	1.890E-01	1.693E-02	-0.199
TE-132	-3.173E-01		7.178E-01	1.173E+00	1.833E-01	-0.270
BA-133	-1.233E-03		5.304E-02	7.681E-02	1.009E-02	-0.016
I-133	1.453E-03		3.429E-03	Half-Life too short		
CS-134	9.273E-02		5.521E-02	1.015E-01	9.349E-03	0.914
CS-135	3.381E-02		1.832E-01	2.714E-01	2.676E-02	0.125
I-135	-6.617E+09		4.750E+09	Half-Life too short		
CS-136	3.343E-02		1.337E-01	2.266E-01	2.073E-02	0.147
BA-137M	-2.159E-02		3.795E-02	5.978E-02	5.290E-03	-0.361
CS-137	-2.282E-02		4.012E-02	6.319E-02	5.603E-03	-0.361
CE-139	-8.391E-04		2.920E-02	4.617E-02	3.652E-03	-0.018
BA-140	8.700E-02		2.647E-01	4.540E-01	1.508E-01	0.192
LA-140	-7.061E-02		9.093E-02	1.255E-01	1.050E-02	-0.563
CE-141	-5.227E-03		6.397E-02	1.016E-01	8.504E-03	-0.051
CE-143	5.765E-04		1.073E-04	Half-Life too short		
CE-144	6.429E-02		2.311E-01	3.350E-01	5.171E-02	0.192
PM-144	-2.444E-02		3.620E-02	5.609E-02	5.028E-03	-0.436
PR-144	-1.656E+00		2.453E+00	3.801E+00	3.406E-01	-0.436
PM-146	2.433E-02		4.934E-02	8.225E-02	8.863E-03	0.296

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	5.208E-02		5.941E-01	1.007E+00	1.523E-01	0.052
PM-149	1.109E+02		9.663E+01	1.682E+02	2.605E+01	0.659
EU-152	6.227E-02		1.123E-01	1.693E-01	1.535E-02	0.368
GD-153	-4.304E-02		8.048E-02	1.126E-01	1.007E-02	-0.382
EU-154	5.084E-02		1.412E-01	2.416E-01	2.656E-02	0.210
EU-155	1.182E-01		1.004E-01	1.705E-01	1.507E-02	0.693
TB-160	7.992E-02		1.628E-01	2.769E-01	2.539E-02	0.289
HO-166M	4.312E-02		6.634E-02	1.153E-01	1.038E-02	0.374
TM-171	1.647E+01		2.378E+01	3.615E+01	2.704E+00	0.456
LU-176	4.798E-05		2.622E-02	4.324E-02	3.704E-03	0.001
LU-177	2.903E+00	+	1.895E+00	2.025E+00	1.677E-01	1.433
LU-177M	-3.749E-02		1.966E-01	3.138E-01	2.657E-02	-0.119
HF-181	-2.285E-02		4.739E-02	7.273E-02	6.399E-03	-0.314
W-181	-9.209E-02		3.155E-01	4.579E-01	3.388E-02	-0.201
TA-182	9.417E-02		2.604E-01	4.433E-01	3.625E-02	0.212
RE-183	4.506E-02		1.155E-01	1.834E-01	1.460E-02	0.246
RE-184	-2.325E-01		2.226E-01	3.460E-01	2.937E-02	-0.672
OS-185	2.707E-02		4.333E-02	7.584E-02	6.742E-03	0.357
RE-188	1.120E-01		1.743E-01	2.859E-01	2.307E-02	0.392
W-188	-7.846E+00		8.463E+00	1.125E+01	9.596E-01	-0.697
IR-192	3.084E-03		3.777E-02	6.246E-02	5.369E-03	0.049
AU-195	2.418E-01		2.284E-01	3.506E-01	3.118E-02	0.690
TL-200	2.932E-04		2.587E-04	Half-Life too short		
TL-201	-2.992E+00		7.010E+00	1.082E+01	8.568E-01	-0.277
TL-202	3.354E-02		7.753E-02	1.290E-01	1.111E-02	0.260
HG-203	4.205E-02		4.177E-02	7.285E-02	6.364E-03	0.577
BI-207	-1.563E-02		6.103E-02	9.983E-02	8.710E-03	-0.157
TL-207	-4.772E-01		7.264E-01	1.137E+00	2.011E-01	-0.420
PO-209	-1.596E+00		8.697E+00	1.370E+01	1.254E+00	-0.117
PB-211	-4.123E-01		1.052E+00	1.604E+00	1.005E+00	-0.257
BI-212	1.274E+00	+	6.119E-01	7.513E-01	7.793E-02	1.696
PO-215	-4.772E-01		7.264E-01	1.137E+00	2.011E-01	-0.420
RN-219	-2.553E-01		4.685E-01	7.278E-01	1.084E-01	-0.351
RN-220	-1.209E+01		2.793E+01	4.530E+01	4.056E+00	-0.267
RA-223	-4.772E-01		7.264E-01	1.137E+00	2.011E-01	-0.420
AC-227	-1.439E-01		3.748E-01	6.092E-01	9.307E-02	-0.236
TH-227	-1.439E-01		3.751E-01	6.092E-01	1.097E-01	-0.236
TH-229	-6.376E-01		5.170E-01	8.198E-01	6.694E-02	-0.778
PA-231	-7.034E-01		1.592E+00	2.562E+00	3.874E-01	-0.275
TH-231	-4.772E-01		7.264E-01	1.137E+00	2.011E-01	-0.420
U-231	-3.047E-01		1.123E+00	1.587E+00	1.428E-01	-0.192
PA-233	6.404E-02		6.579E-02	1.146E-01	1.010E-02	0.559
PA-234	-1.512E-01		3.668E-01	5.662E-01	1.075E-01	-0.267
PA-234M	7.039E-01		5.546E+00	9.067E+00	9.298E-01	0.078
U-235	1.694E-01		2.202E-01	3.571E-01	6.184E-02	0.474
NP-236	1.029E-02		8.107E-02	1.295E-01	1.035E-02	0.079
NP-239	-1.417E-02		1.875E-01	3.010E-01	2.590E-02	-0.047
AM-241	2.079E-02		1.191E-01	1.782E-01	1.412E-02	0.117

Sample ID : G246611001 Acquisition date : 19-FEB-2010 17:29:39

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.873E-02		9.212E-02	1.506E-01	1.320E-02	0.124
AM-246	-7.333E-02		1.725E-01	2.776E-01	2.403E-02	-0.264
CM-247	-2.673E-03		4.084E-02	6.591E-02	5.533E-03	-0.041
CF-249	1.608E-02		4.140E-02	6.917E-02	5.774E-03	0.232
CF-251	1.121E-01		1.264E-01	2.220E-01	1.779E-02	0.505

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration    : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G246611001            *
* Acquisition date : 19-FEB-2010 17:29:39 Detector SN#    :                 *
* Detector ID      : GAM07                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 02:00:01.22     Half life ratio : 8.000           *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date      :  4-FEB-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID        : G246611001           Analyst initials: MXR1            *
* Batch Number     : 951362               Sample Quantity : 1.1299E+02 GRAM *
* Recovery         :    1.00000           Carrier Weight :    0.00000       *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58 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	3.977E+01	3.993E+00	2.816E-01	2.037E+00
CD-109	3.633E+00	9.205E-01	5.297E-01	4.696E-01
SN-126	3.570E-01	9.046E-02	5.217E-02	4.615E-02
TL-208	5.161E-01	9.098E-02	3.189E-02	4.642E-02
BI-210	1.865E+00	2.625E+00	1.481E+00	1.339E+00
PB-210	1.865E+00	2.625E+00	1.481E+00	1.339E+00
PO-210	1.865E+00	2.624E+00	1.481E+00	1.339E+00
BI-211	3.172E+00	5.206E-01	1.708E-01	2.656E-01
PB-212	1.499E+00	1.804E-01	4.627E-02	9.206E-02
PO-212	1.499E+00	1.804E-01	4.627E-02	9.206E-02
BI-214	1.101E+00	1.894E-01	6.008E-02	9.662E-02
PB-214	1.104E+00	1.897E-01	6.271E-02	9.677E-02
PO-214	1.104E+00	1.897E-01	6.271E-02	9.677E-02
PO-216	1.499E+00	1.804E-01	4.627E-02	9.206E-02
PO-218	1.104E+00	1.897E-01	6.271E-02	9.677E-02
RA-224	4.610E+00	1.536E+00	5.266E-01	7.839E-01
RA-226	1.101E+00	1.894E-01	6.008E-02	9.662E-02
AC-228	1.355E+00	3.440E-01	1.255E-01	1.755E-01
RA-228	1.355E+00	3.440E-01	1.255E-01	1.755E-01
TH-228	1.522E+00	1.832E-01	4.698E-02	9.347E-02
TH-230	1.100E+00	1.894E-01	6.008E-02	9.662E-02
TH-232	1.355E+00	3.440E-01	1.255E-01	1.755E-01
TH-234	1.445E+00	1.383E+00	7.814E-01	7.057E-01
U-234	1.100E+00	1.894E-01	6.008E-02	9.662E-02
NP-237	1.048E+00	3.399E-01	1.540E-01	1.734E-01
U-238	1.445E+00	1.383E+00	7.814E-01	7.057E-01
AM-243	3.157E-01	6.746E-02	3.685E-02	3.442E-02
ANH-511	1.042E-01	7.017E-02	2.688E-02	3.580E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	-2.979E-02	3.505E-01	2.863E-01	1.788E-01	NOT IDENT.
NA-22	1.438E-02	4.964E-02	4.293E-02	2.533E-02	NOT IDENT.
NA-24	5.922E+05	9.417E+05	0.000E+00	4.805E+05	SHORT HLIF
AL-26	-3.850E-02	3.565E-02	2.453E-02	1.819E-02	NOT IDENT.
TI-44	3.681E-01	5.453E-02	3.628E-02	2.782E-02	FAIL ABUN
SC-46	1.476E-02	4.567E-02	3.899E-02	2.330E-02	FAIL ABUN
V-48	-3.504E-02	8.402E-02	6.599E-02	4.287E-02	NOT IDENT.
CR-51	-3.705E-02	4.125E-01	3.474E-01	2.105E-01	NOT IDENT.
MN-52	-1.345E-01	2.514E-01	1.915E-01	1.283E-01	NOT IDENT.
MN-54	5.416E-03	4.175E-02	3.517E-02	2.130E-02	NOT IDENT.
CO-56	2.019E-02	3.862E-02	3.387E-02	1.970E-02	NOT IDENT.
CO-57	-1.432E-02	2.549E-02	2.069E-02	1.301E-02	NOT IDENT.
CO-58	-3.312E-02	4.017E-02	3.052E-02	2.049E-02	NOT IDENT.
FE-59	-7.839E-02	9.845E-02	7.702E-02	5.023E-02	NOT IDENT.
CO-60	-4.984E-02	4.887E-02	3.621E-02	2.493E-02	NOT IDENT.
ZN-65	-1.448E-02	1.166E-01	8.407E-02	5.947E-02	NOT IDENT.
GE-68	-1.777E-01	1.486E+00	1.254E+00	7.583E-01	NOT IDENT.
AS-73	4.127E-01	4.878E-01	4.378E-01	2.489E-01	NOT IDENT.
AS-74	1.053E-02	9.666E-02	8.339E-02	4.932E-02	NOT IDENT.
SE-75	2.233E-03	5.043E-02	3.815E-02	2.573E-02	NOT IDENT.
BR-77	2.831E+00	1.142E+01	1.004E+01	5.826E+00	FAIL ABUN
SR-82	-2.926E-01	3.985E-01	3.093E-01	2.033E-01	NOT IDENT.
RB-83	1.380E-02	7.277E-02	6.373E-02	3.713E-02	NOT IDENT.
RB-84	8.792E-04	7.805E-02	6.479E-02	3.982E-02	NOT IDENT.
KR-85	1.399E+01	8.476E+00	7.269E+00	4.324E+00	NOT IDENT.
SR-85	7.183E-02	4.351E-02	3.731E-02	2.220E-02	NOT IDENT.
RB-86	-3.537E-01	9.315E-01	7.673E-01	4.752E-01	NOT IDENT.
Y-88	-7.346E-03	3.546E-02	2.871E-02	1.809E-02	NOT IDENT.
ZR-88	-1.219E-02	3.229E-02	2.620E-02	1.647E-02	NOT IDENT.
Y-91	5.966E+00	2.396E+01	2.063E+01	1.223E+01	NOT IDENT.
NB-94	-3.188E-02	3.395E-02	2.612E-02	1.732E-02	NOT IDENT.
NB-95	-2.121E-02	5.370E-02	4.373E-02	2.740E-02	NOT IDENT.
NB-95M	3.435E-02	1.315E-01	1.017E-01	6.708E-02	NOT IDENT.
ZR-95	-8.870E-03	7.757E-02	6.448E-02	3.958E-02	NOT IDENT.
NB-97	1.017E+05	1.115E+05	0.000E+00	5.690E+04	SHORT HLIF
ZR-97	3.271E+06	2.352E+06	0.000E+00	1.200E+06	SHORT HLIF
MO-99	-7.074E+00	1.287E+01	1.025E+01	6.567E+00	NOT IDENT.
TC-99M	-1.149E+16	5.431E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.296E-02	3.525E-02	3.222E-02	1.799E-02	NOT IDENT.
RH-102	-1.543E-02	3.180E-02	2.510E-02	1.623E-02	NOT IDENT.
RU-103	1.859E-02	4.424E-02	3.748E-02	2.257E-02	FAIL ABUN
RH-106	6.921E-02	3.153E-01	2.738E-01	1.609E-01	FAIL ABUN
RU-106	6.921E-02	3.153E-01	2.738E-01	1.608E-01	FAIL ABUN
AG-108M	-3.405E-02	3.231E-02	2.419E-02	1.649E-02	NOT IDENT.
AG-110M	3.170E-02	3.574E-02	3.247E-02	1.824E-02	NOT IDENT.
IN-111	-8.241E-01	1.201E+00	8.612E-01	6.126E-01	NOT IDENT.
IN-113M	1.555E-02	4.571E-02	3.908E-02	2.332E-02	NOT IDENT.
SN-113	1.555E-02	4.571E-02	3.908E-02	2.332E-02	NOT IDENT.
IN-114M	1.369E-01	1.975E-01	1.588E-01	1.008E-01	NOT IDENT.
CD-115	4.025E+00	1.162E+01	1.028E+01	5.927E+00	NOT IDENT.
SN-117M	-2.221E-02	5.517E-02	4.438E-02	2.815E-02	NOT IDENT.
SB-122	2.888E+00	2.303E+00	2.138E+00	1.175E+00	NOT IDENT.
I-123	-2.939E+06	6.612E+06	0.000E+00	3.373E+06	SHORT HLIF
TE-123M	-1.261E-02	2.836E-02	2.275E-02	1.447E-02	NOT IDENT.
I-124	-6.165E-02	8.192E-01	6.328E-01	4.180E-01	NOT IDENT.
SB-124	-1.251E-02	7.505E-02	5.917E-02	3.829E-02	FAIL ABUN
SB-125	9.466E-02	9.583E-02	8.511E-02	4.889E-02	FAIL ABUN
TE-125M	-5.140E+00	8.825E+00	7.197E+00	4.502E+00	NOT IDENT.
I-126	3.996E-02	1.833E-01	1.583E-01	9.352E-02	NOT IDENT.
SB-126	8.787E-02	1.689E-01	1.314E-01	8.617E-02	FAIL ABUN
SB-127	1.433E-01	1.643E+00	1.400E+00	8.383E-01	NOT IDENT.
XE-127	-4.862E-02	4.890E-02	3.718E-02	2.495E-02	NOT IDENT.
I-131	-3.758E-02	1.163E-01	9.527E-02	5.935E-02	NOT IDENT.
TE-132	-3.173E-01	7.035E-01	5.938E-01	3.589E-01	NOT IDENT.
BA-133	-1.233E-03	5.198E-02	3.872E-02	2.652E-02	NOT IDENT.
I-133	1.453E+03	6.722E+03	0.000E+00	3.429E+03	SHORT HLIF
CS-134	9.273E-02	5.411E-02	5.080E-02	2.761E-02	NOT IDENT.
CS-135	3.381E-02	1.796E-01	1.371E-01	9.161E-02	NOT IDENT.
I-135	-6.617E+15	9.309E+15	0.000E+00	4.750E+15	SHORT HLIF
CS-136	3.343E-02	1.310E-01	1.132E-01	6.686E-02	FAIL ABUN
BA-137M	-2.159E-02	3.719E-02	2.998E-02	1.898E-02	NOT IDENT.
CS-137	-2.282E-02	3.932E-02	3.169E-02	2.006E-02	NOT IDENT.
CE-139	-8.391E-04	2.862E-02	2.343E-02	1.460E-02	NOT IDENT.
BA-140	8.700E-02	2.594E-01	2.281E-01	1.323E-01	NOT IDENT.
LA-140	-7.061E-02	8.911E-02	6.245E-02	4.547E-02	NOT IDENT.
CE-141	-5.227E-03	6.269E-02	5.160E-02	3.199E-02	NOT IDENT.
CE-143	5.765E+02	2.103E+02	0.000E+00	1.073E+02	SHORT HLIF

CE-144	6.429E-02	2.264E-01	1.703E-01	1.155E-01	NOT IDENT.
PM-144	-2.444E-02	3.547E-02	2.811E-02	1.810E-02	NOT IDENT.
PR-144	-1.656E+00	2.404E+00	1.905E+00	1.226E+00	NOT IDENT.
PM-146	2.433E-02	4.836E-02	4.138E-02	2.467E-02	NOT IDENT.
ND-147	5.208E-02	5.822E-01	5.057E-01	2.971E-01	FAIL ABUN
PM-149	1.109E+02	9.470E+01	8.497E+01	4.831E+01	NOT IDENT.
EU-152	6.227E-02	1.100E-01	8.540E-02	5.613E-02	NOT IDENT.
GD-153	-4.304E-02	7.887E-02	5.741E-02	4.024E-02	FAIL ABUN
EU-154	5.084E-02	1.383E-01	1.205E-01	7.058E-02	NOT IDENT.
EU-155	1.182E-01	9.837E-02	8.686E-02	5.019E-02	FAIL ABUN
TB-160	7.992E-02	1.596E-01	1.385E-01	8.142E-02	FAIL ABUN
HO-166M	4.312E-02	6.501E-02	5.779E-02	3.317E-02	FAIL ABUN
TM-171	1.647E+01	2.330E+01	1.848E+01	1.189E+01	NOT IDENT.
LU-176	4.798E-05	2.570E-02	2.183E-02	1.311E-02	FAIL ABUN
LU-177	2.903E+00	1.857E+00	1.026E+00	9.476E-01	FAIL ABUN
LU-177M	-3.749E-02	1.927E-01	1.580E-01	9.831E-02	NOT IDENT.
HF-181	-2.285E-02	4.644E-02	3.657E-02	2.369E-02	NOT IDENT.
W-181	-9.209E-02	3.092E-01	2.342E-01	1.578E-01	NOT IDENT.
TA-182	9.417E-02	2.552E-01	2.211E-01	1.302E-01	FAIL ABUN
RE-183	4.506E-02	1.132E-01	9.308E-02	5.776E-02	FAIL ABUN
RE-184	-2.325E-01	2.182E-01	1.750E-01	1.113E-01	NOT IDENT.
OS-185	2.707E-02	4.247E-02	3.804E-02	2.167E-02	NOT IDENT.
RE-188	1.120E-01	1.708E-01	1.451E-01	8.716E-02	NOT IDENT.
W-188	-7.846E+00	8.294E+00	5.681E+00	4.232E+00	FAIL ABUN
IR-192	3.084E-03	3.701E-02	3.152E-02	1.889E-02	FAIL ABUN
AU-195	2.418E-01	2.238E-01	1.787E-01	1.142E-01	FAIL ABUN
TL-200	2.932E+02	5.070E+02	0.000E+00	2.587E+02	SHORT HLIF
TL-201	-2.992E+00	6.870E+00	5.488E+00	3.505E+00	NOT IDENT.
TL-202	3.354E-02	7.598E-02	6.493E-02	3.876E-02	NOT IDENT.
HG-203	4.205E-02	4.093E-02	3.680E-02	2.089E-02	NOT IDENT.
BI-207	-1.563E-02	5.981E-02	4.985E-02	3.051E-02	FAIL ABUN
TL-207	-4.772E-01	7.119E-01	5.738E-01	3.632E-01	FAIL ABUN
PO-209	-1.596E+00	8.523E+00	6.851E+00	4.348E+00	NOT IDENT.
PB-211	-4.123E-01	1.031E+00	8.078E-01	5.260E-01	NOT IDENT.
BI-212	1.274E+00	5.997E-01	3.764E-01	3.060E-01	FAIL ABUN
PO-215	-4.772E-01	7.119E-01	5.738E-01	3.632E-01	FAIL ABUN
RN-219	-2.553E-01	4.591E-01	3.665E-01	2.342E-01	FAIL ABUN
RN-220	-1.209E+01	2.738E+01	2.275E+01	1.397E+01	NOT IDENT.
RA-223	-4.772E-01	7.119E-01	5.738E-01	3.632E-01	FAIL ABUN
AC-227	-1.439E-01	3.673E-01	3.080E-01	1.874E-01	FAIL ABUN
TH-227	-1.439E-01	3.676E-01	3.080E-01	1.875E-01	FAIL ABUN
TH-229	-6.376E-01	5.066E-01	4.154E-01	2.585E-01	FAIL ABUN
PA-231	-7.034E-01	1.561E+00	1.294E+00	7.962E-01	FAIL ABUN
TH-231	-4.772E-01	7.119E-01	5.738E-01	3.632E-01	FAIL ABUN
U-231	-3.047E-01	1.101E+00	8.089E-01	5.617E-01	FAIL ABUN
PA-233	6.404E-02	6.447E-02	5.782E-02	3.289E-02	FAIL ABUN
PA-234	-1.512E-01	3.595E-01	2.830E-01	1.834E-01	FAIL ABUN
PA-234M	7.039E-01	5.435E+00	4.530E+00	2.773E+00	NOT IDENT.
U-235	1.694E-01	2.158E-01	1.814E-01	1.101E-01	FAIL ABUN
NP-236	1.029E-02	7.945E-02	6.573E-02	4.054E-02	NOT IDENT.
NP-239	-1.417E-02	1.838E-01	1.532E-01	9.375E-02	FAIL ABUN
AM-241	2.079E-02	1.167E-01	9.118E-02	5.954E-02	NOT IDENT.
CM-243	1.873E-02	9.028E-02	7.672E-02	4.606E-02	FAIL ABUN
AM-246	-7.333E-02	1.691E-01	1.386E-01	8.626E-02	NOT IDENT.
CM-247	-2.673E-03	4.002E-02	3.319E-02	2.042E-02	NOT IDENT.
CF-249	1.608E-02	4.057E-02	3.485E-02	2.070E-02	NOT IDENT.
CF-251	1.121E-01	1.239E-01	1.126E-01	6.319E-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
46.50	244.7822
46.50	244.7822
46.50	244.7822
48.70	237.2455
49.72	216.5199
51.35	253.6814
52.39	268.7014
52.97	254.7327
53.15	233.7707
53.44	229.1474
54.07	240.0723
56.28	275.1747
56.28	275.1762
57.37	0.0000
57.53	290.5350
57.53	290.5365
57.60	290.5838
57.98	269.5189
57.98	269.5189
59.32	256.7604
59.32	256.7604
59.40	283.0726
59.54	300.6812
59.72	300.8085
60.01	298.0896
61.10	304.7050
61.14	304.7327
61.30	304.8454
63.00	324.6669
63.29	324.8799
63.29	324.8799
63.58	325.0924
64.28	343.8009
65.12	362.1835
65.20	362.2476
65.20	362.2476
66.05	311.0795
66.72	310.0510
66.83	310.1275
66.91	329.4754
67.20	346.0176
67.20	346.0176
67.75	349.4037
67.85	349.4789
68.90	358.7140
68.90	358.7140
69.30	366.3801
69.67	398.6198
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70.83	360.6818
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72.87	369.7301
74.67	348.9679
74.81	349.0667
74.81	349.0667
74.81	349.0667
74.81	349.0667
74.81	349.0667
74.81	349.0667
74.81	349.0667
74.97	349.1797
75.28	349.3985
75.70	349.6933
77.11	350.6799
77.11	350.6799

77.11	350.6799
77.11	350.6799
77.11	350.6799
77.11	350.6799
77.11	350.6799
78.38	351.5606
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79.80	280.4037
79.80	280.4037
80.11	274.4728
80.18	274.5099
80.30	274.5731
80.30	274.5731
80.57	280.8207
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81.07	281.0916
81.07	281.0916
81.07	281.0916
81.07	281.0916
82.60	286.0000
83.37	311.4756
83.78	279.4720
83.78	279.4720
83.78	279.4720
83.78	279.4720
84.21	279.6984
84.90	280.0580
85.43	280.3343
86.29	280.7814
86.50	280.8897
86.54	280.9106
86.59	280.9370
86.72	281.0036
86.79	281.0383
86.94	281.1175
87.30	281.3022
87.30	281.3022
87.30	281.3022
87.30	281.3022
87.30	281.3022
87.30	281.3022
87.30	281.3022
87.57	281.4410
87.88	281.6007
88.03	281.6771
88.36	281.8465
88.47	281.9034
89.95	282.6560
91.11	283.2433
92.29	283.8349
92.38	283.8807
92.38	283.8807
93.35	284.3639
94.00	284.6874
94.67	285.0165
94.67	285.0193
94.90	285.1331
94.90	285.1331
94.90	285.1331
94.90	285.1331
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95.87	274.6258
96.73	292.3194
97.43	269.0648
98.44	242.7316
98.44	242.7316
98.88	223.9832
99.55	241.2902
99.55	241.2902
99.86	233.8324
100.00	233.8866
100.10	234.9810
103.18	263.7165
103.76	249.1257
105.00	219.8849
105.31	213.6187
108.00	260.4377
109.28	266.3128

111.00	201.6146
111.00	201.6146
111.76	250.1685
112.95	271.0671
115.19	225.5864
116.30	220.5601
117.00	241.3576
117.00	241.3576
117.66	264.3482
121.11	237.3919
121.62	250.6477
121.78	250.7062
122.06	259.5329
122.32	266.1763
122.32	266.1763
122.32	266.1763
122.32	266.1763
123.07	246.8105
127.23	263.6713
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131.20	251.8915
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133.54	227.7696
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136.00	220.1960
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136.48	257.0622
140.51	247.2671
140.51	0.0000
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142.65	240.1143
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144.24	215.8789
144.24	215.8789
144.24	215.8789
145.22	233.0414
145.44	237.6111
147.16	241.5250
152.43	228.3782
152.70	228.4559
153.22	225.1932
154.21	219.7774
154.21	219.7774
154.21	219.7774
154.21	219.7774
155.03	208.6022
156.02	212.2830
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159.00	221.0791
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162.64	204.7967
163.35	206.1220
163.89	195.8863
165.85	192.8780
167.43	196.7095
171.28	182.4847
171.86	188.4232
172.10	188.4760
176.55	197.3299
176.60	197.3419
181.06	224.2478
184.41	205.2639
185.71	221.5042
186.00	221.5748
190.27	192.3289
192.34	220.2922
193.63	240.3826
197.04	205.3770
198.01	177.7547
198.60	176.0668
200.40	237.5964
201.83	246.9621
202.84	217.7454
205.31	173.6719

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208.81	181.5521
209.75	181.7230
209.75	181.7230
210.97	167.3901
215.65	156.6794
216.55	170.1476
218.09	179.5660
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223.80	178.7179
226.40	188.3971
227.00	178.3401
227.08	178.3548
227.20	173.7528
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228.18	189.6413
228.18	189.6413
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236.00	178.9175
236.00	178.9175
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238.63	168.1403
238.63	168.1403
238.63	168.1403
239.00	168.1979
240.98	168.5014
241.98	168.6546
241.98	168.6546
241.98	168.6546
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245.39	166.9187
247.94	135.6482
248.90	141.1510
249.79	133.9841
252.40	163.6103
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252.85	150.4296
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256.20	147.0757
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260.90	150.5335
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264.65	146.8102
268.24	153.3911
268.79	151.9273
269.46	147.7917
269.46	147.7917
269.46	147.7917
269.46	147.7917
271.23	127.6348
273.65	172.5773
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277.60	141.0632
277.60	141.0632
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278.60	141.1791
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281.68	156.0744
283.67	146.6176
284.30	152.5202
285.00	133.1661
285.90	109.9171
286.10	112.8529
286.10	112.8529
287.40	112.9715
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290.67	146.8543
290.80	146.8704
291.72	121.9607
293.26	0.0000
293.70	108.0568
295.21	131.7032
295.21	131.7032

295.21	131.7032
295.96	109.8176
296.50	117.7112
297.23	117.7789
298.57	117.9016
299.80	135.3240
299.80	135.3240
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300.09	138.5012
300.09	138.5012
300.09	138.5012
300.12	138.5055
301.29	148.0821
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303.76	138.8943
303.91	138.9094
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304.40	118.4344
304.84	127.9527
306.84	130.5216
308.46	144.5430
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319.41	124.7730
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323.87	147.2153
323.87	147.2153
323.87	147.2153
325.23	151.3710
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334.20	148.5229
334.20	148.5229
334.30	148.5342
338.28	121.4319
338.28	121.4319
338.28	121.4319
338.28	121.4319
338.32	121.4355
338.32	121.4355
338.32	121.4355
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340.57	107.0325
344.27	99.1831
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351.92	121.5748
351.92	121.5748
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356.01	96.7133
364.48	99.9484
366.43	85.6355
367.43	84.6601
367.94	0.0000
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374.96	100.6470
383.85	104.3625
387.95	91.0356
388.63	101.5439
391.69	92.3022
391.69	92.3022
392.90	106.0195
398.62	95.8683
400.65	112.8679
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401.81	120.3387
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404.84	111.0482
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415.30	103.2490

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439.56	87.4740
439.89	90.7317
443.98	76.8719
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445.03	83.4198
445.03	83.4198
445.03	83.4198
445.03	83.4198
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475.06	91.4550
475.35	77.1436
476.78	86.0266
477.59	86.0647
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484.57	76.4247
487.03	75.4178
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511.00	90.9841
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511.85	91.0243
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513.99	73.5000
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520.65	77.6667
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529.87	0.0000
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537.32	64.6644
543.00	67.5864
546.56	0.0000
549.76	80.6438
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555.20	74.4267
563.23	75.6398
563.90	65.5138
568.70	82.3120
569.32	72.1614
569.50	72.1671
569.67	72.1729
573.80	70.4614
574.00	71.3942
574.64	76.9817
578.91	46.4685
579.30	0.0000
583.14	73.5668
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591.81	59.8406
592.07	66.3926
593.00	68.2931
595.88	72.1311
600.56	91.0630
602.52	0.0000
602.71	87.2599
602.71	87.2599
603.60	81.4764
604.41	68.9666
604.70	68.9756
609.31	73.5192

609.31	73.5192
609.31	73.5192
609.31	73.5192
610.33	69.1528
612.46	62.9264
614.37	53.5345
618.01	75.7012
621.84	57.8219
621.84	57.8219
631.29	61.8722
633.02	69.5407
633.10	69.5425
634.78	69.5942
635.90	69.6280
636.97	58.2106
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646.12	50.7783
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657.75	52.9590
657.90	0.0000
661.65	73.3021
661.65	73.3021
664.57	0.0000
666.33	59.9187
666.33	59.9187
675.00	51.4084
677.61	74.7686
685.20	77.9277
692.80	74.2633
695.00	67.4856
696.49	71.4406
696.49	71.4406
697.00	66.5606
697.49	66.5739
698.33	50.9272
698.50	53.8694
699.00	48.9819
702.63	71.6206
706.10	65.8255
706.58	0.0000
706.67	57.9787
709.31	72.7968
711.68	57.1122
713.82	71.9449
717.42	72.0483
720.50	52.7031
721.93	0.0000
722.20	59.3306
722.78	60.9922
722.78	60.9922
722.89	60.9952
722.95	60.9967
723.30	57.7081
724.18	62.6762
727.18	63.4109
733.00	54.6187
735.90	59.6528
739.58	65.7116
742.81	51.8388
744.21	49.8718
747.13	64.9064
751.79	54.0198
752.31	53.0298
753.82	58.0666
755.35	67.1161
756.15	63.1292
756.87	66.1531
763.93	107.5381
765.79	99.5680
766.42	93.5563
766.84	92.5638
776.49	62.6085
778.00	57.5914
778.57	48.5086
778.89	48.5145
783.80	53.6664
785.46	59.7793
792.07	79.2245

795.84	49.8386
796.30	54.9334
798.80	88.5845
801.93	47.9111
805.60	41.8508
810.29	52.1468
810.76	56.2461
815.85	31.7614
817.79	46.1371
818.51	55.3790
819.60	55.4014
826.30	65.8187
828.27	0.0000
831.60	69.0332
831.96	68.0126
834.83	61.8926
836.80	0.0000
846.75	38.3279
848.13	39.3823
856.28	0.0000
856.80	73.8064
860.37	53.0818
867.32	62.5986
867.82	67.8263
871.10	49.0993
873.19	52.2705
874.81	52.2998
875.33	0.0000
876.40	57.5607
879.36	49.2375
880.27	53.4454
880.51	52.4011
881.50	51.3710
883.24	58.7439
884.67	60.8717
889.25	52.5562
896.60	52.6868
898.02	65.3619
899.00	55.8933
903.28	51.7479
911.07	58.2347
911.07	58.2347
911.07	58.2347
919.63	46.0120
920.93	41.3099
925.00	42.5469
925.24	39.3595
926.50	40.4399
935.52	53.3667
937.48	58.7396
944.10	59.9361
946.00	61.0440
949.00	52.5267
962.29	83.0453
964.01	80.7825
966.15	71.8555
968.20	73.6986
969.11	78.7548
969.11	78.7548
969.11	78.7548
977.42	58.4086
980.50	49.8038
983.50	57.4356
989.30	33.6550
996.32	53.3126
1001.03	50.1205
1001.68	47.9510
1004.76	63.2676
1021.30	0.0000
1024.50	0.0000
1034.80	64.2122
1036.00	62.3997
1037.82	46.8247
1038.57	43.1617
1038.76	0.0000
1045.16	63.4886
1046.59	52.4703
1048.07	53.4145

1050.47	54.3738
1050.47	54.3738
1062.04	62.8812
1063.62	56.4329
1076.63	60.3609
1077.35	59.4453
1078.86	62.2591
1085.78	55.8667
1099.22	56.0815
1112.02	63.7887
1112.84	61.9260
1115.52	59.5598
1120.29	67.6992
1120.29	67.6992
1120.29	67.6992
1120.29	67.6992
1120.51	69.3141
1121.28	60.1927
1124.00	0.0000
1129.67	61.0875
1131.51	0.0000
1147.95	0.0000
1167.94	62.8767
1173.22	44.8390
1175.09	68.7246
1177.93	68.7773
1189.05	75.6890
1204.90	73.1209
1205.75	0.0000
1213.00	71.3472
1221.42	77.3047
1230.97	75.5593
1235.34	90.1921
1236.41	0.0000
1238.25	73.7580
1246.25	71.9675
1260.41	0.0000
1271.85	47.9652
1274.45	42.1199
1274.54	43.0994
1291.56	54.1048
1298.22	0.0000
1312.09	32.6281
1325.50	33.7275
1325.50	33.7275
1332.49	47.6973
1333.61	38.7635
1360.21	30.0098
1362.66	0.0000
1365.15	27.0406
1368.21	24.0537
1368.53	0.0000
1376.25	21.0872
1384.27	34.2061
1394.10	19.1593
1395.20	22.1898
1407.95	16.1862
1434.06	25.4435
1436.60	25.4578
1457.56	0.0000
1460.81	19.4546
1489.15	12.3652
1509.49	11.3858
1596.49	22.1442
1620.62	13.7776
1678.03	0.0000
1691.02	11.8254
1691.02	11.8254
1706.46	0.0000
1750.46	0.0000
1764.49	11.2178
1764.49	11.2178
1764.49	11.2178
1764.49	11.2178
1770.23	11.4639
1771.40	40.2510
1791.20	0.0000
1808.65	16.9685

1836.01 12.3181

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G246611001

Total Uranium Activity	4.3774E+00	ug/g
Total Uranium Counting Unc.	4.1164E+00	ug/g
Total Uranium Tpu	2.1002E-06	ug/g
Total Uranium Mda	2.3261E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 951362                    SAMPLE ID  : G246611001       *
*   ANALYST       : MXR1                      DETECTOR   : GAM07            *
*   SAMPLE DATE   :  4-FEB-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 19-FEB-2010 17:29:39.99    SAMPLE ALQT:  112.990 GRAM    *
*                                                                           *
*****************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 9.500E+00
        GROSS GAMMA ERROR  (pCi/GRAM  )   : 1.491E+00
        GROSS GAMMA MDA    (pCi/GRAM  )   : 2.507E+00
        GROSS GAMMA DLC    (pCi/GRAM  )   : 1.211E+00
```

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VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 19:35:33.21

*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038807.CNF;1
Sample date       : 12-FEB-2010 00:00:00 Acquisition date : 19-FEB-2010 17:35:09
Sample ID         : G1202038807          Sample quantity  : 1.37190E+02 GRAM
Detector name     : GAM10                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.36  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 951362                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 19-FEB-2010 19:35:35

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038807.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 12-FEB-2010 00:00:00 Acquisition date : 19-FEB-2010 17:35:09
Sample ID : G1202038807 Sample quantity : 137.19 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA10 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.36 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

---- 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	*	7.654E-02	1.212E-01	2.152E-01	1.600E-02	0.356
NA-22		1274.54	*	1.817E-02	2.039E-02	3.959E-02	3.067E-03	0.459
NA-24		1368.53	*	5.448E-05	2.039E-02	Half-Life too short		
AL-26		1129.67		-1.918E-01	6.735E-01	1.060E+00	7.437E-02	-0.181
		1808.65	*	-1.622E-02	2.307E-02	2.951E-02	1.871E-03	-0.550
K-40		1460.81	*	6.348E-03	2.949E-01	5.063E-01	4.361E-02	0.013
TI-44		67.85		-2.023E-02	2.269E-02	3.445E-02	3.889E-03	-0.587
		78.38	*	-8.966E-03	1.446E-02	2.248E-02	2.460E-03	-0.399
SC-46		889.25	*	2.834E-03	1.688E-02	2.849E-02	2.820E-03	0.099
		1120.51		-2.307E-02	2.471E-02	3.613E-02	2.595E-03	-0.638
V-48		944.10		1.611E-02	2.878E-01	4.740E-01	4.592E-02	0.034
		983.50	*	-9.610E-03	2.899E-02	4.423E-02	4.090E-03	-0.217
		1312.09		-1.683E-02	3.114E-02	4.571E-02	3.816E-03	-0.368
CR-51		320.08	*	-1.994E-01	1.582E-01	2.254E-01	1.628E-02	-0.885
MN-52		744.21		3.167E-03	4.594E-02	7.692E-02	5.018E-03	0.041
		848.13		-1.170E+00	1.617E+00	2.354E+00	2.086E-01	-0.497
		935.52		-1.086E-02	5.190E-02	8.127E-02	7.946E-03	-0.134
		1246.25		2.528E-01	1.204E+00	2.093E+00	1.525E-01	0.121
		1333.61		7.533E-01	9.441E-01	1.840E+00	1.598E-01	0.410
		1434.06	*	-5.370E-03	4.931E-02	7.896E-02	6.673E-03	-0.068
MN-54		834.83	*	-1.470E-02	1.772E-02	2.469E-02	2.109E-03	-0.596
CO-56		846.75	*	-4.372E-03	2.025E-02	3.209E-02	2.833E-03	-0.136
		977.42		-1.307E+00	1.512E+00	2.034E+00	1.895E-01	-0.643
		1037.82		-3.701E-02	1.208E-01	1.800E-01	1.618E-02	-0.206
		1175.09		-2.719E-01	8.220E-01	1.274E+00	7.893E-02	-0.213
		1238.25		-1.182E-03	3.573E-02	6.113E-02	4.558E-03	-0.019
		1360.21		2.410E-01	4.311E-01	8.106E-01	7.003E-02	0.297
		1771.40		4.221E-02	1.405E-01	2.467E-01	1.635E-02	0.171
CO-57		122.06	*	-8.376E-03	1.014E-02	1.496E-02	9.870E-04	-0.560
		136.48		-2.499E-02	9.623E-02	1.515E-01	1.060E-02	-0.165
CO-58		810.76	*	2.636E-03	1.479E-02	2.521E-02	2.017E-03	0.105
FE-59		142.65		-5.242E-01	1.294E+00	1.882E+00	1.121E-01	-0.279
		192.34		-1.966E-01	3.799E-01	5.675E-01	6.673E-02	-0.346
		1099.22	*	1.938E-03	3.661E-02	5.955E-02	4.970E-03	0.033

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1291.56		2.489E-02	4.290E-02	8.120E-02	7.514E-03	0.307
CO-60		1173.22		-4.340E-03	1.785E-02	2.831E-02	1.746E-03	-0.153
		1332.49	*	-4.826E-03	1.986E-02	3.109E-02	2.702E-03	-0.155
ZN-65		1115.52	*	-1.400E-02	3.612E-02	5.242E-02	3.818E-03	-0.267
GE-68		1077.35	*	4.805E-01	5.933E-01	1.105E+00	8.753E-02	0.435
AS-73		53.44	*	3.513E-02	5.902E-01	9.928E-01	1.314E-01	0.035
AS-74		595.88	*	-1.790E-02	3.565E-02	5.612E-02	3.206E-03	-0.319
		634.78		3.877E-03	1.269E-01	2.135E-01	1.127E-02	0.018
SE-75		66.05		1.044E+00	2.466E+00	4.230E+00	5.449E-01	0.247
		96.73		-2.793E-01	3.572E-01	5.173E-01	7.323E-02	-0.540
		121.11		8.061E-03	5.175E-02	8.522E-02	8.347E-03	0.095
		136.00		-7.094E-03	1.784E-02	2.774E-02	1.723E-03	-0.256
		198.60		3.303E-01	8.209E-01	1.347E+00	9.542E-02	0.245
		264.65	*	1.521E-02	1.875E-02	3.379E-02	2.155E-03	0.450
		279.53		6.725E-05	4.686E-02	7.822E-02	5.359E-03	0.001
		303.91		-9.334E-02	9.330E-01	1.534E+00	1.537E-01	-0.061
		400.65		-1.330E-01	1.349E-01	1.944E-01	1.899E-02	-0.684
BR-77		87.88		-2.217E+00	8.614E+00	1.385E+01	1.570E+00	-0.160
		200.40		-9.005E+00	9.219E+00	1.310E+01	7.552E-01	-0.688
		239.00		-5.233E-01	5.784E-01	8.960E-01	5.485E-02	-0.584
		249.79		3.562E-02	3.766E+00	6.330E+00	3.931E-01	0.006
		281.68		-1.398E+00	4.982E+00	8.084E+00	5.205E-01	-0.173
		297.23		-7.568E-01	2.854E+00	4.623E+00	3.018E-01	-0.164
		303.76		-1.296E+00	9.592E+00	1.571E+01	1.031E+00	-0.083
		439.47		-8.559E-01	9.075E+00	1.457E+01	9.797E-01	-0.059
		484.57		9.153E+00	1.313E+01	2.317E+01	1.518E+00	0.395
		520.65	*	2.329E-01	6.384E-01	1.076E+00	6.826E-02	0.216
		574.64		-1.700E+00	1.173E+01	1.941E+01	1.149E+00	-0.088
		578.91		-3.043E+00	5.072E+00	7.899E+00	4.644E-01	-0.385
		585.48		-5.400E+00	9.279E+00	1.443E+01	8.392E-01	-0.374
		755.35		-3.811E+00	8.773E+00	1.341E+01	9.058E-01	-0.284
		817.79		7.454E+00	8.037E+00	1.506E+01	1.226E+00	0.495
SR-82		698.33		-7.604E+00	1.531E+01	2.383E+01	1.337E+00	-0.319
		776.49	*	-1.003E-01	1.539E-01	2.262E-01	1.631E-02	-0.443
		1395.20		-2.357E+00	3.926E+00	5.228E+00	4.475E-01	-0.451
RB-83		520.41	*	1.145E-02	3.413E-02	5.731E-02	3.637E-03	0.200
		529.64		1.125E-02	5.190E-02	8.575E-02	5.388E-03	0.131
		552.65		-6.073E-02	8.436E-02	1.169E-01	7.144E-03	-0.519
RB-84		881.50	*	-1.345E-02	2.585E-02	3.735E-02	3.622E-03	-0.360
KR-85		513.99	*	-1.822E+01	6.164E+00	7.072E+00	4.517E-01	-2.577
SR-85		513.99	*	-8.645E-02	2.924E-02	3.355E-02	2.143E-03	-2.577
RB-86		1076.63	*	2.635E-01	2.965E-01	5.574E-01	4.423E-02	0.473
Y-88		898.02		5.662E-03	2.169E-02	3.692E-02	3.750E-03	0.153
		1836.01	*	-1.833E-03	2.507E-02	3.969E-02	2.435E-03	-0.046
ZR-88		392.90	*	-2.493E-03	1.306E-02	2.083E-02	1.415E-03	-0.120
Y-91		1204.90	*	-2.357E+00	6.557E+00	1.006E+01	6.684E-01	-0.234
NB-94		702.63	*	3.865E-03	1.487E-02	2.572E-02	1.464E-03	0.150
		871.10		-4.319E-03	1.955E-02	3.088E-02	2.913E-03	-0.140
NB-95		765.79	*	-2.749E-02	2.135E-02	2.699E-02	1.884E-03	-1.018

---- 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	*	-3.441E-02	4.872E-02	7.680E-02	5.957E-03	-0.448
ZR-95		724.18		-2.067E-02	4.005E-02	6.103E-02	4.350E-03	-0.339
		756.15	*	-4.752E-03	2.959E-02	4.759E-02	3.738E-03	-0.100
NB-97		657.90	*	-1.088E-05	2.959E-02	Half-Life too short		
		1024.50		1.428E-03	2.959E-02	Half-Life too short		
ZR-97		254.15		-1.499E-03	2.959E-02	Half-Life too short		
		355.39		-1.043E-03	2.959E-02	Half-Life too short		
		507.63	*	-1.915E-03	2.959E-02	Half-Life too short		
		602.52		-1.363E-04	2.959E-02	Half-Life too short		
		1021.30		-1.608E-03	2.959E-02	Half-Life too short		
		1147.95		1.354E-04	2.959E-02	Half-Life too short		
		1362.66		-2.584E-03	2.959E-02	Half-Life too short		
		1750.46		7.432E-04	2.959E-02	Half-Life too short		
MO-99		140.51		1.262E+00	1.970E+00	3.292E+00	8.886E-01	0.383
		181.06		-5.244E-01	1.332E+00	2.037E+00	3.477E-01	-0.257
		366.43		2.655E+00	6.519E+00	1.120E+01	7.582E-01	0.237
		739.58	*	2.062E-01	8.916E-01	1.529E+00	2.149E-01	0.135
		778.00		-1.462E-01	2.630E+00	4.305E+00	3.118E-01	-0.034
TC-99M		140.51	*	1.621E+01	2.630E+00	Half-Life too short		
RH-101		127.23		2.675E-03	1.388E-02	2.284E-02	1.460E-03	0.117
		198.01	*	1.037E-02	1.597E-02	2.674E-02	1.536E-03	0.388
		325.23		3.325E-02	1.077E-01	1.837E-01	1.223E-02	0.181
RH-102		418.52		3.819E-02	1.342E-01	2.267E-01	1.535E-02	0.168
		475.06	*	-6.416E-03	1.241E-02	1.829E-02	1.206E-03	-0.351
		631.29		-5.622E-03	2.641E-02	4.290E-02	2.282E-03	-0.131
		697.49		-6.450E-03	4.538E-02	6.877E-02	3.847E-03	-0.094
		766.84		-6.344E-02	5.842E-02	7.748E-02	5.424E-03	-0.819
		1046.59		-6.688E-02	5.410E-02	5.953E-02	5.000E-03	-1.123
		1112.84		-7.211E-02	9.204E-02	1.162E-01	8.506E-03	-0.621
RU-103		497.08	*	-4.847E-04	1.764E-02	2.829E-02	3.670E-03	-0.017
		610.33		-7.803E-02	4.125E-01	6.866E-01	1.052E-01	-0.114
RH-106		511.85		-3.375E-01	1.551E-01	2.547E-01	1.630E-02	-1.325
		621.84	*	-1.622E-01	1.731E-01	2.347E-01	2.714E-02	-0.691
		1050.47		3.041E-01	9.687E-01	1.675E+00	1.397E-01	0.182
RU-106		511.85		-3.375E-01	1.551E-01	2.547E-01	1.630E-02	-1.325
		621.84	*	-1.622E-01	1.723E-01	2.347E-01	1.275E-02	-0.691
		1050.47		3.041E-01	9.687E-01	1.675E+00	1.397E-01	0.182
AG-108M		433.93	*	1.020E-03	1.575E-02	2.583E-02	1.852E-03	0.040
		614.37		6.546E-03	2.110E-02	3.666E-02	2.211E-03	0.179
		722.95		4.077E-03	1.905E-02	3.264E-02	2.142E-03	0.125
CD-109		88.03	*	-1.123E-01	3.370E-01	5.379E-01	6.098E-02	-0.209
AG-110M		657.75	*	-6.233E-03	1.554E-02	2.433E-02	1.318E-03	-0.256
		677.61		2.113E-02	1.476E-01	2.512E-01	1.410E-02	0.084
		706.67		-1.186E-01	9.626E-02	1.265E-01	7.740E-03	-0.938
		763.93		3.119E-02	7.305E-02	1.288E-01	9.327E-03	0.242
		884.67		-9.183E-03	2.044E-02	2.999E-02	3.006E-03	-0.306
		937.48		9.104E-03	5.245E-02	8.818E-02	8.848E-03	0.103
		1384.27		1.291E-02	8.154E-02	1.398E-01	1.234E-02	0.092
IN-111		171.28		-6.323E-03	7.588E-02	1.199E-01	6.597E-03	-0.053

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		245.39	*	-8.315E-02	8.173E-02	1.243E-01	7.677E-03	-0.669
IN-113M		391.69	*	1.390E-02	1.785E-02	3.219E-02	2.295E-03	0.432
SN-113		391.69	*	1.390E-02	1.785E-02	3.219E-02	2.295E-03	0.432
IN-114M		190.27	*	-4.685E-02	7.121E-02	1.046E-01	5.933E-03	-0.448
CD-115		260.90		-1.299E+00	6.291E+00	1.034E+01	6.509E-01	-0.126
		492.35		1.715E+00	1.885E+00	3.392E+00	2.209E-01	0.506
		527.90	*	-1.073E-01	5.493E-01	8.550E-01	5.382E-02	-0.125
SN-117M		156.02		-2.890E-01	6.963E-01	1.070E+00	6.058E-02	-0.270
		158.56	*	9.293E-03	1.604E-02	2.711E-02	1.520E-03	0.343
SB-122		563.90	*	-5.412E-02	1.487E-01	2.231E-01	1.342E-02	-0.243
		692.80		2.632E+00	3.209E+00	5.930E+00	3.264E-01	0.444
I-123		159.00	*	6.805E-05	3.209E+00	Half-Life too short		
		528.96		-1.448E-03	3.209E+00	Half-Life too short		
TE-123M		159.00	*	3.725E-03	1.190E-02	1.961E-02	1.114E-03	0.190
I-124		602.71	*	-5.272E-04	9.696E-02	1.628E-01	9.187E-03	-0.003
		722.78		1.411E-01	5.873E-01	1.010E+00	6.151E-02	0.140
		1325.50		1.954E+00	4.219E+00	7.817E+00	6.702E-01	0.250
		1376.25		-7.766E+00	4.200E+00	3.779E+00	3.252E-01	-2.055
		1509.49		1.838E+00	2.971E+00	5.478E+00	4.479E-01	0.335
		1691.02		7.158E-01	6.063E-01	1.320E+00	9.496E-02	0.542
SB-124		602.71		-9.575E-05	1.761E-02	2.958E-02	1.669E-03	-0.003
		645.85		-1.024E-01	2.040E-01	3.131E-01	1.869E-02	-0.327
		709.31		-1.687E-01	1.331E+00	2.174E+00	1.266E-01	-0.078
		713.82		2.619E-01	9.333E-01	1.600E+00	1.644E-01	0.164
		722.78		3.716E-02	1.546E-01	2.660E-01	1.689E-02	0.140
		968.20		-4.373E-01	1.212E+00	1.851E+00	1.745E-01	-0.236
		1045.16		-3.091E-01	9.340E-01	1.380E+00	1.162E-01	-0.224
		1325.50		5.495E-01	1.186E+00	2.198E+00	1.885E-01	0.250
		1368.21		4.276E-01	9.039E-01	1.641E+00	2.211E-01	0.261
		1436.60		-4.744E-01	1.735E+00	2.641E+00	2.230E-01	-0.180
		1691.02	*	4.445E-02	3.767E-02	8.200E-02	6.230E-03	0.542
SB-125		427.89	*	-2.161E-02	4.562E-02	6.954E-02	4.842E-03	-0.311
		463.38		3.522E-02	1.292E-01	2.168E-01	1.626E-02	0.162
		600.56		4.116E-02	9.007E-02	1.596E-01	1.052E-02	0.258
		635.90		1.611E-02	1.303E-01	2.220E-01	1.407E-02	0.073
TE-125M		109.28	*	-7.539E-01	3.535E+00	5.637E+00	5.403E-01	-0.134
I-126		388.63		-2.456E-02	5.655E-02	8.662E-02	5.886E-03	-0.284
		666.33	*	-5.234E-02	6.366E-02	9.410E-02	4.720E-03	-0.556
		753.82		-1.465E-01	4.458E-01	6.952E-01	4.674E-02	-0.211
SB-126		223.80		5.787E-01	1.169E+00	2.056E+00	1.231E-01	0.281
		278.60		-4.983E-02	8.183E-01	1.286E+00	8.255E-02	-0.039
		296.50		-1.118E-01	4.369E-01	7.092E-01	4.627E-02	-0.158
		414.70		4.681E-03	2.201E-02	3.692E-02	2.501E-03	0.127
		415.30		-6.104E-01	1.841E+00	2.859E+00	1.937E-01	-0.213
		555.20		4.694E-01	1.130E+00	1.936E+00	1.179E-01	0.242
		573.80		5.990E-02	3.250E-01	5.611E-01	3.325E-02	0.107
		593.00		1.728E-01	3.066E-01	5.519E-01	3.169E-02	0.313
		656.30		-4.955E-01	1.019E+00	1.574E+00	7.876E-02	-0.315
		666.33		-2.150E-02	2.616E-02	3.866E-02	1.939E-03	-0.556

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		675.00		-2.504E-01	6.717E-01	1.061E+00	5.487E-02	-0.236
		695.00		3.729E-02	2.755E-02	5.321E-02	2.952E-03	0.701
		697.00		2.445E-02	1.031E-01	1.639E-01	9.156E-03	0.149
		720.50	*	-2.343E-02	5.288E-02	8.251E-02	4.986E-03	-0.284
		856.80		-2.617E-02	1.777E-01	2.849E-01	2.586E-02	-0.092
		989.30		2.794E-01	4.332E-01	7.823E-01	7.179E-02	0.357
		1034.80		-2.513E+00	2.619E+00	3.077E+00	2.637E-01	-0.817
		1213.00		3.569E-01	1.233E+00	2.178E+00	1.474E-01	0.164
SN-126		64.28		-3.185E-02	3.060E-01	4.837E-01	8.270E-02	-0.066
		86.94		-2.047E-02	1.477E-01	2.398E-01	1.007E-01	-0.085
		87.57	*	-1.047E-05	3.394E-02	5.578E-02	6.313E-03	0.000
SB-127		61.10		-4.990E+00	9.185E+00	1.457E+01	1.845E+00	-0.343
		252.40		4.890E-01	5.630E-01	9.564E-01	3.937E-01	0.511
		290.80		-3.014E-01	2.778E+00	4.579E+00	3.408E-01	-0.066
		411.60		-6.233E-01	1.529E+00	2.357E+00	3.180E-01	-0.264
		444.90		-7.905E-02	1.312E+00	2.112E+00	2.012E-01	-0.037
		473.00		-1.672E-01	1.890E-01	2.568E-01	2.540E-02	-0.651
		543.00		1.555E-01	2.281E+00	3.686E+00	4.269E-01	0.042
		603.60		-5.638E-01	1.575E+00	2.531E+00	2.218E-01	-0.223
		685.20	*	9.173E-02	1.641E-01	2.962E-01	2.031E-02	0.310
		698.50		-8.112E-01	2.183E+00	3.451E+00	4.505E-01	-0.235
		722.20		3.081E-02	4.007E+00	6.659E+00	4.715E-01	0.005
		783.80		-2.723E-01	5.061E-01	7.656E-01	7.547E-02	-0.356
XE-127		57.60		-4.724E-01	3.668E+00	6.055E+00	7.698E-01	-0.078
		145.22		-3.584E-02	2.761E-01	4.385E-01	2.586E-02	-0.082
		172.10		6.035E-03	4.583E-02	7.398E-02	4.074E-03	0.082
		202.84	*	8.107E-03	1.761E-02	3.098E-02	1.794E-03	0.262
		374.96		-7.043E-02	8.961E-02	1.334E-01	9.048E-03	-0.528
I-131		80.18		4.815E-01	9.785E-01	1.682E+00	1.848E-01	0.286
		284.30		-1.123E-01	3.845E-01	6.229E-01	4.356E-02	-0.180
		364.48	*	-5.684E-03	2.928E-02	4.699E-02	3.433E-03	-0.121
		636.97		6.547E-02	4.064E-01	6.954E-01	4.138E-02	0.094
		722.89		3.797E-01	1.700E+00	2.917E+00	1.783E-01	0.130
TE-132		49.72		-4.871E+00	3.546E+00	5.046E+00	6.613E-01	-0.965
		111.76		-7.215E-01	2.496E+00	3.943E+00	3.236E-01	-0.183
		116.30		-2.390E+00	2.516E+00	3.698E+00	2.894E-01	-0.646
		228.16	*	-5.072E-02	6.450E-02	1.006E-01	1.337E-02	-0.504
BA-133		53.15		2.559E-01	2.731E+00	4.610E+00	6.105E-01	0.056
		79.62		-1.119E-01	5.307E-01	8.585E-01	1.430E-01	-0.130
		81.00		-7.756E-03	4.100E-02	6.645E-02	1.148E-02	-0.117
		276.40		6.558E-02	1.820E-01	2.972E-01	3.937E-02	0.221
		302.84		-6.970E-02	6.694E-02	9.776E-02	1.178E-02	-0.713
		356.01	*	-1.248E-02	2.162E-02	3.318E-02	4.003E-03	-0.376
		383.85		-3.319E-02	1.356E-01	2.148E-01	2.456E-02	-0.154
I-133		510.53		-1.285E-03	1.356E-01	Half-Life too short		
		529.87	*	1.086E-06	1.356E-01	Half-Life too short		
		706.58		-6.593E-04	1.356E-01	Half-Life too short		
		856.28		-9.809E-04	1.356E-01	Half-Life too short		
		875.33		2.070E-08	1.356E-01	Half-Life too short		

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		1236.41		-2.037E-04	1.356E-01	Half-Life too short		
		1298.22		-1.900E-04	1.356E-01	Half-Life too short		
CS-134		475.35		1.094E-01	7.866E-01	1.300E+00	8.571E-02	0.084
		563.23		2.223E-03	1.721E-01	2.754E-01	1.690E-02	0.008
		569.32		4.995E-04	1.129E-01	1.719E-01	1.055E-02	0.003
		604.70		-2.051E-02	1.798E-02	2.597E-02	1.469E-03	-0.790
		795.84	*	-3.541E-03	2.090E-02	3.343E-02	2.577E-03	-0.106
		801.93		1.863E-01	1.962E-01	3.688E-01	2.888E-02	0.505
		1038.57		-5.041E-01	1.592E+00	2.364E+00	2.013E-01	-0.213
		1167.94		4.428E-01	1.009E+00	1.836E+00	1.152E-01	0.241
		1365.15		-6.144E-01	6.760E-01	8.577E-01	7.738E-02	-0.716
CS-135		268.24	*	-6.848E-02	6.863E-02	1.025E-01	8.284E-03	-0.668
I-135		288.45		-4.282E+01	6.863E-02	Half-Life too short		
		417.63		2.096E+01	6.863E-02	Half-Life too short		
		546.56		-6.008E+00	6.863E-02	Half-Life too short		
		836.80		2.794E+01	6.863E-02	Half-Life too short		
		1038.76		-1.717E+01	6.863E-02	Half-Life too short		
		1124.00		-4.385E+01	6.863E-02	Half-Life too short		
		1131.51		-6.520E+00	6.863E-02	Half-Life too short		
		1260.41	*	5.136E+00	6.863E-02	Half-Life too short		
		1457.56		6.719E+01	6.863E-02	Half-Life too short		
		1678.03		-4.047E-01	6.863E-02	Half-Life too short		
		1706.46		8.904E+01	6.863E-02	Half-Life too short		
		1791.20		-4.015E+01	6.863E-02	Half-Life too short		
CS-136		66.91		-1.448E-01	2.783E-01	4.403E-01	7.539E-02	-0.329
		86.29		-2.759E-02	3.184E-01	5.201E-01	7.661E-02	-0.053
		153.22		2.358E-02	1.949E-01	3.160E-01	2.260E-02	0.075
		163.89		-4.325E-02	3.228E-01	5.088E-01	3.565E-02	-0.085
		176.55		-9.652E-02	1.194E-01	1.747E-01	1.098E-02	-0.552
		273.65		-1.781E-01	1.401E-01	2.034E-01	1.450E-02	-0.876
		340.57		-1.688E-02	4.221E-02	6.679E-02	4.690E-03	-0.253
		818.51		2.822E-02	2.545E-02	4.889E-02	3.990E-03	0.577
		1048.07	*	-1.918E-02	2.984E-02	3.970E-02	3.473E-03	-0.483
		1235.34		-6.969E-02	1.638E-01	2.508E-01	2.708E-02	-0.278
BA-137M		661.65	*	5.880E-03	1.689E-02	2.958E-02	1.460E-03	0.199
CS-137		661.65	*	6.216E-03	1.786E-02	3.127E-02	1.552E-03	0.199
CE-139		165.85	*	3.390E-03	1.309E-02	2.141E-02	1.169E-03	0.158
BA-140		162.64		8.885E-02	2.139E-01	3.558E-01	2.234E-02	0.250
		304.84		7.967E-02	3.959E-01	6.702E-01	1.841E-01	0.119
		423.70		-5.804E-02	6.659E-01	1.072E+00	3.428E-01	-0.054
		537.32	*	4.322E-02	9.710E-02	1.631E-01	5.316E-02	0.265
LA-140		328.77		2.100E-02	8.777E-02	1.489E-01	1.085E-02	0.141
		432.53		-1.098E-01	6.675E-01	1.061E+00	7.713E-02	-0.103
		487.03		7.354E-03	4.864E-02	8.001E-02	5.783E-03	0.092
		751.79		1.696E-01	4.848E-01	8.517E-01	6.672E-02	0.199
		815.85		-4.356E-03	1.088E-01	1.779E-01	1.627E-02	-0.024
		867.82		-2.858E-01	5.639E-01	8.513E-01	8.320E-02	-0.336
		919.63		8.908E-02	8.946E-01	1.487E+00	1.744E-01	0.060
		925.24		6.880E-02	3.445E-01	5.840E-01	6.046E-02	0.118

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		1596.49	*	-5.823E-03	3.061E-02	4.723E-02	3.665E-03	-0.123
CE-141		145.44	*	-1.078E-02	2.478E-02	3.823E-02	2.340E-03	-0.282
CE-143		57.37		-7.127E+00	1.839E+01	2.968E+01	4.039E+00	-0.240
		231.56		1.579E+01	2.892E+01	5.023E+01	1.556E+01	0.314
		293.26	*	-2.812E-01	1.663E+00	2.613E+00	5.405E-01	-0.108
		350.59		2.127E+01	2.010E+01	3.493E+01	1.067E+01	0.609
		490.36		-1.832E+00	3.716E+01	5.950E+01	1.849E+01	-0.031
		664.57		1.521E+00	1.517E+01	2.567E+01	8.094E+00	0.059
		721.93		-3.789E-01	1.700E+01	2.813E+01	8.020E+00	-0.013
CE-144		80.11		1.546E-01	8.533E-01	1.430E+00	1.569E-01	0.108
		133.54	*	1.322E-01	9.659E-02	1.704E-01	2.448E-02	0.776
PM-144		476.78		3.154E-02	2.610E-02	5.017E-02	3.818E-03	0.629
		618.01		4.040E-03	1.668E-02	2.882E-02	1.683E-03	0.140
		696.49	*	4.108E-03	2.024E-02	3.214E-02	1.792E-03	0.128
		778.57		5.293E-01	1.105E+00	1.959E+00	1.421E-01	0.270
PR-144		696.49	*	2.773E-01	1.366E+00	2.169E+00	1.209E-01	0.128
		1489.15		-3.427E+00	5.410E+00	6.867E+00	5.671E-01	-0.499
PM-146		453.90	*	7.111E-03	2.143E-02	3.622E-02	3.346E-03	0.196
		633.02		-5.389E-02	6.444E-01	1.066E+00	3.916E-01	-0.051
		735.90		-1.250E-02	7.360E-02	1.187E-01	3.323E-02	-0.105
		747.13		-4.184E-03	4.280E-02	6.973E-02	8.987E-03	-0.060
ND-147		91.11		-2.120E-01	9.837E-02	1.389E-01	1.548E-02	-1.526
		319.41		-1.096E+00	1.056E+00	1.551E+00	1.029E-01	-0.706
		439.89		2.517E-01	1.965E+00	3.240E+00	2.178E-01	0.078
		531.02	*	9.788E-02	1.925E-01	3.288E-01	4.515E-02	0.298
PM-149		285.90	*	1.440E+00	4.315E+00	7.417E+00	1.071E+00	0.194
EU-152		121.78		-2.458E-02	3.058E-02	4.533E-02	3.735E-03	-0.542
		244.69		-1.353E-01	1.520E-01	2.344E-01	1.446E-02	-0.577
		344.27	*	4.376E-03	4.630E-02	7.715E-02	5.685E-03	0.057
		443.98		-7.228E-02	5.026E-01	8.009E-01	5.374E-02	-0.090
		778.89		1.440E-02	1.380E-01	2.314E-01	1.680E-02	0.062
		867.32		3.101E-02	4.882E-01	8.072E-01	7.538E-02	0.038
		964.01		-8.821E-04	1.172E-01	1.901E-01	1.801E-02	-0.005
		1085.78		1.573E-04	1.686E-01	2.617E-01	2.038E-02	0.001
		1112.02		-4.720E-02	1.282E-01	1.862E-01	1.366E-02	-0.253
		1407.95		1.984E-02	9.654E-02	1.669E-01	1.423E-02	0.119
GD-153		69.67		7.016E-01	7.255E-01	1.298E+00	1.448E-01	0.541
		83.37		-1.953E+00	7.141E+00	1.081E+01	1.198E+00	-0.181
		97.43	*	6.298E-03	3.580E-02	5.681E-02	5.290E-03	0.111
		103.18		2.415E-02	4.033E-02	6.966E-02	5.890E-03	0.347
EU-154		123.07		-1.098E-02	2.203E-02	3.387E-02	3.347E-03	-0.324
		247.94		1.076E-01	1.660E-01	2.945E-01	2.882E-02	0.365
		591.81		2.068E-01	3.134E-01	5.687E-01	5.543E-02	0.364
		723.30		2.054E-02	8.009E-02	1.381E-01	1.012E-02	0.149
		756.87		9.586E-02	3.443E-01	5.960E-01	6.397E-02	0.161
		873.19		1.524E-01	1.721E-01	3.165E-01	4.073E-02	0.482
		996.32		-9.436E-02	2.125E-01	3.167E-01	5.699E-02	-0.298
		1004.76		-1.294E-01	1.190E-01	1.502E-01	1.788E-02	-0.862
		1274.45	*	4.560E-02	5.855E-02	1.113E-01	1.186E-02	0.410

---- 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		-8.665E-01	2.229E+00	3.602E+00	4.327E-01	-0.241
		60.01		-1.278E+00	3.132E+00	5.036E+00	6.202E-01	-0.254
		86.54		-4.586E-03	4.299E-02	7.009E-02	7.933E-03	-0.065
		105.31	*	-2.129E-02	4.459E-02	6.925E-02	5.744E-03	-0.307
TB-160		86.79		-1.351E-02	1.067E-01	1.736E-01	1.956E-02	-0.078
		197.04		1.010E-01	2.531E-01	4.151E-01	2.381E-02	0.243
		215.65		-2.712E-01	3.195E-01	5.014E-01	2.964E-02	-0.541
		298.57		-1.046E-02	5.091E-02	7.775E-02	5.081E-03	-0.135
		879.36	*	-2.202E-02	6.195E-02	9.426E-02	9.089E-03	-0.234
		962.29		-5.943E-02	2.059E-01	3.383E-01	3.212E-02	-0.176
		966.15		-2.789E-02	7.925E-02	1.194E-01	1.129E-02	-0.234
		1177.93		1.782E-02	1.198E-01	2.074E-01	1.293E-02	0.086
		1271.85		3.236E-01	3.212E-01	6.315E-01	4.858E-02	0.512
HO-166M		80.57		4.331E-02	1.103E-01	1.879E-01	2.064E-02	0.230
		184.41		1.443E-02	1.684E-02	2.864E-02	1.609E-03	0.504
		280.46		-1.742E-02	3.986E-02	6.363E-02	4.091E-03	-0.274
		410.95		1.491E-02	1.061E-01	1.763E-01	1.196E-02	0.085
		711.68	*	3.681E-02	3.479E-02	6.499E-02	3.814E-03	0.566
		752.31		2.601E-02	1.169E-01	2.011E-01	1.346E-02	0.129
		810.29		6.563E-03	2.233E-02	3.905E-02	3.111E-03	0.168
TM-171		51.35		4.897E+00	2.353E+01	4.020E+01	5.286E+00	0.122
		52.39		-1.684E+00	1.257E+01	2.079E+01	2.754E+00	-0.081
		59.40		-1.394E-01	1.666E+01	2.776E+01	3.449E+00	-0.005
		66.72	*	-7.443E-01	1.450E+01	2.398E+01	2.732E+00	-0.031
LU-176		88.36		-3.816E-02	7.974E-02	1.256E-01	1.412E-02	-0.304
		201.83		-1.206E-02	1.284E-02	2.008E-02	1.161E-03	-0.601
		306.84	*	1.269E-02	1.158E-02	2.130E-02	1.401E-03	0.596
		401.10		-3.670E+00	3.667E+00	5.285E+00	3.589E-01	-0.694
LU-177		112.95		3.946E-01	3.135E-01	5.662E-01	4.168E-02	0.697
		208.36	*	-2.564E-01	2.387E-01	3.520E-01	2.057E-02	-0.728
LU-177M		52.97		2.118E-01	1.187E+00	2.018E+00	2.673E-01	0.105
		54.07		-3.652E-02	6.292E-01	1.047E+00	1.381E-01	-0.035
		61.30		-1.882E-01	8.504E-01	1.390E+00	1.681E-01	-0.135
		121.62		-9.030E-02	1.505E-01	2.286E-01	1.512E-02	-0.395
		147.16		-3.052E-02	2.878E-01	4.577E-01	2.679E-02	-0.067
		171.86		-2.719E-02	2.110E-01	3.318E-01	1.826E-02	-0.082
		218.09		-7.130E-02	3.538E-01	5.876E-01	3.487E-02	-0.121
		268.79		-1.196E-01	3.327E-01	5.362E-01	3.407E-02	-0.223
		319.02		-9.733E-02	1.292E-01	1.971E-01	1.308E-02	-0.494
		367.43		2.799E-01	4.357E-01	7.662E-01	5.189E-02	0.365
		413.65	*	2.287E-02	7.280E-02	1.238E-01	8.393E-03	0.185
HF-181		56.28		3.498E-01	6.016E-01	1.051E+00	1.357E-01	0.333
		57.53		-1.203E-01	3.222E-01	5.206E-01	6.624E-02	-0.231
		65.20		3.771E-01	4.614E-01	8.125E-01	9.387E-02	0.464
		133.02		1.721E-02	2.763E-02	4.689E-02	2.912E-03	0.367
		136.25		-5.667E-02	1.913E-01	3.002E-01	1.837E-02	-0.189
		345.85		-5.405E-02	8.047E-02	1.221E-01	8.209E-03	-0.443
		482.03	*	-1.372E-02	1.829E-02	2.610E-02	1.713E-03	-0.526
W-181		56.28		1.483E-01	2.547E-01	4.448E-01	5.746E-02	0.333

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		57.53		-5.099E-02	1.365E-01	2.206E-01	2.807E-02	-0.231
		65.20	*	1.585E-01	1.940E-01	3.415E-01	3.946E-02	0.464
TA-182		67.75		-4.490E-02	5.203E-02	7.925E-02	8.953E-03	-0.567
		100.10		-6.950E-02	7.298E-02	1.078E-01	9.582E-03	-0.645
		152.43		2.870E-02	1.442E-01	2.355E-01	1.351E-02	0.122
		222.10		-1.116E-02	1.418E-01	2.380E-01	1.421E-02	-0.047
		1001.68		6.855E-01	1.186E+00	2.025E+00	1.827E-01	0.339
		1121.28		2.743E-02	6.111E-02	1.068E-01	7.658E-03	0.257
		1189.05		1.889E-02	1.163E-01	2.010E-01	1.287E-02	0.094
		1221.42	*	8.395E-03	7.476E-02	1.276E-01	8.801E-03	0.066
		1230.97		-2.045E-02	1.688E-01	2.741E-01	1.931E-02	-0.075
RE-183		57.98		1.692E-03	1.265E-01	2.114E-01	2.675E-02	0.008
		59.32		-7.513E-05	6.435E-02	1.073E-01	1.334E-02	-0.001
		67.20		-5.837E-02	9.505E-02	1.491E-01	1.692E-02	-0.391
		162.32	*	8.890E-03	4.378E-02	7.137E-02	3.948E-03	0.125
		208.81		-2.624E-01	4.246E-01	6.534E-01	3.821E-02	-0.402
		291.72		4.307E-02	4.272E-01	7.180E-01	4.666E-02	0.060
RE-184		57.98		6.508E-03	4.866E-01	8.131E-01	1.029E-01	0.008
		59.32		-2.887E-04	2.473E-01	4.123E-01	5.128E-02	-0.001
		67.20		-2.244E-01	3.655E-01	5.734E-01	6.506E-02	-0.391
		161.27		-1.836E-02	1.519E-01	2.400E-01	1.332E-02	-0.077
		216.55		-4.288E-02	1.147E-01	1.879E-01	1.112E-02	-0.228
		252.85	*	2.652E-02	1.047E-01	1.797E-01	1.121E-02	0.148
		318.01		1.118E-05	2.145E-01	3.554E-01	2.356E-02	0.000
		792.07		3.733E-01	4.841E-01	8.864E-01	6.696E-02	0.421
		903.28		-2.154E-01	5.382E-01	8.195E-01	8.259E-02	-0.263
		920.93		-7.831E-02	2.155E-01	3.260E-01	3.233E-02	-0.240
OS-185		59.72		-2.111E-02	1.742E-01	2.874E-01	3.555E-02	-0.073
		61.14		-4.976E-02	9.342E-02	1.484E-01	1.799E-02	-0.335
		69.30		-8.025E-04	1.302E-01	2.158E-01	2.412E-02	-0.004
		592.07		8.005E-01	1.211E+00	2.202E+00	1.266E-01	0.364
		646.12	*	-1.061E-02	1.762E-02	2.649E-02	1.361E-03	-0.400
		717.42		-8.310E-02	5.316E-01	8.665E-01	5.183E-02	-0.096
		874.81		2.762E-01	2.945E-01	5.515E-01	5.254E-02	0.501
		880.27		-1.132E-01	3.141E-01	4.728E-01	4.570E-02	-0.239
RE-188		155.03	*	-2.189E-02	7.042E-02	1.094E-01	6.215E-03	-0.200
		477.96		3.815E-01	1.255E+00	2.121E+00	1.396E-01	0.180
		633.10		-5.539E-02	1.220E+00	2.029E+00	1.075E-01	-0.027
W-188		63.58		-2.160E+01	3.155E+01	4.764E+01	5.602E+00	-0.453
		227.08		-3.330E+00	5.117E+00	8.111E+00	4.881E-01	-0.410
		290.67	*	-1.072E+00	3.398E+00	5.491E+00	3.565E-01	-0.195
IR-192		295.96		5.617E-03	4.997E-02	8.042E-02	5.310E-03	0.070
		308.46		-1.994E-02	4.299E-02	6.779E-02	4.504E-03	-0.294
		316.51	*	9.135E-03	1.664E-02	2.902E-02	1.929E-03	0.315
		468.07		1.519E-02	2.985E-02	5.154E-02	3.821E-03	0.295
		604.41		-2.524E-01	2.308E-01	3.337E-01	3.758E-02	-0.756
		612.46		-9.121E-02	3.745E-01	6.120E-01	4.512E-02	-0.149
AU-195		65.12		7.339E-02	9.120E-02	1.605E-01	1.856E-02	0.457
		66.83		-2.304E-02	4.810E-02	7.659E-02	8.717E-03	-0.301

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		75.70		6.127E-02	8.768E-02	1.416E-01	1.549E-02	0.433
		98.88	*	-3.256E-03	1.012E-01	1.574E-01	1.429E-02	-0.021
		129.76		-4.306E-01	1.180E+00	1.841E+00	1.161E-01	-0.234
TL-200		367.94	*	8.163E-01	2.185E+00	3.730E+00	2.527E-01	0.219
		579.30		-6.635E+00	1.591E+01	2.542E+01	1.493E+00	-0.261
		828.27		-1.297E+00	2.174E+01	3.536E+01	2.966E+00	-0.037
		1205.75		-2.787E+00	8.572E+00	1.328E+01	8.838E-01	-0.210
TL-201		68.90		-1.728E-01	4.267E-01	6.819E-01	7.642E-02	-0.253
		70.82		6.415E-02	2.229E-01	3.786E-01	4.197E-02	0.169
		80.30		1.402E-01	3.795E-01	6.458E-01	7.090E-02	0.217
		135.34		5.581E-01	2.237E+00	3.684E+00	2.264E-01	0.151
		167.43	*	2.155E-01	6.026E-01	9.933E-01	5.432E-02	0.217
TL-202		68.90		-5.494E-02	1.357E-01	2.168E-01	2.430E-02	-0.253
		70.82		2.034E-02	7.069E-02	1.201E-01	1.331E-02	0.169
		80.30		4.447E-02	1.204E-01	2.049E-01	2.249E-02	0.217
		439.56	*	3.242E-03	2.450E-02	4.042E-02	2.718E-03	0.080
HG-203		70.83		1.185E-01	4.171E-01	7.079E-01	1.082E-01	0.167
		72.87		-1.238E-01	2.506E-01	3.965E-01	5.894E-02	-0.312
		82.60		-3.152E-01	4.929E-01	7.185E-01	1.106E-01	-0.439
		279.20	*	4.813E-03	1.622E-02	2.786E-02	1.880E-03	0.173
BI-207		72.80		-4.642E-02	8.161E-02	1.283E-01	1.412E-02	-0.362
		74.97		3.930E-02	5.145E-02	8.352E-02	9.143E-03	0.471
		84.90		3.877E-02	9.194E-02	1.471E-01	1.641E-02	0.264
		569.67		-1.384E-03	1.754E-02	2.636E-02	1.572E-03	-0.053
		1063.62	*	-1.783E-02	2.181E-02	2.720E-02	2.214E-03	-0.655
		1770.23		2.563E-02	3.047E-01	5.050E-01	3.351E-02	0.051
TL-207		81.07		-1.934E-02	9.032E-02	1.461E-01	1.607E-02	-0.132
		83.78		-6.905E-03	6.175E-02	9.481E-02	1.053E-02	-0.073
		94.90		-2.305E-01	1.180E-01	1.599E-01	1.561E-02	-1.441
		122.32		-6.568E-01	7.155E-01	1.043E+00	7.700E-02	-0.630
		144.24		-9.336E-02	3.534E-01	5.174E-01	3.792E-02	-0.180
		154.21		-1.877E-02	1.747E-01	2.770E-01	1.920E-02	-0.068
		269.46		2.871E-02	7.935E-02	1.374E-01	9.067E-03	0.209
		323.87	*	9.872E-02	3.419E-01	5.809E-01	9.779E-02	0.170
		338.28		2.372E-01	4.849E-01	8.382E-01	9.266E-02	0.283
		445.03		-1.253E-01	1.148E+00	1.836E+00	1.985E-01	-0.068
TL-208		277.35		2.663E-02	1.869E-01	2.997E-01	3.269E-02	0.089
		510.84		-2.059E-01	1.482E-01	2.537E-01	2.667E-02	-0.812
		583.14	*	1.632E-03	2.145E-02	3.447E-02	2.316E-03	0.047
		860.37		6.322E-02	1.655E-01	2.859E-01	2.791E-02	0.221
PO-209		260.50		-1.133E+00	4.709E+00	7.717E+00	4.857E-01	-0.147
		262.80		-5.792E+00	1.247E+01	1.994E+01	1.258E+00	-0.290
		896.60	*	6.001E-01	4.124E+00	6.896E+00	6.956E-01	0.087
BI-210		46.50	*	5.573E+00	3.846E+00	7.145E+00	7.007E-01	0.780
PB-210		46.50	*	5.573E+00	3.846E+00	7.145E+00	7.007E-01	0.780
PO-210		46.50	*	5.573E+00	3.840E+00	7.145E+00	6.414E-01	0.780
BI-211		72.87		-6.947E-01	1.405E+00	2.225E+00	2.447E-01	-0.312
		351.07	*	-4.000E-02	1.213E-01	1.820E-01	1.327E-02	-0.220
PB-211		404.84	*	3.125E-01	5.089E-01	8.253E-01	5.153E-01	0.379

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		427.08		-1.020E-01	1.021E+00	1.637E+00	1.013E+00	-0.062
		831.96		3.011E-02	5.501E-01	9.122E-01	5.714E-01	0.033
BI-212		727.18	*	-9.453E-02	1.556E-01	2.058E-01	1.646E-02	-0.459
		785.46		4.362E-01	8.699E-01	1.543E+00	1.143E-01	0.283
		1620.62		1.963E-02	6.343E-01	1.045E+00	7.966E-02	0.019
PB-212		74.81		1.232E-01	1.771E-01	2.855E-01	4.110E-02	0.432
		77.11		-9.608E-02	8.799E-02	1.307E-01	1.429E-02	-0.735
		87.30		1.386E-02	1.588E-01	2.628E-01	3.966E-02	0.053
		238.63	*	-2.717E-02	3.108E-02	4.825E-02	3.660E-03	-0.563
		300.09		-2.246E-01	3.665E-01	5.292E-01	4.651E-02	-0.424
PO-212		74.81		1.232E-01	1.771E-01	2.855E-01	4.110E-02	0.432
		77.11		-9.608E-02	8.799E-02	1.307E-01	1.429E-02	-0.735
		87.30		1.386E-02	1.588E-01	2.628E-01	3.966E-02	0.053
		115.19		1.944E-01	1.488E+00	2.448E+00	1.751E-01	0.079
		238.63	*	-2.717E-02	3.108E-02	4.825E-02	3.660E-03	-0.563
		300.09		-2.246E-01	3.665E-01	5.292E-01	4.651E-02	-0.424
BI-214		609.31	*	-1.805E-02	4.414E-02	7.185E-02	5.468E-03	-0.251
		1120.29		-1.544E-01	1.568E-01	2.260E-01	2.209E-02	-0.683
		1764.49		-1.178E-01	1.793E-01	2.857E-01	1.908E-02	-0.412
PB-214		74.81		2.123E-01	3.050E-01	4.919E-01	6.503E-02	0.432
		77.11		-1.647E-01	1.514E-01	2.241E-01	2.987E-02	-0.735
		87.30		2.374E-02	2.720E-01	4.503E-01	6.159E-02	0.053
		241.98		9.142E-02	1.608E-01	2.824E-01	2.350E-02	0.324
		295.21		1.633E-02	6.864E-02	1.116E-01	1.008E-02	0.146
		351.92	*	-1.995E-02	4.212E-02	6.208E-02	5.567E-03	-0.321
PO-214		74.81		2.123E-01	3.050E-01	4.919E-01	6.503E-02	0.432
		77.11		-1.647E-01	1.514E-01	2.241E-01	2.987E-02	-0.735
		87.30		2.374E-02	2.720E-01	4.503E-01	6.159E-02	0.053
		241.98		9.142E-02	1.608E-01	2.824E-01	2.350E-02	0.324
		295.21		1.633E-02	6.864E-02	1.116E-01	1.008E-02	0.146
		351.92	*	-1.995E-02	4.212E-02	6.208E-02	5.567E-03	-0.321
PO-215		81.07		-1.934E-02	9.032E-02	1.461E-01	1.607E-02	-0.132
		83.78		-6.905E-03	6.175E-02	9.481E-02	1.053E-02	-0.073
		94.90		-2.305E-01	1.180E-01	1.599E-01	1.561E-02	-1.441
		122.32		-6.568E-01	7.155E-01	1.043E+00	7.700E-02	-0.630
		144.24		-9.336E-02	3.534E-01	5.174E-01	3.792E-02	-0.180
		154.21		-1.877E-02	1.747E-01	2.770E-01	1.920E-02	-0.068
		269.46		2.871E-02	7.935E-02	1.374E-01	9.067E-03	0.209
		323.87	*	9.872E-02	3.419E-01	5.809E-01	9.779E-02	0.170
		338.28		2.372E-01	4.849E-01	8.382E-01	9.266E-02	0.283
		445.03		-1.253E-01	1.148E+00	1.836E+00	1.985E-01	-0.068
PO-216		74.81		1.232E-01	1.771E-01	2.855E-01	4.110E-02	0.432
		77.11		-9.608E-02	8.799E-02	1.307E-01	1.429E-02	-0.735
		87.30		1.386E-02	1.588E-01	2.628E-01	3.966E-02	0.053
		238.63	*	-2.717E-02	3.108E-02	4.825E-02	3.660E-03	-0.563
		300.09		-2.246E-01	3.665E-01	5.292E-01	4.651E-02	-0.424
PO-218		74.81		2.123E-01	3.050E-01	4.919E-01	6.503E-02	0.432
		77.11		-1.647E-01	1.514E-01	2.241E-01	2.987E-02	-0.735
		87.30		2.374E-02	2.720E-01	4.503E-01	6.159E-02	0.053

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		241.98		9.142E-02	1.608E-01	2.824E-01	2.350E-02	0.324
		295.21		1.633E-02	6.864E-02	1.116E-01	1.008E-02	0.146
		351.92	*	-1.995E-02	4.212E-02	6.208E-02	5.567E-03	-0.321
RN-219		271.23		8.738E-02	1.027E-01	1.853E-01	1.579E-02	0.471
		401.81	*	-1.580E-01	2.259E-01	3.380E-01	4.751E-02	-0.468
RN-220		549.76	*	8.381E+00	1.140E+01	2.044E+01	1.253E+00	0.410
RA-223		81.07		-1.934E-02	9.032E-02	1.461E-01	1.607E-02	-0.132
		83.78		-6.905E-03	6.175E-02	9.481E-02	1.053E-02	-0.073
		94.90		-2.305E-01	1.180E-01	1.599E-01	1.561E-02	-1.441
		122.32		-6.568E-01	7.155E-01	1.043E+00	7.700E-02	-0.630
		144.24		-9.336E-02	3.534E-01	5.174E-01	3.792E-02	-0.180
		154.21		-1.877E-02	1.747E-01	2.770E-01	1.920E-02	-0.068
		269.46		2.871E-02	7.935E-02	1.374E-01	9.067E-03	0.209
		323.87	*	9.872E-02	3.419E-01	5.809E-01	9.779E-02	0.170
		338.28		2.372E-01	4.849E-01	8.382E-01	9.266E-02	0.283
		445.03		-1.253E-01	1.148E+00	1.836E+00	1.985E-01	-0.068
RA-224		240.98	*	-1.378E-01	3.434E-01	5.267E-01	3.233E-02	-0.262
RA-226		609.31	*	-1.805E-02	4.414E-02	7.185E-02	5.468E-03	-0.251
		1120.29		-1.544E-01	1.568E-01	2.260E-01	2.209E-02	-0.683
		1764.49		-1.178E-01	1.793E-01	2.857E-01	1.908E-02	-0.412
AC-227		79.80		9.399E-03	6.645E-01	1.098E+00	2.475E-01	0.009
		236.00		-5.738E-02	9.859E-02	1.573E-01	1.671E-02	-0.365
		256.20	*	-1.015E-01	1.791E-01	2.833E-01	4.011E-02	-0.358
		286.10		4.769E-01	7.136E-01	1.263E+00	1.504E-01	0.377
		299.80		-3.731E-01	6.784E-01	9.839E-01	1.630E-01	-0.379
		304.40		2.736E-01	8.564E-01	1.467E+00	2.578E-01	0.186
		334.20		-1.020E+00	1.083E+00	1.568E+00	2.922E-01	-0.651
TH-227		79.80		9.399E-03	6.645E-01	1.098E+00	2.504E-01	0.009
		94.00		2.109E-01	9.074E-01	1.511E+00	3.374E-01	0.140
		236.00		-5.738E-02	9.854E-02	1.573E-01	1.455E-02	-0.365
		256.20	*	-1.015E-01	1.794E-01	2.833E-01	4.834E-02	-0.358
		286.10		4.769E-01	8.570E-01	1.263E+00	1.266E+00	0.377
		299.80		-3.731E-01	6.784E-01	9.839E-01	1.630E-01	-0.379
		304.40		2.736E-01	8.564E-01	1.467E+00	2.578E-01	0.186
		334.20		-1.020E+00	1.083E+00	1.568E+00	2.922E-01	-0.651
AC-228		338.32		5.824E-02	1.185E-01	2.012E-01	8.230E-02	0.289
		911.07	*	-1.349E-01	8.901E-02	1.189E-01	1.468E-02	-1.134
		969.11		-1.455E-01	1.405E-01	1.815E-01	4.290E-02	-0.802
RA-228		338.32		5.824E-02	1.185E-01	2.012E-01	8.230E-02	0.289
		911.07	*	-1.349E-01	8.901E-02	1.189E-01	1.468E-02	-1.134
		969.11		-1.455E-01	1.405E-01	1.815E-01	4.290E-02	-0.802
TH-228		74.81		1.242E-01	1.781E-01	2.877E-01	3.167E-02	0.432
		77.11		-9.682E-02	8.868E-02	1.317E-01	1.440E-02	-0.735
		87.30		1.397E-02	1.600E-01	2.649E-01	2.993E-02	0.053
		238.63	*	-2.738E-02	3.132E-02	4.863E-02	3.689E-03	-0.563
		300.09		-2.264E-01	3.923E-01	5.333E-01	3.147E-01	-0.424
TH-229		85.43		5.236E-02	8.223E-02	1.416E-01	1.584E-02	0.370
		88.47		-2.028E-02	4.595E-02	7.263E-02	8.148E-03	-0.279
		100.00		-7.396E-02	7.936E-02	1.176E-01	1.047E-02	-0.629

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		193.63	*	1.007E-01	2.234E-01	3.700E-01	2.110E-02	0.272
		210.97		6.332E-02	3.458E-01	5.940E-01	3.486E-02	0.107
TH-230		609.31	*	-1.805E-02	4.414E-02	7.185E-02	5.468E-03	-0.251
		1120.29		-1.544E-01	1.568E-01	2.260E-01	2.209E-02	-0.683
		1764.49		-1.178E-01	1.792E-01	2.857E-01	1.908E-02	-0.412
PA-231		283.67	*	-2.688E-02	7.117E-01	1.183E+00	1.663E-01	-0.023
		301.29		6.382E-02	2.442E-01	4.169E-01	4.539E-02	0.153
TH-231		81.07		-1.934E-02	9.032E-02	1.461E-01	1.607E-02	-0.132
		83.78		-6.905E-03	6.175E-02	9.481E-02	1.053E-02	-0.073
		94.90		-2.305E-01	1.180E-01	1.599E-01	1.561E-02	-1.441
		122.32		-6.568E-01	7.155E-01	1.043E+00	7.700E-02	-0.630
		144.24		-9.336E-02	3.534E-01	5.174E-01	3.792E-02	-0.180
		154.21		-1.877E-02	1.747E-01	2.770E-01	1.920E-02	-0.068
		269.46		2.871E-02	7.935E-02	1.374E-01	9.067E-03	0.209
		323.87	*	9.872E-02	3.419E-01	5.809E-01	9.779E-02	0.170
		338.28		2.372E-01	4.849E-01	8.382E-01	9.266E-02	0.283
		445.03		-1.253E-01	1.148E+00	1.836E+00	1.985E-01	-0.068
U-231		84.21		2.176E-01	7.775E-01	1.231E+00	1.369E-01	0.177
		92.29		-2.319E-01	3.289E-01	5.295E-01	5.451E-02	-0.438
		95.87	*	-1.851E-01	1.451E-01	2.090E-01	2.003E-02	-0.886
		108.00		4.730E-02	2.478E-01	4.112E-01	3.236E-02	0.115
TH-232		338.32		5.824E-02	1.162E-01	2.012E-01	1.349E-02	0.289
		911.07	*	-1.349E-01	8.901E-02	1.189E-01	1.468E-02	-1.134
		969.11		-1.455E-01	1.405E-01	1.815E-01	4.290E-02	-0.802
PA-233		75.28		1.515E+00	1.485E+00	2.428E+00	4.070E-01	0.624
		86.59		-7.748E-02	7.002E-01	1.141E+00	3.169E-01	-0.068
		300.12		-1.161E-01	1.898E-01	2.735E-01	3.767E-02	-0.424
		311.98	*	-1.499E-03	3.336E-02	5.509E-02	3.813E-03	-0.027
		340.50		-1.208E-01	3.032E-01	4.779E-01	1.109E-01	-0.253
		398.62		9.875E-01	1.120E+00	1.957E+00	5.108E-01	0.505
		415.76		-6.592E-01	7.887E-01	1.116E+00	2.331E-01	-0.591
PA-234		63.00		-4.421E-01	9.874E-01	1.515E+00	2.651E-01	-0.292
		94.67		-1.364E-01	8.420E-02	1.172E-01	1.554E-02	-1.164
		98.44		2.490E-02	4.403E-02	6.869E-02	3.838E-02	0.363
		99.86		-1.823E-01	2.014E-01	2.995E-01	2.672E-02	-0.609
		111.00		-4.255E-02	7.940E-02	1.224E-01	1.389E-02	-0.348
		131.20		-2.263E-02	4.847E-02	7.495E-02	4.695E-03	-0.302
		152.70		1.496E-02	1.441E-01	2.331E-01	3.680E-02	0.064
		186.00		-6.897E-01	6.787E-01	1.034E+00	3.157E-01	-0.667
		226.40		-5.914E-02	1.741E-01	2.847E-01	3.321E-02	-0.208
		227.20		-1.044E-01	1.861E-01	2.978E-01	1.792E-02	-0.351
		248.90		-6.638E-02	3.900E-01	6.445E-01	1.392E-01	-0.103
		293.70		-2.293E-02	3.476E-01	5.520E-01	9.027E-02	-0.042
		369.80		-1.136E-01	4.520E-01	7.205E-01	1.522E-01	-0.158
		568.70		1.375E-01	5.428E-01	8.531E-01	5.095E-02	0.161
		569.50		-5.982E-03	1.564E-01	2.367E-01	1.412E-02	-0.025
		574.00		1.094E-01	7.023E-01	1.208E+00	7.158E-02	0.091
		699.00		-1.602E-01	3.806E-01	5.957E-01	1.068E-01	-0.269
		706.10		-4.322E-01	5.186E-01	6.835E-01	3.016E-01	-0.632

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		733.00		-4.695E-02	1.802E-01	2.860E-01	6.120E-02	-0.164
		742.81		1.389E-02	6.505E-01	1.081E+00	7.243E-01	0.013
		796.30		-2.862E-01	4.266E-01	6.080E-01	1.627E-01	-0.471
		805.60		-2.866E-01	5.165E-01	7.592E-01	2.311E-01	-0.377
		819.60		4.202E-01	6.659E-01	1.170E+00	4.439E-01	0.359
		826.30		-8.255E-02	3.813E-01	5.985E-01	2.674E-01	-0.138
		831.60		1.565E-01	2.765E-01	4.940E-01	1.472E-01	0.317
		876.40		3.448E-02	4.560E-01	7.533E-01	7.750E-01	0.046
		880.51		-3.130E-02	1.224E-01	1.892E-01	1.830E-02	-0.165
		883.24		-3.839E-02	1.156E-01	1.693E-01	1.140E-01	-0.227
		899.00		1.497E-01	4.804E-01	8.153E-01	3.590E-01	0.184
		925.00		1.131E-01	5.353E-01	9.095E-01	8.985E-02	0.124
		926.50		2.319E-02	8.431E-02	1.442E-01	3.711E-02	0.161
		946.00	*	-1.361E-02	1.225E-01	1.941E-01	3.741E-02	-0.070
		949.00		-1.969E-02	1.712E-01	2.706E-01	2.608E-02	-0.073
		980.50		7.469E-02	3.858E-01	6.480E-01	6.015E-02	0.115
		1394.10		-2.265E-01	5.217E-01	7.052E-01	4.589E-01	-0.321
PA-234M		766.42		-7.877E+00	7.376E+00	7.985E+00	4.031E+00	-0.986
		1001.03	*	7.505E-01	2.879E+00	4.700E+00	4.851E-01	0.160
TH-234		63.29	*	-6.252E-01	8.635E-01	1.289E+00	2.541E-01	-0.485
		92.38		-1.957E-01	2.934E-01	4.707E-01	8.910E-02	-0.416
U-234		609.31	*	-1.805E-02	4.414E-02	7.185E-02	5.468E-03	-0.251
		1120.29		-1.544E-01	1.568E-01	2.260E-01	2.209E-02	-0.683
		1764.49		-1.178E-01	1.792E-01	2.857E-01	1.908E-02	-0.412
U-235		89.95		-8.950E-01	5.772E-01	7.104E-01	2.241E-01	-1.260
		93.35		-2.576E-01	3.521E-01	5.542E-01	1.580E-01	-0.465
		105.00		-1.765E-01	4.407E-01	6.855E-01	2.038E-01	-0.257
		143.76	*	-2.476E-02	1.073E-01	1.571E-01	2.570E-02	-0.158
		163.35		1.673E-02	2.100E-01	3.380E-01	6.047E-02	0.050
		185.71		-8.476E-03	2.330E-02	3.954E-02	2.225E-03	-0.214
		205.31		-1.476E-01	2.489E-01	3.806E-01	6.847E-02	-0.388
NP-236		94.67		-1.032E-01	6.321E-02	8.898E-02	8.728E-03	-1.160
		98.44		1.883E-02	3.163E-02	5.193E-02	4.749E-03	0.363
		111.00		-3.218E-02	6.000E-02	9.257E-02	6.993E-03	-0.348
		160.31	*	-2.056E-02	3.494E-02	5.250E-02	2.925E-03	-0.392
NP-237		86.50	*	-1.089E-02	1.052E-01	1.716E-01	4.033E-02	-0.063
		95.87		-5.526E-01	4.517E-01	6.238E-01	1.559E-01	-0.886
U-238		63.29	*	-6.252E-01	8.635E-01	1.289E+00	2.541E-01	-0.485
		92.38		-1.957E-01	2.917E-01	4.707E-01	4.837E-02	-0.416
NP-239		99.55		-3.517E-02	6.607E-02	1.024E-01	9.183E-03	-0.344
		117.00	*	1.031E-02	8.051E-02	1.323E-01	9.255E-03	0.078
		209.75		-3.261E-01	3.659E-01	5.498E-01	3.220E-02	-0.593
		228.18		-7.864E-02	1.012E-01	1.586E-01	9.560E-03	-0.496
		277.60		-1.596E-02	9.250E-02	1.443E-01	9.253E-03	-0.111
		334.30		-6.048E-01	6.026E-01	8.776E-01	5.871E-02	-0.689
AM-241		59.54	*	-2.035E-03	9.694E-02	1.614E-01	2.072E-02	-0.013
AM-243		74.67	*	1.305E-02	2.899E-02	4.605E-02	5.043E-03	0.283
		86.72		-4.755E-01	3.926E+00	6.393E+00	7.199E-01	-0.074
		117.66		9.869E-01	1.568E+00	2.696E+00	1.871E-01	0.366

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		-2.765E+00	9.302E+00	1.363E+01	8.137E-01	-0.203
CM-243		99.55		-3.617E-02	6.795E-02	1.053E-01	9.445E-03	-0.344
		103.76	*	1.072E-02	3.943E-02	6.604E-02	5.533E-03	0.162
		117.00		1.060E-02	8.279E-02	1.360E-01	9.517E-03	0.078
		209.75		-3.213E-01	3.606E-01	5.417E-01	3.173E-02	-0.593
		228.18		-7.942E-02	1.022E-01	1.602E-01	9.655E-03	-0.496
		277.60		-1.609E-02	9.321E-02	1.454E-01	9.324E-03	-0.111
AM-246		798.80		-5.372E-02	6.678E-02	9.403E-02	7.245E-03	-0.571
		1036.00		-1.833E-01	1.421E-01	1.473E-01	1.260E-02	-1.244
		1062.04		-8.528E-02	9.368E-02	1.115E-01	9.102E-03	-0.765
		1078.86	*	1.019E-03	6.393E-02	1.033E-01	8.160E-03	0.010
CM-247		278.00		-2.395E-02	3.672E-01	5.757E-01	3.693E-02	-0.042
		287.40		-2.637E-01	6.089E-01	9.719E-01	6.291E-02	-0.271
		402.60	*	-1.612E-03	1.911E-02	3.091E-02	2.098E-03	-0.052
CF-249		252.85		1.026E-01	4.048E-01	6.951E-01	4.334E-02	0.148
		333.44		-2.599E-02	7.496E-02	1.188E-01	7.947E-03	-0.219
		387.95	*	-4.673E-03	1.674E-02	2.632E-02	1.788E-03	-0.178
CF-251		176.60	*	-5.046E-02	6.115E-02	8.935E-02	4.955E-03	-0.565
		227.00		-1.546E-01	1.690E-01	2.611E-01	1.571E-02	-0.592
		285.00		2.003E-01	8.491E-01	1.447E+00	9.348E-02	0.138
ANH-511		511.00	*	-4.509E-02	3.177E-02	5.471E-02	3.505E-03	-0.824

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038807      *
* Acquisition date : 19-FEB-2010 17:35:09 Detector SN#    :                 *
* Detector ID       : GAM10               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 02:00:00.36     Half life ratio :  8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       : 12-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202038807         Analyst initials: MXR1            *
* Batch Number      : 951362              Sample Quantity : 1.3719E+02 GRAM *
* Recovery          :    1.00000          Carrier Weight :    0.00000       *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME : 16-MAR-2009 13:18:08 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 ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)	
BE-7	7.654E-02	1.188E-01	2.206E-01	0.000E+00 NOT IDENT.
NA-22	1.817E-02	1.998E-02	3.982E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.128E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-1.622E-02	2.260E-02	2.947E-02	0.000E+00 NOT IDENT.
K-40	6.348E-03	2.890E-01	5.078E-01	0.000E+00 NOT IDENT.
TI-44	-8.966E-03	1.417E-02	2.383E-02	0.000E+00 NOT IDENT.
SC-46	2.834E-03	1.654E-02	2.886E-02	0.000E+00 NOT IDENT.
V-48	-9.610E-03	2.841E-02	4.471E-02	0.000E+00 NOT IDENT.
CR-51	-1.994E-01	1.550E-01	2.328E-01	0.000E+00 NOT IDENT.
MN-52	-5.370E-03	4.833E-02	7.922E-02	0.000E+00 NOT IDENT.
MN-54	-1.470E-02	1.737E-02	2.504E-02	0.000E+00 NOT IDENT.
CO-56	-4.372E-03	1.985E-02	3.253E-02	0.000E+00 NOT IDENT.
CO-57	-8.376E-03	9.935E-03	1.574E-02	0.000E+00 NOT IDENT.
CO-58	2.636E-03	1.449E-02	2.558E-02	0.000E+00 NOT IDENT.
FE-59	1.938E-03	3.587E-02	6.006E-02	0.000E+00 NOT IDENT.
CO-60	-4.826E-03	1.947E-02	3.124E-02	0.000E+00 NOT IDENT.
ZN-65	-1.400E-02	3.540E-02	5.286E-02	0.000E+00 NOT IDENT.
GE-68	4.805E-01	5.815E-01	1.115E+00	0.000E+00 NOT IDENT.
AS-73	3.513E-02	5.784E-01	1.060E+00	0.000E+00 NOT IDENT.
AS-74	-1.790E-02	3.493E-02	5.728E-02	0.000E+00 NOT IDENT.
SE-75	1.521E-02	1.837E-02	3.502E-02	0.000E+00 NOT IDENT.
BR-77	2.329E-01	6.256E-01	1.101E+00	0.000E+00 NOT IDENT.
SR-82	-1.003E-01	1.508E-01	2.297E-01	0.000E+00 NOT IDENT.
RB-83	1.145E-02	3.345E-02	5.865E-02	0.000E+00 NOT IDENT.
RB-84	-1.345E-02	2.533E-02	3.784E-02	0.000E+00 NOT IDENT.
KR-85	-1.822E+01	6.040E+00	7.239E+00	0.000E+00 NOT IDENT.

SR-85	-8.645E-02	2.866E-02	3.434E-02	0.000E+00	NOT IDENT.
RB-86	2.635E-01	2.906E-01	5.624E-01	0.000E+00	NOT IDENT.
Y-88	-1.833E-03	2.457E-02	3.962E-02	0.000E+00	NOT IDENT.
ZR-88	-2.493E-03	1.280E-02	2.143E-02	0.000E+00	NOT IDENT.
Y-91	-2.357E+00	6.426E+00	1.013E+01	0.000E+00	NOT IDENT.
NB-94	3.865E-03	1.457E-02	2.616E-02	0.000E+00	NOT IDENT.
NB-95	-2.749E-02	2.092E-02	2.742E-02	0.000E+00	NOT IDENT.
NB-95M	-3.441E-02	4.774E-02	7.979E-02	0.000E+00	NOT IDENT.
ZR-95	-4.752E-03	2.899E-02	4.835E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.044E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.067E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.062E-01	8.738E-01	1.554E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.454E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.037E-02	1.565E-02	2.787E-02	0.000E+00	NOT IDENT.
RH-102	-6.416E-03	1.216E-02	1.875E-02	0.000E+00	NOT IDENT.
RU-103	-4.847E-04	1.728E-02	2.898E-02	0.000E+00	NOT IDENT.
RH-106	-1.622E-01	1.696E-01	2.394E-01	0.000E+00	NOT IDENT.
RU-106	-1.622E-01	1.688E-01	2.394E-01	0.000E+00	NOT IDENT.
AG-108M	1.020E-03	1.544E-02	2.652E-02	0.000E+00	NOT IDENT.
CD-109	-1.123E-01	3.302E-01	5.690E-01	0.000E+00	NOT IDENT.
AG-110M	-6.233E-03	1.523E-02	2.479E-02	0.000E+00	NOT IDENT.
IN-111	-8.315E-02	8.010E-02	1.291E-01	0.000E+00	NOT IDENT.
IN-113M	1.390E-02	1.749E-02	3.313E-02	0.000E+00	NOT IDENT.
SN-113	1.390E-02	1.749E-02	3.313E-02	0.000E+00	NOT IDENT.
IN-114M	-4.685E-02	6.978E-02	1.091E-01	0.000E+00	NOT IDENT.
CD-115	-1.073E-01	5.383E-01	8.747E-01	0.000E+00	NOT IDENT.
SN-117M	9.293E-03	1.572E-02	2.837E-02	0.000E+00	NOT IDENT.
SB-122	-5.412E-02	1.457E-01	2.280E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.130E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	3.725E-03	1.166E-02	2.052E-02	0.000E+00	NOT IDENT.
I-124	-5.272E-04	9.502E-02	1.662E-01	0.000E+00	NOT IDENT.
SB-124	4.445E-02	3.692E-02	8.199E-02	0.000E+00	NOT IDENT.
SB-125	-2.161E-02	4.470E-02	7.143E-02	0.000E+00	NOT IDENT.
TE-125M	-7.539E-01	3.464E+00	5.940E+00	0.000E+00	NOT IDENT.
I-126	-5.234E-02	6.239E-02	9.584E-02	0.000E+00	NOT IDENT.
SB-126	-2.343E-02	5.182E-02	8.391E-02	0.000E+00	NOT IDENT.
SN-126	-1.047E-05	3.326E-02	5.901E-02	0.000E+00	NOT IDENT.
SB-127	9.173E-02	1.608E-01	3.016E-01	0.000E+00	NOT IDENT.
XE-127	8.107E-03	1.726E-02	3.227E-02	0.000E+00	NOT IDENT.
I-131	-5.684E-03	2.869E-02	4.842E-02	0.000E+00	NOT IDENT.
TE-132	-5.072E-02	6.321E-02	1.045E-01	0.000E+00	NOT IDENT.
BA-133	-1.248E-02	2.119E-02	3.420E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	8.645E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-3.541E-03	2.048E-02	3.393E-02	0.000E+00	NOT IDENT.
CS-135	-6.848E-02	6.725E-02	1.062E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.024E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.918E-02	2.924E-02	4.008E-02	0.000E+00	NOT IDENT.
BA-137M	5.880E-03	1.655E-02	3.014E-02	0.000E+00	NOT IDENT.
CS-137	6.216E-03	1.750E-02	3.186E-02	0.000E+00	NOT IDENT.
CE-139	3.390E-03	1.283E-02	2.238E-02	0.000E+00	NOT IDENT.
BA-140	4.322E-02	9.516E-02	1.668E-01	0.000E+00	NOT IDENT.
LA-140	-5.823E-03	3.000E-02	4.728E-02	0.000E+00	NOT IDENT.
CE-141	-1.078E-02	2.428E-02	4.007E-02	0.000E+00	NOT IDENT.
CE-143	-2.812E-01	1.629E+00	2.704E+00	0.000E+00	NOT IDENT.
CE-144	1.322E-01	9.466E-02	1.789E-01	0.000E+00	NOT IDENT.
PM-144	4.108E-03	1.984E-02	3.271E-02	0.000E+00	NOT IDENT.
PR-144	2.773E-01	1.339E+00	2.208E+00	0.000E+00	NOT IDENT.
PM-146	7.111E-03	2.100E-02	3.717E-02	0.000E+00	NOT IDENT.
ND-147	9.788E-02	1.887E-01	3.364E-01	0.000E+00	NOT IDENT.
PM-149	1.440E+00	4.229E+00	7.678E+00	0.000E+00	NOT IDENT.
EU-152	4.376E-03	4.537E-02	7.958E-02	0.000E+00	NOT IDENT.
GD-153	6.298E-03	3.508E-02	5.999E-02	0.000E+00	NOT IDENT.
EU-154	4.560E-02	5.738E-02	1.120E-01	0.000E+00	NOT IDENT.
EU-155	-2.129E-02	4.369E-02	7.302E-02	0.000E+00	NOT IDENT.
TB-160	-2.202E-02	6.071E-02	9.549E-02	0.000E+00	NOT IDENT.
HO-166M	3.681E-02	3.410E-02	6.611E-02	0.000E+00	NOT IDENT.
TM-171	-7.443E-01	1.421E+01	2.549E+01	0.000E+00	NOT IDENT.
LU-176	1.269E-02	1.135E-02	2.202E-02	0.000E+00	NOT IDENT.
LU-177	-2.564E-01	2.339E-01	3.666E-01	0.000E+00	NOT IDENT.
LU-177M	2.287E-02	7.134E-02	1.273E-01	0.000E+00	NOT IDENT.
HF-181	-1.372E-02	1.792E-02	2.675E-02	0.000E+00	NOT IDENT.
W-181	1.585E-01	1.901E-01	3.632E-01	0.000E+00	NOT IDENT.
TA-182	8.395E-03	7.327E-02	1.285E-01	0.000E+00	NOT IDENT.
RE-183	8.890E-03	4.291E-02	7.466E-02	0.000E+00	NOT IDENT.
RE-184	2.652E-02	1.026E-01	1.865E-01	0.000E+00	NOT IDENT.
OS-185	-1.061E-02	1.727E-02	2.700E-02	0.000E+00	NOT IDENT.
RE-188	-2.189E-02	6.901E-02	1.145E-01	0.000E+00	NOT IDENT.
W-188	-1.072E+00	3.330E+00	5.682E+00	0.000E+00	NOT IDENT.

IR-192	9.135E-03	1.631E-02	2.998E-02	0.000E+00	NOT IDENT.
AU-195	-3.256E-03	9.921E-02	1.662E-01	0.000E+00	NOT IDENT.
TL-200	8.163E-01	2.141E+00	3.843E+00	0.000E+00	NOT IDENT.
TL-201	2.155E-01	5.905E-01	1.038E+00	0.000E+00	NOT IDENT.
TL-202	3.242E-03	2.401E-02	4.150E-02	0.000E+00	NOT IDENT.
HG-203	4.813E-03	1.589E-02	2.885E-02	0.000E+00	NOT IDENT.
BI-207	-1.783E-02	2.137E-02	2.745E-02	0.000E+00	NOT IDENT.
TL-207	9.872E-02	3.350E-01	5.999E-01	0.000E+00	NOT IDENT.
TL-208	1.632E-03	2.103E-02	3.520E-02	0.000E+00	NOT IDENT.
PO-209	6.001E-01	4.042E+00	6.983E+00	0.000E+00	NOT IDENT.
BI-210	5.573E+00	3.769E+00	7.644E+00	0.000E+00	NOT IDENT.
PB-210	5.573E+00	3.769E+00	7.644E+00	0.000E+00	NOT IDENT.
PO-210	5.573E+00	3.763E+00	7.644E+00	0.000E+00	NOT IDENT.
BI-211	-4.000E-02	1.189E-01	1.876E-01	0.000E+00	NOT IDENT.
PB-211	3.125E-01	4.988E-01	8.487E-01	0.000E+00	NOT IDENT.
BI-212	-9.453E-02	1.525E-01	2.093E-01	0.000E+00	NOT IDENT.
PB-212	-2.717E-02	3.046E-02	5.012E-02	0.000E+00	NOT IDENT.
PO-212	-2.717E-02	3.046E-02	5.012E-02	0.000E+00	NOT IDENT.
BI-214	-1.805E-02	4.326E-02	7.331E-02	0.000E+00	NOT IDENT.
PB-214	-1.995E-02	4.127E-02	6.401E-02	0.000E+00	NOT IDENT.
PO-214	-1.995E-02	4.127E-02	6.401E-02	0.000E+00	NOT IDENT.
PO-215	9.872E-02	3.350E-01	5.999E-01	0.000E+00	NOT IDENT.
PO-216	-2.717E-02	3.046E-02	5.012E-02	0.000E+00	NOT IDENT.
PO-218	-1.995E-02	4.127E-02	6.401E-02	0.000E+00	NOT IDENT.
RN-219	-1.580E-01	2.214E-01	3.476E-01	0.000E+00	NOT IDENT.
RN-220	8.381E+00	1.117E+01	2.089E+01	0.000E+00	NOT IDENT.
RA-223	9.872E-02	3.350E-01	5.999E-01	0.000E+00	NOT IDENT.
RA-224	-1.378E-01	3.365E-01	5.470E-01	0.000E+00	NOT IDENT.
RA-226	-1.805E-02	4.326E-02	7.331E-02	0.000E+00	NOT IDENT.
AC-227	-1.015E-01	1.755E-01	2.938E-01	0.000E+00	NOT IDENT.
TH-227	-1.015E-01	1.758E-01	2.938E-01	0.000E+00	NOT IDENT.
AC-228	-1.349E-01	8.723E-02	1.204E-01	0.000E+00	NOT IDENT.
RA-228	-1.349E-01	8.723E-02	1.204E-01	0.000E+00	NOT IDENT.
TH-228	-2.738E-02	3.070E-02	5.051E-02	0.000E+00	NOT IDENT.
TH-229	1.007E-01	2.190E-01	3.858E-01	0.000E+00	NOT IDENT.
TH-230	-1.805E-02	4.326E-02	7.331E-02	0.000E+00	NOT IDENT.
PA-231	-2.688E-02	6.975E-01	1.224E+00	0.000E+00	NOT IDENT.
TH-231	9.872E-02	3.350E-01	5.999E-01	0.000E+00	NOT IDENT.
U-231	-1.851E-01	1.422E-01	2.207E-01	0.000E+00	NOT IDENT.
TH-232	-1.349E-01	8.723E-02	1.204E-01	0.000E+00	NOT IDENT.
PA-233	-1.499E-03	3.269E-02	5.694E-02	0.000E+00	NOT IDENT.
PA-234	-1.361E-02	1.201E-01	1.964E-01	0.000E+00	NOT IDENT.
PA-234M	7.505E-01	2.821E+00	4.749E+00	0.000E+00	NOT IDENT.
TH-234	-6.252E-01	8.462E-01	1.372E+00	0.000E+00	NOT IDENT.
U-234	-1.805E-02	4.326E-02	7.331E-02	0.000E+00	NOT IDENT.
U-235	-2.476E-02	1.052E-01	1.648E-01	0.000E+00	NOT IDENT.
NP-236	-2.056E-02	3.424E-02	5.493E-02	0.000E+00	NOT IDENT.
NP-237	-1.089E-02	1.031E-01	1.816E-01	0.000E+00	NOT IDENT.
U-238	-6.252E-01	8.462E-01	1.372E+00	0.000E+00	NOT IDENT.
NP-239	1.031E-02	7.890E-02	1.392E-01	0.000E+00	NOT IDENT.
AM-241	-2.035E-03	9.500E-02	1.719E-01	0.000E+00	NOT IDENT.
AM-243	1.305E-02	2.841E-02	4.886E-02	0.000E+00	NOT IDENT.
CM-243	1.072E-02	3.865E-02	6.965E-02	0.000E+00	NOT IDENT.
AM-246	1.019E-03	6.265E-02	1.042E-01	0.000E+00	NOT IDENT.
CM-247	-1.612E-03	1.873E-02	3.178E-02	0.000E+00	NOT IDENT.
CF-249	-4.673E-03	1.641E-02	2.709E-02	0.000E+00	NOT IDENT.
CF-251	-5.046E-02	5.993E-02	9.333E-02	0.000E+00	NOT IDENT.
ANH-511	-4.509E-02	3.113E-02	5.601E-02	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 19:35:34.09

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038807.CNF;1
Sample date       : 12-FEB-2010 00:00:00 Acquisition date : 19-FEB-2010 17:35:09
Sample ID         : G1202038807          Sample quantity  : 1.37190E+02 GRAM
Detector name     : GAM10                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.36  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 951362                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Flag: "*" = Keyline

Sample ID : G1202038807 Acquisition date : 19-FEB-2010 17:35:09

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202038807
Acquisition date : 19-FEB-2010 17:35:09

None

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 19:35:38.25

```
*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
*                                                                             *
*                                DETECTOR DATA                                *
*                                                                             *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038807.CNF;1   *
* Acquisition date : 19-FEB-2010 17:35:09  Detector SN#    :                  *
* Detector ID      : GAM10                 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 02:00:00.36         Half life ratio : 8.00000          *
*******************************************************************************
*                                                                             *
*                                 SAMPLE DATA                                 *
*                                                                             *
* Sample date      : 12-FEB-2010 00:00:00  Nuclide Library : SOLID            *
* Sample ID        : G1202038807           Analyst initials: MXR1             *
* Batch Number     : 951362                Sample Quantity : 1.37190E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                   QC DATA                                   *
*                                                                             *
* CALIB. DATE/TIME : 16-MAR-2009 13:18:08.8MS Isotope      :                  *
* MSD ID           :                       MSD Isotope     :                  *
* LCS ID           : 1032-A                LCS Isotope     :                  *
*******************************************************************************
```

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	7.654E-02		1.212E-01	2.152E-01	1.600E-02	0.356
NA-22	1.817E-02		2.039E-02	3.959E-02	3.067E-03	0.459
NA-24	5.448E-05		5.754E-05	Half-Life too short		
AL-26	-1.622E-02		2.307E-02	2.951E-02	1.871E-03	-0.550
K-40	6.348E-03		2.949E-01	5.063E-01	4.361E-02	0.013
TI-44	-8.966E-03		1.446E-02	2.248E-02	2.460E-03	-0.399
SC-46	2.834E-03		1.688E-02	2.849E-02	2.820E-03	0.099
V-48	-9.610E-03		2.899E-02	4.423E-02	4.090E-03	-0.217
CR-51	-1.994E-01		1.582E-01	2.254E-01	1.628E-02	-0.885
MN-52	-5.370E-03		4.931E-02	7.896E-02	6.673E-03	-0.068
MN-54	-1.470E-02		1.772E-02	2.469E-02	2.109E-03	-0.596
CO-56	-4.372E-03		2.025E-02	3.209E-02	2.833E-03	-0.136
CO-57	-8.376E-03		1.014E-02	1.496E-02	9.870E-04	-0.560
CO-58	2.636E-03		1.479E-02	2.521E-02	2.017E-03	0.105
FE-59	1.938E-03		3.661E-02	5.955E-02	4.970E-03	0.033
CO-60	-4.826E-03		1.986E-02	3.109E-02	2.702E-03	-0.155
ZN-65	-1.400E-02		3.612E-02	5.242E-02	3.818E-03	-0.267

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	4.805E-01		5.933E-01	1.105E+00	8.753E-02	0.435
AS-73	3.513E-02		5.902E-01	9.928E-01	1.314E-01	0.035
AS-74	-1.790E-02		3.565E-02	5.612E-02	3.206E-03	-0.319
SE-75	1.521E-02		1.875E-02	3.379E-02	2.155E-03	0.450
BR-77	2.329E-01		6.384E-01	1.076E+00	6.826E-02	0.216
SR-82	-1.003E-01		1.539E-01	2.262E-01	1.631E-02	-0.443
RB-83	1.145E-02		3.413E-02	5.731E-02	3.637E-03	0.200
RB-84	-1.345E-02		2.585E-02	3.735E-02	3.622E-03	-0.360
KR-85	-1.822E+01		6.164E+00	7.072E+00	4.517E-01	-2.577
SR-85	-8.645E-02		2.924E-02	3.355E-02	2.143E-03	-2.577
RB-86	2.635E-01		2.965E-01	5.574E-01	4.423E-02	0.473
Y-88	-1.833E-03		2.507E-02	3.969E-02	2.435E-03	-0.046
ZR-88	-2.493E-03		1.306E-02	2.083E-02	1.415E-03	-0.120
Y-91	-2.357E+00		6.557E+00	1.006E+01	6.684E-01	-0.234
NB-94	3.865E-03		1.487E-02	2.572E-02	1.464E-03	0.150
NB-95	-2.749E-02		2.135E-02	2.699E-02	1.884E-03	-1.018
NB-95M	-3.441E-02		4.872E-02	7.680E-02	5.957E-03	-0.448
ZR-95	-4.752E-03		2.959E-02	4.759E-02	3.738E-03	-0.100
NB-97	-1.088E-05		1.553E-05	Half-Life too short		
ZR-97	-1.915E-03		5.446E-04	Half-Life too short		
MO-99	2.062E-01		8.916E-01	1.529E+00	2.149E-01	0.135
TC-99M	1.621E+01		1.252E+01	Half-Life too short		
RH-101	1.037E-02		1.597E-02	2.674E-02	1.536E-03	0.388
RH-102	-6.416E-03		1.241E-02	1.829E-02	1.206E-03	-0.351
RU-103	-4.847E-04		1.764E-02	2.829E-02	3.670E-03	-0.017
RH-106	-1.622E-01		1.731E-01	2.347E-01	2.714E-02	-0.691
RU-106	-1.622E-01		1.723E-01	2.347E-01	1.275E-02	-0.691
AG-108M	1.020E-03		1.575E-02	2.583E-02	1.852E-03	0.040
CD-109	-1.123E-01		3.370E-01	5.379E-01	6.098E-02	-0.209
AG-110M	-6.233E-03		1.554E-02	2.433E-02	1.318E-03	-0.256
IN-111	-8.315E-02		8.173E-02	1.243E-01	7.677E-03	-0.669
IN-113M	1.390E-02		1.785E-02	3.219E-02	2.295E-03	0.432
SN-113	1.390E-02		1.785E-02	3.219E-02	2.295E-03	0.432
IN-114M	-4.685E-02		7.121E-02	1.046E-01	5.933E-03	-0.448
CD-115	-1.073E-01		5.493E-01	8.550E-01	5.382E-02	-0.125
SN-117M	9.293E-03		1.604E-02	2.711E-02	1.520E-03	0.343
SB-122	-5.412E-02		1.487E-01	2.231E-01	1.342E-02	-0.243
I-123	6.805E-05		1.087E-04	Half-Life too short		
TE-123M	3.725E-03		1.190E-02	1.961E-02	1.114E-03	0.190
I-124	-5.272E-04		9.696E-02	1.628E-01	9.187E-03	-0.003
SB-124	4.445E-02		3.767E-02	8.200E-02	6.230E-03	0.542
SB-125	-2.161E-02		4.562E-02	6.954E-02	4.842E-03	-0.311
TE-125M	-7.539E-01		3.535E+00	5.637E+00	5.403E-01	-0.134
I-126	-5.234E-02		6.366E-02	9.410E-02	4.720E-03	-0.556
SB-126	-2.343E-02		5.288E-02	8.251E-02	4.986E-03	-0.284
SN-126	-1.047E-05		3.394E-02	5.578E-02	6.313E-03	0.000
SB-127	9.173E-02		1.641E-01	2.962E-01	2.031E-02	0.310
XE-127	8.107E-03		1.761E-02	3.098E-02	1.794E-03	0.262

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	-5.684E-03		2.928E-02	4.699E-02	3.433E-03	-0.121
TE-132	-5.072E-02		6.450E-02	1.006E-01	1.337E-02	-0.504
BA-133	-1.248E-02		2.162E-02	3.318E-02	4.003E-03	-0.376
I-133	1.086E-06		4.411E-06	Half-Life too short		
CS-134	-3.541E-03		2.090E-02	3.343E-02	2.577E-03	-0.106
CS-135	-6.848E-02		6.863E-02	1.025E-01	8.284E-03	-0.668
I-135	5.136E+00		1.032E+01	Half-Life too short		
CS-136	-1.918E-02		2.984E-02	3.970E-02	3.473E-03	-0.483
BA-137M	5.880E-03		1.689E-02	2.958E-02	1.460E-03	0.199
CS-137	6.216E-03		1.786E-02	3.127E-02	1.552E-03	0.199
CE-139	3.390E-03		1.309E-02	2.141E-02	1.169E-03	0.158
BA-140	4.322E-02		9.710E-02	1.631E-01	5.316E-02	0.265
LA-140	-5.823E-03		3.061E-02	4.723E-02	3.665E-03	-0.123
CE-141	-1.078E-02		2.478E-02	3.823E-02	2.340E-03	-0.282
CE-143	-2.812E-01		1.663E+00	2.613E+00	5.405E-01	-0.108
CE-144	1.322E-01		9.659E-02	1.704E-01	2.448E-02	0.776
PM-144	4.108E-03		2.024E-02	3.214E-02	1.792E-03	0.128
PR-144	2.773E-01		1.366E+00	2.169E+00	1.209E-01	0.128
PM-146	7.111E-03		2.143E-02	3.622E-02	3.346E-03	0.196
ND-147	9.788E-02		1.925E-01	3.288E-01	4.515E-02	0.298
PM-149	1.440E+00		4.315E+00	7.417E+00	1.071E+00	0.194
EU-152	4.376E-03		4.630E-02	7.715E-02	5.685E-03	0.057
GD-153	6.298E-03		3.580E-02	5.681E-02	5.290E-03	0.111
EU-154	4.560E-02		5.855E-02	1.113E-01	1.186E-02	0.410
EU-155	-2.129E-02		4.459E-02	6.925E-02	5.744E-03	-0.307
TB-160	-2.202E-02		6.195E-02	9.426E-02	9.089E-03	-0.234
HO-166M	3.681E-02		3.479E-02	6.499E-02	3.814E-03	0.566
TM-171	-7.443E-01		1.450E+01	2.398E+01	2.732E+00	-0.031
LU-176	1.269E-02		1.158E-02	2.130E-02	1.401E-03	0.596
LU-177	-2.564E-01		2.387E-01	3.520E-01	2.057E-02	-0.728
LU-177M	2.287E-02		7.280E-02	1.238E-01	8.393E-03	0.185
HF-181	-1.372E-02		1.829E-02	2.610E-02	1.713E-03	-0.526
W-181	1.585E-01		1.940E-01	3.415E-01	3.946E-02	0.464
TA-182	8.395E-03		7.476E-02	1.276E-01	8.801E-03	0.066
RE-183	8.890E-03		4.378E-02	7.137E-02	3.948E-03	0.125
RE-184	2.652E-02		1.047E-01	1.797E-01	1.121E-02	0.148
OS-185	-1.061E-02		1.762E-02	2.649E-02	1.361E-03	-0.400
RE-188	-2.189E-02		7.042E-02	1.094E-01	6.215E-03	-0.200
W-188	-1.072E+00		3.398E+00	5.491E+00	3.565E-01	-0.195
IR-192	9.135E-03		1.664E-02	2.902E-02	1.929E-03	0.315
AU-195	-3.256E-03		1.012E-01	1.574E-01	1.429E-02	-0.021
TL-200	8.163E-01		2.185E+00	3.730E+00	2.527E-01	0.219
TL-201	2.155E-01		6.026E-01	9.933E-01	5.432E-02	0.217
TL-202	3.242E-03		2.450E-02	4.042E-02	2.718E-03	0.080
HG-203	4.813E-03		1.622E-02	2.786E-02	1.880E-03	0.173
BI-207	-1.783E-02		2.181E-02	2.720E-02	2.214E-03	-0.655
TL-207	9.872E-02		3.419E-01	5.809E-01	9.779E-02	0.170
TL-208	1.632E-03		2.145E-02	3.447E-02	2.316E-03	0.047

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209	6.001E-01		4.124E+00	6.896E+00	6.956E-01	0.087
BI-210	5.573E+00		3.846E+00	7.145E+00	7.007E-01	0.780
PB-210	5.573E+00		3.846E+00	7.145E+00	7.007E-01	0.780
PO-210	5.573E+00		3.840E+00	7.145E+00	6.414E-01	0.780
BI-211	-4.000E-02		1.213E-01	1.820E-01	1.327E-02	-0.220
PB-211	3.125E-01		5.089E-01	8.253E-01	5.153E-01	0.379
BI-212	-9.453E-02		1.556E-01	2.058E-01	1.646E-02	-0.459
PB-212	-2.717E-02		3.108E-02	4.825E-02	3.660E-03	-0.563
PO-212	-2.717E-02		3.108E-02	4.825E-02	3.660E-03	-0.563
BI-214	-1.805E-02		4.414E-02	7.185E-02	5.468E-03	-0.251
PB-214	-1.995E-02		4.212E-02	6.208E-02	5.567E-03	-0.321
PO-214	-1.995E-02		4.212E-02	6.208E-02	5.567E-03	-0.321
PO-215	9.872E-02		3.419E-01	5.809E-01	9.779E-02	0.170
PO-216	-2.717E-02		3.108E-02	4.825E-02	3.660E-03	-0.563
PO-218	-1.995E-02		4.212E-02	6.208E-02	5.567E-03	-0.321
RN-219	-1.580E-01		2.259E-01	3.380E-01	4.751E-02	-0.468
RN-220	8.381E+00		1.140E+01	2.044E+01	1.253E+00	0.410
RA-223	9.872E-02		3.419E-01	5.809E-01	9.779E-02	0.170
RA-224	-1.378E-01		3.434E-01	5.267E-01	3.233E-02	-0.262
RA-226	-1.805E-02		4.414E-02	7.185E-02	5.468E-03	-0.251
AC-227	-1.015E-01		1.791E-01	2.833E-01	4.011E-02	-0.358
TH-227	-1.015E-01		1.794E-01	2.833E-01	4.834E-02	-0.358
AC-228	-1.349E-01		8.901E-02	1.189E-01	1.468E-02	-1.134
RA-228	-1.349E-01		8.901E-02	1.189E-01	1.468E-02	-1.134
TH-228	-2.738E-02		3.132E-02	4.863E-02	3.689E-03	-0.563
TH-229	1.007E-01		2.234E-01	3.700E-01	2.110E-02	0.272
TH-230	-1.805E-02		4.414E-02	7.185E-02	5.468E-03	-0.251
PA-231	-2.688E-02		7.117E-01	1.183E+00	1.663E-01	-0.023
TH-231	9.872E-02		3.419E-01	5.809E-01	9.779E-02	0.170
U-231	-1.851E-01		1.451E-01	2.090E-01	2.003E-02	-0.886
TH-232	-1.349E-01		8.901E-02	1.189E-01	1.468E-02	-1.134
PA-233	-1.499E-03		3.336E-02	5.509E-02	3.813E-03	-0.027
PA-234	-1.361E-02		1.225E-01	1.941E-01	3.741E-02	-0.070
PA-234M	7.505E-01		2.879E+00	4.700E+00	4.851E-01	0.160
TH-234	-6.252E-01		8.635E-01	1.289E+00	2.541E-01	-0.485
U-234	-1.805E-02		4.414E-02	7.185E-02	5.468E-03	-0.251
U-235	-2.476E-02		1.073E-01	1.571E-01	2.570E-02	-0.158
NP-236	-2.056E-02		3.494E-02	5.250E-02	2.925E-03	-0.392
NP-237	-1.089E-02		1.052E-01	1.716E-01	4.033E-02	-0.063
U-238	-6.252E-01		8.635E-01	1.289E+00	2.541E-01	-0.485
NP-239	1.031E-02		8.051E-02	1.323E-01	9.255E-03	0.078
AM-241	-2.035E-03		9.694E-02	1.614E-01	2.072E-02	-0.013
AM-243	1.305E-02		2.899E-02	4.605E-02	5.043E-03	0.283
CM-243	1.072E-02		3.943E-02	6.604E-02	5.533E-03	0.162
AM-246	1.019E-03		6.393E-02	1.033E-01	8.160E-03	0.010
CM-247	-1.612E-03		1.911E-02	3.091E-02	2.098E-03	-0.052
CF-249	-4.673E-03		1.674E-02	2.632E-02	1.788E-03	-0.178
CF-251	-5.046E-02		6.115E-02	8.935E-02	4.955E-03	-0.565

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	-4.509E-02		3.177E-02	5.471E-02	3.505E-03	-0.824

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                               DETECTOR DATA                               *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202038807          *
* Acquisition date  : 19-FEB-2010 17:35:09 Detector SN#     :               *
* Detector ID       : GAM10                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 02:00:00.36      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 12-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202038807          Analyst initials: MXR1           *
* Batch Number      : 951362               Sample Quantity : 1.3719E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 16-MAR-2009 13:18:08 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

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	7.654E-02	1.188E-01	1.104E-01	6.062E-02 NOT IDENT.
NA-22	1.817E-02	1.998E-02	1.992E-02	1.019E-02 NOT IDENT.
NA-24	5.448E+01	1.128E+02	0.000E+00	5.754E+01 SHORT HLIF
AL-26	-1.622E-02	2.260E-02	1.475E-02	1.153E-02 NOT IDENT.
K-40	6.348E-03	2.890E-01	2.540E-01	1.475E-01 NOT IDENT.
TI-44	-8.966E-03	1.417E-02	1.192E-02	7.231E-03 NOT IDENT.
SC-46	2.834E-03	1.654E-02	1.444E-02	8.438E-03 NOT IDENT.
V-48	-9.610E-03	2.841E-02	2.237E-02	1.450E-02 NOT IDENT.
CR-51	-1.994E-01	1.550E-01	1.165E-01	7.909E-02 NOT IDENT.
MN-52	-5.370E-03	4.833E-02	3.964E-02	2.466E-02 NOT IDENT.
MN-54	-1.470E-02	1.737E-02	1.253E-02	8.862E-03 NOT IDENT.
CO-56	-4.372E-03	1.985E-02	1.627E-02	1.013E-02 NOT IDENT.
CO-57	-8.376E-03	9.935E-03	7.873E-03	5.069E-03 NOT IDENT.
CO-58	2.636E-03	1.449E-02	1.280E-02	7.393E-03 NOT IDENT.
FE-59	1.938E-03	3.587E-02	3.005E-02	1.830E-02 NOT IDENT.
CO-60	-4.826E-03	1.947E-02	1.563E-02	9.932E-03 NOT IDENT.
ZN-65	-1.400E-02	3.540E-02	2.644E-02	1.806E-02 NOT IDENT.
GE-68	4.805E-01	5.815E-01	5.577E-01	2.967E-01 NOT IDENT.
AS-73	3.513E-02	5.784E-01	5.301E-01	2.951E-01 NOT IDENT.
AS-74	-1.790E-02	3.493E-02	2.866E-02	1.782E-02 NOT IDENT.
SE-75	1.521E-02	1.837E-02	1.752E-02	9.373E-03 NOT IDENT.
BR-77	2.329E-01	6.256E-01	5.509E-01	3.192E-01 NOT IDENT.
SR-82	-1.003E-01	1.508E-01	1.149E-01	7.696E-02 NOT IDENT.
RB-83	1.145E-02	3.345E-02	2.934E-02	1.706E-02 NOT IDENT.
RB-84	-1.345E-02	2.533E-02	1.893E-02	1.293E-02 NOT IDENT.
KR-85	-1.822E+01	6.040E+00	3.622E+00	3.082E+00 NOT IDENT.

SR-85	-8.645E-02	2.866E-02	1.718E-02	1.462E-02	NOT IDENT.
RB-86	2.635E-01	2.906E-01	2.814E-01	1.483E-01	NOT IDENT.
Y-88	-1.833E-03	2.457E-02	1.982E-02	1.254E-02	NOT IDENT.
ZR-88	-2.493E-03	1.280E-02	1.072E-02	6.531E-03	NOT IDENT.
Y-91	-2.357E+00	6.426E+00	5.068E+00	3.278E+00	NOT IDENT.
NB-94	3.865E-03	1.457E-02	1.309E-02	7.433E-03	NOT IDENT.
NB-95	-2.749E-02	2.092E-02	1.372E-02	1.067E-02	NOT IDENT.
NB-95M	-3.441E-02	4.774E-02	3.992E-02	2.436E-02	NOT IDENT.
ZR-95	-4.752E-03	2.899E-02	2.419E-02	1.479E-02	NOT IDENT.
NB-97	-1.088E+01	3.044E+01	0.000E+00	1.553E+01	SHORT HLIF
ZR-97	-1.915E+03	1.067E+03	0.000E+00	5.446E+02	SHORT HLIF
MO-99	2.062E-01	8.738E-01	7.775E-01	4.458E-01	NOT IDENT.
TC-99M	1.621E+07	2.454E+07	0.000E+00	1.252E+07	SHORT HLIF
RH-101	1.037E-02	1.565E-02	1.394E-02	7.983E-03	NOT IDENT.
RH-102	-6.416E-03	1.216E-02	9.379E-03	6.204E-03	NOT IDENT.
RU-103	-4.847E-04	1.728E-02	1.450E-02	8.818E-03	NOT IDENT.
RH-106	-1.622E-01	1.696E-01	1.198E-01	8.654E-02	NOT IDENT.
RU-106	-1.622E-01	1.688E-01	1.198E-01	8.614E-02	NOT IDENT.
AG-108M	1.020E-03	1.544E-02	1.327E-02	7.877E-03	NOT IDENT.
CD-109	-1.123E-01	3.302E-01	2.847E-01	1.685E-01	NOT IDENT.
AG-110M	-6.233E-03	1.523E-02	1.240E-02	7.768E-03	NOT IDENT.
IN-111	-8.315E-02	8.010E-02	6.458E-02	4.087E-02	NOT IDENT.
IN-113M	1.390E-02	1.749E-02	1.657E-02	8.923E-03	NOT IDENT.
SN-113	1.390E-02	1.749E-02	1.657E-02	8.923E-03	NOT IDENT.
IN-114M	-4.685E-02	6.978E-02	5.460E-02	3.560E-02	NOT IDENT.
CD-115	-1.073E-01	5.383E-01	4.376E-01	2.746E-01	NOT IDENT.
SN-117M	9.293E-03	1.572E-02	1.419E-02	8.020E-03	NOT IDENT.
SB-122	-5.412E-02	1.457E-01	1.140E-01	7.434E-02	NOT IDENT.
I-123	6.805E+01	2.130E+02	0.000E+00	1.087E+02	SHORT HLIF
TE-123M	3.725E-03	1.166E-02	1.027E-02	5.949E-03	NOT IDENT.
I-124	-5.272E-04	9.502E-02	8.314E-02	4.848E-02	NOT IDENT.
SB-124	4.445E-02	3.692E-02	4.102E-02	1.883E-02	NOT IDENT.
SB-125	-2.161E-02	4.470E-02	3.574E-02	2.281E-02	NOT IDENT.
TE-125M	-7.539E-01	3.464E+00	2.972E+00	1.768E+00	NOT IDENT.
I-126	-5.234E-02	6.239E-02	4.795E-02	3.183E-02	NOT IDENT.
SB-126	-2.343E-02	5.182E-02	4.198E-02	2.644E-02	NOT IDENT.
SN-126	-1.047E-05	3.326E-02	2.952E-02	1.697E-02	NOT IDENT.
SB-127	9.173E-02	1.608E-01	1.509E-01	8.204E-02	NOT IDENT.
XE-127	8.107E-03	1.726E-02	1.615E-02	8.804E-03	NOT IDENT.
I-131	-5.684E-03	2.869E-02	2.422E-02	1.464E-02	NOT IDENT.
TE-132	-5.072E-02	6.321E-02	5.230E-02	3.225E-02	NOT IDENT.
BA-133	-1.248E-02	2.119E-02	1.711E-02	1.081E-02	NOT IDENT.
I-133	1.086E+00	8.645E+00	0.000E+00	4.411E+00	SHORT HLIF
CS-134	-3.541E-03	2.048E-02	1.698E-02	1.045E-02	NOT IDENT.
CS-135	-6.848E-02	6.725E-02	5.315E-02	3.431E-02	NOT IDENT.
I-135	5.136E+06	2.024E+07	0.000E+00	1.032E+07	SHORT HLIF
CS-136	-1.918E-02	2.924E-02	2.005E-02	1.492E-02	NOT IDENT.
BA-137M	5.880E-03	1.655E-02	1.508E-02	8.446E-03	NOT IDENT.
CS-137	6.216E-03	1.750E-02	1.594E-02	8.928E-03	NOT IDENT.
CE-139	3.390E-03	1.283E-02	1.120E-02	6.546E-03	NOT IDENT.
BA-140	4.322E-02	9.516E-02	8.345E-02	4.855E-02	NOT IDENT.
LA-140	-5.823E-03	3.000E-02	2.366E-02	1.531E-02	NOT IDENT.
CE-141	-1.078E-02	2.428E-02	2.005E-02	1.239E-02	NOT IDENT.
CE-143	-2.812E-01	1.629E+00	1.353E+00	8.314E-01	NOT IDENT.
CE-144	1.322E-01	9.466E-02	8.949E-02	4.830E-02	NOT IDENT.
PM-144	4.108E-03	1.984E-02	1.636E-02	1.012E-02	NOT IDENT.
PR-144	2.773E-01	1.339E+00	1.104E+00	6.832E-01	NOT IDENT.
PM-146	7.111E-03	2.100E-02	1.860E-02	1.071E-02	NOT IDENT.
ND-147	9.788E-02	1.887E-01	1.683E-01	9.626E-02	NOT IDENT.
PM-149	1.440E+00	4.229E+00	3.841E+00	2.158E+00	NOT IDENT.
EU-152	4.376E-03	4.537E-02	3.981E-02	2.315E-02	NOT IDENT.
GD-153	6.298E-03	3.508E-02	3.001E-02	1.790E-02	NOT IDENT.
EU-154	4.560E-02	5.738E-02	5.602E-02	2.927E-02	NOT IDENT.
EU-155	-2.129E-02	4.369E-02	3.653E-02	2.229E-02	NOT IDENT.
TB-160	-2.202E-02	6.071E-02	4.777E-02	3.098E-02	NOT IDENT.
HO-166M	3.681E-02	3.410E-02	3.307E-02	1.740E-02	NOT IDENT.
TM-171	-7.443E-01	1.421E+01	1.275E+01	7.250E+00	NOT IDENT.
LU-176	1.269E-02	1.135E-02	1.102E-02	5.792E-03	NOT IDENT.
LU-177	-2.564E-01	2.339E-01	1.834E-01	1.193E-01	NOT IDENT.
LU-177M	2.287E-02	7.134E-02	6.369E-02	3.640E-02	NOT IDENT.
HF-181	-1.372E-02	1.792E-02	1.338E-02	9.144E-03	NOT IDENT.
W-181	1.585E-01	1.901E-01	1.817E-01	9.698E-02	NOT IDENT.
TA-182	8.395E-03	7.327E-02	6.426E-02	3.738E-02	NOT IDENT.
RE-183	8.890E-03	4.291E-02	3.735E-02	2.189E-02	NOT IDENT.
RE-184	2.652E-02	1.026E-01	9.329E-02	5.234E-02	NOT IDENT.
OS-185	-1.061E-02	1.727E-02	1.351E-02	8.810E-03	NOT IDENT.
RE-188	-2.189E-02	6.901E-02	5.730E-02	3.521E-02	NOT IDENT.
W-188	-1.072E+00	3.330E+00	2.843E+00	1.699E+00	NOT IDENT.

IR-192	9.135E-03	1.631E-02	1.500E-02	8.321E-03	NOT IDENT.
AU-195	-3.256E-03	9.921E-02	8.315E-02	5.062E-02	NOT IDENT.
TL-200	8.163E-01	2.141E+00	1.923E+00	1.092E+00	NOT IDENT.
TL-201	2.155E-01	5.905E-01	5.195E-01	3.013E-01	NOT IDENT.
TL-202	3.242E-03	2.401E-02	2.076E-02	1.225E-02	NOT IDENT.
HG-203	4.813E-03	1.589E-02	1.444E-02	8.109E-03	NOT IDENT.
BI-207	-1.783E-02	2.137E-02	1.374E-02	1.091E-02	NOT IDENT.
TL-207	9.872E-02	3.350E-01	3.001E-01	1.709E-01	NOT IDENT.
TL-208	1.632E-03	2.103E-02	1.761E-02	1.073E-02	NOT IDENT.
PO-209	6.001E-01	4.042E+00	3.494E+00	2.062E+00	NOT IDENT.
BI-210	5.573E+00	3.769E+00	3.824E+00	1.923E+00	NOT IDENT.
PB-210	5.573E+00	3.769E+00	3.824E+00	1.923E+00	NOT IDENT.
PO-210	5.573E+00	3.763E+00	3.824E+00	1.920E+00	NOT IDENT.
BI-211	-4.000E-02	1.189E-01	9.388E-02	6.067E-02	NOT IDENT.
PB-211	3.125E-01	4.988E-01	4.246E-01	2.545E-01	NOT IDENT.
BI-212	-9.453E-02	1.525E-01	1.047E-01	7.782E-02	NOT IDENT.
PB-212	-2.717E-02	3.046E-02	2.507E-02	1.554E-02	NOT IDENT.
PO-212	-2.717E-02	3.046E-02	2.507E-02	1.554E-02	NOT IDENT.
BI-214	-1.805E-02	4.326E-02	3.668E-02	2.207E-02	NOT IDENT.
PB-214	-1.995E-02	4.127E-02	3.202E-02	2.106E-02	NOT IDENT.
PO-214	-1.995E-02	4.127E-02	3.202E-02	2.106E-02	NOT IDENT.
PO-215	9.872E-02	3.350E-01	3.001E-01	1.709E-01	NOT IDENT.
PO-216	-2.717E-02	3.046E-02	2.507E-02	1.554E-02	NOT IDENT.
PO-218	-1.995E-02	4.127E-02	3.202E-02	2.106E-02	NOT IDENT.
RN-219	-1.580E-01	2.214E-01	1.739E-01	1.130E-01	NOT IDENT.
RN-220	8.381E+00	1.117E+01	1.045E+01	5.700E+00	NOT IDENT.
RA-223	9.872E-02	3.350E-01	3.001E-01	1.709E-01	NOT IDENT.
RA-224	-1.378E-01	3.365E-01	2.737E-01	1.717E-01	NOT IDENT.
RA-226	-1.805E-02	4.326E-02	3.668E-02	2.207E-02	NOT IDENT.
AC-227	-1.015E-01	1.755E-01	1.470E-01	8.955E-02	NOT IDENT.
TH-227	-1.015E-01	1.758E-01	1.470E-01	8.968E-02	NOT IDENT.
AC-228	-1.349E-01	8.723E-02	6.024E-02	4.451E-02	NOT IDENT.
RA-228	-1.349E-01	8.723E-02	6.024E-02	4.451E-02	NOT IDENT.
TH-228	-2.738E-02	3.070E-02	2.527E-02	1.566E-02	NOT IDENT.
TH-229	1.007E-01	2.190E-01	1.930E-01	1.117E-01	NOT IDENT.
TH-230	-1.805E-02	4.326E-02	3.668E-02	2.207E-02	NOT IDENT.
PA-231	-2.688E-02	6.975E-01	6.125E-01	3.559E-01	NOT IDENT.
TH-231	9.872E-02	3.350E-01	3.001E-01	1.709E-01	NOT IDENT.
U-231	-1.851E-01	1.422E-01	1.104E-01	7.257E-02	NOT IDENT.
TH-232	-1.349E-01	8.723E-02	6.024E-02	4.451E-02	NOT IDENT.
PA-233	-1.499E-03	3.269E-02	2.849E-02	1.668E-02	NOT IDENT.
PA-234	-1.361E-02	1.201E-01	9.826E-02	6.127E-02	NOT IDENT.
PA-234M	7.505E-01	2.821E+00	2.376E+00	1.439E+00	NOT IDENT.
TH-234	-6.252E-01	8.462E-01	6.864E-01	4.318E-01	NOT IDENT.
U-234	-1.805E-02	4.326E-02	3.668E-02	2.207E-02	NOT IDENT.
U-235	-2.476E-02	1.052E-01	8.243E-02	5.367E-02	NOT IDENT.
NP-236	-2.056E-02	3.424E-02	2.748E-02	1.747E-02	NOT IDENT.
NP-237	-1.089E-02	1.031E-01	9.084E-02	5.262E-02	NOT IDENT.
U-238	-6.252E-01	8.462E-01	6.864E-01	4.318E-01	NOT IDENT.
NP-239	1.031E-02	7.890E-02	6.966E-02	4.025E-02	NOT IDENT.
AM-241	-2.035E-03	9.500E-02	8.599E-02	4.847E-02	NOT IDENT.
AM-243	1.305E-02	2.841E-02	2.444E-02	1.449E-02	NOT IDENT.
CM-243	1.072E-02	3.865E-02	3.485E-02	1.972E-02	NOT IDENT.
AM-246	1.019E-03	6.265E-02	5.215E-02	3.197E-02	NOT IDENT.
CM-247	-1.612E-03	1.873E-02	1.590E-02	9.555E-03	NOT IDENT.
CF-249	-4.673E-03	1.641E-02	1.355E-02	8.372E-03	NOT IDENT.
CF-251	-5.046E-02	5.993E-02	4.669E-02	3.057E-02	NOT IDENT.
ANH-511	-4.509E-02	3.113E-02	2.802E-02	1.588E-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
46.50	44.7600
46.50	44.7600
46.50	44.7600
48.70	57.8939
49.72	67.2659
51.35	46.2695
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52.97	51.1085
53.15	53.9208
53.44	54.8907
54.07	59.6370
56.28	56.2161
56.28	56.2166
57.37	73.2754
57.53	73.3037
57.53	73.3040
57.60	67.6763
57.98	65.8566
57.98	65.8566
59.32	64.1794
59.32	64.1794
59.40	64.1915
59.54	64.2128
59.72	66.1295
60.01	72.7920
61.10	74.8730
61.14	74.8798
61.30	69.2183
63.00	71.3927
63.29	80.9650
63.29	80.9650
63.58	81.0182
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65.12	62.1697
65.20	62.1807
65.20	62.1807
66.05	65.1732
66.72	68.1486
66.83	76.8058
66.91	76.8193
67.20	74.9464
67.20	74.9464
67.75	73.1120
67.85	73.1279
68.90	68.4718
68.90	68.4718
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70.82	56.1636
70.83	56.1648
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72.87	76.8274
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74.81	57.6064
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77.11	86.3202

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77.11	86.3202
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83.78	72.5400
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86.54	80.9057
86.59	80.9131
86.72	80.9328
86.79	80.9427
86.94	80.9654
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88.36	80.1746
88.47	80.1904
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92.29	59.5480
92.38	59.5576
92.38	59.5576
93.35	59.6596
94.00	87.0607
94.67	117.5671
94.67	117.5682
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94.90	123.6990
94.90	123.6990
94.90	123.6990
95.87	88.3598
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96.73	70.1827
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98.44	42.8447
98.88	52.0646
99.55	64.3878
99.55	64.3878
99.86	70.5568
100.00	70.5737
100.10	70.5860
103.18	44.2136
103.76	51.4603
105.00	60.8461
105.31	61.9089
108.00	53.8871
109.28	60.2273

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111.00	67.6789
111.76	58.3775
112.95	43.8641
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116.30	73.4831
117.00	56.7471
117.00	56.7471
117.66	48.3883
121.11	48.6380
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122.06	61.4120
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122.32	62.4945
122.32	62.4945
122.32	62.4945
123.07	63.6240
127.23	62.9406
129.76	67.4496
131.20	77.2412
133.02	67.7572
133.54	57.0430
135.34	71.2106
136.00	78.8346
136.25	76.7007
136.48	75.6446
140.51	69.5371
140.51	0.0000
142.18	78.4036
142.65	82.8103
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144.24	74.2484
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144.24	74.2484
144.24	74.2484
145.22	73.2506
145.44	77.6461
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153.22	61.8550
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154.21	65.2491
155.03	67.5304
156.02	69.8304
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159.00	56.7374
160.31	66.8567
161.27	62.4725
162.32	55.8502
162.64	52.5193
163.35	61.5113
163.89	63.7893
165.85	61.6954
167.43	61.8112
171.28	64.3488
171.86	62.1329
172.10	56.5002
176.55	77.2339
176.60	78.3739
181.06	82.1946
184.41	66.4595
185.71	53.9321
186.00	67.7236
190.27	62.2733
192.34	63.5680
193.63	50.9247
197.04	63.8864
198.01	61.6258
198.60	61.6640
200.40	78.0992
201.83	77.0483
202.84	56.0938
205.31	65.0233

208.36	76.6839
208.81	69.6644
209.75	75.0267
209.75	75.0267
210.97	67.1651
215.65	73.6939
216.55	63.9844
218.09	56.9609
222.10	54.5036
223.80	50.1181
226.40	57.4209
227.00	65.5330
227.08	60.1514
227.20	59.2606
228.16	65.6054
228.18	65.6065
228.18	65.6065
231.56	54.9974
235.69	66.0705
236.00	66.0900
236.00	66.0900
238.63	66.2504
238.63	66.2504
238.63	66.2504
238.63	66.2504
239.00	66.2727
240.98	69.1214
241.98	58.2607
241.98	58.2607
241.98	58.2607
244.69	66.6174
245.39	68.4855
247.94	44.8463
248.90	56.7930
249.79	57.7551
252.40	40.4302
252.85	48.7195
252.85	48.7195
254.15	0.0000
256.20	58.0820
256.20	58.0820
260.50	58.2992
260.90	55.5423
262.80	54.7057
264.65	37.1478
268.24	55.8911
268.79	49.3939
269.46	41.0291
269.46	41.0291
269.46	41.0291
269.46	41.0291
271.23	36.4209
273.65	64.5675
276.40	40.3296
277.35	44.1156
277.60	50.6967
277.60	50.6967
278.00	44.1392
278.60	46.0407
279.20	42.3029
279.53	46.0758
280.46	53.6393
281.68	52.7504
283.67	46.2313
284.30	52.8632
285.00	47.2260
285.90	44.4247
286.10	38.7597
286.10	38.7597
287.40	55.8338
288.45	0.0000
290.67	56.9293
290.80	54.0881
291.72	52.2289
293.26	57.0465
293.70	56.1155
295.21	45.7075
295.21	45.7075

295.21	45.7075
295.96	49.5458
296.50	56.2389
297.23	52.4563
298.57	46.7831
299.80	46.8280
299.80	46.8280
300.09	47.7943
300.09	47.7943
300.09	47.7943
300.09	47.7943
300.12	47.7951
301.29	38.2709
302.84	54.6021
303.76	45.0543
303.91	45.0601
304.40	39.3221
304.40	39.3221
304.84	41.2547
306.84	31.7089
308.46	48.1033
311.98	51.1262
316.51	43.5574
318.01	44.5751
319.02	56.2459
319.41	57.2319
320.08	60.1722
323.87	47.6886
323.87	47.6886
323.87	47.6886
323.87	47.6886
325.23	42.8654
328.77	37.1163
333.44	40.1817
334.20	50.0101
334.20	50.0101
334.30	50.0132
338.28	42.2881
338.28	42.2881
338.28	42.2881
338.28	42.2881
338.32	42.2894
338.32	42.2894
338.32	42.2894
340.50	53.1900
340.57	53.1925
344.27	38.5174
345.85	44.4926
350.59	31.7441
351.07	41.6776
351.92	42.6956
351.92	42.6956
351.92	42.6956
355.39	0.0000
356.01	46.7985
364.48	37.0542
366.43	34.0949
367.43	32.1108
367.94	39.1482
369.80	45.2273
374.96	48.4080
383.85	32.4600
387.95	28.4781
388.63	28.4905
391.69	20.3903
391.69	20.3903
392.90	31.6291
398.62	31.7441
400.65	53.3163
401.10	53.3314
401.81	50.2770
402.60	40.0361
404.84	31.8680
410.95	26.8296
411.60	36.1311
413.65	23.7731
414.70	25.8572
415.30	30.0054

415.76	37.2585
417.63	0.0000
418.52	27.9908
423.70	37.4381
427.08	33.3457
427.89	36.4900
432.53	31.3637
433.93	29.2967
439.47	38.8400
439.56	35.6928
439.89	35.6996
443.98	35.7852
444.90	32.6447
445.03	32.6475
445.03	32.6475
445.03	32.6475
445.03	32.6475
453.90	27.5219
463.38	26.6060
468.07	24.5421
473.00	26.7494
475.06	24.6375
475.35	19.2846
476.78	10.7220
477.59	16.0902
477.96	20.3852
482.03	32.2591
484.57	22.6124
487.03	30.1905
490.36	32.4051
492.35	22.7079
497.08	27.1015
507.63	0.0000
510.53	0.0000
510.84	51.3227
511.00	51.3270
511.85	58.9970
511.85	58.9970
513.99	133.4384
513.99	133.4384
520.41	26.3379
520.65	26.3408
527.90	27.5406
528.96	0.0000
529.64	26.4624
529.87	0.0000
531.02	26.4807
537.32	27.6718
543.00	26.6404
546.56	0.0000
549.76	14.4788
552.65	24.5372
555.20	15.6342
563.23	23.5436
563.90	25.7943
568.70	19.1094
569.32	24.7372
569.50	24.7393
569.67	24.7413
573.80	23.4381
574.00	23.4400
574.64	27.0549
578.91	34.3392
579.30	32.5380
583.14	24.4477
585.48	31.7264
591.81	21.8197
592.07	21.8227
593.00	21.8320
595.88	32.7920
600.56	25.5596
602.52	0.0000
602.71	28.3261
602.71	28.3261
603.60	33.8230
604.41	43.8949
604.70	43.9008
609.31	34.8281

609.31	34.8281
609.31	34.8281
609.31	34.8281
610.33	31.1761
612.46	40.3842
614.37	30.3147
618.01	26.6841
621.84	29.4953
621.84	29.4953
631.29	24.0659
633.02	21.3053
633.10	21.3064
634.78	21.3222
635.90	21.3328
636.97	22.2709
645.85	21.4261
646.12	21.4283
656.30	23.3948
657.75	22.4730
657.90	0.0000
661.65	19.6967
661.65	19.6967
664.57	22.5387
666.33	32.8928
666.33	32.8928
675.00	26.4113
677.61	20.7743
685.20	15.1566
692.80	17.1048
695.00	17.1207
696.49	26.6479
696.49	26.6479
697.00	24.7501
697.49	29.5151
698.33	33.3354
698.50	31.4330
699.00	30.4867
702.63	17.1743
706.10	25.7977
706.58	0.0000
706.67	28.6707
709.31	25.8313
711.68	21.0676
713.82	31.6288
717.42	35.5140
720.50	30.7527
721.93	24.0393
722.20	24.0417
722.78	18.2759
722.78	18.2759
722.89	18.2768
722.95	18.2773
723.30	18.2801
724.18	24.0607
727.18	21.1986
733.00	21.2475
735.90	21.2722
739.58	18.3979
742.81	18.4211
744.21	18.4313
747.13	18.4522
751.79	12.6480
752.31	13.6237
753.82	18.5000
755.35	19.4849
756.15	17.5421
756.87	14.6224
763.93	15.6395
765.79	26.4100
766.42	27.3950
766.84	25.4420
776.49	23.5711
778.00	19.6538
778.57	15.7266
778.89	20.6432
783.80	26.5907
785.46	16.7526
792.07	15.8059

795.84	17.8066
796.30	21.7669
798.80	22.7776
801.93	12.8892
805.60	22.8344
810.29	8.9506
810.76	10.9415
815.85	17.9372
817.79	12.9638
818.51	10.9723
819.60	14.9681
826.30	16.0043
828.27	17.0166
831.60	11.0239
831.96	15.0344
834.83	23.0764
836.80	0.0000
846.75	22.1665
848.13	29.2336
856.28	0.0000
856.80	24.2666
860.37	21.2599
867.32	22.3260
867.82	27.4047
871.10	22.3550
873.19	15.2531
874.81	12.2092
875.33	0.0000
876.40	18.3239
879.36	16.3043
880.27	13.2514
880.51	13.2523
881.50	14.2765
883.24	11.2240
884.67	13.2710
889.25	12.2692
896.60	18.4496
898.02	17.4329
899.00	18.4645
903.28	22.6000
911.07	20.5986
911.07	20.5986
911.07	20.5986
919.63	13.4272
920.93	16.5328
925.00	11.3816
925.24	11.3824
926.50	12.4222
935.52	17.6500
937.48	13.5056
944.10	11.4525
946.00	10.4177
949.00	9.3850
962.29	9.4247
964.01	12.5733
966.15	15.7273
968.20	13.6392
969.11	20.9893
969.11	20.9893
969.11	20.9893
977.42	22.0967
980.50	14.7451
983.50	20.0302
989.30	11.6174
996.32	22.2269
1001.03	16.9594
1001.68	13.7820
1004.76	24.4066
1021.30	0.0000
1024.50	0.0000
1034.80	10.7085
1036.00	13.9261
1037.82	10.7183
1038.57	10.7207
1038.76	0.0000
1045.16	10.7417
1046.59	18.2692
1048.07	11.8261

1050.47	8.6070
1050.47	8.6070
1062.04	12.9545
1063.62	12.9604
1076.63	8.6730
1077.35	8.6750
1078.86	10.8486
1085.78	7.6091
1099.22	10.9121
1112.02	10.9517
1112.84	13.1449
1115.52	12.0586
1120.29	15.3679
1120.29	15.3679
1120.29	15.3679
1120.29	15.3679
1120.51	14.2714
1121.28	10.9805
1124.00	0.0000
1129.67	11.0061
1131.51	0.0000
1147.95	0.0000
1167.94	8.3419
1173.22	11.1387
1175.09	11.1440
1177.93	7.4352
1189.05	9.3217
1204.90	11.2334
1205.75	11.2358
1213.00	9.3811
1221.42	10.3420
1230.97	10.3676
1235.34	13.2104
1236.41	0.0000
1238.25	10.3872
1246.25	9.4625
1260.41	0.0000
1271.85	6.6670
1274.45	7.6247
1274.54	6.6716
1291.56	4.7860
1298.22	0.0000
1312.09	14.4312
1325.50	4.8263
1325.50	4.8263
1332.49	10.6357
1333.61	4.8358
1360.21	4.8669
1362.66	0.0000
1365.15	13.6434
1368.21	7.8021
1368.53	0.0000
1376.25	8.7938
1384.27	7.8317
1394.10	6.8687
1395.20	7.8519
1407.95	7.8753
1434.06	7.9229
1436.60	7.9274
1457.56	0.0000
1460.81	7.9714
1489.15	7.0191
1509.49	8.0579
1596.49	7.1837
1620.62	5.1571
1678.03	0.0000
1691.02	1.0463
1691.02	1.0463
1706.46	0.0000
1750.46	0.0000
1764.49	7.4301
1764.49	7.4301
1764.49	7.4301
1764.49	7.4301
1770.23	6.3757
1771.40	5.3143
1791.20	0.0000
1808.65	10.7043

1836.01	8.6074

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202038807

Total Uranium Activity	-1.8715E+00	ug/g
Total Uranium Counting Unc.	2.5180E+00	ug/g
Total Uranium Tpu	1.2847E-06	ug/g
Total Uranium Mda	2.0425E+00	ug/g

THERE ARE NO PEAKS !

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 22:33:08.73

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*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038808.CNF;1
Sample date       : 4-FEB-2010 12:00:00. Acquisition date : 19-FEB-2010 20:32:37
Sample ID         : G1202038808          Sample quantity  : 1.12990E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.14  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 951362                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	74.88*	194	357	1.41	148.69	144	14	2.70E-02	18.7	1.84E+00
2	3	77.27*	313	343	1.26	153.47	144	14	4.35E-02	12.2	
3	3	87.47*	96	385	1.22	173.87	168	24	1.34E-02	33.5	4.36E+00
4	3	90.29	82	291	1.00	179.49	168	24	1.13E-02	34.3	
5	3	92.96*	59	293	1.17	184.85	168	24	8.18E-03	58.4	
6	0	185.86*	57	362	1.35	370.63	367	12	7.91E-03	71.5	
7	0	209.39	96	166	1.29	417.69	414	8	1.33E-02	25.4	
8	3	238.77*	814	211	1.35	476.44	471	19	1.13E-01	4.8	3.87E-01
9	3	241.63*	207	222	2.04	482.17	471	19	2.88E-02	21.8	
10	0	270.54	68	107	1.67	539.99	537	7	9.39E-03	28.3	
11	0	295.46*	224	204	1.27	589.82	584	12	3.11E-02	14.7	
12	0	300.19	38	125	0.58	599.28	596	7	5.26E-03	51.5	
13	0	338.38*	172	168	1.03	675.67	670	11	2.39E-02	16.7	
14	0	351.97*	465	144	1.41	702.83	697	13	6.46E-02	7.3	
15	0	463.03	60	104	1.00	924.97	918	12	8.35E-03	36.4	
16	0	511.09*	78	137	2.17	1021.09	1013	18	1.09E-02	41.8	
17	0	583.24*	228	82	1.36	1165.39	1158	15	3.16E-02	11.3	
18	0	609.27*	283	106	1.54	1217.46	1211	14	3.94E-02	10.1	
19	0	728.15*	43	60	2.22	1455.23	1447	12	5.98E-03	41.1	
20	0	795.61*	42	53	1.59	1590.18	1583	15	5.81E-03	42.3	
21	0	911.08*	161	63	1.82	1821.15	1813	15	2.23E-02	13.7	
22	0	968.90*	90	84	1.24	1936.80	1931	13	1.26E-02	23.8	
23	0	1238.04	35	28	2.50	2475.20	2471	8	4.86E-03	31.7	
24	0	1377.52	17	22	1.35	2754.24	2749	10	2.32E-03	58.3	
25	0	1460.51*	1178	14	2.14	2920.28	2911	18	1.64E-01	3.0	
26	0	1764.31*	44	11	3.71	3528.11	3522	14	6.18E-03	23.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 19-FEB-2010 22:33:11

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038808.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-FEB-2010 12:00:00 Acquisition date : 19-FEB-2010 20:32:37
Sample ID : G1202038808 Sample quantity : 112.99 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.14 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	*	3.797E+01	4.378E+00	7.005E-01	6.883E-02	54.206
CD-109	+	88.03	*	1.976E+00	1.345E+00	1.726E+00	2.142E-01	1.145
SN-126		64.28		1.222E+00	9.367E-01	1.576E+00	2.669E-01	0.775
	+	86.94		8.071E-01	6.391E-01	7.180E-01	3.036E-01	1.124
	+	87.57	*	1.941E-01	1.322E-01	1.709E-01	2.114E-02	1.136
TL-208		277.35		4.192E-01	5.159E-01	8.890E-01	1.242E-01	0.472
	+	510.84		4.978E-01	4.207E-01	2.789E-01	3.348E-02	1.785
	+	583.14	*	4.104E-01	1.004E-01	7.316E-02	6.700E-03	5.610
		860.37		5.547E-01	4.100E-01	7.433E-01	7.269E-02	0.746
BI-211		72.87		5.648E+00	5.635E+00	8.490E+00	9.724E-01	0.665
	+	351.07	*	3.803E+00	6.691E-01	4.516E-01	4.497E-02	8.421
PB-212	+	74.81		1.865E+00	7.495E-01	8.315E-01	1.232E-01	2.243
	+	77.11		1.649E+00	4.462E-01	4.584E-01	5.314E-02	3.597
	+	87.30		8.979E-01	6.178E-01	7.938E-01	1.261E-01	1.131
	+	238.63	*	1.473E+00	2.257E-01	1.282E-01	1.527E-02	11.491
	+	300.09		1.051E+00	1.091E+00	1.675E+00	2.023E-01	0.628
PO-212	+	74.81		1.865E+00	7.495E-01	8.315E-01	1.232E-01	2.243
	+	77.11		1.649E+00	4.462E-01	4.584E-01	5.314E-02	3.597
	+	87.30		8.979E-01	6.178E-01	7.938E-01	1.261E-01	1.131
		115.19		2.357E+00	4.693E+00	7.796E+00	7.891E-01	0.302
	+	238.63	*	1.473E+00	2.257E-01	1.282E-01	1.527E-02	11.491
	+	300.09		1.051E+00	1.091E+00	1.675E+00	2.023E-01	0.628
BI-214	+	609.31	*	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585
		1120.29		1.040E+00	5.114E-01	9.340E-01	1.007E-01	1.113
	+	1764.49		1.094E+00	5.201E-01	3.231E-01	2.833E-02	3.385
PB-214	+	74.81		3.214E+00	1.278E+00	1.433E+00	1.960E-01	2.243
	+	77.11		2.827E+00	7.947E-01	7.859E-01	1.090E-01	3.597
	+	87.30		1.538E+00	1.054E+00	1.360E+00	1.979E-01	1.131
	+	241.98		2.254E+00	1.022E+00	7.717E-01	9.548E-02	2.921
	+	295.21		1.094E+00	3.492E-01	2.909E-01	3.586E-02	3.760
	+	351.92	*	1.323E+00	2.428E-01	1.507E-01	1.692E-02	8.776
PO-214	+	74.81		3.214E+00	1.278E+00	1.433E+00	1.960E-01	2.243
	+	77.11		2.827E+00	7.947E-01	7.859E-01	1.090E-01	3.597
	+	87.30		1.538E+00	1.054E+00	1.360E+00	1.979E-01	1.131

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		2.254E+00	1.022E+00	7.717E-01	9.548E-02	2.921
	+	295.21		1.094E+00	3.492E-01	2.909E-01	3.586E-02	3.760
	+	351.92	*	1.323E+00	2.428E-01	1.507E-01	1.692E-02	8.776
PO-216	+	74.81		1.865E+00	7.495E-01	8.315E-01	1.232E-01	2.243
	+	77.11		1.649E+00	4.462E-01	4.584E-01	5.314E-02	3.597
	+	87.30		8.979E-01	6.178E-01	7.938E-01	1.261E-01	1.131
	+	238.63	*	1.473E+00	2.257E-01	1.282E-01	1.527E-02	11.491
	+	300.09		1.051E+00	1.091E+00	1.675E+00	2.023E-01	0.628
PO-218	+	74.81		3.214E+00	1.278E+00	1.433E+00	1.960E-01	2.243
	+	77.11		2.827E+00	7.947E-01	7.859E-01	1.090E-01	3.597
	+	87.30		1.538E+00	1.054E+00	1.360E+00	1.979E-01	1.131
	+	241.98		2.254E+00	1.022E+00	7.717E-01	9.548E-02	2.921
	+	295.21		1.094E+00	3.492E-01	2.909E-01	3.586E-02	3.760
	+	351.92	*	1.323E+00	2.428E-01	1.507E-01	1.692E-02	8.776
RA-224	+	240.98	*	4.274E+00	1.924E+00	1.459E+00	1.609E-01	2.930
RA-226	+	609.31	*	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585
		1120.29		1.040E+00	5.114E-01	9.340E-01	1.007E-01	1.113
	+	1764.49		1.094E+00	5.201E-01	3.231E-01	2.833E-02	3.385
AC-228	+	338.32		1.557E+00	8.293E-01	5.281E-01	2.194E-01	2.948
	+	911.07	*	1.290E+00	3.844E-01	2.896E-01	3.411E-02	4.455
	+	969.11		1.283E+00	6.825E-01	6.233E-01	1.468E-01	2.059
RA-228	+	338.32		1.557E+00	8.293E-01	5.281E-01	2.194E-01	2.948
	+	911.07	*	1.290E+00	3.844E-01	2.896E-01	3.411E-02	4.455
	+	969.11		1.283E+00	6.825E-01	6.233E-01	1.468E-01	2.059
TH-228	+	74.81		1.894E+00	7.405E-01	8.443E-01	9.759E-02	2.243
	+	77.11		1.674E+00	4.531E-01	4.655E-01	5.396E-02	3.597
	+	87.30		9.118E-01	6.207E-01	8.060E-01	9.952E-02	1.131
	+	238.63	*	1.496E+00	2.292E-01	1.302E-01	1.550E-02	11.491
	+	300.09		1.068E+00	1.271E+00	1.700E+00	1.013E+00	0.628
TH-230	+	609.31	*	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585
		1120.29		1.040E+00	5.114E-01	9.339E-01	1.007E-01	1.113
	+	1764.49		1.094E+00	5.201E-01	3.231E-01	2.833E-02	3.385
TH-232	+	338.32		1.557E+00	5.413E-01	5.281E-01	5.207E-02	2.948
	+	911.07	*	1.290E+00	3.844E-01	2.896E-01	3.411E-02	4.455
	+	969.11		1.283E+00	6.825E-01	6.233E-01	1.468E-01	2.059
U-234	+	609.31	*	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585
		1120.29		1.040E+00	5.114E-01	9.339E-01	1.007E-01	1.113
	+	1764.49		1.094E+00	5.201E-01	3.231E-01	2.833E-02	3.385
NP-237	+	86.50	*	5.701E-01	4.055E-01	5.111E-01	1.227E-01	1.115
		95.87		-5.711E-01	1.574E+00	2.203E+00	5.652E-01	-0.259
AM-243	+	74.67	*	3.024E-01	1.182E-01	1.355E-01	1.558E-02	2.232
	+	86.72		2.138E+01	1.455E+01	1.909E+01	2.346E+00	1.120
		117.66		3.950E+00	5.049E+00	8.468E+00	8.542E-01	0.467
		142.18		6.447E+00	2.318E+01	3.793E+01	3.850E+00	0.170
ANH-511	+	511.00	*	1.075E-01	9.042E-02	6.026E-02	5.206E-03	1.784

---- 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	*	-3.108E-01	4.527E-01	7.003E-01	6.510E-02	-0.444

---- 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	*	-1.010E-02	6.148E-02	9.756E-02	8.862E-03	-0.104
NA-24		1368.53	*	5.208E-01	6.148E-02	Half-Life too short		
AL-26		1129.67		-7.484E-01	2.332E+00	3.675E+00	3.104E-01	-0.204
		1808.65	*	5.667E-03	4.139E-02	6.970E-02	5.963E-03	0.081
TI-44		67.85		-8.302E-02	8.072E-02	1.252E-01	1.429E-02	-0.663
	+	78.38	*	3.043E-01	8.234E-02	1.113E-01	1.297E-02	2.735
SC-46		889.25	*	8.408E-03	5.049E-02	8.470E-02	7.872E-03	0.099
		1120.51		1.986E-01	8.638E-02	1.611E-01	1.370E-02	1.233
V-48		944.10		-4.366E-01	1.200E+00	1.904E+00	1.760E-01	-0.229
		983.50	*	-7.727E-03	9.744E-02	1.588E-01	1.451E-02	-0.049
		1312.09		8.711E-02	1.119E-01	1.962E-01	1.849E-02	0.444
CR-51		320.08	*	1.875E-01	4.779E-01	8.111E-01	8.612E-02	0.231
MN-52		744.21		2.446E-02	3.051E-01	5.123E-01	4.434E-02	0.048
		848.13		-4.910E-01	9.088E+00	1.498E+01	1.367E+00	-0.033
		935.52		2.336E-01	3.471E-01	6.053E-01	5.608E-02	0.386
		1246.25		-3.763E+00	1.041E+01	1.622E+01	1.430E+00	-0.232
		1333.61		-3.713E+00	8.168E+00	1.246E+01	1.198E+00	-0.298
		1434.06	*	-2.337E-01	3.010E-01	4.406E-01	4.241E-02	-0.530
MN-54		834.83	*	5.943E-02	5.124E-02	9.205E-02	8.354E-03	0.646
CO-56		846.75	*	-9.321E-03	5.011E-02	8.154E-02	7.441E-03	-0.114
		977.42		-2.616E+00	4.325E+00	6.311E+00	5.781E-01	-0.415
		1037.82		1.204E-01	4.116E-01	6.933E-01	6.507E-02	0.174
		1175.09		3.044E+00	3.295E+00	5.769E+00	4.706E-01	0.528
	+	1238.25		1.781E-01	1.140E-01	2.220E-01	1.995E-02	0.802
		1360.21		-2.034E-01	1.177E+00	1.922E+00	1.851E-01	-0.106
		1771.40		-7.065E-02	3.211E-01	4.180E-01	3.651E-02	-0.169
CO-57		122.06	*	-2.390E-02	3.384E-02	5.310E-02	5.349E-03	-0.450
		136.48		-1.551E-01	2.822E-01	4.449E-01	4.731E-02	-0.348
CO-58		810.76	*	-1.789E-02	4.713E-02	7.531E-02	6.771E-03	-0.237
FE-59		142.65		-3.237E-01	3.753E+00	5.939E+00	6.032E-01	-0.055
		192.34		6.561E-01	1.554E+00	2.222E+00	3.327E-01	0.295
		1099.22	*	-4.830E-02	1.310E-01	2.060E-01	1.922E-02	-0.235
		1291.56		7.772E-03	1.747E-01	2.835E-01	2.928E-02	0.027
CO-60		1173.22		3.287E-02	6.541E-02	1.109E-01	9.030E-03	0.296
		1332.49	*	-3.460E-02	6.177E-02	9.291E-02	8.932E-03	-0.372
ZN-65		1115.52	*	-3.371E-01	1.524E-01	1.973E-01	1.686E-02	-1.709
GE-68		1077.35	*	-3.138E-01	1.699E+00	2.722E+00	2.383E-01	-0.115
AS-73		53.44	*	1.240E+00	2.184E+00	3.704E+00	4.808E-01	0.335
AS-74		595.88	*	-4.755E-03	1.206E-01	1.938E-01	1.647E-02	-0.025
		634.78		7.503E-02	4.709E-01	7.673E-01	6.407E-02	0.098
SE-75		66.05		-4.363E+00	8.661E+00	1.380E+01	1.772E+00	-0.316
		96.73		-4.683E-01	1.259E+00	1.765E+00	2.704E-01	-0.265
		121.11		-3.988E-02	1.809E-01	2.910E-01	3.599E-02	-0.137
		136.00		-3.494E-02	5.332E-02	8.365E-02	8.468E-03	-0.418
		198.60		6.667E-03	2.543E+00	4.065E+00	4.745E-01	0.002
		264.65	*	-5.909E-02	6.128E-02	9.044E-02	9.917E-03	-0.653
		279.53		9.480E-02	1.473E-01	2.530E-01	2.800E-02	0.375
		303.91		7.442E-01	3.357E+00	4.929E+00	6.383E-01	0.151
		400.65		-2.261E-01	3.486E-01	5.473E-01	6.012E-02	-0.413

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		4.576E+02	3.115E+02	4.896E+02	6.074E+01	0.935
		200.40		1.562E+02	2.490E+02	4.086E+02	4.464E+01	0.382
	+	239.00		2.537E+02	3.716E+01	4.976E+01	5.490E+00	5.098
		249.79		3.600E+00	9.881E+01	1.617E+02	1.780E+01	0.022
		281.68		-3.657E+01	1.328E+02	2.184E+02	2.355E+01	-0.167
		297.23		4.241E+02	1.418E+02	1.797E+02	1.904E+01	2.360
		303.76		5.923E+01	3.058E+02	4.482E+02	4.707E+01	0.132
		439.47		-7.128E+01	2.082E+02	3.325E+02	2.849E+01	-0.214
		484.57		3.318E+02	3.374E+02	5.857E+02	5.058E+01	0.567
		520.65	*	-1.985E+00	1.503E+01	2.346E+01	2.026E+00	-0.085
		574.64		-1.199E+02	3.099E+02	4.527E+02	3.873E+01	-0.265
		578.91		-4.557E+01	1.362E+02	1.818E+02	1.553E+01	-0.251
		585.48		1.509E+03	3.688E+02	6.420E+02	5.474E+01	2.351
		755.35		2.492E+01	2.247E+02	3.779E+02	3.292E+01	0.066
		817.79		3.352E+01	1.776E+02	2.999E+02	2.700E+01	0.112
SR-82		698.33		-2.015E+01	4.316E+01	6.952E+01	5.854E+00	-0.290
		776.49	*	1.462E-02	5.167E-01	8.518E-01	7.506E-02	0.017
		1395.20		-7.168E+00	1.291E+01	1.971E+01	1.899E+00	-0.364
RB-83		520.41	*	-2.773E-02	9.581E-02	1.424E-01	1.230E-02	-0.195
		529.64		8.665E-02	1.385E-01	2.354E-01	2.031E-02	0.368
		552.65		-1.486E-01	2.783E-01	4.311E-01	3.707E-02	-0.345
RB-84		881.50	*	3.609E-02	8.785E-02	1.508E-01	1.397E-02	0.239
KR-85		513.99	*	2.391E+01	1.116E+01	1.847E+01	1.596E+00	1.294
SR-85		513.99	*	1.229E-01	5.734E-02	9.496E-02	8.204E-03	1.294
RB-86		1076.63	*	1.240E-01	1.053E+00	1.741E+00	1.524E-01	0.071
Y-88		898.02		-1.627E-02	5.984E-02	9.520E-02	8.915E-03	-0.171
		1836.01	*	-4.453E-02	3.974E-02	4.567E-02	3.846E-03	-0.975
ZR-88		392.90	*	-2.252E-03	4.189E-02	6.869E-02	5.782E-03	-0.033
Y-91		1204.90	*	1.839E+01	2.704E+01	4.641E+01	3.913E+00	0.396
NB-94		702.63	*	7.138E-03	4.046E-02	6.865E-02	5.795E-03	0.104
		871.10		-5.102E-03	4.581E-02	7.498E-02	6.915E-03	-0.068
NB-95		765.79	*	3.423E-02	6.033E-02	1.043E-01	9.138E-03	0.328
NB-95M		235.69	*	4.630E-01	2.067E-01	3.282E-01	3.949E-02	1.411
ZR-95		724.18		-5.980E-02	1.513E-01	2.086E-01	1.941E-02	-0.287
		756.15	*	-1.025E-02	9.016E-02	1.488E-01	1.425E-02	-0.069
NB-97		657.90	*	6.634E-02	9.016E-02	Half-Life too short		
		1024.50		-5.924E+00	9.016E-02	Half-Life too short		
ZR-97		254.15		-9.647E-01	9.016E-02	Half-Life too short		
		355.39		9.686E+00	9.016E-02	Half-Life too short		
		507.63	*	4.326E+00	9.016E-02	Half-Life too short		
		602.52		1.192E+01	9.016E-02	Half-Life too short		
		1021.30		1.018E+01	9.016E-02	Half-Life too short		
		1147.95		8.723E+00	9.016E-02	Half-Life too short		
		1362.66		5.539E-01	9.016E-02	Half-Life too short		
		1750.46		-4.255E+00	9.016E-02	Half-Life too short		
MO-99		140.51		8.852E+00	3.732E+01	6.087E+01	1.716E+01	0.145
		181.06		-2.732E+00	2.744E+01	3.812E+01	7.397E+00	-0.072
		366.43		-2.864E+01	1.143E+02	1.855E+02	1.699E+01	-0.154
		739.58	*	-8.183E+00	1.530E+01	2.425E+01	3.683E+00	-0.337

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		778.00		2.004E+01	4.385E+01	7.585E+01	6.690E+00	0.264
TC-99M		140.51	*	2.345E+10	4.385E+01	Half-Life too short		
RH-101		127.23		-3.756E-03	4.309E-02	6.967E-02	6.990E-03	-0.054
		198.01	*	-2.193E-02	4.949E-02	7.435E-02	8.111E-03	-0.295
		325.23		-6.945E-02	2.933E-01	4.798E-01	4.861E-02	-0.145
RH-102		418.52		3.955E-01	3.790E-01	6.623E-01	5.639E-02	0.597
		475.06	*	1.974E-02	3.973E-02	6.702E-02	5.783E-03	0.295
		631.29		1.143E-02	7.192E-02	1.172E-01	9.804E-03	0.098
		697.49		-3.671E-02	9.453E-02	1.532E-01	1.289E-02	-0.240
		766.84		1.505E-01	1.521E-01	2.696E-01	2.363E-02	0.558
		1046.59		1.331E-02	1.543E-01	2.546E-01	2.267E-02	0.052
		1112.84		-1.775E-01	3.277E-01	5.066E-01	4.332E-02	-0.350
RU-103		497.08	*	3.987E-02	5.378E-02	9.191E-02	1.303E-02	0.434
	+	610.33		1.042E+01	2.717E+00	3.384E+00	5.617E-01	3.078
RH-106	+	511.85		5.373E-01	4.519E-01	5.639E-01	4.872E-02	0.953
		621.84	*	-2.800E-01	4.264E-01	6.434E-01	8.506E-02	-0.435
		1050.47		1.933E-01	3.216E+00	5.291E+00	4.701E-01	0.037
RU-106	+	511.85		5.373E-01	4.519E-01	5.639E-01	4.872E-02	0.953
		621.84	*	-2.800E-01	4.254E-01	6.434E-01	5.408E-02	-0.435
		1050.47		1.933E-01	3.216E+00	5.291E+00	4.701E-01	0.037
AG-108M		433.93	*	-1.488E-02	4.400E-02	7.033E-02	6.261E-03	-0.212
		614.37		-8.171E-03	5.971E-02	8.147E-02	7.152E-03	-0.100
		722.95		-6.107E-02	6.476E-02	8.275E-02	7.355E-03	-0.738
AG-110M		657.75	*	1.771E-02	4.228E-02	7.326E-02	6.234E-03	0.242
		677.61		8.268E-02	4.199E-01	7.138E-01	6.110E-02	0.116
		706.67		-1.250E-01	2.557E-01	4.100E-01	3.569E-02	-0.305
		763.93		-4.287E-02	2.319E-01	3.809E-01	3.425E-02	-0.113
		884.67		3.307E-02	6.344E-02	1.098E-01	1.047E-02	0.301
		937.48		-3.315E-02	1.437E-01	2.312E-01	2.208E-02	-0.143
		1384.27		-3.520E-02	2.414E-01	3.489E-01	3.438E-02	-0.101
IN-111		171.28		-4.399E-01	1.460E+00	2.311E+00	2.475E-01	-0.190
		245.39	*	-2.756E-02	1.690E+00	2.465E+00	2.717E-01	-0.011
IN-113M		391.69	*	-1.635E-02	5.941E-02	9.600E-02	8.337E-03	-0.170
SN-113		391.69	*	-1.635E-02	5.941E-02	9.600E-02	8.337E-03	-0.170
IN-114M		190.27	*	-2.076E-01	3.091E-01	4.092E-01	4.442E-02	-0.507
CD-115		260.90		9.044E+00	1.806E+02	3.030E+02	3.320E+01	0.030
		492.35		7.401E+00	4.993E+01	8.222E+01	7.104E+00	0.090
		527.90	*	-1.163E+01	1.671E+01	2.564E+01	2.213E+00	-0.453
SN-117M		156.02		-2.858E+00	3.211E+00	4.950E+00	5.159E-01	-0.577
		158.56	*	1.550E-02	7.675E-02	1.248E-01	1.308E-02	0.124
SB-122		563.90	*	8.313E-02	2.794E+00	4.529E+00	3.885E-01	0.018
		692.80		-4.245E+01	5.964E+01	9.408E+01	7.894E+00	-0.451
I-123		159.00	*	5.307E+00	5.964E+01	Half-Life too short		
		528.96		4.951E+02	5.964E+01	Half-Life too short		
TE-123M		159.00	*	1.939E-02	3.930E-02	6.462E-02	6.810E-03	0.300
I-124		602.71	*	9.363E-01	1.031E+00	1.574E+00	1.334E-01	0.595
		722.78		-6.231E+00	7.061E+00	9.109E+00	7.786E-01	-0.684
		1325.50		3.949E+01	5.392E+01	9.384E+01	8.960E+00	0.421
	+	1376.25		4.347E+01	5.089E+01	7.935E+01	7.645E+00	0.548

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1509.49		1.872E-01	1.813E+01	3.018E+01	2.882E+00	0.006
		1691.02		-2.371E+00	4.182E+00	5.927E+00	5.378E-01	-0.400
SB-124		602.71		5.245E-02	5.773E-02	8.816E-02	7.472E-03	0.595
		645.85		1.373E-01	6.368E-01	1.042E+00	9.210E-02	0.132
		709.31		-2.253E-01	3.361E+00	5.589E+00	4.738E-01	-0.040
		713.82		-7.385E-02	2.135E+00	3.560E+00	4.255E-01	-0.021
		722.78		-5.060E-01	5.735E-01	7.397E-01	6.461E-02	-0.684
	+	968.20		1.325E+01	6.433E+00	9.103E+00	8.362E-01	1.455
		1045.16		-2.208E-01	3.377E+00	5.490E+00	4.891E-01	-0.040
		1325.50		3.425E+00	4.676E+00	8.138E+00	7.771E-01	0.421
		1368.21		5.749E-01	2.151E+00	3.662E+00	5.180E-01	0.157
		1436.60		-3.468E-01	4.961E+00	8.189E+00	7.882E-01	-0.042
		1691.02	*	-4.540E-02	8.011E-02	1.135E-01	1.067E-02	-0.400
SB-125		427.89	*	-7.965E-02	1.185E-01	1.843E-01	1.605E-02	-0.432
	+	463.38		7.508E-01	5.514E-01	6.762E-01	6.282E-02	1.110
		600.56		2.407E-02	2.353E-01	3.822E-01	3.488E-02	0.063
		635.90		-2.570E-01	3.659E-01	5.497E-01	4.982E-02	-0.468
TE-125M		109.28	*	9.998E+00	1.272E+01	2.132E+01	2.503E+00	0.469
I-126		388.63		8.419E-02	2.729E-01	4.579E-01	3.897E-02	0.184
		666.33	*	8.543E-02	2.208E-01	3.814E-01	3.145E-02	0.224
		753.82		6.047E-01	1.874E+00	3.207E+00	2.791E-01	0.189
SB-126		223.80		-4.512E+00	5.517E+00	8.911E+00	9.823E-01	-0.506
		278.60		1.701E+00	3.461E+00	5.905E+00	6.388E-01	0.288
	+	296.50		1.103E+01	3.455E+00	4.605E+00	4.885E-01	2.396
		414.70		-7.948E-02	1.055E-01	1.642E-01	1.396E-02	-0.484
		415.30		-4.872E+00	8.900E+00	1.407E+01	1.197E+00	-0.346
		555.20		-1.615E+00	5.503E+00	8.693E+00	7.471E-01	-0.186
		573.80		4.055E-02	1.330E+00	2.155E+00	1.844E-01	0.019
		593.00		-7.510E-01	1.316E+00	2.021E+00	1.719E-01	-0.372
		656.30		1.727E+00	4.202E+00	7.275E+00	6.002E-01	0.237
		666.33		3.572E-02	9.230E-02	1.595E-01	1.315E-02	0.224
		675.00		1.784E+00	2.700E+00	4.737E+00	3.929E-01	0.377
		695.00		4.140E-02	9.909E-02	1.711E-01	1.437E-02	0.242
		697.00		-4.149E-02	3.320E-01	5.501E-01	4.628E-02	-0.075
		720.50	*	1.941E-01	2.050E-01	3.273E-01	2.794E-02	0.593
		856.80		-6.830E-01	6.728E-01	1.012E+00	9.274E-02	-0.675
		989.30		-1.933E-02	1.678E+00	2.751E+00	2.510E-01	-0.007
		1034.80		-1.840E+00	1.159E+01	1.866E+01	1.671E+00	-0.099
		1213.00		-6.255E-01	7.081E+00	1.139E+01	9.689E-01	-0.055
SB-127		61.10		-8.303E+01	1.156E+02	1.848E+02	2.485E+01	-0.449
		252.40		-4.224E+00	6.377E+00	9.903E+00	4.219E+00	-0.427
		290.80		-3.167E+00	3.382E+01	4.863E+01	6.264E+00	-0.065
		411.60		7.012E+00	1.693E+01	2.849E+01	4.474E+00	0.246
		444.90		7.773E+00	1.326E+01	2.254E+01	2.833E+00	0.345
		473.00		1.006E+00	2.346E+00	3.939E+00	5.094E-01	0.255
		543.00		-1.692E+01	2.328E+01	3.526E+01	5.094E+00	-0.480
		603.60		1.923E+01	1.735E+01	2.695E+01	3.360E+00	0.714
		685.20	*	1.902E-01	1.920E+00	3.239E+00	3.644E-01	0.059
		698.50		-5.357E+00	1.990E+01	3.256E+01	5.132E+00	-0.165

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		722.20		-2.369E+01	4.804E+01	6.521E+01	7.286E+00	-0.363
		783.80		3.310E+00	4.530E+00	7.978E+00	1.008E+00	0.415
XE-127		57.60		-5.513E+00	1.299E+01	2.109E+01	2.479E+00	-0.261
		145.22		-6.222E-01	9.532E-01	1.464E+00	1.494E-01	-0.425
		172.10		-7.361E-02	1.662E-01	2.611E-01	2.799E-02	-0.282
		202.84	*	6.639E-03	6.676E-02	1.071E-01	1.172E-02	0.062
		374.96		-1.384E-01	2.625E-01	4.175E-01	3.725E-02	-0.332
I-131		80.18		-2.956E+00	7.732E+00	1.092E+01	1.288E+00	-0.271
		284.30		-1.121E+00	2.065E+00	3.339E+00	3.714E-01	-0.336
		364.48	*	2.093E-02	1.462E-01	2.436E-01	2.353E-02	0.086
		636.97		-1.683E+00	2.134E+00	3.177E+00	2.808E-01	-0.530
		722.89		-1.027E+01	1.115E+01	1.429E+01	1.230E+00	-0.719
TE-132		49.72		-6.380E+00	6.572E+01	1.088E+02	1.649E+01	-0.059
		111.76		-9.822E+00	4.266E+01	6.881E+01	8.396E+00	-0.143
		116.30		3.506E+00	3.841E+01	6.276E+01	7.610E+00	0.056
		228.16	*	9.865E-01	1.002E+00	1.732E+00	2.978E-01	0.570
BA-133		53.15		6.800E+00	9.482E+00	1.616E+01	2.112E+00	0.421
		79.62		2.546E+00	2.209E+00	3.307E+00	5.679E-01	0.770
		81.00		-2.537E-01	2.047E-01	2.200E-01	3.918E-02	-1.153
		276.40		1.731E-01	5.343E-01	8.571E-01	1.360E-01	0.202
		302.84		1.452E-01	2.340E-01	3.519E-01	5.134E-02	0.413
		356.01	*	5.755E-02	6.076E-02	9.396E-02	1.292E-02	0.612
		383.85		9.619E-02	4.132E-01	6.901E-01	8.716E-02	0.139
I-133	+	510.53		1.324E+00	4.132E-01	Half-Life too short		
		529.87	*	6.657E-03	4.132E-01	Half-Life too short		
		706.58		-1.220E-01	4.132E-01	Half-Life too short		
		856.28		-1.362E+00	4.132E-01	Half-Life too short		
		875.33		3.677E-02	4.132E-01	Half-Life too short		
		1236.41		8.844E-01	4.132E-01	Half-Life too short		
		1298.22		6.331E-02	4.132E-01	Half-Life too short		
CS-134		475.35		5.528E-01	2.623E+00	4.342E+00	3.746E-01	0.127
		563.23		2.025E-01	4.545E-01	7.614E-01	6.595E-02	0.266
		569.32		1.863E-01	2.435E-01	4.178E-01	3.628E-02	0.446
		604.70		2.470E-02	5.163E-02	7.540E-02	6.401E-03	0.328
	+	795.84	*	1.083E-01	9.207E-02	1.116E-01	1.001E-02	0.970
		801.93		7.475E-02	5.481E-01	7.982E-01	7.166E-02	0.094
		1038.57		2.507E+00	5.119E+00	8.778E+00	7.846E-01	0.286
		1167.94		-1.284E+00	3.671E+00	5.770E+00	4.719E-01	-0.223
		1365.15		-9.684E-01	1.462E+00	2.203E+00	2.199E-01	-0.440
CS-135		268.24	*	2.607E-01	2.353E-01	3.658E-01	4.389E-02	0.713
I-135		288.45		2.236E+10	2.353E-01	Half-Life too short		
		417.63		8.172E+10	2.353E-01	Half-Life too short		
		546.56		-9.191E+09	2.353E-01	Half-Life too short		
		836.80		3.012E+09	2.353E-01	Half-Life too short		
		1038.76		1.298E+10	2.353E-01	Half-Life too short		
		1124.00		-1.519E+11	2.353E-01	Half-Life too short		
		1131.51		-5.131E+09	2.353E-01	Half-Life too short		
		1260.41	*	-6.503E+08	2.353E-01	Half-Life too short		
		1457.56		2.049E+12	2.353E-01	Half-Life too short		

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		1678.03		2.608E+09	2.353E-01	Half-Life too short		
		1706.46		-4.799E+10	2.353E-01	Half-Life too short		
		1791.20		2.956E+10	2.353E-01	Half-Life too short		
CS-136		66.91		-1.929E+00	1.444E+00	2.167E+00	3.717E-01	-0.890
	+	86.29		2.566E+00	1.764E+00	2.774E+00	4.305E-01	0.925
		153.22		5.854E-01	9.215E-01	1.523E+00	1.709E-01	0.384
		163.89		-4.484E-01	1.505E+00	2.335E+00	2.680E-01	-0.192
		176.55		1.590E-01	5.038E-01	8.204E-01	9.152E-02	0.194
		273.65		-6.615E-01	7.227E-01	9.760E-01	1.105E-01	-0.678
		340.57		6.655E-01	2.246E-01	3.709E-01	3.720E-02	1.794
		818.51		4.658E-03	9.400E-02	1.567E-01	1.412E-02	0.030
		1048.07	*	-3.282E-04	1.501E-01	2.455E-01	2.271E-02	-0.001
		1235.34		8.982E-01	1.016E+00	1.543E+00	1.839E-01	0.582
BA-137M		661.65	*	-4.416E-03	4.195E-02	6.978E-02	5.737E-03	-0.063
CS-137		661.65	*	-4.668E-03	4.434E-02	7.377E-02	6.078E-03	-0.063
CE-139		165.85	*	-2.947E-02	4.072E-02	6.308E-02	6.734E-03	-0.467
BA-140		162.64		-1.587E-01	1.071E+00	1.677E+00	1.845E-01	-0.095
		304.84		1.706E-01	2.057E+00	2.990E+00	8.566E-01	0.057
		423.70		-2.659E-01	2.535E+00	4.125E+00	1.336E+00	-0.064
		537.32	*	2.327E-01	3.798E-01	6.304E-01	2.089E-01	0.369
LA-140		328.77		5.531E-01	4.088E-01	7.190E-01	7.534E-02	0.769
		432.53		-8.790E-01	2.685E+00	4.292E+00	3.852E-01	-0.205
		487.03		2.116E-02	1.868E-01	3.068E-01	2.813E-02	0.069
		751.79		-1.312E+00	2.201E+00	3.475E+00	3.338E-01	-0.378
		815.85		2.547E-02	4.037E-01	6.740E-01	6.705E-02	0.038
		867.82		5.225E-01	1.888E+00	3.199E+00	3.083E-01	0.163
		919.63		9.967E-01	3.754E+00	6.075E+00	6.804E-01	0.164
		925.24		-2.887E-02	1.481E+00	2.436E+00	2.385E-01	-0.012
		1596.49	*	1.011E-01	1.153E-01	2.138E-01	2.004E-02	0.473
CE-141		145.44	*	-4.057E-02	8.587E-02	1.331E-01	1.376E-02	-0.305
CE-143		57.37		-1.366E-03	8.587E-02	Half-Life too short		
		231.56		-3.099E-03	8.587E-02	Half-Life too short		
		293.26	*	7.725E-04	8.587E-02	Half-Life too short		
	+	350.59		3.401E-02	8.587E-02	Half-Life too short		
		490.36		-4.097E-03	8.587E-02	Half-Life too short		
		664.57		-7.153E-04	8.587E-02	Half-Life too short		
		721.93		-3.273E-04	8.587E-02	Half-Life too short		
CE-144		80.11		-9.548E-01	3.502E+00	4.976E+00	5.849E-01	-0.192
		133.54	*	6.882E-02	2.799E-01	4.580E-01	7.513E-02	0.150
PM-144		476.78		-6.771E-03	9.098E-02	1.475E-01	1.392E-02	-0.046
		618.01		-6.354E-03	4.664E-02	7.153E-02	6.197E-03	-0.089
		696.49	*	1.932E-03	4.217E-02	7.084E-02	5.960E-03	0.027
		778.57		-3.528E-01	2.856E+00	4.700E+00	4.148E-01	-0.075
PR-144		696.49	*	1.310E-01	2.858E+00	4.801E+00	4.038E-01	0.027
		1489.15		-1.730E+01	1.533E+01	2.054E+01	1.967E+00	-0.842
PM-146		453.90	*	1.361E-02	5.594E-02	9.304E-02	9.963E-03	0.146
		633.02		1.732E+00	1.892E+00	3.100E+00	1.157E+00	0.559
		735.90		-6.369E-02	1.873E-01	3.021E-01	8.639E-02	-0.211
		747.13		-3.210E-02	1.136E-01	1.846E-01	2.597E-02	-0.174

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ND-147	+	91.11		5.490E-01	3.827E-01	7.201E-01	8.915E-02	0.762
		319.41		2.106E+00	4.346E+00	7.410E+00	7.590E-01	0.284
		439.89		-9.402E-01	7.919E+00	1.285E+01	1.102E+00	-0.073
		531.02	*	-3.896E-01	8.017E-01	1.248E+00	1.867E-01	-0.312
PM-149		285.90	*	-5.338E+01	1.331E+02	2.167E+02	3.644E+01	-0.246
EU-152		121.78		-3.206E-02	9.576E-02	1.531E-01	1.716E-02	-0.209
		244.69		1.360E-01	5.061E-01	7.520E-01	8.289E-02	0.181
		344.27	*	-8.366E-02	1.562E-01	2.138E-01	2.176E-02	-0.391
		443.98		2.673E-01	1.239E+00	2.058E+00	1.766E-01	0.130
		778.89		-8.392E-02	3.334E-01	5.423E-01	4.785E-02	-0.155
		867.32		9.285E-02	1.136E+00	1.892E+00	1.743E-01	0.049
		964.01		6.241E-01	4.334E-01	7.118E-01	6.546E-02	0.877
		1085.78		3.997E-01	5.514E-01	9.604E-01	8.363E-02	0.416
		1112.02		-1.013E-02	4.431E-01	7.207E-01	6.167E-02	-0.014
		1407.95		1.486E-01	2.101E-01	3.841E-01	3.700E-02	0.387
GD-153		69.67		7.631E-01	3.056E+00	4.483E+00	5.117E-01	0.170
		83.37		6.301E+00	2.398E+01	3.498E+01	4.194E+00	0.180
		97.43	*	2.209E-02	1.262E-01	1.825E-01	2.015E-02	0.121
		103.18		-1.474E-01	1.453E-01	2.256E-01	2.385E-02	-0.653
EU-154		123.07		1.934E-03	6.826E-02	1.110E-01	1.387E-02	0.017
		247.94		5.959E-01	5.560E-01	8.622E-01	1.153E-01	0.691
		591.81		6.799E-01	8.632E-01	1.440E+00	1.668E-01	0.472
		723.30		-2.891E-01	2.793E-01	3.532E-01	3.343E-02	-0.818
		756.87		-3.953E-02	9.922E-01	1.648E+00	1.985E-01	-0.024
		873.19		-9.828E-03	3.869E-01	6.382E-01	8.094E-02	-0.015
		996.32		-4.579E-01	4.833E-01	7.024E-01	1.264E-01	-0.652
		1004.76		-4.131E-02	2.541E-01	4.092E-01	4.902E-02	-0.101
		1274.45	*	-3.229E-02	1.713E-01	2.711E-01	3.161E-02	-0.119
EU-155		48.70		-3.103E+00	8.498E+00	1.389E+01	1.864E+00	-0.223
		60.01		-8.939E+00	9.821E+00	1.554E+01	1.755E+00	-0.575
	+	86.54		2.339E-01	1.592E-01	2.511E-01	3.097E-02	0.931
		105.31	*	-6.447E-03	1.434E-01	2.335E-01	2.460E-02	-0.028
TB-160	+	86.79		6.260E-01	4.261E-01	6.677E-01	8.210E-02	0.938
		197.04		-4.491E-01	8.398E-01	1.254E+00	1.368E-01	-0.358
		215.65		5.230E-02	1.055E+00	1.737E+00	1.911E-01	0.030
		298.57		2.972E-01	2.542E-01	2.850E-01	3.015E-02	1.043
		879.36	*	-7.276E-02	1.752E-01	2.774E-01	2.567E-02	-0.262
		962.29		5.183E-01	7.998E-01	1.218E+00	1.121E-01	0.426
		966.15		1.255E+00	3.812E-01	6.752E-01	6.206E-02	1.859
		1177.93		-2.391E-01	5.418E-01	8.442E-01	6.908E-02	-0.283
		1271.85		-6.446E-01	9.906E-01	1.480E+00	1.339E-01	-0.436
HO-166M		80.57		-3.781E-01	4.833E-01	6.148E-01	7.244E-02	-0.615
	+	184.41		5.409E-02	7.755E-02	8.790E-02	9.505E-03	0.615
		280.46		-3.140E-02	1.178E-01	1.939E-01	2.094E-02	-0.162
		410.95		2.288E-01	3.230E-01	5.535E-01	4.698E-02	0.413
		711.68	*	1.144E-03	7.468E-02	1.250E-01	1.061E-02	0.009
		752.31		-1.819E-01	3.498E-01	5.565E-01	4.839E-02	-0.327
		810.29		-3.077E-02	6.972E-02	1.106E-01	9.920E-03	-0.278
TM-171		51.35		-2.269E+01	9.076E+01	1.490E+02	2.009E+01	-0.152

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		52.39		6.497E+00	4.305E+01	7.195E+01	9.542E+00	0.090
		59.40		-7.898E+00	5.359E+01	8.818E+01	9.941E+00	-0.090
		66.72	*	-6.060E+01	5.081E+01	7.813E+01	8.918E+00	-0.776
LU-176	+	88.36		4.605E-01	3.135E-01	5.121E-01	6.322E-02	0.899
		201.83		9.612E-04	4.086E-02	6.534E-02	7.144E-03	0.015
		306.84	*	7.010E-04	3.471E-02	5.779E-02	6.042E-03	0.012
		401.10		-2.604E+00	8.839E+00	1.424E+01	1.204E+00	-0.183
LU-177		112.95		-1.889E+00	2.249E+00	3.516E+00	3.575E-01	-0.537
	+	208.36	*	3.154E+00	1.642E+00	2.585E+00	2.835E-01	1.220
LU-177M		52.97		2.679E+00	4.311E+00	7.328E+00	9.609E-01	0.366
		54.07		2.534E-01	2.161E+00	3.603E+00	4.613E-01	0.070
		61.30		-1.476E+00	2.851E+00	4.610E+00	5.239E-01	-0.320
		121.62		-2.341E-01	4.987E-01	7.924E-01	7.975E-02	-0.295
		147.16		-6.229E-01	8.689E-01	1.354E+00	1.386E-01	-0.460
		171.86		-2.299E-01	6.643E-01	1.049E+00	1.124E-01	-0.219
		218.09		-9.440E-01	1.147E+00	1.854E+00	2.041E-01	-0.509
		268.79		1.901E+00	1.215E+00	1.929E+00	2.103E-01	0.986
		319.02		1.317E-01	3.368E-01	5.714E-01	5.857E-02	0.231
		367.43		-5.552E-01	1.164E+00	1.857E+00	1.696E-01	-0.299
		413.65	*	-1.801E-01	2.398E-01	3.732E-01	3.171E-02	-0.483
HF-181		56.28		7.325E-04	2.157E+00	3.576E+00	4.341E-01	0.000
		57.53		-4.987E-01	1.094E+00	1.773E+00	2.088E-01	-0.281
		65.20		2.280E+00	1.686E+00	2.855E+00	3.260E-01	0.798
		133.02		-5.108E-02	9.198E-02	1.453E-01	1.460E-02	-0.352
		136.25		-3.058E-01	6.156E-01	9.734E-01	9.806E-02	-0.314
		345.85		-1.573E-01	3.103E-01	4.260E-01	4.126E-02	-0.369
		482.03	*	-6.875E-03	6.010E-02	9.715E-02	8.389E-03	-0.071
W-181		56.28		4.038E-04	8.421E-01	1.396E+00	1.695E-01	0.000
		57.53		-1.953E-01	4.274E-01	6.928E-01	8.158E-02	-0.282
		65.20	*	8.837E-01	6.536E-01	1.107E+00	1.264E-01	0.798
TA-182		67.75		-1.931E-01	1.930E-01	2.998E-01	3.422E-02	-0.644
		100.10		2.054E-01	2.569E-01	4.184E-01	4.517E-02	0.491
		152.43		2.645E-01	4.630E-01	7.643E-01	7.904E-02	0.346
		222.10		-2.918E-02	4.583E-01	7.693E-01	8.478E-02	-0.038
		1001.68		1.780E+00	2.469E+00	4.336E+00	3.938E-01	0.410
		1121.28		5.168E-01	2.384E-01	4.421E-01	3.758E-02	1.169
		1189.05		-1.081E-01	4.622E-01	7.346E-01	6.086E-02	-0.147
		1221.42	*	-1.795E-02	2.863E-01	4.614E-01	3.960E-02	-0.039
		1230.97		2.378E-01	7.497E-01	1.159E+00	1.005E-01	0.205
RE-183		57.98		-6.534E-02	4.203E-01	6.915E-01	8.056E-02	-0.094
		59.32		8.444E-02	2.175E-01	3.659E-01	4.132E-02	0.231
		67.20		-4.741E-01	3.584E-01	5.471E-01	6.244E-02	-0.867
		162.32	*	-3.853E-02	1.566E-01	2.441E-01	2.583E-02	-0.158
	+	208.81		2.773E+00	1.443E+00	2.281E+00	2.503E-01	1.215
		291.72		-5.031E-01	1.441E+00	2.030E+00	2.166E-01	-0.248
RE-184		57.98		-2.404E-01	1.547E+00	2.545E+00	2.964E-01	-0.094
		59.32		3.105E-01	7.998E-01	1.345E+00	1.519E-01	0.231
		67.20		-1.744E+00	1.318E+00	2.012E+00	2.297E-01	-0.867
		161.27		3.519E-01	4.866E-01	8.068E-01	8.513E-02	0.436

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		216.55		-7.397E-02	3.659E-01	6.112E-01	6.725E-02	-0.121
		252.85	*	-1.275E-01	3.122E-01	5.120E-01	5.631E-02	-0.249
		318.01		-1.143E-01	5.938E-01	9.748E-01	1.001E-01	-0.117
		792.07		4.867E-01	1.399E+00	2.090E+00	1.857E-01	0.233
		903.28		6.247E-01	1.684E+00	2.493E+00	2.323E-01	0.251
		920.93		9.103E-02	5.697E-01	9.538E-01	8.862E-02	0.095
OS-185		59.72		-1.923E-01	5.801E-01	9.461E-01	1.066E-01	-0.203
		61.14		-2.153E-01	3.151E-01	5.052E-01	5.739E-02	-0.426
		69.30		6.570E-02	5.225E-01	8.033E-01	9.168E-02	0.082
		592.07		1.720E+00	3.468E+00	5.808E+00	4.941E-01	0.296
		646.12	*	-9.274E-03	5.504E-02	8.696E-02	7.217E-03	-0.107
		717.42		1.892E-01	1.202E+00	2.032E+00	1.731E-01	0.093
		874.81		9.560E-02	7.522E-01	1.258E+00	1.162E-01	0.076
		880.27		-6.739E-01	9.888E-01	1.519E+00	1.407E-01	-0.444
RE-188		155.03	*	1.571E-01	2.343E-01	3.880E-01	4.035E-02	0.405
		477.96		-1.652E+00	4.293E+00	6.802E+00	5.871E-01	-0.243
		633.10		4.536E+00	3.536E+00	6.292E+00	5.259E-01	0.721
W-188		63.58		2.702E+01	9.772E+01	1.622E+02	1.851E+01	0.167
		227.08		1.622E+01	1.704E+01	2.970E+01	3.276E+00	0.546
		290.67	*	-6.271E-01	1.126E+01	1.625E+01	1.736E+00	-0.039
IR-192	+	295.96		8.357E-01	2.619E-01	3.490E-01	3.722E-02	2.395
		308.46		-5.092E-02	1.320E-01	2.146E-01	2.246E-02	-0.237
		316.51	*	-4.012E-02	4.537E-02	7.104E-02	7.325E-03	-0.565
		468.07		-2.587E-03	9.808E-02	1.380E-01	1.275E-02	-0.019
		604.41		6.761E-01	6.693E-01	1.027E+00	1.327E-01	0.658
		612.46		1.723E+00	1.269E+00	1.965E+00	1.914E-01	0.877
AU-195		65.12		4.319E-01	3.046E-01	5.164E-01	5.896E-02	0.836
		66.83		-2.311E-01	1.693E-01	2.577E-01	2.941E-02	-0.897
	+	75.70		9.796E-01	3.828E-01	6.502E-01	7.499E-02	1.507
		98.88	*	5.207E-01	3.542E-01	5.428E-01	5.916E-02	0.959
		129.76		4.264E+00	3.887E+00	6.552E+00	6.574E-01	0.651
TL-200		367.94	*	-2.450E-04	3.887E+00	Half-Life too short		
		579.30		-3.118E-04	3.887E+00	Half-Life too short		
		828.27		-4.467E-03	3.887E+00	Half-Life too short		
		1205.75		1.283E-03	3.887E+00	Half-Life too short		
TL-201		68.90		-2.801E+00	9.011E+00	1.356E+01	1.548E+00	-0.207
		70.82		6.014E+00	5.020E+00	7.662E+00	8.752E-01	0.785
		80.30		-6.946E+00	9.474E+00	1.210E+01	1.424E+00	-0.574
		135.34		-2.250E+01	3.602E+01	5.660E+01	5.697E+00	-0.398
		167.43	*	-2.543E+00	9.970E+00	1.584E+01	1.692E+00	-0.161
TL-202		68.90		-2.418E-01	7.779E-01	1.171E+00	1.336E-01	-0.207
		70.82		5.178E-01	4.322E-01	6.597E-01	7.535E-02	0.785
		80.30		-5.982E-01	8.160E-01	1.042E+00	1.226E-01	-0.574
		439.56	*	-3.204E-02	9.529E-02	1.523E-01	1.305E-02	-0.210
HG-203		70.83		2.215E+00	1.868E+00	2.829E+00	4.394E-01	0.783
		72.87		1.127E+00	1.130E+00	1.695E+00	2.577E-01	0.665
		82.60		-1.129E+00	2.228E+00	2.596E+00	4.160E-01	-0.435
		279.20	*	4.055E-02	5.589E-02	9.629E-02	1.060E-02	0.421
BI-207		72.80		2.790E-01	3.273E-01	4.907E-01	5.619E-02	0.569

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	74.97		5.429E-01	2.121E-01	3.305E-01	3.804E-02	1.643
		84.90		6.887E-02	3.040E-01	4.424E-01	5.361E-02	0.156
		569.67		3.377E-02	3.755E-02	6.509E-02	5.575E-03	0.519
		1063.62	*	-1.417E-02	7.286E-02	1.168E-01	1.031E-02	-0.121
		1770.23		-3.415E-01	6.495E-01	7.485E-01	6.543E-02	-0.456
TL-207		81.07		-5.617E-01	4.451E-01	4.847E-01	5.727E-02	-1.159
		83.78		1.830E-02	2.014E-01	2.914E-01	3.502E-02	0.063
		94.90		6.982E-01	3.810E-01	5.846E-01	6.616E-02	1.194
		122.32		-6.935E-01	2.320E+00	3.717E+00	3.943E-01	-0.187
		144.24		-5.007E-01	9.300E-01	1.438E+00	1.590E-01	-0.348
		154.21		4.489E-01	5.442E-01	9.054E-01	1.005E-01	0.496
	+	269.46		4.381E-01	2.522E-01	4.595E-01	5.073E-02	0.953
		323.87	*	-1.394E+00	9.384E-01	1.364E+00	2.524E-01	-1.022
	+	338.28		6.502E+00	2.331E+00	3.198E+00	4.224E-01	2.033
		445.03		1.845E+00	2.966E+00	5.054E+00	6.096E-01	0.365
PO-209		260.50		3.337E+00	1.260E+01	2.136E+01	2.341E+00	0.156
		262.80		-1.764E+01	3.485E+01	5.668E+01	6.204E+00	-0.311
		896.60	*	-6.193E+00	1.028E+01	1.601E+01	1.492E+00	-0.387
BI-210		46.50	*	7.420E+00	1.392E+01	2.365E+01	2.913E+00	0.314
PB-210		46.50	*	7.420E+00	1.392E+01	2.365E+01	2.913E+00	0.314
PO-210		46.50	*	7.420E+00	1.392E+01	2.365E+01	2.759E+00	0.314
PB-211		404.84	*	-8.936E-02	1.242E+00	2.029E+00	1.271E+00	-0.044
		427.08		2.318E-01	2.580E+00	4.250E+00	2.641E+00	0.055
		831.96		1.468E-01	1.698E+00	2.830E+00	1.775E+00	0.052
BI-212	+	727.18	*	6.630E-01	5.495E-01	7.605E-01	7.578E-02	0.872
		785.46		3.455E-01	2.065E+00	3.486E+00	3.087E-01	0.099
		1620.62		2.292E-01	1.395E+00	2.377E+00	2.213E-01	0.096
PO-215		81.07		-5.617E-01	4.451E-01	4.847E-01	5.727E-02	-1.159
		83.78		1.830E-02	2.014E-01	2.914E-01	3.502E-02	0.063
		94.90		6.982E-01	3.810E-01	5.846E-01	6.616E-02	1.194
		122.32		-6.935E-01	2.320E+00	3.717E+00	3.943E-01	-0.187
		144.24		-5.007E-01	9.300E-01	1.438E+00	1.590E-01	-0.348
		154.21		4.489E-01	5.442E-01	9.054E-01	1.005E-01	0.496
	+	269.46		4.381E-01	2.522E-01	4.595E-01	5.073E-02	0.953
		323.87	*	-1.394E+00	9.384E-01	1.364E+00	2.524E-01	-1.022
	+	338.28		6.502E+00	2.331E+00	3.198E+00	4.224E-01	2.033
		445.03		1.845E+00	2.966E+00	5.054E+00	6.096E-01	0.365
RN-219	+	271.23		5.621E-01	3.250E-01	5.851E-01	7.178E-02	0.961
		401.81	*	-2.841E-01	5.475E-01	8.662E-01	1.293E-01	-0.328
RN-220		549.76	*	1.679E+01	3.575E+01	5.993E+01	5.156E+00	0.280
RA-223		81.07		-5.617E-01	4.451E-01	4.847E-01	5.727E-02	-1.159
		83.78		1.830E-02	2.014E-01	2.914E-01	3.502E-02	0.063
		94.90		6.982E-01	3.810E-01	5.846E-01	6.616E-02	1.194
		122.32		-6.935E-01	2.320E+00	3.717E+00	3.943E-01	-0.187
		144.24		-5.007E-01	9.300E-01	1.438E+00	1.590E-01	-0.348
		154.21		4.489E-01	5.442E-01	9.054E-01	1.005E-01	0.496
	+	269.46		4.381E-01	2.522E-01	4.595E-01	5.073E-02	0.953
		323.87	*	-1.394E+00	9.384E-01	1.364E+00	2.524E-01	-1.022
	+	338.28		6.502E+00	2.331E+00	3.198E+00	4.224E-01	2.033

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		445.03		1.845E+00	2.966E+00	5.054E+00	6.096E-01	0.365
AC-227		79.80		5.666E-01	2.764E+00	4.024E+00	9.226E-01	0.141
		236.00		1.467E+00	4.405E-01	6.767E-01	9.507E-02	2.168
		256.20	*	5.006E-02	5.055E-01	8.505E-01	1.428E-01	0.059
		286.10		-5.521E-01	2.041E+00	3.351E+00	4.917E-01	-0.165
	+	299.80		1.948E+00	2.041E+00	3.473E+00	6.433E-01	0.561
		304.40		8.579E-01	2.950E+00	4.349E+00	8.431E-01	0.197
		334.20		-1.353E-01	3.603E+00	5.166E+00	1.035E+00	-0.026
TH-227		79.80		5.666E-01	2.764E+00	4.024E+00	9.330E-01	0.141
	+	94.00		2.888E+00	3.440E+00	5.173E+00	1.192E+00	0.558
		236.00		1.467E+00	4.338E-01	6.767E-01	8.827E-02	2.168
		256.20	*	5.006E-02	5.055E-01	8.505E-01	1.642E-01	0.059
		286.10		-5.521E-01	2.113E+00	3.351E+00	3.370E+00	-0.165
	+	299.80		1.948E+00	2.041E+00	3.473E+00	6.433E-01	0.561
		304.40		8.579E-01	2.950E+00	4.349E+00	8.431E-01	0.197
		334.20		-1.353E-01	3.603E+00	5.166E+00	1.035E+00	-0.026
TH-229		85.43		3.801E-01	3.077E-01	4.642E-01	5.647E-02	0.819
	+	88.47		2.651E-01	1.804E-01	2.950E-01	3.635E-02	0.899
		100.00		2.259E-01	2.670E-01	4.355E-01	4.705E-02	0.519
		193.63	*	1.727E-01	7.524E-01	1.174E+00	1.278E-01	0.147
		210.97		7.292E-01	1.212E+00	1.837E+00	2.018E-01	0.397
PA-231		283.67	*	-7.639E-01	2.075E+00	3.388E+00	5.589E-01	-0.226
	+	301.29		7.794E-01	8.106E-01	1.407E+00	1.922E-01	0.554
TH-231		81.07		-5.617E-01	4.451E-01	4.847E-01	5.727E-02	-1.159
		83.78		1.830E-02	2.014E-01	2.914E-01	3.502E-02	0.063
		94.90		6.982E-01	3.810E-01	5.846E-01	6.616E-02	1.194
		122.32		-6.935E-01	2.320E+00	3.717E+00	3.943E-01	-0.187
		144.24		-5.007E-01	9.300E-01	1.438E+00	1.590E-01	-0.348
		154.21		4.489E-01	5.442E-01	9.054E-01	1.005E-01	0.496
	+	269.46		4.381E-01	2.522E-01	4.595E-01	5.073E-02	0.953
		323.87	*	-1.394E+00	9.384E-01	1.364E+00	2.524E-01	-1.022
	+	338.28		6.502E+00	2.331E+00	3.198E+00	4.224E-01	2.033
		445.03		1.845E+00	2.966E+00	5.054E+00	6.096E-01	0.365
U-231		84.21		-8.166E-01	8.870E+00	1.271E+01	1.532E+00	-0.064
	+	92.29		2.966E+00	3.484E+00	5.647E+00	6.590E-01	0.525
		95.87	*	-6.732E-01	1.849E+00	2.597E+00	2.909E-01	-0.259
		108.00		1.072E+00	2.889E+00	4.781E+00	4.936E-01	0.224
PA-233	+	75.28		1.584E+01	6.509E+00	1.015E+01	1.741E+00	1.560
	+	86.59		3.801E+00	2.761E+00	4.077E+00	1.150E+00	0.932
	+	300.12		5.432E-01	5.668E-01	9.760E-01	1.569E-01	0.557
		311.98	*	1.239E-02	8.473E-02	1.420E-01	1.502E-02	0.087
		340.50		3.325E+00	1.311E+00	1.795E+00	4.361E-01	1.852
		398.62		-2.155E-01	2.797E+00	4.575E+00	1.216E+00	-0.047
		415.76		-1.161E+00	2.268E+00	3.573E+00	7.683E-01	-0.325
PA-234		63.00		-1.528E+00	2.940E+00	4.713E+00	8.111E-01	-0.324
		94.67		6.737E-01	2.856E-01	4.325E-01	6.242E-02	1.558
		98.44		2.094E-01	1.844E-01	2.203E-01	1.238E-01	0.951
		99.86		6.163E-01	6.784E-01	1.109E+00	1.199E-01	0.556
		111.00		5.586E-02	2.496E-01	4.104E-01	5.449E-02	0.136

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		9.661E-02	1.473E-01	2.448E-01	2.457E-02	0.395
		152.70		1.932E-01	4.458E-01	7.306E-01	1.314E-01	0.264
	+	186.00		1.947E+00	2.852E+00	3.196E+00	1.019E+00	0.609
		226.40		1.129E-01	5.454E-01	9.253E-01	1.378E-01	0.122
		227.20		5.598E-01	5.752E-01	1.003E+00	1.106E-01	0.558
		248.90		4.061E-01	1.234E+00	1.916E+00	4.492E-01	0.212
		293.70		4.981E+00	1.480E+00	2.091E+00	3.846E-01	2.382
		369.80		-6.947E-02	1.100E+00	1.807E+00	3.968E-01	-0.038
		568.70		5.517E-01	1.236E+00	2.071E+00	1.774E-01	0.266
		569.50		2.641E-01	3.374E-01	5.796E-01	4.965E-02	0.456
		574.00		-2.019E-01	1.930E+00	3.091E+00	2.644E-01	-0.065
		699.00		-2.080E-02	8.705E-01	1.454E+00	2.761E-01	-0.014
		706.10		-4.530E-02	1.265E+00	2.109E+00	9.396E-01	-0.021
		733.00		5.472E-01	5.131E-01	8.161E-01	1.811E-01	0.670
		742.81		7.411E-01	1.768E+00	2.934E+00	1.972E+00	0.253
	+	796.30		2.105E+00	1.868E+00	2.182E+00	5.923E-01	0.965
		805.60		7.997E-02	1.390E+00	2.108E+00	6.480E-01	0.038
		819.60		6.958E-01	1.545E+00	2.633E+00	1.004E+00	0.264
		826.30		-6.703E-01	1.098E+00	1.647E+00	7.384E-01	-0.407
		831.60		5.477E-02	8.760E-01	1.459E+00	4.374E-01	0.038
		876.40		-1.368E-02	1.027E+00	1.696E+00	1.745E+00	-0.008
		880.51		-2.827E-01	3.633E-01	5.526E-01	5.117E-02	-0.512
		883.24		6.941E-02	3.610E-01	6.027E-01	4.057E-01	0.115
		899.00		3.080E-01	1.232E+00	2.040E+00	8.949E-01	0.151
		925.00		-6.164E-01	1.536E+00	2.428E+00	2.254E-01	-0.254
		926.50		4.990E-02	2.252E-01	3.786E-01	9.657E-02	0.132
		946.00	*	5.692E-02	4.033E-01	6.723E-01	1.281E-01	0.085
		949.00		5.392E-01	6.028E-01	1.069E+00	9.868E-02	0.505
		980.50		2.098E-01	9.677E-01	1.623E+00	1.485E-01	0.129
		1394.10		-7.753E-01	1.443E+00	2.055E+00	1.341E+00	-0.377
PA-234M		766.42		1.652E+01	1.805E+01	2.850E+01	1.446E+01	0.580
		1001.03	*	4.783E+00	5.499E+00	9.784E+00	1.015E+00	0.489
TH-234		63.29	*	-6.418E-01	2.473E+00	4.019E+00	7.829E-01	-0.160
	+	92.38		7.473E-01	8.855E-01	1.413E+00	2.784E-01	0.529
U-235	+	89.95		2.154E+00	1.630E+00	2.646E+00	8.464E-01	0.814
	+	93.35		8.984E-01	1.082E+00	1.627E+00	4.726E-01	0.552
		105.00		-1.133E-01	1.413E+00	2.298E+00	6.991E-01	-0.049
		143.76	*	-7.749E-02	2.865E-01	4.486E-01	8.220E-02	-0.173
		163.35		-3.658E-01	6.739E-01	1.029E+00	2.064E-01	-0.355
	+	185.71		7.212E-02	1.034E-01	1.186E-01	1.283E-02	0.608
		205.31		-5.535E-01	8.615E-01	1.127E+00	2.280E-01	-0.491
NP-236		94.67		5.131E-01	2.119E-01	3.283E-01	3.725E-02	1.563
		98.44		1.583E-01	1.087E-01	1.665E-01	1.821E-02	0.951
		111.00		4.225E-02	1.888E-01	3.105E-01	3.172E-02	0.136
		160.31	*	1.337E-01	1.094E-01	1.843E-01	1.940E-02	0.725
U-238		63.29	*	-6.418E-01	2.473E+00	4.019E+00	7.829E-01	-0.160
	+	92.38		7.473E-01	8.775E-01	1.413E+00	1.646E-01	0.529
NP-239		99.55		3.611E-01	2.334E-01	3.751E-01	4.066E-02	0.963
		117.00	*	7.359E-02	2.558E-01	4.212E-01	4.252E-02	0.175

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		2.182E+00	1.136E+00	1.801E+00	1.977E-01	1.212
		228.18		3.090E-01	3.091E-01	5.387E-01	5.942E-02	0.574
		277.60		2.032E-01	2.496E-01	4.311E-01	4.668E-02	0.471
		334.30		-2.752E-02	2.044E+00	2.936E+00	2.920E-01	-0.009
AM-241		59.54	*	-7.024E-02	3.086E-01	5.058E-01	5.937E-02	-0.139
CM-243		99.55		3.716E-01	2.401E-01	3.860E-01	4.184E-02	0.963
		103.76	*	-1.555E-01	1.342E-01	2.067E-01	2.177E-02	-0.752
		117.00		7.571E-02	2.632E-01	4.334E-01	4.375E-02	0.175
	+	209.75		2.151E+00	1.120E+00	1.776E+00	1.949E-01	1.212
		228.18		3.122E-01	3.123E-01	5.443E-01	6.005E-02	0.574
		277.60		2.048E-01	2.516E-01	4.346E-01	4.706E-02	0.471
AM-246		798.80		-9.232E-02	1.969E-01	2.632E-01	2.347E-02	-0.351
		1036.00		1.858E-01	3.830E-01	6.576E-01	5.886E-02	0.282
		1062.04		-8.880E-02	3.158E-01	5.017E-01	4.430E-02	-0.177
		1078.86	*	-3.989E-02	1.917E-01	3.064E-01	2.680E-02	-0.130
CM-247		278.00		6.531E-01	1.030E+00	1.767E+00	1.913E-01	0.370
		287.40		2.957E-01	1.655E+00	2.785E+00	2.987E-01	0.106
		402.60	*	-4.185E-03	4.950E-02	8.091E-02	6.843E-03	-0.052
CF-249		252.85		-4.781E-01	1.170E+00	1.919E+00	2.111E-01	-0.249
		333.44		-1.612E-01	2.708E-01	3.701E-01	3.688E-02	-0.435
		387.95	*	1.183E-02	5.365E-02	8.954E-02	7.639E-03	0.132
CF-251		176.60	*	4.369E-02	1.714E-01	2.785E-01	2.994E-02	0.157
		227.00		2.271E-01	5.174E-01	8.858E-01	9.770E-02	0.256
		285.00		-1.106E+00	2.326E+00	3.776E+00	4.059E-01	-0.293

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]G1202038808    *
* Acquisition date : 19-FEB-2010 20:32:37 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 02:00:01.14      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        :  4-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G1202038808          Analyst initials: MXR1          *
* Batch Number       : 951362               Sample Quantity : 1.1299E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  3-FEB-2010 11:04:32 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	3.797E+01	4.291E+00	6.972E-01	0.000E+00
CD-109	1.976E+00	1.318E+00	1.760E+00	0.000E+00
SN-126	1.941E-01	1.295E-01	1.742E-01	0.000E+00
TL-208	4.104E-01	9.842E-02	7.341E-02	0.000E+00
BI-211	3.803E+00	6.557E-01	4.551E-01	0.000E+00
PB-212	1.473E+00	2.212E-01	1.296E-01	0.000E+00
PO-212	1.473E+00	2.212E-01	1.296E-01	0.000E+00
BI-214	9.606E-01	2.112E-01	1.463E-01	0.000E+00
PB-214	1.323E+00	2.379E-01	1.519E-01	0.000E+00
PO-214	1.323E+00	2.379E-01	1.519E-01	0.000E+00
PO-216	1.473E+00	2.212E-01	1.296E-01	0.000E+00
PO-218	1.323E+00	2.379E-01	1.519E-01	0.000E+00
RA-224	4.274E+00	1.885E+00	1.475E+00	0.000E+00
RA-226	9.606E-01	2.112E-01	1.463E-01	0.000E+00
AC-228	1.290E+00	3.767E-01	2.894E-01	0.000E+00
RA-228	1.290E+00	3.767E-01	2.894E-01	0.000E+00
TH-228	1.496E+00	2.246E-01	1.316E-01	0.000E+00
TH-230	9.606E-01	2.112E-01	1.463E-01	0.000E+00
TH-232	1.290E+00	3.767E-01	2.894E-01	0.000E+00
U-234	9.606E-01	2.112E-01	1.463E-01	0.000E+00
NP-237	5.701E-01	3.974E-01	5.212E-01	0.000E+00
AM-243	3.024E-01	1.158E-01	1.383E-01	0.000E+00
ANH-511	1.075E-01	8.861E-02	6.053E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	-3.108E-01	4.437E-01	7.038E-01	0.000E+00	NOT IDENT.
NA-22	-1.010E-02	6.025E-02	9.722E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.145E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	5.667E-03	4.056E-02	6.925E-02	0.000E+00	NOT IDENT.

TI-44	0.000E+00	8.070E-02	1.136E-01	0.000E+00	FAIL ABUN
SC-46	8.408E-03	4.948E-02	8.468E-02	0.000E+00	NOT IDENT.
V-48	-7.727E-03	9.549E-02	1.586E-01	0.000E+00	NOT IDENT.
CR-51	1.875E-01	4.684E-01	8.180E-01	0.000E+00	NOT IDENT.
MN-52	-2.337E-01	2.949E-01	4.387E-01	0.000E+00	NOT IDENT.
MN-54	5.943E-02	5.021E-02	9.208E-02	0.000E+00	NOT IDENT.
CO-56	-9.321E-03	4.911E-02	8.156E-02	0.000E+00	FAIL ABUN
CO-57	-2.390E-02	3.317E-02	5.400E-02	0.000E+00	NOT IDENT.
CO-58	-1.789E-02	4.618E-02	7.535E-02	0.000E+00	NOT IDENT.
FE-59	-4.830E-02	1.284E-01	2.055E-01	0.000E+00	NOT IDENT.
CO-60	-3.460E-02	6.054E-02	9.255E-02	0.000E+00	NOT IDENT.
ZN-65	-3.371E-01	1.494E-01	1.968E-01	0.000E+00	NOT IDENT.
GE-68	-3.138E-01	1.665E+00	2.717E+00	0.000E+00	NOT IDENT.
AS-73	1.240E+00	2.140E+00	3.792E+00	0.000E+00	NOT IDENT.
AS-74	-4.755E-03	1.182E-01	1.945E-01	0.000E+00	NOT IDENT.
SE-75	-5.909E-02	6.005E-02	9.136E-02	0.000E+00	NOT IDENT.
BR-77	-1.985E+00	1.473E+01	2.356E+01	0.000E+00	FAIL ABUN
SR-82	1.462E-02	5.064E-01	8.526E-01	0.000E+00	NOT IDENT.
RB-83	-2.773E-02	9.389E-02	1.430E-01	0.000E+00	NOT IDENT.
RB-84	3.609E-02	8.609E-02	1.508E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	1.093E+01	1.856E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.619E-02	9.538E-02	0.000E+00	NOT IDENT.
RB-86	1.240E-01	1.032E+00	1.737E+00	0.000E+00	NOT IDENT.
Y-88	-4.453E-02	3.895E-02	4.537E-02	0.000E+00	NOT IDENT.
ZR-88	-2.252E-03	4.105E-02	6.916E-02	0.000E+00	NOT IDENT.
Y-91	1.839E+01	2.650E+01	4.627E+01	0.000E+00	NOT IDENT.
NB-94	7.138E-03	3.965E-02	6.877E-02	0.000E+00	NOT IDENT.
NB-95	3.423E-02	5.912E-02	1.044E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.026E-01	3.319E-01	0.000E+00	NOT IDENT.
ZR-95	-1.025E-02	8.836E-02	1.490E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.464E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.558E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-8.183E+00	1.500E+01	2.428E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	9.693E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.193E-02	4.850E-02	7.529E-02	0.000E+00	NOT IDENT.
RH-102	1.974E-02	3.894E-02	6.737E-02	0.000E+00	NOT IDENT.
RU-103	3.987E-02	5.271E-02	9.235E-02	0.000E+00	FAIL ABUN
RH-106	-2.800E-01	4.179E-01	6.453E-01	0.000E+00	FAIL ABUN
RU-106	-2.800E-01	4.169E-01	6.453E-01	0.000E+00	FAIL ABUN
AG-108M	-1.488E-02	4.312E-02	7.075E-02	0.000E+00	NOT IDENT.
AG-110M	1.771E-02	4.143E-02	7.344E-02	0.000E+00	NOT IDENT.
IN-111	-2.756E-02	1.656E+00	2.492E+00	0.000E+00	NOT IDENT.
IN-113M	-1.635E-02	5.823E-02	9.665E-02	0.000E+00	NOT IDENT.
SN-113	-1.635E-02	5.823E-02	9.665E-02	0.000E+00	NOT IDENT.
IN-114M	-2.076E-01	3.030E-01	4.145E-01	0.000E+00	NOT IDENT.
CD-115	-1.163E+01	1.638E+01	2.575E+01	0.000E+00	NOT IDENT.
SN-117M	1.550E-02	7.522E-02	1.266E-01	0.000E+00	NOT IDENT.
SB-122	8.313E-02	2.738E+00	4.545E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.054E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.939E-02	3.851E-02	6.557E-02	0.000E+00	NOT IDENT.
I-124	9.363E-01	1.010E+00	1.579E+00	0.000E+00	FAIL ABUN
SB-124	-4.540E-02	7.851E-02	1.129E-01	0.000E+00	FAIL ABUN
SB-125	-7.965E-02	1.161E-01	1.854E-01	0.000E+00	FAIL ABUN
TE-125M	9.998E+00	1.246E+01	2.170E+01	0.000E+00	NOT IDENT.
I-126	8.543E-02	2.163E-01	3.823E-01	0.000E+00	NOT IDENT.
SB-126	1.941E-01	2.009E-01	3.278E-01	0.000E+00	FAIL ABUN
SB-127	1.902E-01	1.881E+00	3.246E+00	0.000E+00	NOT IDENT.
XE-127	6.639E-03	6.542E-02	1.085E-01	0.000E+00	NOT IDENT.
I-131	2.093E-02	1.433E-01	2.455E-01	0.000E+00	NOT IDENT.
TE-132	9.865E-01	9.822E-01	1.752E+00	0.000E+00	NOT IDENT.
BA-133	5.755E-02	5.954E-02	9.468E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	9.360E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.083E-01	9.023E-02	1.117E-01	0.000E+00	FAIL ABUN
CS-135	2.607E-01	2.306E-01	3.694E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.418E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.282E-04	1.471E-01	2.450E-01	0.000E+00	FAIL ABUN
BA-137M	-4.416E-03	4.111E-02	6.994E-02	0.000E+00	NOT IDENT.
CS-137	-4.668E-03	4.346E-02	7.394E-02	0.000E+00	NOT IDENT.
CE-139	-2.947E-02	3.990E-02	6.398E-02	0.000E+00	NOT IDENT.
BA-140	2.327E-01	3.722E-01	6.330E-01	0.000E+00	NOT IDENT.
LA-140	1.011E-01	1.130E-01	2.127E-01	0.000E+00	NOT IDENT.
CE-141	-4.057E-02	8.415E-02	1.352E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.056E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	6.882E-02	2.743E-01	4.654E-01	0.000E+00	NOT IDENT.
PM-144	1.932E-03	4.133E-02	7.097E-02	0.000E+00	NOT IDENT.
PR-144	1.310E-01	2.801E+00	4.810E+00	0.000E+00	NOT IDENT.
PM-146	1.361E-02	5.482E-02	9.356E-02	0.000E+00	NOT IDENT.
ND-147	-3.896E-01	7.856E-01	1.254E+00	0.000E+00	FAIL ABUN

PM-149	-5.338E+01	1.304E+02	2.188E+02	0.000E+00	NOT IDENT.
EU-152	-8.366E-02	1.530E-01	2.155E-01	0.000E+00	NOT IDENT.
GD-153	2.209E-02	1.236E-01	1.860E-01	0.000E+00	NOT IDENT.
EU-154	-3.229E-02	1.679E-01	2.701E-01	0.000E+00	NOT IDENT.
EU-155	-6.447E-03	1.405E-01	2.378E-01	0.000E+00	FAIL ABUN
TB-160	-7.276E-02	1.717E-01	2.773E-01	0.000E+00	FAIL ABUN
HO-166M	1.144E-03	7.319E-02	1.252E-01	0.000E+00	FAIL ABUN
TM-171	-6.060E+01	4.980E+01	7.985E+01	0.000E+00	NOT IDENT.
LU-176	7.010E-04	3.402E-02	5.830E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.609E+00	2.616E+00	0.000E+00	FAIL ABUN
LU-177M	-1.801E-01	2.350E-01	3.755E-01	0.000E+00	NOT IDENT.
HF-181	-6.875E-03	5.890E-02	9.764E-02	0.000E+00	NOT IDENT.
W-181	8.837E-01	6.406E-01	1.131E+00	0.000E+00	NOT IDENT.
TA-182	-1.795E-02	2.806E-01	4.599E-01	0.000E+00	NOT IDENT.
RE-183	-3.853E-02	1.535E-01	2.477E-01	0.000E+00	FAIL ABUN
RE-184	-1.275E-01	3.060E-01	5.175E-01	0.000E+00	NOT IDENT.
OS-185	-9.274E-03	5.394E-02	8.718E-02	0.000E+00	NOT IDENT.
RE-188	1.571E-01	2.296E-01	3.938E-01	0.000E+00	NOT IDENT.
W-188	-6.271E-01	1.104E+01	1.640E+01	0.000E+00	NOT IDENT.
IR-192	-4.012E-02	4.446E-02	7.166E-02	0.000E+00	FAIL ABUN
AU-195	5.207E-01	3.471E-01	5.529E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.675E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.543E+00	9.770E+00	1.606E+01	0.000E+00	NOT IDENT.
TL-202	-3.204E-02	9.339E-02	1.532E-01	0.000E+00	NOT IDENT.
HG-203	4.055E-02	5.478E-02	9.723E-02	0.000E+00	NOT IDENT.
BI-207	-1.417E-02	7.141E-02	1.166E-01	0.000E+00	FAIL ABUN
TL-207	-1.394E+00	9.196E-01	1.376E+00	0.000E+00	FAIL ABUN
PO-209	-6.193E+00	1.008E+01	1.600E+01	0.000E+00	NOT IDENT.
BI-210	7.420E+00	1.365E+01	2.425E+01	0.000E+00	NOT IDENT.
PB-210	7.420E+00	1.365E+01	2.425E+01	0.000E+00	NOT IDENT.
PO-210	7.420E+00	1.364E+01	2.425E+01	0.000E+00	NOT IDENT.
PB-211	-8.936E-02	1.217E+00	2.043E+00	0.000E+00	NOT IDENT.
BI-212	6.630E-01	5.385E-01	7.616E-01	0.000E+00	FAIL ABUN
PO-215	-1.394E+00	9.196E-01	1.376E+00	0.000E+00	FAIL ABUN
RN-219	-2.841E-01	5.365E-01	8.719E-01	0.000E+00	FAIL ABUN
RN-220	1.679E+01	3.504E+01	6.016E+01	0.000E+00	NOT IDENT.
RA-223	-1.394E+00	9.196E-01	1.376E+00	0.000E+00	FAIL ABUN
AC-227	5.006E-02	4.954E-01	8.595E-01	0.000E+00	FAIL ABUN
TH-227	5.006E-02	4.954E-01	8.595E-01	0.000E+00	FAIL ABUN
TH-229	1.727E-01	7.373E-01	1.189E+00	0.000E+00	FAIL ABUN
PA-231	-7.639E-01	2.033E+00	3.420E+00	0.000E+00	FAIL ABUN
TH-231	-1.394E+00	9.196E-01	1.376E+00	0.000E+00	FAIL ABUN
U-231	-6.732E-01	1.812E+00	2.646E+00	0.000E+00	FAIL ABUN
PA-233	1.239E-02	8.303E-02	1.432E-01	0.000E+00	FAIL ABUN
PA-234	5.692E-02	3.952E-01	6.718E-01	0.000E+00	FAIL ABUN
PA-234M	4.783E+00	5.389E+00	9.771E+00	0.000E+00	NOT IDENT.
TH-234	-6.418E-01	2.424E+00	4.109E+00	0.000E+00	FAIL ABUN
U-235	-7.749E-02	2.807E-01	4.556E-01	0.000E+00	FAIL ABUN
NP-236	1.337E-01	1.072E-01	1.870E-01	0.000E+00	NOT IDENT.
U-238	-6.418E-01	2.424E+00	4.109E+00	0.000E+00	FAIL ABUN
NP-239	7.359E-02	2.507E-01	4.285E-01	0.000E+00	FAIL ABUN
AM-241	-7.024E-02	3.024E-01	5.174E-01	0.000E+00	NOT IDENT.
CM-243	-1.555E-01	1.315E-01	2.104E-01	0.000E+00	FAIL ABUN
AM-246	-3.989E-02	1.879E-01	3.058E-01	0.000E+00	NOT IDENT.
CM-247	-4.185E-03	4.851E-02	8.145E-02	0.000E+00	NOT IDENT.
CF-249	1.183E-02	5.258E-02	9.016E-02	0.000E+00	NOT IDENT.
CF-251	4.369E-02	1.680E-01	2.823E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 22:33:09.55

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29414                         *
*************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038808.CNF;1
Sample date       : 4-FEB-2010 12:00:00. Acquisition date : 19-FEB-2010 20:32:37
Sample ID         : G1202038808          Sample quantity  : 1.12990E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.14  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 951362                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	1178	10.67*	9.663E-01	3.797E+01	3.797E+01	11.53
CD-109	88.03	96	3.72*	4.458E+00	1.931E+00	1.976E+00	68.07
SN-126	64.28	------	9.60	1.941E+00	------ Line Not Found		------
	86.94	96	8.90	4.458E+00	8.071E-01	8.071E-01	79.18
	87.57	96	37.00*	4.458E+00	1.941E-01	1.941E-01	68.07
TL-208	277.35	------	6.80	3.705E+00	------ Line Not Found		------
	510.84	78	21.60	2.418E+00	4.978E-01	4.978E-01	84.51
	583.14	228	84.20*	2.190E+00	4.104E-01	4.104E-01	24.47
	860.37	------	12.46	1.576E+00	------ Line Not Found		------
BI-211	72.87	------	1.27	3.001E+00	------ Line Not Found		------
	351.07	465	12.94*	3.141E+00	3.803E+00	3.803E+00	17.59
PB-212	74.81	194	10.70	3.235E+00	1.865E+00	1.865E+00	40.18
	77.11	313	18.00	3.502E+00	1.649E+00	1.649E+00	27.06
	87.30	96	8.00	4.458E+00	8.979E-01	8.979E-01	68.80
	238.63	814	44.60*	4.114E+00	1.473E+00	1.473E+00	15.32
	300.09	38	3.41	3.506E+00	1.051E+00	1.051E+00	103.80
PO-212	74.81	194	10.70	3.235E+00	1.865E+00	1.865E+00	40.18
	77.11	313	18.00	3.502E+00	1.649E+00	1.649E+00	27.06
	87.30	96	8.00	4.458E+00	8.979E-01	8.979E-01	68.80
	115.19	------	0.60	5.586E+00	------ Line Not Found		------
	238.63	814	44.60*	4.114E+00	1.473E+00	1.473E+00	15.32
	300.09	38	3.41	3.506E+00	1.051E+00	1.051E+00	103.80
BI-214	609.31	283	46.30*	2.117E+00	9.606E-01	9.606E-01	22.43
	1120.29	------	15.10	1.226E+00	------ Line Not Found		------
	1764.49	44	15.80	8.554E-01	1.094E+00	1.094E+00	47.55
PB-214	74.81	194	6.21	3.235E+00	3.214E+00	3.214E+00	39.77
	77.11	313	10.50	3.502E+00	2.827E+00	2.827E+00	28.11
	87.30	96	4.67	4.458E+00	1.538E+00	1.538E+00	68.51
	241.98	207	7.49	4.080E+00	2.254E+00	2.254E+00	45.35
	295.21	224	19.20	3.545E+00	1.094E+00	1.094E+00	31.93
	351.92	465	37.20*	3.141E+00	1.323E+00	1.323E+00	18.35
PO-214	74.81	194	6.21	3.235E+00	3.214E+00	3.214E+00	39.77

Sample ID : G1202038808 Acquisition date : 19-FEB-2010 20:32:37

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	313	10.50	3.502E+00	2.827E+00	2.827E+00	28.11
	87.30	96	4.67	4.458E+00	1.538E+00	1.538E+00	68.51
	241.98	207	7.49	4.080E+00	2.254E+00	2.254E+00	45.35
	295.21	224	19.20	3.545E+00	1.094E+00	1.094E+00	31.93
	351.92	465	37.20*	3.141E+00	1.323E+00	1.323E+00	18.35
PO-216	74.81	194	10.70	3.235E+00	1.865E+00	1.865E+00	40.18
	77.11	313	18.00	3.502E+00	1.649E+00	1.649E+00	27.06
	87.30	96	8.00	4.458E+00	8.979E-01	8.979E-01	68.80
	238.63	814	44.60*	4.114E+00	1.473E+00	1.473E+00	15.32
	300.09	38	3.41	3.506E+00	1.051E+00	1.051E+00	103.80
PO-218	74.81	194	6.21	3.235E+00	3.214E+00	3.214E+00	39.77
	77.11	313	10.50	3.502E+00	2.827E+00	2.827E+00	28.11
	87.30	96	4.67	4.458E+00	1.538E+00	1.538E+00	68.51
	241.98	207	7.49	4.080E+00	2.254E+00	2.254E+00	45.35
	295.21	224	19.20	3.545E+00	1.094E+00	1.094E+00	31.93
	351.92	465	37.20*	3.141E+00	1.323E+00	1.323E+00	18.35
RA-224	240.98	207	3.95*	4.080E+00	4.274E+00	4.274E+00	45.01
RA-226	609.31	283	46.30*	2.117E+00	9.606E-01	9.606E-01	22.43
	1120.29	------	15.10	1.226E+00	------ Line Not Found		------
	1764.49	44	15.80	8.554E-01	1.094E+00	1.094E+00	47.55
AC-228	338.32	172	11.40	3.227E+00	1.557E+00	1.557E+00	53.26
	911.07	161	27.70*	1.494E+00	1.290E+00	1.290E+00	29.79
	969.11	90	16.60	1.410E+00	1.283E+00	1.283E+00	53.19
RA-228	338.32	172	11.40	3.227E+00	1.557E+00	1.557E+00	53.26
	911.07	161	27.70*	1.494E+00	1.290E+00	1.290E+00	29.79
	969.11	90	16.60	1.410E+00	1.283E+00	1.283E+00	53.19
TH-228	74.81	194	10.70	3.235E+00	1.865E+00	1.894E+00	39.09
	77.11	313	18.00	3.502E+00	1.649E+00	1.674E+00	27.06
	87.30	96	8.00	4.458E+00	8.979E-01	9.118E-01	68.07
	238.63	814	44.60*	4.114E+00	1.473E+00	1.496E+00	15.32
	300.09	38	3.41	3.506E+00	1.051E+00	1.068E+00	119.08
TH-230	609.31	283	46.30*	2.117E+00	9.606E-01	9.606E-01	22.43
	1120.29	------	15.10	1.226E+00	------ Line Not Found		------
	1764.49	44	15.80	8.554E-01	1.094E+00	1.094E+00	47.55
TH-232	338.32	172	11.40	3.227E+00	1.557E+00	1.557E+00	34.76
	911.07	161	27.70*	1.494E+00	1.290E+00	1.290E+00	29.79
	969.11	90	16.60	1.410E+00	1.283E+00	1.283E+00	53.19
U-234	609.31	283	46.30*	2.117E+00	9.606E-01	9.606E-01	22.43
	1120.29	------	15.10	1.226E+00	------ Line Not Found		------
	1764.49	44	15.80	8.554E-01	1.094E+00	1.094E+00	47.55
NP-237	86.50	96	12.60*	4.458E+00	5.701E-01	5.701E-01	71.13
	95.87	------	2.60	5.004E+00	------ Line Not Found		------
AM-243	74.67	194	66.00*	3.235E+00	3.024E-01	3.024E-01	39.08
	86.72	96	0.34	4.458E+00	2.138E+01	2.138E+01	68.07
	117.66	------	0.55	5.611E+00	------ Line Not Found		------
	142.18	------	0.13	5.525E+00	------ Line Not Found		------
ANH-511	511.00	78	100.00*	2.418E+00	1.075E-01	1.075E-01	84.10

Flag: "*" = Keyline

Sample ID : G1202038808 Acquisition date : 19-FEB-2010 20:32:37

Total number of lines in spectrum	26	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	26	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	3.797E+01	3.797E+01	0.438E+01	11.53	
CD-109	464.00D	1.02	1.931E+00	1.976E+00	1.345E+00	68.07	
SN-126	1.00E+05Y	1.00	1.941E-01	1.941E-01	1.322E-01	68.07	
TL-208	1.41E+10Y	1.00	4.104E-01	4.104E-01	1.004E-01	24.47	
BI-211	7.04E+08Y	1.00	3.803E+00	3.803E+00	0.669E+00	17.59	
PB-212	1.41E+10Y	1.00	1.473E+00	1.473E+00	0.226E+00	15.32	
PO-212	1.41E+10Y	1.00	1.473E+00	1.473E+00	0.226E+00	15.32	
BI-214	1600.00Y	1.00	9.606E-01	9.606E-01	2.155E-01	22.43	
PB-214	1600.00Y	1.00	1.323E+00	1.323E+00	0.243E+00	18.35	
PO-214	1600.00Y	1.00	1.323E+00	1.323E+00	0.243E+00	18.35	
PO-216	1.41E+10Y	1.00	1.473E+00	1.473E+00	0.226E+00	15.32	
PO-218	1600.00Y	1.00	1.323E+00	1.323E+00	0.243E+00	18.35	
RA-224	1.41E+10Y	1.00	4.274E+00	4.274E+00	1.924E+00	45.01	
RA-226	1600.00Y	1.00	9.606E-01	9.606E-01	2.155E-01	22.43	
AC-228	1.41E+10Y	1.00	1.290E+00	1.290E+00	0.384E+00	29.79	
RA-228	1.41E+10Y	1.00	1.290E+00	1.290E+00	0.384E+00	29.79	
TH-228	1.91Y	1.02	1.473E+00	1.496E+00	0.229E+00	15.32	
TH-230	4.47E+09Y	1.00	9.606E-01	9.606E-01	2.155E-01	22.43	
TH-232	1.41E+10Y	1.00	1.290E+00	1.290E+00	0.384E+00	29.79	
U-234	4.47E+09Y	1.00	9.606E-01	9.606E-01	2.155E-01	22.43	
NP-237	2.14E+06Y	1.00	5.701E-01	5.701E-01	4.055E-01	71.13	
AM-243	7380.00Y	1.00	3.024E-01	3.024E-01	1.182E-01	39.08	
ANH-511	1.00E+09Y	1.00	1.075E-01	1.075E-01	0.904E-01	84.10	
	Total Activity :		6.714E+01	6.721E+01			

Grand Total Activity : 6.714E+01 6.721E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202038808 Acquisition date : 19-FEB-2010 20:32:37

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	90.29	82	291	1.00	179.49	168	24	1.13E-02	68.6	4.66E+00	T
3	92.96	59	293	1.17	184.85	168	24	8.18E-03	****	4.84E+00	T
0	185.86	57	362	1.35	370.63	367	12	7.91E-03	****	4.86E+00	T
0	209.39	96	166	1.29	417.69	414	8	1.33E-02	50.9	4.50E+00	T
0	270.54	68	107	1.67	539.99	537	7	9.39E-03	56.5	3.77E+00	T
0	463.03	60	104	1.00	924.97	918	12	8.35E-03	72.8	2.60E+00	T
0	728.15	43	60	2.22	1455.23	1447	12	5.98E-03	82.3	1.83E+00	T
0	795.61	42	53	1.59	1590.18	1583	15	5.81E-03	84.5	1.69E+00	T
0	1238.04	35	28	2.50	2475.20	2471	8	4.86E-03	63.4	1.12E+00	T
0	1377.52	17	22	1.35	2754.24	2749	10	2.32E-03	****	1.01E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 22:33:14.10

```
*******************************************************************************
*                              GEL Laboratories LLC                            *
*                                2040 Savage Road                              *
*                              Charleston, SC 29414                            *
*******************************************************************************
*                                                                             *
*                                DETECTOR DATA                                *
*                                                                             *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038808.CNF;1   *
* Acquisition date : 19-FEB-2010 20:32:37  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 02:00:01.14         Half life ratio : 8.00000          *
*******************************************************************************
*                                                                             *
*                                 SAMPLE DATA                                 *
*                                                                             *
* Sample date      : 4-FEB-2010 12:00:00.  Nuclide Library : SOLID            *
* Sample ID        : G1202038808           Analyst initials: MXR1             *
* Batch Number     : 951362                Sample Quantity : 1.12990E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                   QC DATA                                   *
*                                                                             *
* CALIB. DATE/TIME : 3-FEB-2010 11:04:32.11MS 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	3.797E+01	4.378E+00	7.005E-01	6.883E-02	54.206
CD-109	1.976E+00	1.345E+00	1.726E+00	2.142E-01	1.145
SN-126	1.941E-01	1.322E-01	1.709E-01	2.114E-02	1.136
TL-208	4.104E-01	1.004E-01	7.316E-02	6.700E-03	5.610
BI-211	3.803E+00	6.691E-01	4.516E-01	4.497E-02	8.421
PB-212	1.473E+00	2.257E-01	1.282E-01	1.527E-02	11.491
PO-212	1.473E+00	2.257E-01	1.282E-01	1.527E-02	11.491
BI-214	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585
PB-214	1.323E+00	2.428E-01	1.507E-01	1.692E-02	8.776
PO-214	1.323E+00	2.428E-01	1.507E-01	1.692E-02	8.776
PO-216	1.473E+00	2.257E-01	1.282E-01	1.527E-02	11.491
PO-218	1.323E+00	2.428E-01	1.507E-01	1.692E-02	8.776
RA-224	4.274E+00	1.924E+00	1.459E+00	1.609E-01	2.930
RA-226	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585
AC-228	1.290E+00	3.844E-01	2.896E-01	3.411E-02	4.455
RA-228	1.290E+00	3.844E-01	2.896E-01	3.411E-02	4.455
TH-228	1.496E+00	2.292E-01	1.302E-01	1.550E-02	11.491
TH-230	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585

Sample ID : G1202038808 Acquisition date : 19-FEB-2010 20:32:37

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.290E+00	3.844E-01	2.896E-01	3.411E-02	4.455
U-234	9.606E-01	2.155E-01	1.459E-01	1.446E-02	6.585
NP-237	5.701E-01	4.055E-01	5.111E-01	1.227E-01	1.115
AM-243	3.024E-01	1.182E-01	1.355E-01	1.558E-02	2.232
ANH-511	1.075E-01	9.042E-02	6.026E-02	5.206E-03	1.784

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.108E-01		4.527E-01	7.003E-01	6.510E-02	-0.444
NA-22	-1.010E-02		6.148E-02	9.756E-02	8.862E-03	-0.104
NA-24	5.208E-01		5.840E-01	Half-Life too short		
AL-26	5.667E-03		4.139E-02	6.970E-02	5.963E-03	0.081
TI-44	3.043E-01	+	8.234E-02	1.113E-01	1.297E-02	2.735
SC-46	8.408E-03		5.049E-02	8.470E-02	7.872E-03	0.099
V-48	-7.727E-03		9.744E-02	1.588E-01	1.451E-02	-0.049
CR-51	1.875E-01		4.779E-01	8.111E-01	8.612E-02	0.231
MN-52	-2.337E-01		3.010E-01	4.406E-01	4.241E-02	-0.530
MN-54	5.943E-02		5.124E-02	9.205E-02	8.354E-03	0.646
CO-56	-9.321E-03		5.011E-02	8.154E-02	7.441E-03	-0.114
CO-57	-2.390E-02		3.384E-02	5.310E-02	5.349E-03	-0.450
CO-58	-1.789E-02		4.713E-02	7.531E-02	6.771E-03	-0.237
FE-59	-4.830E-02		1.310E-01	2.060E-01	1.922E-02	-0.235
CO-60	-3.460E-02		6.177E-02	9.291E-02	8.932E-03	-0.372
ZN-65	-3.371E-01		1.524E-01	1.973E-01	1.686E-02	-1.709
GE-68	-3.138E-01		1.699E+00	2.722E+00	2.383E-01	-0.115
AS-73	1.240E+00		2.184E+00	3.704E+00	4.808E-01	0.335
AS-74	-4.755E-03		1.206E-01	1.938E-01	1.647E-02	-0.025
SE-75	-5.909E-02		6.128E-02	9.044E-02	9.917E-03	-0.653
BR-77	-1.985E+00		1.503E+01	2.346E+01	2.026E+00	-0.085
SR-82	1.462E-02		5.167E-01	8.518E-01	7.506E-02	0.017
RB-83	-2.773E-02		9.581E-02	1.424E-01	1.230E-02	-0.195
RB-84	3.609E-02		8.785E-02	1.508E-01	1.397E-02	0.239
KR-85	2.391E+01		1.116E+01	1.847E+01	1.596E+00	1.294
SR-85	1.229E-01		5.734E-02	9.496E-02	8.204E-03	1.294
RB-86	1.240E-01		1.053E+00	1.741E+00	1.524E-01	0.071
Y-88	-4.453E-02		3.974E-02	4.567E-02	3.846E-03	-0.975
ZR-88	-2.252E-03		4.189E-02	6.869E-02	5.782E-03	-0.033
Y-91	1.839E+01		2.704E+01	4.641E+01	3.913E+00	0.396
NB-94	7.138E-03		4.046E-02	6.865E-02	5.795E-03	0.104
NB-95	3.423E-02		6.033E-02	1.043E-01	9.138E-03	0.328
NB-95M	4.630E-01		2.067E-01	3.282E-01	3.949E-02	1.411
ZR-95	-1.025E-02		9.016E-02	1.488E-01	1.425E-02	-0.069
NB-97	6.634E-02		7.470E-02	Half-Life too short		
ZR-97	4.326E+00		1.815E+00	Half-Life too short		
MO-99	-8.183E+00		1.530E+01	2.425E+01	3.683E+00	-0.337
TC-99M	2.345E+10		4.945E+10	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
RH-101	-2.193E-02		4.949E-02	7.435E-02	8.111E-03	-0.295
RH-102	1.974E-02		3.973E-02	6.702E-02	5.783E-03	0.295
RU-103	3.987E-02		5.378E-02	9.191E-02	1.303E-02	0.434
RH-106	-2.800E-01		4.264E-01	6.434E-01	8.506E-02	-0.435
RU-106	-2.800E-01		4.254E-01	6.434E-01	5.408E-02	-0.435
AG-108M	-1.488E-02		4.400E-02	7.033E-02	6.261E-03	-0.212
AG-110M	1.771E-02		4.228E-02	7.326E-02	6.234E-03	0.242
IN-111	-2.756E-02		1.690E+00	2.465E+00	2.717E-01	-0.011
IN-113M	-1.635E-02		5.941E-02	9.600E-02	8.337E-03	-0.170
SN-113	-1.635E-02		5.941E-02	9.600E-02	8.337E-03	-0.170
IN-114M	-2.076E-01		3.091E-01	4.092E-01	4.442E-02	-0.507
CD-115	-1.163E+01		1.671E+01	2.564E+01	2.213E+00	-0.453
SN-117M	1.550E-02		7.675E-02	1.248E-01	1.308E-02	0.124
SB-122	8.313E-02		2.794E+00	4.529E+00	3.885E-01	0.018
I-123	5.307E+00		5.377E+00	Half-Life too short		
TE-123M	1.939E-02		3.930E-02	6.462E-02	6.810E-03	0.300
I-124	9.363E-01		1.031E+00	1.574E+00	1.334E-01	0.595
SB-124	-4.540E-02		8.011E-02	1.135E-01	1.067E-02	-0.400
SB-125	-7.965E-02		1.185E-01	1.843E-01	1.605E-02	-0.432
TE-125M	9.998E+00		1.272E+01	2.132E+01	2.503E+00	0.469
I-126	8.543E-02		2.208E-01	3.814E-01	3.145E-02	0.224
SB-126	1.941E-01		2.050E-01	3.273E-01	2.794E-02	0.593
SB-127	1.902E-01		1.920E+00	3.239E+00	3.644E-01	0.059
XE-127	6.639E-03		6.676E-02	1.071E-01	1.172E-02	0.062
I-131	2.093E-02		1.462E-01	2.436E-01	2.353E-02	0.086
TE-132	9.865E-01		1.002E+00	1.732E+00	2.978E-01	0.570
BA-133	5.755E-02		6.076E-02	9.396E-02	1.292E-02	0.612
I-133	6.657E-03		4.775E-03	Half-Life too short		
CS-134	1.083E-01	+	9.207E-02	1.116E-01	1.001E-02	0.970
CS-135	2.607E-01		2.353E-01	3.658E-01	4.389E-02	0.713
I-135	-6.503E+08		7.235E+09	Half-Life too short		
CS-136	-3.282E-04		1.501E-01	2.455E-01	2.271E-02	-0.001
BA-137M	-4.416E-03		4.195E-02	6.978E-02	5.737E-03	-0.063
CS-137	-4.668E-03		4.434E-02	7.377E-02	6.078E-03	-0.063
CE-139	-2.947E-02		4.072E-02	6.308E-02	6.734E-03	-0.467
BA-140	2.327E-01		3.798E-01	6.304E-01	2.089E-01	0.369
LA-140	1.011E-01		1.153E-01	2.138E-01	2.004E-02	0.473
CE-141	-4.057E-02		8.587E-02	1.331E-01	1.376E-02	-0.305
CE-143	7.725E-04		1.559E-04	Half-Life too short		
CE-144	6.882E-02		2.799E-01	4.580E-01	7.513E-02	0.150
PM-144	1.932E-03		4.217E-02	7.084E-02	5.960E-03	0.027
PR-144	1.310E-01		2.858E+00	4.801E+00	4.038E-01	0.027
PM-146	1.361E-02		5.594E-02	9.304E-02	9.963E-03	0.146
ND-147	-3.896E-01		8.017E-01	1.248E+00	1.867E-01	-0.312
PM-149	-5.338E+01		1.331E+02	2.167E+02	3.644E+01	-0.246
EU-152	-8.366E-02		1.562E-01	2.138E-01	2.176E-02	-0.391
GD-153	2.209E-02		1.262E-01	1.825E-01	2.015E-02	0.121
EU-154	-3.229E-02		1.713E-01	2.711E-01	3.161E-02	-0.119

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	-6.447E-03		1.434E-01	2.335E-01	2.460E-02	-0.028
TB-160	-7.276E-02		1.752E-01	2.774E-01	2.567E-02	-0.262
HO-166M	1.144E-03		7.468E-02	1.250E-01	1.061E-02	0.009
TM-171	-6.060E+01		5.081E+01	7.813E+01	8.918E+00	-0.776
LU-176	7.010E-04		3.471E-02	5.779E-02	6.042E-03	0.012
LU-177	3.154E+00	+	1.642E+00	2.585E+00	2.835E-01	1.220
LU-177M	-1.801E-01		2.398E-01	3.732E-01	3.171E-02	-0.483
HF-181	-6.875E-03		6.010E-02	9.715E-02	8.389E-03	-0.071
W-181	8.837E-01		6.536E-01	1.107E+00	1.264E-01	0.798
TA-182	-1.795E-02		2.863E-01	4.614E-01	3.960E-02	-0.039
RE-183	-3.853E-02		1.566E-01	2.441E-01	2.583E-02	-0.158
RE-184	-1.275E-01		3.122E-01	5.120E-01	5.631E-02	-0.249
OS-185	-9.274E-03		5.504E-02	8.696E-02	7.217E-03	-0.107
RE-188	1.571E-01		2.343E-01	3.880E-01	4.035E-02	0.405
W-188	-6.271E-01		1.126E+01	1.625E+01	1.736E+00	-0.039
IR-192	-4.012E-02		4.537E-02	7.104E-02	7.325E-03	-0.565
AU-195	5.207E-01		3.542E-01	5.428E-01	5.916E-02	0.959
TL-200	-2.450E-04		3.405E-04	Half-Life too short		
TL-201	-2.543E+00		9.970E+00	1.584E+01	1.692E+00	-0.161
TL-202	-3.204E-02		9.529E-02	1.523E-01	1.305E-02	-0.210
HG-203	4.055E-02		5.589E-02	9.629E-02	1.060E-02	0.421
BI-207	-1.417E-02		7.286E-02	1.168E-01	1.031E-02	-0.121
TL-207	-1.394E+00		9.384E-01	1.364E+00	2.524E-01	-1.022
PO-209	-6.193E+00		1.028E+01	1.601E+01	1.492E+00	-0.387
BI-210	7.420E+00		1.392E+01	2.365E+01	2.913E+00	0.314
PB-210	7.420E+00		1.392E+01	2.365E+01	2.913E+00	0.314
PO-210	7.420E+00		1.392E+01	2.365E+01	2.759E+00	0.314
PB-211	-8.936E-02		1.242E+00	2.029E+00	1.271E+00	-0.044
BI-212	6.630E-01	+	5.495E-01	7.605E-01	7.578E-02	0.872
PO-215	-1.394E+00		9.384E-01	1.364E+00	2.524E-01	-1.022
RN-219	-2.841E-01		5.475E-01	8.662E-01	1.293E-01	-0.328
RN-220	1.679E+01		3.575E+01	5.993E+01	5.156E+00	0.280
RA-223	-1.394E+00		9.384E-01	1.364E+00	2.524E-01	-1.022
AC-227	5.006E-02		5.055E-01	8.505E-01	1.428E-01	0.059
TH-227	5.006E-02		5.055E-01	8.505E-01	1.642E-01	0.059
TH-229	1.727E-01		7.524E-01	1.174E+00	1.278E-01	0.147
PA-231	-7.639E-01		2.075E+00	3.388E+00	5.589E-01	-0.226
TH-231	-1.394E+00		9.384E-01	1.364E+00	2.524E-01	-1.022
U-231	-6.732E-01		1.849E+00	2.597E+00	2.909E-01	-0.259
PA-233	1.239E-02		8.473E-02	1.420E-01	1.502E-02	0.087
PA-234	5.692E-02		4.033E-01	6.723E-01	1.281E-01	0.085
PA-234M	4.783E+00		5.499E+00	9.784E+00	1.015E+00	0.489
TH-234	-6.418E-01		2.473E+00	4.019E+00	7.829E-01	-0.160
U-235	-7.749E-02		2.865E-01	4.486E-01	8.220E-02	-0.173
NP-236	1.337E-01		1.094E-01	1.843E-01	1.940E-02	0.725
U-238	-6.418E-01		2.473E+00	4.019E+00	7.829E-01	-0.160
NP-239	7.359E-02		2.558E-01	4.212E-01	4.252E-02	0.175
AM-241	-7.024E-02		3.086E-01	5.058E-01	5.937E-02	-0.139

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.555E-01		1.342E-01	2.067E-01	2.177E-02	-0.752
AM-246	-3.989E-02		1.917E-01	3.064E-01	2.680E-02	-0.130
CM-247	-4.185E-03		4.950E-02	8.091E-02	6.843E-03	-0.052
CF-249	1.183E-02		5.365E-02	8.954E-02	7.639E-03	0.132
CF-251	4.369E-02		1.714E-01	2.785E-01	2.994E-02	0.157

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202038808          *
* Acquisition date  : 19-FEB-2010 20:32:37 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 02:00:01.14      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       :  4-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202038808          Analyst initials: MXR1           *
* Batch Number      : 951362               Sample Quantity : 1.1299E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME :  3-FEB-2010 11:04:32 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	3.797E+01	4.291E+00	3.488E-01	2.189E+00
CD-109	1.976E+00	1.318E+00	8.803E-01	6.725E-01
SN-126	1.941E-01	1.295E-01	8.716E-02	6.608E-02
TL-208	4.104E-01	9.842E-02	3.673E-02	5.021E-02
BI-211	3.803E+00	6.557E-01	2.277E-01	3.346E-01
PB-212	1.473E+00	2.212E-01	6.486E-02	1.128E-01
PO-212	1.473E+00	2.212E-01	6.486E-02	1.128E-01
BI-214	9.606E-01	2.112E-01	7.320E-02	1.077E-01
PB-214	1.323E+00	2.379E-01	7.600E-02	1.214E-01
PO-214	1.323E+00	2.379E-01	7.600E-02	1.214E-01
PO-216	1.473E+00	2.212E-01	6.486E-02	1.128E-01
PO-218	1.323E+00	2.379E-01	7.600E-02	1.214E-01
RA-224	4.274E+00	1.885E+00	7.378E-01	9.618E-01
RA-226	9.606E-01	2.112E-01	7.320E-02	1.077E-01
AC-228	1.290E+00	3.767E-01	1.448E-01	1.922E-01
RA-228	1.290E+00	3.767E-01	1.448E-01	1.922E-01
TH-228	1.496E+00	2.246E-01	6.585E-02	1.146E-01
TH-230	9.606E-01	2.112E-01	7.320E-02	1.077E-01
TH-232	1.290E+00	3.767E-01	1.448E-01	1.922E-01
U-234	9.606E-01	2.112E-01	7.320E-02	1.077E-01
NP-237	5.701E-01	3.974E-01	2.608E-01	2.028E-01
AM-243	3.024E-01	1.158E-01	6.920E-02	5.909E-02
ANH-511	1.075E-01	8.861E-02	3.028E-02	4.521E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-3.108E-01	4.437E-01	3.521E-01	2.264E-01	NOT IDENT.
NA-22	-1.010E-02	6.025E-02	4.864E-02	3.074E-02	NOT IDENT.
NA-24	5.208E+05	1.145E+06	0.000E+00	5.840E+05	SHORT HLIF
AL-26	5.667E-03	4.056E-02	3.465E-02	2.070E-02	NOT IDENT.

TI-44	3.043E-01	8.070E-02	5.681E-02	4.117E-02	FAIL ABUN
SC-46	8.408E-03	4.948E-02	4.237E-02	2.524E-02	NOT IDENT.
V-48	-7.727E-03	9.549E-02	7.934E-02	4.872E-02	NOT IDENT.
CR-51	1.875E-01	4.684E-01	4.093E-01	2.390E-01	NOT IDENT.
MN-52	-2.337E-01	2.949E-01	2.195E-01	1.505E-01	NOT IDENT.
MN-54	5.943E-02	5.021E-02	4.607E-02	2.562E-02	NOT IDENT.
CO-56	-9.321E-03	4.911E-02	4.080E-02	2.505E-02	FAIL ABUN
CO-57	-2.390E-02	3.317E-02	2.702E-02	1.692E-02	NOT IDENT.
CO-58	-1.789E-02	4.618E-02	3.770E-02	2.356E-02	NOT IDENT.
FE-59	-4.830E-02	1.284E-01	1.028E-01	6.549E-02	NOT IDENT.
CO-60	-3.460E-02	6.054E-02	4.630E-02	3.089E-02	NOT IDENT.
ZN-65	-3.371E-01	1.494E-01	9.848E-02	7.622E-02	NOT IDENT.
GE-68	-3.138E-01	1.665E+00	1.359E+00	8.494E-01	NOT IDENT.
AS-73	1.240E+00	2.140E+00	1.897E+00	1.092E+00	NOT IDENT.
AS-74	-4.755E-03	1.182E-01	9.729E-02	6.032E-02	NOT IDENT.
SE-75	-5.909E-02	6.005E-02	4.571E-02	3.064E-02	NOT IDENT.
BR-77	-1.985E+00	1.473E+01	1.179E+01	7.515E+00	FAIL ABUN
SR-82	1.462E-02	5.064E-01	4.265E-01	2.584E-01	NOT IDENT.
RB-83	-2.773E-02	9.389E-02	7.154E-02	4.790E-02	NOT IDENT.
RB-84	3.609E-02	8.609E-02	7.544E-02	4.392E-02	NOT IDENT.
KR-85	2.391E+01	1.093E+01	9.284E+00	5.578E+00	NOT IDENT.
SR-85	1.229E-01	5.619E-02	4.772E-02	2.867E-02	NOT IDENT.
RB-86	1.240E-01	1.032E+00	8.691E-01	5.266E-01	NOT IDENT.
Y-88	-4.453E-02	3.895E-02	2.270E-02	1.987E-02	NOT IDENT.
ZR-88	-2.252E-03	4.105E-02	3.460E-02	2.094E-02	NOT IDENT.
Y-91	1.839E+01	2.650E+01	2.315E+01	1.352E+01	NOT IDENT.
NB-94	7.138E-03	3.965E-02	3.440E-02	2.023E-02	NOT IDENT.
NB-95	3.423E-02	5.912E-02	5.223E-02	3.016E-02	NOT IDENT.
NB-95M	4.630E-01	2.026E-01	1.660E-01	1.034E-01	NOT IDENT.
ZR-95	-1.025E-02	8.836E-02	7.453E-02	4.508E-02	NOT IDENT.
NB-97	6.634E+04	1.464E+05	0.000E+00	7.470E+04	SHORT HLIF
ZR-97	4.326E+06	3.558E+06	0.000E+00	1.815E+06	SHORT HLIF
MO-99	-8.183E+00	1.500E+01	1.215E+01	7.651E+00	NOT IDENT.
TC-99M	2.345E+16	9.693E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.193E-02	4.850E-02	3.767E-02	2.474E-02	NOT IDENT.
RH-102	1.974E-02	3.894E-02	3.370E-02	1.987E-02	NOT IDENT.
RU-103	3.987E-02	5.271E-02	4.620E-02	2.689E-02	FAIL ABUN
RH-106	-2.800E-01	4.179E-01	3.228E-01	2.132E-01	FAIL ABUN
RU-106	-2.800E-01	4.169E-01	3.228E-01	2.127E-01	FAIL ABUN
AG-108M	-1.488E-02	4.312E-02	3.539E-02	2.200E-02	NOT IDENT.
AG-110M	1.771E-02	4.143E-02	3.674E-02	2.114E-02	NOT IDENT.
IN-111	-2.756E-02	1.656E+00	1.247E+00	8.450E-01	NOT IDENT.
IN-113M	-1.635E-02	5.823E-02	4.835E-02	2.971E-02	NOT IDENT.
SN-113	-1.635E-02	5.823E-02	4.835E-02	2.971E-02	NOT IDENT.
IN-114M	-2.076E-01	3.030E-01	2.074E-01	1.546E-01	NOT IDENT.
CD-115	-1.163E+01	1.638E+01	1.288E+01	8.356E+00	NOT IDENT.
SN-117M	1.550E-02	7.522E-02	6.333E-02	3.838E-02	NOT IDENT.
SB-122	8.313E-02	2.738E+00	2.274E+00	1.397E+00	NOT IDENT.
I-123	5.307E+06	1.054E+07	0.000E+00	5.377E+06	SHORT HLIF
TE-123M	1.939E-02	3.851E-02	3.280E-02	1.965E-02	NOT IDENT.
I-124	9.363E-01	1.010E+00	7.898E-01	5.153E-01	FAIL ABUN
SB-124	-4.540E-02	7.851E-02	5.646E-02	4.006E-02	FAIL ABUN
SB-125	-7.965E-02	1.161E-01	9.274E-02	5.923E-02	FAIL ABUN
TE-125M	9.998E+00	1.246E+01	1.085E+01	6.358E+00	NOT IDENT.
I-126	8.543E-02	2.163E-01	1.912E-01	1.104E-01	NOT IDENT.
SB-126	1.941E-01	2.009E-01	1.640E-01	1.025E-01	FAIL ABUN
SB-127	1.902E-01	1.881E+00	1.624E+00	9.598E-01	NOT IDENT.
XE-127	6.639E-03	6.542E-02	5.426E-02	3.338E-02	NOT IDENT.
I-131	2.093E-02	1.433E-01	1.228E-01	7.309E-02	NOT IDENT.
TE-132	9.865E-01	9.822E-01	8.763E-01	5.011E-01	NOT IDENT.
BA-133	5.755E-02	5.954E-02	4.737E-02	3.038E-02	NOT IDENT.
I-133	6.657E+03	9.360E+03	0.000E+00	4.775E+03	SHORT HLIF
CS-134	1.083E-01	9.023E-02	5.589E-02	4.604E-02	FAIL ABUN
CS-135	2.607E-01	2.306E-01	1.848E-01	1.176E-01	NOT IDENT.
I-135	-6.503E+14	1.418E+16	0.000E+00	7.235E+15	SHORT HLIF
CS-136	-3.282E-04	1.471E-01	1.226E-01	7.504E-02	FAIL ABUN
BA-137M	-4.416E-03	4.111E-02	3.499E-02	2.097E-02	NOT IDENT.
CS-137	-4.668E-03	4.346E-02	3.699E-02	2.217E-02	NOT IDENT.
CE-139	-2.947E-02	3.990E-02	3.201E-02	2.036E-02	NOT IDENT.
BA-140	2.327E-01	3.722E-01	3.167E-01	1.899E-01	NOT IDENT.
LA-140	1.011E-01	1.130E-01	1.064E-01	5.764E-02	NOT IDENT.
CE-141	-4.057E-02	8.415E-02	6.762E-02	4.293E-02	NOT IDENT.
CE-143	7.725E+02	3.056E+02	0.000E+00	1.559E+02	SHORT HLIF
CE-144	6.882E-02	2.743E-01	2.328E-01	1.400E-01	NOT IDENT.
PM-144	1.932E-03	4.133E-02	3.551E-02	2.109E-02	NOT IDENT.
PR-144	1.310E-01	2.801E+00	2.406E+00	1.429E+00	NOT IDENT.
PM-146	1.361E-02	5.482E-02	4.681E-02	2.797E-02	NOT IDENT.
ND-147	-3.896E-01	7.856E-01	6.272E-01	4.008E-01	FAIL ABUN

PM-149	-5.338E+01	1.304E+02	1.095E+02	6.654E+01	NOT IDENT.
EU-152	-8.366E-02	1.530E-01	1.078E-01	7.808E-02	NOT IDENT.
GD-153	2.209E-02	1.236E-01	9.304E-02	6.308E-02	NOT IDENT.
EU-154	-3.229E-02	1.679E-01	1.351E-01	8.565E-02	NOT IDENT.
EU-155	-6.447E-03	1.405E-01	1.189E-01	7.168E-02	FAIL ABUN
TB-160	-7.276E-02	1.717E-01	1.387E-01	8.761E-02	FAIL ABUN
HO-166M	1.144E-03	7.319E-02	6.265E-02	3.734E-02	FAIL ABUN
TM-171	-6.060E+01	4.980E+01	3.995E+01	2.541E+01	NOT IDENT.
LU-176	7.010E-04	3.402E-02	2.917E-02	1.736E-02	FAIL ABUN
LU-177	3.154E+00	1.609E+00	1.309E+00	8.209E-01	FAIL ABUN
LU-177M	-1.801E-01	2.350E-01	1.879E-01	1.199E-01	NOT IDENT.
HF-181	-6.875E-03	5.890E-02	4.885E-02	3.005E-02	NOT IDENT.
W-181	8.837E-01	6.406E-01	5.661E-01	3.268E-01	NOT IDENT.
TA-182	-1.795E-02	2.806E-01	2.301E-01	1.432E-01	NOT IDENT.
RE-183	-3.853E-02	1.535E-01	1.239E-01	7.832E-02	FAIL ABUN
RE-184	-1.275E-01	3.060E-01	2.589E-01	1.561E-01	NOT IDENT.
OS-185	-9.274E-03	5.394E-02	4.361E-02	2.752E-02	NOT IDENT.
RE-188	1.571E-01	2.296E-01	1.970E-01	1.171E-01	NOT IDENT.
W-188	-6.271E-01	1.104E+01	8.204E+00	5.632E+00	NOT IDENT.
IR-192	-4.012E-02	4.446E-02	3.585E-02	2.268E-02	FAIL ABUN
AU-195	5.207E-01	3.471E-01	2.766E-01	1.771E-01	FAIL ABUN
TL-200	-2.450E+02	6.675E+02	0.000E+00	3.405E+02	SHORT HLIF
TL-201	-2.543E+00	9.770E+00	8.034E+00	4.985E+00	NOT IDENT.
TL-202	-3.204E-02	9.339E-02	7.663E-02	4.765E-02	NOT IDENT.
HG-203	4.055E-02	5.478E-02	4.864E-02	2.795E-02	NOT IDENT.
BI-207	-1.417E-02	7.141E-02	5.833E-02	3.643E-02	FAIL ABUN
TL-207	-1.394E+00	9.196E-01	6.883E-01	4.692E-01	FAIL ABUN
PO-209	-6.193E+00	1.008E+01	8.007E+00	5.141E+00	NOT IDENT.
BI-210	7.420E+00	1.365E+01	1.213E+01	6.962E+00	NOT IDENT.
PB-210	7.420E+00	1.365E+01	1.213E+01	6.962E+00	NOT IDENT.
PO-210	7.420E+00	1.364E+01	1.213E+01	6.961E+00	NOT IDENT.
PB-211	-8.936E-02	1.217E+00	1.022E+00	6.210E-01	NOT IDENT.
BI-212	6.630E-01	5.385E-01	3.810E-01	2.748E-01	FAIL ABUN
PO-215	-1.394E+00	9.196E-01	6.883E-01	4.692E-01	FAIL ABUN
RN-219	-2.841E-01	5.365E-01	4.362E-01	2.737E-01	FAIL ABUN
RN-220	1.679E+01	3.504E+01	3.010E+01	1.788E+01	NOT IDENT.
RA-223	-1.394E+00	9.196E-01	6.883E-01	4.692E-01	FAIL ABUN
AC-227	5.006E-02	4.954E-01	4.300E-01	2.527E-01	FAIL ABUN
TH-227	5.006E-02	4.954E-01	4.300E-01	2.528E-01	FAIL ABUN
TH-229	1.727E-01	7.373E-01	5.950E-01	3.762E-01	FAIL ABUN
PA-231	-7.639E-01	2.033E+00	1.711E+00	1.037E+00	FAIL ABUN
TH-231	-1.394E+00	9.196E-01	6.883E-01	4.692E-01	FAIL ABUN
U-231	-6.732E-01	1.812E+00	1.324E+00	9.245E-01	FAIL ABUN
PA-233	1.239E-02	8.303E-02	7.164E-02	4.236E-02	FAIL ABUN
PA-234	5.692E-02	3.952E-01	3.361E-01	2.016E-01	FAIL ABUN
PA-234M	4.783E+00	5.389E+00	4.888E+00	2.749E+00	NOT IDENT.
TH-234	-6.418E-01	2.424E+00	2.056E+00	1.237E+00	FAIL ABUN
U-235	-7.749E-02	2.807E-01	2.279E-01	1.432E-01	FAIL ABUN
NP-236	1.337E-01	1.072E-01	9.354E-02	5.469E-02	NOT IDENT.
U-238	-6.418E-01	2.424E+00	2.056E+00	1.237E+00	FAIL ABUN
NP-239	7.359E-02	2.507E-01	2.144E-01	1.279E-01	FAIL ABUN
AM-241	-7.024E-02	3.024E-01	2.589E-01	1.543E-01	NOT IDENT.
CM-243	-1.555E-01	1.315E-01	1.053E-01	6.711E-02	FAIL ABUN
AM-246	-3.989E-02	1.879E-01	1.530E-01	9.587E-02	NOT IDENT.
CM-247	-4.185E-03	4.851E-02	4.075E-02	2.475E-02	NOT IDENT.
CF-249	1.183E-02	5.258E-02	4.511E-02	2.683E-02	NOT IDENT.
CF-251	4.369E-02	1.680E-01	1.412E-01	8.572E-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
46.50	237.7930
46.50	237.7930
46.50	237.7930
48.70	263.5205
49.72	248.6719
51.35	255.1010
52.39	234.4017
52.97	224.0451
53.15	224.1104
53.44	231.9137
54.07	240.8176
56.28	246.4919
56.28	246.4933
57.37	0.0000
57.53	255.6883
57.53	255.6891
57.60	255.7158
57.98	253.9269
57.98	253.9269
59.32	247.6480
59.32	247.6480
59.40	270.0177
59.54	270.0745
59.72	270.1482
60.01	292.6260
61.10	306.7364
61.14	306.7544
61.30	304.8796
63.00	306.6206
63.29	301.8654
63.29	301.8654
63.58	288.3105
64.28	258.2750
65.12	269.3617
65.20	269.3929
65.20	269.3929
66.05	343.2792
66.72	368.1479
66.83	378.0246
66.91	378.0679
67.20	378.2221
67.20	378.2221
67.75	360.8162
67.85	362.8346
68.90	347.9379
68.90	347.9379
69.30	333.6786
69.67	332.7989
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70.83	293.8332
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72.87	373.8499
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74.81	345.4339
74.81	345.4339
74.81	345.4339
74.81	345.4339
74.97	345.5069
75.28	345.6476
75.70	345.8375
77.11	346.4734
77.11	346.4734

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77.11	346.4734
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81.07	429.6151
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83.78	367.8788
84.21	366.4671
84.90	378.0375
85.43	371.8432
86.29	373.8437
86.50	333.4420
86.54	333.4572
86.59	333.4774
86.72	333.5304
86.79	333.5569
86.94	333.6188
87.30	333.7627
87.30	333.7627
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87.57	333.8713
87.88	333.9951
88.03	334.0557
88.36	334.1870
88.47	334.2312
89.95	334.8183
91.11	335.2754
92.29	335.7375
92.38	335.7729
92.38	335.7729
93.35	336.1491
94.00	336.4017
94.67	314.0785
94.67	314.0809
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94.90	323.9301
94.90	323.9301
94.90	323.9301
95.87	366.6577
95.87	366.6577
96.73	345.8108
97.43	313.4332
98.44	263.1236
98.44	263.1245
98.88	263.2533
99.55	259.0862
99.55	259.0862
99.86	286.4568
100.00	286.5016
100.10	286.5337
103.18	322.4123
103.76	326.7256
105.00	286.0099
105.31	283.0178
108.00	285.8929
109.28	279.0442

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111.00	288.8629
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115.19	264.1128
116.30	273.7781
117.00	273.9707
117.00	273.9707
117.66	253.3042
121.11	273.0014
121.62	276.2773
121.78	265.8539
122.06	286.8668
122.32	274.3722
122.32	274.3722
122.32	274.3722
122.32	274.3722
123.07	266.1892
127.23	297.7732
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131.20	296.7809
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133.54	286.8438
135.34	295.8011
136.00	300.2233
136.25	289.6813
136.48	295.0484
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140.51	0.0000
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142.65	281.7508
143.76	276.6873
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144.24	283.2163
144.24	283.2163
145.22	284.5306
145.44	276.0265
147.16	294.6591
152.43	275.5488
152.70	278.8412
153.22	277.8885
154.21	267.3409
154.21	267.3409
154.21	267.3409
154.21	267.3409
155.03	266.4476
156.02	315.2536
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159.00	0.0000
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160.31	242.7031
161.27	254.8242
162.32	282.1751
162.64	273.5640
163.35	287.8442
163.89	268.4113
165.85	281.8980
167.43	263.7311
171.28	264.5417
171.86	266.8508
172.10	271.2765
176.55	242.5854
176.60	243.6932
181.06	248.4970
184.41	249.1304
185.71	277.6727
186.00	277.7321
190.27	294.5892
192.34	257.7148
193.63	261.7713
197.04	276.4343
198.01	277.7447
198.60	264.4715
200.40	246.9355
201.83	262.8474
202.84	257.4392
205.31	263.7207

208.36	262.4881
208.81	263.0197
209.75	251.9436
209.75	251.9436
210.97	270.1685
215.65	249.9591
216.55	254.9343
218.09	252.4861
222.10	225.0391
223.80	247.0977
226.40	226.5939
227.00	218.4902
227.08	199.3844
227.20	199.3991
228.16	208.6368
228.18	208.6396
228.18	208.6396
231.56	0.0000
235.69	225.8376
236.00	225.8828
236.00	225.8828
238.63	232.0731
238.63	232.0731
238.63	232.0731
238.63	232.0731
239.00	232.1272
240.98	232.4206
241.98	232.5688
241.98	232.5688
241.98	232.5688
244.69	204.1149
245.39	194.9920
247.94	169.1604
248.90	192.5620
249.79	192.9621
252.40	203.5551
252.85	195.2819
252.85	195.2819
254.15	0.0000
256.20	180.8439
256.20	180.8439
260.50	169.2298
260.90	166.4796
262.80	179.7053
264.65	187.5959
268.24	158.8043
268.79	157.2988
269.46	166.7086
269.46	166.7086
269.46	166.7086
269.46	166.7086
271.23	174.0571
273.65	218.6617
276.40	187.7246
277.35	178.4358
277.60	180.3422
277.60	180.3422
278.00	182.2610
278.60	186.0842
279.20	172.0472
279.53	169.2576
280.46	193.8115
281.68	187.3568
283.67	177.2001
284.30	179.1501
285.00	171.6759
285.90	174.5960
286.10	168.0070
286.10	168.0070
287.40	163.4081
288.45	0.0000
290.67	168.7571
290.80	168.7701
291.72	178.3258
293.26	0.0000
293.70	157.9854
295.21	164.4424
295.21	164.4424

295.21	164.4424
295.96	156.6010
296.50	156.6493
297.23	156.7117
298.57	156.8286
299.80	172.7851
299.80	172.7851
300.09	168.0576
300.09	168.0576
300.09	168.0576
300.09	168.0576
300.12	168.0598
301.29	190.3784
302.84	171.4856
303.76	169.9848
303.91	169.9979
304.40	162.0977
304.40	162.0977
304.84	168.4954
306.84	166.1305
308.46	164.3658
311.98	141.6984
316.51	153.5586
318.01	145.0352
319.02	130.6975
319.41	126.8808
320.08	125.9628
323.87	184.0217
323.87	184.0217
323.87	184.0217
323.87	184.0217
325.23	153.2995
328.77	137.1621
333.44	171.0574
334.20	158.2092
334.20	158.2092
334.30	158.2172
338.28	158.2147
338.28	158.2147
338.28	158.2147
338.28	158.2147
338.32	158.2186
338.32	158.2186
338.32	158.2186
340.50	137.6615
340.57	137.6667
344.27	157.3961
345.85	157.5204
350.59	0.0000
351.07	141.6476
351.92	129.9802
351.92	129.9802
351.92	129.9802
355.39	0.0000
356.01	96.2939
364.48	104.2312
366.43	115.1547
367.43	120.1340
367.94	0.0000
369.80	115.3418
374.96	127.4836
383.85	124.0479
387.95	119.3130
388.63	113.3821
391.69	123.5020
391.69	123.5020
392.90	124.5682
398.62	119.8975
400.65	133.0081
401.10	121.0325
401.81	125.0732
402.60	121.1152
404.84	120.2358
410.95	106.4982
411.60	111.5542
413.65	131.7740
414.70	133.8475
415.30	133.8832

415.76	125.8560
417.63	0.0000
418.52	92.7423
423.70	108.1076
427.08	94.1012
427.89	109.3170
432.53	102.4363
433.93	111.6315
439.47	112.9132
439.56	112.9173
439.89	106.8278
443.98	93.7643
444.90	88.7024
445.03	88.7077
445.03	88.7077
445.03	88.7077
445.03	88.7077
453.90	91.0838
463.38	92.4686
468.07	92.6455
473.00	91.7997
475.06	93.9404
475.35	100.1461
476.78	100.2041
477.59	116.7699
477.96	110.5867
482.03	107.6613
484.57	86.0081
487.03	93.3530
490.36	0.0000
492.35	83.1553
497.08	79.1432
507.63	0.0000
510.53	0.0000
510.84	88.9880
511.00	88.9932
511.85	89.0217
511.85	89.0217
513.99	80.3601
513.99	80.3601
520.41	87.9988
520.65	86.4016
527.90	109.5834
528.96	0.0000
529.64	75.9164
529.87	0.0000
531.02	102.3284
537.32	88.8214
543.00	95.3657
546.56	0.0000
549.76	82.8541
552.65	99.9553
555.20	91.5325
563.23	72.5837
563.90	79.0062
568.70	69.5164
569.32	65.2533
569.50	65.2578
569.67	62.0512
573.80	76.0702
574.00	81.4328
574.64	85.7383
578.91	84.0783
579.30	0.0000
583.14	76.3198
585.48	80.6854
591.81	73.0762
592.07	78.7138
593.00	95.9966
595.88	79.8969
600.56	84.3508
602.52	0.0000
602.71	72.1484
602.71	72.1484
603.60	64.9526
604.41	70.3844
604.70	84.8318
609.31	85.6868

609.31	85.6868
609.31	85.6868
609.31	85.6868
610.33	84.9943
612.46	103.1525
614.37	86.9199
618.01	77.3576
621.84	84.9602
621.84	84.9602
631.29	71.0223
633.02	57.9429
633.10	51.3844
634.78	70.0094
635.90	84.2620
636.97	85.3849
645.85	63.6768
646.12	70.2688
656.30	66.0952
657.75	63.3707
657.90	0.0000
661.65	67.1276
661.65	67.1276
664.57	0.0000
666.33	64.4643
666.33	64.4643
675.00	71.1050
677.61	79.4825
685.20	78.7450
692.80	85.4302
695.00	68.7622
696.49	69.7235
696.49	69.7235
697.00	71.5938
697.49	76.2544
698.33	80.9253
698.50	78.1382
699.00	70.7073
702.63	66.1292
706.10	68.0647
706.58	0.0000
706.67	74.6045
709.31	66.2635
711.68	66.3112
713.82	73.8311
717.42	74.8470
720.50	54.5824
721.93	0.0000
722.20	86.7330
722.78	93.1738
722.78	93.1738
722.89	93.1779
722.95	93.1799
723.30	99.6147
724.18	96.4286
727.18	70.7772
733.00	45.1182
735.90	67.7358
739.58	67.8091
742.81	57.5040
744.21	61.2998
747.13	65.1283
751.79	71.8329
752.31	71.8438
753.82	60.5260
755.35	63.3918
756.15	66.2459
756.87	67.2053
763.93	90.1062
765.79	84.4605
766.42	78.7818
766.84	78.7902
776.49	68.5371
778.00	52.3771
778.57	61.9108
778.89	64.7738
783.80	50.5555
785.46	54.3965
792.07	57.3669

795.84	46.8985
796.30	46.9055
798.80	62.4007
801.93	52.5938
805.60	48.9456
810.29	54.7758
810.76	55.7438
815.85	52.9344
817.79	51.9994
818.51	53.9367
819.60	48.1720
826.30	64.6677
828.27	0.0000
831.60	72.4945
831.96	72.5006
834.83	59.0131
836.80	0.0000
846.75	58.2324
848.13	59.2241
856.28	0.0000
856.80	83.6904
860.37	56.4955
867.32	61.4786
867.82	56.6064
871.10	59.5852
873.19	54.7308
874.81	51.8214
875.33	0.0000
876.40	48.9085
879.36	54.8197
880.27	58.7488
880.51	61.6901
881.50	46.0342
883.24	48.0151
884.67	47.0527
889.25	51.0341
896.60	67.8461
898.02	66.8877
899.00	62.9688
903.28	65.8520
911.07	60.2020
911.07	60.2020
911.07	60.2020
919.63	47.4746
920.93	47.4902
925.00	56.4526
925.24	51.5038
926.50	48.5474
935.52	49.6501
937.48	55.6343
944.10	57.7162
946.00	53.7605
949.00	46.8269
962.29	58.2596
964.01	49.7133
966.15	54.8839
968.20	85.7997
969.11	89.1086
969.11	89.1086
969.11	89.1086
977.42	63.8044
980.50	49.1944
983.50	55.2574
989.30	50.3042
996.32	60.4663
1001.03	36.3201
1001.68	39.3531
1004.76	44.4306
1021.30	0.0000
1024.50	0.0000
1034.80	48.8105
1036.00	41.7040
1037.82	46.8086
1038.57	44.7824
1038.76	0.0000
1045.16	54.0244
1046.59	50.9827
1048.07	54.0589

1050.47	55.1096
1050.47	55.1096
1062.04	57.3011
1063.62	57.3216
1076.63	48.2507
1077.35	54.4190
1078.86	53.4092
1085.78	46.2909
1099.22	62.9385
1112.02	58.9761
1112.84	70.3713
1115.52	119.0804
1120.29	58.0462
1120.29	58.0462
1120.29	58.0462
1120.29	58.0462
1120.51	52.8656
1121.28	54.9495
1124.00	0.0000
1129.67	59.2034
1131.51	0.0000
1147.95	0.0000
1167.94	69.1152
1173.22	58.7070
1175.09	54.5348
1177.93	73.4578
1189.05	72.5769
1204.90	58.0414
1205.75	0.0000
1213.00	73.9933
1221.42	70.9449
1230.97	69.3130
1235.34	69.1719
1236.41	0.0000
1238.25	71.1875
1246.25	60.6599
1260.41	0.0000
1271.85	52.4134
1274.45	49.2288
1274.54	49.2306
1291.56	44.0263
1298.22	0.0000
1312.09	31.2644
1325.50	34.5885
1325.50	34.5885
1332.49	49.7884
1333.61	48.7152
1360.21	25.1807
1362.66	0.0000
1365.15	28.0047
1368.21	22.1289
1368.53	0.0000
1376.25	28.9976
1384.27	30.6022
1394.10	24.4013
1395.20	25.3455
1407.95	16.9365
1434.06	27.4161
1436.60	25.5376
1457.56	0.0000
1460.81	21.8489
1489.15	27.6872
1509.49	17.2460
1596.49	15.5586
1620.62	12.6921
1678.03	0.0000
1691.02	11.8502
1691.02	11.8502
1706.46	0.0000
1750.46	0.0000
1764.49	7.9916
1764.49	7.9916
1764.49	7.9916
1764.49	7.9916
1770.23	13.9976
1771.40	12.2500
1791.20	0.0000
1808.65	13.0739

1836.01 15.1475

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202038808

Total Uranium Activity	-1.9452E+00	ug/g
Total Uranium Counting Unc.	7.2125E+00	ug/g
Total Uranium Tpu	3.6798E-06	ug/g
Total Uranium Mda	6.1165E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 951362                    SAMPLE ID  : G1202038808        *
*   ANALYST       : MXR1                      DETECTOR   : GAM15              *
*   SAMPLE DATE   :  4-FEB-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 19-FEB-2010 20:32:37.12    SAMPLE ALQT:  112.990 GRAM      *
*                                                                             *
*******************************************************************************


         GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.666E+00
         GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.664E+00
         GROSS GAMMA MDA     (pCi/GRAM  )  : 3.012E+00
         GROSS GAMMA DLC     (pCi/GRAM  )  : 1.453E+00
```

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 21:33:44.64

```
*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038809.CNF;1
Sample date       : 12-FEB-2010 00:00:00 Acquisition date : 19-FEB-2010 20:33:18
Sample ID         : G1202038809          Sample quantity  : 1.55440E+02 GRAM
Detector name     : GAM14                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:01.56  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 951362               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*******************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.50*	4246	1341	1.32	118.57	111	15	1.18E+00	2.4	
2	0	77.37*	202	515	1.30	154.26	151	7	5.62E-02	20.3	
3	0	88.13	1756	622	1.40	175.76	170	12	4.88E-01	3.7	
4	0	93.26*	108	364	1.63	186.00	182	10	3.01E-02	35.0	
5	0	121.91	289	487	1.25	243.26	236	14	8.03E-02	17.2	
6	0	186.14*	114	292	1.25	371.60	367	10	3.17E-02	29.9	
7	4	238.47*	560	225	1.30	476.16	468	19	1.55E-01	6.4	7.63E-01
8	4	241.43	139	288	1.74	482.09	468	19	3.85E-02	26.4	
9	0	293.85*	75	423	1.32	586.84	583	15	2.07E-02	61.1	
10	0	338.11	131	218	1.55	675.30	671	11	3.63E-02	23.5	
11	0	351.86*	242	315	1.39	702.77	695	16	6.72E-02	17.7	
12	0	582.92*	157	162	1.74	1164.64	1158	16	4.36E-02	19.8	
13	0	609.30*	133	166	1.67	1217.36	1212	12	3.69E-02	21.5	
14	0	661.53	2493	157	1.68	1321.79	1313	17	6.92E-01	2.3	
15	0	911.56	92	163	0.81	1821.76	1814	14	2.56E-02	31.3	
16	0	969.78	56	109	1.05	1938.21	1933	13	1.57E-02	41.4	
17	0	1173.28	1890	87	1.99	2345.27	2336	20	5.25E-01	2.6	
18	0	1332.55	1736	38	2.02	2663.94	2653	22	4.82E-01	2.6	
19	0	1376.91	26	0	3.46	2752.69	2746	14	7.22E-03	19.6	
20	0	1764.43*	44	4	1.80	3528.33	3521	13	1.23E-02	17.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 19-FEB-2010 21:33:47

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038809.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 12-FEB-2010 00:00:00 Acquisition date : 19-FEB-2010 20:33:18
Sample ID : G1202038809 Sample quantity : 155.44 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.56 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
CO-57	+	122.06	*	2.174E-01	7.647E-02	6.012E-02	4.277E-03	3.617
		136.48		3.662E-01	3.257E-01	5.454E-01	4.003E-02	0.672
CO-60	+	1173.22		6.265E+00	4.740E-01	1.121E-01	6.176E-03	55.882
	+	1332.49	*	6.434E+00	5.651E-01	7.727E-02	5.506E-03	83.264
CD-109	+	88.03	*	3.250E+01	3.736E+00	2.002E+00	1.750E-01	16.238
SN-126		64.28		-1.630E-01	7.379E-01	1.054E+00	1.502E-01	-0.155
	+	86.94		1.343E+01	5.646E+00	8.769E-01	3.627E-01	15.312
	+	87.57	*	3.230E+00	3.712E-01	1.996E-01	1.736E-02	16.184
BA-137M	+	661.65	*	5.422E+00	4.083E-01	9.784E-02	5.817E-03	55.418
CS-137	+	661.65	*	5.731E+00	4.327E-01	1.034E-01	6.174E-03	55.418
BI-211		72.87		9.396E-01	5.251E+00	7.529E+00	5.549E-01	0.125
	+	351.07	*	2.161E+00	7.759E-01	5.647E-01	3.578E-02	3.826
PB-212		74.81		1.625E+00	6.571E-01	9.800E-01	1.175E-01	1.658
	+	77.11		8.576E-01	3.541E-01	4.901E-01	3.774E-02	1.750
	+	87.30		1.494E+01	2.276E+00	9.248E-01	1.224E-01	16.151
	+	238.63	*	1.088E+00	1.600E-01	1.508E-01	1.099E-02	7.214
		300.09		-3.612E-01	1.477E+00	2.110E+00	1.745E-01	-0.171
PO-212		74.81		1.625E+00	6.571E-01	9.800E-01	1.175E-01	1.658
	+	77.11		8.576E-01	3.541E-01	4.901E-01	3.774E-02	1.750
	+	87.30		1.494E+01	2.276E+00	9.248E-01	1.224E-01	16.151
		115.19		2.206E+00	6.042E+00	8.684E+00	6.319E-01	0.254
	+	238.63	*	1.088E+00	1.600E-01	1.508E-01	1.099E-02	7.214
		300.09		-3.612E-01	1.477E+00	2.110E+00	1.745E-01	-0.171
BI-214	+	609.31	*	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
		1120.29		6.887E-01	5.906E-01	1.048E+00	9.714E-02	0.657
	+	1764.49		1.280E+00	4.631E-01	3.143E-01	1.885E-02	4.072
PB-214		74.81		2.800E+00	1.121E+00	1.689E+00	1.782E-01	1.658
	+	77.11		1.470E+00	6.173E-01	8.402E-01	9.101E-02	1.750
	+	87.30		2.559E+01	3.541E+00	1.584E+00	1.838E-01	16.151
	+	241.98		1.620E+00	8.667E-01	8.975E-01	7.209E-02	1.805
	+	295.21		3.918E-01	4.802E-01	3.752E-01	3.207E-02	1.044
	+	351.92	*	7.516E-01	2.727E-01	1.968E-01	1.615E-02	3.819
PO-214		74.81		2.800E+00	1.121E+00	1.689E+00	1.782E-01	1.658
	+	77.11		1.470E+00	6.173E-01	8.402E-01	9.101E-02	1.750

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	87.30		2.559E+01	3.541E+00	1.584E+00	1.838E-01	16.151
	+	241.98		1.620E+00	8.667E-01	8.975E-01	7.209E-02	1.805
	+	295.21		3.918E-01	4.802E-01	3.752E-01	3.207E-02	1.044
	+	351.92	*	7.516E-01	2.727E-01	1.968E-01	1.615E-02	3.819
PO-216		74.81		1.625E+00	6.571E-01	9.800E-01	1.175E-01	1.658
	+	77.11		8.576E-01	3.541E-01	4.901E-01	3.774E-02	1.750
	+	87.30		1.494E+01	2.276E+00	9.248E-01	1.224E-01	16.151
	+	238.63	*	1.088E+00	1.600E-01	1.508E-01	1.099E-02	7.214
		300.09		-3.612E-01	1.477E+00	2.110E+00	1.745E-01	-0.171
PO-218		74.81		2.800E+00	1.121E+00	1.689E+00	1.782E-01	1.658
	+	77.11		1.470E+00	6.173E-01	8.402E-01	9.101E-02	1.750
	+	87.30		2.559E+01	3.541E+00	1.584E+00	1.838E-01	16.151
	+	241.98		1.620E+00	8.667E-01	8.975E-01	7.209E-02	1.805
	+	295.21		3.918E-01	4.802E-01	3.752E-01	3.207E-02	1.044
	+	351.92	*	7.516E-01	2.727E-01	1.968E-01	1.615E-02	3.819
RA-224	+	240.98	*	3.072E+00	1.634E+00	1.716E+00	9.862E-02	1.791
RA-226	+	609.31	*	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
		1120.29		6.887E-01	5.906E-01	1.048E+00	9.714E-02	0.657
	+	1764.49		1.280E+00	4.631E-01	3.143E-01	1.885E-02	4.072
AC-228	+	338.32		1.285E+00	8.002E-01	6.577E-01	2.681E-01	1.954
	+	911.07	*	8.718E-01	5.548E-01	5.102E-01	5.992E-02	1.709
	+	969.11		9.438E-01	8.113E-01	9.940E-01	2.321E-01	0.949
RA-228	+	338.32		1.285E+00	8.002E-01	6.577E-01	2.681E-01	1.954
	+	911.07	*	8.718E-01	5.548E-01	5.102E-01	5.992E-02	1.709
	+	969.11		9.438E-01	8.113E-01	9.940E-01	2.321E-01	0.949
TH-228		74.81		1.638E+00	6.446E-01	9.877E-01	7.505E-02	1.658
	+	77.11		8.643E-01	3.569E-01	4.940E-01	3.804E-02	1.750
	+	87.30		1.505E+01	1.730E+00	9.321E-01	8.083E-02	16.151
	+	238.63	*	1.097E+00	1.613E-01	1.520E-01	1.107E-02	7.214
		300.09		-3.640E-01	1.504E+00	2.127E+00	1.253E+00	-0.171
TH-230	+	609.31	*	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
		1120.29		6.887E-01	5.906E-01	1.048E+00	9.714E-02	0.657
	+	1764.49		1.280E+00	4.631E-01	3.143E-01	1.885E-02	4.072
TH-232	+	338.32		1.285E+00	6.095E-01	6.577E-01	3.779E-02	1.954
	+	911.07	*	8.718E-01	5.548E-01	5.102E-01	5.992E-02	1.709
	+	969.11		9.438E-01	8.113E-01	9.940E-01	2.321E-01	0.949
U-234	+	609.31	*	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
		1120.29		6.887E-01	5.906E-01	1.048E+00	9.714E-02	0.657
	+	1764.49		1.280E+00	4.631E-01	3.143E-01	1.885E-02	4.072
AM-241	+	59.54	*	1.415E+01	1.257E+00	4.128E-01	3.065E-02	34.286

---- 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	*	1.575E-01	6.558E-01	1.087E+00	7.328E-02	0.145
NA-22		1274.54	*	-3.834E-03	4.784E-02	7.779E-02	5.081E-03	-0.049
NA-24		1368.53	*	6.745E-05	4.784E-02	Half-Life too short		
AL-26		1129.67		-7.675E-01	2.917E+00	4.718E+00	2.979E-01	-0.163

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1808.65	*	1.122E-02	4.604E-02	7.819E-02	4.532E-03	0.143
K-40		1460.81	*	7.319E-01	6.698E-01	1.230E+00	8.935E-02	0.595
TI-44		67.85		-1.240E-02	6.137E-02	9.921E-02	6.982E-03	-0.125
	+	78.38	*	1.582E-01	6.533E-02	9.885E-02	7.718E-03	1.601
SC-46		889.25	*	-5.776E-02	8.384E-02	1.340E-01	1.238E-02	-0.431
		1120.51		1.196E-01	9.466E-02	1.695E-01	1.097E-02	0.706
V-48		944.10		-8.000E-02	1.526E+00	2.538E+00	2.268E-01	-0.032
		983.50	*	7.809E-03	1.174E-01	1.964E-01	1.667E-02	0.040
		1312.09		3.163E-02	7.155E-02	1.250E-01	8.636E-03	0.253
CR-51		320.08	*	5.116E-02	5.560E-01	9.224E-01	5.960E-02	0.055
MN-52		744.21		-2.542E-02	1.650E-01	2.623E-01	1.851E-02	-0.097
		848.13		-5.143E-01	5.343E+00	8.898E+00	7.645E-01	-0.058
		935.52		-5.433E-02	2.332E-01	3.836E-01	3.462E-02	-0.142
		1246.25		3.987E-01	3.086E+00	5.177E+00	3.226E-01	0.077
	+	1333.61		3.360E+02	2.951E+01	3.748E+01	2.671E+00	8.965
		1434.06	*	2.593E-03	1.275E-01	2.093E-01	1.467E-02	0.012
MN-54		834.83	*	-2.470E-02	7.296E-02	1.197E-01	1.004E-02	-0.206
CO-56		846.75	*	-2.261E-02	7.173E-02	1.176E-01	1.008E-02	-0.192
		977.42		-1.617E-01	6.675E+00	9.954E+00	8.525E-01	-0.016
		1037.82		3.752E-01	6.337E-01	1.094E+00	9.060E-02	0.343
		1175.09		2.663E+02	1.981E+01	3.039E+01	1.680E+00	8.763
		1238.25		-2.541E-02	9.041E-02	1.438E-01	9.340E-03	-0.177
		1360.21		-1.283E-01	1.176E+00	1.895E+00	1.346E-01	-0.068
		1771.40		-4.232E-01	3.632E-01	4.408E-01	2.630E-02	-0.960
CO-58		810.76	*	2.372E-02	7.572E-02	1.242E-01	9.997E-03	0.191
FE-59		142.65		1.855E-01	3.553E+00	5.685E+00	3.565E-01	0.033
		192.34		1.061E+00	1.395E+00	2.214E+00	2.584E-01	0.479
		1099.22	*	-5.929E-02	1.788E-01	2.895E-01	2.229E-02	-0.205
		1291.56		-2.440E-02	1.239E-01	1.976E-01	1.609E-02	-0.123
ZN-65		1115.52	*	-1.635E-01	1.785E-01	2.757E-01	1.813E-02	-0.593
GE-68		1077.35	*	1.608E+00	2.503E+00	4.339E+00	3.119E-01	0.371
AS-73		53.44	*	1.437E+00	1.644E+00	2.417E+00	1.576E-01	0.594
AS-74		595.88	*	2.103E-02	1.211E-01	1.992E-01	1.191E-02	0.106
		634.78		-1.704E-01	5.263E-01	8.344E-01	4.984E-02	-0.204
SE-75		66.05		-6.375E+00	7.183E+00	9.794E+00	8.907E-01	-0.651
		96.73		-4.719E-01	1.251E+00	1.730E+00	2.298E-01	-0.273
	+	121.11		1.142E+00	4.099E-01	4.394E-01	4.446E-02	2.599
		136.00		5.200E-02	6.046E-02	1.003E-01	6.627E-03	0.518
		198.60		1.108E+00	2.655E+00	4.528E+00	3.135E-01	0.245
		264.65	*	2.209E-02	7.298E-02	1.234E-01	7.245E-03	0.179
		279.53		6.208E-02	1.767E-01	2.991E-01	1.883E-02	0.208
		303.91		1.275E+00	3.494E+00	5.760E+00	5.505E-01	0.221
		400.65		-2.145E-02	4.602E-01	7.572E-01	6.744E-02	-0.028
BR-77	+	87.88		8.491E+02	9.760E+01	1.047E+02	9.146E+00	8.109
		200.40		9.054E+00	2.992E+01	5.091E+01	2.831E+00	0.178
	+	239.00		2.090E+01	2.927E+00	5.207E+00	2.989E-01	4.014
		249.79		4.117E+00	1.370E+01	2.320E+01	1.340E+00	0.177
		281.68		-1.069E+01	1.828E+01	2.967E+01	1.730E+00	-0.360
		297.23		1.799E+01	1.261E+01	1.970E+01	1.149E+00	0.913

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		303.76		-2.352E+00	3.761E+01	6.075E+01	3.540E+00	-0.039
		439.47		-1.849E+01	3.509E+01	5.612E+01	3.173E+00	-0.329
		484.57		-5.792E-01	5.592E+01	9.156E+01	5.317E+00	-0.006
		520.65	*	-1.249E+00	2.428E+00	3.841E+00	2.265E-01	-0.325
		574.64		-3.410E+01	4.778E+01	7.173E+01	4.282E+00	-0.475
		578.91		5.000E+00	2.051E+01	2.952E+01	1.763E+00	0.169
		585.48		1.167E+02	4.401E+01	7.423E+01	4.437E+00	1.572
		755.35		-1.511E+00	3.740E+01	6.001E+01	4.330E+00	-0.025
		817.79		-2.318E+00	3.360E+01	5.618E+01	4.567E+00	-0.041
SR-82		698.33		1.815E+01	4.812E+01	7.989E+01	5.135E+00	0.227
		776.49	*	-1.764E-01	6.048E-01	9.505E-01	7.146E-02	-0.186
		1395.20		-6.065E+00	9.972E+00	1.430E+01	1.010E+00	-0.424
RB-83		520.41	*	-7.043E-02	1.262E-01	1.992E-01	1.174E-02	-0.354
		529.64		-7.507E-03	1.882E-01	3.066E-01	1.813E-02	-0.024
		552.65		-2.479E-01	3.353E-01	5.184E-01	3.083E-02	-0.478
RB-84		881.50	*	-1.950E-02	1.294E-01	2.146E-01	1.956E-02	-0.091
KR-85		513.99	*	-1.880E+01	1.512E+01	2.309E+01	1.358E+00	-0.814
SR-85		513.99	*	-8.928E-02	7.181E-02	1.097E-01	6.450E-03	-0.814
RB-86		1076.63	*	-1.949E-01	1.263E+00	2.072E+00	1.492E-01	-0.094
Y-88		898.02		-4.089E-02	9.301E-02	1.514E-01	1.426E-02	-0.270
		1836.01	*	-1.132E-02	3.900E-02	5.775E-02	3.280E-03	-0.196
ZR-88		392.90	*	-2.090E-02	5.449E-02	8.816E-02	4.801E-03	-0.237
Y-91		1204.90	*	-2.245E+00	2.052E+01	3.341E+01	1.944E+00	-0.067
NB-94		702.63	*	-9.910E-03	5.839E-02	9.305E-02	6.035E-03	-0.106
		871.10		-1.051E-02	7.473E-02	1.240E-01	1.110E-02	-0.085
NB-95		765.79	*	7.441E-02	6.772E-02	1.176E-01	8.660E-03	0.633
NB-95M		235.69	*	4.841E-01	2.196E-01	3.515E-01	2.627E-02	1.377
ZR-95		724.18		-3.636E-02	1.668E-01	2.649E-01	2.041E-02	-0.137
		756.15	*	4.203E-02	1.223E-01	2.019E-01	1.665E-02	0.208
NB-97		657.90	*	8.972E-04	1.223E-01	Half-Life too short		
		1024.50		7.062E-03	1.223E-01	Half-Life too short		
ZR-97		254.15		-2.784E-03	1.223E-01	Half-Life too short		
		355.39		1.421E-03	1.223E-01	Half-Life too short		
		507.63	*	-2.497E-03	1.223E-01	Half-Life too short		
		602.52		-1.039E-03	1.223E-01	Half-Life too short		
		1021.30		-1.455E-02	1.223E-01	Half-Life too short		
		1147.95		2.753E-03	1.223E-01	Half-Life too short		
		1362.66		6.077E-03	1.223E-01	Half-Life too short		
		1750.46		-1.753E-03	1.223E-01	Half-Life too short		
MO-99		140.51		-9.695E+00	6.958E+00	9.621E+00	2.605E+00	-1.008
		181.06		5.461E+00	4.640E+00	7.122E+00	1.212E+00	0.767
		366.43		-5.545E+00	2.379E+01	3.886E+01	2.181E+00	-0.143
		739.58	*	6.122E-01	3.308E+00	5.406E+00	7.743E-01	0.113
		778.00		-3.891E+00	1.064E+01	1.662E+01	1.253E+00	-0.234
TC-99M		140.51	*	-1.615E+02	1.064E+01	Half-Life too short		
RH-101		127.23		4.133E-02	5.448E-02	7.978E-02	5.488E-03	0.518
		198.01	*	7.219E-04	5.071E-02	8.523E-02	4.729E-03	0.008
		325.23		-1.377E-01	3.884E-01	6.342E-01	3.670E-02	-0.217
RH-102		418.52		3.893E-01	5.418E-01	9.243E-01	5.145E-02	0.421

---- Non-Identified Nuclides ----

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		475.06	*	1.137E-01	6.618E-02	1.165E-01	6.735E-03	0.976
		631.29		6.456E-02	1.031E-01	1.742E-01	1.041E-02	0.371
		697.49		-7.868E-02	1.351E-01	2.084E-01	1.337E-02	-0.378
		766.84		1.515E-01	1.863E-01	3.175E-01	2.343E-02	0.477
		1046.59		2.411E-01	2.391E-01	4.234E-01	3.241E-02	0.569
		1112.84		1.214E-01	4.440E-01	7.499E-01	4.955E-02	0.162
RU-103		497.08	*	-1.656E-02	6.667E-02	1.074E-01	1.360E-02	-0.154
	+	610.33		4.957E+00	2.267E+00	2.934E+00	4.544E-01	1.690
RH-106		511.85		1.480E-01	3.201E-01	5.744E-01	3.375E-02	0.258
		621.84	*	-2.370E-01	5.654E-01	8.884E-01	1.051E-01	-0.267
		1050.47		3.135E+00	4.754E+00	8.246E+00	6.264E-01	0.380
RU-106		511.85		1.480E-01	3.201E-01	5.744E-01	3.375E-02	0.258
		621.84	*	-2.370E-01	5.648E-01	8.884E-01	5.312E-02	-0.267
		1050.47		3.135E+00	4.754E+00	8.246E+00	6.264E-01	0.380
AG-108M		433.93	*	1.137E-01	6.630E-02	1.175E-01	7.221E-03	0.967
		614.37		5.764E-02	7.375E-02	1.115E-01	7.203E-03	0.517
		722.95		-6.067E-02	7.988E-02	1.216E-01	8.740E-03	-0.499
AG-110M		657.75	*	2.094E-01	8.916E-02	1.458E-01	9.212E-03	1.436
		677.61		-1.162E-01	5.632E-01	8.969E-01	5.819E-02	-0.130
		706.67		-7.588E-02	3.403E-01	5.394E-01	3.695E-02	-0.141
		763.93		-1.033E-01	2.883E-01	4.507E-01	3.436E-02	-0.229
		884.67		-7.512E-03	1.070E-01	1.783E-01	1.681E-02	-0.042
		937.48		-1.288E-01	2.499E-01	4.034E-01	3.753E-02	-0.319
		1384.27		-9.460E-03	1.967E-01	2.727E-01	2.010E-02	-0.035
IN-111		171.28		5.450E-03	2.700E-01	4.316E-01	2.328E-02	0.013
		245.39	*	9.995E-03	3.489E-01	5.088E-01	2.932E-02	0.020
IN-113M		391.69	*	5.614E-03	8.104E-02	1.342E-01	7.853E-03	0.042
SN-113		391.69	*	5.614E-03	8.104E-02	1.342E-01	7.853E-03	0.042
IN-114M		190.27	*	-9.082E-02	2.944E-01	4.248E-01	2.338E-02	-0.214
CD-115		260.90		-2.415E+01	2.317E+01	3.690E+01	2.142E+00	-0.654
		492.35		1.199E+00	7.467E+00	1.234E+01	7.191E-01	0.097
		527.90	*	-1.089E+00	2.125E+00	3.356E+00	1.983E-01	-0.324
SN-117M		156.02		1.656E+00	2.445E+00	4.025E+00	2.317E-01	0.411
		158.56	*	7.651E-03	6.039E-02	9.715E-02	5.495E-03	0.079
SB-122		563.90	*	-8.367E-01	6.504E-01	9.739E-01	5.805E-02	-0.859
		692.80		-3.889E+00	1.169E+01	1.839E+01	1.168E+00	-0.211
I-123		159.00	*	-5.575E-05	1.169E+01	Half-Life too short		
		528.96		-2.214E-02	1.169E+01	Half-Life too short		
TE-123M		159.00	*	-2.679E-03	4.352E-02	6.943E-02	3.971E-03	-0.039
I-124		602.71	*	-3.879E-02	4.045E-01	5.904E-01	3.532E-02	-0.066
		722.78		-2.004E+00	2.488E+00	3.773E+00	2.550E-01	-0.531
		1325.50		-5.281E+00	1.618E+01	2.121E+01	1.496E+00	-0.249
	+	1376.25		2.252E+01	8.975E+00	1.970E+01	1.396E+00	1.143
		1509.49		4.131E+00	5.978E+00	1.088E+01	7.467E-01	0.380
		1691.02		-2.102E-01	1.386E+00	2.162E+00	1.362E-01	-0.097
SB-124		602.71		-6.935E-03	7.231E-02	1.055E-01	6.316E-03	-0.066
		645.85		-4.793E-01	8.720E-01	1.356E+00	9.073E-02	-0.353
		709.31		-1.072E+00	4.182E+00	6.604E+00	4.343E-01	-0.162
		713.82		-6.635E-01	2.477E+00	3.905E+00	4.181E-01	-0.170

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		722.78		-5.194E-01	6.447E-01	9.777E-01	6.840E-02	-0.531
		968.20		1.246E+00	6.378E+00	9.301E+00	8.066E-01	0.134
		1045.16		-5.934E-01	4.827E+00	7.950E+00	6.101E-01	-0.075
		1325.50		-1.462E+00	4.478E+00	5.870E+00	4.140E-01	-0.249
		1368.21		8.454E-01	1.703E+00	2.952E+00	3.707E-01	0.286
		1436.60		9.317E-01	4.367E+00	7.408E+00	5.189E-01	0.126
		1691.02	*	-1.285E-02	8.474E-02	1.322E-01	8.934E-03	-0.097
SB-125		427.89	*	-3.198E-02	1.765E-01	2.876E-01	1.685E-02	-0.111
		463.38		1.741E-01	6.225E-01	1.034E+00	6.942E-02	0.168
		600.56		6.942E-02	3.119E-01	5.144E-01	3.532E-02	0.135
		635.90		-2.078E-01	5.305E-01	8.368E-01	5.807E-02	-0.248
TE-125M		109.28	*	-2.950E+00	1.274E+01	2.035E+01	1.907E+00	-0.145
I-126		388.63		2.546E-01	2.566E-01	4.437E-01	2.424E-02	0.574
		666.33	*	9.235E-03	2.486E-01	3.484E-01	2.092E-02	0.027
		753.82		7.069E-01	1.856E+00	3.073E+00	2.211E-01	0.230
SB-126		223.80		3.786E-01	4.493E+00	7.561E+00	4.294E-01	0.050
		278.60		2.683E+00	2.739E+00	4.750E+00	2.770E-01	0.565
		296.50		3.675E+00	1.690E+00	3.018E+00	1.760E-01	1.218
		414.70		3.392E-02	9.717E-02	1.628E-01	9.035E-03	0.208
		415.30		3.645E+00	8.106E+00	1.365E+01	7.576E-01	0.267
		555.20		-2.724E+00	4.898E+00	7.684E+00	4.573E-01	-0.355
		573.80		-2.009E+00	1.341E+00	1.961E+00	1.170E-01	-1.025
		593.00		1.207E+00	1.106E+00	1.927E+00	1.152E-01	0.626
		656.30		-4.579E+00	5.008E+00	6.332E+00	3.769E-01	-0.723
		666.33		3.795E-03	1.021E-01	1.432E-01	8.598E-03	0.027
		675.00		-2.370E-01	2.403E+00	3.858E+00	2.360E-01	-0.061
		695.00		-2.754E-02	8.868E-02	1.397E-01	8.920E-03	-0.197
		697.00		-1.546E-01	3.117E-01	4.840E-01	3.102E-02	-0.319
		720.50	*	-3.305E-02	1.708E-01	2.713E-01	1.825E-02	-0.122
		856.80		-1.201E-01	6.745E-01	1.118E+00	9.757E-02	-0.107
		989.30		8.140E-01	1.883E+00	3.221E+00	2.713E-01	0.253
		1034.80		-4.143E+00	1.267E+01	2.056E+01	1.608E+00	-0.201
		1213.00		-1.159E-01	3.703E+00	6.087E+00	3.590E-01	-0.019
SB-127		61.10		1.171E+03	1.004E+02	9.703E+01	7.414E+00	12.068
		252.40		-1.282E+00	2.115E+00	3.338E+00	1.372E+00	-0.384
		290.80		-5.821E+00	1.144E+01	1.602E+01	1.105E+00	-0.363
		411.60		-4.939E+00	6.358E+00	1.001E+01	1.294E+00	-0.493
		444.90		9.945E-01	5.432E+00	9.008E+00	7.969E-01	0.110
		473.00		-2.773E-01	1.035E+00	1.674E+00	1.569E-01	-0.166
		543.00		5.148E-02	8.136E+00	1.328E+01	1.522E+00	0.004
		603.60		5.993E+00	6.407E+00	9.730E+00	8.771E-01	0.616
		685.20	*	-8.620E-02	6.264E-01	1.001E+00	7.605E-02	-0.086
		698.50		2.836E+00	7.090E+00	1.178E+01	1.582E+00	0.241
		722.20		-4.996E+00	1.500E+01	2.359E+01	1.814E+00	-0.212
		783.80		1.887E+00	1.877E+00	3.220E+00	3.241E-01	0.586
XE-127		57.60		2.857E+02	2.371E+01	3.024E+01	1.991E+00	9.449
		145.22		3.411E-01	8.886E-01	1.449E+00	8.940E-02	0.235
		172.10		2.178E-01	1.644E-01	2.773E-01	1.497E-02	0.786
		202.84	*	-4.249E-02	6.327E-02	1.036E-01	5.773E-03	-0.410

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		374.96		2.368E-02	3.118E-01	5.172E-01	2.875E-02	0.046
I-131		80.18		-5.195E+00	4.213E+00	5.615E+00	4.483E-01	-0.925
		284.30		-8.172E-01	1.377E+00	2.232E+00	1.434E-01	-0.366
		364.48	*	-1.735E-02	1.081E-01	1.773E-01	1.110E-02	-0.098
		636.97		1.629E-01	1.578E+00	2.576E+00	1.699E-01	0.063
		722.89		-5.567E+00	7.174E+00	1.091E+01	7.396E-01	-0.510
TE-132		49.72		3.553E-01	6.886E+00	1.128E+01	8.233E-01	0.032
		111.76		-6.333E+00	9.418E+00	1.473E+01	1.199E+00	-0.430
		116.30		1.995E+00	1.008E+01	1.434E+01	1.150E+00	0.139
		228.16	*	1.265E-01	2.447E-01	4.175E-01	5.497E-02	0.303
BA-133		53.15		1.323E-01	7.717E+00	1.105E+01	7.201E-01	0.012
		79.62		5.810E-01	2.211E+00	3.174E+00	4.709E-01	0.183
		81.00		-3.384E-01	1.940E-01	2.231E-01	3.474E-02	-1.517
		276.40		1.461E-01	6.240E-01	1.051E+00	1.363E-01	0.139
		302.84		-2.184E-01	2.733E-01	3.921E-01	4.577E-02	-0.557
		356.01	*	3.578E-02	8.364E-02	1.238E-01	1.423E-02	0.289
		383.85		-7.637E-01	5.618E-01	8.521E-01	9.129E-02	-0.896
I-133		510.53		1.726E-03	5.618E-01	Half-Life too short		
		529.87	*	-4.681E-06	5.618E-01	Half-Life too short		
		706.58		-6.977E-04	5.618E-01	Half-Life too short		
		856.28		-2.261E-03	5.618E-01	Half-Life too short		
		875.33		-1.545E-04	5.618E-01	Half-Life too short		
		1236.41		1.221E-03	5.618E-01	Half-Life too short		
		1298.22		3.563E-04	5.618E-01	Half-Life too short		
CS-134		475.35		8.581E+00	4.282E+00	7.623E+00	4.406E-01	1.126
		563.23		-6.797E-01	7.042E-01	1.076E+00	6.543E-02	-0.631
		569.32		7.397E-01	4.005E-01	7.150E-01	4.386E-02	1.035
		604.70		2.519E-02	7.116E-02	1.030E-01	6.194E-03	0.245
		795.84	*	4.935E-02	9.556E-02	1.588E-01	1.250E-02	0.311
		801.93		-1.232E-01	7.748E-01	1.241E+00	9.862E-02	-0.099
		1038.57		2.732E+00	8.195E+00	1.393E+01	1.082E+00	0.196
		1167.94		1.519E+00	4.338E+00	6.463E+00	3.625E-01	0.235
		1365.15		-7.743E-01	1.467E+00	2.175E+00	1.647E-01	-0.356
CS-135		268.24	*	1.618E-01	2.697E-01	4.608E-01	3.534E-02	0.351
I-135		288.45		-1.750E+02	2.697E-01	Half-Life too short		
		417.63		5.192E+02	2.697E-01	Half-Life too short		
		546.56		-2.761E+01	2.697E-01	Half-Life too short		
		836.80		-1.473E+02	2.697E-01	Half-Life too short		
		1038.76		1.630E+02	2.697E-01	Half-Life too short		
		1124.00		-1.025E+02	2.697E-01	Half-Life too short		
		1131.51		4.919E+01	2.697E-01	Half-Life too short		
		1260.41	*	4.743E+01	2.697E-01	Half-Life too short		
		1457.56		9.096E+01	2.697E-01	Half-Life too short		
		1678.03		-7.775E+01	2.697E-01	Half-Life too short		
		1706.46		1.932E+02	2.697E-01	Half-Life too short		
		1791.20		-1.718E+02	2.697E-01	Half-Life too short		
CS-136		66.91		-5.314E-01	7.312E-01	1.111E+00	1.620E-01	-0.478
		86.29		2.053E+01	3.152E+00	3.269E+00	4.188E-01	6.279
		153.22		-5.357E-02	6.823E-01	1.089E+00	7.914E-02	-0.049

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		163.89		3.265E-01	1.124E+00	1.820E+00	1.267E-01	0.179
		176.55		-3.233E-01	4.041E-01	6.205E-01	3.833E-02	-0.521
		273.65		-6.863E-01	5.188E-01	8.131E-01	5.390E-02	-0.844
		340.57		2.489E-01	1.714E-01	2.684E-01	1.637E-02	0.928
		818.51		1.492E-03	1.057E-01	1.776E-01	1.446E-02	0.008
		1048.07	*	9.263E-02	1.578E-01	2.722E-01	2.188E-02	0.340
		1235.34		1.744E-01	4.314E-01	7.448E-01	7.576E-02	0.234
CE-139		165.85	*	2.884E-02	4.344E-02	7.148E-02	3.838E-03	0.403
BA-140		162.64		-5.775E-01	8.013E-01	1.239E+00	7.747E-02	-0.466
		304.84		9.405E-01	1.478E+00	2.492E+00	6.802E-01	0.377
		423.70		-1.567E+00	2.461E+00	3.829E+00	1.215E+00	-0.409
		537.32	*	-8.029E-02	3.373E-01	5.407E-01	1.760E-01	-0.149
LA-140		328.77		2.640E-01	3.439E-01	5.898E-01	3.819E-02	0.448
		432.53		1.776E+00	2.835E+00	4.804E+00	3.003E-01	0.370
		487.03		6.051E-02	1.936E-01	3.222E-01	2.120E-02	0.188
		751.79		9.480E-01	2.090E+00	3.482E+00	2.873E-01	0.272
		815.85		-3.218E-01	4.585E-01	7.342E-01	6.718E-02	-0.438
		867.82		2.624E-01	2.055E+00	3.468E+00	3.240E-01	0.076
		919.63		8.921E-01	4.632E+00	7.485E+00	8.314E-01	0.119
		925.24		-3.839E-01	1.788E+00	2.947E+00	2.841E-01	-0.130
		1596.49	*	-9.500E-03	7.303E-02	1.157E-01	7.672E-03	-0.082
CE-141		145.44	*	-5.155E-03	8.026E-02	1.283E-01	8.188E-03	-0.040
CE-143		57.37		9.215E+02	1.070E+02	1.384E+02	1.128E+01	6.660
		231.56		-3.455E+01	1.237E+02	1.769E+02	5.469E+01	-0.195
	+	293.26	*	9.500E+00	1.178E+01	1.121E+01	2.298E+00	0.847
	+	350.59		4.361E+02	2.032E+02	1.726E+02	5.237E+01	2.527
		490.36		6.439E+01	1.508E+02	2.504E+02	7.747E+01	0.257
		664.57		1.418E+03	4.672E+02	2.658E+02	8.429E+01	5.335
		721.93		-4.766E+01	6.833E+01	1.024E+02	2.936E+01	-0.465
CE-144		80.11		-4.250E+00	3.572E+00	4.773E+00	3.800E-01	-0.890
		133.54	*	-1.608E-01	3.277E-01	5.145E-01	7.490E-02	-0.312
PM-144		476.78		1.004E-01	1.490E-01	2.518E-01	1.745E-02	0.399
		618.01		8.957E-03	5.521E-02	9.065E-02	5.726E-03	0.099
		696.49	*	-4.909E-02	5.997E-02	9.060E-02	5.802E-03	-0.542
		778.57		-1.311E+00	4.399E+00	6.909E+00	5.216E-01	-0.190
PR-144		696.49	*	-3.313E+00	4.048E+00	6.116E+00	3.916E-01	-0.542
		1489.15		-5.336E+00	1.738E+01	2.692E+01	1.859E+00	-0.198
PM-146		453.90	*	4.020E-03	9.095E-02	1.497E-01	1.281E-02	0.027
		633.02		1.208E+00	2.728E+00	4.494E+00	1.656E+00	0.269
		735.90		-6.192E-02	2.817E-01	4.455E-01	1.254E-01	-0.139
		747.13		-2.194E-02	1.593E-01	2.536E-01	3.337E-02	-0.087
ND-147		91.11		8.068E-01	3.426E-01	4.254E-01	3.910E-02	1.897
		319.41		5.267E-01	3.750E+00	6.236E+00	3.618E-01	0.084
		439.89		-3.580E+00	7.548E+00	1.210E+01	6.847E-01	-0.296
		531.02	*	1.413E-01	6.764E-01	1.118E+00	1.517E-01	0.126
PM-149		285.90	*	6.842E+00	1.594E+01	2.702E+01	3.829E+00	0.253
EU-152	+	121.78		6.423E-01	2.281E-01	2.482E-01	2.147E-02	2.588
		244.69		-1.494E-01	6.479E-01	9.310E-01	5.363E-02	-0.160
		344.27	*	-7.652E-02	2.591E-01	2.835E-01	1.834E-02	-0.270

---- Non-Identified Nuclides ----

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		443.98		-1.862E-01	1.971E+00	3.224E+00	1.829E-01	-0.058
		778.89		2.051E-02	4.979E-01	8.029E-01	6.064E-02	0.026
		867.32		-5.620E-02	1.825E+00	3.050E+00	2.712E-01	-0.018
		964.01		-2.075E-01	7.601E-01	1.067E+00	9.303E-02	-0.194
		1085.78		-1.896E-04	8.105E-01	1.344E+00	9.483E-02	0.000
		1112.02		1.158E-01	6.304E-01	1.058E+00	7.005E-02	0.109
		1407.95		2.550E-02	2.121E-01	3.547E-01	2.500E-02	0.072
GD-153		69.67		-1.966E+00	2.226E+00	3.509E+00	2.509E-01	-0.560
		83.37		2.779E+00	2.505E+01	3.577E+01	2.958E+00	0.078
		97.43	*	-1.420E-02	1.292E-01	1.815E-01	1.456E-02	-0.078
		103.18		-1.823E-01	1.552E-01	2.374E-01	1.832E-02	-0.768
EU-154	+	123.07		4.507E-01	1.620E-01	1.767E-01	1.808E-02	2.550
		247.94		-1.246E-02	6.616E-01	1.045E+00	9.949E-02	-0.012
		591.81		4.581E-01	1.165E+00	1.839E+00	1.817E-01	0.249
		723.30		-2.112E-01	3.330E-01	5.120E-01	4.041E-02	-0.413
		756.87		3.192E-01	1.433E+00	2.346E+00	2.586E-01	0.136
		873.19		2.128E-01	6.337E-01	1.083E+00	1.354E-01	0.197
		996.32		-7.789E-01	7.908E-01	1.206E+00	2.125E-01	-0.646
		1004.76		3.036E-02	4.526E-01	7.566E-01	8.588E-02	0.040
		1274.45	*	-5.324E-03	1.349E-01	2.208E-01	2.165E-02	-0.024
EU-155		48.70		2.751E+00	3.789E+00	6.309E+00	4.043E-01	0.436
	+	60.01		4.592E+02	3.778E+01	3.397E+01	2.259E+00	13.515
		86.54		3.148E+00	3.645E-01	4.611E-01	4.002E-02	6.828
		105.31	*	1.104E-01	1.579E-01	2.620E-01	2.028E-02	0.422
TB-160	+	86.79		9.689E+00	1.114E+00	1.183E+00	1.019E-01	8.191
		197.04		2.859E-01	7.991E-01	1.361E+00	7.541E-02	0.210
		215.65		2.634E-01	1.156E+00	1.957E+00	1.104E-01	0.135
		298.57		5.156E-02	1.983E-01	2.926E-01	1.706E-02	0.176
		879.36	*	-1.481E-01	2.790E-01	4.507E-01	4.093E-02	-0.329
		962.29		8.347E-01	1.180E+00	1.911E+00	1.670E-01	0.437
		966.15		3.017E-01	4.845E-01	7.298E-01	6.346E-02	0.413
		1177.93		8.089E-01	6.365E-01	1.042E+00	5.785E-02	0.777
		1271.85		5.649E-02	7.479E-01	1.244E+00	8.079E-02	0.045
HO-166M		80.57		-8.610E-01	4.746E-01	6.106E-01	4.886E-02	-1.410
		184.41		3.894E-02	5.994E-02	9.222E-02	5.044E-03	0.422
		280.46		-6.096E-02	1.455E-01	2.381E-01	1.389E-02	-0.256
		410.95		-2.468E-01	4.711E-01	7.558E-01	4.181E-02	-0.327
		711.68	*	-9.693E-03	9.983E-02	1.598E-01	1.056E-02	-0.061
		752.31		2.333E-01	4.999E-01	8.335E-01	5.977E-02	0.280
		810.29		2.740E-02	1.216E-01	1.984E-01	1.590E-02	0.138
TM-171		51.35		6.620E+01	5.400E+01	9.058E+01	5.873E+00	0.731
		52.39		3.119E+01	3.080E+01	4.784E+01	3.111E+00	0.652
	+	59.40		2.404E+03	1.978E+02	1.847E+02	1.224E+01	13.014
		66.72	*	-4.697E+01	3.924E+01	5.868E+01	4.091E+00	-0.801
LU-176	+	88.36		7.660E+00	8.804E-01	9.417E-01	8.205E-02	8.134
		201.83		-2.084E-02	4.432E-02	7.316E-02	4.074E-03	-0.285
		306.84	*	-6.609E-03	4.309E-02	7.115E-02	4.143E-03	-0.093
		401.10		-1.130E+00	1.261E+01	2.071E+01	1.136E+00	-0.055
LU-177		112.95		-2.556E-01	1.130E+00	1.804E+00	1.325E-01	-0.142

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		208.36	*	8.402E-01	8.019E-01	1.397E+00	7.828E-02	0.602
LU-177M		52.97		1.108E+00	3.351E+00	4.847E+00	3.156E-01	0.229
		54.07		2.781E+00	1.774E+00	2.654E+00	1.732E-01	1.048
		61.30		9.516E+01	7.547E+00	8.495E+00	5.694E-01	11.202
	+	121.62		3.196E+00	1.124E+00	1.233E+00	8.770E-02	2.592
		147.16		2.446E-02	9.271E-01	1.488E+00	9.072E-02	0.016
		171.86		8.479E-01	7.318E-01	1.227E+00	6.621E-02	0.691
		218.09		6.634E-01	1.389E+00	2.373E+00	1.341E-01	0.280
		268.79		6.088E-01	1.323E+00	2.248E+00	1.308E-01	0.271
		319.02		1.007E-01	4.456E-01	7.438E-01	4.316E-02	0.135
		367.43		1.132E+00	1.531E+00	2.627E+00	1.472E-01	0.431
		413.65	*	-1.128E-01	3.289E-01	5.324E-01	2.952E-02	-0.212
HF-181		56.28		3.215E+00	1.951E+00	2.913E+00	1.911E-01	1.104
		57.53		2.259E+01	1.915E+00	2.513E+00	1.655E-01	8.988
		65.20		9.080E-02	1.250E+00	1.790E+00	1.233E-01	0.051
		133.02		-9.642E-02	9.463E-02	1.453E-01	9.653E-03	-0.664
		136.25		7.383E-01	6.434E-01	1.079E+00	7.031E-02	0.684
		345.85		-2.282E-01	3.789E-01	4.892E-01	2.796E-02	-0.466
		482.03	*	-7.380E-02	7.773E-02	1.205E-01	6.992E-03	-0.612
W-181		56.28		1.363E+00	8.254E-01	1.232E+00	8.085E-02	1.106
		57.53		9.537E+00	8.088E-01	1.063E+00	6.997E-02	8.975
		65.20	*	3.813E-02	5.247E-01	7.516E-01	5.179E-02	0.051
TA-182		67.75		-2.786E-02	1.402E-01	2.266E-01	1.594E-02	-0.123
		100.10		2.537E-01	2.604E-01	4.224E-01	3.323E-02	0.601
		152.43		-3.640E-01	4.907E-01	7.588E-01	4.474E-02	-0.480
		222.10		-4.839E-02	5.544E-01	9.271E-01	5.259E-02	-0.052
		1001.68		-3.048E-01	4.169E+00	6.900E+00	5.703E-01	-0.044
		1121.28		3.380E-01	2.647E-01	4.744E-01	3.066E-02	0.712
		1189.05		2.727E-02	3.969E-01	6.602E-01	3.738E-02	0.041
		1221.42	*	5.425E-02	2.105E-01	3.580E-01	2.142E-02	0.152
		1230.97		2.567E-01	4.929E-01	8.639E-01	5.250E-02	0.297
RE-183		57.98		1.402E+01	1.084E+00	1.213E+00	8.001E-02	11.554
	+	59.32		9.233E+00	7.598E-01	7.126E-01	4.719E-02	12.957
		67.20		-9.503E-02	2.458E-01	3.942E-01	2.759E-02	-0.241
		162.32	*	-8.434E-02	1.614E-01	2.519E-01	1.388E-02	-0.335
		208.81		1.697E+00	1.422E+00	2.488E+00	1.395E-01	0.682
		291.72		-1.286E-03	1.747E+00	2.528E+00	1.475E-01	-0.001
RE-184		57.98		5.389E+01	4.166E+00	4.664E+00	3.075E-01	11.554
	+	59.32		3.546E+01	2.918E+00	2.737E+00	1.813E-01	12.957
		67.20		-3.652E-01	9.443E-01	1.515E+00	1.060E-01	-0.241
		161.27		-6.526E-02	5.401E-01	8.592E-01	4.768E-02	-0.076
		216.55		2.890E-01	4.328E-01	7.440E-01	4.200E-02	0.388
		252.85	*	-1.524E-01	3.917E-01	6.444E-01	3.728E-02	-0.237
		318.01		4.790E-01	7.592E-01	1.298E+00	7.532E-02	0.369
		792.07		6.485E-01	2.045E+00	3.353E+00	2.597E-01	0.193
		903.28		-3.707E-01	2.436E+00	3.611E+00	3.370E-01	-0.103
		920.93		-4.749E-01	1.032E+00	1.674E+00	1.535E-01	-0.284
OS-185	+	59.72		2.565E+01	2.111E+00	1.932E+00	1.282E-01	13.273
		61.14		1.144E+01	8.891E-01	9.592E-01	6.423E-02	11.923

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		69.30		-3.184E-01	3.814E-01	6.023E-01	4.292E-02	-0.529
		592.07		1.687E+00	4.417E+00	7.181E+00	4.294E-01	0.235
		646.12	*	-4.304E-02	7.601E-02	1.181E-01	7.041E-03	-0.365
		717.42		4.805E-02	1.457E+00	2.356E+00	1.576E-01	0.020
		874.81		-3.671E-01	1.209E+00	1.984E+00	1.788E-01	-0.185
		880.27		-1.121E-01	1.575E+00	2.626E+00	2.389E-01	-0.043
RE-188		155.03	*	1.500E-01	2.457E-01	4.036E-01	2.339E-02	0.372
		477.96		9.764E-01	6.410E+00	1.058E+01	6.126E-01	0.092
		633.10		2.147E+00	5.064E+00	8.440E+00	5.042E-01	0.254
W-188		63.58		-2.251E+01	7.109E+01	1.011E+02	6.883E+00	-0.223
		227.08		5.044E+00	1.989E+01	3.367E+01	1.917E+00	0.150
		290.67	*	-7.805E+00	1.363E+01	1.900E+01	1.109E+00	-0.411
IR-192		295.96		4.351E-01	1.834E-01	3.289E-01	1.949E-02	1.323
		308.46		4.340E-02	1.516E-01	2.555E-01	1.504E-02	0.170
		316.51	*	1.051E-02	5.627E-02	9.432E-02	5.505E-03	0.111
		468.07		-5.201E-02	1.390E-01	2.239E-01	1.489E-02	-0.232
		604.41		7.861E-01	8.733E-01	1.320E+00	1.510E-01	0.596
		612.46		5.274E-01	1.428E+00	2.067E+00	1.594E-01	0.255
AU-195		65.12		2.799E-02	2.468E-01	3.541E-01	2.438E-02	0.079
		66.83		-1.509E-01	1.272E-01	1.903E-01	1.328E-02	-0.793
		75.70		1.170E+00	3.466E-01	5.350E-01	4.058E-02	2.187
		98.88	*	4.259E-01	3.593E-01	5.392E-01	4.279E-02	0.790
		129.76		4.345E+00	4.239E+00	7.083E+00	4.799E-01	0.613
TL-200		367.94	*	4.311E+00	7.852E+00	1.334E+01	7.475E-01	0.323
		579.30		4.917E+01	6.539E+01	9.861E+01	5.890E+00	0.499
		828.27		-2.798E+01	9.768E+01	1.609E+02	1.333E+01	-0.174
		1205.75		3.518E+00	2.879E+01	4.818E+01	2.807E+00	0.073
TL-201		68.90		-5.640E-01	1.223E+00	1.958E+00	1.391E-01	-0.288
		70.82		-1.063E+00	7.483E-01	1.156E+00	8.354E-02	-0.920
		80.30		-2.139E+00	1.637E+00	2.172E+00	1.733E-01	-0.985
		135.34		2.113E+00	7.777E+00	1.263E+01	8.274E-01	0.167
		167.43	*	-1.504E+00	2.098E+00	3.240E+00	1.740E-01	-0.464
TL-202		68.90		-1.762E-01	3.820E-01	6.118E-01	4.345E-02	-0.288
		70.82		-3.313E-01	2.331E-01	3.602E-01	2.603E-02	-0.920
		80.30		-6.668E-01	5.102E-01	6.769E-01	5.400E-02	-0.985
		439.56	*	-4.952E-02	9.401E-02	1.503E-01	8.501E-03	-0.329
HG-203		70.83		-1.939E+00	1.385E+00	2.117E+00	2.703E-01	-0.916
		72.87		1.677E-01	9.374E-01	1.344E+00	1.669E-01	0.125
		82.60		1.337E-01	2.013E+00	2.408E+00	3.246E-01	0.056
		279.20	*	3.529E-02	6.164E-02	1.052E-01	6.512E-03	0.335
BI-207		72.80		4.849E-02	3.049E-01	4.366E-01	3.215E-02	0.111
		74.97		5.285E-01	1.877E-01	2.890E-01	2.175E-02	1.829
		84.90		6.023E-01	3.352E-01	5.065E-01	4.266E-02	1.189
		569.67		1.140E-01	6.228E-02	1.112E-01	6.636E-03	1.025
		1063.62	*	4.696E-02	1.105E-01	1.887E-01	1.397E-02	0.249
		1770.23		-1.984E+00	9.900E-01	1.024E+00	6.113E-02	-1.938
TL-207		81.07		-7.383E-01	4.172E-01	4.940E-01	3.976E-02	-1.494
		83.78		1.289E-01	2.152E-01	3.135E-01	2.605E-02	0.411
		94.90		2.989E-01	3.714E-01	5.462E-01	4.469E-02	0.547

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	122.32		1.531E+01	5.410E+00	5.999E+00	4.708E-01	2.553
		144.24		3.520E-02	1.001E+00	1.601E+00	1.211E-01	0.022
		154.21		2.951E-01	6.126E-01	1.001E+00	7.040E-02	0.295
		269.46		2.094E-01	3.153E-01	5.402E-01	3.285E-02	0.388
		323.87	*	-5.724E-01	1.168E+00	1.888E+00	3.118E-01	-0.303
	+	338.28		5.366E+00	2.589E+00	3.442E+00	3.615E-01	1.559
		445.03		8.904E-01	4.696E+00	7.789E+00	7.945E-01	0.114
TL-208		277.35		4.692E-01	6.314E-01	1.083E+00	1.145E-01	0.433
		510.84		2.529E-01	3.067E-01	5.551E-01	5.660E-02	0.456
	+	583.14	*	3.262E-01	1.312E-01	1.589E-01	1.087E-02	2.053
		860.37		8.129E-01	6.474E-01	1.153E+00	1.084E-01	0.705
PO-209		260.50		-1.409E+01	1.623E+01	2.606E+01	1.512E+00	-0.541
		262.80		1.303E+01	4.536E+01	7.668E+01	4.453E+00	0.170
		896.60	*	7.982E+00	1.728E+01	2.965E+01	2.775E+00	0.269
BI-210		46.50	*	-1.000E+01	4.963E+00	7.635E+00	5.661E-01	-1.310
PB-210		46.50	*	-1.000E+01	4.963E+00	7.635E+00	5.661E-01	-1.310
PO-210		46.50	*	-1.000E+01	4.947E+00	7.635E+00	4.791E-01	-1.310
PB-211		404.84	*	4.004E-01	1.800E+00	2.971E+00	1.851E+00	0.135
		427.08		3.447E-01	3.884E+00	6.411E+00	3.962E+00	0.054
		831.96		-1.400E+00	2.567E+00	3.897E+00	2.441E+00	-0.359
BI-212		727.18	*	4.269E-01	5.828E-01	9.844E-01	8.374E-02	0.434
		785.46		5.352E-01	3.544E+00	5.756E+00	4.403E-01	0.093
		1620.62		9.113E-01	1.572E+00	2.845E+00	1.864E-01	0.320
PO-215		81.07		-7.383E-01	4.172E-01	4.940E-01	3.976E-02	-1.494
		83.78		1.289E-01	2.152E-01	3.135E-01	2.605E-02	0.411
		94.90		2.989E-01	3.714E-01	5.462E-01	4.469E-02	0.547
	+	122.32		1.531E+01	5.410E+00	5.999E+00	4.708E-01	2.553
		144.24		3.520E-02	1.001E+00	1.601E+00	1.211E-01	0.022
		154.21		2.951E-01	6.126E-01	1.001E+00	7.040E-02	0.295
		269.46		2.094E-01	3.153E-01	5.402E-01	3.285E-02	0.388
		323.87	*	-5.724E-01	1.168E+00	1.888E+00	3.118E-01	-0.303
	+	338.28		5.366E+00	2.589E+00	3.442E+00	3.615E-01	1.559
		445.03		8.904E-01	4.696E+00	7.789E+00	7.945E-01	0.114
RN-219		271.23		2.848E-01	3.997E-01	6.857E-01	5.568E-02	0.415
		401.81	*	-3.237E-01	7.854E-01	1.266E+00	1.707E-01	-0.256
RN-220		549.76	*	2.808E+01	4.599E+01	7.799E+01	4.636E+00	0.360
RA-223		81.07		-7.383E-01	4.172E-01	4.940E-01	3.976E-02	-1.494
		83.78		1.289E-01	2.152E-01	3.135E-01	2.605E-02	0.411
		94.90		2.989E-01	3.714E-01	5.462E-01	4.469E-02	0.547
	+	122.32		1.531E+01	5.410E+00	5.999E+00	4.708E-01	2.553
		144.24		3.520E-02	1.001E+00	1.601E+00	1.211E-01	0.022
		154.21		2.951E-01	6.126E-01	1.001E+00	7.040E-02	0.295
		269.46		2.094E-01	3.153E-01	5.402E-01	3.285E-02	0.388
		323.87	*	-5.724E-01	1.168E+00	1.888E+00	3.118E-01	-0.303
	+	338.28		5.366E+00	2.589E+00	3.442E+00	3.615E-01	1.559
		445.03		8.904E-01	4.696E+00	7.789E+00	7.945E-01	0.114
AC-227		79.80		-2.566E-01	2.782E+00	3.932E+00	8.351E-01	-0.065
		236.00		1.809E+00	4.927E-01	7.863E-01	8.188E-02	2.300
		256.20	*	4.208E-01	6.459E-01	1.104E+00	1.541E-01	0.381

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		286.10		1.197E+00	2.614E+00	4.439E+00	5.139E-01	0.270
		299.80		-8.993E-01	2.757E+00	3.913E+00	6.376E-01	-0.230
		304.40		1.368E+00	3.234E+00	5.467E+00	9.461E-01	0.250
		334.20		-2.375E+00	4.636E+00	6.411E+00	1.175E+00	-0.370
TH-227		79.80		-2.566E-01	2.782E+00	3.932E+00	8.461E-01	-0.065
	+	94.00		5.092E+00	3.735E+00	4.698E+00	1.016E+00	1.084
		236.00		1.809E+00	4.836E-01	7.863E-01	7.086E-02	2.300
		256.20	*	4.208E-01	6.471E-01	1.104E+00	1.866E-01	0.381
		286.10		1.197E+00	2.873E+00	4.439E+00	4.446E+00	0.270
		299.80		-8.993E-01	2.757E+00	3.913E+00	6.376E-01	-0.230
		304.40		1.368E+00	3.234E+00	5.467E+00	9.461E-01	0.250
		334.20		-2.375E+00	4.636E+00	6.411E+00	1.175E+00	-0.370
TH-229		85.43		1.798E+00	3.868E-01	5.981E-01	5.070E-02	3.005
	+	88.47		4.409E+00	5.068E-01	5.409E-01	4.707E-02	8.152
		100.00		2.805E-01	2.827E-01	4.588E-01	3.612E-02	0.611
		193.63	*	2.423E-02	7.907E-01	1.333E+00	7.361E-02	0.018
		210.97		8.276E-01	1.221E+00	2.100E+00	1.180E-01	0.394
PA-231		283.67	*	-1.365E+00	2.633E+00	4.276E+00	5.898E-01	-0.319
		301.29		-6.801E-01	1.131E+00	1.568E+00	1.642E-01	-0.434
TH-231		81.07		-7.383E-01	4.172E-01	4.940E-01	3.976E-02	-1.494
		83.78		1.289E-01	2.152E-01	3.135E-01	2.605E-02	0.411
		94.90		2.989E-01	3.714E-01	5.462E-01	4.469E-02	0.547
	+	122.32		1.531E+01	5.410E+00	5.999E+00	4.708E-01	2.553
		144.24		3.520E-02	1.001E+00	1.601E+00	1.211E-01	0.022
		154.21		2.951E-01	6.126E-01	1.001E+00	7.040E-02	0.295
		269.46		2.094E-01	3.153E-01	5.402E-01	3.285E-02	0.388
		323.87	*	-5.724E-01	1.168E+00	1.888E+00	3.118E-01	-0.303
	+	338.28		5.366E+00	2.589E+00	3.442E+00	3.615E-01	1.559
		445.03		8.904E-01	4.696E+00	7.789E+00	7.945E-01	0.114
U-231		84.21		2.400E+00	2.795E+00	4.109E+00	3.432E-01	0.584
	+	92.29		1.512E+00	1.067E+00	1.412E+00	1.182E-01	1.071
		95.87	*	-2.106E-01	5.365E-01	7.419E-01	6.023E-02	-0.284
		108.00		3.575E-01	9.066E-01	1.487E+00	1.117E-01	0.240
PA-233		75.28		1.757E+01	6.061E+00	8.693E+00	1.284E+00	2.021
		86.59		5.216E+01	1.453E+01	7.558E+00	2.026E+00	6.901
		300.12		-1.866E-01	7.636E-01	1.090E+00	1.466E-01	-0.171
		311.98	*	1.667E-02	1.089E-01	1.823E-01	1.125E-02	0.091
		340.50		1.898E+00	1.296E+00	1.928E+00	4.424E-01	0.984
		398.62		-5.410E-01	3.923E+00	6.422E+00	1.656E+00	-0.084
		415.76		1.245E+00	3.215E+00	5.382E+00	1.104E+00	0.231
PA-234		63.00		-1.005E-01	2.303E+00	3.318E+00	4.831E-01	-0.030
	+	94.67		4.540E-01	3.230E-01	3.997E-01	4.841E-02	1.136
		98.44		1.523E-01	1.691E-01	2.191E-01	1.220E-01	0.695
		99.86		9.508E-01	7.079E-01	1.163E+00	9.170E-02	0.817
		111.00		-7.980E-02	2.737E-01	4.358E-01	4.905E-02	-0.183
		131.20		5.602E-02	1.641E-01	2.675E-01	1.797E-02	0.209
		152.70		-3.343E-01	4.974E-01	7.680E-01	1.217E-01	-0.435
	+	186.00		4.229E+00	2.836E+00	3.447E+00	1.051E+00	1.227
		226.40		1.043E-01	6.698E-01	1.130E+00	1.300E-01	0.092

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		227.20		2.009E-01	7.232E-01	1.225E+00	6.978E-02	0.164
		248.90		7.367E-01	1.436E+00	2.437E+00	5.234E-01	0.302
	+	293.70		1.881E+00	2.319E+00	2.254E+00	3.628E-01	0.834
		369.80		-5.309E-01	1.524E+00	2.467E+00	5.123E-01	-0.215
		568.70		4.352E+00	2.038E+00	3.685E+00	2.198E-01	1.181
		569.50		1.039E+00	5.546E-01	9.918E-01	5.917E-02	1.047
		574.00		-3.937E+00	2.861E+00	4.219E+00	2.519E-01	-0.933
		699.00		1.162E+00	1.227E+00	2.093E+00	3.808E-01	0.555
		706.10		-5.525E-01	1.749E+00	2.724E+00	1.205E+00	-0.203
		733.00		-9.495E-02	7.360E-01	1.175E+00	2.536E-01	-0.081
		742.81		-6.251E-02	2.380E+00	3.825E+00	2.564E+00	-0.016
		796.30		1.081E+00	1.873E+00	3.091E+00	8.286E-01	0.350
		805.60		3.566E-02	1.961E+00	3.152E+00	9.602E-01	0.011
		819.60		5.898E-01	2.586E+00	4.387E+00	1.664E+00	0.134
		826.30		-9.396E-02	1.692E+00	2.830E+00	1.264E+00	-0.033
		831.60		-1.470E-01	1.232E+00	2.050E+00	6.101E-01	-0.072
		876.40		2.719E-01	1.809E+00	3.002E+00	3.087E+00	0.091
		880.51		2.688E-02	6.060E-01	1.018E+00	9.262E-02	0.026
		883.24		-1.730E-01	6.241E-01	1.007E+00	6.779E-01	-0.172
		899.00		-8.975E-01	1.996E+00	3.183E+00	1.396E+00	-0.282
		925.00		-3.997E-01	2.768E+00	4.583E+00	4.185E-01	-0.087
		926.50		8.610E-03	4.192E-01	7.009E-01	1.784E-01	0.012
		946.00	*	-6.581E-01	7.287E-01	1.131E+00	2.138E-01	-0.582
		949.00		2.615E-01	1.045E+00	1.769E+00	1.572E-01	0.148
		980.50		-4.451E-01	1.625E+00	2.657E+00	2.266E-01	-0.167
		1394.10		-1.125E+00	1.494E+00	1.744E+00	1.132E+00	-0.645
PA-234M		766.42		2.806E+01	2.392E+01	3.436E+01	1.737E+01	0.817
		1001.03	*	4.025E+00	9.614E+00	1.643E+01	1.589E+00	0.245
TH-234		63.29	*	-7.230E-01	1.944E+00	2.752E+00	4.731E-01	-0.263
	+	92.38		1.318E+00	9.532E-01	1.223E+00	2.197E-01	1.077
U-235		89.95		2.907E+01	9.333E+00	4.428E+00	1.366E+00	6.564
	+	93.35		1.584E+00	1.195E+00	1.467E+00	4.096E-01	1.080
		105.00		-8.222E-02	1.585E+00	2.555E+00	7.555E-01	-0.032
		143.76	*	1.002E-02	3.085E-01	4.932E-01	8.118E-02	0.020
		163.35		-3.954E-02	7.290E-01	1.163E+00	2.079E-01	-0.034
	+	185.71		1.566E-01	9.393E-02	1.264E-01	6.925E-03	1.239
		205.31		-5.567E-01	8.139E-01	1.322E+00	2.369E-01	-0.421
NP-236	+	94.67		3.444E-01	2.430E-01	3.033E-01	2.487E-02	1.135
		98.44		1.151E-01	1.110E-01	1.656E-01	1.318E-02	0.695
		111.00		-6.036E-02	2.070E-01	3.297E-01	2.442E-02	-0.183
		160.31	*	-5.038E-02	1.261E-01	1.980E-01	1.107E-02	-0.254
NP-237		86.50	*	7.596E+00	1.797E+00	1.122E+00	2.508E-01	6.769
		95.87		-6.181E-01	1.581E+00	2.177E+00	5.326E-01	-0.284
U-238		63.29	*	-7.230E-01	1.944E+00	2.752E+00	4.731E-01	-0.263
	+	92.38		1.318E+00	9.300E-01	1.223E+00	1.023E-01	1.077
NP-239		99.55		3.588E-01	2.444E-01	3.889E-01	3.072E-02	0.923
		117.00	*	1.194E-01	3.318E-01	4.764E-01	3.443E-02	0.251
		209.75		8.948E-01	1.210E+00	2.087E+00	1.171E-01	0.429
		228.18		1.957E-01	3.760E-01	6.428E-01	3.663E-02	0.305

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		277.60		3.179E-01	3.022E-01	5.254E-01	3.062E-02	0.605
		334.30		-1.247E+00	2.621E+00	3.649E+00	2.102E-01	-0.342
AM-243		74.67	*	2.401E-01	1.030E-01	1.573E-01	1.180E-02	1.527
	+	86.72		3.556E+02	4.088E+01	4.311E+01	3.712E+00	8.249
		117.66		1.532E+00	6.547E+00	9.336E+00	6.731E-01	0.164
		142.18		-1.210E+01	2.631E+01	4.113E+01	2.586E+00	-0.294
CM-243		99.55		3.691E-01	2.513E-01	4.000E-01	3.159E-02	0.923
		103.76	*	-1.125E-01	1.453E-01	2.267E-01	1.743E-02	-0.496
		117.00		1.227E-01	3.412E-01	4.899E-01	3.540E-02	0.251
		209.75		8.816E-01	1.192E+00	2.056E+00	1.154E-01	0.429
		228.18		1.977E-01	3.798E-01	6.492E-01	3.700E-02	0.305
		277.60		3.203E-01	3.045E-01	5.294E-01	3.086E-02	0.605
AM-246		798.80		-2.031E-01	2.891E-01	4.397E-01	3.450E-02	-0.462
		1036.00		-6.837E-02	6.529E-01	1.077E+00	8.408E-02	-0.063
		1062.04		8.936E-02	4.866E-01	8.179E-01	6.073E-02	0.109
		1078.86	*	1.218E-02	2.949E-01	4.907E-01	3.516E-02	0.025
CM-247		278.00		1.176E+00	1.255E+00	2.172E+00	1.266E-01	0.541
		287.40		9.292E-01	2.239E+00	3.598E+00	2.099E-01	0.258
		402.60	*	-4.832E-02	7.168E-02	1.142E-01	6.270E-03	-0.423
CF-249		252.85		-5.893E-01	1.514E+00	2.491E+00	1.441E-01	-0.237
		333.44		-3.166E-01	3.464E-01	4.668E-01	2.690E-02	-0.678
		387.95	*	6.185E-02	7.343E-02	1.262E-01	6.899E-03	0.490
CF-251		176.60	*	-1.665E-01	2.043E-01	3.136E-01	1.701E-02	-0.531
		227.00		1.519E-01	6.413E-01	1.085E+00	6.178E-02	0.140
		285.00		7.271E-01	2.963E+00	4.991E+00	2.912E-01	0.146
ANH-511		511.00	*	4.863E-02	6.626E-02	1.198E-01	7.036E-03	0.406

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]G1202038809    *
* Acquisition date : 19-FEB-2010 20:33:18 Detector SN#    :                *
* Detector ID        : GAM14               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 01:00:01.56      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 12-FEB-2010 00:00:00 Nuclide Library : SOLID        *
* Sample ID          : G1202038809         Analyst initials: MXR1          *
* Batch Number       : 951362              Sample Quantity : 1.5544E+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    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
CO-57	2.174E-01	7.494E-02	6.475E-02	0.000E+00
CO-60	6.434E+00	5.538E-01	7.813E-02	0.000E+00
CD-109	3.250E+01	3.661E+00	2.173E+00	0.000E+00
SN-126	3.230E+00	3.638E-01	2.167E-01	0.000E+00
BA-137M	5.422E+00	4.002E-01	1.009E-01	0.000E+00
CS-137	5.731E+00	4.241E-01	1.066E-01	0.000E+00
BI-211	2.161E+00	7.604E-01	5.920E-01	0.000E+00
PB-212	1.088E+00	1.568E-01	1.597E-01	0.000E+00
PO-212	1.088E+00	1.568E-01	1.597E-01	0.000E+00
BI-214	5.219E-01	2.238E-01	2.101E-01	0.000E+00
PB-214	7.516E-01	2.673E-01	2.063E-01	0.000E+00
PO-214	7.516E-01	2.673E-01	2.063E-01	0.000E+00
PO-216	1.088E+00	1.568E-01	1.597E-01	0.000E+00
PO-218	7.516E-01	2.673E-01	2.063E-01	0.000E+00
RA-224	3.072E+00	1.602E+00	1.816E+00	0.000E+00
RA-226	5.219E-01	2.238E-01	2.101E-01	0.000E+00
AC-228	8.718E-01	5.437E-01	5.214E-01	0.000E+00
RA-228	8.718E-01	5.437E-01	5.214E-01	0.000E+00
TH-228	1.097E+00	1.580E-01	1.610E-01	0.000E+00
TH-230	5.219E-01	2.238E-01	2.101E-01	0.000E+00
TH-232	8.718E-01	5.437E-01	5.214E-01	0.000E+00
U-234	5.219E-01	2.238E-01	2.101E-01	0.000E+00
AM-241	1.415E+01	1.232E+00	4.525E-01	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	1.575E-01	6.427E-01	1.131E+00	0.000E+00	NOT IDENT.
NA-22	-3.834E-03	4.689E-02	7.875E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.448E+02	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.122E-02	4.512E-02	7.838E-02	0.000E+00	NOT IDENT.

K-40	7.319E-01	6.564E-01	1.241E+00	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.402E-02	1.076E-01	0.000E+00	FAIL ABUN
SC-46	-5.776E-02	8.216E-02	1.370E-01	0.000E+00	NOT IDENT.
V-48	7.809E-03	1.150E-01	2.002E-01	0.000E+00	NOT IDENT.
CR-51	5.116E-02	5.449E-01	9.694E-01	0.000E+00	NOT IDENT.
MN-52	2.593E-03	1.249E-01	2.112E-01	0.000E+00	FAIL ABUN
MN-54	-2.470E-02	7.150E-02	1.227E-01	0.000E+00	NOT IDENT.
CO-56	-2.261E-02	7.030E-02	1.205E-01	0.000E+00	NOT IDENT.
CO-58	2.372E-02	7.420E-02	1.274E-01	0.000E+00	NOT IDENT.
FE-59	-5.929E-02	1.752E-01	2.944E-01	0.000E+00	NOT IDENT.
ZN-65	-1.635E-01	1.750E-01	2.802E-01	0.000E+00	NOT IDENT.
GE-68	1.608E+00	2.453E+00	4.413E+00	0.000E+00	NOT IDENT.
AS-73	1.437E+00	1.611E+00	2.656E+00	0.000E+00	NOT IDENT.
AS-74	2.103E-02	1.186E-01	2.059E-01	0.000E+00	NOT IDENT.
SE-75	2.209E-02	7.152E-02	1.303E-01	0.000E+00	FAIL ABUN
BR-77	-1.249E+00	2.379E+00	3.985E+00	0.000E+00	FAIL ABUN
SR-82	-1.764E-01	5.927E-01	9.756E-01	0.000E+00	NOT IDENT.
RB-83	-7.043E-02	1.237E-01	2.067E-01	0.000E+00	NOT IDENT.
RB-84	-1.950E-02	1.268E-01	2.195E-01	0.000E+00	NOT IDENT.
KR-85	-1.880E+01	1.482E+01	2.397E+01	0.000E+00	NOT IDENT.
SR-85	-8.928E-02	7.038E-02	1.138E-01	0.000E+00	NOT IDENT.
RB-86	-1.949E-01	1.238E+00	2.108E+00	0.000E+00	NOT IDENT.
Y-88	-1.132E-02	3.822E-02	5.786E-02	0.000E+00	NOT IDENT.
ZR-88	-2.090E-02	5.340E-02	9.216E-02	0.000E+00	NOT IDENT.
Y-91	-2.245E+00	2.011E+01	3.388E+01	0.000E+00	NOT IDENT.
NB-94	-9.910E-03	5.722E-02	9.577E-02	0.000E+00	NOT IDENT.
NB-95	7.441E-02	6.636E-02	1.208E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.152E-01	3.723E-01	0.000E+00	NOT IDENT.
ZR-95	4.203E-02	1.198E-01	2.074E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.156E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.756E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	6.122E-01	3.242E+00	5.556E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.081E+08	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.219E-04	4.969E-02	9.069E-02	0.000E+00	NOT IDENT.
RH-102	1.137E-01	6.486E-02	1.212E-01	0.000E+00	NOT IDENT.
RU-103	-1.656E-02	6.534E-02	1.116E-01	0.000E+00	FAIL ABUN
RH-106	-2.370E-01	5.541E-01	9.174E-01	0.000E+00	NOT IDENT.
RU-106	-2.370E-01	5.535E-01	9.174E-01	0.000E+00	NOT IDENT.
AG-108M	1.137E-01	6.497E-02	1.226E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	8.737E-02	1.504E-01	0.000E+00	NOT IDENT.
IN-111	9.995E-03	3.419E-01	5.384E-01	0.000E+00	NOT IDENT.
IN-113M	5.614E-03	7.942E-02	1.403E-01	0.000E+00	NOT IDENT.
SN-113	5.614E-03	7.942E-02	1.403E-01	0.000E+00	NOT IDENT.
IN-114M	-9.082E-02	2.885E-01	4.525E-01	0.000E+00	NOT IDENT.
CD-115	-1.089E+00	2.082E+00	3.481E+00	0.000E+00	NOT IDENT.
SN-117M	7.651E-03	5.918E-02	1.039E-01	0.000E+00	NOT IDENT.
SB-122	-8.367E-01	6.374E-01	1.008E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.874E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.679E-03	4.265E-02	7.429E-02	0.000E+00	NOT IDENT.
I-124	-3.879E-02	3.964E-01	6.101E-01	0.000E+00	FAIL ABUN
SB-124	-1.285E-02	8.304E-02	1.327E-01	0.000E+00	NOT IDENT.
SB-125	-3.198E-02	1.729E-01	2.999E-01	0.000E+00	NOT IDENT.
TE-125M	-2.950E+00	1.248E+01	2.198E+01	0.000E+00	NOT IDENT.
I-126	9.235E-03	2.436E-01	3.591E-01	0.000E+00	NOT IDENT.
SB-126	-3.305E-02	1.674E-01	2.790E-01	0.000E+00	NOT IDENT.
SB-127	-8.620E-02	6.138E-01	1.031E+00	0.000E+00	NOT IDENT.
XE-127	-4.249E-02	6.201E-02	1.101E-01	0.000E+00	NOT IDENT.
I-131	-1.735E-02	1.059E-01	1.857E-01	0.000E+00	NOT IDENT.
TE-132	1.265E-01	2.398E-01	4.426E-01	0.000E+00	NOT IDENT.
BA-133	3.578E-02	8.197E-02	1.297E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.330E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	4.935E-02	9.365E-02	1.628E-01	0.000E+00	NOT IDENT.
CS-135	1.618E-01	2.643E-01	4.865E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.433E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	9.263E-02	1.546E-01	2.771E-01	0.000E+00	NOT IDENT.
CE-139	2.884E-02	4.257E-02	7.640E-02	0.000E+00	NOT IDENT.
BA-140	-8.029E-02	3.305E-01	5.605E-01	0.000E+00	NOT IDENT.
LA-140	-9.500E-03	7.157E-02	1.164E-01	0.000E+00	NOT IDENT.
CE-141	-5.155E-03	7.866E-02	1.376E-01	0.000E+00	NOT IDENT.
CE-143	9.500E+00	1.154E+01	1.181E+01	0.000E+00	FAIL ABUN
CE-144	-1.608E-01	3.211E-01	5.529E-01	0.000E+00	NOT IDENT.
PM-144	-4.909E-02	5.877E-02	9.327E-02	0.000E+00	NOT IDENT.
PR-144	-3.313E+00	3.967E+00	6.296E+00	0.000E+00	NOT IDENT.
PM-146	4.020E-03	8.913E-02	1.559E-01	0.000E+00	NOT IDENT.
ND-147	1.413E-01	6.628E-01	1.159E+00	0.000E+00	NOT IDENT.
PM-149	6.842E+00	1.562E+01	2.848E+01	0.000E+00	NOT IDENT.
EU-152	-7.652E-02	2.539E-01	2.974E-01	0.000E+00	FAIL ABUN
GD-153	-1.420E-02	1.266E-01	1.966E-01	0.000E+00	NOT IDENT.

EU-154	-5.324E-03	1.322E-01	2.235E-01	0.000E+00	FAIL ABUN
EU-155	1.104E-01	1.548E-01	2.832E-01	0.000E+00	FAIL ABUN
TB-160	-1.481E-01	2.734E-01	4.610E-01	0.000E+00	FAIL ABUN
HO-166M	-9.693E-03	9.783E-02	1.644E-01	0.000E+00	NOT IDENT.
TM-171	-4.697E+01	3.845E+01	6.414E+01	0.000E+00	FAIL ABUN
LU-176	-6.609E-03	4.223E-02	7.486E-02	0.000E+00	FAIL ABUN
LU-177	8.402E-01	7.858E-01	1.484E+00	0.000E+00	NOT IDENT.
LU-177M	-1.128E-01	3.224E-01	5.558E-01	0.000E+00	FAIL ABUN
HF-181	-7.380E-02	7.618E-02	1.253E-01	0.000E+00	NOT IDENT.
W-181	3.813E-02	5.142E-01	8.220E-01	0.000E+00	NOT IDENT.
TA-182	5.425E-02	2.063E-01	3.629E-01	0.000E+00	NOT IDENT.
RE-183	-8.434E-02	1.581E-01	2.694E-01	0.000E+00	FAIL ABUN
RE-184	-1.524E-01	3.839E-01	6.814E-01	0.000E+00	FAIL ABUN
OS-185	-4.304E-02	7.449E-02	1.218E-01	0.000E+00	FAIL ABUN
RE-188	1.500E-01	2.408E-01	4.321E-01	0.000E+00	NOT IDENT.
W-188	-7.805E+00	1.336E+01	2.002E+01	0.000E+00	NOT IDENT.
IR-192	1.051E-02	5.515E-02	9.915E-02	0.000E+00	NOT IDENT.
AU-195	4.259E-01	3.521E-01	5.837E-01	0.000E+00	NOT IDENT.
TL-200	4.311E+00	7.695E+00	1.397E+01	0.000E+00	NOT IDENT.
TL-201	-1.504E+00	2.056E+00	3.462E+00	0.000E+00	NOT IDENT.
TL-202	-4.952E-02	9.213E-02	1.567E-01	0.000E+00	NOT IDENT.
HG-203	3.529E-02	6.041E-02	1.110E-01	0.000E+00	NOT IDENT.
BI-207	4.696E-02	1.083E-01	1.921E-01	0.000E+00	NOT IDENT.
TL-207	-5.724E-01	1.145E+00	1.984E+00	0.000E+00	FAIL ABUN
TL-208	0.000E+00	1.286E-01	1.643E-01	0.000E+00	FAIL ABUN
PO-209	7.982E+00	1.693E+01	3.031E+01	0.000E+00	NOT IDENT.
BI-210	-1.000E+01	4.863E+00	8.418E+00	0.000E+00	NOT IDENT.
PB-210	-1.000E+01	4.863E+00	8.418E+00	0.000E+00	NOT IDENT.
PO-210	-1.000E+01	4.848E+00	8.418E+00	0.000E+00	NOT IDENT.
PB-211	4.004E-01	1.764E+00	3.103E+00	0.000E+00	NOT IDENT.
BI-212	4.269E-01	5.711E-01	1.012E+00	0.000E+00	NOT IDENT.
PO-215	-5.724E-01	1.145E+00	1.984E+00	0.000E+00	FAIL ABUN
RN-219	-3.237E-01	7.697E-01	1.323E+00	0.000E+00	NOT IDENT.
RN-220	2.808E+01	4.507E+01	8.080E+01	0.000E+00	NOT IDENT.
RA-223	-5.724E-01	1.145E+00	1.984E+00	0.000E+00	FAIL ABUN
AC-227	4.208E-01	6.329E-01	1.167E+00	0.000E+00	NOT IDENT.
TH-227	4.208E-01	6.342E-01	1.167E+00	0.000E+00	FAIL ABUN
TH-229	2.423E-02	7.749E-01	1.419E+00	0.000E+00	FAIL ABUN
PA-231	-1.365E+00	2.580E+00	4.508E+00	0.000E+00	NOT IDENT.
TH-231	-5.724E-01	1.145E+00	1.984E+00	0.000E+00	FAIL ABUN
U-231	-2.106E-01	5.258E-01	8.038E-01	0.000E+00	FAIL ABUN
PA-233	1.667E-02	1.067E-01	1.917E-01	0.000E+00	NOT IDENT.
PA-234	-6.581E-01	7.142E-01	1.155E+00	0.000E+00	FAIL ABUN
PA-234M	4.025E+00	9.421E+00	1.675E+01	0.000E+00	NOT IDENT.
TH-234	-7.230E-01	1.905E+00	3.012E+00	0.000E+00	FAIL ABUN
U-235	1.002E-02	3.023E-01	5.290E-01	0.000E+00	FAIL ABUN
NP-236	-5.038E-02	1.235E-01	2.118E-01	0.000E+00	FAIL ABUN
NP-237	0.000E+00	1.761E+00	1.219E+00	0.000E+00	NOT IDENT.
U-238	-7.230E-01	1.905E+00	3.012E+00	0.000E+00	FAIL ABUN
NP-239	1.194E-01	3.252E-01	5.137E-01	0.000E+00	NOT IDENT.
AM-243	0.000E+00	1.009E-01	1.714E-01	0.000E+00	FAIL ABUN
CM-243	-1.125E-01	1.424E-01	2.452E-01	0.000E+00	NOT IDENT.
AM-246	1.218E-02	2.890E-01	4.991E-01	0.000E+00	NOT IDENT.
CM-247	-4.832E-02	7.025E-02	1.193E-01	0.000E+00	NOT IDENT.
CF-249	6.185E-02	7.196E-02	1.319E-01	0.000E+00	NOT IDENT.
CF-251	-1.665E-01	2.002E-01	3.346E-01	0.000E+00	NOT IDENT.
ANH-511	4.863E-02	6.494E-02	1.243E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 21:33:45.40

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038809.CNF;1
Sample date       : 12-FEB-2010 00:00:00 Acquisition date : 19-FEB-2010 20:33:18
Sample ID         : G1202038809          Sample quantity  : 1.55440E+02 GRAM
Detector name     : GAM14                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:01.56  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 951362               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
CO-57	122.06	289	85.51*	7.663E+00	2.131E-01	2.174E-01	35.17
	136.48	------	10.60	7.493E+00	------ Line Not Found		------
CO-60	1173.22	1890	100.00	1.461E+00	6.248E+00	6.265E+00	7.57
	1332.49	1736	100.00*	1.307E+00	6.415E+00	6.434E+00	8.78
CD-109	88.03	1756	3.72*	7.099E+00	3.212E+01	3.250E+01	11.49
SN-126	64.28	------	9.60	4.774E+00	------ Line Not Found		------
	86.94	1756	8.90	7.099E+00	1.343E+01	1.343E+01	42.05
	87.57	1756	37.00*	7.099E+00	3.230E+00	3.230E+00	11.49
BA-137M	661.65	2493	89.98*	2.469E+00	5.419E+00	5.422E+00	7.53
CS-137	661.65	2493	85.12*	2.469E+00	5.729E+00	5.731E+00	7.55
BI-211	72.87	------	1.27	5.875E+00	------ Line Not Found		------
	351.07	242	12.94*	4.177E+00	2.161E+00	2.161E+00	35.91
PB-212	74.81	------	10.70	6.081E+00	------ Line Not Found		------
	77.11	202	18.00	6.329E+00	8.576E-01	8.576E-01	41.29
	87.30	1756	8.00	7.099E+00	1.494E+01	1.494E+01	15.24
	238.63	560	44.60*	5.570E+00	1.088E+00	1.088E+00	14.70
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
PO-212	74.81	------	10.70	6.081E+00	------ Line Not Found		------
	77.11	202	18.00	6.329E+00	8.576E-01	8.576E-01	41.29
	87.30	1756	8.00	7.099E+00	1.494E+01	1.494E+01	15.24
	115.19	------	0.60	7.689E+00	------ Line Not Found		------
	238.63	560	44.60*	5.570E+00	1.088E+00	1.088E+00	14.70
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
BI-214	609.31	133	46.30*	2.655E+00	5.219E-01	5.219E-01	43.76
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	44	15.80	1.059E+00	1.280E+00	1.280E+00	36.20
PB-214	74.81	------	6.21	6.081E+00	------ Line Not Found		------
	77.11	202	10.50	6.329E+00	1.470E+00	1.470E+00	41.99
	87.30	1756	4.67	7.099E+00	2.559E+01	2.559E+01	13.84
	241.98	139	7.49	5.522E+00	1.620E+00	1.620E+00	53.50
	295.21	75	19.20	4.793E+00	3.918E-01	3.918E-01	122.55
	351.92	242	37.20*	4.177E+00	7.516E-01	7.516E-01	36.29

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	------	6.21	6.081E+00	------ Line Not Found		------
	77.11	202	10.50	6.329E+00	1.470E+00	1.470E+00	41.99
	87.30	1756	4.67	7.099E+00	2.559E+01	2.559E+01	13.84
	241.98	139	7.49	5.522E+00	1.620E+00	1.620E+00	53.50
	295.21	75	19.20	4.793E+00	3.918E-01	3.918E-01	122.55
	351.92	242	37.20*	4.177E+00	7.516E-01	7.516E-01	36.29
PO-216	74.81	------	10.70	6.081E+00	------ Line Not Found		------
	77.11	202	18.00	6.329E+00	8.576E-01	8.576E-01	41.29
	87.30	1756	8.00	7.099E+00	1.494E+01	1.494E+01	15.24
	238.63	560	44.60*	5.570E+00	1.088E+00	1.088E+00	14.70
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
PO-218	74.81	------	6.21	6.081E+00	------ Line Not Found		------
	77.11	202	10.50	6.329E+00	1.470E+00	1.470E+00	41.99
	87.30	1756	4.67	7.099E+00	2.559E+01	2.559E+01	13.84
	241.98	139	7.49	5.522E+00	1.620E+00	1.620E+00	53.50
	295.21	75	19.20	4.793E+00	3.918E-01	3.918E-01	122.55
	351.92	242	37.20*	4.177E+00	7.516E-01	7.516E-01	36.29
RA-224	240.98	139	3.95*	5.522E+00	3.072E+00	3.072E+00	53.20
RA-226	609.31	133	46.30*	2.655E+00	5.219E-01	5.219E-01	43.76
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	44	15.80	1.059E+00	1.280E+00	1.280E+00	36.20
AC-228	338.32	131	11.40	4.309E+00	1.285E+00	1.285E+00	62.27
	911.07	92	27.70*	1.843E+00	8.718E-01	8.718E-01	63.64
	969.11	56	16.60	1.740E+00	9.438E-01	9.438E-01	85.96
RA-228	338.32	131	11.40	4.309E+00	1.285E+00	1.285E+00	62.27
	911.07	92	27.70*	1.843E+00	8.718E-01	8.718E-01	63.64
	969.11	56	16.60	1.740E+00	9.438E-01	9.438E-01	85.96
TH-228	74.81	------	10.70	6.081E+00	------ Line Not Found		------
	77.11	202	18.00	6.329E+00	8.576E-01	8.643E-01	41.29
	87.30	1756	8.00	7.099E+00	1.494E+01	1.505E+01	11.49
	238.63	560	44.60*	5.570E+00	1.088E+00	1.097E+00	14.70
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
TH-230	609.31	133	46.30*	2.655E+00	5.219E-01	5.219E-01	43.76
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	44	15.80	1.059E+00	1.280E+00	1.280E+00	36.20
TH-232	338.32	131	11.40	4.309E+00	1.285E+00	1.285E+00	47.43
	911.07	92	27.70*	1.843E+00	8.718E-01	8.718E-01	63.64
	969.11	56	16.60	1.740E+00	9.438E-01	9.438E-01	85.96
U-234	609.31	133	46.30*	2.655E+00	5.219E-01	5.219E-01	43.76
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	44	15.80	1.059E+00	1.280E+00	1.280E+00	36.20
AM-241	59.54	4246	35.90*	4.036E+00	1.415E+01	1.415E+01	8.88

Flag: "*" = Keyline

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

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
CO-57	270.90D	1.02	2.131E-01	2.174E-01	0.765E-01	35.17	
CO-60	5.27Y	1.00	6.415E+00	6.434E+00	0.565E+00	8.78	
CD-109	464.00D	1.01	3.212E+01	3.250E+01	0.374E+01	11.49	
SN-126	1.00E+05Y	1.00	3.230E+00	3.230E+00	0.371E+00	11.49	
BA-137M	30.17Y	1.00	5.419E+00	5.422E+00	0.408E+00	7.53	
CS-137	30.17Y	1.00	5.729E+00	5.731E+00	0.433E+00	7.55	
BI-211	7.04E+08Y	1.00	2.161E+00	2.161E+00	0.776E+00	35.91	
PB-212	1.41E+10Y	1.00	1.088E+00	1.088E+00	0.160E+00	14.70	
PO-212	1.41E+10Y	1.00	1.088E+00	1.088E+00	0.160E+00	14.70	
BI-214	1600.00Y	1.00	5.219E-01	5.219E-01	2.284E-01	43.76	
PB-214	1600.00Y	1.00	7.516E-01	7.516E-01	2.727E-01	36.29	
PO-214	1600.00Y	1.00	7.516E-01	7.516E-01	2.727E-01	36.29	
PO-216	1.41E+10Y	1.00	1.088E+00	1.088E+00	0.160E+00	14.70	
PO-218	1600.00Y	1.00	7.516E-01	7.516E-01	2.727E-01	36.29	
RA-224	1.41E+10Y	1.00	3.072E+00	3.072E+00	1.634E+00	53.20	
RA-226	1600.00Y	1.00	5.219E-01	5.219E-01	2.284E-01	43.76	
AC-228	1.41E+10Y	1.00	8.718E-01	8.718E-01	5.548E-01	63.64	
RA-228	1.41E+10Y	1.00	8.718E-01	8.718E-01	5.548E-01	63.64	
TH-228	1.91Y	1.01	1.088E+00	1.097E+00	0.161E+00	14.70	
TH-230	4.47E+09Y	1.00	5.219E-01	5.219E-01	2.284E-01	43.76	
TH-232	1.41E+10Y	1.00	8.718E-01	8.718E-01	5.548E-01	63.64	
U-234	4.47E+09Y	1.00	5.219E-01	5.219E-01	2.284E-01	43.76	
AM-241	432.20Y	1.00	1.415E+01	1.415E+01	0.126E+01	8.88	
	Total Activity :		8.383E+01	8.424E+01			

Grand Total Activity : 8.383E+01 8.424E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.26	108	364	1.63	186.00	182	10	3.01E-02	70.1	7.33E+00	T
0	186.14	114	292	1.25	371.60	367	10	3.17E-02	59.7	6.52E+00	T
0	582.92	157	162	1.74	1164.64	1158	16	4.36E-02	39.6	2.76E+00	T
0	1376.91	26	0	3.46	2752.69	2746	14	7.22E-03	39.2	1.27E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 19-FEB-2010 21:33:50.06

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                           *
*                                DETECTOR DATA                              *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202038809.CNF;1  *
* Acquisition date  : 19-FEB-2010 20:33:18  Detector SN#     :             *
* Detector ID       : GAM14                 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 01:00:01.56          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date       : 12-FEB-2010 00:00:00  Nuclide Library : SOLID        *
* Sample ID         : G1202038809           Analyst initials: MXR1         *
* Batch Number      : 951362                Sample Quantity : 1.55440E+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

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	2.174E-01	7.647E-02	6.012E-02	4.277E-03	3.617
CO-60	6.434E+00	5.651E-01	7.727E-02	5.506E-03	83.264
CD-109	3.250E+01	3.736E+00	2.002E+00	1.750E-01	16.238
SN-126	3.230E+00	3.712E-01	1.996E-01	1.736E-02	16.184
BA-137M	5.422E+00	4.083E-01	9.784E-02	5.817E-03	55.418
CS-137	5.731E+00	4.327E-01	1.034E-01	6.174E-03	55.418
BI-211	2.161E+00	7.759E-01	5.647E-01	3.578E-02	3.826
PB-212	1.088E+00	1.600E-01	1.508E-01	1.099E-02	7.214
PO-212	1.088E+00	1.600E-01	1.508E-01	1.099E-02	7.214
BI-214	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
PB-214	7.516E-01	2.727E-01	1.968E-01	1.615E-02	3.819
PO-214	7.516E-01	2.727E-01	1.968E-01	1.615E-02	3.819
PO-216	1.088E+00	1.600E-01	1.508E-01	1.099E-02	7.214
PO-218	7.516E-01	2.727E-01	1.968E-01	1.615E-02	3.819
RA-224	3.072E+00	1.634E+00	1.716E+00	9.862E-02	1.791
RA-226	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
AC-228	8.718E-01	5.548E-01	5.102E-01	5.992E-02	1.709
RA-228	8.718E-01	5.548E-01	5.102E-01	5.992E-02	1.709

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.097E+00	1.613E-01	1.520E-01	1.107E-02	7.214
TH-230	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
TH-232	8.718E-01	5.548E-01	5.102E-01	5.992E-02	1.709
U-234	5.219E-01	2.284E-01	2.033E-01	1.609E-02	2.567
AM-241	1.415E+01	1.257E+00	4.128E-01	3.065E-02	34.286

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.575E-01		6.558E-01	1.087E+00	7.328E-02	0.145
NA-22	-3.834E-03		4.784E-02	7.779E-02	5.081E-03	-0.049
NA-24	6.745E-05		1.249E-04	Half-Life too short		
AL-26	1.122E-02		4.604E-02	7.819E-02	4.532E-03	0.143
K-40	7.319E-01		6.698E-01	1.230E+00	8.935E-02	0.595
TI-44	1.582E-01	+	6.533E-02	9.885E-02	7.718E-03	1.601
SC-46	-5.776E-02		8.384E-02	1.340E-01	1.238E-02	-0.431
V-48	7.809E-03		1.174E-01	1.964E-01	1.667E-02	0.040
CR-51	5.116E-02		5.560E-01	9.224E-01	5.960E-02	0.055
MN-52	2.593E-03		1.275E-01	2.093E-01	1.467E-02	0.012
MN-54	-2.470E-02		7.296E-02	1.197E-01	1.004E-02	-0.206
CO-56	-2.261E-02		7.173E-02	1.176E-01	1.008E-02	-0.192
CO-58	2.372E-02		7.572E-02	1.242E-01	9.997E-03	0.191
FE-59	-5.929E-02		1.788E-01	2.895E-01	2.229E-02	-0.205
ZN-65	-1.635E-01		1.785E-01	2.757E-01	1.813E-02	-0.593
GE-68	1.608E+00		2.503E+00	4.339E+00	3.119E-01	0.371
AS-73	1.437E+00		1.644E+00	2.417E+00	1.576E-01	0.594
AS-74	2.103E-02		1.211E-01	1.992E-01	1.191E-02	0.106
SE-75	2.209E-02		7.298E-02	1.234E-01	7.245E-03	0.179
BR-77	-1.249E+00		2.428E+00	3.841E+00	2.265E-01	-0.325
SR-82	-1.764E-01		6.048E-01	9.505E-01	7.146E-02	-0.186
RB-83	-7.043E-02		1.262E-01	1.992E-01	1.174E-02	-0.354
RB-84	-1.950E-02		1.294E-01	2.146E-01	1.956E-02	-0.091
KR-85	-1.880E+01		1.512E+01	2.309E+01	1.358E+00	-0.814
SR-85	-8.928E-02		7.181E-02	1.097E-01	6.450E-03	-0.814
RB-86	-1.949E-01		1.263E+00	2.072E+00	1.492E-01	-0.094
Y-88	-1.132E-02		3.900E-02	5.775E-02	3.280E-03	-0.196
ZR-88	-2.090E-02		5.449E-02	8.816E-02	4.801E-03	-0.237
Y-91	-2.245E+00		2.052E+01	3.341E+01	1.944E+00	-0.067
NB-94	-9.910E-03		5.839E-02	9.305E-02	6.035E-03	-0.106
NB-95	7.441E-02		6.772E-02	1.176E-01	8.660E-03	0.633
NB-95M	4.841E-01		2.196E-01	3.515E-01	2.627E-02	1.377
ZR-95	4.203E-02		1.223E-01	2.019E-01	1.665E-02	0.208
NB-97	8.972E-04		1.100E-04	Half-Life too short		
ZR-97	-2.497E-03		1.406E-03	Half-Life too short		
MO-99	6.122E-01		3.308E+00	5.406E+00	7.743E-01	0.113
TC-99M	-1.615E+02		5.515E+01	Half-Life too short		
RH-101	7.219E-04		5.071E-02	8.523E-02	4.729E-03	0.008

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102	1.137E-01		6.618E-02	1.165E-01	6.735E-03	0.976
RU-103	-1.656E-02		6.667E-02	1.074E-01	1.360E-02	-0.154
RH-106	-2.370E-01		5.654E-01	8.884E-01	1.051E-01	-0.267
RU-106	-2.370E-01		5.648E-01	8.884E-01	5.312E-02	-0.267
AG-108M	1.137E-01		6.630E-02	1.175E-01	7.221E-03	0.967
AG-110M	2.094E-01		8.916E-02	1.458E-01	9.212E-03	1.436
IN-111	9.995E-03		3.489E-01	5.088E-01	2.932E-02	0.020
IN-113M	5.614E-03		8.104E-02	1.342E-01	7.853E-03	0.042
SN-113	5.614E-03		8.104E-02	1.342E-01	7.853E-03	0.042
IN-114M	-9.082E-02		2.944E-01	4.248E-01	2.338E-02	-0.214
CD-115	-1.089E+00		2.125E+00	3.356E+00	1.983E-01	-0.324
SN-117M	7.651E-03		6.039E-02	9.715E-02	5.495E-03	0.079
SB-122	-8.367E-01		6.504E-01	9.739E-01	5.805E-02	-0.859
I-123	-5.575E-05		4.527E-04	Half-Life too short		
TE-123M	-2.679E-03		4.352E-02	6.943E-02	3.971E-03	-0.039
I-124	-3.879E-02		4.045E-01	5.904E-01	3.532E-02	-0.066
SB-124	-1.285E-02		8.474E-02	1.322E-01	8.934E-03	-0.097
SB-125	-3.198E-02		1.765E-01	2.876E-01	1.685E-02	-0.111
TE-125M	-2.950E+00		1.274E+01	2.035E+01	1.907E+00	-0.145
I-126	9.235E-03		2.486E-01	3.484E-01	2.092E-02	0.027
SB-126	-3.305E-02		1.708E-01	2.713E-01	1.825E-02	-0.122
SB-127	-8.620E-02		6.264E-01	1.001E+00	7.605E-02	-0.086
XE-127	-4.249E-02		6.327E-02	1.036E-01	5.773E-03	-0.410
I-131	-1.735E-02		1.081E-01	1.773E-01	1.110E-02	-0.098
TE-132	1.265E-01		2.447E-01	4.175E-01	5.497E-02	0.303
BA-133	3.578E-02		8.364E-02	1.238E-01	1.423E-02	0.289
I-133	-4.681E-06		1.699E-05	Half-Life too short		
CS-134	4.935E-02		9.556E-02	1.588E-01	1.250E-02	0.311
CS-135	1.618E-01		2.697E-01	4.608E-01	3.534E-02	0.351
I-135	4.743E+01		3.792E+01	Half-Life too short		
CS-136	9.263E-02		1.578E-01	2.722E-01	2.188E-02	0.340
CE-139	2.884E-02		4.344E-02	7.148E-02	3.838E-03	0.403
BA-140	-8.029E-02		3.373E-01	5.407E-01	1.760E-01	-0.149
LA-140	-9.500E-03		7.303E-02	1.157E-01	7.672E-03	-0.082
CE-141	-5.155E-03		8.026E-02	1.283E-01	8.188E-03	-0.040
CE-143	9.500E+00	+	1.178E+01	1.121E+01	2.298E+00	0.847
CE-144	-1.608E-01		3.277E-01	5.145E-01	7.490E-02	-0.312
PM-144	-4.909E-02		5.997E-02	9.060E-02	5.802E-03	-0.542
PR-144	-3.313E+00		4.048E+00	6.116E+00	3.916E-01	-0.542
PM-146	4.020E-03		9.095E-02	1.497E-01	1.281E-02	0.027
ND-147	1.413E-01		6.764E-01	1.118E+00	1.517E-01	0.126
PM-149	6.842E+00		1.594E+01	2.702E+01	3.829E+00	0.253
EU-152	-7.652E-02		2.591E-01	2.835E-01	1.834E-02	-0.270
GD-153	-1.420E-02		1.292E-01	1.815E-01	1.456E-02	-0.078
EU-154	-5.324E-03		1.349E-01	2.208E-01	2.165E-02	-0.024
EU-155	1.104E-01		1.579E-01	2.620E-01	2.028E-02	0.422
TB-160	-1.481E-01		2.790E-01	4.507E-01	4.093E-02	-0.329
HO-166M	-9.693E-03		9.983E-02	1.598E-01	1.056E-02	-0.061

Sample ID : G1202038809 Acquisition date : 19-FEB-2010 20:33:18

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171	-4.697E+01		3.924E+01	5.868E+01	4.091E+00	-0.801
LU-176	-6.609E-03		4.309E-02	7.115E-02	4.143E-03	-0.093
LU-177	8.402E-01		8.019E-01	1.397E+00	7.828E-02	0.602
LU-177M	-1.128E-01		3.289E-01	5.324E-01	2.952E-02	-0.212
HF-181	-7.380E-02		7.773E-02	1.205E-01	6.992E-03	-0.612
W-181	3.813E-02		5.247E-01	7.516E-01	5.179E-02	0.051
TA-182	5.425E-02		2.105E-01	3.580E-01	2.142E-02	0.152
RE-183	-8.434E-02		1.614E-01	2.519E-01	1.388E-02	-0.335
RE-184	-1.524E-01		3.917E-01	6.444E-01	3.728E-02	-0.237
OS-185	-4.304E-02		7.601E-02	1.181E-01	7.041E-03	-0.365
RE-188	1.500E-01		2.457E-01	4.036E-01	2.339E-02	0.372
W-188	-7.805E+00		1.363E+01	1.900E+01	1.109E+00	-0.411
IR-192	1.051E-02		5.627E-02	9.432E-02	5.505E-03	0.111
AU-195	4.259E-01		3.593E-01	5.392E-01	4.279E-02	0.790
TL-200	4.311E+00		7.852E+00	1.334E+01	7.475E-01	0.323
TL-201	-1.504E+00		2.098E+00	3.240E+00	1.740E-01	-0.464
TL-202	-4.952E-02		9.401E-02	1.503E-01	8.501E-03	-0.329
HG-203	3.529E-02		6.164E-02	1.052E-01	6.512E-03	0.335
BI-207	4.696E-02		1.105E-01	1.887E-01	1.397E-02	0.249
TL-207	-5.724E-01		1.168E+00	1.888E+00	3.118E-01	-0.303
TL-208	3.262E-01	+	1.312E-01	1.589E-01	1.087E-02	2.053
PO-209	7.982E+00		1.728E+01	2.965E+01	2.775E+00	0.269
BI-210	-1.000E+01		4.963E+00	7.635E+00	5.661E-01	-1.310
PB-210	-1.000E+01		4.963E+00	7.635E+00	5.661E-01	-1.310
PO-210	-1.000E+01		4.947E+00	7.635E+00	4.791E-01	-1.310
PB-211	4.004E-01		1.800E+00	2.971E+00	1.851E+00	0.135
BI-212	4.269E-01		5.828E-01	9.844E-01	8.374E-02	0.434
PO-215	-5.724E-01		1.168E+00	1.888E+00	3.118E-01	-0.303
RN-219	-3.237E-01		7.854E-01	1.266E+00	1.707E-01	-0.256
RN-220	2.808E+01		4.599E+01	7.799E+01	4.636E+00	0.360
RA-223	-5.724E-01		1.168E+00	1.888E+00	3.118E-01	-0.303
AC-227	4.208E-01		6.459E-01	1.104E+00	1.541E-01	0.381
TH-227	4.208E-01		6.471E-01	1.104E+00	1.866E-01	0.381
TH-229	2.423E-02		7.907E-01	1.333E+00	7.361E-02	0.018
PA-231	-1.365E+00		2.633E+00	4.276E+00	5.898E-01	-0.319
TH-231	-5.724E-01		1.168E+00	1.888E+00	3.118E-01	-0.303
U-231	-2.106E-01		5.365E-01	7.419E-01	6.023E-02	-0.284
PA-233	1.667E-02		1.089E-01	1.823E-01	1.125E-02	0.091
PA-234	-6.581E-01		7.287E-01	1.131E+00	2.138E-01	-0.582
PA-234M	4.025E+00		9.614E+00	1.643E+01	1.589E+00	0.245
TH-234	-7.230E-01		1.944E+00	2.752E+00	4.731E-01	-0.263
U-235	1.002E-02		3.085E-01	4.932E-01	8.118E-02	0.020
NP-236	-5.038E-02		1.261E-01	1.980E-01	1.107E-02	-0.254
NP-237	7.596E+00		1.797E+00	1.122E+00	2.508E-01	6.769
U-238	-7.230E-01		1.944E+00	2.752E+00	4.731E-01	-0.263
NP-239	1.194E-01		3.318E-01	4.764E-01	3.443E-02	0.251
AM-243	2.401E-01		1.030E-01	1.573E-01	1.180E-02	1.527
CM-243	-1.125E-01		1.453E-01	2.267E-01	1.743E-02	-0.496

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-246	1.218E-02		2.949E-01	4.907E-01	3.516E-02	0.025
CM-247	-4.832E-02		7.168E-02	1.142E-01	6.270E-03	-0.423
CF-249	6.185E-02		7.343E-02	1.262E-01	6.899E-03	0.490
CF-251	-1.665E-01		2.043E-01	3.136E-01	1.701E-02	-0.531
ANH-511	4.863E-02		6.626E-02	1.198E-01	7.036E-03	0.406

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration    : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202038809           *
* Acquisition date : 19-FEB-2010 20:33:18 Detector SN#     :                *
* Detector ID      : GAM14                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 01:00:01.56     Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date      : 12-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID        : G1202038809          Analyst initials: MXR1           *
* Batch Number     : 951362               Sample Quantity : 1.5544E+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

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
CO-57	2.174E-01	7.494E-02	3.239E-02	3.824E-02
CO-60	6.434E+00	5.538E-01	3.909E-02	2.826E-01
CD-109	3.250E+01	3.661E+00	1.087E+00	1.868E+00
SN-126	3.230E+00	3.638E-01	1.084E-01	1.856E-01
BA-137M	5.422E+00	4.002E-01	5.046E-02	2.042E-01
CS-137	5.731E+00	4.241E-01	5.334E-02	2.164E-01
BI-211	2.161E+00	7.604E-01	2.962E-01	3.880E-01
PB-212	1.088E+00	1.568E-01	7.992E-02	8.000E-02
PO-212	1.088E+00	1.568E-01	7.992E-02	8.000E-02
BI-214	5.219E-01	2.238E-01	1.051E-01	1.142E-01
PB-214	7.516E-01	2.673E-01	1.032E-01	1.364E-01
PO-214	7.516E-01	2.673E-01	1.032E-01	1.364E-01
PO-216	1.088E+00	1.568E-01	7.992E-02	8.000E-02
PO-218	7.516E-01	2.673E-01	1.032E-01	1.364E-01
RA-224	3.072E+00	1.602E+00	9.087E-01	8.172E-01
RA-226	5.219E-01	2.238E-01	1.051E-01	1.142E-01
AC-228	8.718E-01	5.437E-01	2.608E-01	2.774E-01
RA-228	8.718E-01	5.437E-01	2.608E-01	2.774E-01
TH-228	1.097E+00	1.580E-01	8.054E-02	8.063E-02
TH-230	5.219E-01	2.238E-01	1.051E-01	1.142E-01
TH-232	8.718E-01	5.437E-01	2.608E-01	2.774E-01
U-234	5.219E-01	2.238E-01	1.051E-01	1.142E-01
AM-241	1.415E+01	1.232E+00	2.264E-01	6.286E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	1.575E-01	6.427E-01	5.657E-01	3.279E-01	NOT IDENT.
NA-22	-3.834E-03	4.689E-02	3.940E-02	2.392E-02	NOT IDENT.
NA-24	6.745E+01	2.448E+02	0.000E+00	1.249E+02	SHORT HLIF
AL-26	1.122E-02	4.512E-02	3.921E-02	2.302E-02	NOT IDENT.

K-40	7.319E-01	6.564E-01	6.209E-01	3.349E-01	NOT IDENT.
TI-44	1.582E-01	6.402E-02	5.385E-02	3.266E-02	FAIL ABUN
SC-46	-5.776E-02	8.216E-02	6.854E-02	4.192E-02	NOT IDENT.
V-48	7.809E-03	1.150E-01	1.002E-01	5.869E-02	NOT IDENT.
CR-51	5.116E-02	5.449E-01	4.850E-01	2.780E-01	NOT IDENT.
MN-52	2.593E-03	1.249E-01	1.056E-01	6.374E-02	FAIL ABUN
MN-54	-2.470E-02	7.150E-02	6.137E-02	3.648E-02	NOT IDENT.
CO-56	-2.261E-02	7.030E-02	6.026E-02	3.587E-02	NOT IDENT.
CO-58	2.372E-02	7.420E-02	6.373E-02	3.786E-02	NOT IDENT.
FE-59	-5.929E-02	1.752E-01	1.473E-01	8.940E-02	NOT IDENT.
ZN-65	-1.635E-01	1.750E-01	1.402E-01	8.926E-02	NOT IDENT.
GE-68	1.608E+00	2.453E+00	2.208E+00	1.252E+00	NOT IDENT.
AS-73	1.437E+00	1.611E+00	1.329E+00	8.222E-01	NOT IDENT.
AS-74	2.103E-02	1.186E-01	1.030E-01	6.053E-02	NOT IDENT.
SE-75	2.209E-02	7.152E-02	6.521E-02	3.649E-02	FAIL ABUN
BR-77	-1.249E+00	2.379E+00	1.994E+00	1.214E+00	FAIL ABUN
SR-82	-1.764E-01	5.927E-01	4.881E-01	3.024E-01	NOT IDENT.
RB-83	-7.043E-02	1.237E-01	1.034E-01	6.312E-02	NOT IDENT.
RB-84	-1.950E-02	1.268E-01	1.098E-01	6.470E-02	NOT IDENT.
KR-85	-1.880E+01	1.482E+01	1.199E+01	7.560E+00	NOT IDENT.
SR-85	-8.928E-02	7.038E-02	5.695E-02	3.591E-02	NOT IDENT.
RB-86	-1.949E-01	1.238E+00	1.055E+00	6.315E-01	NOT IDENT.
Y-88	-1.132E-02	3.822E-02	2.895E-02	1.950E-02	NOT IDENT.
ZR-88	-2.090E-02	5.340E-02	4.611E-02	2.725E-02	NOT IDENT.
Y-91	-2.245E+00	2.011E+01	1.695E+01	1.026E+01	NOT IDENT.
NB-94	-9.910E-03	5.722E-02	4.791E-02	2.919E-02	NOT IDENT.
NB-95	7.441E-02	6.636E-02	6.041E-02	3.386E-02	NOT IDENT.
NB-95M	4.841E-01	2.152E-01	1.863E-01	1.098E-01	NOT IDENT.
ZR-95	4.203E-02	1.198E-01	1.037E-01	6.114E-02	NOT IDENT.
NB-97	8.972E+02	2.156E+02	0.000E+00	1.100E+02	SHORT HLIF
ZR-97	-2.497E+03	2.756E+03	0.000E+00	1.406E+03	SHORT HLIF
MO-99	6.122E-01	3.242E+00	2.780E+00	1.654E+00	NOT IDENT.
TC-99M	-1.615E+08	1.081E+08	0.000E+00	5.515E+07	SHORT HLIF
RH-101	7.219E-04	4.969E-02	4.537E-02	2.535E-02	NOT IDENT.
RH-102	1.137E-01	6.486E-02	6.064E-02	3.309E-02	NOT IDENT.
RU-103	-1.656E-02	6.534E-02	5.583E-02	3.333E-02	FAIL ABUN
RH-106	-2.370E-01	5.541E-01	4.590E-01	2.827E-01	NOT IDENT.
RU-106	-2.370E-01	5.535E-01	4.590E-01	2.824E-01	NOT IDENT.
AG-108M	1.137E-01	6.497E-02	6.131E-02	3.315E-02	NOT IDENT.
AG-110M	2.094E-01	8.737E-02	7.523E-02	4.458E-02	NOT IDENT.
IN-111	9.995E-03	3.419E-01	2.693E-01	1.744E-01	NOT IDENT.
IN-113M	5.614E-03	7.942E-02	7.020E-02	4.052E-02	NOT IDENT.
SN-113	5.614E-03	7.942E-02	7.020E-02	4.052E-02	NOT IDENT.
IN-114M	-9.082E-02	2.885E-01	2.264E-01	1.472E-01	NOT IDENT.
CD-115	-1.089E+00	2.082E+00	1.741E+00	1.062E+00	NOT IDENT.
SN-117M	7.651E-03	5.918E-02	5.201E-02	3.019E-02	NOT IDENT.
SB-122	-8.367E-01	6.374E-01	5.045E-01	3.252E-01	NOT IDENT.
I-123	-5.575E+01	8.874E+02	0.000E+00	4.527E+02	SHORT HLIF
TE-123M	-2.679E-03	4.265E-02	3.717E-02	2.176E-02	NOT IDENT.
I-124	-3.879E-02	3.964E-01	3.053E-01	2.022E-01	FAIL ABUN
SB-124	-1.285E-02	8.304E-02	6.640E-02	4.237E-02	NOT IDENT.
SB-125	-3.198E-02	1.729E-01	1.501E-01	8.823E-02	NOT IDENT.
TE-125M	-2.950E+00	1.248E+01	1.099E+01	6.368E+00	NOT IDENT.
I-126	9.235E-03	2.436E-01	1.796E-01	1.243E-01	NOT IDENT.
SB-126	-3.305E-02	1.674E-01	1.396E-01	8.539E-02	NOT IDENT.
SB-127	-8.620E-02	6.138E-01	5.159E-01	3.132E-01	NOT IDENT.
XE-127	-4.249E-02	6.201E-02	5.510E-02	3.164E-02	NOT IDENT.
I-131	-1.735E-02	1.059E-01	9.288E-02	5.403E-02	NOT IDENT.
TE-132	1.265E-01	2.398E-01	2.214E-01	1.224E-01	NOT IDENT.
BA-133	3.578E-02	8.197E-02	6.491E-02	4.182E-02	NOT IDENT.
I-133	-4.681E+00	3.330E+01	0.000E+00	1.699E+01	SHORT HLIF
CS-134	4.935E-02	9.365E-02	8.147E-02	4.778E-02	NOT IDENT.
CS-135	1.618E-01	2.643E-01	2.434E-01	1.349E-01	NOT IDENT.
I-135	4.743E+07	7.433E+07	0.000E+00	3.792E+07	SHORT HLIF
CS-136	9.263E-02	1.546E-01	1.386E-01	7.889E-02	NOT IDENT.
CE-139	2.884E-02	4.257E-02	3.822E-02	2.172E-02	NOT IDENT.
BA-140	-8.029E-02	3.305E-01	2.804E-01	1.686E-01	NOT IDENT.
LA-140	-9.500E-03	7.157E-02	5.825E-02	3.651E-02	NOT IDENT.
CE-141	-5.155E-03	7.866E-02	6.884E-02	4.013E-02	NOT IDENT.
CE-143	9.500E+00	1.154E+01	5.910E+00	5.888E+00	FAIL ABUN
CE-144	-1.608E-01	3.211E-01	2.766E-01	1.638E-01	NOT IDENT.
PM-144	-4.909E-02	5.877E-02	4.666E-02	2.998E-02	NOT IDENT.
PR-144	-3.313E+00	3.967E+00	3.150E+00	2.024E+00	NOT IDENT.
PM-146	4.020E-03	8.913E-02	7.798E-02	4.548E-02	NOT IDENT.
ND-147	1.413E-01	6.628E-01	5.801E-01	3.382E-01	NOT IDENT.
PM-149	6.842E+00	1.562E+01	1.425E+01	7.971E+00	NOT IDENT.
EU-152	-7.652E-02	2.539E-01	1.488E-01	1.296E-01	FAIL ABUN
GD-153	-1.420E-02	1.266E-01	9.834E-02	6.461E-02	NOT IDENT.

EU-154	-5.324E-03	1.322E-01	1.118E-01	6.747E-02	FAIL ABUN
EU-155	1.104E-01	1.548E-01	1.417E-01	7.896E-02	FAIL ABUN
TB-160	-1.481E-01	2.734E-01	2.306E-01	1.395E-01	FAIL ABUN
HO-166M	-9.693E-03	9.783E-02	8.225E-02	4.991E-02	NOT IDENT.
TM-171	-4.697E+01	3.845E+01	3.209E+01	1.962E+01	FAIL ABUN
LU-176	-6.609E-03	4.223E-02	3.745E-02	2.154E-02	FAIL ABUN
LU-177	8.402E-01	7.858E-01	7.426E-01	4.009E-01	NOT IDENT.
LU-177M	-1.128E-01	3.224E-01	2.781E-01	1.645E-01	FAIL ABUN
HF-181	-7.380E-02	7.618E-02	6.270E-02	3.887E-02	NOT IDENT.
W-181	3.813E-02	5.142E-01	4.113E-01	2.624E-01	NOT IDENT.
TA-182	5.425E-02	2.063E-01	1.816E-01	1.052E-01	NOT IDENT.
RE-183	-8.434E-02	1.581E-01	1.348E-01	8.069E-02	FAIL ABUN
RE-184	-1.524E-01	3.839E-01	3.409E-01	1.959E-01	FAIL ABUN
OS-185	-4.304E-02	7.449E-02	6.093E-02	3.801E-02	FAIL ABUN
RE-188	1.500E-01	2.408E-01	2.162E-01	1.229E-01	NOT IDENT.
W-188	-7.805E+00	1.336E+01	1.001E+01	6.817E+00	NOT IDENT.
IR-192	1.051E-02	5.515E-02	4.960E-02	2.814E-02	NOT IDENT.
AU-195	4.259E-01	3.521E-01	2.920E-01	1.797E-01	NOT IDENT.
TL-200	4.311E+00	7.695E+00	6.990E+00	3.926E+00	NOT IDENT.
TL-201	-1.504E+00	2.056E+00	1.732E+00	1.049E+00	NOT IDENT.
TL-202	-4.952E-02	9.213E-02	7.839E-02	4.701E-02	NOT IDENT.
HG-203	3.529E-02	6.041E-02	5.553E-02	3.082E-02	NOT IDENT.
BI-207	4.696E-02	1.083E-01	9.609E-02	5.526E-02	NOT IDENT.
TL-207	-5.724E-01	1.145E+00	9.926E-01	5.839E-01	FAIL ABUN
TL-208	3.262E-01	1.286E-01	8.222E-02	6.561E-02	FAIL ABUN
PO-209	7.982E+00	1.693E+01	1.516E+01	8.638E+00	NOT IDENT.
BI-210	-1.000E+01	4.863E+00	4.211E+00	2.481E+00	NOT IDENT.
PB-210	-1.000E+01	4.863E+00	4.211E+00	2.481E+00	NOT IDENT.
PO-210	-1.000E+01	4.848E+00	4.211E+00	2.473E+00	NOT IDENT.
PB-211	4.004E-01	1.764E+00	1.553E+00	8.999E-01	NOT IDENT.
BI-212	4.269E-01	5.711E-01	5.064E-01	2.914E-01	NOT IDENT.
PO-215	-5.724E-01	1.145E+00	9.926E-01	5.839E-01	FAIL ABUN
RN-219	-3.237E-01	7.697E-01	6.619E-01	3.927E-01	NOT IDENT.
RN-220	2.808E+01	4.507E+01	4.043E+01	2.299E+01	NOT IDENT.
RA-223	-5.724E-01	1.145E+00	9.926E-01	5.839E-01	FAIL ABUN
AC-227	4.208E-01	6.329E-01	5.840E-01	3.229E-01	NOT IDENT.
TH-227	4.208E-01	6.342E-01	5.840E-01	3.235E-01	FAIL ABUN
TH-229	2.423E-02	7.749E-01	7.099E-01	3.953E-01	FAIL ABUN
PA-231	-1.365E+00	2.580E+00	2.255E+00	1.316E+00	NOT IDENT.
TH-231	-5.724E-01	1.145E+00	9.926E-01	5.839E-01	FAIL ABUN
U-231	-2.106E-01	5.258E-01	4.021E-01	2.683E-01	FAIL ABUN
PA-233	1.667E-02	1.067E-01	9.589E-02	5.443E-02	NOT IDENT.
PA-234	-6.581E-01	7.142E-01	5.777E-01	3.644E-01	FAIL ABUN
PA-234M	4.025E+00	9.421E+00	8.380E+00	4.807E+00	NOT IDENT.
TH-234	-7.230E-01	1.905E+00	1.507E+00	9.719E-01	FAIL ABUN
U-235	1.002E-02	3.023E-01	2.647E-01	1.543E-01	FAIL ABUN
NP-236	-5.038E-02	1.235E-01	1.060E-01	6.303E-02	FAIL ABUN
NP-237	7.596E+00	1.761E+00	6.099E-01	8.984E-01	NOT IDENT.
U-238	-7.230E-01	1.905E+00	1.507E+00	9.719E-01	FAIL ABUN
NP-239	1.194E-01	3.252E-01	2.570E-01	1.659E-01	NOT IDENT.
AM-243	2.401E-01	1.009E-01	8.577E-02	5.150E-02	FAIL ABUN
CM-243	-1.125E-01	1.424E-01	1.227E-01	7.264E-02	NOT IDENT.
AM-246	1.218E-02	2.890E-01	2.497E-01	1.475E-01	NOT IDENT.
CM-247	-4.832E-02	7.025E-02	5.966E-02	3.584E-02	NOT IDENT.
CF-249	6.185E-02	7.196E-02	6.601E-02	3.672E-02	NOT IDENT.
CF-251	-1.665E-01	2.002E-01	1.674E-01	1.022E-01	NOT IDENT.
ANH-511	4.863E-02	6.494E-02	6.220E-02	3.313E-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
46.50	759.0067
46.50	759.0067
46.50	759.0067
48.70	742.6404
49.72	846.5291
51.35	840.9501
52.39	872.9639
52.97	938.4973
53.15	968.1719
53.44	886.5462
54.07	872.4034
56.28	1001.0679
56.28	1001.0707
57.37	985.7798
57.53	709.8318
57.53	709.8332
57.60	709.8845
57.98	710.1701
57.98	710.1701
59.32	711.1690
59.32	711.1690
59.40	711.2282
59.54	711.3322
59.72	711.4651
60.01	711.6783
61.10	477.4638
61.14	477.4832
61.30	477.5617
63.00	466.7987
63.29	466.9352
63.29	466.9352
63.58	455.4767
64.28	454.1386
65.12	454.5170
65.20	454.5533
65.20	454.5533
66.05	511.3850
66.72	507.9216
66.83	507.9776
66.91	478.3429
67.20	467.4957
67.20	467.4957
67.75	469.8235
67.85	469.8683
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68.90	490.1153
69.30	510.0808
69.67	522.7584
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70.82	600.4709
70.83	600.4753
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72.87	604.9647
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74.81	580.9349
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77.11	613.3926

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77.11	613.3926
77.11	613.3926
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77.11	613.3926
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80.30	570.3390
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81.07	625.0183
81.07	625.0183
81.07	625.0183
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83.78	502.8750
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86.50	558.1620
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86.79	597.2086
86.94	597.2861
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87.30	539.9188
87.30	539.9188
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87.30	539.9188
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88.03	540.2478
88.36	540.3978
88.47	540.4464
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92.38	297.4359
92.38	297.4359
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94.67	350.7696
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94.90	354.2398
94.90	354.2398
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96.73	373.5177
97.43	348.1248
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98.44	285.2098
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99.55	284.8867
99.86	293.0964
100.00	310.2280
100.10	310.2524
103.18	366.3874
103.76	352.6160
105.00	334.7087
105.31	301.5221
108.00	307.5037
109.28	332.5477

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111.00	324.3457
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116.30	306.3297
117.00	306.4820
117.00	306.4820
117.66	299.6953
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121.62	295.3127
121.78	295.3449
122.06	295.4020
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122.32	295.4549
122.32	295.4549
123.07	306.0406
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136.48	298.2574
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144.24	279.8957
144.24	279.8957
144.24	279.8957
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147.16	282.6113
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152.70	314.5858
153.22	299.1708
154.21	293.8065
154.21	293.8065
154.21	293.8065
154.21	293.8065
155.03	287.2965
156.02	291.9061
158.56	307.9076
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161.27	301.7199
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162.64	322.0161
163.35	292.0535
163.89	282.1080
165.85	258.9857
167.43	310.6184
171.28	294.5005
171.86	254.2718
172.10	254.3064
176.55	316.7100
176.60	316.7186
181.06	256.6983
184.41	314.3143
185.71	328.0800
186.00	309.7677
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193.63	300.1425
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198.01	294.4665
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200.40	282.0898
201.83	306.8831
202.84	312.5081
205.31	322.9364

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208.81	284.2108
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209.75	297.1437
210.97	306.4727
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216.55	301.8149
218.09	304.7960
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223.80	302.8792
226.40	295.8827
227.00	295.9669
227.08	295.9787
227.20	295.9944
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228.18	284.1405
228.18	284.1405
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238.63	278.1171
238.63	278.1171
238.63	278.1171
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241.98	272.3574
241.98	272.3574
244.69	300.5832
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247.94	276.9761
248.90	265.4532
249.79	264.6275
252.40	290.1237
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252.85	279.9188
254.15	0.0000
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256.20	240.1540
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260.90	279.0440
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268.24	255.5080
268.79	262.1483
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269.46	249.0651
269.46	249.0651
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277.60	225.4075
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279.53	238.8027
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281.68	251.3005
283.67	246.7807
284.30	249.6817
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286.10	219.5815
287.40	224.9089
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290.67	256.0287
290.80	256.0419
291.72	252.9753
293.26	221.4929
293.70	226.2799
295.21	234.6530
295.21	234.6530

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296.50	234.7736
297.23	229.7721
298.57	221.9714
299.80	239.5288
299.80	239.5288
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300.09	234.7970
300.12	234.8000
301.29	258.7200
302.84	249.1230
303.76	227.7289
303.91	212.9109
304.40	217.4043
304.40	217.4043
304.84	204.0889
306.84	222.3853
308.46	198.6512
311.98	199.8843
316.51	206.9429
318.01	196.5192
319.02	207.1433
319.41	211.9706
320.08	213.9433
323.87	231.5506
323.87	231.5506
323.87	231.5506
323.87	231.5506
325.23	231.6712
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334.20	228.2799
334.30	228.2886
338.28	206.7299
338.28	206.7299
338.28	206.7299
338.28	206.7299
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340.57	198.2059
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345.85	224.7472
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351.92	185.4416
351.92	185.4416
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366.43	182.5053
367.43	160.1142
367.94	169.9070
369.80	188.5849
374.96	185.0110
383.85	218.9657
387.95	173.0588
388.63	173.0996
391.69	198.8783
391.69	198.8783
392.90	202.8994
398.62	194.4100
400.65	193.5548
401.10	196.5465
401.81	206.4717
402.60	219.3741
404.84	196.7919
410.95	215.0266
411.60	218.0476
413.65	204.3076
414.70	189.4962
415.30	187.5488

415.76	186.5863
417.63	0.0000
418.52	168.8732
423.70	189.0583
427.08	173.3246
427.89	185.3279
432.53	186.6005
433.93	159.7285
439.47	209.0128
439.56	209.0204
439.89	208.0406
443.98	199.2964
444.90	193.3416
445.03	193.3510
445.03	193.3510
445.03	193.3510
445.03	193.3510
453.90	199.9109
463.38	239.7867
468.07	235.0848
473.00	232.4033
475.06	186.0394
475.35	175.9435
476.78	202.3193
477.59	211.4747
477.96	212.5122
482.03	196.5576
484.57	175.4138
487.03	175.5405
490.36	164.5412
492.35	158.5403
497.08	145.5294
507.63	0.0000
510.53	0.0000
510.84	155.3055
511.00	158.3783
511.85	155.3501
511.85	155.3501
513.99	239.3030
513.99	239.3030
520.41	154.7050
520.65	154.7160
527.90	143.7393
528.96	0.0000
529.64	136.6172
529.87	0.0000
531.02	133.5864
537.32	143.0858
543.00	122.6897
546.56	0.0000
549.76	104.3264
552.65	128.1838
555.20	132.4125
563.23	161.7281
563.90	178.3450
568.70	116.2820
569.32	122.5316
569.50	120.4605
569.67	120.4661
573.80	161.1455
574.00	155.9546
574.64	137.4937
578.91	109.3118
579.30	97.1751
583.14	113.6011
585.48	100.8085
591.81	103.1523
592.07	105.6261
593.00	94.0408
595.88	106.6592
600.56	112.0235
602.52	0.0000
602.71	130.1935
602.71	130.1935
603.60	108.2704
604.41	110.0398
604.70	127.5153
609.31	123.8193

609.31	123.8193
609.31	123.8193
609.31	123.8193
610.33	106.7078
612.46	131.2683
614.37	89.3060
618.01	100.9570
621.84	111.5821
621.84	111.5821
631.29	104.4600
633.02	112.9482
633.10	112.9508
634.78	124.6145
635.90	125.7054
636.97	113.0605
645.85	118.6035
646.12	117.5527
656.30	130.9393
657.75	122.1342
657.90	0.0000
661.65	93.5494
661.65	93.5494
664.57	106.3794
666.33	99.3307
666.33	99.3307
675.00	101.3132
677.61	107.7810
685.20	88.7326
692.80	99.6004
695.00	97.5095
696.49	110.4056
696.49	110.4056
697.00	103.9861
697.49	108.2865
698.33	91.1509
698.50	91.1550
699.00	79.3675
702.63	98.7562
706.10	90.2405
706.58	0.0000
706.67	89.1784
709.31	84.9327
711.68	81.7520
713.82	82.8690
717.42	85.0909
720.50	97.0071
721.93	121.8392
722.20	113.2211
722.78	126.1749
722.78	126.1749
722.89	126.1806
722.95	126.1806
723.30	124.0349
724.18	122.9814
727.18	110.1107
733.00	111.3361
735.90	101.6742
739.58	84.4384
742.81	83.4160
744.21	81.2750
747.13	84.5813
751.79	83.5834
752.31	84.6784
753.82	90.1369
755.35	97.7717
756.15	90.1835
756.87	91.2844
763.93	100.1354
765.79	77.3096
766.42	71.8749
766.84	83.8616
776.49	104.7750
778.00	105.9019
778.57	103.7300
778.89	92.8193
783.80	87.4512
785.46	109.3530
792.07	120.4602

795.84	110.6931
796.30	107.4172
798.80	123.9248
801.93	96.5723
805.60	96.6475
810.29	100.0422
810.76	100.0511
815.85	125.6558
817.79	115.6154
818.51	111.9624
819.60	108.3155
826.30	110.3052
828.27	114.0299
831.60	108.5868
831.96	118.7198
834.83	119.7089
836.80	0.0000
846.75	101.5428
848.13	97.8783
856.28	0.0000
856.80	126.7261
860.37	113.8586
867.32	119.5806
867.82	115.8854
871.10	116.8894
873.19	103.0169
874.81	117.9049
875.33	0.0000
876.40	104.0133
879.36	116.1550
880.27	108.7401
880.51	108.7449
881.50	111.5552
883.24	112.5242
884.67	116.2771
889.25	132.2121
896.60	120.2840
898.02	138.9691
899.00	138.0635
903.28	127.4439
911.07	134.6514
911.07	134.6514
911.07	134.6514
919.63	124.7612
920.93	133.9723
925.00	128.4542
925.24	128.4598
926.50	130.3662
935.52	126.8344
937.48	132.5231
944.10	125.1610
946.00	144.9766
949.00	122.4516
962.29	129.6860
964.01	153.8382
966.15	137.6981
968.20	152.3369
969.11	163.7093
969.11	163.7093
969.11	163.7093
977.42	103.6944
980.50	111.8085
983.50	111.8710
989.30	102.5002
996.32	115.9387
1001.03	96.0643
1001.68	104.6367
1004.76	100.8889
1021.30	0.0000
1024.50	0.0000
1034.80	102.3936
1036.00	102.4154
1037.82	91.9180
1038.57	91.9297
1038.76	0.0000
1045.16	98.7502
1046.59	79.5957
1048.07	90.1675

1050.47	84.4479
1050.47	84.4479
1062.04	94.2357
1063.62	89.4542
1076.63	95.4430
1077.35	80.0280
1078.86	90.6571
1085.78	87.8711
1099.22	109.3676
1112.02	87.2974
1112.84	86.3383
1115.52	112.5827
1120.29	82.5616
1120.29	82.5616
1120.29	82.5616
1120.29	82.5616
1120.51	80.6224
1121.28	79.6611
1124.00	0.0000
1129.67	69.0730
1131.51	0.0000
1147.95	0.0000
1167.94	48.6745
1173.22	52.9167
1175.09	52.9343
1177.93	48.7554
1189.05	42.2476
1204.90	35.4609
1205.75	34.4802
1213.00	35.5063
1221.42	29.6289
1230.97	26.7067
1235.34	29.6948
1236.41	0.0000
1238.25	35.6499
1246.25	23.7969
1260.41	0.0000
1271.85	22.8971
1274.45	22.9064
1274.54	22.9064
1291.56	22.9663
1298.22	0.0000
1312.09	20.0334
1325.50	27.5301
1325.50	27.5301
1332.49	20.0952
1333.61	20.0993
1360.21	20.1790
1362.66	0.0000
1365.15	20.1937
1368.21	9.6973
1368.53	0.0000
1376.25	12.1362
1384.27	13.8862
1394.10	18.2520
1395.20	17.2407
1407.95	15.2405
1434.06	18.3574
1436.60	15.3033
1457.56	0.0000
1460.81	26.6168
1489.15	21.5836
1509.49	12.3682
1596.49	14.5999
1620.62	9.4156
1678.03	0.0000
1691.02	9.5013
1691.02	9.5013
1706.46	0.0000
1750.46	0.0000
1764.49	5.4796
1764.49	5.4796
1764.49	5.4796
1764.49	5.4796
1770.23	40.5157
1771.40	22.3937
1791.20	0.0000
1808.65	10.7125

1836.01	8.5980

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202038809

Total Uranium Activity	-2.1463E+00	ug/g
Total Uranium Counting Unc.	5.6687E+00	ug/g
Total Uranium Tpu	2.8922E-06	ug/g
Total Uranium Mda	4.4849E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 951362                    SAMPLE ID  : G1202038809      *
*   ANALYST       : MXR1                      DETECTOR   : GAM14            *
*   SAMPLE DATE   : 12-FEB-2010 00:00:00.00   COUNT TIME :    0 01:00:00.00 *
*   ANALYSIS DATE: 19-FEB-2010 20:33:18.59    SAMPLE ALQT:  155.440 GRAM    *
*                                                                           *
*****************************************************************************
```

```
GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 2.663E+01
GROSS GAMMA ERROR   (pCi/GRAM  )  : 2.591E+00
GROSS GAMMA MDA     (pCi/GRAM  )  : 4.791E+00
GROSS GAMMA DLC     (pCi/GRAM  )  : 2.348E+00
```

Radiochemistry Batch Checklist, Rev10

Batch# 953111 Product: H^3 Date: 2-24-10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
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.			NA
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 statused.	✓		
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 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: [signature]

Secondary Review Performed By: [signature] 2/24/10

LANL 2-26-10

Tritium Que Sheet

05-MAR-10

Batch #: 953111 Analyst: ~~GLP~~ KKK2 @ 3-5-10 First Client Due Date 26-FEB-10 Internal Due Date: 16-FEB-10

Spike Isotope: Hydrogen-3 Spike Code: ——— Expiration Date: ——— Vol: ———

LCS Isotope: Hydrogen-3 LCS Code: 0134-K Expiration Date: 3/27/10 Vol: 0.1

Prep Date: 2/18/10 Initials: KKG Pipet ID: 2970968 Witness: AW 2/22/10

recopied by @ 3-5-10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot in vial (g/mL)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Total Moisture Dist Vol (mL) @ 3-5-10
246557001-1	RE15-10-8363	SAMPLE		.25 pCi/mL	SOIL	LANL010	03-FEB-10	10	58-2	1		416.08	338.27	77.81
246681001-1	RE15-10-8185	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	10	58-3	2		562.66	519.11	43.55
246681002-1	RE15-10-8183	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	10	58-4	3		414.92	401.39	13.53
246681003-1	RE15-10-8179	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	6.5	79-1	4		536.52	525.63	10.89
246681004-1	RE15-10-8184	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	10	79-2	5		367.35	353.94	13.41
246681005-1	RE15-10-8180	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	6.5	79-3	6		525.63	516.38	9.25
246681006-1	RE15-10-8181	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	10	79-4	7	@ 3-5-10	597.90	585.64	12.26
246681007-1	RE15-10-8182	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	6	79-5	8		397.46	389.91	7.55
246681008-1	RE15-10-8210	SAMPLE		.25 pCi/mL	SOIL	LANL010	05-FEB-10	10	79-6	9		436.04	317.61	118.43
246837001-1	RE15-10-7992	SAMPLE		.25 pCi/mL	SOIL	LANL010	08-FEB-10	10	79-7	10		519.90	472.59	47.31
246837002-1	RE15-10-7991	SAMPLE		.25 pCi/mL	SOIL	LANL010	08-FEB-10	10	79-8	11		131.11	93.22	37.89
246837003-1	RE15-10-7990	SAMPLE		.25 pCi/mL	SOIL	LANL010	08-FEB-10	10	79-9	12		497.20	457.92	39.28
246837004-1	RE15-10-7987	SAMPLE		.25 pCi/mL	SOIL	LANL010	08-FEB-10	10	79-10	13		328.75	215.66	113.09
246837005-1	RE15-10-7988	SAMPLE		.25 pCi/mL	SOIL	LANL010	08-FEB-10	10	79-11	14		426.01	386.82	39.19
246837006-1	RE15-10-7989	SAMPLE		.25 pCi/mL	SOIL	LANL010	08-FEB-10	10	79-12	15		294.79	216.67	78.12
247033002-1	WST15-10-8940	SAMPLE		.25 pCi/mL	SOIL	LANL010	11-FEB-10	10	0-1	16		578.71	543.41	35.30
1202042933-1	MB for batch 953111	MB		.25 pCi/mL	SOIL	QC ACCOUNT		10	0-2	17		20.00	0	20.00
1202042934-1	@ 3-5-10 ~~RE15-10-7993(246837001DUP)~~ RE15-10-8363(246557001 DUP)	DUP		.25 pCi/mL	SOIL	QC ACCOUNT	03-FEB-10	10	0-3	1		416.08	338.27	77.81
1202042935-1	LCS for batch 953111	LCS		.25 pCi/mL	SOIL	QC ACCOUNT		10	42-1	18		20.00	0	20.00

Bkg Rack #: 58-1

Comments:

Bkg prepared with dead water? Yes/No

Instrument Used (circle as appropriate): *LS6000 (Red) 7065155, LS6500 (Blue) 7067083, LS6500 (Gold) 7070506, LS6500 (Green) 7067404, Wallac (Yellow) 4140127, LS6000 (Brown) 7060655, Wallac (Pink) 2200082, Wallac (White) 4140299, Purple 7069123, Silver 7060656, Orange DG06095168*

Calibration Used : *Ecoscint Ultra (10 mL sample/13 mL Econscint Ultra)*

Data Reviewed By: 2-24-10

GEL Laboratories LLC, Radiochemistry Division

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.6

Batch : 953111
Analyst : KXK2
Prep Date : 2/18/2010

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL Ecoscint Ultra

Spike S/N : N/A
Spike Exp Date : N/A
Spike Activity (dpm/ml): N/A
Spike Volume Added: N/A

Pipet, 0.1 ml Stdev : +/- 0.000701 ml
Pipet, 0.5 ml Stdev : +/- 0.002564 ml
Pipet, 1.0 ml Stdev : +/- 0.005480 ml
Pipet, 5.0 ml Stdev : +/- 0.025729 ml

LCS S/N : 0134-K
LCS Exp Date : 3/27/2010
LCS Activity (dpm/ml): 2465.54
LCS Volume Added: 0.10

Procedure Code : LSC_VH3S
Parmname : Tritium
Required MDC : 250 pCi/L
Halflife of Tritium : 12.32 years

Sample Characteristics

Pos.	Sample ID	Wet Sample Weight (g)	Total Moisture L	Sample Aliquot in Vial L	Sample Aliquot Stdev. L	Dry Sample Weight (g)	% Moisture of Sample	Rig number	Sample Date/Time
1	246557001.1	416.08	0.0778	0.0100	2.5729E-05	338.27	18.70%	1	2/3/2010 12:00
2	246681001.1	562.66	0.0436	0.0100	2.5729E-05	519.11	7.74%	2	2/5/2010 12:00
3	246681002.1	414.92	0.0135	0.0100	2.5729E-05	401.39	3.26%	3	2/5/2010 12:00
4	246681003.1	536.52	0.0109	0.0065	2.5729E-05	525.63	2.03%	4	2/5/2010 12:00
5	246681004.1	367.35	0.0134	0.0100	2.5729E-05	353.94	3.65%	5	2/5/2010 12:00
6	246681005.1	525.63	0.0093	0.0065	2.5729E-05	516.38	1.76%	6	2/5/2010 12:00
7	246681006.1	597.90	0.0123	0.0100	2.5729E-05	585.64	2.05%	7	2/5/2010 12:00
8	246681007.1	397.46	0.0076	0.0060	2.5729E-05	389.91	1.90%	8	2/5/2010 12:00
9	246681008.1	436.04	0.1184	0.0100	2.5729E-05	317.61	27.16%	9	2/5/2010 12:00
10	246837001.1	519.90	0.0473	0.0100	2.5729E-05	472.59	9.10%	10	2/8/2010 12:00
11	246837002.1	131.11	0.0379	0.0100	2.5729E-05	93.22	28.90%	11	2/8/2010 12:00
12	246837003.1	497.20	0.0393	0.0100	2.5729E-05	457.92	7.90%	12	2/8/2010 12:00
13	246837004.1	328.75	0.1131	0.0100	2.5729E-05	215.66	34.40%	13	2/8/2010 12:00
14	246837005.1	426.01	0.0392	0.0100	2.5729E-05	386.82	9.20%	14	2/8/2010 12:00
15	246837006.1	294.79	0.0781	0.0100	2.5729E-05	216.67	26.50%	15	2/8/2010 12:00
16	247033002.1	578.71	0.0353	0.0100	2.5729E-05	543.41	6.10%	16	2/11/2010 12:00
17	1202042933.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	17	2/18/2010 0:00
18	1202042934.1	416.08	0.0778	0.0100	2.5729E-05	338.27	18.70%	1	2/3/2010 12:00
19	1202042935.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	18	2/18/2010 0:00

Count raw Data					Background				Calibration Data					Backgrounds	
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	cpm	Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Rack Position #	Count Start Date/Time
1	58-2	95	735.21	3.3	2.83	95	2/22/2010 20:19	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2086	0.00792	58-1	2/22/2010 18:42
2	58-3	70.5833	733.4	563.47	2.83	95	2/22/2010 21:55	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2058	0.00792	58-1	2/22/2010 18:42
3	58-4	54.5667	735.56	733.74	2.83	95	2/22/2010 23:07	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2091	0.00792	58-1	2/22/2010 18:42
4	79-1	46.9667	736.01	652.34	2.83	95	2/23/2010 1:17	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2097	0.00792	58-1	2/22/2010 18:42
5	79-2	53.1	734.86	755.05	2.83	95	2/23/2010 2:05	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2080	0.00792	58-1	2/22/2010 18:42
6	79-3	65.65	734.2	607.04	2.83	95	2/23/2010 2:59	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2070	0.00792	58-1	2/22/2010 18:42
7	79-4	42.1167	736.97	955.28	2.83	95	2/23/2010 4:08	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2111	0.00792	58-1	2/22/2010 18:42
8	79-5	71.5167	735.01	556.76	2.83	95	2/23/2010 4:50	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2083	0.00792	58-1	2/22/2010 18:42
9	79-6	68.7167	734.91	579.91	2.83	95	2/23/2010 6:02	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2081	0.00792	58-1	2/22/2010 18:42
10	79-7	95	735.76	4.58	2.83	95	2/23/2010 7:12	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2094	0.00792	58-1	2/22/2010 18:42
11	79-8	95	735.61	3	2.83	95	2/23/2010 8:49	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2092	0.00792	58-1	2/22/2010 18:42
12	79-9	95	735.81	8.81	2.83	95	2/23/2010 10:25	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2094	0.00792	58-1	2/22/2010 18:42
13	79-10	95	734.86	3.96	2.83	95	2/23/2010 12:01	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2080	0.00792	58-1	2/22/2010 18:42
14	79-11	95	735.26	4.4	2.83	95	2/23/2010 13:37	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2086	0.00792	58-1	2/22/2010 18:42
15	79-12	95	734.96	4.85	2.83	95	2/23/2010 15:14	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2082	0.00792	58-1	2/22/2010 18:42
16	0-1	95	735.26	3.73	2.83	95	2/23/2010 16:50	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2086	0.00792	58-1	2/22/2010 18:42
17	0-2	95	734.96	2.84	2.83	95	2/23/2010 18:26	0.999	LSCYELLOW	8/21/2009	8/31/2010	0.2082	0.00792	58-1	2/22/2010 18:42
18	0-3	95	735.71	3.29	2.83	95	2/23/2010 20:02	0.997	LSCYELLOW	8/21/2009	8/31/2010	0.2093	0.00792	58-1	2/22/2010 18:42
19	42-1	15	736.52	29.19	2.83	95	2/23/2010 21:39	0.999	LSCYELLOW	8/21/2009	8/31/2010	0.2105	0.00792	58-1	2/22/2010 18:42

Notes:
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

Results

Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDC pCi/L	MDC pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error pCi/L	Net Count Rate CPM	Net Count Rate Error CPM	1 SIGMA Counting Uncertainty pCi/L	1 SIGMA Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
1	123.2044	86.9833	250	180.8077	**101.8173**	0.541	0.470	0.254	55.0291	55.4841		SAMPLE				
2	135.1700	95.4312	250	200.1896	**123032.4838**	0.010	560.640	2.831	621.1961	8591.3922		SAMPLE				
3	143.8314	101.5462	250	214.9693	**157897.9323**	0.010	730.910	3.671	793.0498	11025.7561		SAMPLE				
4	231.6377	163.5382	250	348.2383	**281444.0638**	0.011	849.510	4.264	1412.5093	19689.1418		SAMPLE				
5	145.8194	102.9498	250	218.1662	**163321.2429**	0.010	752.220	3.775	819.5828	11404.4063		SAMPLE				
6	211.1452	149.0703	250	313.4782	**202795.7159**	0.011	604.210	3.046	1022.2582	14187.4161		SAMPLE				
7	155.2212	109.5875	250	234.4124	**203745.3277**	0.010	952.450	4.766	1019.4568	14226.9279		SAMPLE				
8	221.8185	156.6058	250	328.3751	**200242.3074**	0.011	553.950	2.796	1010.5382	14016.6485		SAMPLE				
9	134.7272	95.1186	250	199.7128	**125253.1242**	0.010	577.080	2.910	631.6361	8746.4057		SAMPLE				
10	122.6371	86.5829	250	179.9752	**377.3615**	0.160	1.750	0.279	60.2236	65.7088		SAMPLE				
11	122.7688	86.6758	250	180.1685	**36.6973**	1.457	0.170	0.248	53.4759	53.5369		SAMPLE				
12	122.5963	86.5540	250	179.9154	**1289.0692**	0.059	5.980	0.350	75.4553	117.2776		SAMPLE				
13	123.4321	87.1441	250	181.1419	**245.2473**	0.237	1.130	0.267	58.0228	60.4847		SAMPLE				
14	123.0791	86.8949	250	180.6239	**339.7674**	0.176	1.570	0.276	59.7021	64.2209		SAMPLE				
15	123.3457	87.0831	250	181.0151	**438.0998**	0.141	2.020	0.284	61.6652	68.8013		SAMPLE				
16	123.0248	86.8566	250	180.5442	**194.6851**	0.292	0.900	0.263	56.8434	58.4383		SAMPLE				
17	123.1679	86.9576	250	180.7541	**2.1657**	24.430	0.010	0.244	52.9084	52.9087		MB				
18	122.7852	86.6874	250	180.1925	**99.3119**	0.552	0.460	0.254	54.7971	55.2319	246557001.1	DUP	2.5%	0.0113		
19	233.2633	164.6859	250	372.2107	**5646.1678**	0.054	26.360	1.406	301.0778	495.2643		LCS			5553.0214	101.7%

DATE		2/18/2010		INITIALS	KXK2			BATCH NUMBER	953111

Sample #	Flask Wt (g)	Sample Wet (g)	Flask & Sample Wet (g)	% Moisture of Sample (Balance Interface using % Moisture Batch)	Total Moisture in Sample (mL)	Sample Dry (g)	Flask & Sample Dry (g)	mLs aliquoted into LSC vial	Collection Tube Number
246577001	200	416.08	616.08	0.187	77.81	338.27	538.27	10	
246681001	200	562.66	762.66	0.077	43.55	519.11	719.11	10	
246681002	200	414.92	614.92	0.033	13.53	401.39	601.39	10	
246681003	200	536.52	736.52	0.020	10.89	525.63	725.63	6.5	
246681004	200	367.35	567.35	0.037	13.41	353.94	553.94	10	
246681005	200	525.63	725.63	0.018	9.25	516.38	716.38	6.5	
246681006	200	597.90	797.90	0.021	12.26	585.64	785.64	10	
246681007	200	397.46	597.46	0.019	7.55	389.91	589.91	6	
246681008	200	436.04	636.04	0.272	118.43	317.61	517.61	10	
246837001	200	519.90	719.90	0.091	47.31	472.59	672.59	10	
246837002	200	131.11	331.11	0.289	37.89	93.22	293.22	10	
246837003	200	497.20	697.20	0.079	39.28	457.92	657.92	10	
246837004	200	328.75	528.75	0.344	113.09	215.66	415.66	10	
246837005	200	426.01	626.01	0.092	39.19	386.82	586.82	10	
246837006	200	294.79	494.79	0.265	78.12	216.67	416.67	10	
247033002	200	578.71	778.71	0.061	35.30	543.41	743.41	10	
MB	200	20.00	220.00	1.000	20.00	0.00	200.00	10	
DUP	200	416.08	616.08	0.187	77.81	338.27	538.27	10	
LCS	200	20.00	220.00	1.000	20.00	0.00	200.00	10	

PROTOCOL	: 10 H-3 95 min
DATE	: 2010/02/22
TIME	: 18:42
ID	: P10AS246

H-3

Wallac 1414 WinSpectral v1.40 S/N 4140127

Counting mode	: DPM
Quench index	: SQP(E)
Isotope(s)	: H3
H3 = ,12.43 y	
Protocol name	: H-3 95 min
Counting time	: 5700
Repeats	: 1
Cycles	: 1
Replicates	: 1
2 sigma %	: 0.00
Minimum cpm	: 0.00 Checking time: 10
Sp. library of isotope H3	: Wallac
Vial type	: Diffuse
Liquid system	: HiSafe
Advanced modes	: Chemilum
Output to Display	:

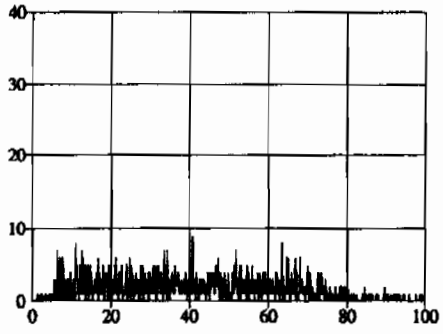
POS,DPM1,CPMw2,CLMM,FNCT2,
RACK,RACKPOS,FNCT1,SQPE,DATE,
TIME,CPMw1,CPM,CPM1,CTIME

Additions to Display	: Listing,Header,Spectrum
Header	: H-3
Spectrum	: Rnd.Cos,Beta
Window 1	: 25- 190 /Beta
Window 2	: 25- 190 /Rnd.Cos
Window 3	: 1-1024 /Beta
Window 4	: 1-1024 /Beta
Window 5	: 1-1024 /Beta
Window 6	: 1-1024 /Beta
FNCT1 = FNCT1	: CTIME/60
FNCT2 = FNCT2	: CPMW1-CPMW2
FNCT3 = FNCT3	:
FNCT4 = FNCT4	:

Total activity:

H3	4861.0 DPM	0.081 kBq

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
58	1	95.00	741.45	2.83	2/22/2010 6:42 PM



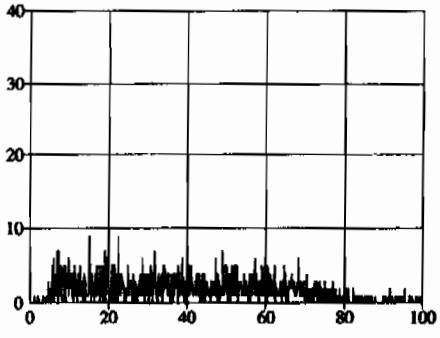
Counts Chem

Counts Beta

Gross_B_CPM	LUMEX
3.60	0.00

Lumex_CPM	DPM
0.80	10.90

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
58	2	95.00	735.21	3.30	2/22/2010 8:19 PM



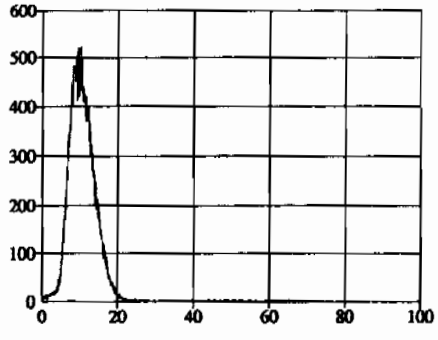
Counts Chem

Counts Beta

Gross_B_CPM	LUMEX
3.90	0.00

Lumex_CPM	DPM
0.60	13.10

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
58	3	70.58	733.40	563.47	2/22/2010 9:55 PM



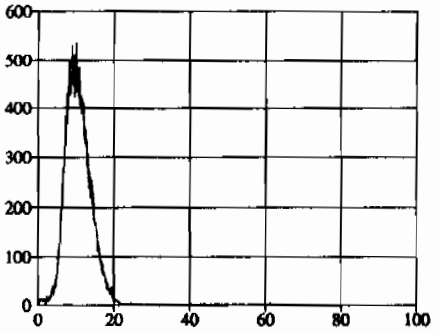
Counts Chem

Counts Beta

Gross_B_CPM	LUMEX
564.10	0.00

Lumex_CPM	DPM
0.60	2118.70

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
58	4	54.57	735.56	733.74	2/22/2010 11:07 PM



Gross_B_CPM	LUMEX
734.30	0.00

Lumex_CPM	DPM
0.50	2718.40

PROTOCOL	: 10 H-3 95 min
DATE	: 2010/02/23
TIME	: 01:16
ID	: P10AS247

H-3

Wallac 1414 WinSpectral v1.40 S/N 4140127

Counting mode	: DPM
Quench index	: SQP(E)
Isotope(s)	: H3
H3 = ,12.43 y	
Protocol name	: H-3 95 min
Counting time	: 5700
Repeats	: 1
Cycles	: 1
Replicates	: 1
2 sigma %	: 0.00
Minimum cpm	: 0.00 Checking time: 10
Sp. library of isotope H3	: Wallac
Vial type	: Diffuse
Liquid system	: HiSafe
Advanced modes	: Chemilum
Output to Display	:

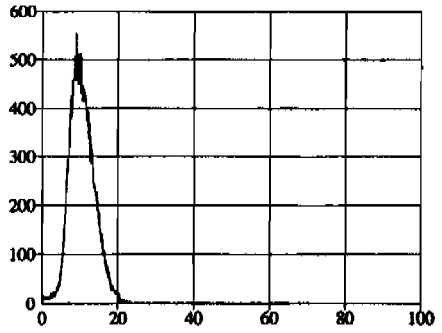
POS,DPM1,CPMw2,CLMM,FNCT2,
RACK,RACKPOS,FNCT1,SQPE,DATE,
TIME,CPMw1,CPM,CPM1,CTIME

Additions to Display	: Listing,Header,Spectrum
Header	: H-3
Spectrum	: Rnd.Cos,Beta
Window 1	: 25- 190 /Beta
Window 2	: 25- 190 /Rnd.Cos
Window 3	: 1-1024 /Beta
Window 4	: 1-1024 /Beta
Window 5	: 1-1024 /Beta
Window 6	: 1-1024 /Beta
FNCT1 = FNCT1	: CTIME/60
FNCT2 = FNCT2	: CPMW1-CPMW2
FNCT3 = FNCT3	:
FNCT4 = FNCT4	:

Total activity:

H3 16053.0 DPM 0.268 kBq

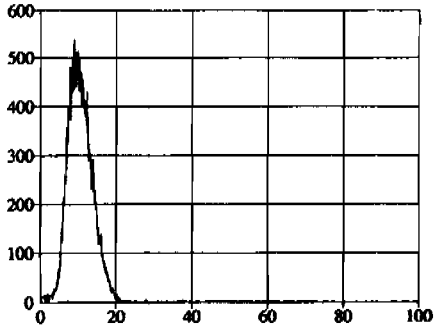
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	1	46.97	736.01	852.34	2/23/2010 1:17 AM



Gross_B_CPM	LUMEX
853.20	0.00

Lumex_CPM	DPM
0.80	3123.40

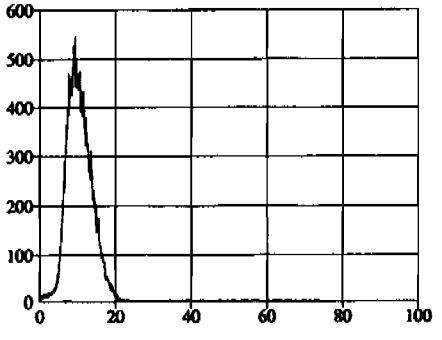
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	2	53.10	734.86	755.05	2/23/2010 2:05 AM



Gross_B_CPM	LUMEX
756.00	0.00

Lumex_CPM	DPM
0.90	2796.90

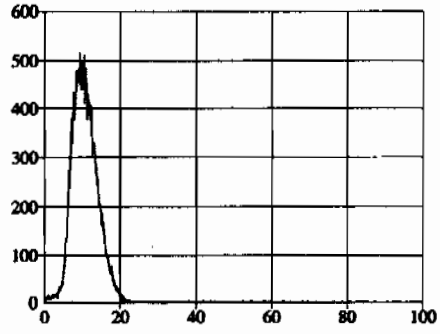
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	3	65.65	734.20	607.04	2/23/2010 2:59 AM



Gross_B_CPM	LUMEX
607.80	0.00

Lumex_CPM	DPM
0.80	2271.80

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	4	42.12	736.97	955.28	2/23/2010 4:06 AM



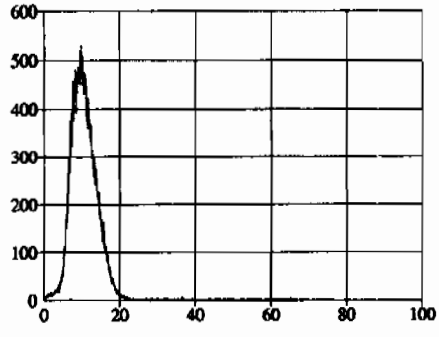
Counts Chem

Counts Beta

Gross_B_CPM	LUMEX
956.10	0.00

Lumex_CPM	DPM
0.80	3508.80

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	5	71.52	735.01	556.78	2/23/2010 4:50 AM



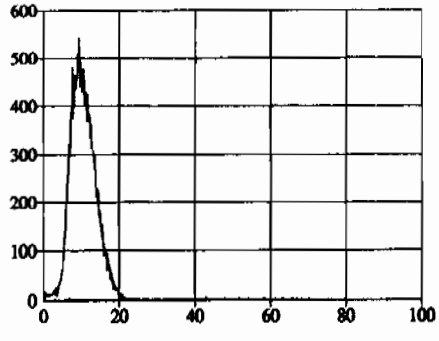
Counts Chem

Counts Beta

Gross_B_CPM	LUMEX
557.50	0.00

Lumex_CPM	DPM
0.80	2054.80

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	6	68.72	734.91	579.91	2/23/2010 6:02 AM



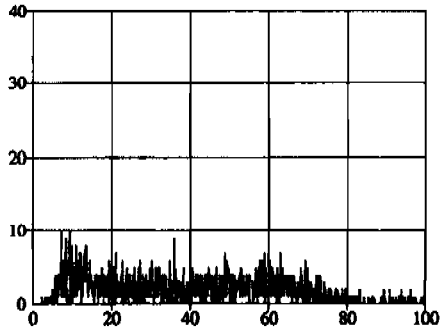
Counts Chem

Counts Beta

Gross_B_CPM	LUMEX
580.60	0.00

Lumex_CPM	DPM
0.70	2148.20

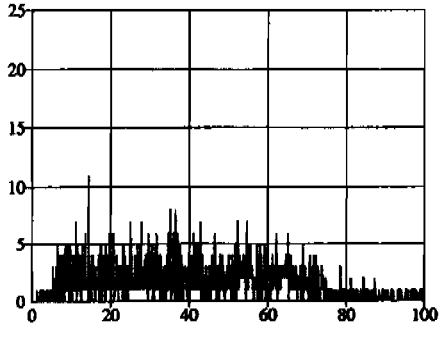
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	7	95.00	735.76	4.58	2/23/2010 7:12 AM



Gross_B_CPM	LUMEX
5.40	0.00

Lumex_CPM	DPM
0.80	17.50

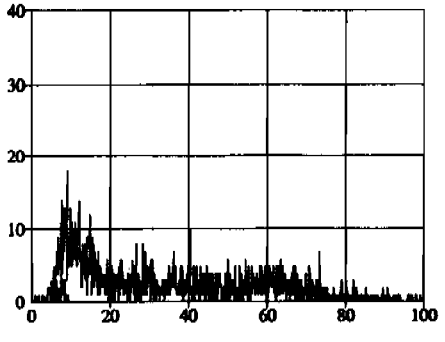
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	8	95.00	735.61	3.00	2/23/2010 8:49 AM



Gross_B_CPM	LUMEX
3.60	0.00

Lumex_CPM	DPM
0.60	11.60

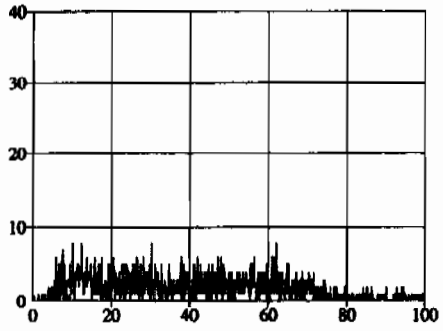
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	9	95.00	735.81	8.81	2/23/2010 10:25 AM



Gross_B_CPM	LUMEX
9.30	0.00

Lumex_CPM	DPM
0.50	31.70

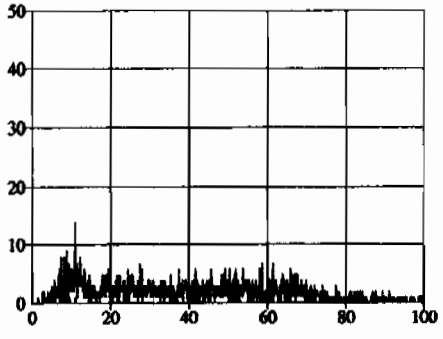
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	10	95.00	734.86	3.96	2/23/2010 12:01 PM



Gross_B_CPM	LUMEX
4.50	0.00

Lumex_CPM	DPM
0.50	15.10

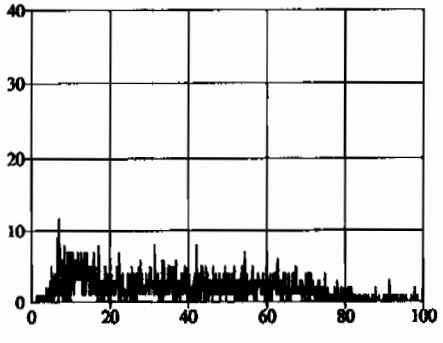
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	11	95.00	735.26	4.40	2/23/2010 1:37 PM



Gross_B_CPM	LUMEX
5.00	0.00

Lumex_CPM	DPM
0.60	16.90

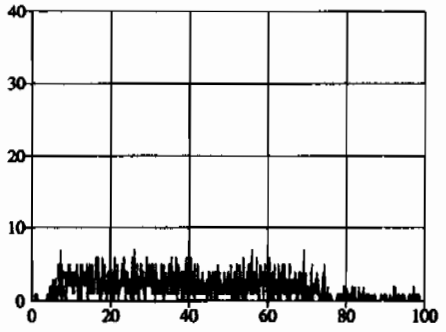
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79	12	95.00	734.96	4.85	2/23/2010 3:14 PM



Gross_B_CPM	LUMEX
5.50	0.00

Lumex_CPM	DPM
0.70	18.70

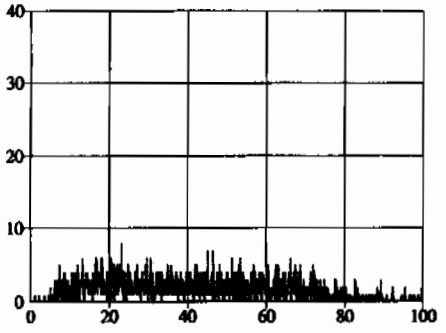
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
0	1	95.00	735.26	3.73	2/23/2010 4:50 PM



Gross_B_CPM	LUMEX
4.30	0.00

Lumex_CPM	DPM
0.50	14.20

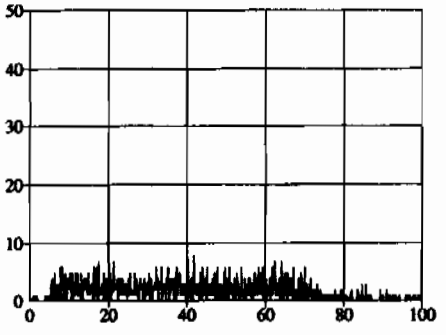
Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
0	2	95.00	734.96	2.84	2/23/2010 6:26 PM



Gross_B_CPM	LUMEX
3.20	0.00

Lumex_CPM	DPM
0.30	10.90

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
0	3	95.00	735.71	3.29	2/23/2010 8:02 PM



Gross_B_CPM	LUMEX
3.60	0.00

Lumex_CPM	DPM
0.30	12.70

PROTOCOL	: 13 H-3 15 min
DATE	: 2010/02/23
TIME	: 21:39
ID	: P13AS311

H-3

Wallac 1414 WinSpectral v1.40 S/N 4140127

Counting mode	: DPM
Quench index	: SQP(E)
Isotope(s)	: H3
H3 = ,12.43 y	
Protocol name	: H-3 15 min
Counting time	: 900
Repeats	: 1
Cycles	: 1
Replicates	: 1
2 sigma %	: 2.00
Minimum cpm	: 0.00 Checking time: 10
Sp. library of isotope H3	: Wallac
Vial type	: Diffuse
Liquid system	: HiSafe
Advanced modes	: Chemilum
Output to Display	:

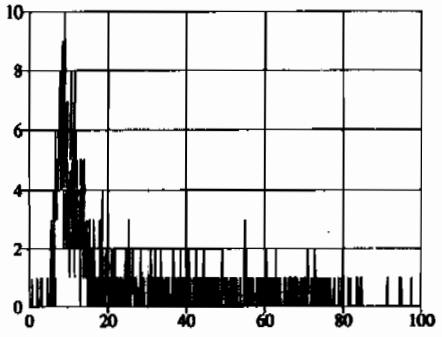
POS,DPM1,CPMw2,CLMM,FNCT2,
RACK,RACKPOS,FNCT1,SQPE,DATE,
TIME,CPMw1,CPM,CPM1,CTIME

Additions to Display	: Listing,Header,Spectrum
Header	: H-3
Spectrum	: Rnd.Cos,Beta
Window 1	: 25- 190 /Beta
Window 2	: 25- 190 /Rnd.Cos
Window 3	: 1-1024 /Beta
Window 4	: 1-1024 /Beta
Window 5	: 1-1024 /Beta
Window 6	: 1-1024 /Beta
FNCT1 = FNCT1	: CTIME/60
FNCT2 = FNCT2	: CPMW1-CPMW2
FNCT3 = FNCT3	:
FNCT4 = FNCT4	:

Total activity:

H3	106.9 DPM	0.002 kBq

Rack_position		Count_Time(min)	Quench_number	H-3_CPM	Run_Date
42	1	15.00	736.52	29.19	2/23/2010 9:39 PM

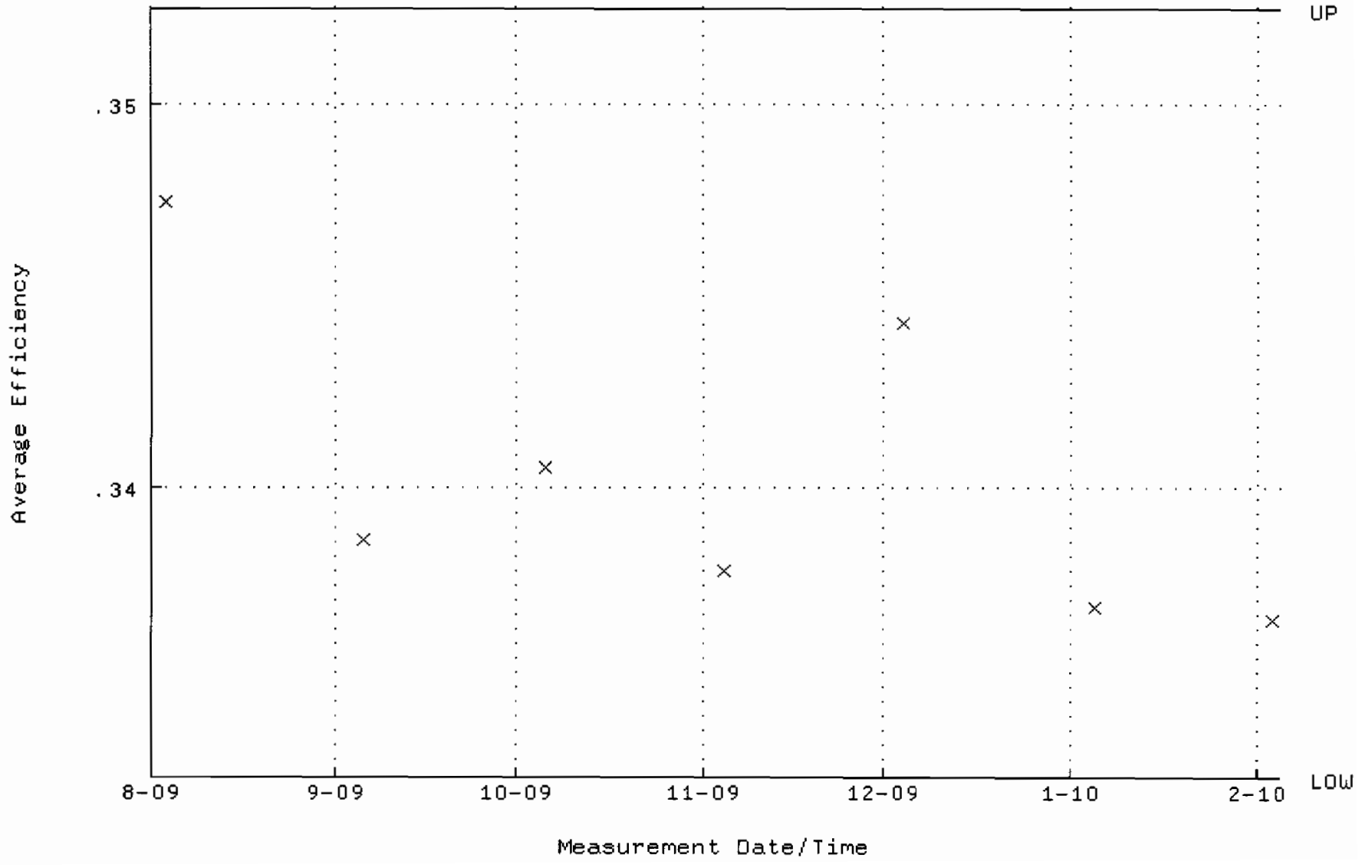


Gross_B_CPM	LUMEX
29.50	0.00

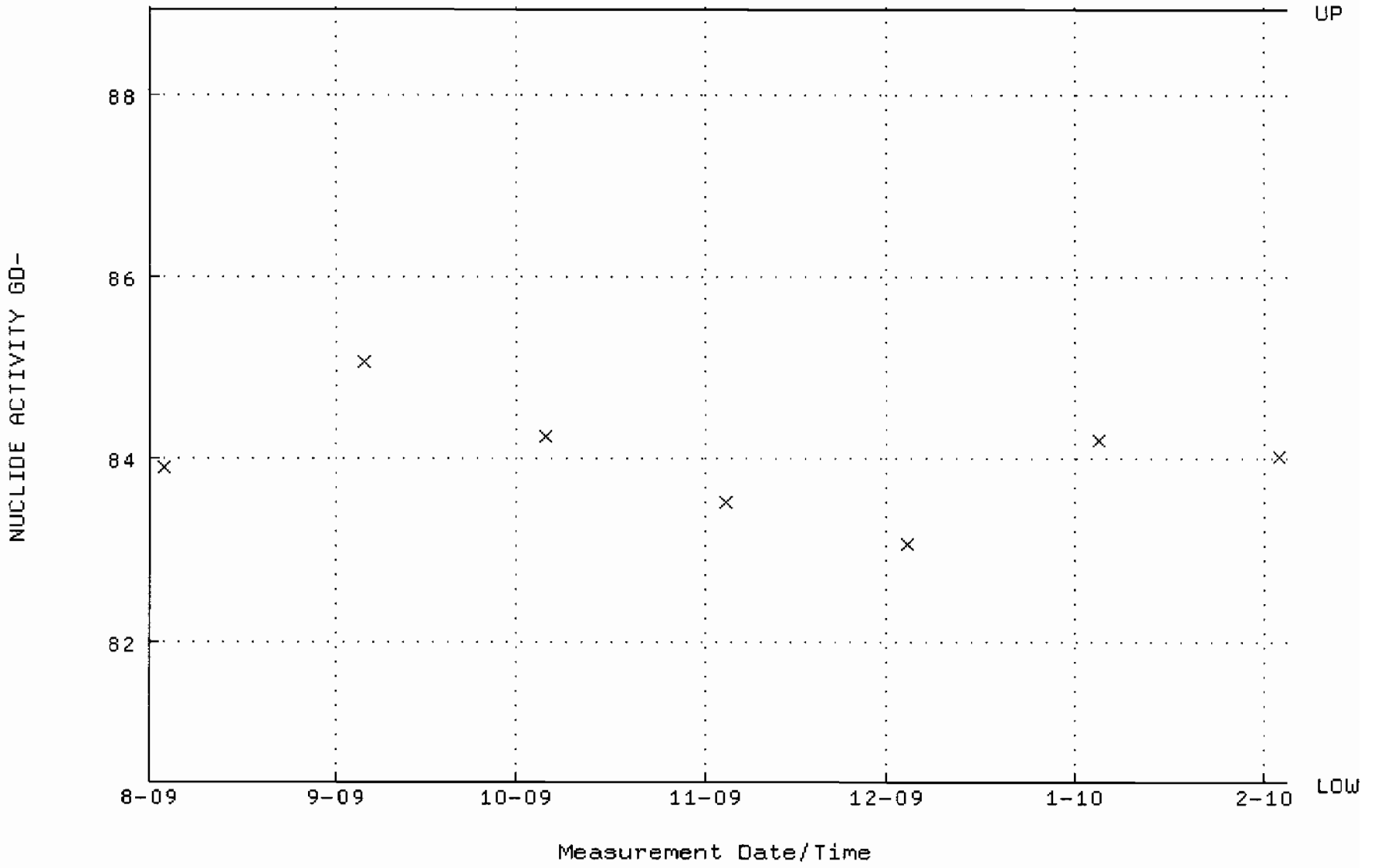
Lumex_CPM	DPM
0.30	106.90

BACKGROUND AND EFFICIENCY DATA

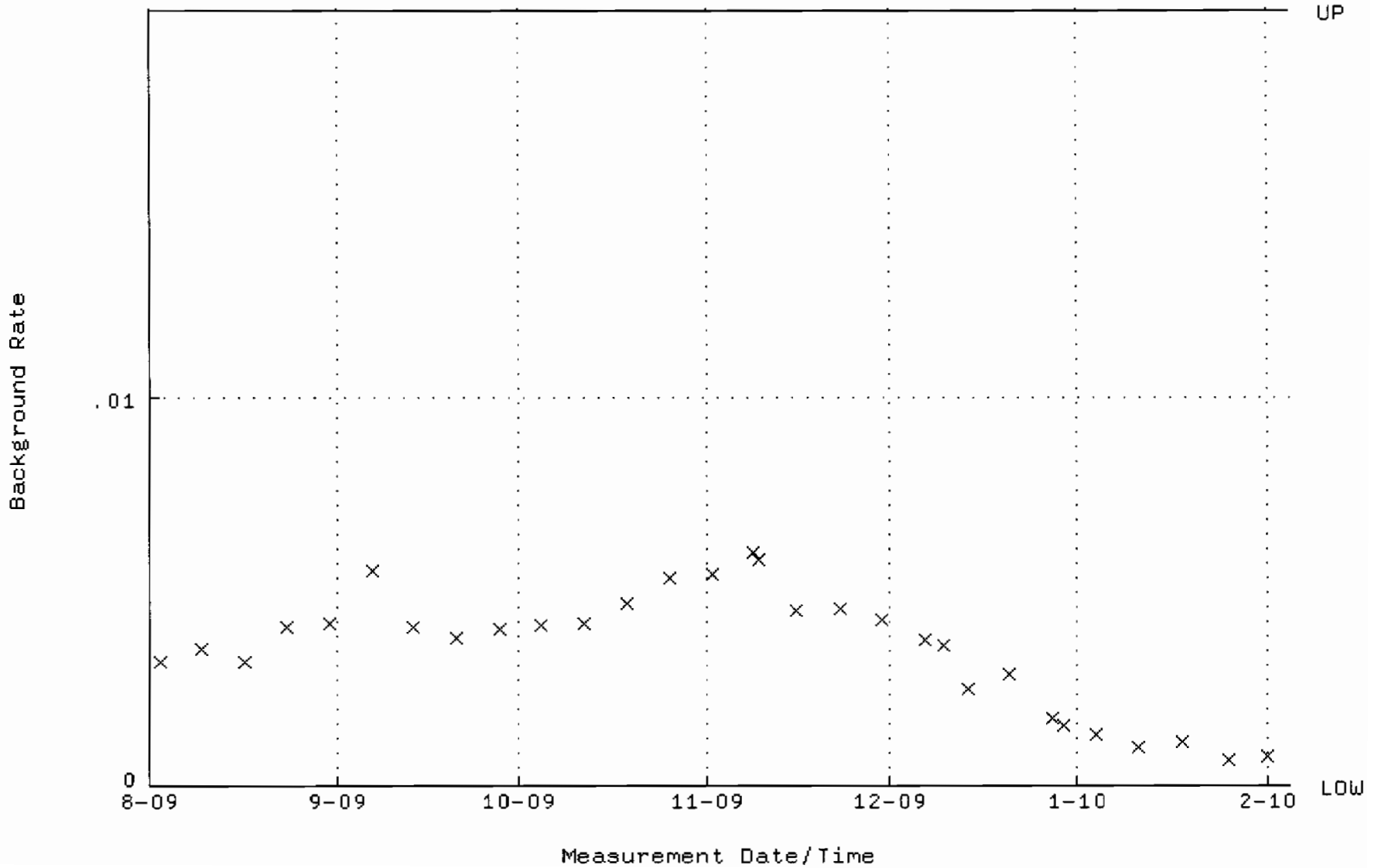
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.332472 through 0.352472



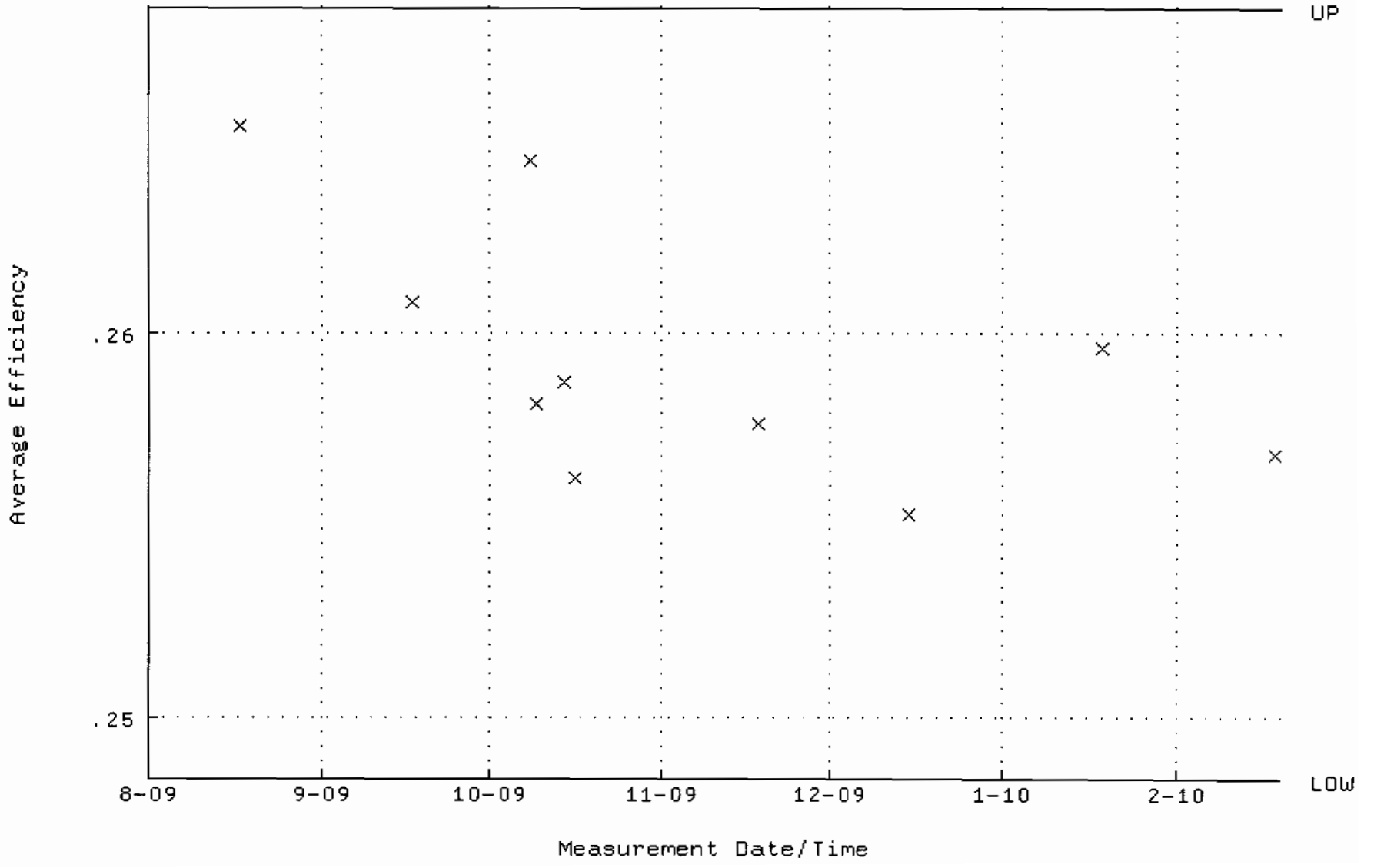
QA filename : OKA100:[ENV_ALPHA.QA.W]W045.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 80.4622 through 88.9320



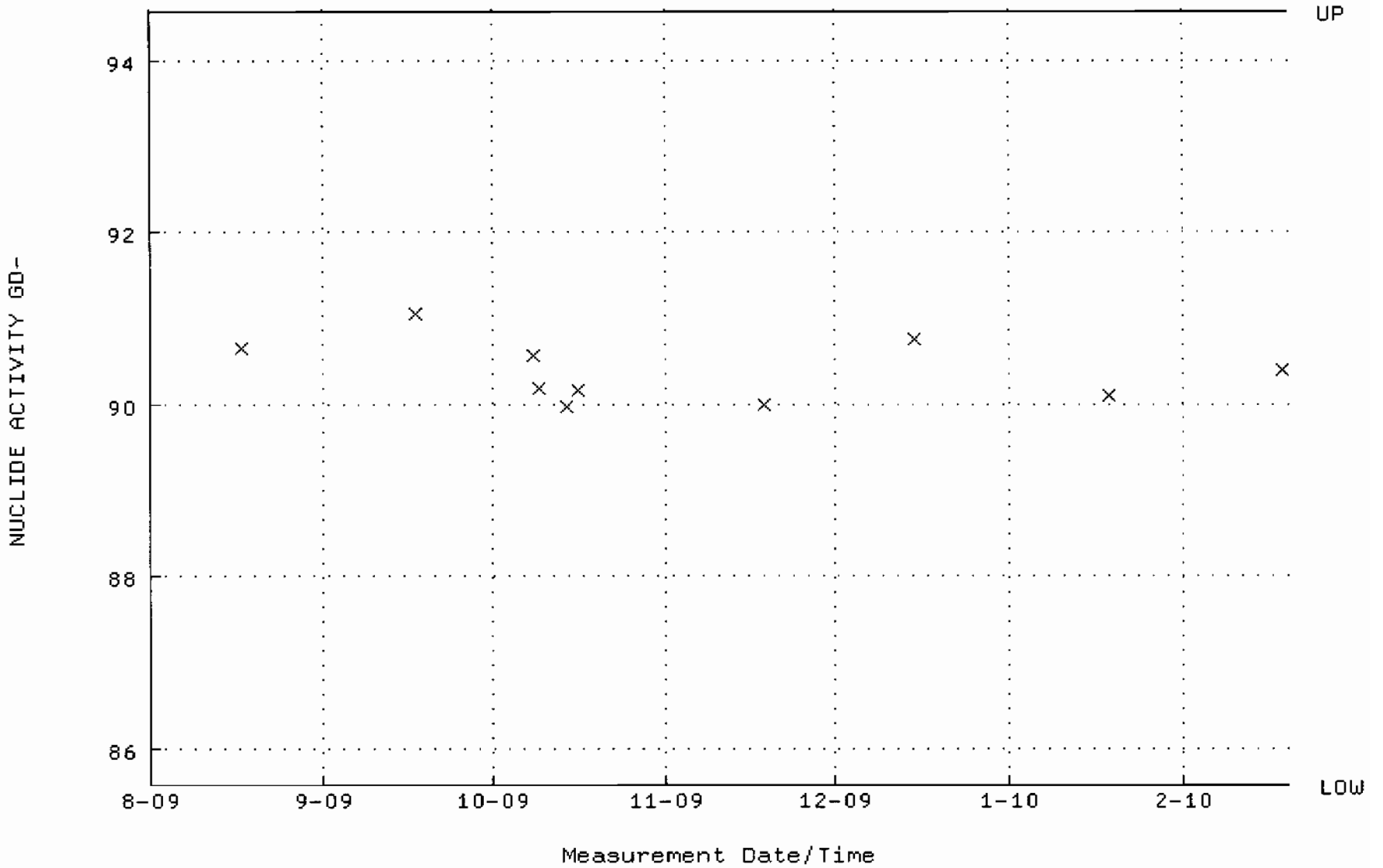
QA filename : DKA100:[ENV_ALPHA.QA.B]B045.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:38:37 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



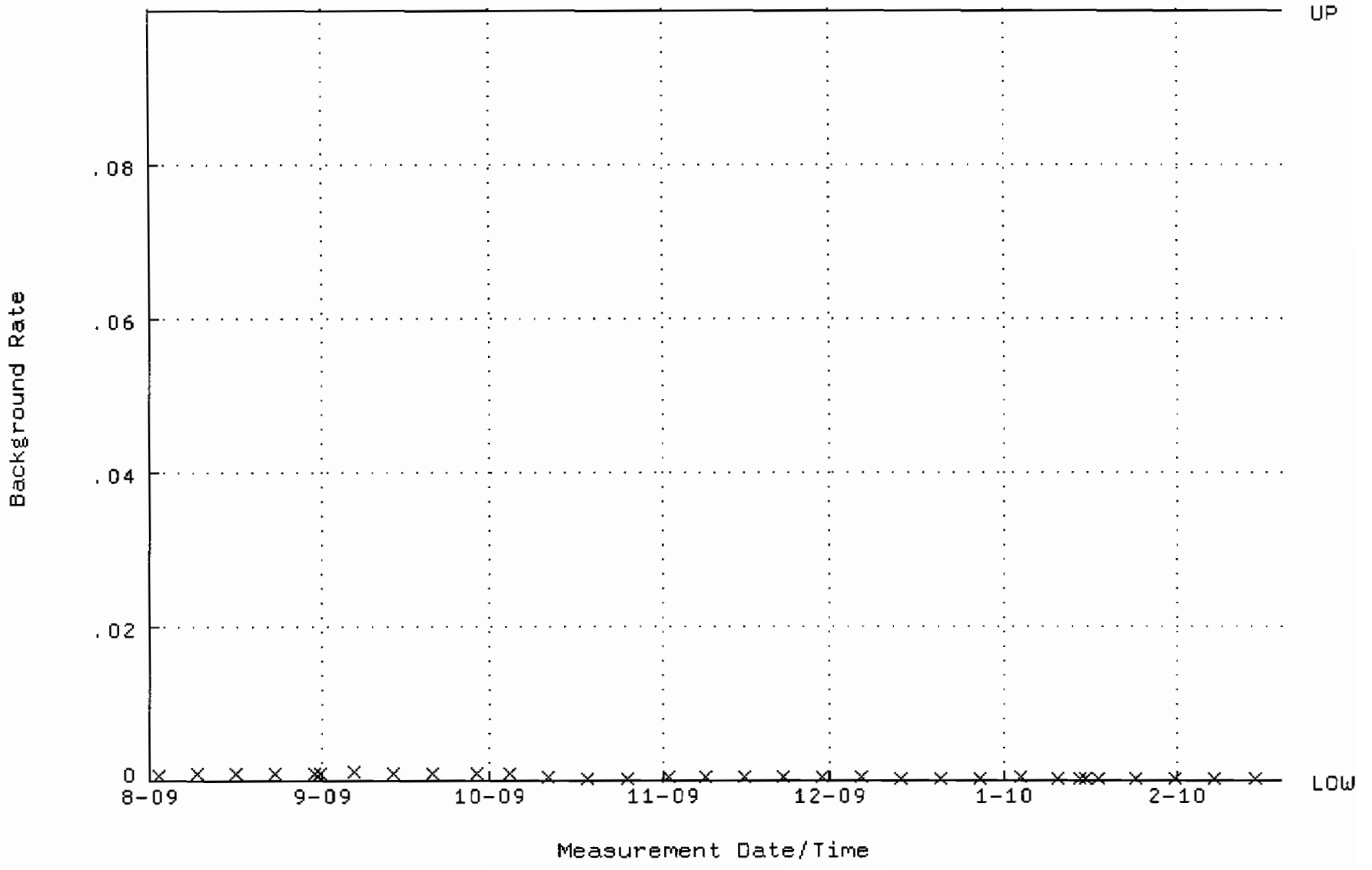
QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 17-AUG-2009 09:41:02 through 19-FEB-2010 12:00:00
Lower/Upper Lmts: 0.248404 through 0.268404



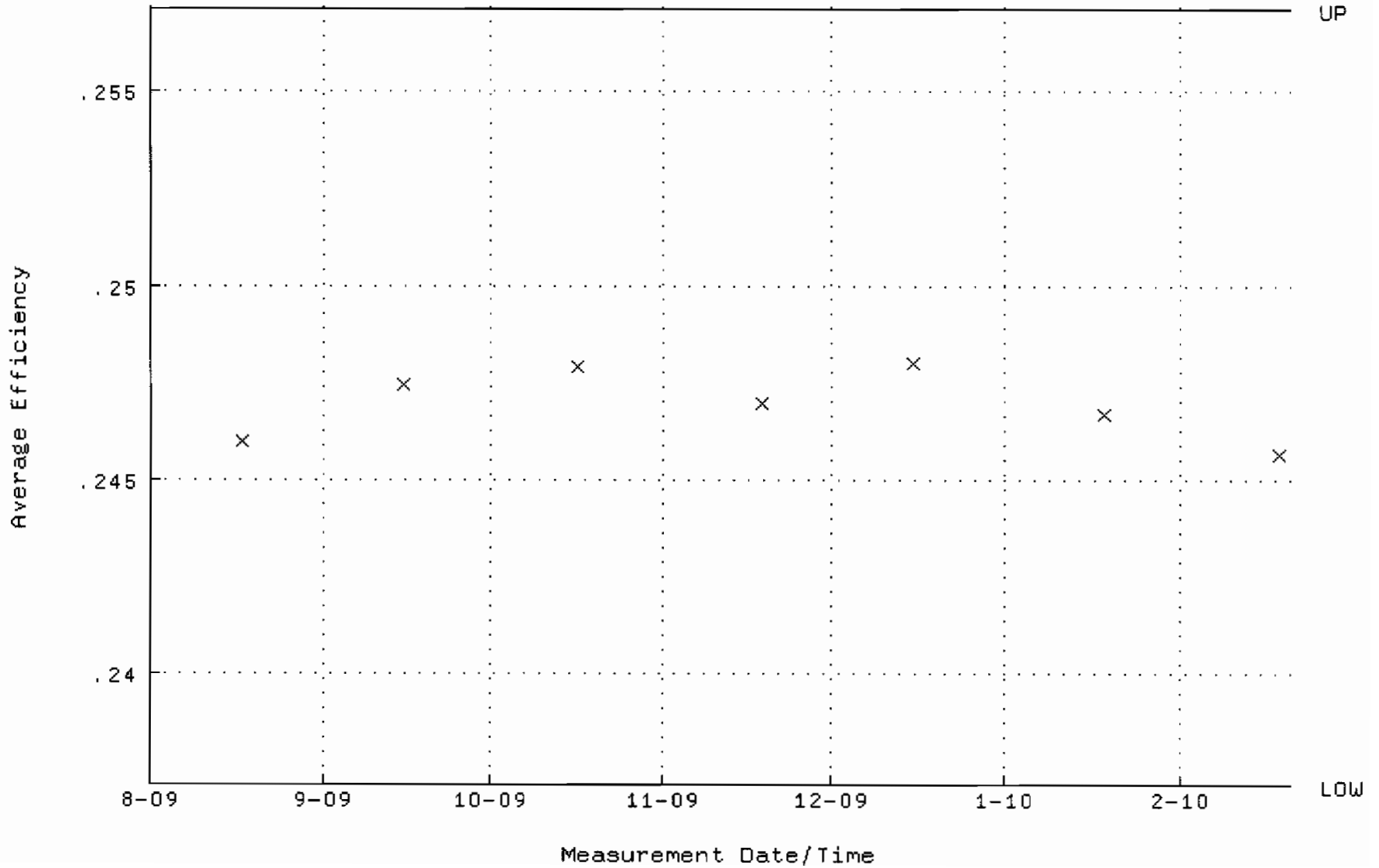
QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 17-AUG-2009 09:41:02 through 19-FEB-2010 12:00:00
Lower/Upper Lmts: 85.5661 through 94.5731



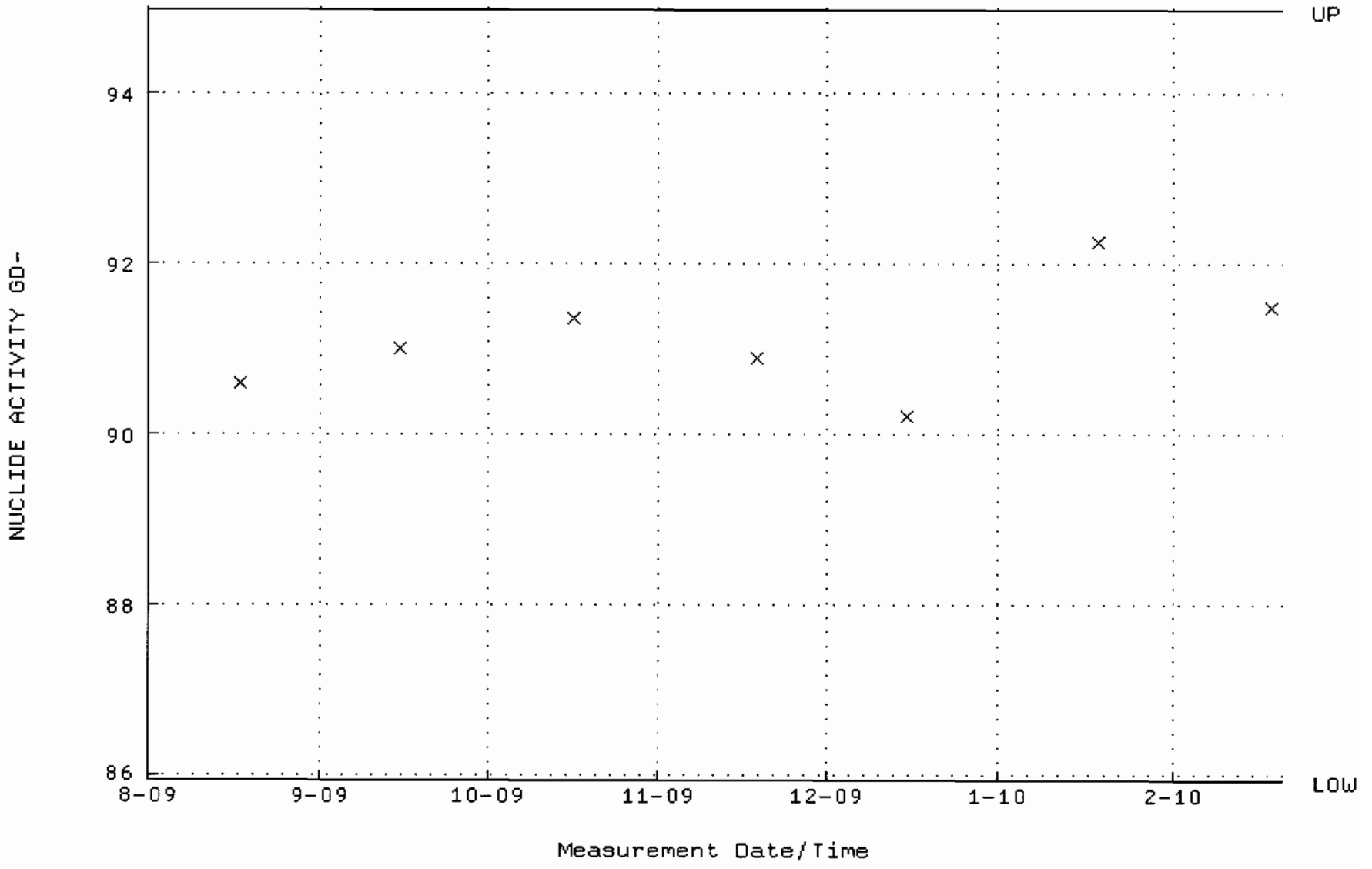
QA filename : DKA100:[ENV_ALPHA.QA.B]B115.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:12:05 through 19-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



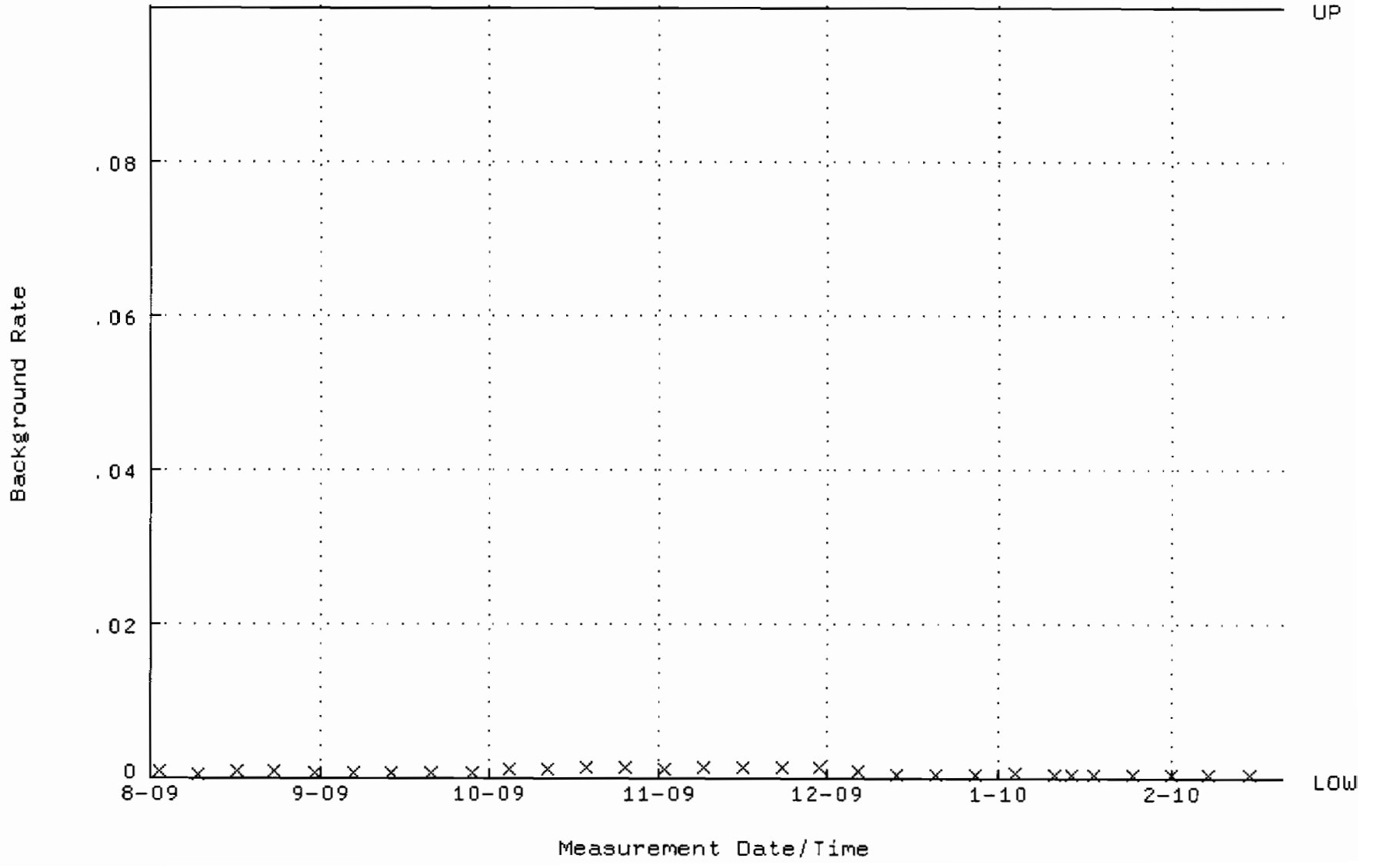
QA filename : DKA100:[ENV_ALPHA.QA.W]W157.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 17-AUG-2009 09:47:53 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.237137 through 0.257137



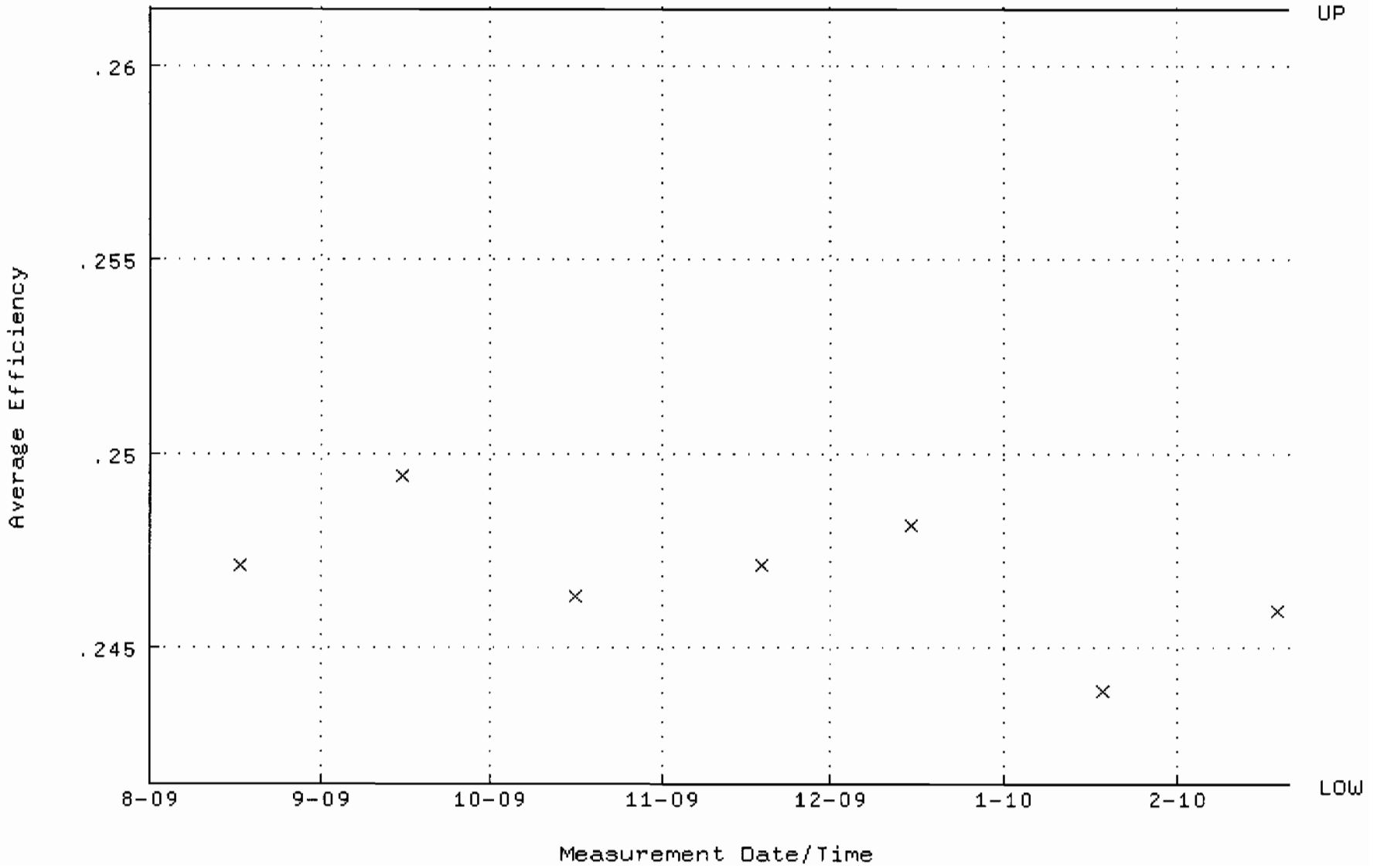
QA filename : DKA100:[ENV_ALPHA.QA.W]W157.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 17-AUG-2009 09:47:53 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 85.9292 through 94.9744



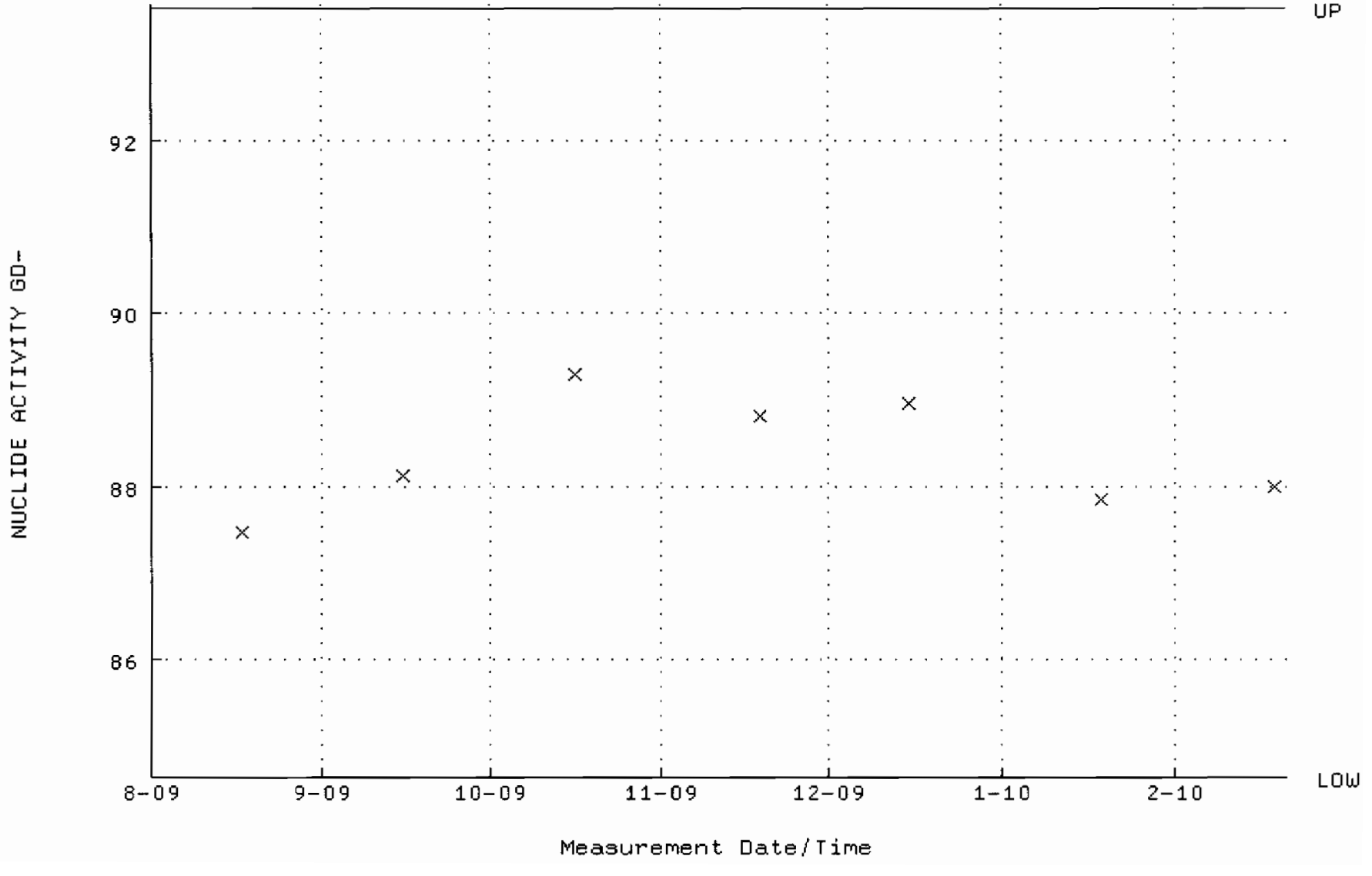
QA filename : DKA100:[ENV_ALPHA.QA.B]B157.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:15:04 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



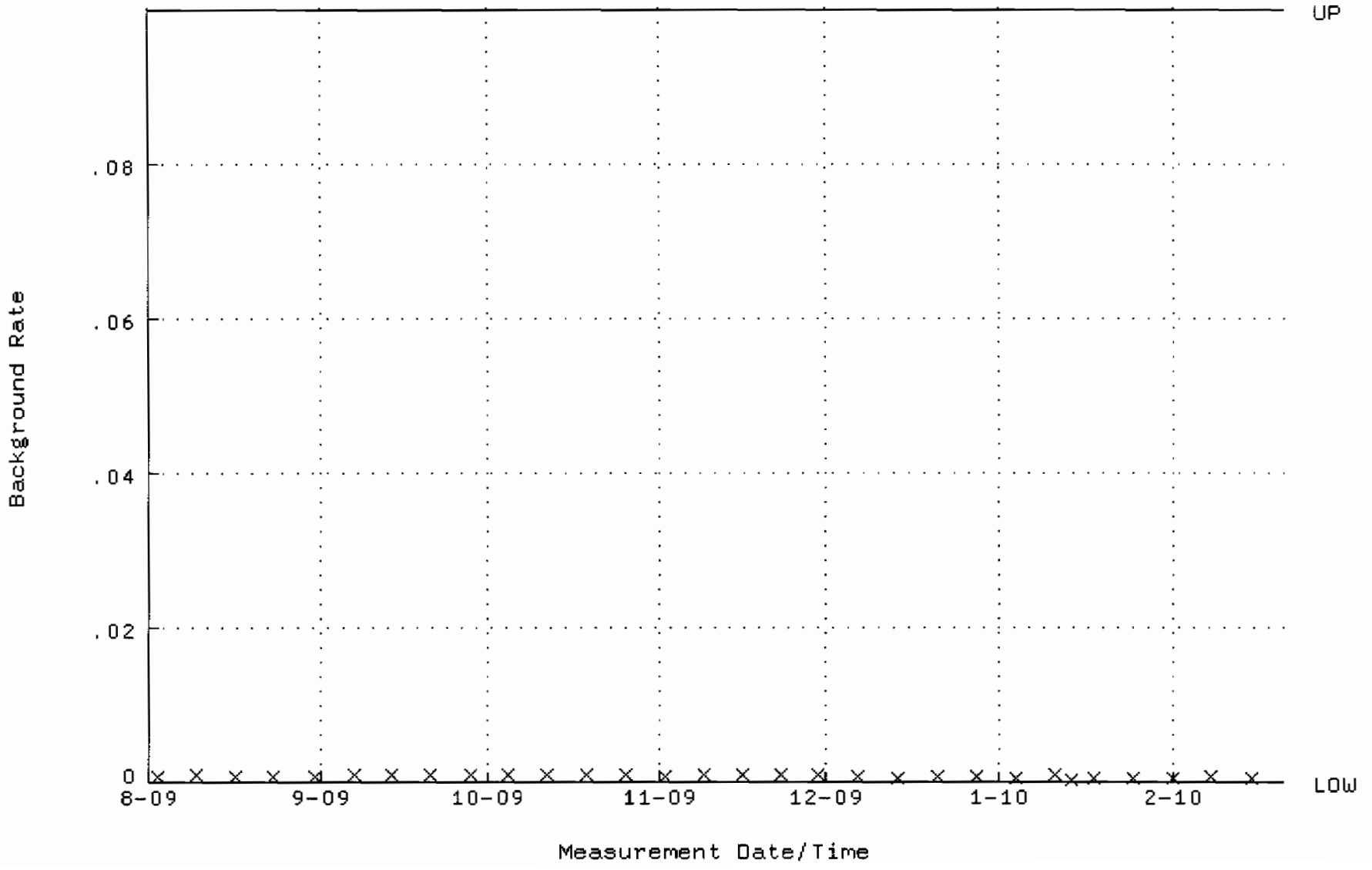
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 17-AUG-2009 09:47:59 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.241466 through 0.261466



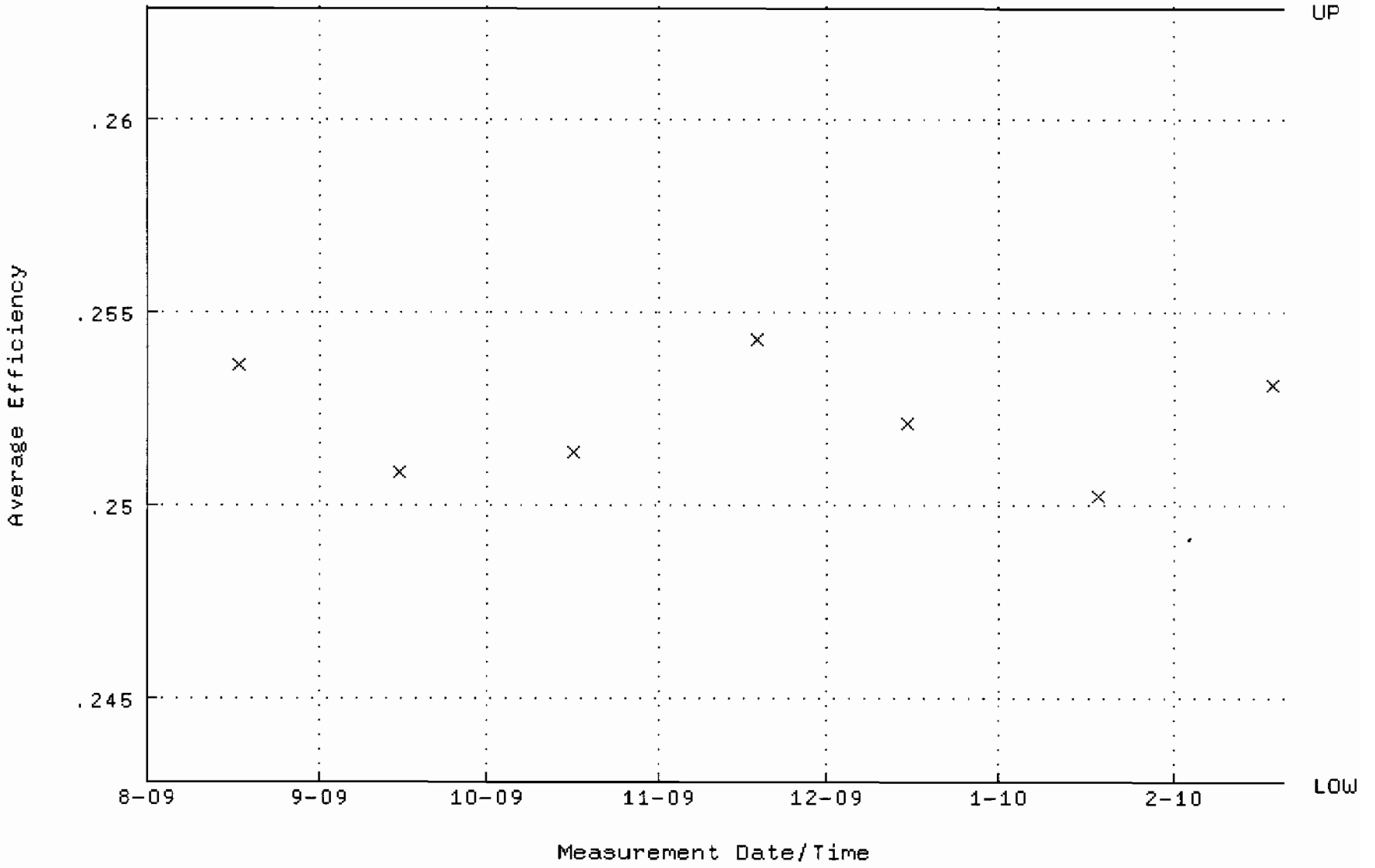
QA filename : OKA100:[ENV_ALPHA.QA.W]W158.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 17-AUG-2009 09:47:59 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 84.6414 through 93.5510



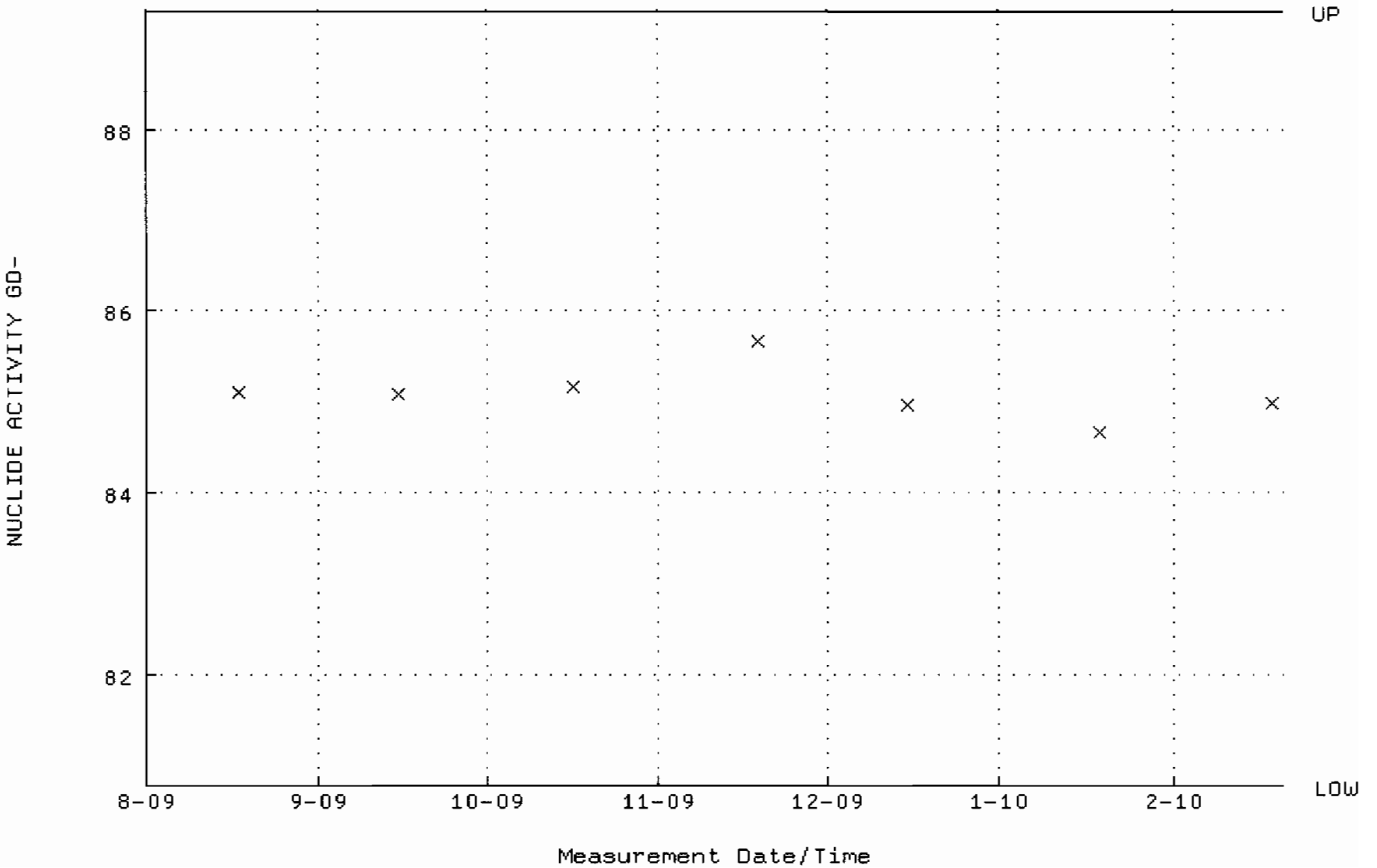
QA filename : DKA100:[ENV_ALPHA.QA.B]B158.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:15:08 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



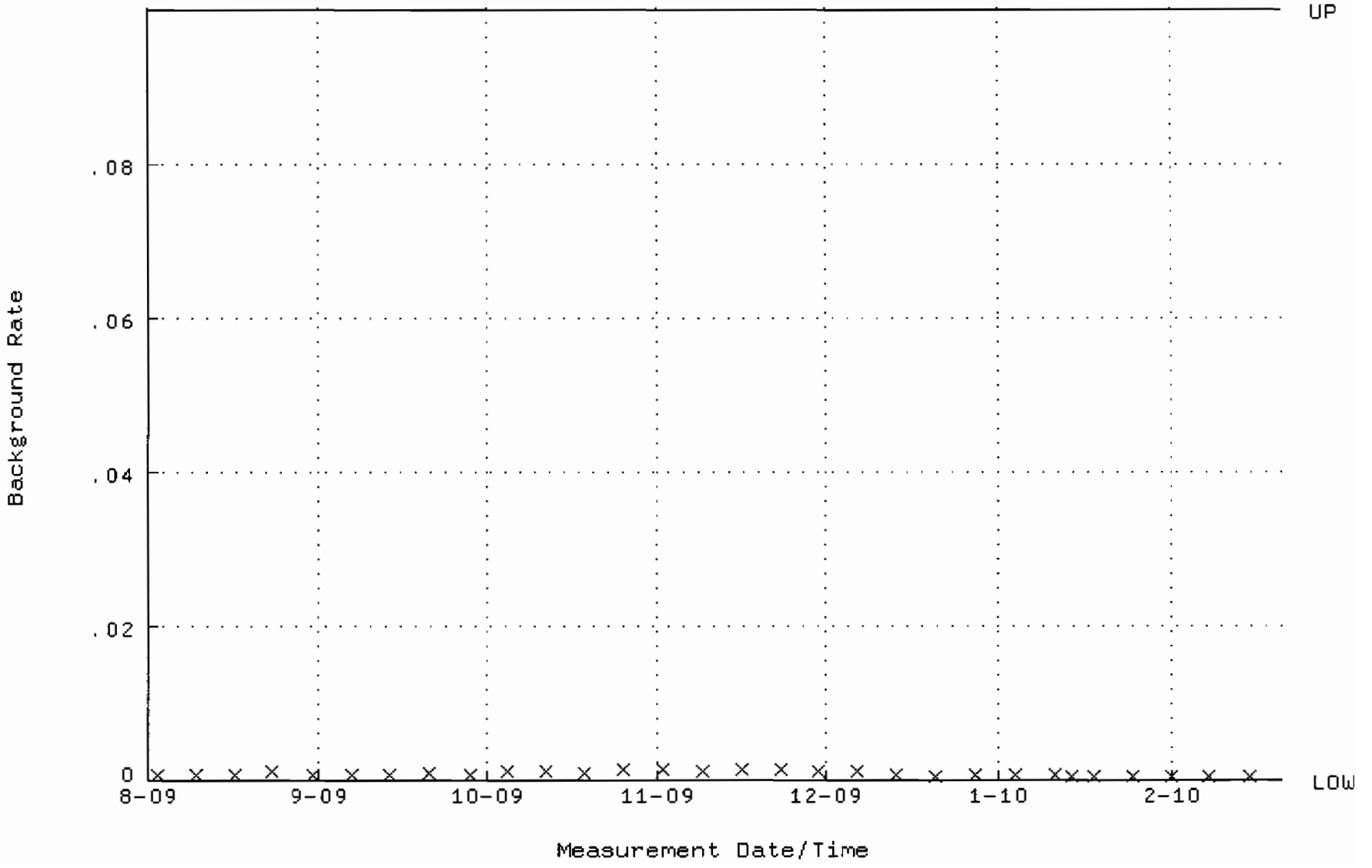
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 17-AUG-2009 09:48:04 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.242851 through 0.262851



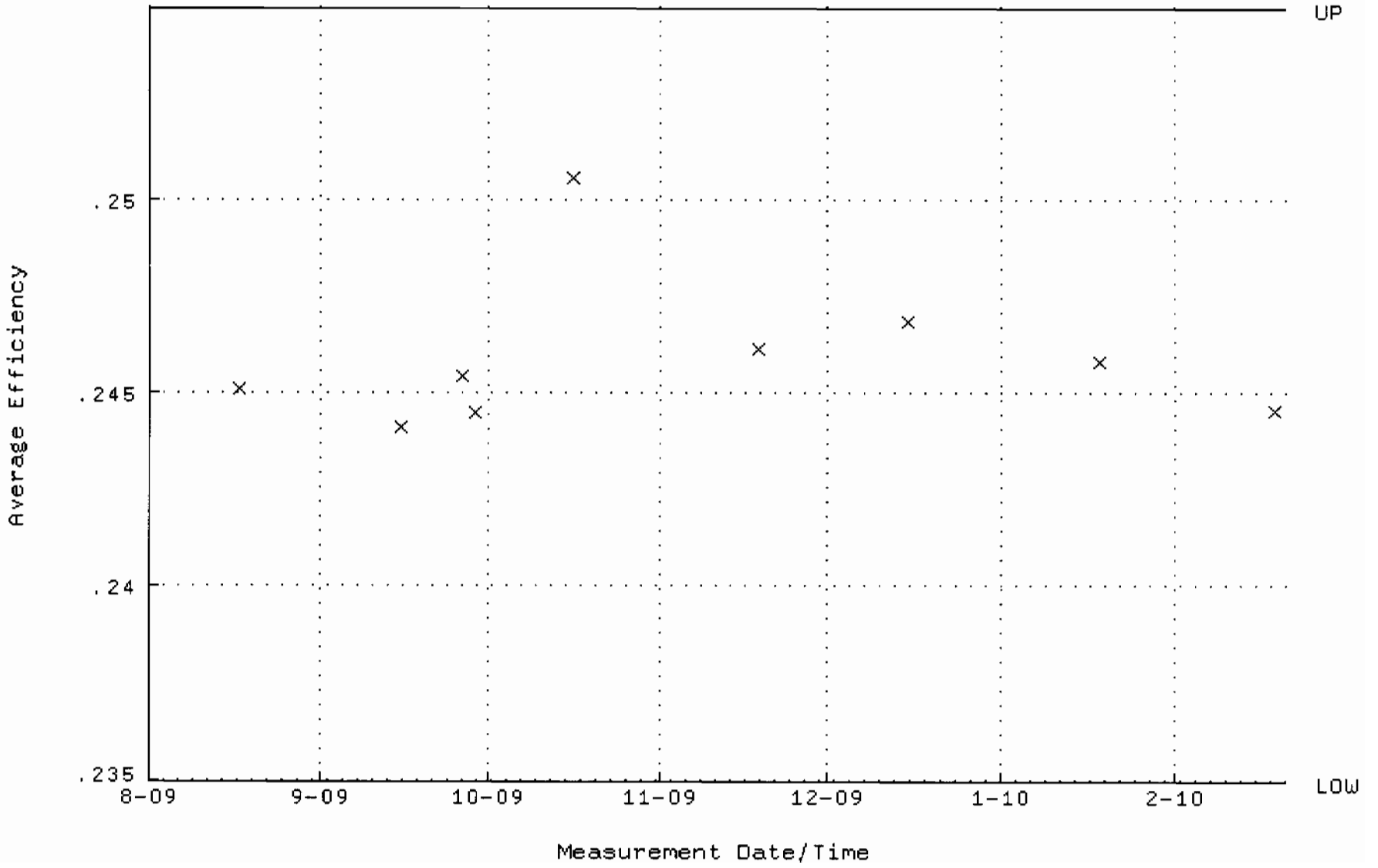
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 17-AUG-2009 09:48:04 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 80.7870 through 89.2909



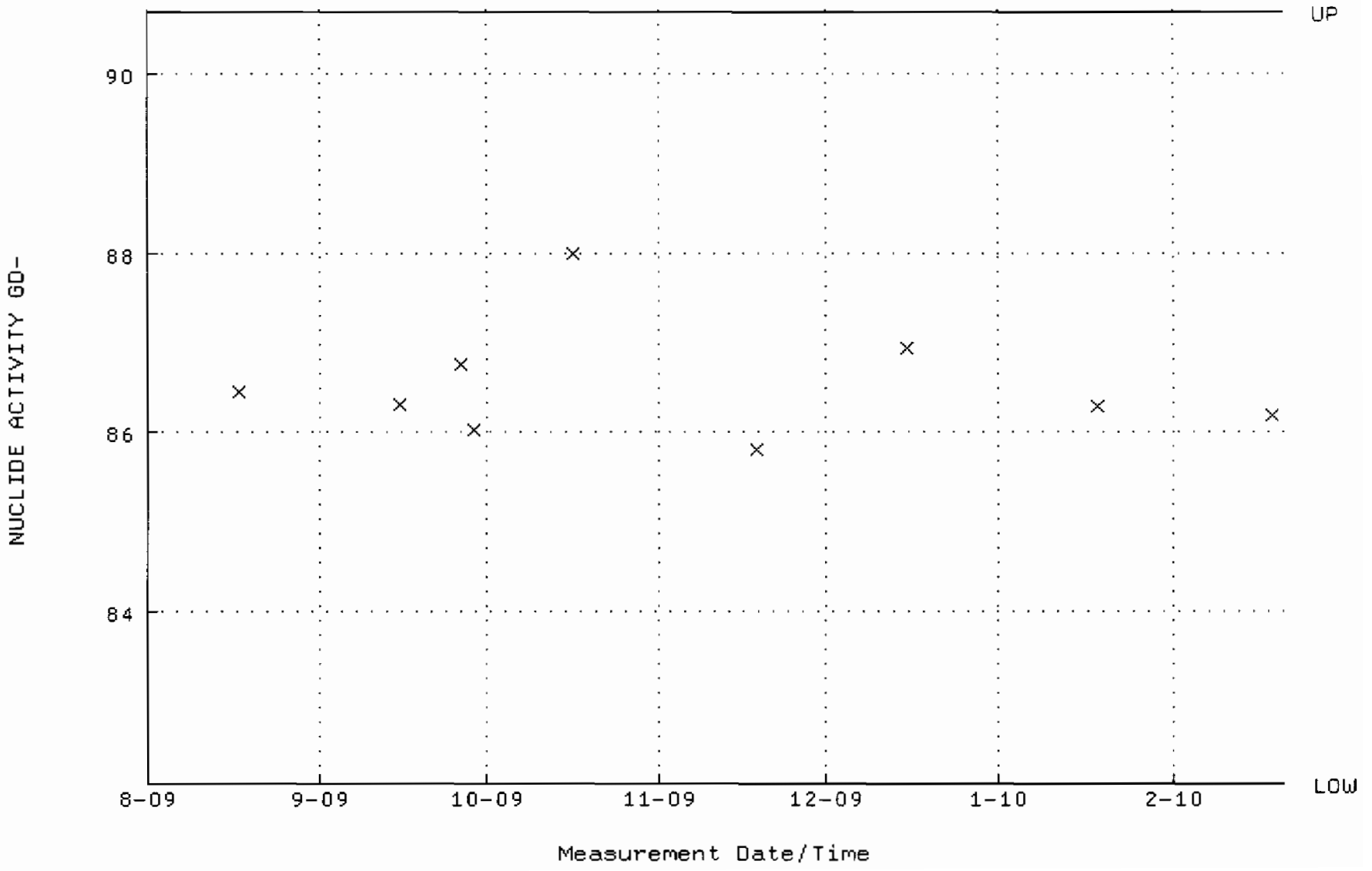
QA filename : DKA100:[ENV_ALPHA.QA.B]B159.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:15:12 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



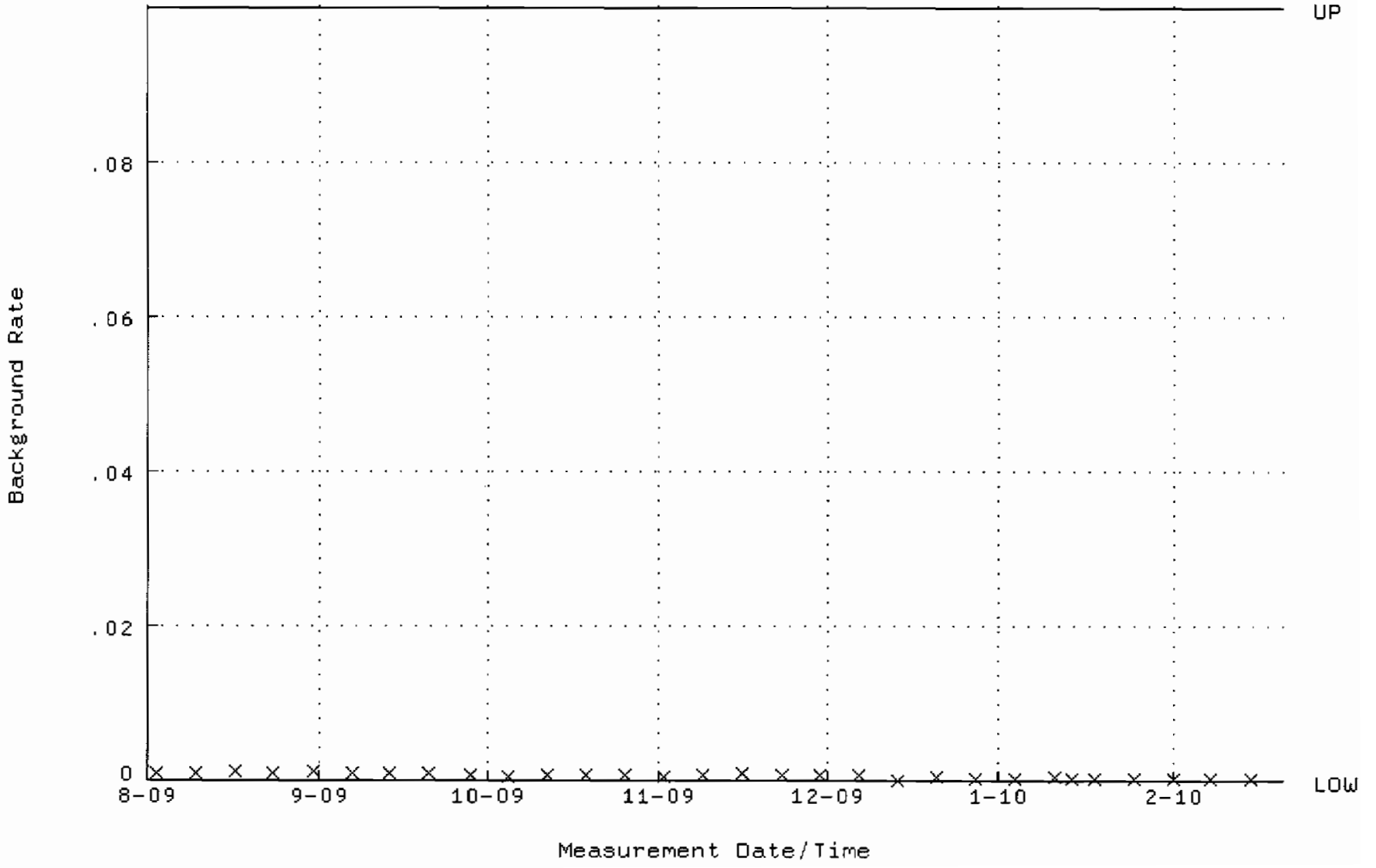
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 17-AUG-2009 09:48:09 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.234941 through 0.254941



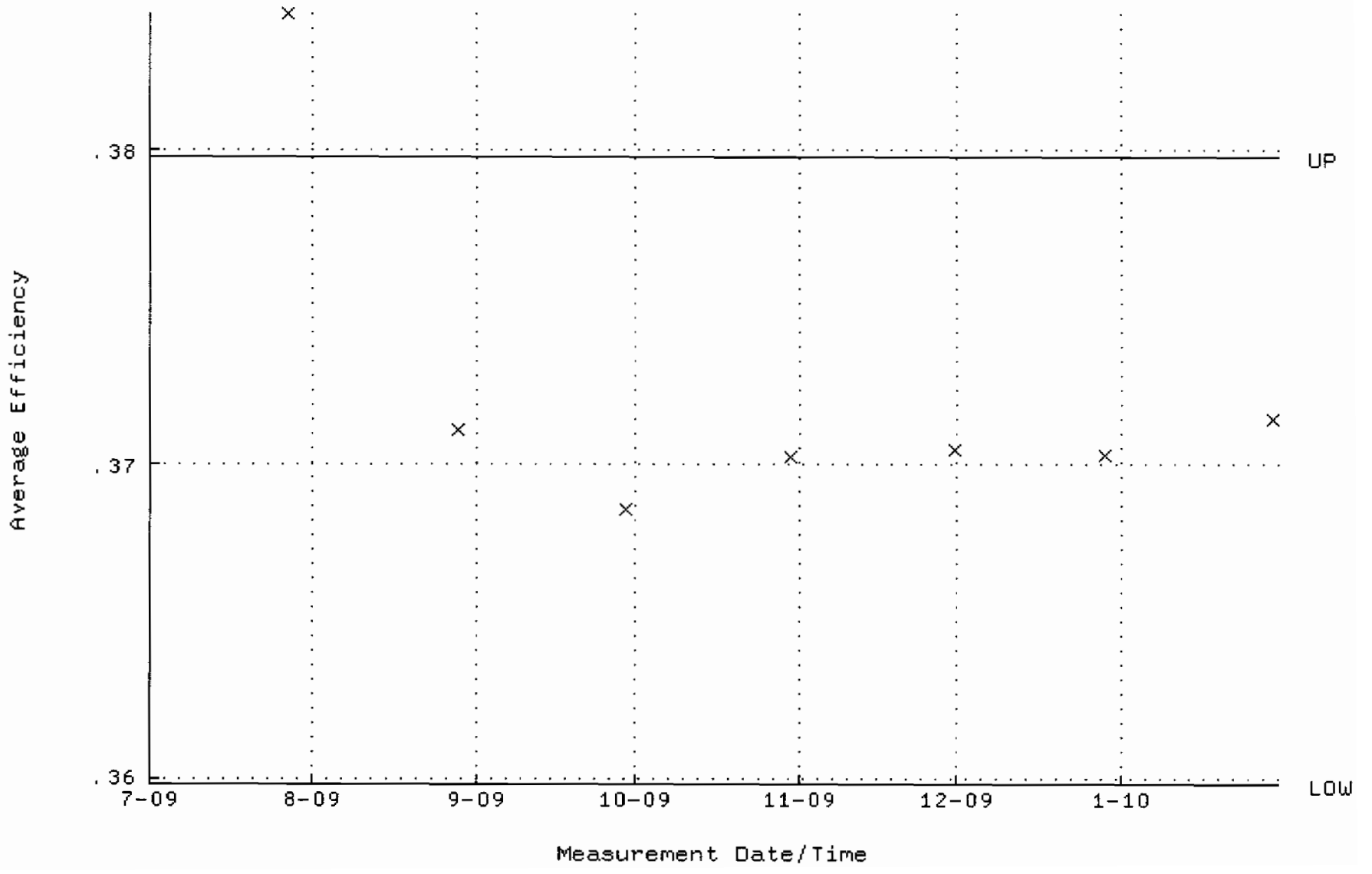
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 17-AUG-2009 09:48:09 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 82.0594 through 90.6972



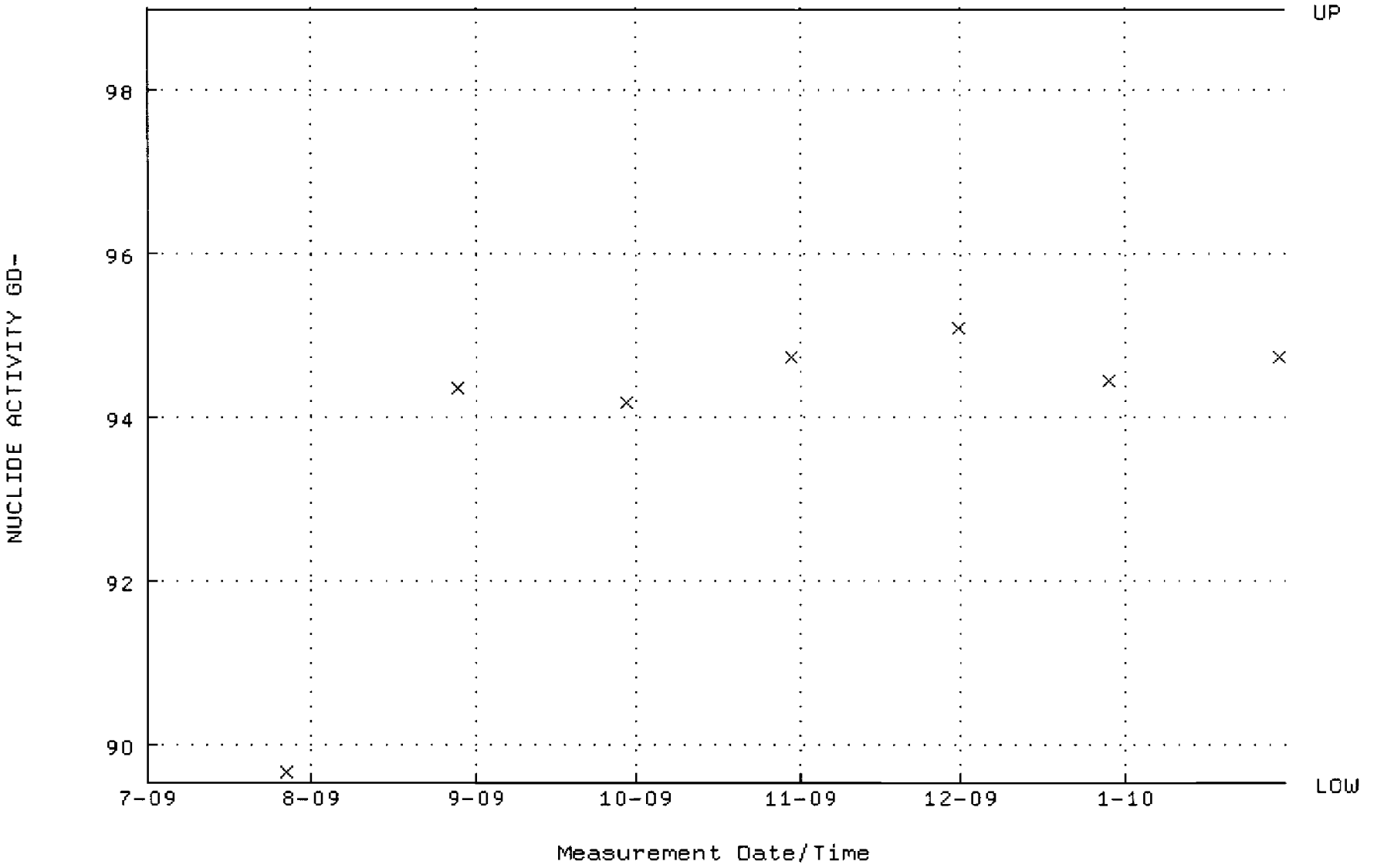
QA filename : DKA100:[ENV_ALPHA.QA.B]B160.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:15:16 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



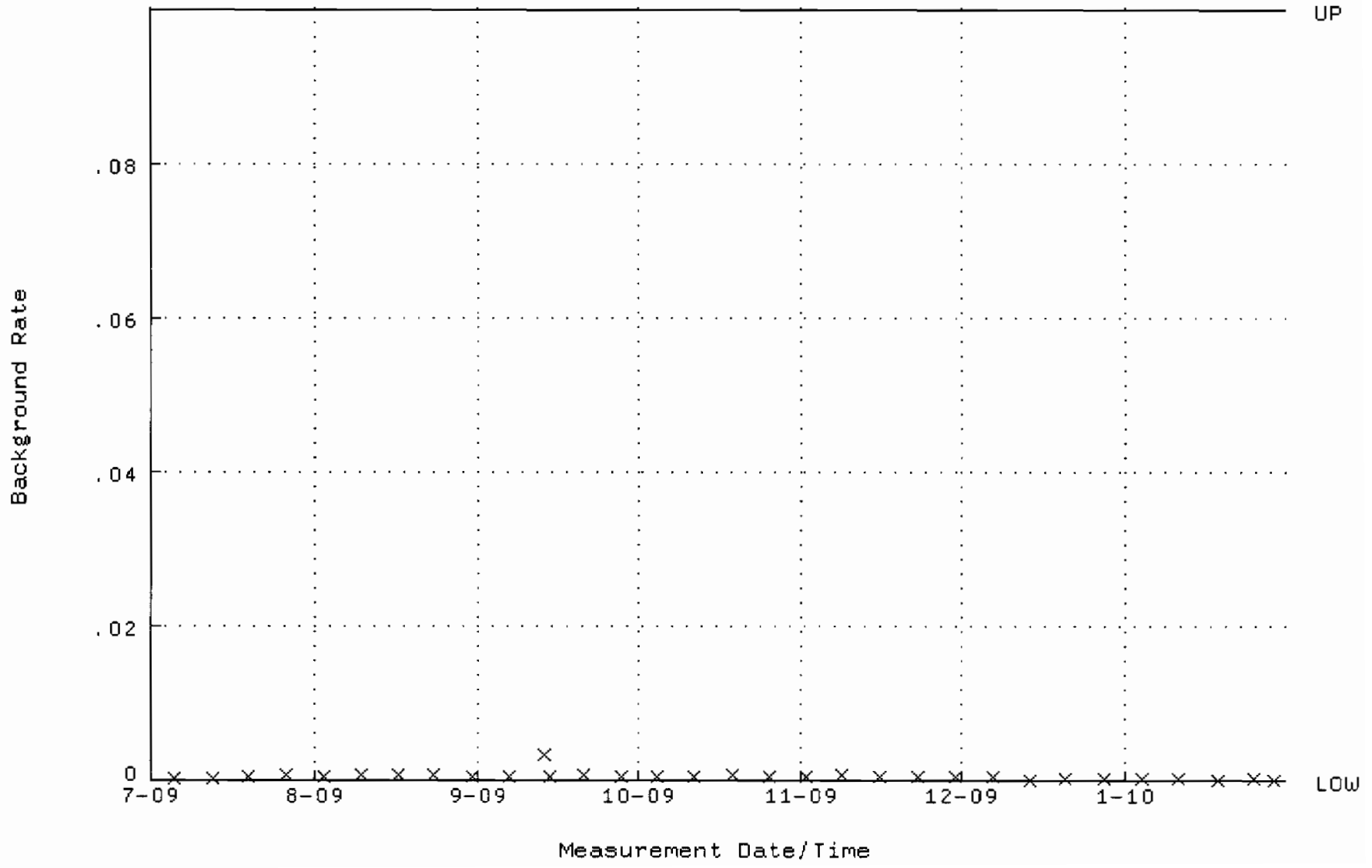
QA filename : DKA100:[ENV_ALPHA.QA.W]W223.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:48:43 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.359804 through 0.379804



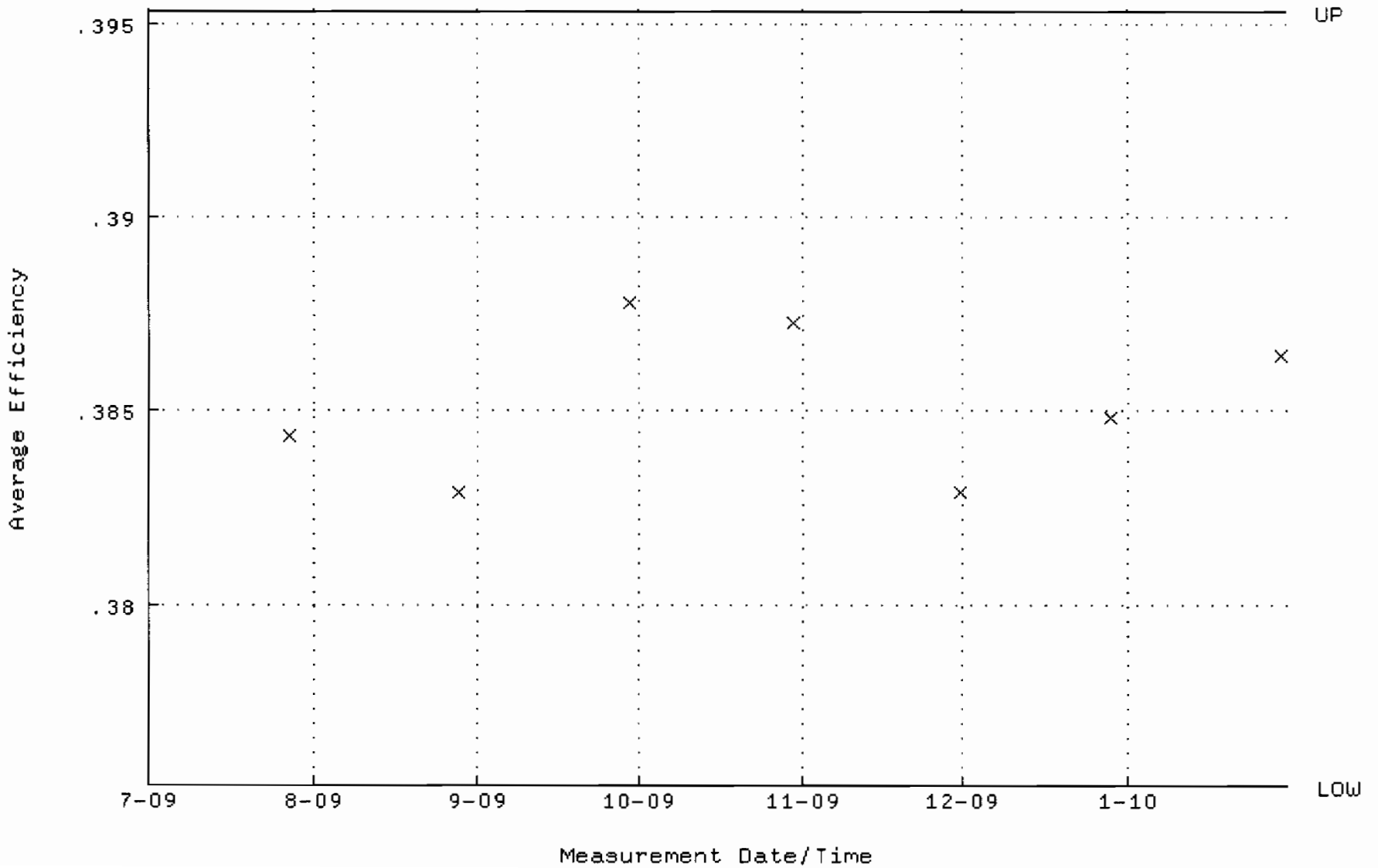
QA filename : DKA100:[ENV_ALPHA.QA.W]W223.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:48:43 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 89.5441 through 98.9697



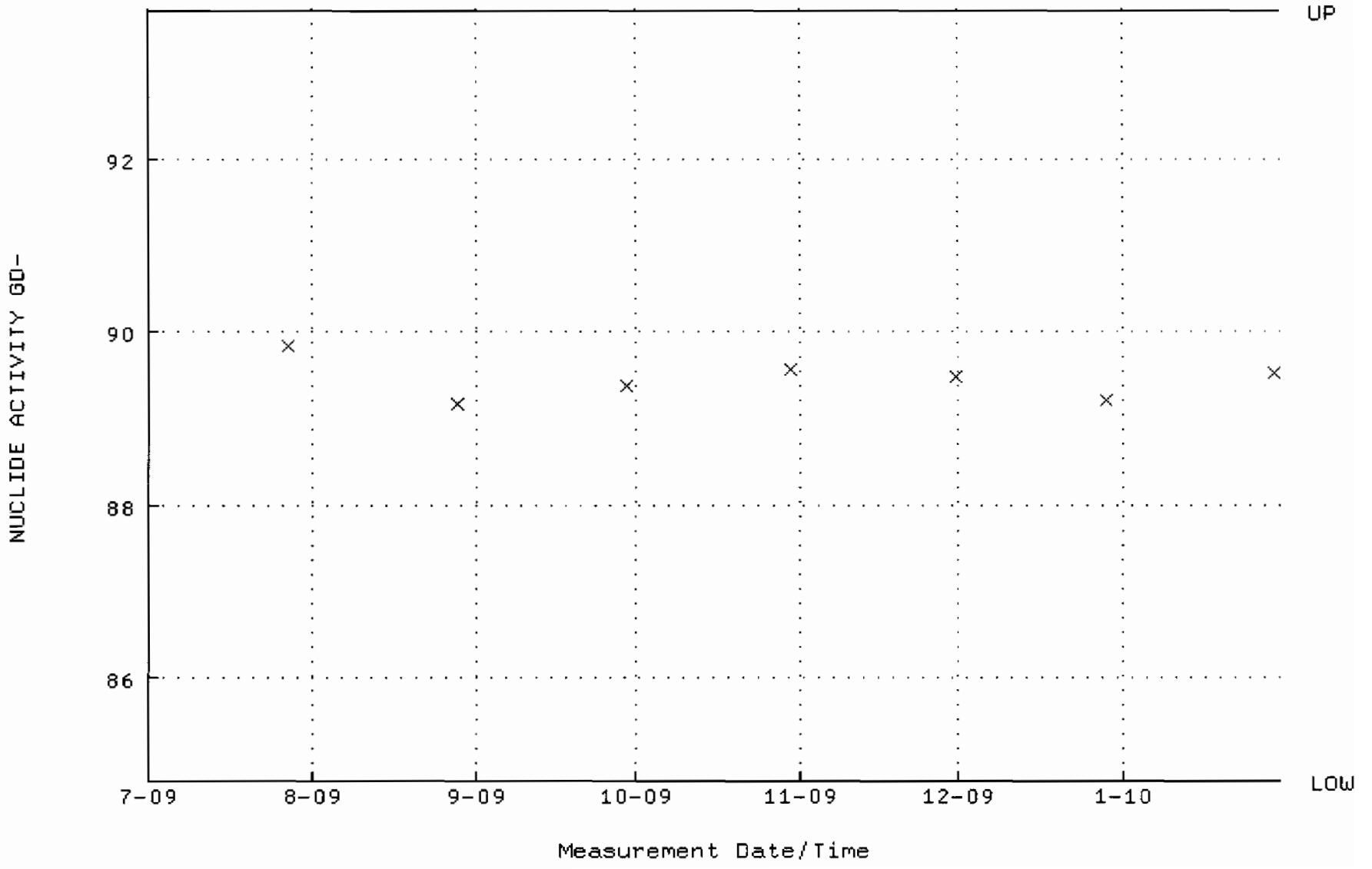
QA filename : DKA100:[ENV_ALPHA.QA.B]B223.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:04:24 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



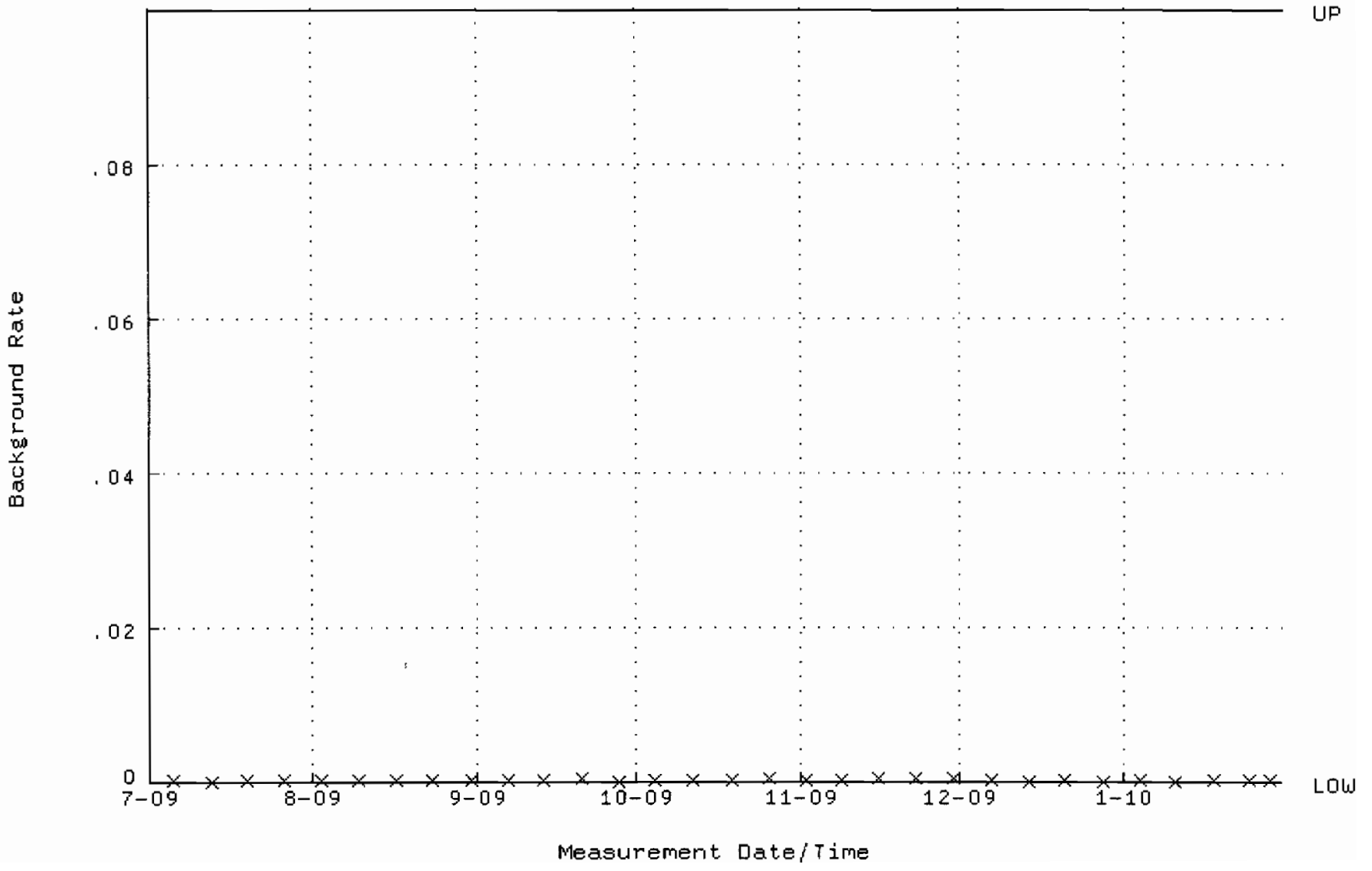
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:49:10 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.375328 through 0.395328



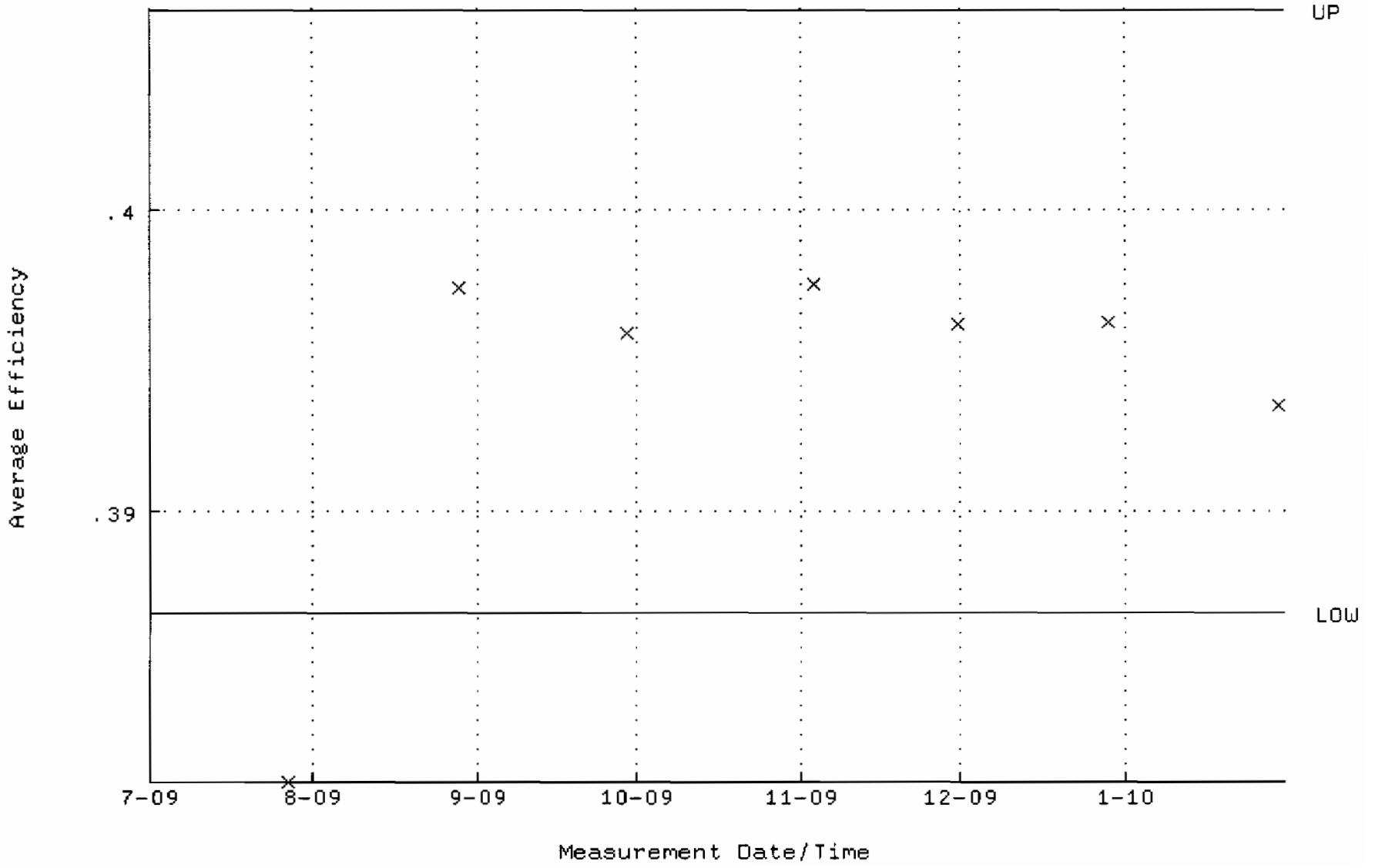
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:49:10 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 84.8011 through 93.7275



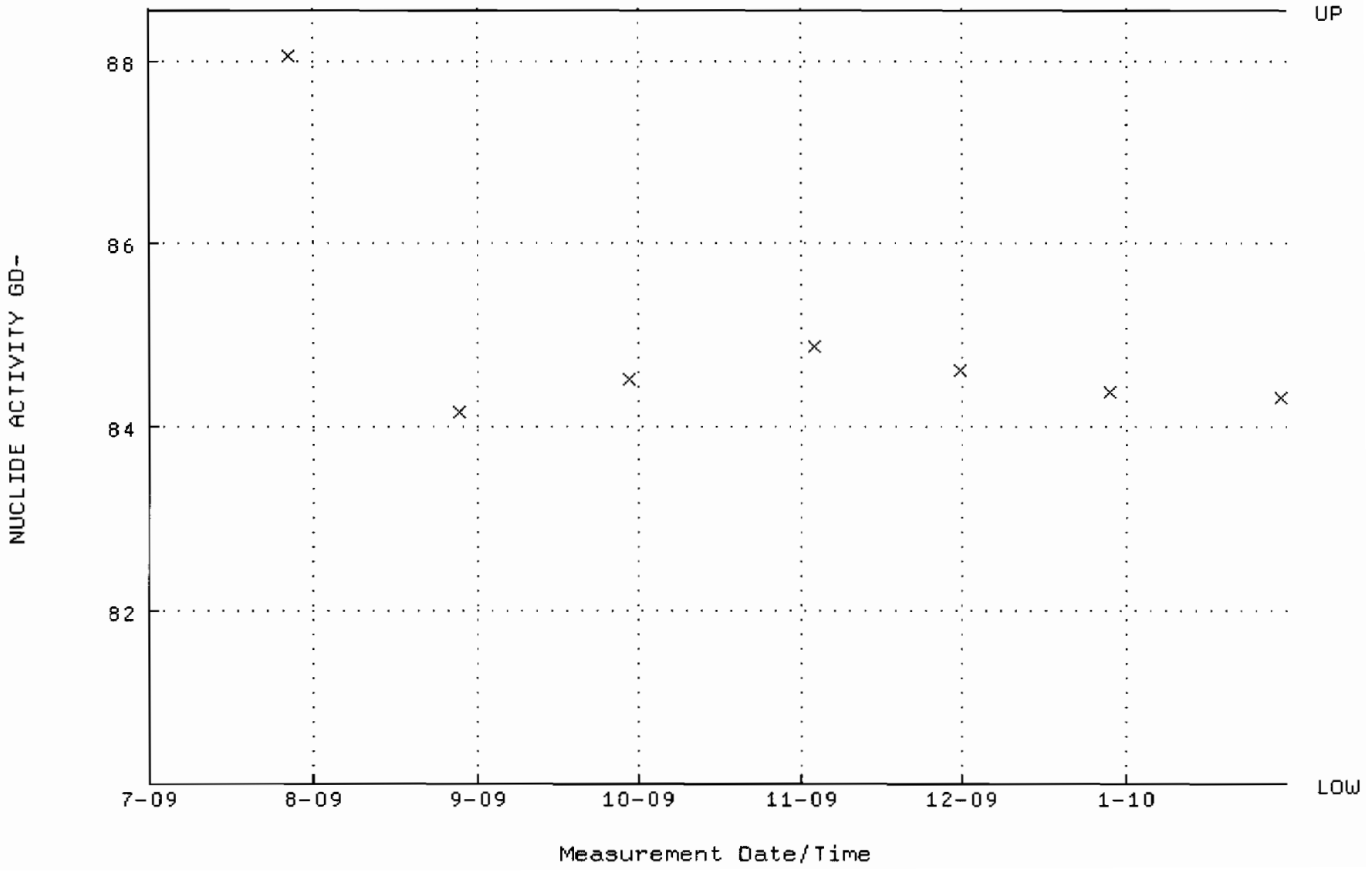
QA filename : DKA100:[ENV_ALPHA.QA.B]B227.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:04:43 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



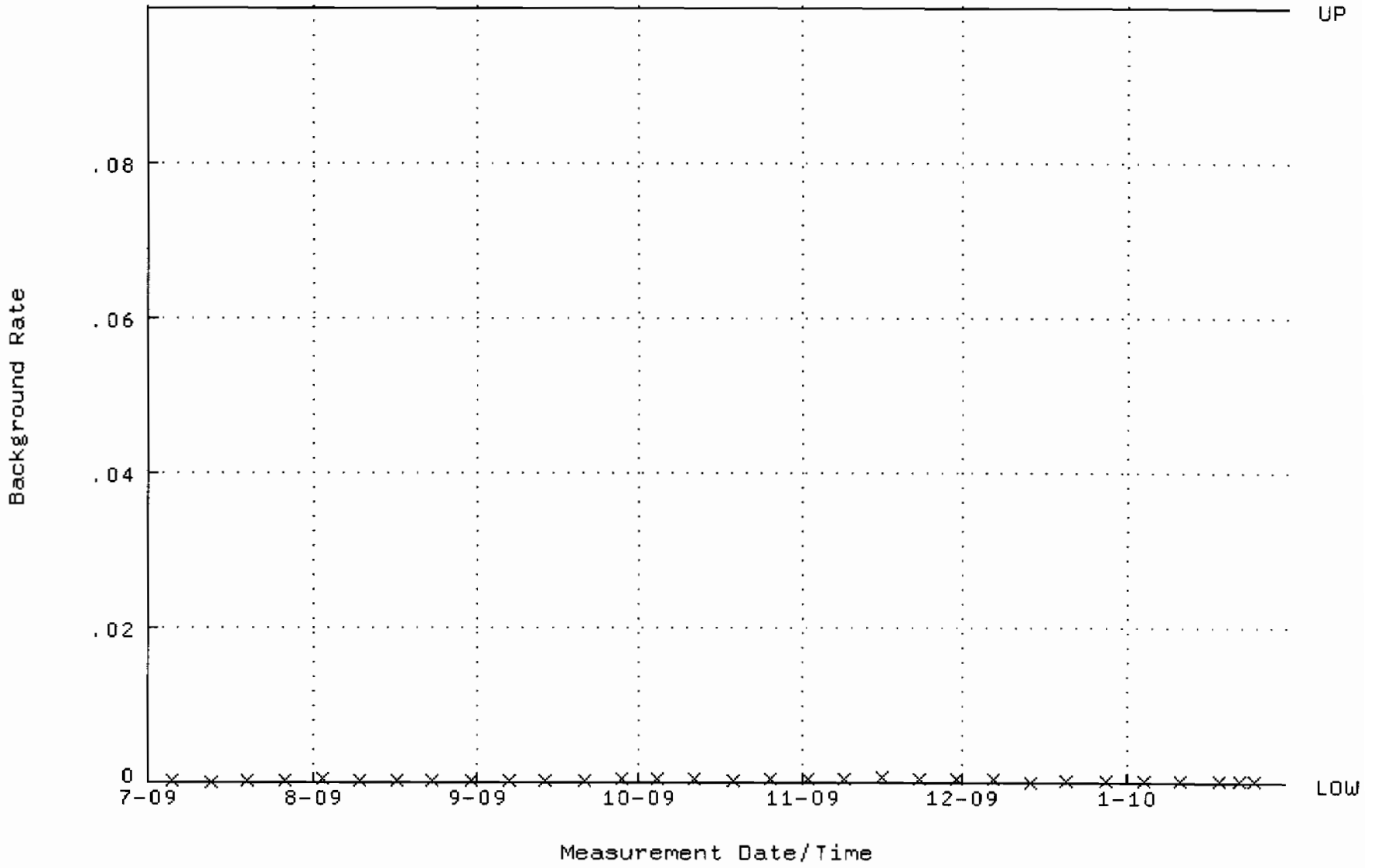
QA filename : DKA100:[ENV_ALPHA.QA.W]W238.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:50:20 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.386660 through 0.406660



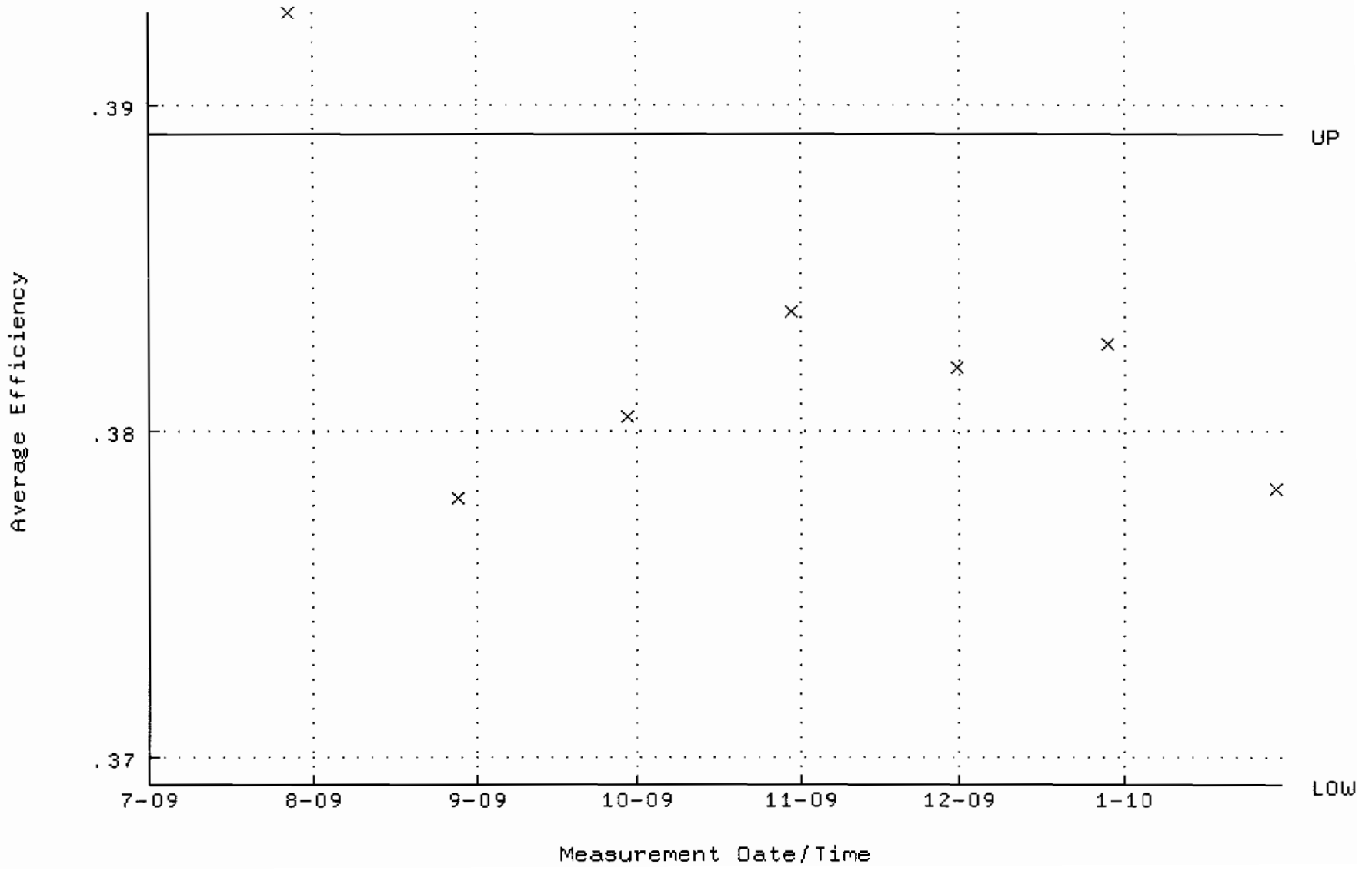
QA filename : DKA100:[ENV_ALPHA.QA.W]W238.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:50:20 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 80.1146 through 88.5478



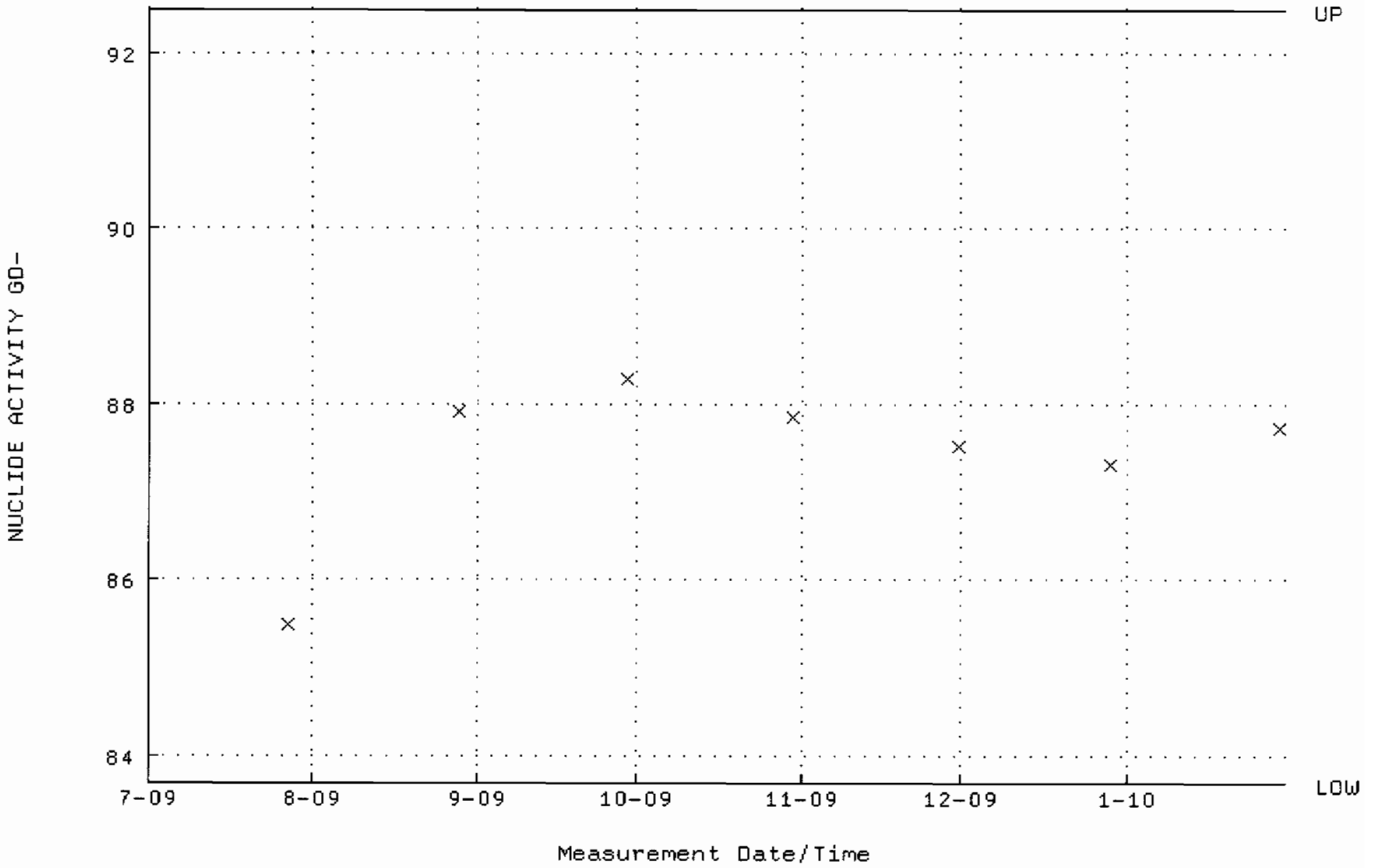
QA filename : DKA100:[ENV_ALPHA.QA.B]B238.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:05:34 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



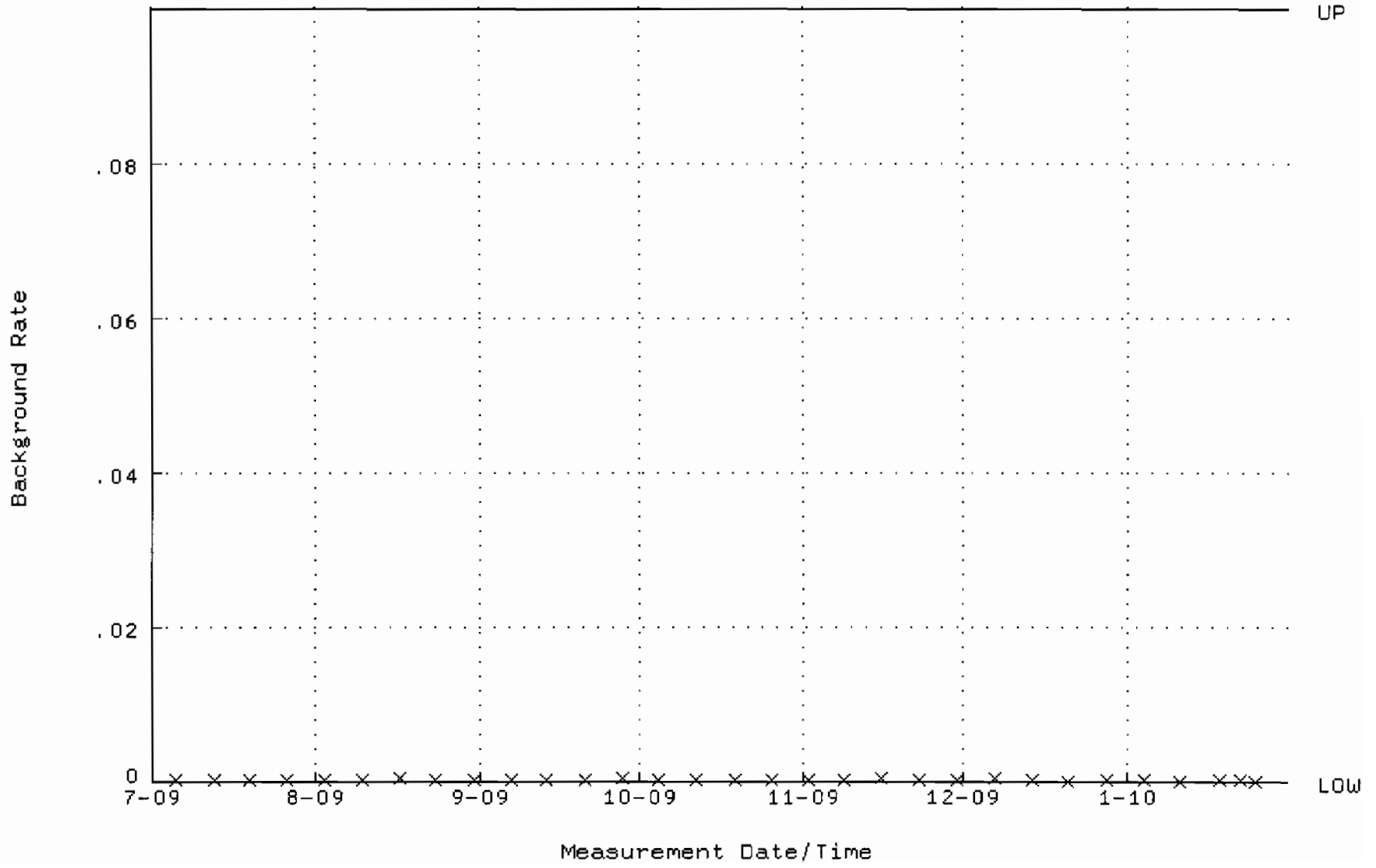
QA filename : DKA100:[ENV_ALPHA.QA.W]W239.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:50:26 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.369142 through 0.389142



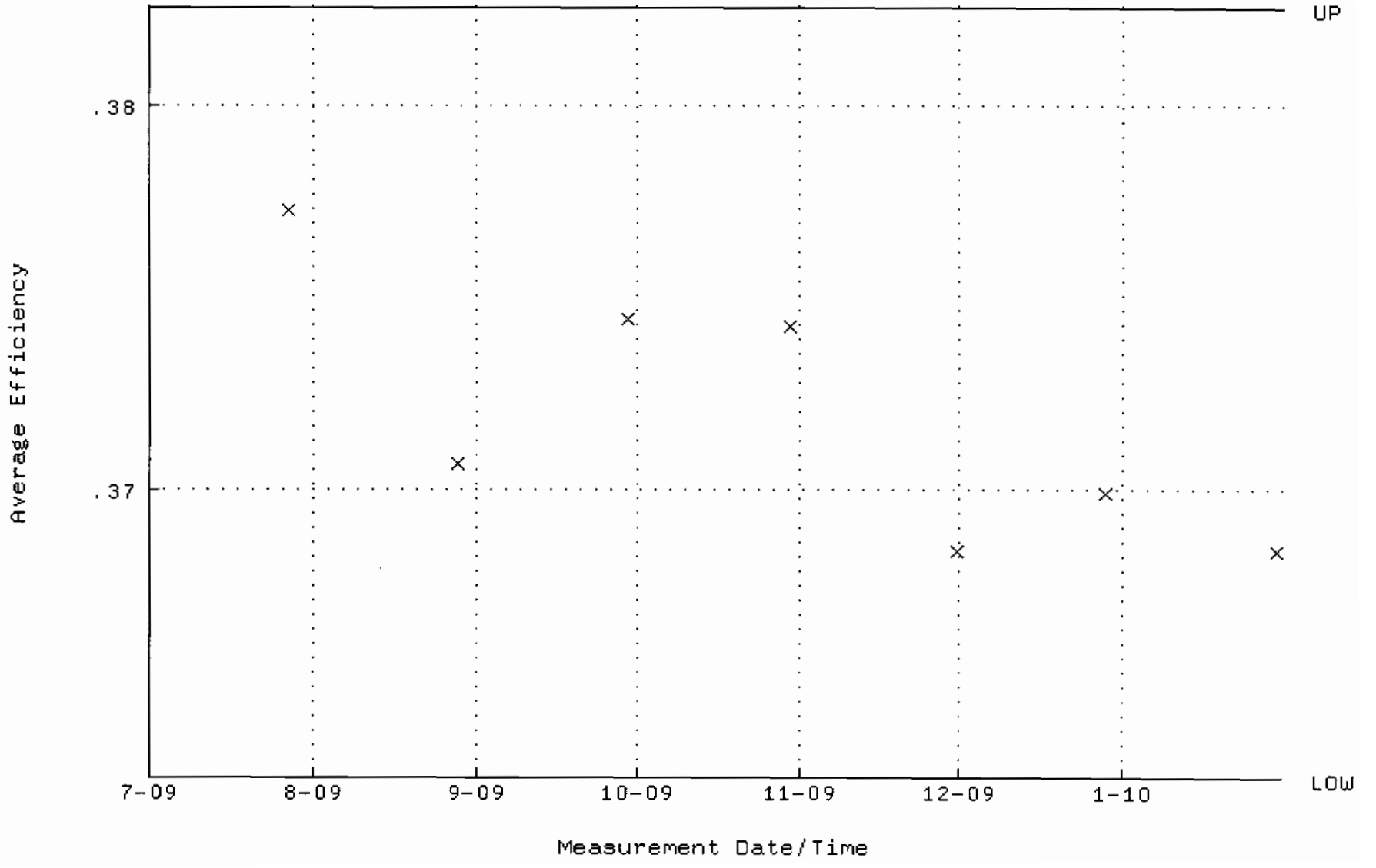
QA filename : DKA100:[ENV_ALPHA.QA.W]W239.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:50:26 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 83.6848 through 92.4938



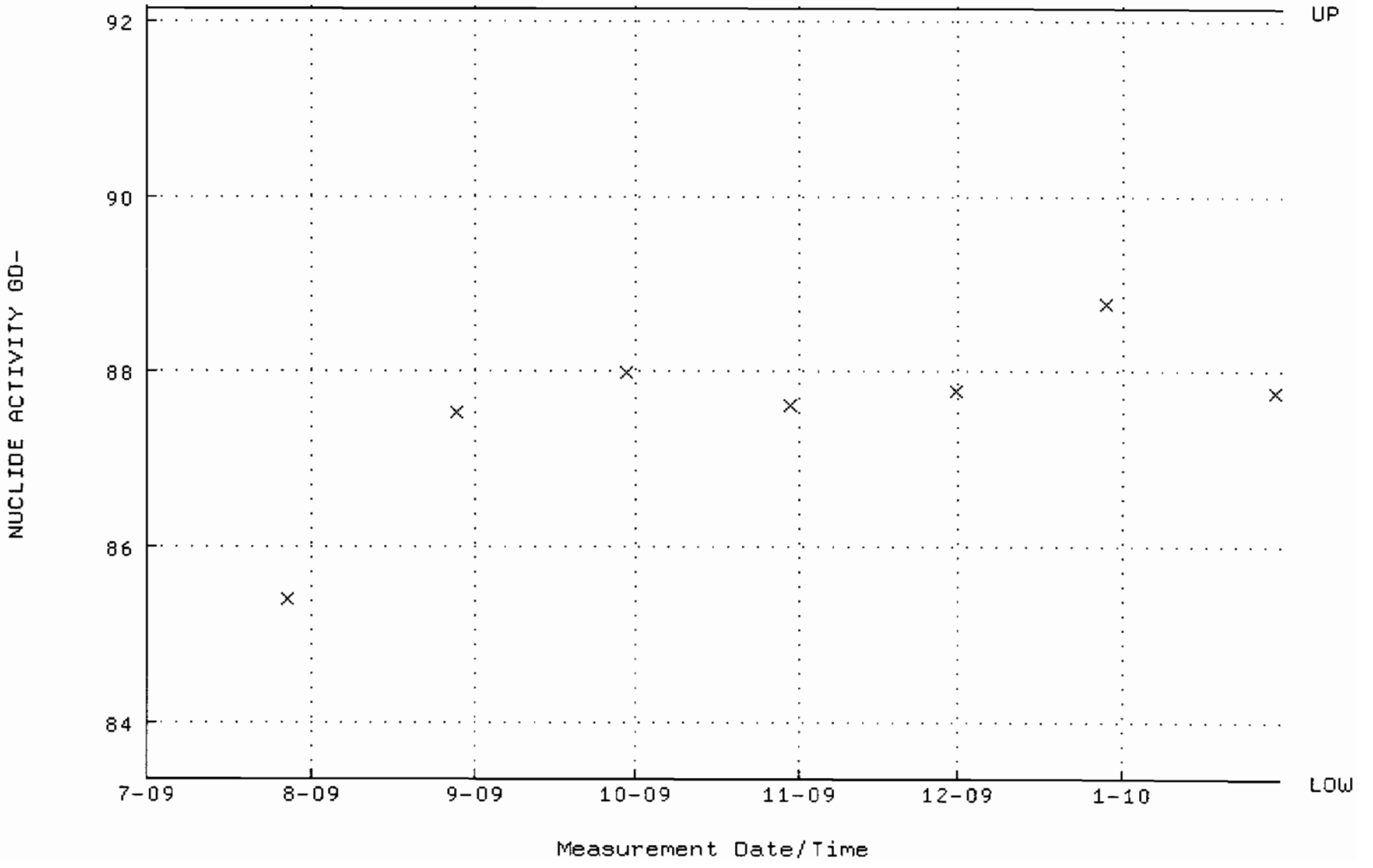
QA filename : DKA100:[ENV_ALPHA.QA.B]B239.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:05:39 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



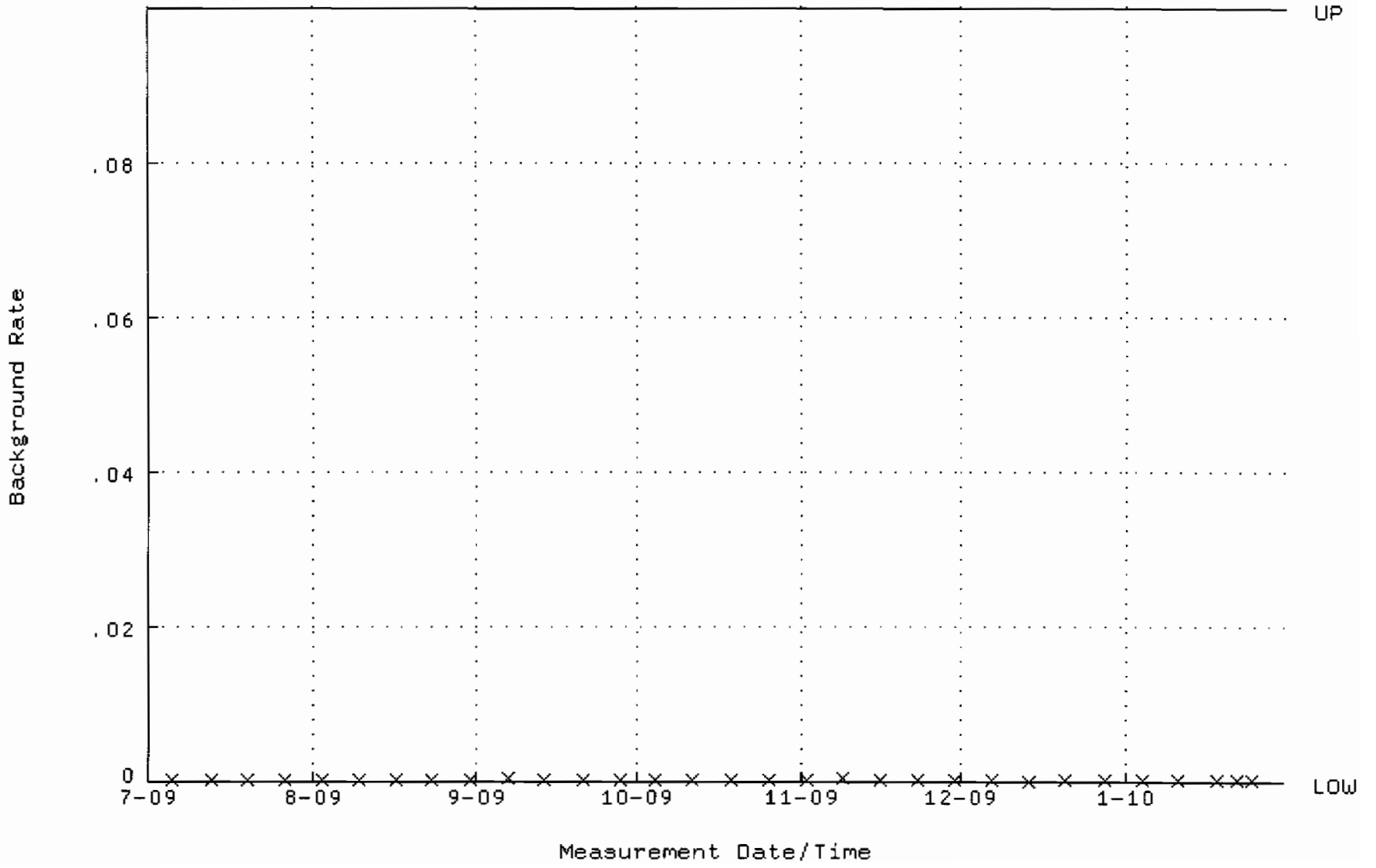
QA filename : DKA100:[ENV_ALPHA.QA.W]W240.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:50:32 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.362523 through 0.382523



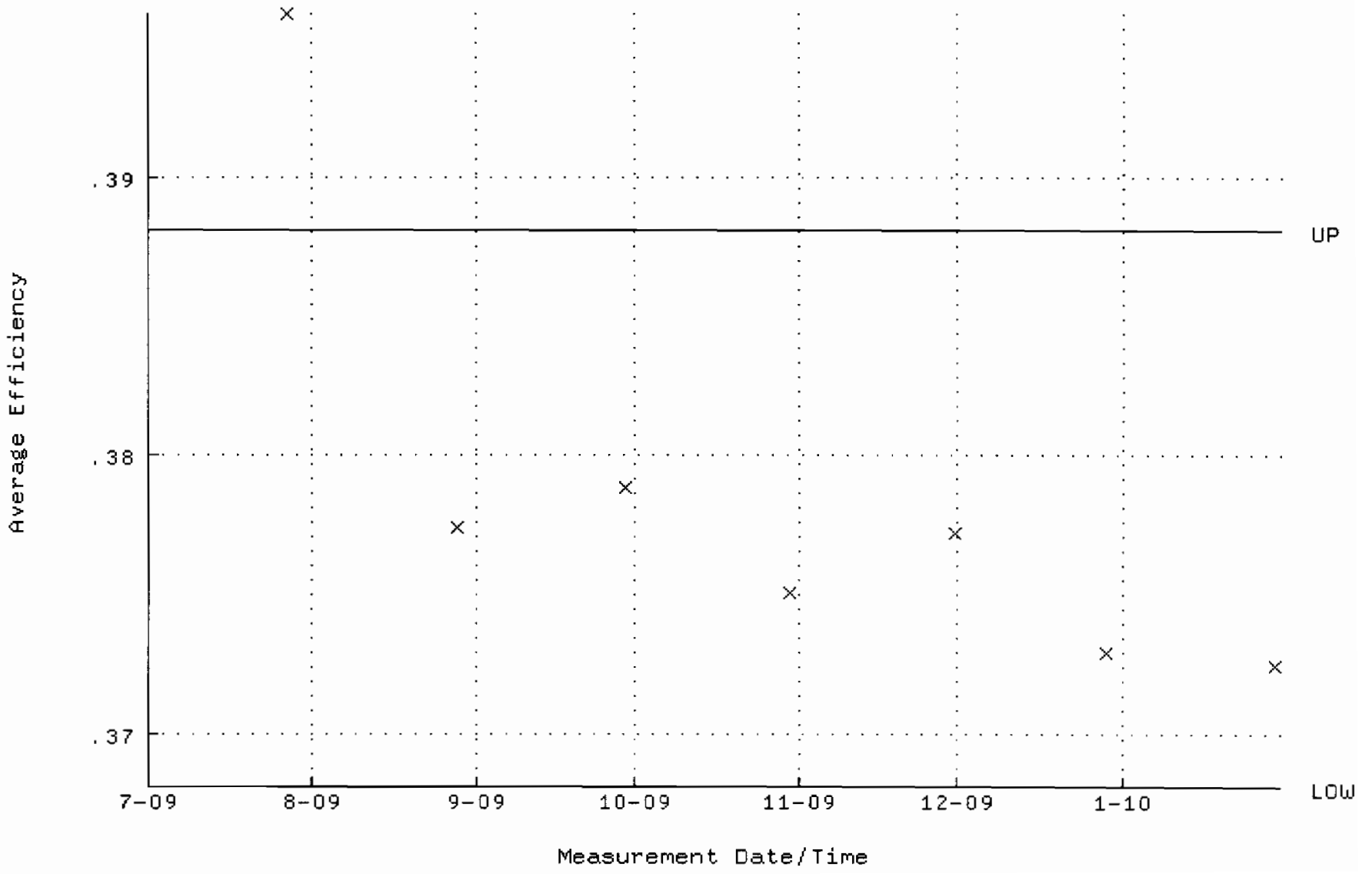
QA filename : DKA100:[ENV_ALPHA.QA.W]W240.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:50:32 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 83.3638 through 92.1390



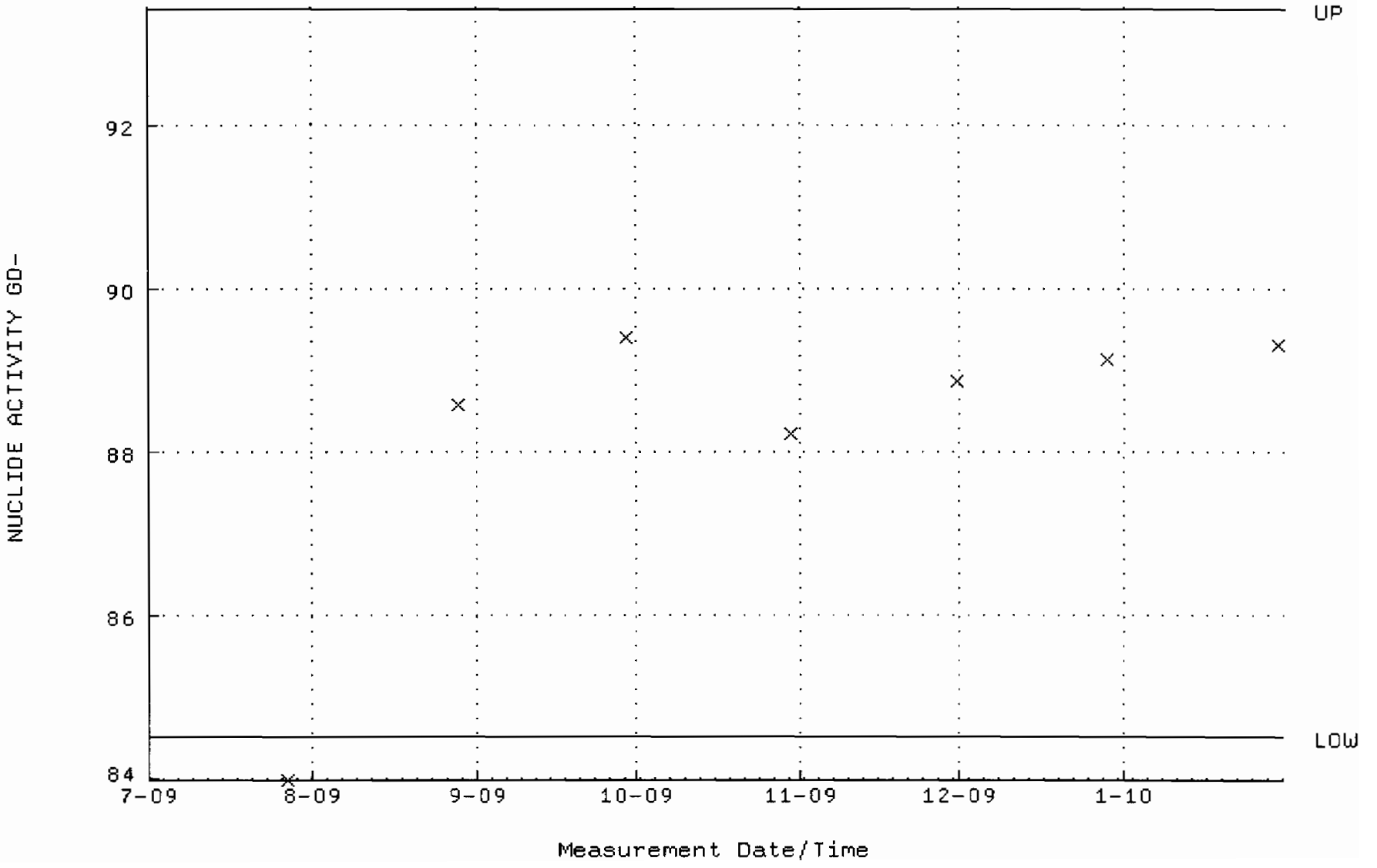
QA filename : DKA100:[ENV_ALPHA.QA.B]B240.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:05:43 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



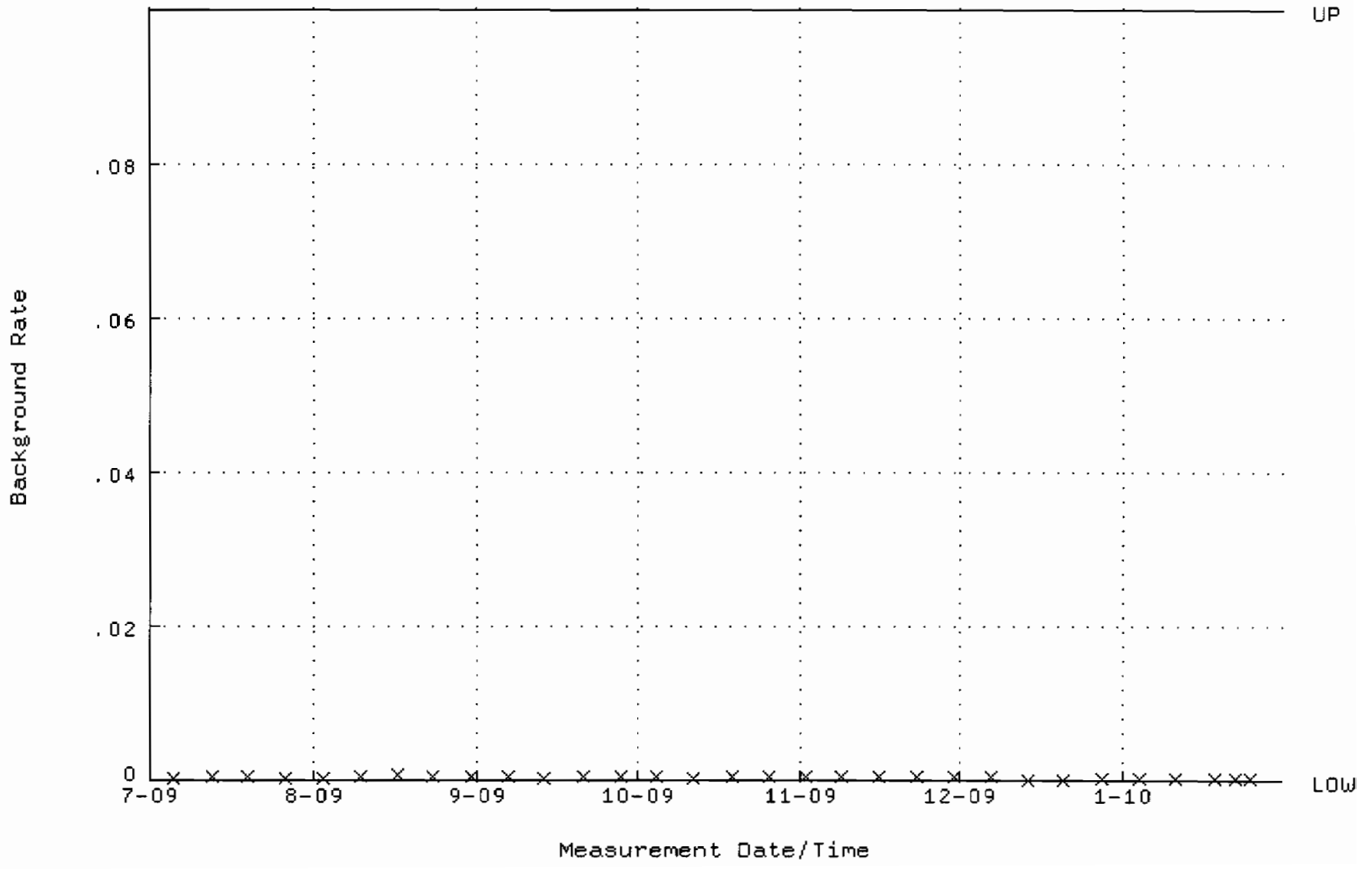
QA filename : DKA100:[ENV_ALPHA.QA.W]W247.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:51:13 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.368107 through 0.388107



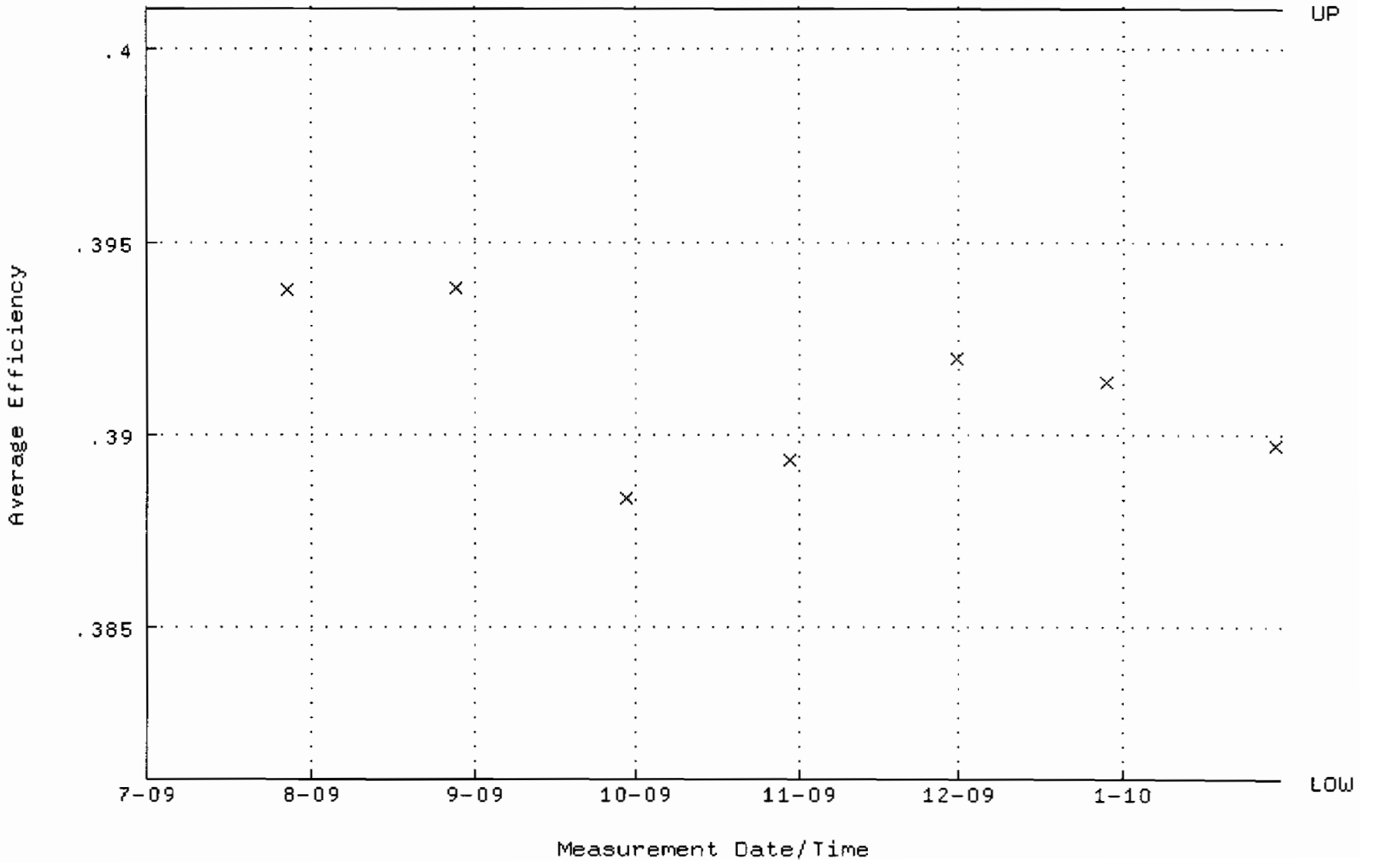
QA filename : DKA100:[ENV_ALPHA.QA.W]W247.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:51:13 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 84.5211 through 93.4181



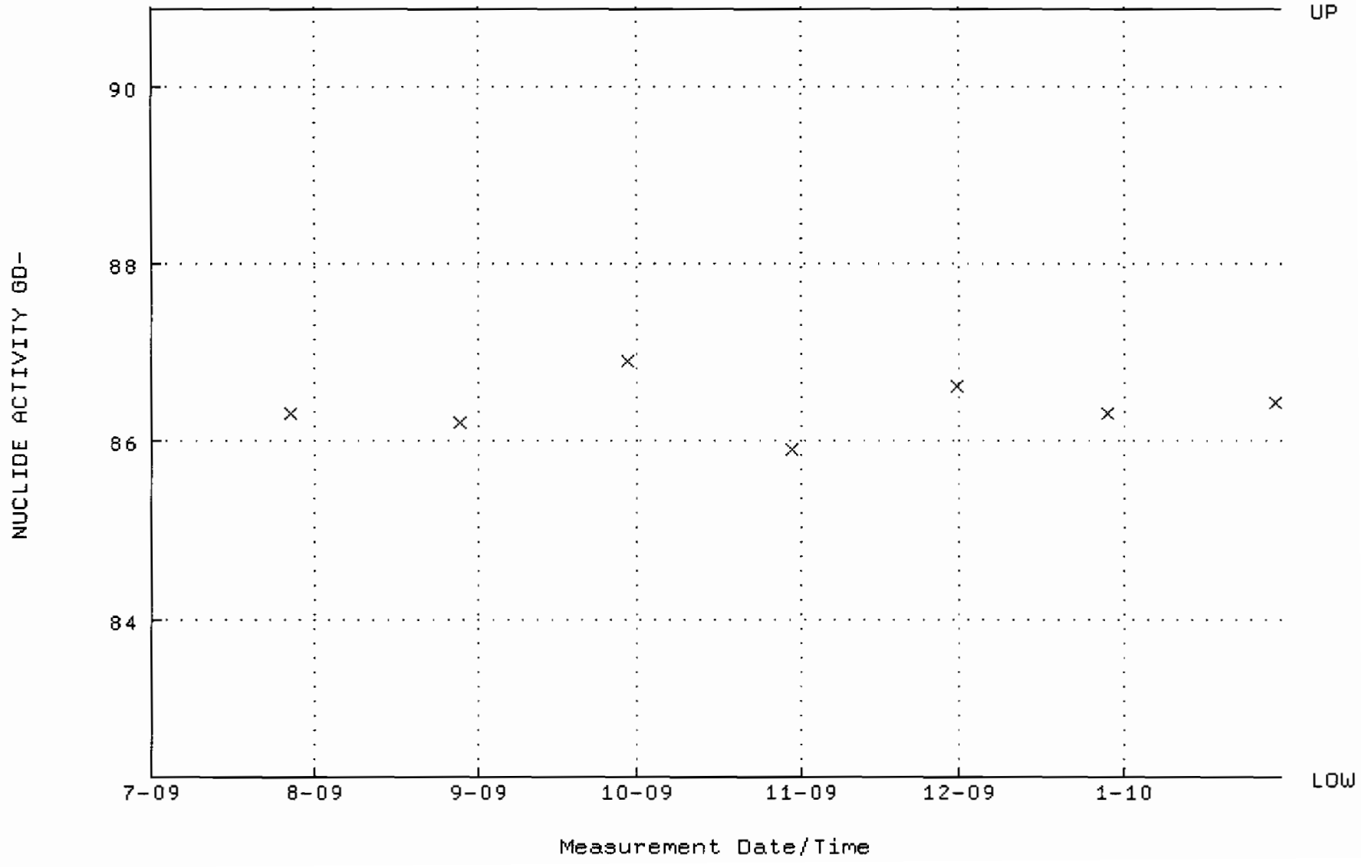
QA filename : DKA100:[ENV_ALPHA.QA.B]B247.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:06:16 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



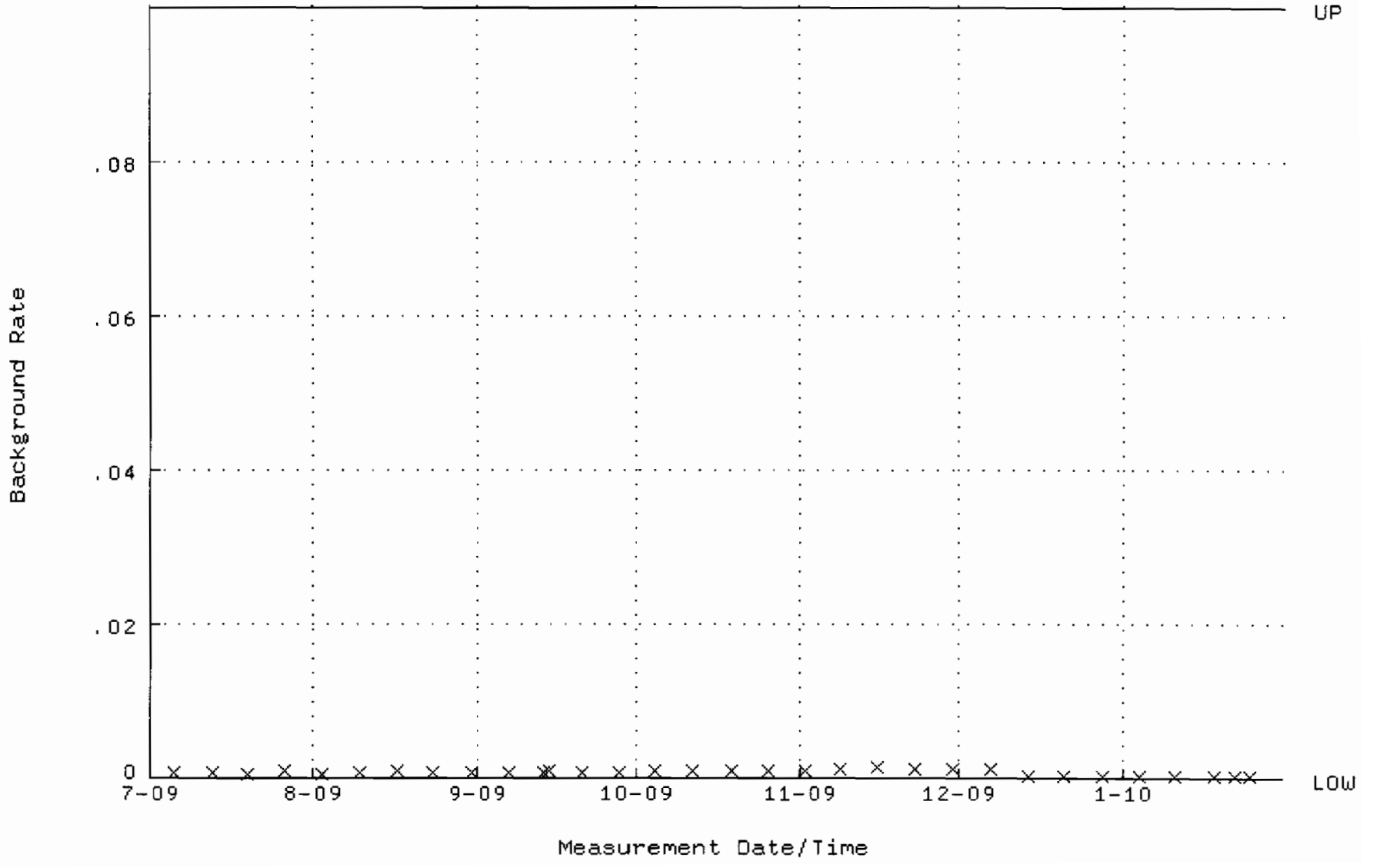
QA filename : DKA100:[ENV_ALPHA.QA.W]W248.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:51:19 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.381049 through 0.401049



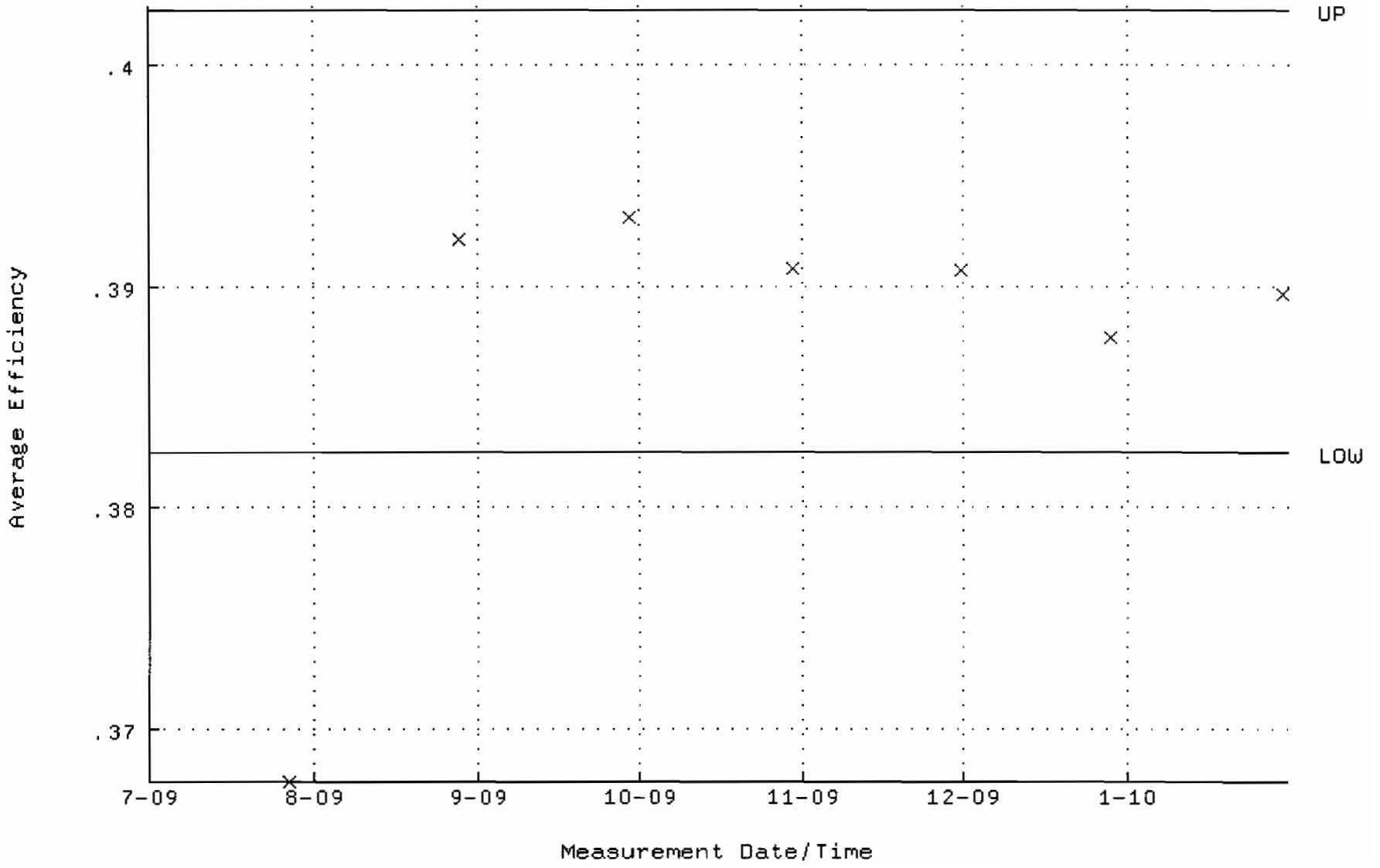
QA filename : DKA100:[ENV_ALPHA.QA.W]W248.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:51:19 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 82.2216 through 90.8766



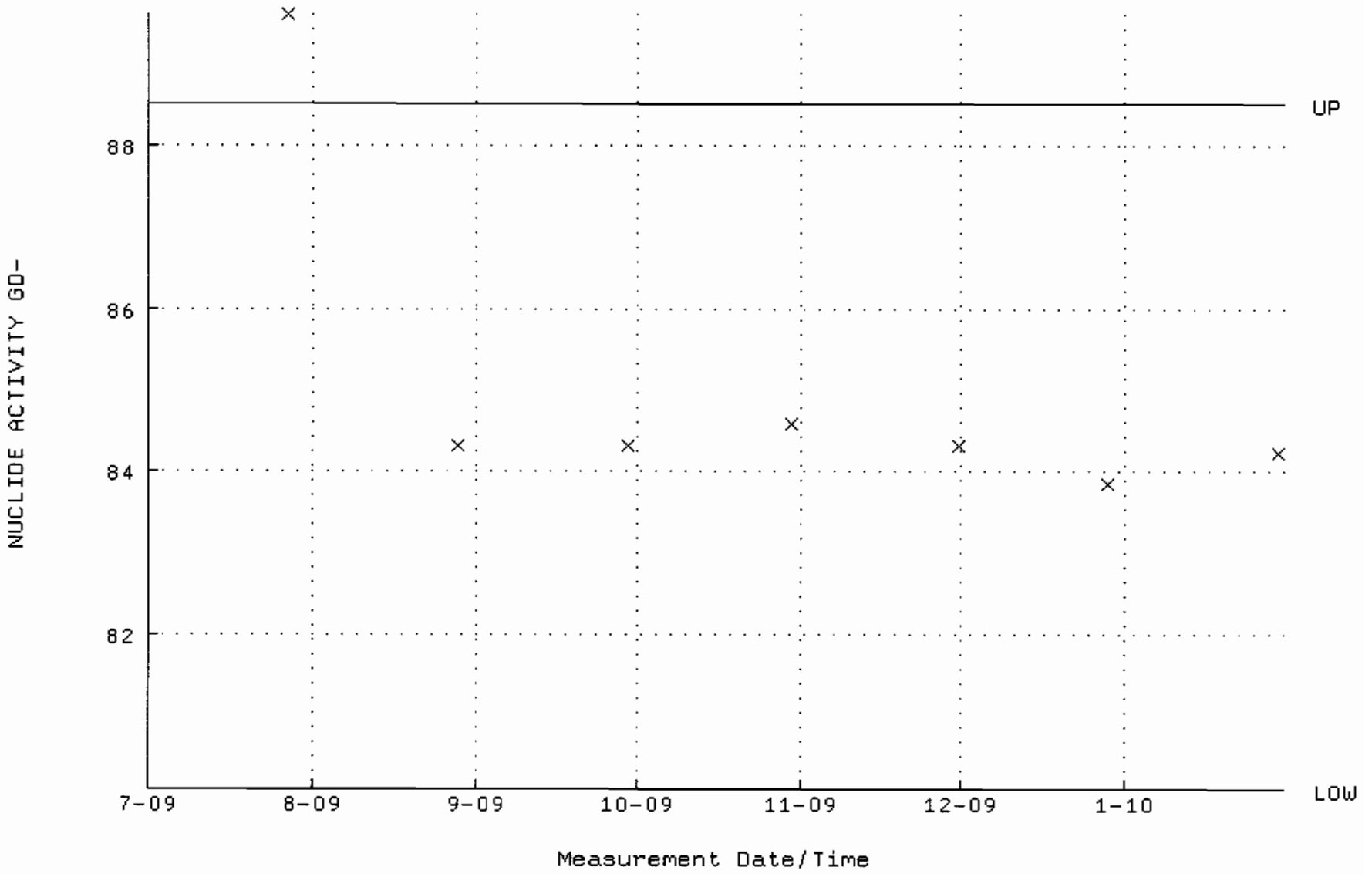
QA filename : DKA100:[ENV_ALPHA.QA.B]B248.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:06:21 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



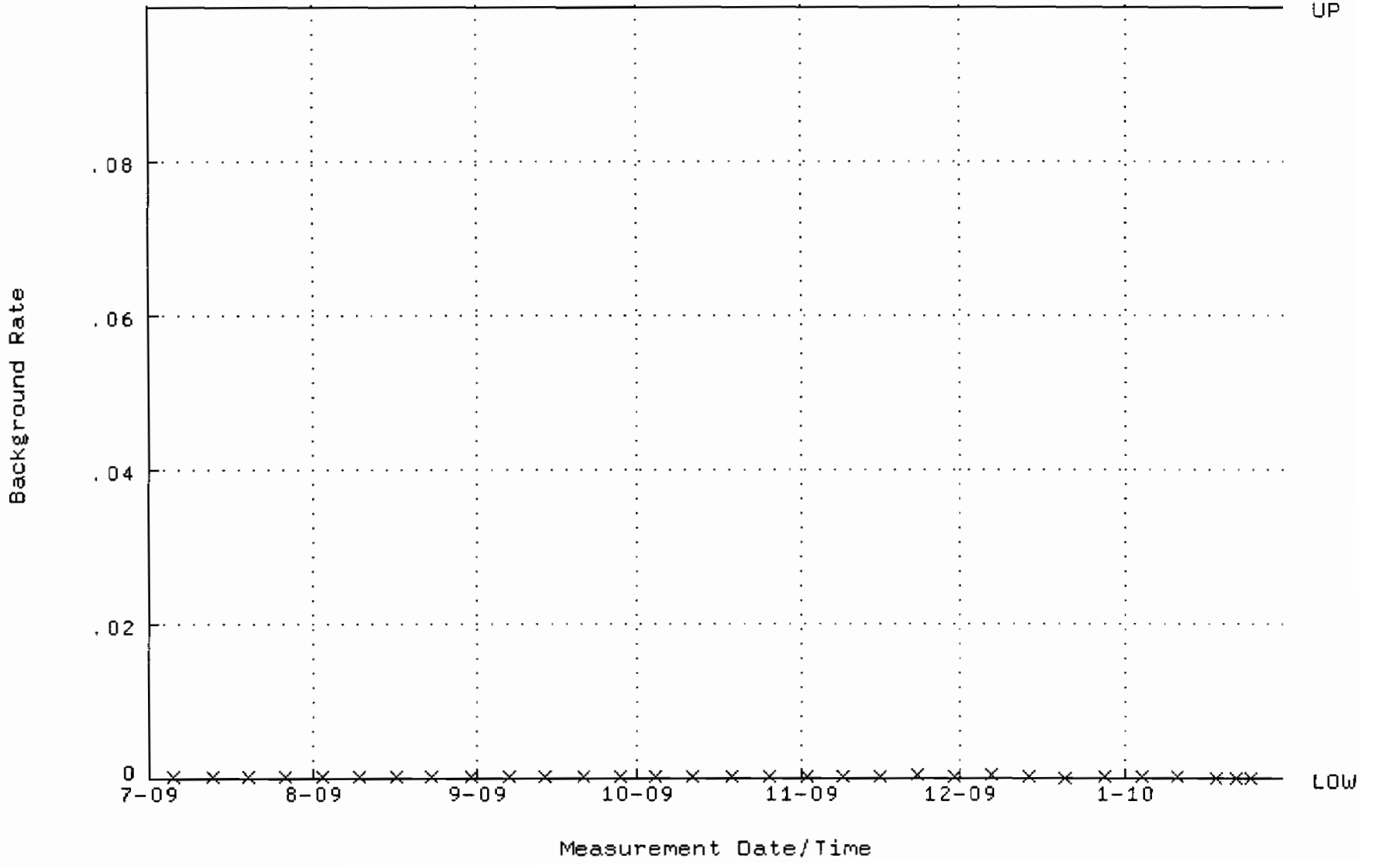
QA filename : DKA100:[ENV_ALPHA.QA.W]W249.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:51:24 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.382546 through 0.402546



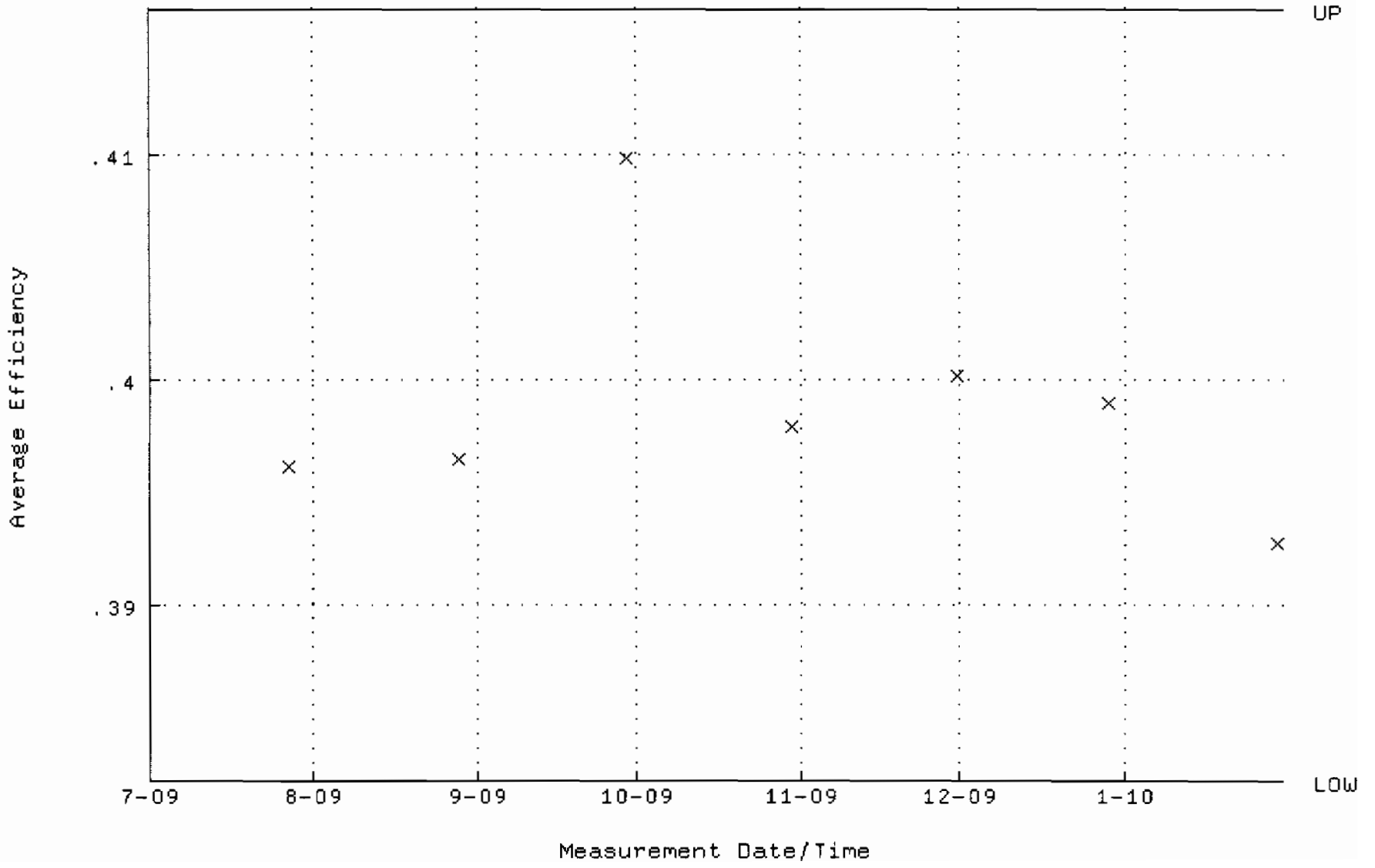
QA filename : DKA100:[ENV_ALPHA.QA.W]W249.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:51:24 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 80.0964 through 88.5276



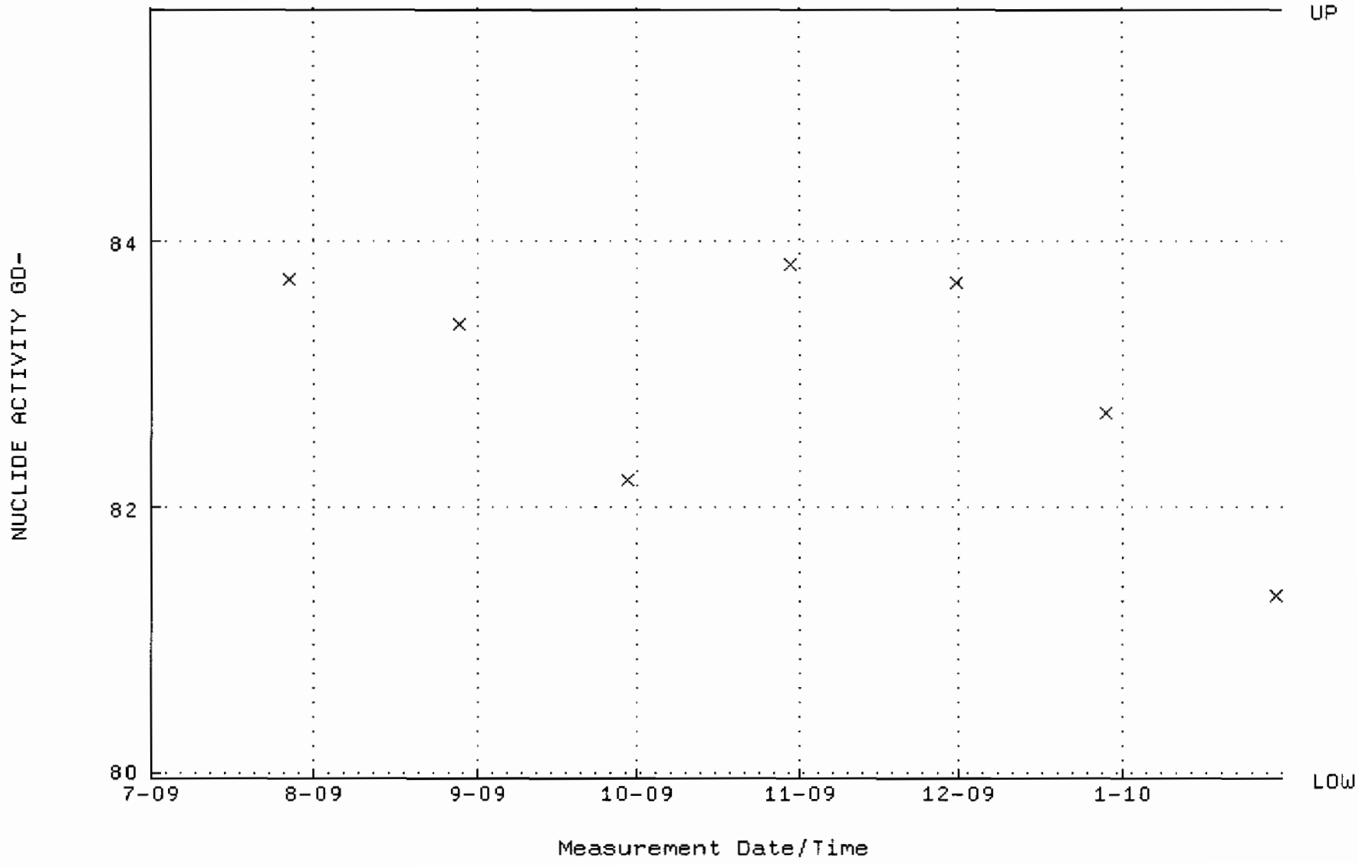
QA filename : DKA100:[ENV_ALPHA.QA.B]B249.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:06:26 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



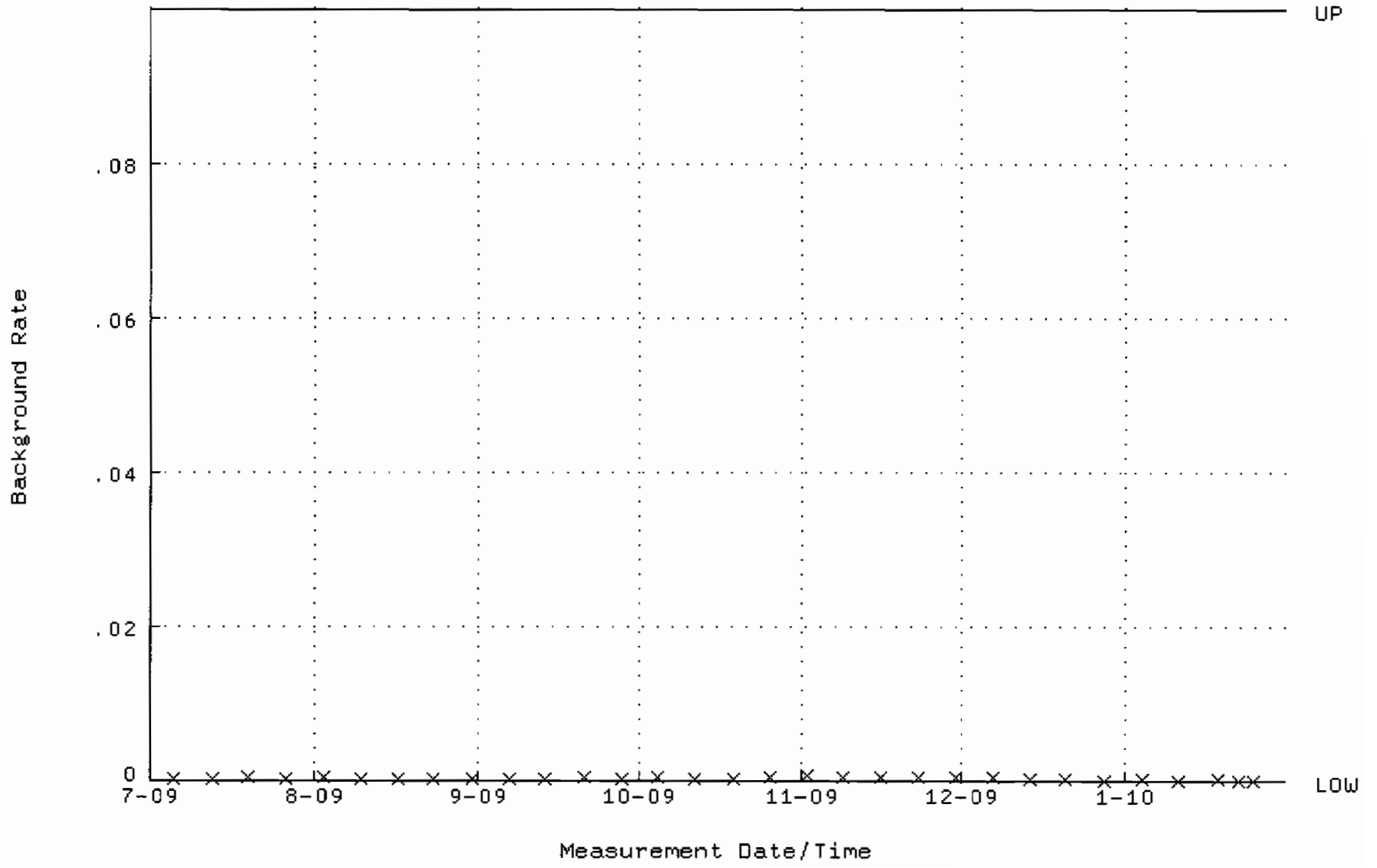
QA filename : DKA100:[ENV_ALPHA.QA.W]W250.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:51:30 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.382119 through 0.416507



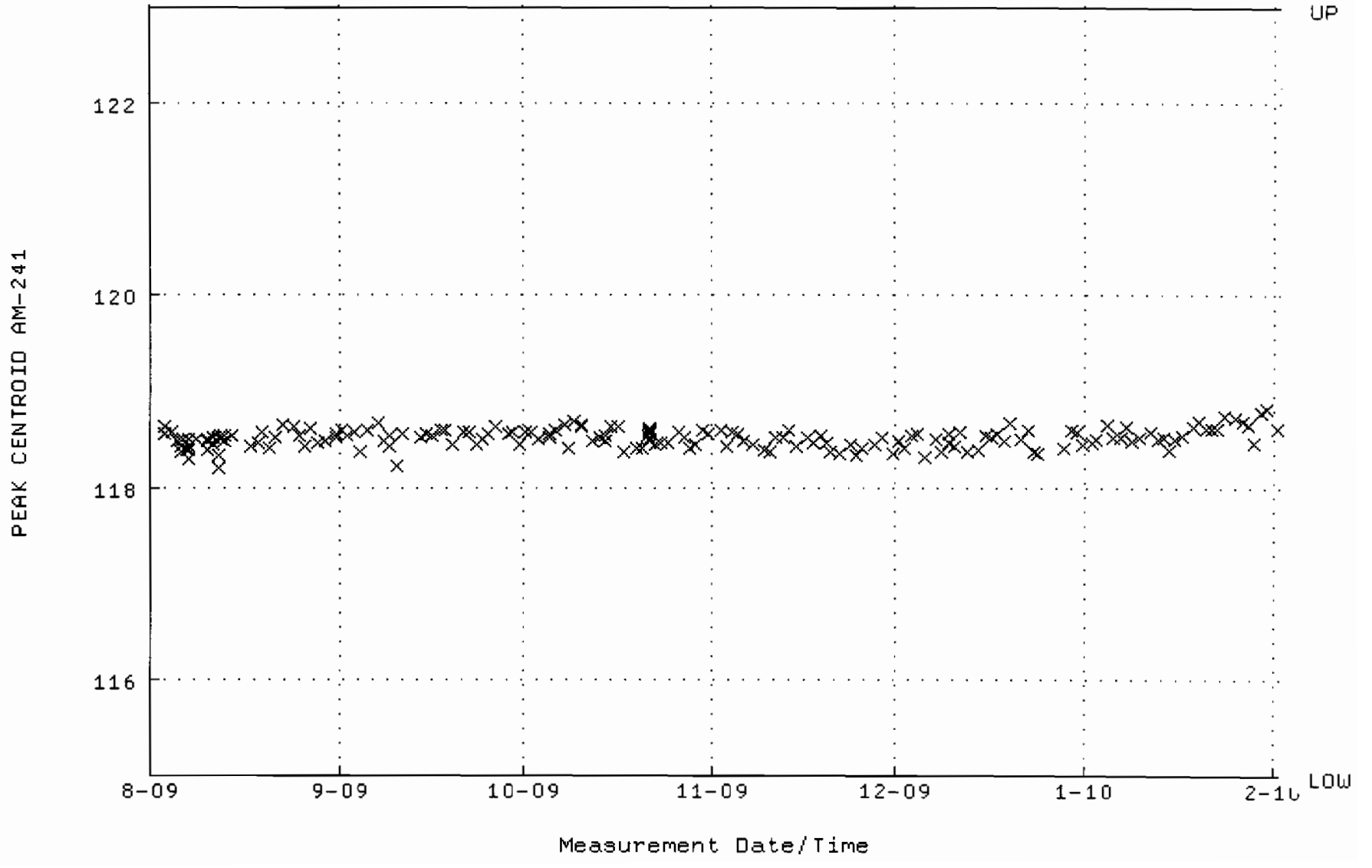
QA filename : DKA100:[ENV_ALPHA.QA.W]W250.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:51:30 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 79.9626 through 85.7308



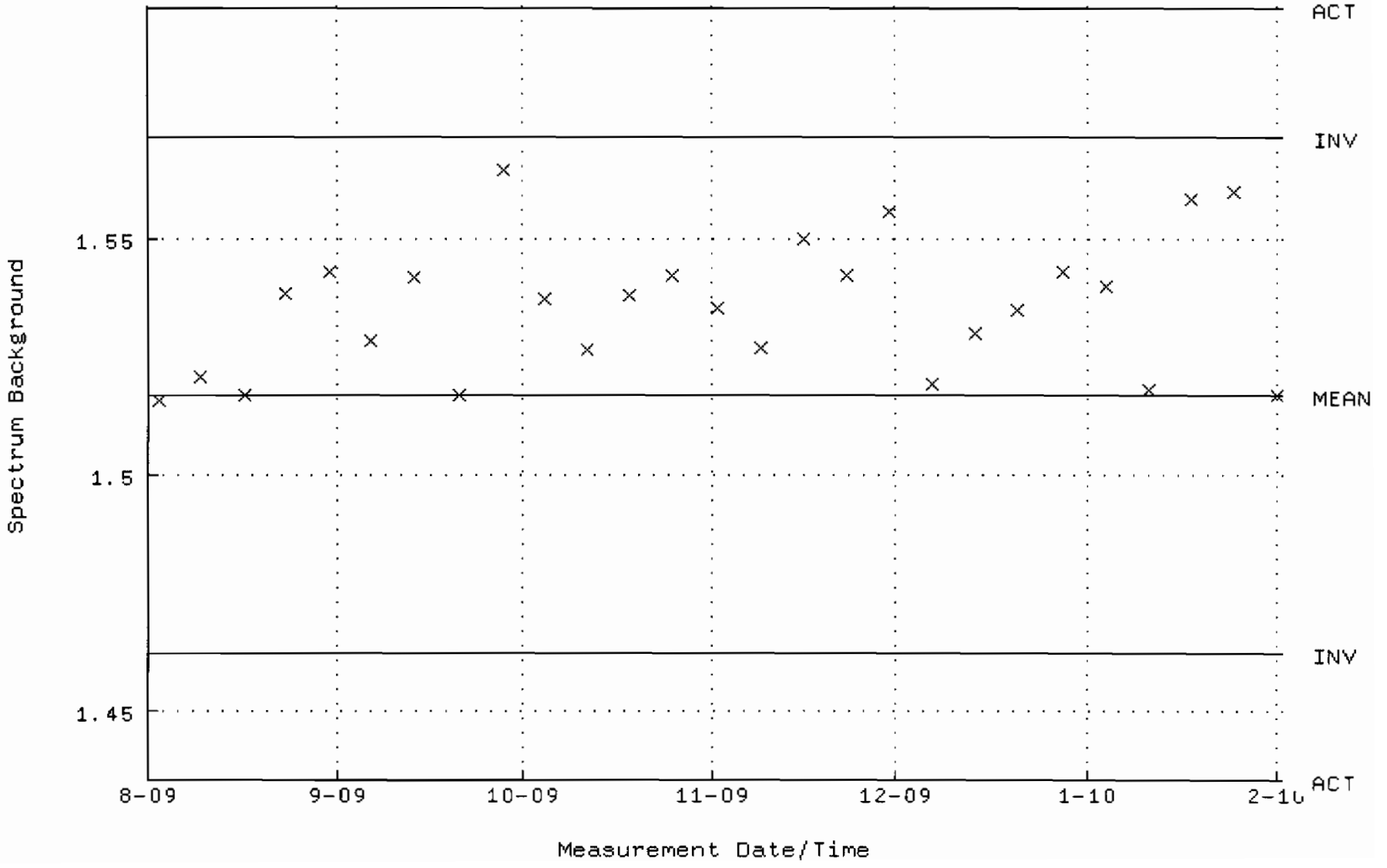
QA filename : DKA100:[ENV_ALPHA.QA.B]B250.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:06:31 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



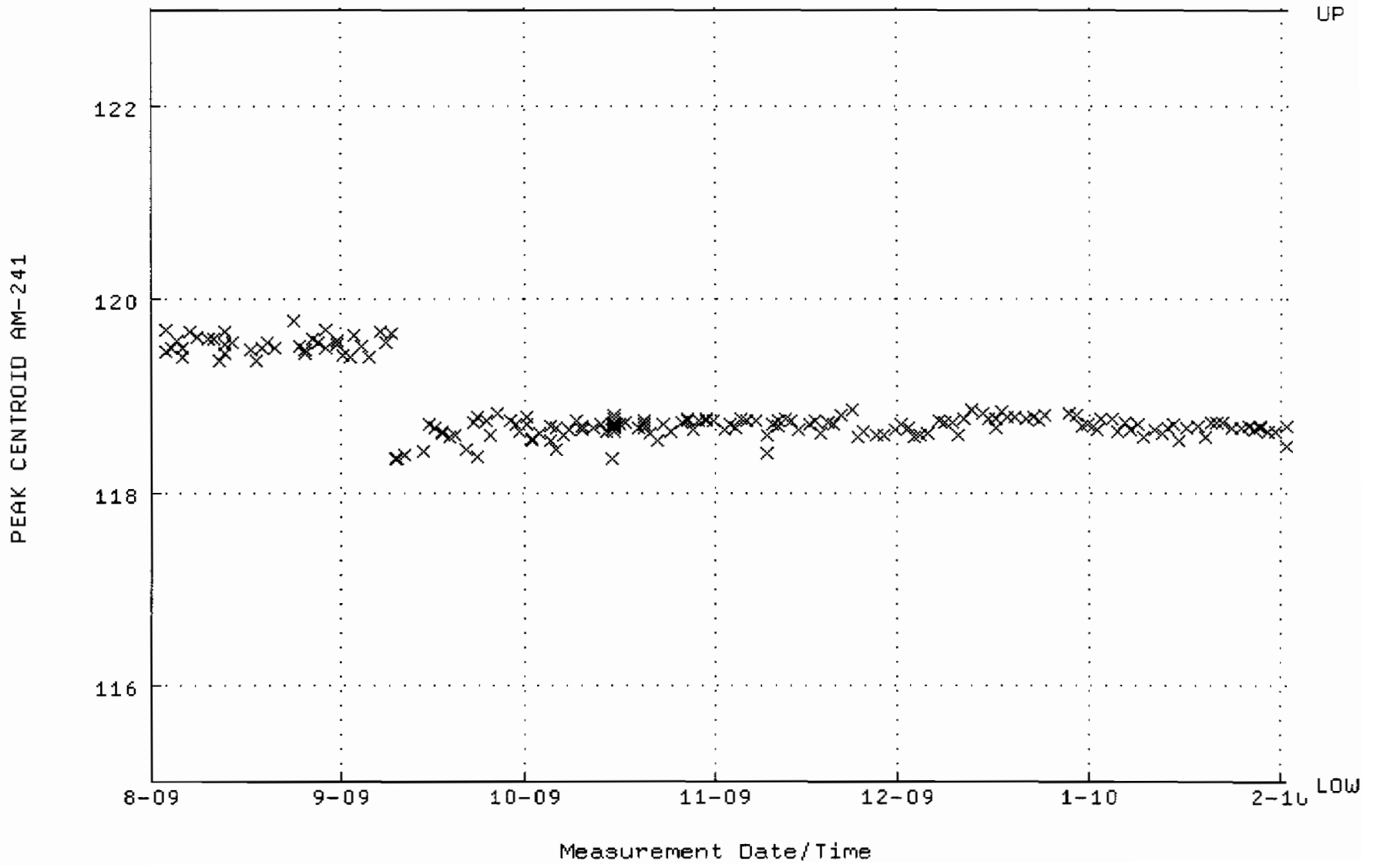
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 3-AUG-2009 09:13:52 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



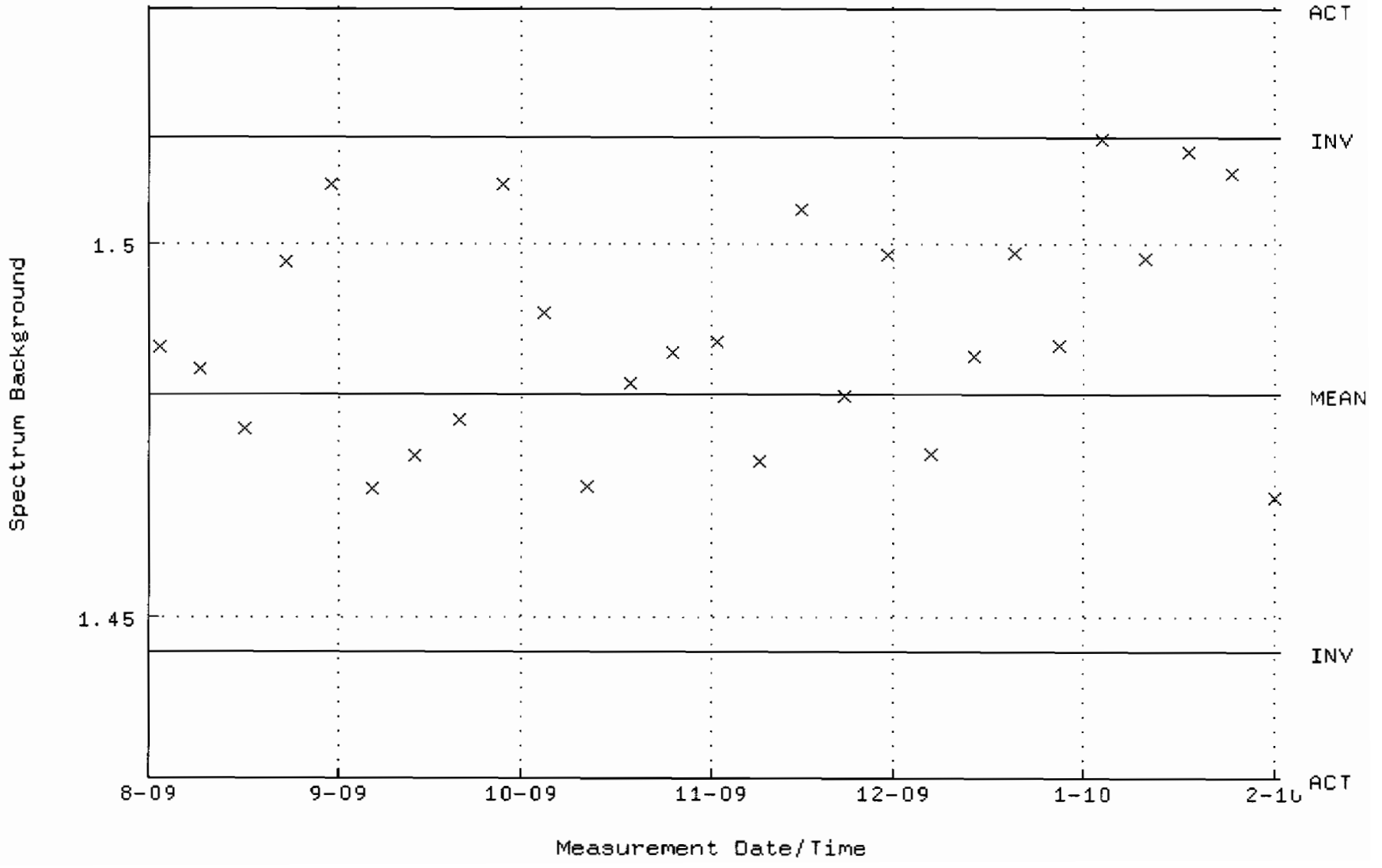
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 2-AUG-2009 16:23:26 through 1-FEB-2010 12:00:00
Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



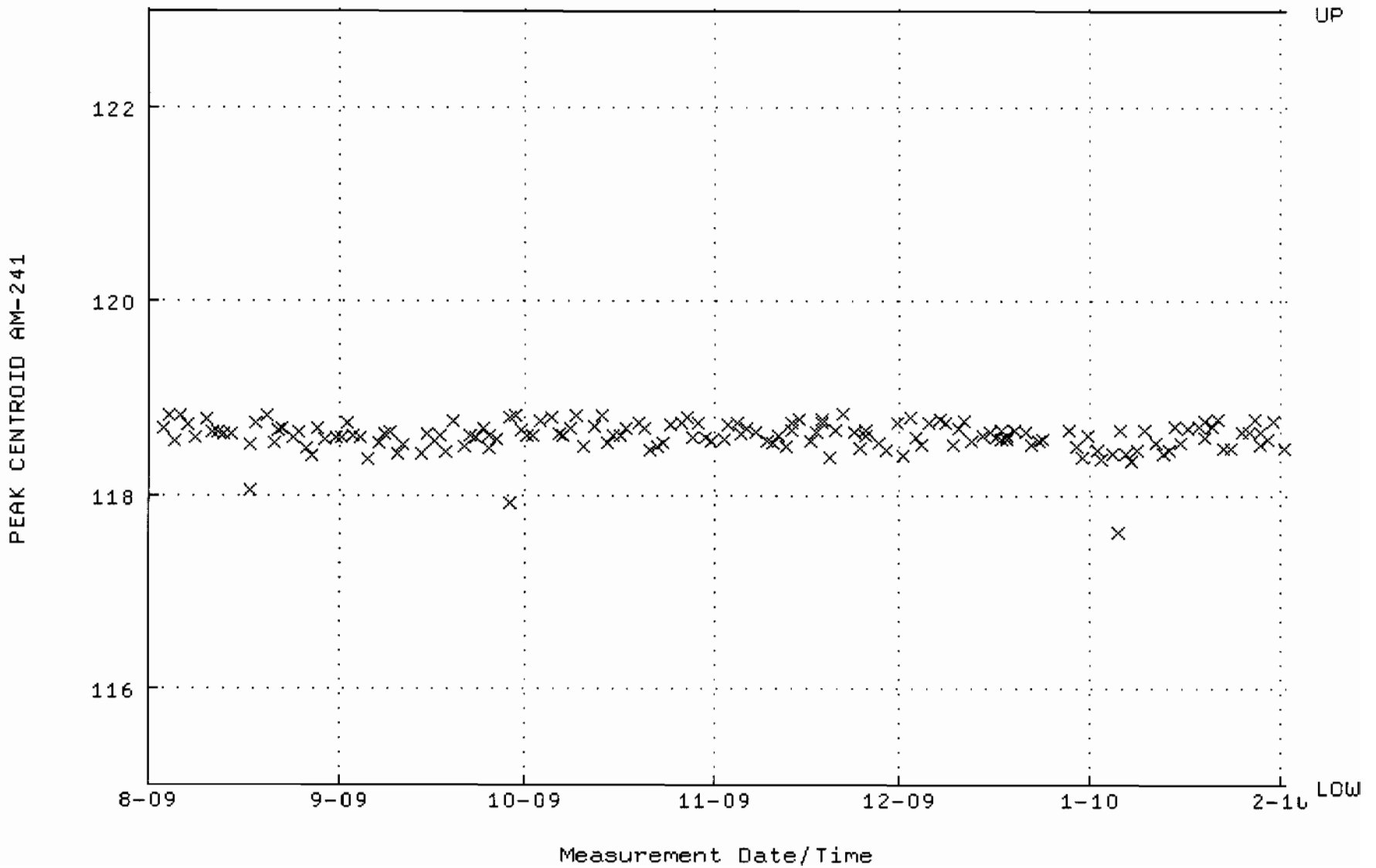
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM10_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 3-AUG-2009 09:36:50 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



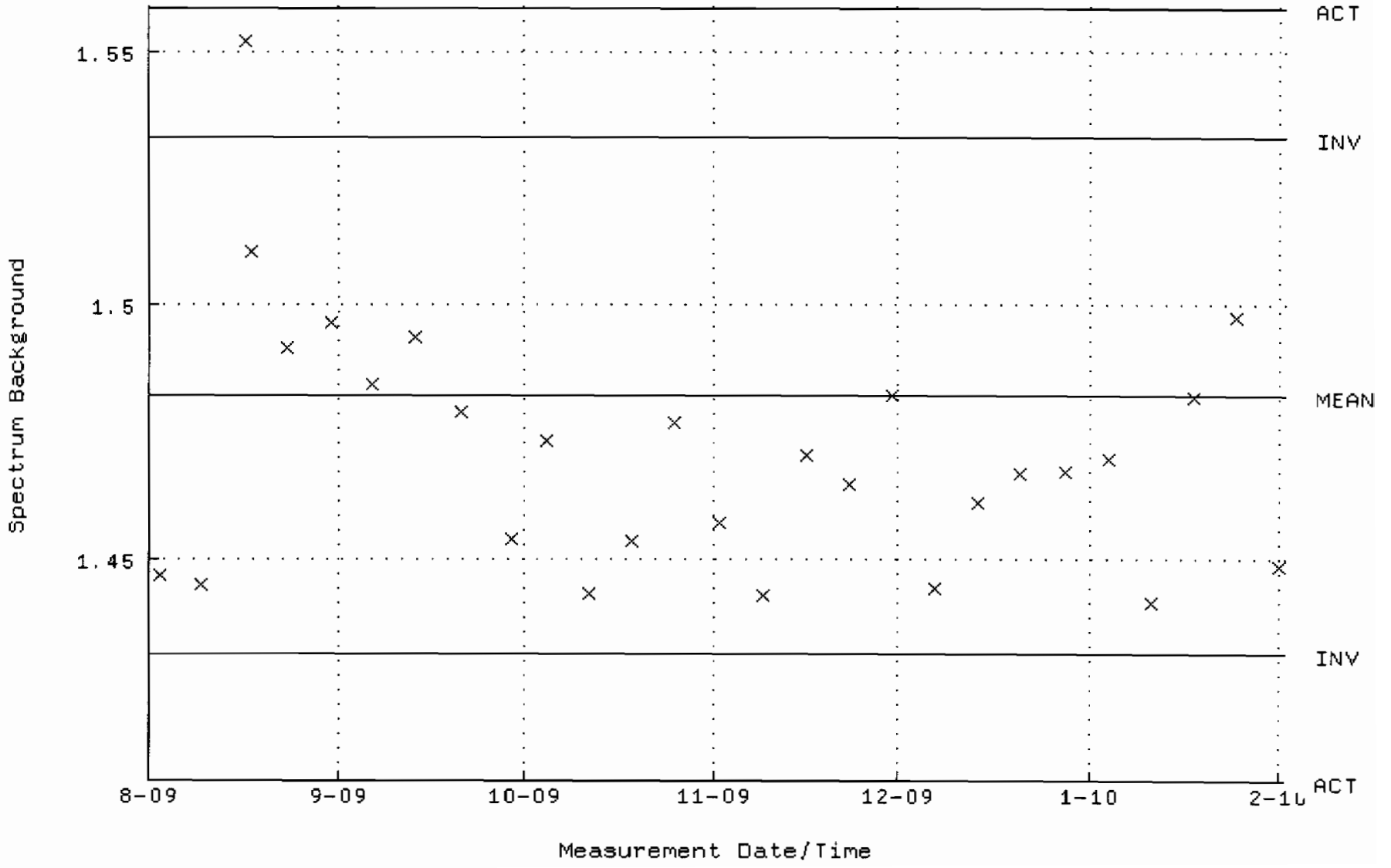
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM10.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 2-AUG-2009 16:23:43 through 1-FEB-2010 12:00:00
Mean +- Std Dev : 1.48000 +- 1.723892E-02 (1.16 %)



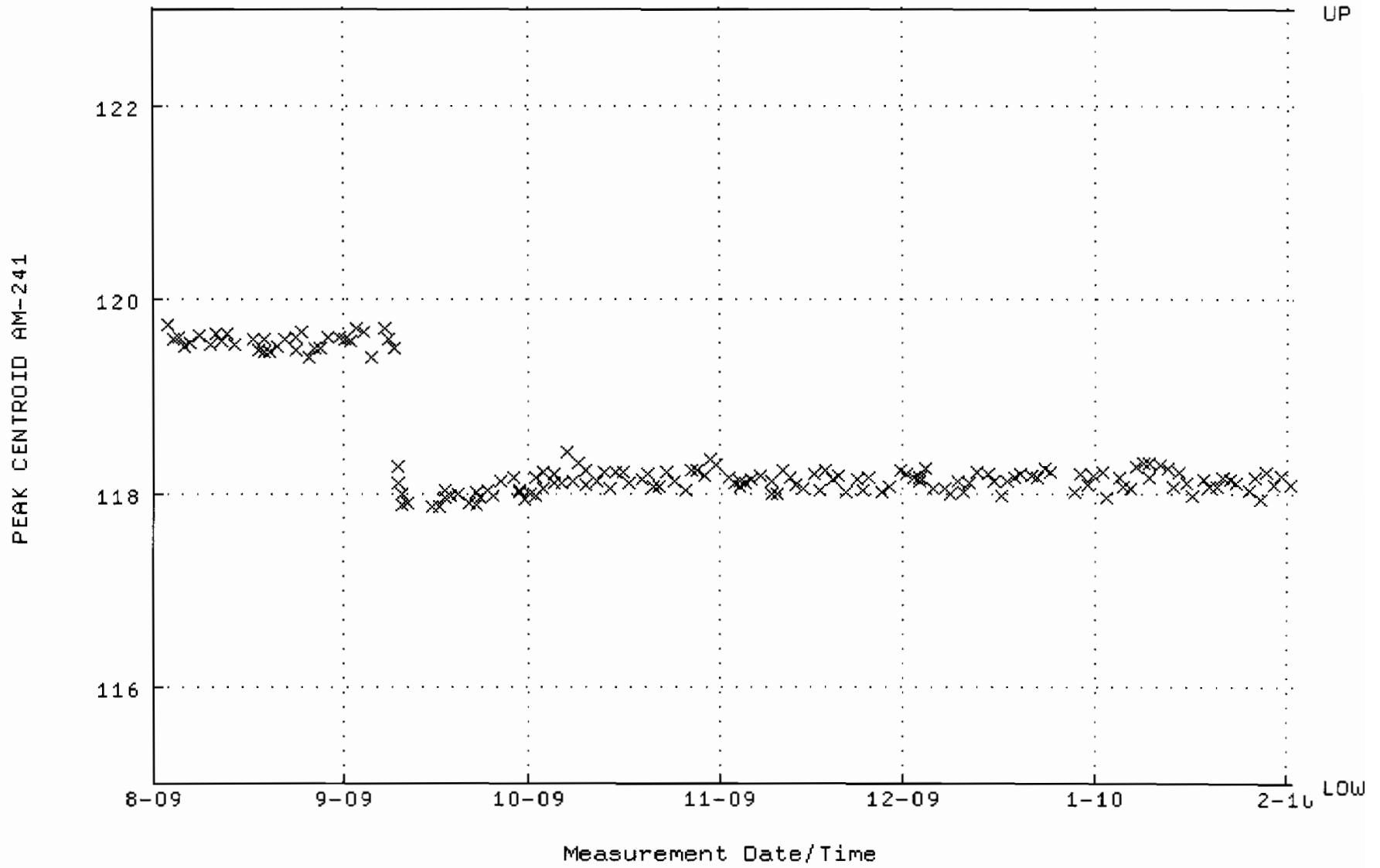
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM14_2LMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 3-AUG-2009 09:15:54 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



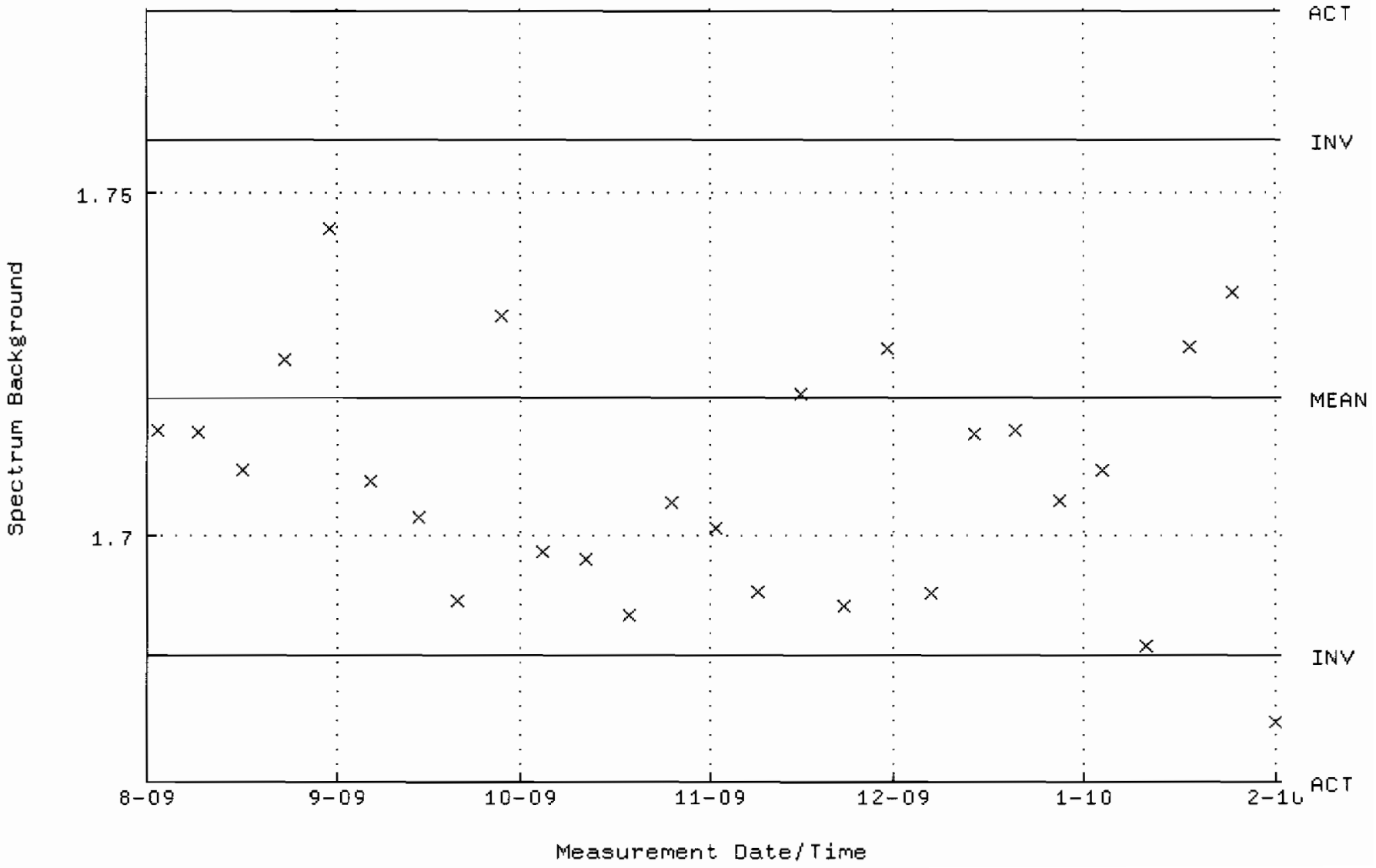
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 2-AUG-2009 16:24:33 through 1-FEB-2010 12:00:00
Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)

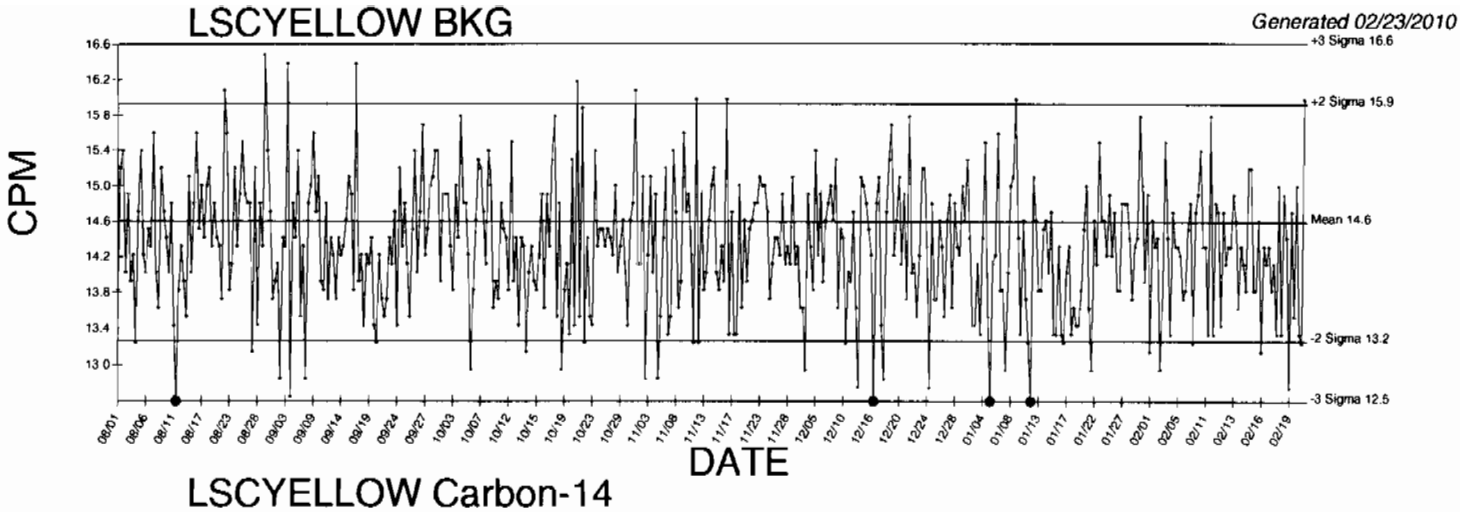


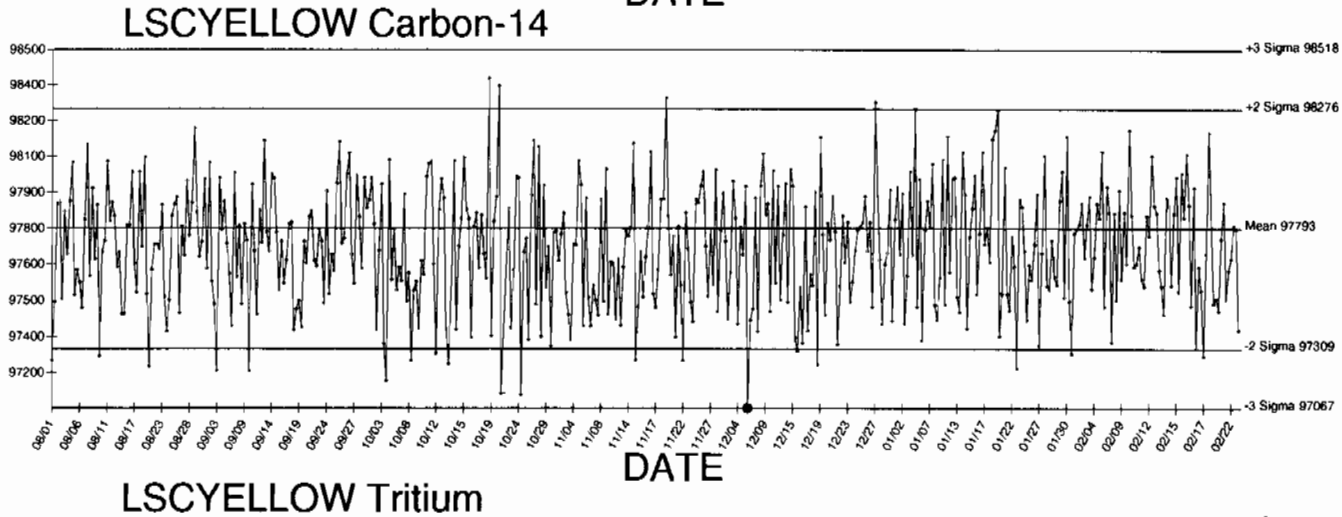
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 3-AUG-2009 09:53:43 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000

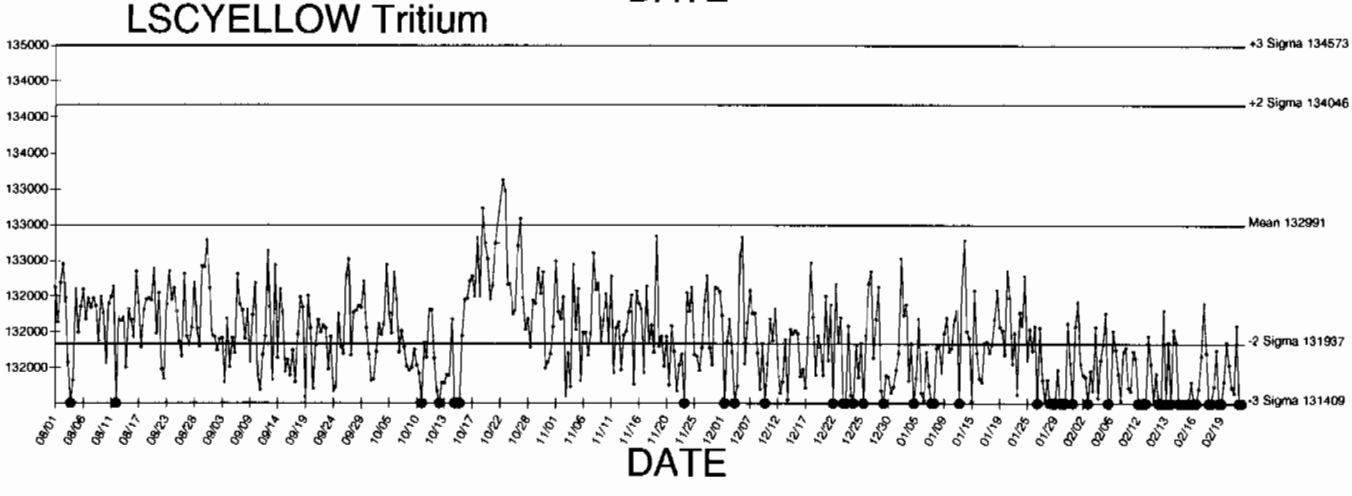


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 2-AUG-2009 16:24:46 through 1-FEB-2010 12:00:00
Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)









● Denotes Outlier

STANDARDS DATA

Amersham International plc
Amersham Laboratories

0134

[redacted]

NAMAS
CALIBRATION No. 0146

Description

Radionuclide: TRITIUM (HYDROGEN-3) Product code: TRY·64

Chemical form: water Batch: 111

Measurement

Reference time: 1200 GMT on 1 March 1996

Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water

which is equivalent to: 13.19 microcuries per gram of water

or: 2.93×10^7 disintegrations per minute per gram of water

Method of Measurement
This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

Accuracy

The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than ±2.5%

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99·7% confidence level, and the estimated systematic uncertainties.

Purity

No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

Physical Data

Half-life of tritium: 12·43 ± 0·11 years

Maximum beta energy of tritium: 18·6 keV

Remarks:

The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore
1 curie (Ci) = $3{\cdot}7 \times 10^{10}$ becquerels exactly.

Useful conversion factors are:

1 microcurie (μCi) = $3{\cdot}7 \times 10^4$ Bq = 37 kilobecquerels (kBq)

1 kilobecquerel (kBq) = 27·027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

Approved signatory

W. F. Case
W.F. Case

RC-5-023-061a

Amersham
The Health Science Group

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0134
Prepared By:	Angela Johnson
Carrier Conc:	DI WATER
Reference Date:	03/01/1996
Ampoule Mass (g):	5 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 023 061

A Solution Material Info	
Isotope:	Tritium
Prepared By:	Angela Johnson
Prep Date:	02/21/2001
Verification Date:	09/10/2008
Expiration Date:	03/27/2010
Primary Code:	0134-A
Dilution(mL):	100 mL
Mass of Parent(g):	3.3659 g
Density(g/mL):	1.0004
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(3.3659 g) * (488 kBq/g) * (60000 dpm/kBq) / (100 mL) = 985535.5200 dpm/mL
(3.3659 g) * (488 kBq/g) * (60000 dpm/kBq) / (1.0004 g/mL) / (100 mL) = 985180.3116 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/20/2004	Amanda Fehr	5.86	1000	0134-H	5773.1566 dpm/mL	07/25/2006	07/25/2007
12/20/2005	Amanda Fehr	5.5451	1000	0134-I	5462.92 dpm/mL	12/20/2006	12/20/2007
07/11/2007	Daniel Roy	5.5863	1000	0134-J	5503.5128 dpm/ml	07/29/2008	07/29/2009
03/25/2009	Mary Aders	5.4917	1000	0134-K	5410.3147 dpm/ml	03/27/2009	03/27/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for H-3 Standard 0134-K

M. Aders	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (mL)	Source DPM/mL
4/9/2009	0134-K N1	1097.2000	54.0000	1043.2000	0.380548	1.0000	2741.3099
	0134-K N2	1073.2000	54.0000	1019.2000	0.380548	1.0000	2678.242955
	0134-K N3	1085.2000	54.0000	1031.2000	0.380548	1.0000	2709.776428
						Average =	2709.776428
Mean Value (Counting) =	2709.776428		**104.954429**	**Pass**			
Stdev =	31.53347278		0.01163693	**Rule 3 (Pass/Fail)**			

Certificate Value =	2581.86	dpm/mL
Lower Limit =	2646.709482	dpm/mL
Upper Limit =	2772.843373	dpm/mL
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**
Two sigma =	63.06694556	dpm/mL
10 % of Mean =	270.9776428	dpm/mL
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 10% of the certificate value.

The analyst prepared three standard verification sources for H-3 source 0134-K by transferring 0.1 mL portions of the standard into glass liquid scintillation vials. Ten mL of Ecoscint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on Silver for H-3 source standard verification. The H-3 efficiency calibration which was used for verification calculations was performed on 4/9/09 using 0020-A (H-3). Calibration data is recorded in this logbook under H-3 0020. Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)
where:
A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.

Reference RAD SOP M-001

[illegible] 4/9/09
Amanda L. [illegible] 4/9/09

ANALYTICS
Isotope Products Laboratories Company

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404·352·8677
Fax 404·352·2837
www.analyticsinc.com

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: 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06
RC-S-045-073-0

ANALYTICS
An Isotope Products Laboratories Company

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318

Tel 404·352·8677
Fax 404·352·2837
www.analyticsinc.com

ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS
BATCH 127
CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method[1]	Statistics[2]	Calibration[2]	Peak Fitting[2]	Geometry[2]	Impurities[2]	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertinty (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

[1]Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)
HPGe (High Purity Germanium Gamma Ray Spectrometer)
IC (Gamma Ray Ionization Chamber)

[2]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.

Operations Manual Forms, ANA-QA-06 Form 1, Rev. 2, 6/7/2005

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

(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (5.31725 g * 100 mL) = 2163.7461 dpm/mL
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (1.0611 g/mL)/ (5.31725 g * 100 mL) = 2039.2400 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		
	Mixed Gamma N1	2534	pCi/L	- Ver. JAR-1
	Mixed Gamma N2	2510	pCi/L	- Ver. JAR-3
	Mixed Gamma N3	2413	pCi/L	- Ver. JAR-5
Mean Value (Counting) =	2485.67	**100.00**	**Pass**	
Stdev =	64.065		**Rule 3 (Pass/Fail)**	
Certificate Value =	2485.68018	pCi/L		
Lower Limit =	2357.536524	pCi/L		
Upper Limit =	2613.796809	pCi/L		
Rule 1 (Pass/Fail)	**Pass**			
Two sigma =	128.1301422			
10 % of Mean =	248.56666667			
Rule 2 (Pass/Fail)	**Pass**			

M. Stamps 12/2/09 verification 12/4/09

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		
	Mixed Gamma N1	854.2	pCi/L	- VER. JAR.1
	Mixed Gamma N2	907.6	pCi/L	- VER. JAR.3
	Mixed Gamma N3	898.9	pCi/L	- VER. JAR.2

Mean Value (Counting) =	886.90	**95.01**	**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**	

M. Stamps 12/2/09

12/4/09

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

Co-60 (1332.5)	Isotope	Result		
	Mixed Gamma N1	1572	pCi/L	- VER - JAR - 5
	Mixed Gamma N2	1495	pCi/L	- VER - JAR - 2
	Mixed Gamma N3	1501	pCi/L	- VER - JAR - 3
Mean Value (Counting) =	1522.67	**98.50**	**Pass**	
Stdev =	42.829	**Rule 3 (Pass/Fail)**		
Certificate Value =	1545.8378	pCi/L		
Lower Limit =	1437.008431	pCi/L		
Upper Limit =	1608.324902	pCi/L		
Rule 1 (Pass/Fail)	**Pass**			
Two sigma =	85.65823564			
10 % of Mean =	152.26666667			
Rule 2 (Pass/Fail)	**Pass**			

M. Stamps 12/2/09 [illegible] 12/4/09

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 4/14/2005 Jeff C Dell 12/1/04

Angela L. Johnson 12/3/04

TRM

Invoice:

5 boxes of TRM-1
10 " " TRM-2 and 3
5 " each of NRM-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->0

SF 2001-COC (10-97)
Supersedes (5-97) issue

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No. N/A

Press F1 for instructions for each field.

AR/COC- 602945

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.: [illegible]
Lab Contact: EDIE KENT
Lab Destination: G.E.L.
SMO Contact/Phone: Doug Salmi / 844-3110
Send Report to SMO: Suzi Jensen/844-3184

Contract No.: AJ-2480A
Case No.: 10204 1J
SMO Authorization: Doug Salmi
Bill to: Sandia National Laboratories
Supplier Services, Dept.
P.O. Box 5800 MS 0154

Location — Tech Area VI — Building N/A — Room N/A

Reference LOV (available at SMO)

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	LAB USE Lab Sample ID
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA	See Special	
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Instructions	
050486 - 001	~~NRM-2~~ NBHD	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Below	
-												
-												
-												
-												
-												
-												
-												

RMMA ☐ Yes ☒ No Ref. No.
Sample Disposal ☐ Return to Client ☒ Disposal by lab
Turnaround Time ☒ Normal ☐ Rush Required Report Date

Sample Tracking SMO USE
Date Entered (mm/dd/yy)
Entered by
QC Initials

Special Instructions/QC Requirements
EDD ☐ Yes ☒ No
Raw data package ☐ Yes ☒ No
These "samples" are well characterized and materials being sent to GEL on behalf of Hank Hinton
Please list as separate report.

Abnormal Conditions on Receipt LAB USE

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	Douglas E. Perry	[signature]	DEP	Weston / 7577 / 845-0867

1. Relinquished by	[signature]	Org.	Date 11-16-99	Time 0900	4. Relinquished by	Org.	Date
1. Received by		Org.	Date	Time	4. Received by	Org.	Date
2. Relinquished by		Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by		Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by		Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by		Org.	Date	Time	6. Received by	Org.	Date

Original — To Accompany Samples, Laboratory Copy (White)
1st Copy — To Accompany Samples, Return to SMO (Blue)
2nd Copy — SMO Suspense Copy (Yellow)
3rd 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
[illegible] 5/1/04

PEM-1

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 -> 0

SF 2001-COC (10-97)
Supersedes (5-97) issue

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No. N/A

Press F1 for instructions for each field.

AR/COC- 602945

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.: 2216794
Lab Contact: EDIE KENT
Lab Destination: G.E.L.
SMO Contact/Phone: Doug Salmi / 844-3110
Send Report to SMO: Suzi Jensen/844-3184

Contract No.: AJ-2480A
Case No.: 10204 1/3
SMO Authorization: Doug Salmi
Bill to: Sandia National Laboratories
Supplier Services, Dept. _____
P.O. Box 5800 MS 0154

Location — Tech Area VI — Building N/A — Room N/A

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	LAB USE Lab Sample ID
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA	See Special	
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Instructions	
050486 - 001	~~NRM-2~~ NBHD	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Below	
-												
-												
-												
-												
-												
-												
-												

Reference LOV (available at SMO)

RMMA ☐Yes ☒No Ref. No.
Sample Disposal ☐Return to Client ☒Disposal by lab
Turnaround Time ☒Normal ☐Rush Required Report Date

Sample Tracking SMO USE: Date Entered (mm/dd/yy) Entered by

QC Initials

Special Instructions/QC Requirements
EDD ☐Yes ☒No
Raw data package ☐Yes ☒No
These "samples" are well characterized rad materials being sent to GEL on behalf of Hank Mintzer
Please list as separate report.

Abnormal Conditions on Receipt LAB USE

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	Douglas E. Perry	Douglas E. Perry	DEP	Weston / 7577 / 845-0867

1. Relinquished by	Douglas E. Perry	Org. 7577	Date 11-16-99	Time 0900	4. Relinquished by	Org.	Date
1. Received by		Org.	Date	Time	4. Received by	Org.	Date
2. Relinquished by		Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by		Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by		Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by		Org.	Date	Time	6. Received by	Org.	Date

Original To Accompany Samples, Laboratory Copy (White) — 1st Copy To Accompany Samples, Return to SMO (Blue) — 2nd Copy SMO Suspense Copy (Yellow) — 3rd Copy Field Copy (Pink)

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide	Am-243	Customer:	GENERAL ENGINEERING LABS
Half Life:	7380 ± 40 years	P.O.No.:	9290-RAD
Catalog No.:	7243	Reference Date:	January 1 1994 12:00 PST.
Source No.:	445-96-2	Contained Radioactivity:	(Am-243) 101.2 μCi
		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(NO3)3 in 2N HNO3

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 μCi/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: ±3.0%

b. Random uncertainty in assay: ±0.4%

c. Random uncertainty in weighing(s): ±0.0%

d. Total uncertainty at the 99% confidence level: ±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).

Anna U. Mea
QUALITY CONTROL

Jan 3, 1994
Date Signed

ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

RC-S-005-32

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 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at 50 ± 10° 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 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at 50 ± 10° 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 μCi beta-gamma or 0.0001 μCi 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 μCi beta-gamma or 0.0001 μCi 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 μCi beta-gamma or 0.0001 μCi 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

(Mass of parent(g)) * (Parm Activity (uCi/g)) * (conversion dpm to uCi) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (uCi/g)) * (conversion dpm to uCi) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.3419 g) * (18.84 uCi/g) * (2220000 dpm/uCi) / (100 mL) = 2234238.9912 dpm/mL
(5.3419 g) * (18.84 uCi/g) * (2220000 dpm/uCi) / (1.0785 g/mL) / (100 mL) = 2071617.0528 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

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Verification for Am-243 Standard *445-96-2-SS*

M. Aders	Isotope	Value	Uncertainty
5/15/2009	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-241certified 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 Gridden 5/15/09
Robert Bri 007509

1375

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 (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.

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

*Notes and references are on pages 5 to 7.

RC-S-08-1-094

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]*.

*Notes and references are on pages 5 to 7.

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 $Bq \cdot g^{-1}$**
Relative expanded uncertainty (k=2)	**0.72% [d] [e]**
Solution density	**(1.105 ± 0.002) $g \cdot mL^{-1}$ at 20 °C [f]**

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration ($mol \cdot L^{-1}$)	Mass Fraction ($g \cdot g^{-1}$)
	H_2O HNO_3 $^{242}Pu^{+6}$	50 3.2 8×10^{-7}	0.81 0.19 2×10^{-7}
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) $Bq \cdot g^{-1}$ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: $(373\,500 \pm 1100)$ 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 $4\pi\alpha$ liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

*Notes and references are on pages 5 to 7.

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, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [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				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.72

*Notes and references are on pages 5 to 7.

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	$^{239}Pu + ^{240}Pu$ <0.000 001 [u]	$^{239}Pu + ^{240}Pu$ 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	$^{238}Pu + ^{241}Am$ <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 μSv is equal to 0.1 mrem.

Distance from Ampoule (cm):	1	30	100
Approximate Dose Rate (μSv/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 $y = f(x_1, x_2, x_3, \ldots x_n)$, 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, $u_i(y) = |\partial y/\partial x_i| \cdot u(x_i)$, 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 $s^{-1} \cdot g^{-1}$ for energies less than 3.1 MeV,
0.03 $s^{-1} \cdot g^{-1}$ for energies between 3.1 and 4.4 MeV, and
0.003 $s^{-1} \cdot g^{-1}$ 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:
5×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 19 and 39 keV,
7×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 49 and 92 keV,
2×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 106 and 507 keV,
1×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 515 and 1456 keV, and
5×10^{-6} $s^{-1} \cdot g^{-1}$ 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 λ (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%. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of Pu-242)}·{(Bq of impurity)/(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:	1375
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-051-094

A Solution Material Info	
Isotope:	Plutonium-242
Prepared By:	Ashley Drochter
Prep Date:	01/08/2010
Verification Date:	01/08/2010
Expiration Date:	01/08/2011
Primary Code:	1375-A
Dilution(mL):	250 mL
Mass of Parent(g):	5.3542 g
Density(g/mL):	1.0148
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.3542 g) * (26.31 Bq/g) * (60 dpm/Bq) / (250 mL) = 33.8086 dpm/mL
(5.3542 g) * (26.31 Bq/g) * (60 dpm/Bq) / (1.0148 g/mL) / (250 mL) = 33.3155 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 Pu-242 Standard 1375-*A*

A.Drochter	Isotope	Value	Uncertainty
1/9/2010	1375-A	1.530	0.2410
	1375-A	1.630	0.2630
	1375-A	1.580	0.2480

Mean Value (Counting) =	1.580	103.75	**Pass**
Stdev =	0.05		**Rule 3 (Pass/Fail)**

Target =	1.52
Lower Limit =	1.48
Upper Limit =	1.68
Rule 1 Pass/Fail	**Pass**
Two sigma =	0.1
10 % of Mean =	0.158
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 1375-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu 239 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.

1/12/10

1/12/10

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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_3 solution.

Source Prepared By: W. Mao, Radiochemist

QA Approved: D. M. Montgomery, QA Manager Date: 12-11-08

End of Certificate

RECEIVED 12/15/08
RC-S'-OE

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

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.0245 g) * (3754 Bq) * (60 dpm/Bq) / (5.20453 g * 100 mL) = 2174.4872 dpm/mL
(5.0245 g) * (3754 Bq) * (60 dpm/Bq) / (1.0285 g/mL)/ (5.20453 g * 100 mL) = 2114.1700 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*

Analyst: A. Drochter	**Serial #**	**Value**		**Uncertainty**	
Date: 12/10/09	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
Mean Value (Counting) =	2.027	pCi/L		**99.66904**	**Pass**
Stdev =	0.030550505	pCi/L			**Rule 3 (Pass/Fail)**
Target =	2.033	pCi/L			
Lower Limit =	1.965565657	pCi/L			
Upper Limit =	2.087767676	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	0.061101009				
10 % of Mean =	0.202666667				
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 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 AMS 12/14/09

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER **Batch ID: 951362**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246557001	SAMPLE	MXR1	GAM15	19-FEB-10 13:07	DONE	CAN	03-FEB-10 00:00
246562001	SAMPLE	MXR1	GAM18	19-FEB-10 13:58	DONE	CAN	23-APR-09 00:00
246601001	SAMPLE	MXR1	GAM02	19-FEB-10 15:12	DONE	CAN	29-OCT-09 00:00
246601002	SAMPLE	MXR1	GAM04	19-FEB-10 15:12	DONE	CAN	05-MAY-09 00:00
246601003	SAMPLE	MXR1	GAM07	19-FEB-10 15:12	DONE	CAN	20-JUL-09 00:00
246601004	SAMPLE	MXR1	GAM11	19-FEB-10 15:13	DONE	CAN	18-NOV-09 00:00
246601005	SAMPLE	MXR1	GAM12	19-FEB-10 15:13	DONE	CAN	10-FEB-09 00:00
246601006	SAMPLE	MXR1	GAM14	19-FEB-10 15:14	DONE	CAN	06-MAR-09 00:00
246601007	SAMPLE	MXR1	GAM15	19-FEB-10 15:40	DONE	CAN	03-FEB-10 00:00
246601008	SAMPLE	MXR1	GAM19	19-FEB-10 15:40	DONE	CAN	12-MAR-09 00:00
246601009	SAMPLE	MXR1	GAM22	19-FEB-10 15:41	DONE	CAN	02-DEC-09 00:00
246601010	SAMPLE	MXR1	GAM23	19-FEB-10 15:42	DONE	CAN	02-JUN-09 00:00
246610001	SAMPLE	MXR1	GAM16	19-FEB-10 15:46	DONE	CAN	16-NOV-09 00:00
246610002	SAMPLE	MXR1	GAM21	19-FEB-10 15:47	DONE	CAN	28-JUL-09 00:00
246610003	SAMPLE	MXR1	GAM25	19-FEB-10 15:47	DONE	CAN	07-OCT-09 00:00
246601011	SAMPLE	MXR1	GAM18	19-FEB-10 16:16	DONE	CAN	23-APR-09 00:00
246611001	SAMPLE	MXR1	GAM07	19-FEB-10 17:29	DONE	CAN	20-JUL-09 00:00
246611002	SAMPLE	MXR1	GAM11	19-FEB-10 17:30	DONE	CAN	18-NOV-09 00:00
246611003	SAMPLE	MXR1	GAM12	19-FEB-10 17:31	DONE	CAN	10-FEB-09 00:00
1202038807	MB	MXR1	GAM10	19-FEB-10 17:35	DONE	CAN	16-MAR-09 00:00
1202038808	DUP	MXR1	GAM15	19-FEB-10 20:32	DONE	CAN	03-FEB-10 00:00
1202038809	LCS	MXR1	GAM14	19-FEB-10 20:33	DONE	CAN	06-MAR-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 951456**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246575003	SAMPLE	JXD2	1245	17-FEB-10 11:55	DONE		
246575004	SAMPLE	JXD2	1246	17-FEB-10 11:55	DONE		
246601001	SAMPLE	JXD2	1247	17-FEB-10 11:55	DONE		
1202039064	MB	JXD2	1248	17-FEB-10 11:55	DONE		
1202039065	DUP	JXD2	1249	17-FEB-10 11:55	DONE		
1202039066	LCS	JXD2	1250	17-FEB-10 11:55	DONE		
246601010	SAMPLE	JXD2	1211	17-FEB-10 16:21	DONE		
246601011	SAMPLE	JXD2	1212	17-FEB-10 16:21	DONE		
246283011	SAMPLE	JXD2	1043	17-FEB-10 16:23	DUSE		
246294009	SAMPLE	JXD2	1044	17-FEB-10 16:23	DONE		
246557001	SAMPLE	JXD2	1045	17-FEB-10 16:23	DONE		
246562001	SAMPLE	JXD2	1046	17-FEB-10 16:23	DONE		
246601002	SAMPLE	JXD2	1047	17-FEB-10 16:23	DONE		
246601003	SAMPLE	JXD2	1048	17-FEB-10 16:23	DONE		
246601004	SAMPLE	JXD2	1065	17-FEB-10 16:23	DONE		
246601005	SAMPLE	JXD2	1066	17-FEB-10 16:23	DONE		
246601006	SAMPLE	JXD2	1067	17-FEB-10 16:23	DONE		
246601007	SAMPLE	JXD2	1068	17-FEB-10 16:23	DONE		
246601008	SAMPLE	JXD2	1069	17-FEB-10 16:23	DONE		
246601009	SAMPLE	JXD2	1070	17-FEB-10 16:23	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 951460**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246283011	SAMPLE	JXD2	1221	16-FEB-10 21:15	DONE		
246294009	SAMPLE	JXD2	1222	16-FEB-10 21:16	DONE		
246557001	SAMPLE	JXD2	1223	16-FEB-10 21:16	DONE		
246562001	SAMPLE	JXD2	1224	16-FEB-10 21:16	DONE		
246575003	SAMPLE	JXD2	1225	16-FEB-10 21:16	DONE		
246575004	SAMPLE	JXD2	1226	16-FEB-10 21:16	DONE		
246601001	SAMPLE	JXD2	1227	16-FEB-10 21:16	DONE		
246601002	SAMPLE	JXD2	1228	16-FEB-10 21:16	DONE		
246601003	SAMPLE	JXD2	1229	16-FEB-10 21:16	DONE		
246601004	SAMPLE	JXD2	1230	16-FEB-10 21:16	DONE		
246601005	SAMPLE	JXD2	1231	16-FEB-10 21:16	DONE		
246601006	SAMPLE	JXD2	1232	16-FEB-10 21:16	DONE		
246601007	SAMPLE	JXD2	1233	16-FEB-10 21:16	DONE		
246601008	SAMPLE	JXD2	1234	16-FEB-10 21:16	DONE		
246601009	SAMPLE	JXD2	1235	16-FEB-10 21:16	DONE		
246601010	SAMPLE	JXD2	1236	16-FEB-10 21:16	DONE		
246601011	SAMPLE	JXD2	1237	16-FEB-10 21:16	DONE		
1202039073	MB	JXD2	1238	16-FEB-10 21:16	DONE		
1202039074	DUP	JXD2	1239	16-FEB-10 21:16	DONE		
1202039075	LCS	JXD2	1240	16-FEB-10 21:16	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 951463**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246575003	SAMPLE	JXD2	1155	17-FEB-10 11:57	DONE		
246575004	SAMPLE	JXD2	1156	17-FEB-10 11:57	DONE		
246601001	SAMPLE	JXD2	1157	17-FEB-10 11:57	DONE		
1202039076	MB	JXD2	1158	17-FEB-10 11:57	DONE		
1202039077	DUP	JXD2	1159	17-FEB-10 11:57	DONE		
1202039078	LCS	JXD2	1160	17-FEB-10 11:57	DONE		
246283011	SAMPLE	JXD2	1113	17-FEB-10 16:21	DONE		
246294009	SAMPLE	JXD2	1114	17-FEB-10 16:21	DONE		
246557001	SAMPLE	JXD2	1115	17-FEB-10 16:21	DONE		
246562001	SAMPLE	JXD2	1117	17-FEB-10 16:21	DONE		
246601003	SAMPLE	JXD2	1118	17-FEB-10 16:22	DONE		
246601004	SAMPLE	JXD2	1119	17-FEB-10 16:22	DONE		
246601005	SAMPLE	JXD2	1120	17-FEB-10 16:22	DONE		
246601006	SAMPLE	JXD2	1121	17-FEB-10 16:22	DONE		
246601007	SAMPLE	JXD2	1122	17-FEB-10 16:22	DONE		
246601008	SAMPLE	JXD2	1123	17-FEB-10 16:22	DONE		
246601009	SAMPLE	JXD2	1124	17-FEB-10 16:22	DONE		
246601010	SAMPLE	JXD2	1125	17-FEB-10 16:22	DONE		
246601011	SAMPLE	JXD2	1126	17-FEB-10 16:22	DONE		
246601002	SAMPLE	JXD2	1127	17-FEB-10 16:22	DONE		

Instrument Run Log

Instrument Type: LSC **Batch ID: 953111**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246557001	SAMPLE	KXK2	LSCYELLOW	22-FEB-10 20:19	DONE		
246681001	SAMPLE	KXK2	LSCYELLOW	22-FEB-10 21:55	DONE		
246681002	SAMPLE	KXK2	LSCYELLOW	22-FEB-10 23:07	DONE		
246681003	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 01:17	DONE		
246681004	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 02:05	DONE		
246681005	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 02:59	DONE		
246681006	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 04:06	DONE		
246681007	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 04:50	DONE		
246681008	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 06:02	DONE		
246837001	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 07:12	DONE		
246837002	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 08:49	DONE		
246837003	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 10:25	DONE		
246837004	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 12:01	DONE		
246837005	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 13:37	DONE		
246837006	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 15:14	DONE		
247033002	SAMPLE	KXK2	LSCYELLOW	23-FEB-10 16:50	DONE		
1202042933	MB	KXK2	LSCYELLOW	23-FEB-10 18:26	DONE		
1202042934	DUP	KXK2	LSCYELLOW	23-FEB-10 20:02	DONE		
1202042935	LCS	KXK2	LSCYELLOW	23-FEB-10 21:39	DONE		